



Junos[®] OS for EX Series Ethernet Switches

System Basics on EX9200 Switches

Release
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Junos[®] OS for EX Series Ethernet Switches System Basics on EX9200 Switches
Release 14.2
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- Supported Platforms on page ix
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- Documentation Feedback on page xiii
- Requesting Technical Support on page xiii

Documentation and Release Notes

To obtain the most current version of all Juniper Networks[®] technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

Juniper Networks Books publishes books by Juniper Networks engineers and subject matter experts. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration. The current list can be viewed at <http://www.juniper.net/books>.

Supported Platforms

For the features described in this document, the following platforms are supported:

- EX Series

Using the Examples in This Manual

If you want to use the examples in this manual, you can use the **load merge** or the **load merge relative** command. These commands cause the software to merge the incoming configuration into the current candidate configuration. The example does not become active until you commit the candidate configuration.

If the example configuration contains the top level of the hierarchy (or multiple hierarchies), the example is a *full example*. In this case, use the **load merge** command.

If the example configuration does not start at the top level of the hierarchy, the example is a *snippet*. In this case, use the **load merge relative** command. These procedures are described in the following sections.

Merging a Full Example

To merge a full example, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration example into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following configuration to a file and name the file **ex-script.conf**. Copy the **ex-script.conf** file to the **/var/tmp** directory on your routing platform.

```
system {
  scripts {
    commit {
      file ex-script.xml;
    }
  }
}
interfaces {
  fxp0 {
    disable;
    unit 0 {
      family inet {
        address 10.0.0.1/24;
      }
    }
  }
}
```

2. Merge the contents of the file into your routing platform configuration by issuing the **load merge** configuration mode command:

```
[edit]
user@host# load merge /var/tmp/ex-script.conf
load complete
```

Merging a Snippet

To merge a snippet, follow these steps:

1. From the HTML or PDF version of the manual, copy a configuration snippet into a text file, save the file with a name, and copy the file to a directory on your routing platform.

For example, copy the following snippet to a file and name the file **ex-script-snippet.conf**. Copy the **ex-script-snippet.conf** file to the **/var/tmp** directory on your routing platform.

```
commit {
  file ex-script-snippet.xml; }
```

2. Move to the hierarchy level that is relevant for this snippet by issuing the following configuration mode command:

```
[edit]
user@host# edit system scripts
[edit system scripts]
```

3. Merge the contents of the file into your routing platform configuration by issuing the **load merge relative** configuration mode command:

```
[edit system scripts]
user@host# load merge relative /var/tmp/ex-script-snippet.conf
load complete
```

For more information about the **load** command, see the *CLI User Guide*.

Documentation Conventions

Table 1 on page xi defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.
	Tip	Indicates helpful information.
	Best practice	Alerts you to a recommended use or implementation.

Table 2 on page xi defines the text and syntax conventions used in this guide.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents text that you type.	To enter configuration mode, type the configure command: user@host> configure

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
Fixed-width text like this	Represents output that appears on the terminal screen.	<code>user@host> show chassis alarms</code> <code>No alarms currently active</code>
<i>Italic text like this</i>	<ul style="list-style-type: none">Introduces or emphasizes important new terms.Identifies guide names.Identifies RFC and Internet draft titles.	<ul style="list-style-type: none">A policy <i>term</i> is a named structure that defines match conditions and actions.<i>Junos OS CLI User Guide</i>RFC 1997, <i>BGP Communities Attribute</i>
<i>Italic text like this</i>	Represents variables (options for which you substitute a value) in commands or configuration statements.	Configure the machine's domain name: [edit] root@# set system domain-name <i>domain-name</i>
Text like this	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	<ul style="list-style-type: none">To configure a stub area, include the stub statement at the [edit protocols ospf area area-id] hierarchy level.The console port is labeled CONSOLE.
< > (angle brackets)	Encloses optional keywords or variables.	stub <default-metric metric>;
(pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	broadcast multicast (string1 string2 string3)
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	rsvp { # Required for dynamic MPLS only
[] (square brackets)	Encloses a variable for which you can substitute one or more values.	community name members [<i>community-ids</i>]
Indentation and braces ({ })	Identifies a level in the configuration hierarchy.	[edit] routing-options { static { route default { nexthop address; retain; } } }
;(semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
GUI Conventions		
Bold text like this	Represents graphical user interface (GUI) items you click or select.	<ul style="list-style-type: none">In the Logical Interfaces box, select All Interfaces.To cancel the configuration, click Cancel.

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
> (bold right angle bracket)	Separates levels in a hierarchy of menu selections.	In the configuration editor hierarchy, select Protocols>Ospf .

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can provide feedback by using either of the following methods:

- Online feedback rating system—On any page at the Juniper Networks Technical Documentation site at <http://www.juniper.net/techpubs/index.html>, simply click the stars to rate the content, and use the pop-up form to provide us with information about your experience. Alternately, you can use the online feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>.
- E-mail—Send your comments to techpubs-comments@juniper.net. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract, or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>

- Download the latest versions of software and review release notes:
<http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications:
<http://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum:
<http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://tools.juniper.net/SerialNumberEntitlementSearch/>

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <http://www.juniper.net/support/requesting-support.html>.

PART 1

Overview

- [Installation Overview on page 3](#)
- [Licenses Overview on page 5](#)

CHAPTER 1

Installation Overview

- [Junos OS Package Names on page 3](#)

Junos OS Package Names

You upgrade the Juniper Networks Junos operating system (Junos OS) on a Juniper Networks EX Series Ethernet Switch by copying a software package to your switch or another system on your local network, then install the new software package on the switch.

Two versions of a Junos OS image—a controlled version that supports Media Access Control Security (MACsec) and a domestic version that does not support MACsec—are available for EX Series switches. A domestic version of Junos OS is available for all EX Series switches; a controlled version of Junos OS is only available for EX Series switches on Junos OS releases that support MACsec. The domestic version of Junos OS on EX Series switches can be used on any switch in any geography. The controlled version of Junos OS contains encryption and is not available to customers in all geographies.



NOTE: The controlled version of Junos OS contains encryption and is, therefore, not available to customers in all geographies. The export and re-export of the controlled version of Junos OS is strictly controlled under United States export laws. The export, import, and use of the controlled version of Junos OS is also subject to controls imposed under the laws of other countries.

If you have questions about acquiring the controlled version of Junos OS in your country, contact the Juniper Networks Trade Compliance group at compliance_helpdesk@juniper.net.



NOTE: The domestic version of Junos OS on EX Series switches is intended for use on any switch in any worldwide location.

For most Junos packages on other Juniper Networks products, the domestic package is used for products installed in the United States and Canada only while an export package is used for products installed in any worldwide location.

domestic-signed indicates the domestic software package.

A domestic software package name is in the following format:

package-name-m.nZx.y-domestic-signed.tgz

A controlled software package name is in the following format:

package-name-m.nZx.y-controlled-signed.tgz

where:

- ***package-name*** is the name of the package—for example, **jinstall-ex-4200**.
- ***m.n*** is the software release, with ***m*** representing the major release number and ***n*** representing the minor release number—for example, **9.5**.
- ***Z*** indicates the type of software release, where **R** indicates released software and **B** indicates beta-level software.
- ***x.y*** represents the version of the major software release (***x***) and an internal tracking number (***y***)—for example, **1.6**.
- **domestic-signed** indicates the domestic software package.
- **controlled-signed** indicates the controlled software package.

A sample EX Series software domestic package name is:

jinstall-ex-4200-9.5R1.6-domestic-signed.tgz

A sample EX Series controlled package name is:

jinstall-ex-4200-13.2X50-D15.3-controlled-signed.tgz

**Related
Documentation**

- *Installing Software on EX Series Switches (J-Web Procedure)*
- *Installing Software on an EX Series Switch with a Single Routing Engine (CLI Procedure)*
- *Installing Software on an EX Series Switch with Redundant Routing Engines (CLI Procedure)*
- [Downloading Software Packages from Juniper Networks on page 15](#)
- *Understanding Software Installation on EX Series Switches*

CHAPTER 2

Licenses Overview

- [Understanding Software Licenses for EX Series Switches on page 5](#)

Understanding Software Licenses for EX Series Switches

To enable and use some of the Juniper Networks operating system (Junos OS) features, you must purchase, install, and manage separate software licenses. If the switch has the appropriate software license, you can configure and use these features.

The Junos OS feature license (that is, the purchased authorization code) is universal. However, to conform to Junos OS feature licensing requirements, you must install a unique license key (a combination of the authorization code and the switch's serial number) on each switch.

For a Virtual Chassis deployment, two license keys are recommended for redundancy—one for the device in the master role and the other for the device in the backup role:

- In an EX8200 Virtual Chassis, the devices in the master and backup roles are always XRE200 External Routing Engines.
- In all other Virtual Chassis, the devices in the master and backup roles are switches.

You do not need additional license keys for Virtual Chassis member switches that are in the linecard role or for the redundant Routing Engine (RE) modules or the redundant Switch Fabric and Routing Engine (SRE) modules in an EX8200 member switch.

This topic describes:

- [Purchasing a Software Feature License on page 6](#)
- [Features Requiring a License on EX2200 Switches on page 6](#)
- [Features Requiring a License on EX3300 Switches on page 7](#)
- [Features Requiring a License on EX4300 Switches on page 8](#)
- [Features Requiring a License on EX4600 Switches on page 10](#)
- [Features Requiring a License on EX3200, EX4200, EX4500, EX4550, EX6200, EX8200, and EX9200 Switches on page 10](#)
- [License Warning Messages on page 12](#)

Purchasing a Software Feature License

The following sections list features that require separate licenses. To purchase a software license, contact your Juniper Networks sales representative (<http://www.juniper.net/us/en/contact-us/sales-offices>). You will be asked to supply the chassis serial number of your switch; you can obtain the serial number by running the **show chassis hardware** command.



NOTE: You are required to provide the 12-digit serial number when purchasing a license for an XRE200 External Routing Engine in an EX8200 Virtual Chassis.

The serial number listed on the XRE200 External Routing Engine serial ID label is 16 digits long. Use the last 12 digits of the 16-digit serial number to purchase the license.

You can use the **show chassis hardware** command output to display the 12-digit serial number of the XRE200 External Routing Engine.

Features Requiring a License on EX2200 Switches

For EX2200 switches, the following features can be added to basic Junos OS by installing an enhanced feature license (EFL):

- Bidirectional Forwarding Detection (BFD)
- Connectivity fault management (IEEE 802.1ag)
- IGMP (Internet Group Management Protocol) version 1 (IGMPv1), IGMPv2, and IGMPv3
- OSPFv1/v2 (with four active interfaces)
- Protocol Independent Multicast (PIM) dense mode, PIM source-specific mode, PIM sparse mode
- Q-in-Q tunneling (IEEE 802.1ad)
- Real-time performance monitoring (RPM)
- Virtual Router
- Virtual Router Redundancy Protocol (VRRP)

Table 3 on page 6 lists the EFLs that you can purchase for EX2200 switch models. If you have the license, you can run all of the enhanced software features mentioned above on your EX2200 switch.

Table 3: Junos OS EFL Part Number on EX2200 Switches

Switch Model	EFL Part Number
EX2200-C-12P-2G EX2200-C-12T-2G	EX-12-EFL

Table 3: Junos OS EFL Part Number on EX2200 Switches (*continued*)

Switch Model	EFL Part Number
EX2200-24T-4G EX2200-24P-4G EX2200-24T-DC-4G	EX-24-EFL
EX2200-48T-4G EX2200-48P-4G	EX-48-EFL

Features Requiring a License on EX3300 Switches

Two types of licenses are available on EX3300 switches: enhanced feature licenses (EFLs) and advanced feature licenses (AFLs).

To use the following features on the EX3300 switches, you must install an EFL:

- Bidirectional Forwarding Detection (BFD)
- IGMP (Internet Group Management Protocol) version 1 (IGMPv1), IGMPv2, and IGMPv3
- IPv6 routing protocols: Multicast Listener Discovery version 1 and 2 (MLD v1/v2), OSPFv3, PIM multicast, VRRPv6, virtual router support for unicast and filter-based forwarding (FBF)
- OSPFv1/v2
- Protocol Independent Multicast (PIM) dense mode, PIM source-specific mode, PIM sparse mode
- Q-in-Q tunneling (IEEE 802.1ad)
- Real-time performance monitoring (RPM)
- Virtual Router
- Virtual Router Redundancy Protocol (VRRP)

[Table 4 on page 7](#) lists the EFLs that you can purchase for EX3300 switch models. If you have the license, you can run all of the enhanced software features mentioned above on your EX3300 switch.

Table 4: Junos OS EFL Part Number on EX3300 Switches

Switch Model	EFL Part Number
EX3300-24T EX3300-24P EX3300-24T-DC	EX-24-EFL
EX3300-48T EX3300-48T-BF EX3300-48P	EX-48-EFL

To use the following feature on EX3300 switches, you must install an AFL:

- Border Gateway Protocol (BGP) and multiprotocol BGP (MBGP)
- IPv6 routing protocols: IPv6 BGP and IPv6 for MBGP
- Virtual routing and forwarding (VRF) BGP

[Table 5 on page 8](#) lists the AFLs that you can purchase for EX3300 switch models. For EX3300 switches, you must purchase and install a corresponding EFL along with the AFL to enable the advanced license features. If you have both these licenses, you can run all of the advanced software features mentioned above on your EX3300 switch.

Table 5: Junos OS AFL Part Number on EX3300 Switches

Switch Model	AFL Part Number
EX3300-24T EX3300-24P EX3300-24T-DC	EX-24-AFL
EX3300-48T EX3300-48T-BF EX3300-48P	EX-48-AFL

Features Requiring a License on EX4300 Switches

Two types of licenses are available on EX4300 switches: enhanced feature licenses (EFLs) and advanced feature licenses (AFLs).

To use the following features on the EX4300 switches, you must install an EFL:

- Bidirectional Forwarding Detection (BFD)
- Connectivity fault management (IEEE 802.1ag)
- IGMP (Internet Group Management Protocol) version 1 (IGMPv1), IGMPv2, and IGMPv3
- Multicast Source Discovery Protocol (MSDP)
- OSPFv2/v3
- Protocol Independent Multicast (PIM) dense mode, PIM source-specific mode, PIM sparse mode
- Real-time performance monitoring (RPM)
- RIPng (RIP next generation)
- Unicast reverse-path forwarding (RPF)
- Virtual Router
- Virtual Router Redundancy Protocol (VRRP)

[Table 6 on page 9](#) lists the EFLs that you can purchase for EX4300 switch models. If you have the license, you can run all of the enhanced software features mentioned above on your EX4300 switch.

Table 6: Junos OS EFL Part Number on EX4300 Switches

Switch Model	EFL Part Number
EX4300-24T EX4300-24P	EX4300-24-EFL
EX4300-48P EX4300-48T EX4300-48T-AFI EX4300-48T-DC EX4300-48T-DC-AFI	EX4300-48-EFL
EX4300-32F EX4300-32F-DC	EX4300-32F-EFL

To use the following features on EX4300 switches, you must install an AFL:

- Border Gateway Protocol (BGP) and multiprotocol BGP (MBGP)
- Intermediate System-to-Intermediate System (IS-IS)

[Table 7 on page 9](#) lists the AFLs that you can purchase for EX4300 switch models. For EX4300 switches, you must purchase and install a corresponding EFL along with the AFL to enable the advanced license features. If you have both these licenses, you can run all of the advanced software features mentioned above on your EX4300 switch.

Table 7: Junos OS AFL Part Number on EX4300 Switches

Switch Model	AFL Part Number
EX4300-24T EX4300-24P	EX4300-24-AFL
EX4300-48P EX4300-48T EX4300-48T-AFI EX4300-48T-DC EX4300-48T-DC-AFI	EX4300-48-AFL
EX4300-32F EX4300-32F-DC	EX4300-32F-AFL

You must download a MACsec feature license to enable MACsec. The MACsec feature license is an independent feature license; the enhanced feature licenses (EFLs) or advanced feature licenses (AFLs) that must be purchased to enable some features on EX Series switches cannot be purchased to enable MACsec.

To purchase a feature license for MACsec, contact your Juniper Networks sales representative (<http://www.juniper.net/us/en/contact-us/sales-offices>). The Juniper sales representative will provide you with a feature license file and a license key.

MACsec is supported on EX4300 switches.

Features Requiring a License on EX4600 Switches

To use the following features on EX4600 switches, you must install an advanced feature license:

- Border Gateway Protocol (BGP) and multiprotocol BGP (MBGP)
- Intermediate System-to-Intermediate System (IS-IS)
- Multiprotocol Label Switching (MPLS)

[Table 8 on page 10](#) lists the AFLs that you can purchase for EX4600 switch models.

Table 8: Junos OS AFL Part Number on EX4600 Switches

Switch Model	AFL Part Number
EX4600-40F	EX4600-AFL

Features Requiring a License on EX3200, EX4200, EX4500, EX4550, EX6200, EX8200, and EX9200 Switches

To use the following features on EX3200, EX4200, EX4500, EX4550, EX8200, and EX9200 switches, you must install an advanced feature license (AFL):

- Border Gateway Protocol (BGP) and multiprotocol BGP (MBGP)
- Ethernet VPN (available only on EX9200 switches)
- Intermediate System-to-Intermediate System (IS-IS)
- IPv6 routing protocols: IS-IS for IPv6, IPv6 BGP, IPv6 for MBGP
- Logical systems (available only on EX9200 switches)
- MPLS with RSVP-based label-switched paths (LSPs) and MPLS-based circuit cross-connects (CCCs) (Not supported on EX9200 switches)
- Open vSwitch Database (OVSDb) (available only on EX9200 switches)
- Virtual Extensible LAN (VXLAN) (available only on EX9200 switches)

To use the following features on Juniper Networks EX6200 Ethernet Switches, you must install an advanced feature license (AFL):

- Border Gateway Protocol (BGP)
- Intermediate System-to-Intermediate System (IS-IS)
- IPv6 routing protocols: IS-IS for IPv6, IPv6 BGP

[Table 9 on page 11](#) lists the AFLs that you can purchase for EX3200, EX4200, EX4500, EX4550, EX6200, EX8200, and EX9200 switches. If you have the license, you can run all of the advanced software features mentioned above on your EX3200, EX4200, EX4500, EX4550, EX6200, EX8200, or EX9200 switch.

Table 9: Junos OS AFL Part Number on EX3200, EX4200, EX4500, EX4550, EX6200, EX8200, and EX9200 Switches

Switch Model	AFL Part Number
EX3200-24P EX3200-24T EX4200-24F EX4200-24P EX4200-24PX EX4200-24T	EX-24-AFL
EX3200-48P EX3200-48T EX4200-48F EX4200-48P EX4200-48PX EX4200-48T	EX-48-AFL
EX4500-40F-BF EX4500-40F-BF-C EX4500-40F-FB EX4500-40F-FB-C	EX-48-AFL
EX4550	EX4550-AFL
EX6210	EX6210-AFL
EX8208	EX8208-AFL
EX8216	EX8216-AFL
EX-XRE200	EX-XRE200-AFL
EX9204	EX9204-AFL
EX9208	EX9208-AFL
EX9214	EX9214-AFL

You must download a MACsec feature license to enable MACsec. The MACsec feature license is an independent feature license; the enhanced feature licenses (EFLs) or advanced feature licenses (AFLs) that must be purchased to enable some features on EX Series switches cannot be purchased to enable MACsec.

To purchase a feature license for MACsec, contact your Juniper Networks sales representative (<http://www.juniper.net/us/en/contact-us/sales-offices>). The Juniper sales representative will provide you with a feature license file and a license key.

MACsec is supported on EX4200 and EX4550 switches.

License Warning Messages

For using features that require a license, you must install and configure a license key. To obtain a license key, use the contact information provided in your certificate.

If you have not purchased the AFL or EFL and installed the license key, you receive warnings when you try to commit the configuration:

```
[edit protocols]
  'bgp'
    warning: requires 'bgp' license
error: commit failed: (statements constraint check failed)
```

The system generates system log (**syslog**) alarm messages notifying you that the feature requires a license—for example:

```
Sep 3 05:59:11 craftd[806]: Minor alarm set, BGP Routing Protocol usage
requires a license
Sep 3 05:59:11 alarmd[805]: Alarm set: License color=YELLOW, class=CHASSIS,
reason=BGP Routing Protocol usage requires a license
Sep 3 05:59:11 alarmd[805]: LICENSE_EXPIRED: License for feature bgp(47) expired
```

Output of the **show system alarms** command displays the active alarms:

```
user@switch> show system alarms
1 alarm currently active
Alarm time           Class  Description
2009-09-03 06:00:11 UTC  Minor  BGP Routing Protocol usage requires a license
```

Related Documentation

- *Managing Licenses for the EX Series Switch (CLI Procedure)*
- *Managing Licenses for the EX Series Switch (J-Web Procedure)*
- *Monitoring Licenses for the EX Series Switch*
- *License Key Components for the EX Series Switch*

PART 2

Configuration

- [Junos OS Packages on page 15](#)
- [Initial Configuration on page 17](#)
- [Statement Hierarchies on page 21](#)

CHAPTER 3

Junos OS Packages

- [Downloading Software Packages from Juniper Networks on page 15](#)

Downloading Software Packages from Juniper Networks

You can download Junos OS packages from the Juniper Networks website to upgrade software on your EX Series switch.

Before you begin to download software upgrades, ensure that you have a Juniper Networks Web account and a valid support contract. To obtain an account, complete the registration form at the Juniper Networks website: <https://www.juniper.net/registration/Register.jsp>.

To download software upgrades from Juniper Networks:

1. Using a Web browser, follow the links to the download URL on the Juniper Networks webpage. For EX Series, there are not separate software packages for Canada the U.S. and other locations. Therefore, select **Canada and U.S. Version** regardless of your location:
 - <https://www.juniper.net/support/downloads/junos.html>
2. Log in to the Juniper Networks authentication system using the username (generally your e-mail address) and password supplied by Juniper Networks representatives.
3. Using the J-Web interface or the CLI, select the appropriate software package for your application. See “[Junos OS Package Names](#)” on page 3.
4. Download the software to a local host or to an internal software distribution site.

Related Documentation

- *Installing Software on EX Series Switches (J-Web Procedure)*
- *Installing Software on an EX Series Switch with a Single Routing Engine (CLI Procedure)*
- *Understanding Software Installation on EX Series Switches*

CHAPTER 4

Initial Configuration

- [Connecting and Configuring an EX9200 Switch \(CLI Procedure\)](#) on page 17

Connecting and Configuring an EX9200 Switch (CLI Procedure)

The EX9200 switch is shipped with the Junos OS preinstalled and ready to be configured when the switch is powered on. There are three copies of the software: one on a CompactFlash card in the Routing Engine module (RE module), one on a rotating hard disk in the RE module, and one on a USB flash drive that can be inserted into the slot in the faceplate of the RE module.

When the switch boots, it first attempts to start the image on the USB flash drive. If there is no USB flash drive inserted into the RE module or if the attempt otherwise fails, the switch next attempts to start the software from the CompactFlash card (if installed), and finally from the hard disk.

You configure the switch by issuing Junos OS command-line interface (CLI) commands, either on a console device attached to the console (**CONSOLE**) port on the master RE module, or over a telnet connection to a network connected to the Ethernet management (<...>) port on the master RE module.

Gather the following information before configuring the switch:

- Name the switch will use on the network
- Domain name the switch will use
- IP address and prefix length information for the Ethernet interface
- IP address of a default switch
- IP address of a DNS server
- Password for the root user

This procedure connects the switch to the network, but does not enable it to forward traffic. For complete information about enabling the switch to forward traffic, including examples, see the Junos OS configuration guides.

To configure the software:

1. Verify that the switch is powered on.
2. Log in as the *root* user. There is no password.
3. Start the CLI.

```
root# cli
root@>
```

4. Enter configuration mode.

```
cli> configure
[edit]
root@#
```

5. Set the root authentication password by entering either a clear-text password, an encrypted password, or an SSH public key string (DSA or RSA).

```
[edit]
root@# set system root-authentication plain-text-password
New password: password
Retype new password: password
```

or

```
[edit]
root@# set system root-authentication encrypted-password encrypted-password
```

or

```
[edit]
root@# set system root-authentication ssh-dsa public-key
```

or

```
[edit]
root@# set system root-authentication ssh-rsa public-key
```

6. Configure the name of the switch. If the name includes spaces, enclose the name in quotation marks (" ").

```
[edit]
root@# set system host-name host-name
```

7. Create a user account.

```
[edit]
root@# set system login user user-name authentication plain-text-password
New password: password
Retype new password: password
```

8. Set the user account class to super-user.

```
[edit]
root@# set system login user user-name class super-user
```

9. Configure the switch's domain name.


```
[edit]
root@# set system domain-name domain-name
```

10. Configure the IP address and prefix length for the switch's Ethernet interface.

```
[edit]
root@# set interfaces fxp0 unit 0 family inet address address/prefix-length
```

11. Configure the IP address of a DNS server.

```
[edit]
root@# set system name-server address
```

12. (Optional) Configure the static routes to remote subnets with access to the management port. Access to the management port is limited to the local subnet. For more information about static routes, see the *Junos OS Administration Library for Routing Devices*.

```
[edit]
root@# set routing-options static route remote-subnet next-hop destination-IP retain
no-advertise
```

13. Configure the telnet service at the **[edit system services]** hierarchy level.

```
[edit]
root@# set system services telnet
```

14. (Optional) Display the configuration to verify that it is correct.

```
[edit]
root@# show
system {
  host-name host-name;
  domain-name domain-name;
  root-authentication {
    authentication-method (password | public-key);
  }
  name-server {
    address;
  }
}
interfaces {
  fxp0 {
    unit 0 {
      family inet {
        address address/prefix-length;
      }
    }
  }
}
```

15. Commit the configuration to activate it on the switch.

```
[edit]
root@# commit
```

16. (Optional) Configure additional properties by adding the necessary configuration statements. Then commit the changes to activate them on the switch.

```
[edit]
```

```
root@switch# commit
```

17. When you have finished configuring the switch, exit configuration mode.

```
[edit]  
root@switch# exit  
root@switch>
```



NOTE: To reinstall Junos OS, you boot the switch from the removable media. Do not insert the removable media during normal operations. The switch does not operate normally when it is booted from the removable media.

When the switch boots from the storage media (removable media, CompactFlash card, or hard disk) it expands its search in the `/config` directory of the routing platform for the following files in the following order: **juniper.conf** (the main configuration file), **rescue.conf** (the rescue configuration file), and **juniper.conf.1** (the first rollback configuration file). When the first configuration file is found that can be loaded properly, the search ends and the file is loaded. If none of the file can be loaded properly, the routing platform does not function properly. If the switch boots from an alternate boot device, Junos OS displays a message indicating this when you log in to the switch.

**Related
Documentation**

- [EX9204 Switch Hardware Overview](#)
- [EX9208 Switch Hardware Overview](#)
- [EX9214 Switch Hardware Overview](#)

CHAPTER 5

Statement Hierarchies

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- [\[edit chassis\] Hierarchy Level on page 24](#)
- [\[edit class-of-service\] Hierarchy Level on page 32](#)
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- [\[edit policy-options\] Hierarchy Level on page 63](#)
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[\[edit accounting-options\] Hierarchy Level](#)

```
accounting-options {  
  class-usage-profile profile-name {  
    destination-classes {  
      destination-class-name;  
    }  
    file filename;  
    interval minutes;  
    source-classes {  
      source-class-name;  
    }  
  }  
  file filename {  
    archive-sites {  
      site-name;  
    }  
  }  
}
```

```
    }
    files number;
    nonpersistent;
    size bytes;
    start-time time;
    transfer-interval minutes;
  }
  filter-profile profile-name {
    counters {
      counter-name;
    }
    file filename;
    interval minutes;
  }
  interface-profile profile-name {
    fields {
      input-bytes;
      input-errors;
      input-multicast;
      input-packets;
      input-unicast;
      output-bytes;
      output-errors;
      output-multicast;
      output-packets;
      output-unicast;
      rpf-check-bytes;
      rpf-check-packets;
      rpf-check6-bytes;
      rpf-check6-packets;
      unsupported-protocol;
    }
    file filename;
    interval minutes;
  }
  mib-profile profile-name {
    file filename;
    interval minutes;
    object-names {
      mib-object-name;
    }
    operation (get | get-next | walk);
  }
  policy-decision-statistics-profile profile-name {
    application-aware-access-list-fields {
      address;
      application;
      application-group;
      input-bytes;
      input-interface;
      input-packets;
      mask;
      output-bytes;
      output-packets;
      subscriber-name;
      timestamp;
    }
  }
}
```

```
        vrf-name;
    }
    file filename;
}
routing-engine-profile profile-name {
    fields {
        field-name;
    }
    file filename;
    interval minutes;
}
}
```

Related Documentation • [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[\[edit chassis\]](#) Hierarchy Level

```
chassis {
    aggregated-devices {
        ethernet {
            device-count number;
            lacp {
                link-protection {
                    non-revertive;
                }
                system-priority;
            }
        }
        sonet {
            device-count number;
        }
        maximum-links maximum-links-limit;
    }
    alarm {
        ds1 {
            ais (ignore | red | yellow);
            ylw (ignore | red | yellow);
        }
        ethernet {
            link-down (ignore | red | yellow);
        }
        integrated-services {
            failure (ignore | red | yellow);
        }
        management-ethernet {
            link-down (ignore | red | yellow);
        }
        relay
        input {
            port port-number {
                mode (close | open);
                trigger (ignore | red | yellow);
            }
        }
    }
}
```

```

output{
    port port-number {
        input-relay input-relay;
        mode (close | open);
        temperature;
    }
}
serial {
    cts-absent (ignore | red | yellow);
    dcd-absent (ignore | red | yellow);
    dsr-absent (ignore | red | yellow);
    loss-of-rx-clock (ignore | red | yellow);
    loss-of-tx-clock (ignore | red | yellow);
    tm-absent (ignore | red | yellow);
}
services {
    hw-down (ignore | red | yellow);
    linkdown (ignore | red | yellow);
    pic-hold-reset (ignore | red | yellow);
    pic-reset (ignore | red | yellow);
    rx-errors (ignore | red | yellow);
    sw-down (ignore | red | yellow);
    tx-errors (ignore | red | yellow);
}
sonet {
    (ais-l | ais-p | ber-sd | ber-sf | locd | lol | lop-p | los | pll | plm-p | rfi-l | rfl-p | uneq-p)
    (ignore | red | yellow);
}
t3 {
    (ais | exz | ferf | idle | lcv | lof | los | pll | ylw) (ignore | red | yellow);
}
}
cluster {
    control-link-recovery;
    control-ports {
        fpc slot-number port port-number;
    }
    heartbeat-interval milliseconds;
    heartbeat-threshold number;
    redundancy-group {
        ... the redundancy-group subhierarchy appears at the end of the [edit chassis cluster]
        hierarchy ...
    }
}
reth-count number;
traceoptions {
    file <filename> <files number> <match regular-expression> <size maximum-file-size>
    <world-readable | no-world-readable>;
    flag flag;
    level severity;
    no-remote-trace;
}
redundancy-group group-number {
    gratuitous-arp-count number;
    hold-down-interval seconds;
    interface-monitor {
        interface-name weight number;
    }
}

```

```

    }
    ip-monitoring {
        family {
            inet {
                ipv4-address {
                    interface rethindex.logical-unit-number secondary-ip-address ipv4-address;
                    weight number;
                }
            }
        }
        global-threshold number;
        global-weight number;
        retry-count count;
        retry-interval interval;
    }
    node node-number priority priority-number;
    preempt;
}
config-button {
    no-clear;
    no-rescue;
}
container-devices {
    device-count number;
}
craft-lockout;
disable-power-management;
disk-partition partition-name (/config | /var) {
    level (full | high) {
        free-space threshold-value (mb | percent);
    }
}
enhanced-policer;
extended-statistics;
fabric {
    degraded {
        action-fpc-restart-disable;
        degraded-fabric-detection-enable
        degraded-fpc-bad-plane-threshold number-bad-planes;
    }
    redundancy-mode (increased-bandwidth | redundant);
}
filter;
fpc slot-number {
    ... the fpc subhierarchy appears after the main [edit chassis] hierarchy ...
}
fpc-feb-connectivity {
    fpc slot-number feb (slot-number | none);
}
fpc-resync;
fru-poweron-sequence sequence;
lcc index {
    ... the lcc subhierarchy appears after the main [edit chassis] hierarchy ...
}
maximum-ecmp value;
memory-enhanced {

```



```

    filter;
    route;
    vpn-label;
}
network-services (ethernet | enhanced-ethernet | ip | enhanced-ip);
(packet-scheduling | no-packet-scheduling);
pem {
    minimum number;
}
policer-drop-probability-low;
ppp-subscriber-services (disable | enable);
redundancy {
    cfeb slot (always | preferred);
    failover {
        on-disk-failure;
        on-loss-of-keepalives;
    }
    feb {
        redundancy-group group-name {
            description description;
            feb slot-number <backup | primary>;
            no-auto-failover;
        }
    }
    graceful-switchover;
    keepalive-time seconds;
    routing-engine slot-number (backup | disabled | master);
    sfm slot-number (always | preferred);
    ssb slot-number (always | preferred);
}
route-localization {
    inet (chassis);
    inet6;
}
routing-engine {
    bios {
        no-auto-upgrade;
    }
    on-disk-failure disk-failure-action (halt | reboot);
}
sfm slot-number {
    power off;
}
sib {
    minimum number;
}
(source-route | no-source-route);
state [
    cb-upgrade [on | off];
]
synchronization { # for M Series and T Series routers
    primary (external-a | external-b);
    secondary (external-a | external-b);
    signal-type (e1 | t1);
    switching-mode (non-revertive | revertive);
    transmitter-enable;
}

```

```

    validation-interval seconds;
    y-cable-line-termination;
}
synchronization { # for MX80 and MX240 routers
    clock-mode (auto-select | free-run);
    esmc-transmit {
        interfaces (all | interface-name);
    }
    hold-interval {
        configuration-change seconds;
        restart seconds;
        switchover seconds;
    }
    network-option (option-1 | option-2);
    quality-mode-enable;
    selection-mode (configured-quality|received-quality);
    source {
        (external-a | external-b) {
            priority number;
            quality-level (prc | prs |sec | smc | ssu-a | ssu-b | st2 | st3 | st3e | st4 | stu | tnc);
            request (force-switch | lockout);
        }
        interfaces interface-name {
            priority number;
            quality-level (prc | prs |sec | smc | ssu-a | ssu-b | st2 | st3 | st3e | st4 | stu | tnc);
            request (force-switch | lockout);
            wait-to-restore minutes;
        }
    }
    switchover-mode (revertive | non-revertive);
}
synchronization { # for ACX Series routers
    clock-mode (auto-select | free-run);
    esmc-transmit {
        interfaces (all | interface-name);
    }
    hold-interval {
        configuration-change seconds;
        restart seconds;
        switchover seconds;
    }
    network-option (option-1 | option-2);
    quality-mode-enable;
    selection-mode (configured-quality | received-quality);
    source {
        (bits | gps) {
            priority number;
            quality-level (prc | prs |sec | smc | ssu-a | ssu-b | st2 | st3 | st3e | st4 | stu | tnc);
            request (force-switch | lockout);
        }
        interfaces interface-name {
            priority number;
            quality-level (prc | prs |sec | smc | ssu-a | ssu-b | st2 | st3 | st3e | st4 | stu | tnc);
            request (force-switch | lockout);
            wait-to-restore minutes;
        }
    }
}

```

```

    }
    switchover-mode(non-revertive | revertive);
}
system-domains {
    protected-system-domains psdnumerical-index {
        control-plane-bandwidth-percent percent;
        control-slot-numbers [ slot-numbers ];
        control-system-id control-system-id;
        description description;
        fpcs [ slot-numbers ];
    }
    root-domain-id root-domain-id;
}
vrf-mtu-check;
}

chassis {
    fpc slot-number {
        number-of-ports active-ports;
        offline;
        pic slot-number {
            ... the pic subhierarchy appears after the main [edit chassis fpc slot-number] hierarchy
            ...
        }
        port-mirror-instance port-mirror-instance-name;
        power (off | on);
        sampling-instance instance-name;
    }

    fpc slot-number {
        pic slot-number {
            adaptive-services {
                service-package (layer-2 | layer-3 | ...the following extension-provider subhierarchy
                ...);
            }
            extension-provider {
                control-cores number;
                data-cores number;
                data-flow-affinity {
                    hash-key (layer-3 | layer-4);
                }
                channelization;
                forwarding-db-size megabytes;
                object-cache-size megabytes;
                package package-name;
                policy-db-size megabytes;
                syslog {
                    facility {
                        severity;
                        destination (pic-console | routing-engine);
                    }
                }
                wired-process-mem-size megabytes;
            }
        }
    }
    aggregated-devices {
        ima {

```

```

        device-count number;
    }
}
aggregate-ports;
atm-cell-relay-accumulation;
atm-l2circuit-mode (aal5 | cell | trunk trunk);
cel {
    e1 port-number {
        channel-group group-number timeslots slot-number;
    }
}
ct3 {
    port port-number {
        t1 link-number {
            channel-group group-number timeslots slot-number;
        }
    }
}
ethernet {
    pic-mode (enhanced-switching | routing | switching);
}
fibre-channel {
    port port-number;
    port-range port-range-low port-range-high
}
egress-policer-overhead bytes;
forwarding-mode {
    sa-multicast;
    vlan-steering {
        vlan-rule (high-low | odd-even);
    }
}
framing (e1 | e3 | sdh | sonet | t1 | t3);
idle-cell-format {
    itu-t;
    payload-pattern payload-pattern-byte;
}
ingress-policer-overhead bytes;
inline-services {
    bandwidth (1g | 10g);
}
linerate-mode;
max-queues-per-interface (4 | 8);
mlfr-uni-nni-bundles number;
no-concatenate;
no-multi-rate;
port port-number {
    framing (e1 | e3 | sdh | sonet | t1 | t3);
    forwarding-mode {
        sa-multicast;
    }
    speed ( oc3-stm1 | oc12-stm4 | oc48-stm16);
}
port-mirror-instance port-mirror-instance-name;
q-pic-large-buffer {
    (large-scale | small-scale);
}

```

```

    }
    red-buffer-occupancy {
        weighted-averaged <instant-usage-weight-exponent weight-value>;
    }
    shdsl {
        pic-mode (1-port-atm | 2-port-atm);
    }
    sparse-dlcis;
    traffic-manager {
        egress-shaping-overhead number;
        ingress-shaping-overhead number;
        mode {
            egress-only;
            ingress-and-egress;
            session-shaping;
        }
    }
    tunnel-queuing;
    tunnel-services {
        bandwidth (1g | 10g | 20g | 40g);
        tunnel-only;
    }
    vtmapping (itu-t | klm);
}
}

chassis {
    lcc index {
        fpc slot-number {
            ... the fpc subhierarchy appears after the main [edit chassis lcc index] hierarchy ...
        }
        offline;
        online-expected;
    }
}

lcc index {
    fpc slot-number {
        pic slot-number {
            ... the pic subhierarchy appears after the main [edit chassis lcc index fpc slot-number] hierarchy ...
        }
        power (off | on);
        sampling-instance instance-name;
    }

    fpc slot-number {
        pic slot-number {
            aggregate-ports;
            atm-cell-relay-accumulation;
            atm-l2circuit-mode (aal5 | cell | trunk trunk);
            framing (e1 | e3 | sdh | sonet | t1 | t3);
            idle-cell-format {
                itu-t;
                payload-pattern payload-pattern-byte;
            }
        }
    }
}

```

```

    }
    linerate-mode;
    max-queues-per-interface (4 | 8);
    no-concatenate;
    no-mcast-replication;
    no-pre-classifier;
    port port-number {
        framing (e1 | e3 | sdh | sonet | t1 | t3);
    }
    q-pic-large-buffer {
        (large-scale | small-scale);
    }
    red-buffer-occupancy {
        weighted-averaged <instant-usage-weight-exponent weight-value>;
    }
    shdsl {
        pic-mode (1-port-atm | 2-port-atm);
    }
    traffic-manager {
        egress-shaping-overhead bytes;
        ingress-shaping-overhead bytes;
        mode {
            egress-only;
            ingress-and-egress;
        }
    }
}
}
}

```

Related Documentation • [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[\[edit class-of-service\] Hierarchy Level](#)

```

class-of-service {
    classifiers {
        type classifier-name {
            forwarding-class class-name {
                loss-priority (high | low | medium-high | medium-low) code-points [ aliases bits ];
            }
            import (classifier-name | default);
        }
    }
    code-point-aliases {
        (dscp | dscp-ipv6 | exp | ieee-802.1 | ieee-802.1ad | inet-precedence) {
            alias-name bits;
        }
    }
    drop-profiles {
        profile-name {
            fill-level percentage drop-probability percentage;
            interpolate {
                drop-probability value;
                fill-level value;
            }
        }
    }
}

```

```

    }
  }
}
fabric {
  scheduler-map {
    priority (high | low) scheduler scheduler-name;
  }
}
forwarding-class-map {
  map-name {
    class class-name queue-num queue-number <restricted-queue queue-number>;
  }
}
forwarding-classes {
  class class-name policing-priority (normal | premium) queue-num queue-number
  priority (high | low);
  queue queue-number class-name policing-priority (normal | premium) priority (high |
  low);
}
forwarding-policy {
  class class-name {
    classification-override {
      forwarding-class class-name;
    }
  }
}
next-hop-map map-name {
  forwarding-class class-name {
    discard;
    lsp-next-hop [ lsp-regular-expressions ];
    next-hop [ next-hop-names ];
    non-lsp-next-hop;
  }
}
}
fragmentation-maps {
  map-name {
    forwarding-class class-name {
      drop-timeout milliseconds;
      fragment-threshold bytes;
      multilink-class number;
      no-fragmentation;
    }
  }
}
host-outbound-traffic {
  dscp-code-point value;
  forwarding-class class-name;
  ieee-802.1 {
    default value;
    rewrite-rules;
  }
  tcp {
    raise-internet-control-priority;
  }
}
interfaces {

```

```

... the interfaces subhierarchy appears after the main [edit class-of-service] hierarchy
...
}
}
restricted-queues {
  forwarding-class class-name queue-number;
}
rewrite-rules {
  (dscp | dscp-ipv6 | exp | frame-relay-de | ieee-802.1 | ieee-802.1ad | inet-precedence)
  rewrite-rule {
    forwarding-class class-name {
      loss-priority level code-point (alias | bits);
    }
    import (rewrite-rule | default);
  }
}
routing-instances routing-instance-name {
  classifiers {
    dscp (classifier-name | default);
    dscp-ipv6 (classifier-name | default);
    exp (classifier-name | default);
    ieee-208.1 (classifier-name | default | encapsulated | vlan-tag (inner | outer));
  }
}
scheduler-maps {
  map-name {
    forwarding-class class-name scheduler scheduler-name;
  }
}
schedulers {
  scheduler-name {
    adjust-minimum value;
    adjust-percent value;
    buffer-size (exact | percent percentage | remainder);
    drop-profile-map loss-priority (any | high | low | medium-high | medium-low)
      protocol any;
    excess-priority (high | low | medium-high | medium-low);
    excess-rate (percent percentage | proportion proportion);
    priority (high | low | medium-high | medium-low | strict-high);
    shaping-rate (bps | percent percentage | burst-size size);
    transmit-rate (bps | percent percentage | remainder) <exact | rate-limit>;
  }
}
traceoptions {
  file <files number> <match regular-expression> <size maximum-file-size>
    <world-readable | no-world-readable>;
  flag flag;
  no-remote-trace;
}
traffic-control-profiles {
  profile-name {
    adjust-minimum rate;
    delay-buffer-rate (bps | cps cps | percent percentage);
    excess-rate (percent percentage | proportion value);
    guaranteed-rate (bps | percent percentage) <burst-size bytes>;
    overhead-accounting (frame-mode | cell-mode) <bytes byte-value>;
  }
}

```



```

        scheduler-map map-name;
        shaping-rate (bps | percent percentage) <burst-size bytes>;
    }
}
tri-color;
}

class-of-service {
    interfaces {
        interface-name {
            excess-bandwidth-share (equal | proportional value);
            input-excess-bandwidth-share (equal | proportional value);
            input-scheduler-map map-name;
            input-shaping-rate bps;
            input-traffic-control-profile profile-name;
            output-forwarding-class-map map-name;
            output-traffic-control-profile profile-name;
            scheduler-map map-name;
            scheduler-map-chassis (map-name | derived);
            shaping-rate bps;
            unit (logical-unit-number | *) {
                classifiers {
                    dscp (classifier-name | default) {
                        family [ inet mpls ];
                    }
                    dscp-ipv6 (classifier-name | default) {
                        family [ inet mpls ];
                    }
                    exp (classifier-name | default);
                    ieee-208.1 (classifier-name | default) <vlan-tag (inner | outer)>;
                    ieee-208.1ad (classifier-name | default);
                    inet-precedence (classifier-name | default);
                }
                forwarding-class class-name;
                input-scheduler-map map-name;
                input-shaping-rate bps;
                input-traffic-control-profile profile-name shared-instance instance-name;
                loss-priority-maps {
                    (map-name | default);
                }
                loss-priority-rewrites {
                    (map-name | default);
                }
                output-forwarding-class-map map-name;
                output-traffic-control-profile profile-name shared-instance instance-name;
                rewrite-rules {
                    dscp (rule-name | default) <protocol mpls>;
                    dscp-ipv6 (rule-name | default);
                    exp (rule-name | default) <protocol [ mpls-any | mpls-inet-both |
                        mpls-inet-both-non-vpn ]>;
                    exp-push-push-push default;
                    exp-swap-push-push default;
                    ieee-802.1 (rewrite-name | default) <vlan-tag (outer | outer-and-inner)>;
                    ieee-802.1ad (rewrite-name | default) <vlan-tag (outer | outer-and-inner)>;
                    inet-precedence (rewrite-name | default) <protocol mpls>;
                }
            }
        }
    }
}

```

```

        scheduler-map map-name;
        shaping-rate bps;
        translation-table (to-dscp-from-dscp | to-dscp-ipv6-from-dscp-ipv6 |
            to-exp-from-exp | to-inet-precedence-from-inet-precedence) table-name;
    }
}
interface-set interface-set-name {
    excess-bandwidth-share (equal | proportional value);
    input-excess-bandwidth-share (equal | proportional value);
    input-traffic-control-profile profile-name;
    input-traffic-control-profile-remaining profile-name;
    internal-node;
    output-traffic-control-profile profile-name;
    output-traffic-control-profile-remaining profile-name;
}
}
}

```

Related Documentation • [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[\[edit dynamic-profiles\] Hierarchy Level](#)

```

dynamic-profiles {
  profile-name {
    class-of-service
    ... statements from those in [edit class-of-service] Hierarchy Level.
    firewall
    ... statements from those in [edit firewall] Hierarchy Level.
    interfaces
    ... statements from those in [edit interfaces] Hierarchy Level.
    policy-options
    ... statements from those in [edit policy-options] Hierarchy Level.
    predefined-variable-defaults variable-name default-value
    profile-variable-set variable-set-name dynamic-variable-name substitute-variable-name
    protocols
    ... statements from those in [edit protocols] Hierarchy Level.
    routing-instances
    ... statements from those in [edit routing-instances] Hierarchy Level.
    routing-options
    ... statements from those in [edit routing-options] Hierarchy Level.
    services
    ... statements from those in [edit services] Hierarchy Level.
    variables {
      variable-name {
        default-value default-value;
        equals expression;
        mandatory;
      }
      uid;
      uid-reference;
    }
  }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit dynamic-profiles routing-instances] Hierarchy Level*
 - *[edit dynamic-profiles routing-options] Hierarchy Level*
 - *[edit dynamic-profiles variables] Hierarchy Level*

[\[edit event-options\] Hierarchy Level](#)

```

event-options {
  destinations {
    destination-name {
      archive-sites {
        url <password password>;
      }
      transfer-delay seconds;
    }
  }
  event-script {
    dampen {
      dampen-options {
        cpu-factor cpu-factor;
        line-interval line-interval;
        time-interval microseconds;
      }
    }
    file filename {
      checksum (md5 | sha-256 | sha1) hash;
      refresh;
      refresh-from url;
      remote-execution {
        remote-hostname {
          passphrase user-password;
          username user-login;
        }
      }
      source url;
    }
    max-datasize
    refresh;
    refresh-from url;
    traceoptions {
      file <filename> <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag;
      no-remote-trace;
    }
  }
  generate-event event-name {
    time-interval seconds;
    time-of-day hh:mm:ss;
  }
  max-policies policies;
  policy policy-name {

```

```

... the policy subhierarchy appears after the main [edit event-options] hierarchy ...
}
traceoptions {
  file <filename> <files number> <match regular-expression> <size maximum-file-size>
    <world-readable | no-world-readable>;
  flag flag;
  no-remote-trace;
}
}

event-options {
  policy policy-name {
    attributes-match {
      event1.attribute-name equals event2.attribute-name;
      event.attribute-name matches regular-expression;
      event1.attribute-name starts-with event2.attribute-name;
    }
    events [ events ];
    then {
      change-configuration {
        commands {
          "command";
        }
        commit-options {
          check <synchronize>;
          force;
          log "comment-string";
          synchronize;
        }
        retry count number interval seconds;
        user-name username;
      }
      event-script filename {
        arguments {
          argument-name argument-value;
        }
        destination destination-name {
          retry-count number retry-interval seconds;
          transfer-delay seconds;
        }
        output-filename filename;
        output-format (text | xml);
        user-name username;
      }
      execute-commands {
        commands {
          "command";
        }
        destination destination-name {
          retry-count number retry-interval seconds;
          transfer-delay seconds;
        }
        output-filename filename;
        output-format (text | xml);
        user-name username;
      }
    }
  }
}

```

```

ignore;
priority-override {
    facility facility-type;
    severity severity-level;
}
raise-trap;
upload filename (filename | committed) destination destination-name {
    retry-count number retry-interval seconds;
    transfer-delay seconds;
    user-name username;
}
}
within seconds {
    events [ events ];
    not events [ events ];
    trigger (after number | on number | until number);
}
}
}

```

Related Documentation

- [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[edit firewall] Hierarchy Level

Several statements in the **[edit firewall]** hierarchy are valid at numerous locations within the hierarchy. .

- [Common Firewall Actions on page 39](#)
- [Common IP Firewall Actions on page 40](#)
- [Common IPv4 and IPv6 Firewall Actions on page 40](#)
- [Common IP Firewall Match Conditions on page 41](#)
- [Common IPv4 Firewall Match Conditions on page 42](#)
- [Common Layer 2 Firewall Match Conditions on page 42](#)
- [Complete \[edit firewall\] Hierarchy on page 44](#)

Common Firewall Actions

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in “[Complete \[edit firewall\] Hierarchy on page 44](#)” instead of the statements being repeated.

- **[edit firewall family (any | ethernet-switching | inet | inet6) filter *filter-name* term *term-name* then]**
- **[edit firewall filter *filter-name* term *term-name* then]**

The common firewall actions are as follows:

```

count counter-name;
forwarding-class class-name;
loss-priority (high | low | medium-high | medium-low);

```

```
next term;
policer policer-name;
three-color-policer policer-name {
    (single-rate single-rate-policer-name | two-rate two-rate-policer-name);
}
```

Common IP Firewall Actions

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in [“Complete \[edit firewall\] Hierarchy” on page 44](#) instead of the statements being repeated.

- [edit firewall family inet filter *filter-name* term *term-name* then]
- [edit firewall family inet6 filter *filter-name* term *term-name* then]
- [edit firewall filter *filter-name* term *term-name* then]

The common IP firewall actions are as follows:

```
log;
logical-system logical-system-name <routing-instance routing-instance-name>
    <topology topology-name>;
port-mirror;
port-mirror-instance instance-name;
routing-instance routing-instance-name <topology topology-name>;
sample;
service-filter-hit;
syslog;
topology topology-name;
```

Common IPv4 and IPv6 Firewall Actions

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in [“Complete \[edit firewall\] Hierarchy” on page 44](#) instead of the statements being repeated.

- [edit firewall family inet filter *filter-name* term *term-name* then]
- [edit firewall filter *filter-name* term *term-name* then]

The common IP version 4 (IPv4) and IP version 6 (IPv6) firewall actions are as follows:

```
(accept | discard <accounting collector-name> | reject <administratively-prohibited |
    bad-host-tos | bad-network-tos | fragmentation-needed | host-prohibited |
    host-unknown | host-unreachable | network-prohibited | network-unknown |
    network-unreachable | port-unreachable | precedence-cutoff | precedence-violation |
    protocol-unreachable | source-host-isolated | source-route-failed | tcp-reset>);
ipsec-sa sa-name;
load-balance sa-name;
next-hop-group group-name;
prefix-action action-name;
```

Common IP Firewall Match Conditions

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in “[Complete \[edit firewall\] Hierarchy](#)” on page 44 instead of the statements being repeated.

- **[edit firewall family inet dialer-filter *filter-name* term *term-name* from]** (with the exceptions noted at this level in “[Complete \[edit firewall\] Hierarchy](#)” on page 44)
- **[edit firewall family inet filter *filter-name* term *term-name* from]**
- **[edit firewall family inet6 dialer-filter *filter-name* term *term-name* from]** (with the exceptions noted at this level in “[Complete \[edit firewall\] Hierarchy](#)” on page 44)
- **[edit firewall family inet6 filter *filter-name* term *term-name* from]**
- **[edit firewall filter *filter-name* term *term-name* from]**

The common IP firewall match conditions are as follows:

```

address {
    ip-prefix</prefix-length> <except>;
}
destination-address {
    ip-prefix</prefix-length> <except>;
}
destination-class [ class-names ] | destination-class-except [ class-names ];
(destination-port [ port-names ] | destination-port-except [ port-names ]);
destination-prefix-list {
    list-name <except>;
}
(forwarding-class [ class-names ] | forwarding-class-except [ class-names ]);
 icmp-code [ codes ] | icmp-code-except [ codes ];
 icmp-type [ types ] | icmp-type-except [ types ];
interface interface-name;
(interface-group [ group-names ] | interface-group-except [ group-names ]);
interface-set set-name;
(loss-priority [ priorities ] | loss-priority-except [ priorities ]);
(packet-length [ values ] | packet-length-except [ values ]);
(port [ port-names ] | port-except [ port-names ]);
prefix-list {
    list-name <except>;
}
service-filter-hit;
source-address {
    ip-prefix</prefix-length> <except>;
}
(source-class [ class-names ] | source-class-except [ class-names ]);
(source-port [ port-names ] | source-port-except [ port-names ]);
source-prefix-list {
    list-name <except>;
}
tcp-established;
tcp-flags flag;
tcp-initial;

```

Common IPv4 Firewall Match Conditions

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in “[Complete \[edit firewall\] Hierarchy](#)” on page 44 instead of the statements being repeated.

- **[edit firewall family inet dialer-filter *filter-name* term *term-name* from]** (with the exceptions noted at this level in “[Complete \[edit firewall\] Hierarchy](#)” on page 44)
- **[edit firewall family inet filter *filter-name* term *term-name* from]**
- **[edit firewall filter *filter-name* term *term-name* from]**

The common IPv4 firewall match conditions are as follows:

```
(ah-spi [ values ] | ah-spi-except [ values ]);
(dscp [ code-point-values ] | dscp-except [ code-point-values ]);
(esp-spi [ values ] | esp-spi-except [ values ]);
first-fragment;
fragment-flags flag;
(fragment-offset [ offsets ] | fragment-offset-except [ offsets ]);
(ip-options [ option-names ] | ip-options-except [ option-names ]);
is-fragment;
(precedence [ precedence-names ] | precedence-except [ precedence-names ]);
(protocol [ protocol-names ] | protocol-except [ protocol-names ]);
(ttl [ tll-values ] | ttl-except [ tll-values ]);
```

Common Layer 2 Firewall Match Conditions

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in “[Complete \[edit firewall\] Hierarchy](#)” on page 44 instead of the statements being repeated.

- **[edit firewall family ethernet-switching filter *filter-name* term *term-name* from]**

The common Layer 2 firewall match conditions are as follows:

```
destination-mac-address {
    mac-address <except>;
}
(destination-port [ port-names ] | destination-port-except [ port-names ]);
(dscp [ code-point-values ] | dscp-except [ code-point-values ]);
(ether-type [ protocol-types ] | ether-type-except [ protocol-types ]);
(forwarding-class [ class-names ] | forwarding-class-except [ class-names ]);
 icmp-code [ codes ] | icmp-code-except [ codes ]);
 icmp-type [ types ] | icmp-type-except [ types ]);
(interface-group [ group-names ] | interface-group-except [ group-names ]);
ip-address {
    ip-prefix</prefix-length> <except>;
}
ip-destination-address {
    ip-prefix</prefix-length> <except>;
}
(ip-precedence [ precedence-names ] | ip-precedence-except [ precedence-names ]);
(ip-protocol [ protocol-names ] | ip-protocol-except [ protocol-names ]);
```



```
ip-source-address ip-prefix </prefix-length>;
(learn-vlan-lp-priority [ priorities ] | learn-vlan-lp-priority [ priorities ]);
(learn-vlan-id [ vlan-ids ] | learn-vlan-id-except [ vlan-ids ]);
(loss-priority [ priorities ] | loss-priority-except [ priorities ]);
(port [ port-names ] | port-except [ port-names ]);
source-mac-address {
    mac-address <except>;
}
(source-port [ port-names ] | source-port-except [ port-names ]);
tcp-flags flag;
(traffic-type [ broadcast known-unicast multicast unknown-unicast ] |
    traffic-type-except [ broadcast known-unicast multicast unknown-unicast ]);
(user-vlan-lp-priority [ priorities ] | user-vlan-lp-priority [ priorities ]);
(user-vlan-id [ vlan-ids ] | user-vlan-id-except [ vlan-ids ]);
(vlan-ether-type [ protocol-types ] | vlan-ether-type-except [ protocol-types ]);
```

Complete [edit firewall] Hierarchy

```

firewall {
  family (any | ethernet-switching | inet | inet6) {
    ... the family subhierarchies appear after the main [edit firewall] hierarchy ...
  }
  filter filter-name {
    accounting-profile [ profile-names ];
    enhanced-mode;
    interface-shared-with;
    interface-specific;
    physical-interface-policer;
    term term-name {
      filter filter-name;
      from {
        ... statements in Common IP Firewall Match Conditions on page 41 AND
        ... statements in Common IPv4 Firewall Match Conditions on page 42 ...
      }
      then {
        ... statements in Common Firewall Actions on page 39 AND
        ... statements in Common IP Firewall Actions on page 40 AND
        ... statements in Common IPv4 and IPv6 Firewall Actions on page 40 ...
      }
    }
  }
}
hierarchical-policer policer-name {
  aggregate {
    if-exceeding {
      bandwidth-limit bps;
      burst-size-limit bytes;
    }
    then {
      discard;
      forwarding-class class-name;
      loss-priority (high | low | medium-high | medium-low);
    }
  }
  logical-interface-policer;
  physical-interface-policer;
  premium {
    if-exceeding {
      bandwidth-limit bps;
      burst-size-limit bytes;
    }
    then {
      discard;
    }
  }
}
shared-bandwidth-policer;
interface-set interface-set-name {
  interface-name;
}
load-balance-group group-name {
  next-hop-group [ group-names ];
}

```

```

}
policer policer-name {
  filter-specific;
  if-exceeding {
    (bandwidth-limit bps | bandwidth-percent percentage);
    burst-size-limit bytes;
  }
  logical-bandwidth-policer;
  logical-interface-policer;
  physical-interface-policer;
  then {
    discard;
    forwarding-class class-name;
    loss-priority (high | low | medium-high | medium-low);
  }
}
three-color-policer policer-name {
  action {
    loss-priority high then discard;
  }
  filter-specific;
  logical-interface-policer;
  physical-interface-policer;
  shared-bandwidth-policer;
  single-rate {
    (color-aware | color-blind);
    committed-burst-size bytes;
    committed-information-rate bps;
    excess-burst-size bytes;
  }
  two-rate {
    (color-aware | color-blind);
    committed-burst-size bytes;
    committed-information-rate bps;
    peak-burst-size bytes;
    peak-information-rate bps;
  }
}
}

firewall {
  family any {
    filter filter-name {
      interface-shared;
      term term-name {
        from {
          (forwarding-class [ class-names ] | forwarding-class-except [ class-names ]);
          interface interface-name;
          interface-set set-name;
          (loss-priority [ priorities ] | loss-priority-except [ priorities ]);
          (packet-length [ values ] | packet-length-except [ values ]);
        }
        then {
          ... statements in Common Firewall Actions on page 39 PLUS ...
          (accept | discard);
        }
      }
    }
  }
}

```

```
    }  
  }  
}
```

```
firewall {  
  family ethernet-switching {  
    filter filter-name {  
      interface-specific;  
      term term-name {  
        from {  
          destination-address {  
            ip-prefix</prefix-length>;  
          }  
          destination-mac-address {  
            mac-address;  
          }  
          destination-port [ port-names ];  
          destination-prefix-list {  
            list-name;  
          }  
          dot1q-tag [ tag-values ];  
          dot1q-user-priority [ priority-values ];  
          dscp [ code-point-values ];  
          ether-type [ protocol-names ];  
          fragment-flags flag;  
          icmp-code [ codes ];  
          icmp-type [ types ];  
          interface interface-name;  
          is-fragment;  
          precedence [ precedence-names ];  
          protocol [ protocol-names ];  
          source-address {  
            ip-prefix</prefix-length>;  
          }  
          source-mac-address {  
            mac-address;  
          }  
          source-port [ port-names ];  
          source-prefix-list {  
            list-name;  
          }  
          tcp-established;  
          tcp-flags flag;  
          tcp-initial;  
          vlan [ vlan-names ];  
        }  
        then {  
          (accept | discard);  
          analyzer analyzer-name;  
          count counter-name;  
          forwarding-class class-name;  
          interface interface-name;  
          log;  
        }  
      }  
    }  
  }  
}
```

```

        loss-priority (high | low);
        policer policer-name;
        syslog;
        vlan vlan-name;
    }
}
}
}
}

firewall {
    family inet {
        dialer-filter filter-name {
            accounting-profile [ profile-names ];
            term term-name {
                from {
                    ... statements in Common IP Firewall Match Conditions on page 41 AND
                    statements in Common IPv4 Firewall Match Conditions on page 42 EXCEPT
                    FOR ...
                    (ah-spi [ values ] | ah-spi-except [ values ]); # NOT valid at this level
                    (destination-class [ class-names ] |
                     destination-class-except [ class-names ]); # NOT valid at this level
                    interface interface-name; # NOT valid at this level
                    (loss-priority [ priorities ] | loss-priority-except [ priorities ]); # NOT valid at
                     this level
                    service-filter-hit; # NOT valid at this level
                    (source-class [ class-names ] | source-class-except [ class-names ]); # NOT
                     valid at this level
                }
            }
            then {
                (ignore | note);
                log;
                sample;
                syslog;
            }
        }
    }
    filter filter-name {
        accounting-profile [ profile-names ];
        interface-specific;
        term term-name {
            filter filter-name;
            from {
                ... statements in Common IP Firewall Match Conditions on page 41 AND
                statements in Common IPv4 Firewall Match Conditions on page 42 ...
            }
            then {
                ... statements in Common Firewall Actions on page 39 AND
                statements in Common IP Firewall Actions on page 40 AND
                statements in Common IPv4 and IPv6 Firewall Actions on page 40 ...
            }
        }
    }
    prefix-action name {
        count;
        destination-prefix-length prefix-length;
    }
}

```

```

filter-specific;
policer policer-name;
source-prefix-length prefix-length;
subnet-prefix-length prefix-length;
}
service-filter filter-name {
  term term-name {
    from {
      address {
        ip-prefix</prefix-length>;
      }
      (ah-spi [ values ] | ah-spi-except [ values ]);
      destination-address {
        ip-prefix</prefix-length>;
      }
      (destination-port [ port-names ] | destination-port-except [ port-names ]);
      destination-prefix-list {
        list-name;
      }
      (esp-spi [ values ] | esp-spi-except [ values ]);
      first-fragment;
      fragment-flags flag;
      (fragment-offset [ offsets ] | fragment-offset-except [ offsets ]);
      (interface-group [ group-names ] | interface-group-except [ group-names ]);
      (ip-options [ option-names ] | ip-options-except [ option-names ]);
      is-fragment;
      (loss-priority [ priorities ] | loss-priority-except [ priorities ]);
      (port [ port-names ] | port-except [ port-names ]);
      prefix-list {
        list-name;
      }
      (protocol [ protocol-names ] | protocol-except [ protocol-names ]);
      source-address {
        ip-prefix</prefix-length>;
      }
      (source-port [ port-names ] | source-port-except [ port-names ]);
      source-prefix-list {
        list-name;
      }
      tcp-flags flag-name;
    }
    then {
      count counter-name;
      log;
      port-mirror;
      sample;
      (service | skip);
    }
  }
}
simple-filter filter-name {
  term term-name {
    from {
      destination-address ip-prefix</prefix-length>;
      destination-port port-name;
      forwarding-class [ class-names ];
    }
  }
}

```

```

        protocol protocol-name;
        source-address ip-prefix</prefix-length>;
        source-port port-name;
    }
    then {
        forwarding-class class-name;
        loss-priority (high | low | medium-high | medium-low);
        policer policer-name;
    }
}
}
}
}

firewall {
    family inet6 {
        dialer-filter filter-name {
            accounting-profile [ profile-names ];
            term term-name {
                from {
                    ... statements in Common IP Firewall Match Conditions on page 41 PLUS ...
                    (next-header [ protocol-types ] | next-header-except [ protocol-types ]);
                    ... BUT NOT ...
                    (destination-class [ class-names ] |
                     destination-class-except [ class-names ]); # NOT valid at this level
                    (forwarding-class [ class-names ] |
                     forwarding-class-except [ class-names ]); # NOT valid at this level
                    interface interface-name; # NOT valid at this level
                    (interface-group [ group-names ] | interface-group-except [ group-names ]); #
                     NOT valid at this level
                    (loss-priority [ priorities ] | loss-priority-except [ priorities ]); # NOT valid at
                     this level
                    service-filter-hit; # NOT valid at this level
                    (source-class [ class-names ] | source-class-except [ class-names ]); # NOT
                     valid at this level
                    tcp-established; # NOT valid at this level
                    tcp-flags flag; # NOT valid at this level
                    tcp-initial; # NOT valid at this level
                }
            }
            then {
                (ignore | note);
                log;
                sample;
                syslog;
            }
        }
    }
}

filter filter-name {
    accounting-profile [ profile-names ];
    interface-specific;
    term term-name {
        filter filter-name;
        from {
            ... statements in Common IP Firewall Match Conditions on page 41 PLUS ...
            (next-header [ protocol-types ] | next-header-except [ protocol-types ]);
            (traffic-class [ code-point-values ] | traffic-class-except [ code-point-values ]);

```

```

    }
    then {
        ... statements in Common Firewall Actions on page 39 AND
        statements in Common IP Firewall Actions on page 40 PLUS ...
        (accept | discard | reject <address-unreachable | administratively-prohibited |
        beyond-scope | fragmentation-needed | no-route | port-unreachable |
        tcp-reset>);
    }
}
}
service-filter filter-name {
    term term-name {
        from {
            address {
                ip-prefix </prefix-length>;
            }
            (ah-spi [ values ] | ah-spi-except [ values ]);
            destination-address {
                ip-prefix </prefix-length>;
            }
            (destination-port [ port-names ] | destination-port-except [ port-names ]);
            destination-prefix-list {
                list-name;
            }
            (esp-spi [ values ] | esp-spi-except [ values ]);
            (interface-group [ group-names ] | interface-group-except [ group-names ]);
            (next-header [ protocol-types ] | next-header-except [ protocol-types ]);
            (port [ port-names ] | port-except [ port-names ]);
            prefix-list {
                list-name;
            }
            source-address {
                ip-prefix </prefix-length>;
            }
            (source-port [ port-names ] | source-port-except [ port-names ]);
            source-prefix-list {
                list-name;
            }
            tcp-flags flag-name;
        }
        then {
            count counter-name;
            log;
            port-mirror;
            sample;
            (service | skip);
        }
    }
}
}
}

```


Related Documentation • *Notational Conventions Used in Junos OS Configuration Hierarchies*

[edit groups] Hierarchy Level

```
groups {
  group-name {
    ... statements from any subhierarchy at the [edit] hierarchy level ...
  }
}
```

Related Documentation • *Notational Conventions Used in Junos OS Configuration Hierarchies*

[edit interfaces] Hierarchy Level

The following statement hierarchy can also be included at the **[edit logical-systems logical-system-name]** hierarchy level.

```
interfaces {
  interface-name {
    ... the "interface-name" subhierarchy appears after the main [edit interfaces] hierarchy level ...
  }
  interface-set interface-set-name {
    interface interface-name {
      (unit unit-number | vlan-tags-outer vlan-tag);
    }
  }
  irb {
    accounting-profile name;
    description text;

    (gratuitous-arp-reply | no-gratuitous-arp-reply);
    hold-time up milliseconds down milliseconds;
    mtu bytes;
    no-gratuitous-arp-request;

    traceoptions {
      flag flag;
    }
    (traps | no-traps);
    unit logical-unit-number {
      accounting-profile name;
      bandwidth rate;
      description text;
      disable;
      encapsulation type;
      family inet {
        accounting {
          destination-class-usage;
          source-class-usage {
            input;
```

```

        output;
    }
}
address ipv4-address {
    arp ip-address (mac | multicast-mac) mac-address <publish>;
    broadcast address;
    preferred;
    primary;
    vrrp-group group-id {
        (accept-data | no-accept-data);
        advertise-interval seconds;
        advertisements-threshold number;
        authentication-key key;
        authentication-type authentication;
        fast-interval milliseconds;
        (preempt | no-preempt) {
            hold-time seconds;
        }
        priority number;
        track {
            interface interface-name {
                bandwidth-threshold bits-per-second priority-cost priority;
                priority-cost priority;
            }
            priority-hold-time seconds;
            route prefix/prefix-length routing-instance instance-name priority-cost priority;
        }
        virtual-address [ addresses ];
        vrrp-inherit-from vrrp-group;
    }
}
filter {
    input filter-name;
    output filter-name;
}
mtu bytes;
no-neighbor-learn;
no-redirects;
primary;
rpf-check {
    fail-filter filter-name;
    mode {
        loose;
    }
}
targeted-broadcast {
    forward-and-send-to-re;
    forward-only;
}
}
family inet6 {
    accounting {
        destination-class-usage;
        source-class-usage {
            input;
            output;
        }
    }
}

```

```

    }
  }
  address address {
    eui-64;
    ndp ip-address (mac | multicast-mac) mac-address <publish>;
    preferred;
    primary;
    vrrp-inet6-group group-id {
      accept-data | no-accept-data;
      advertisements-threshold number;
      authentication-key key;
      authentication-type authentication;
      fast-interval milliseconds;
      inet6-advertise-interval milliseconds;
      preempt | no-preempt {
        hold-time seconds;
      }
      priority number;
      track {
        interface interface-name {
          bandwidth-threshold bandwidth priority-cost number;
          priority-cost number;
        }
        priority-hold-time seconds;
        route ip-address/mask routing-instance instance-name priority-cost cost;
      }
      virtual-inet6-address [addresses];
      virtual-link-local-address ipv6-address;
      vrrp-inherit-from {
        active-group group-number;
        active-interface interface-name;
      }
    }
  }
  (dad-disable | no-dad-disable);
  filter {
    input filter-name;
    output filter-name;
  }
  mtu bytes;
  nd6-stale-time seconds;
  no-neighbor-learn;
  no-redirects;
  policer {
    input policer-name;
    output policer-name;
  }
  rpf-check {
    fail-filter filter-name;
    mode {
      loose;
    }
  }
}
family iso {
  address interface-address;

```

```

        mtu bytes;
    }
    family mpls {
        filter {
            input filter-name;
            output filter-name;
        }
        mtu bytes;
        policer {
            input policer-name;
            output policer-name;
        }
    }
    native-inner-vlan-id vlan-id;
    proxy-arp (restricted | unrestricted);
    (traps | no-traps);
    vlan-id-list [vlan-id's];
    vlan-id-range [vlan-id-range];
}
}
traceoptions {
    file <filename> <files number> <match regular-expression> <size maximum-file-size>
    <world-readable | no-world-readable>;
    flag flag <disable>;
    no-remote-trace;
}
}

interfaces {
    interface-name {
        disable;
        accounting-profile name;
        aggregated-ether-options {
            ethernet-switch-profile {
                tag-protocol-id [ hexadecimal-identifiers ];
            }
        }
        (flow-control | no-flow-control);
        lacp {
            (active | passive);
            admin-key key;
            fast-failover;
            link-protection {
                disable;
                (revertive | non-revertive);
            }
        }
        periodic (fast | slow);
        system-id mac-address;
        system-priority priority;
    }
    (link-protection | no-link-protection);
    link-speed (100m | 1g | 8g | 10g | 40g | 50g | 80g | 100g | oc192);
    logical-interface-fpc-redundancy;
    (loopback | no-loopback);
    mc-ae {
        chassis-id chassis-id;
        events {

```

```

        iccp-peer-down {
            force-icl-down;
            prefer-status-control-active;
        }
    }
    mc-ae-id mc-ae-id;
    mode (active-active | active-standby);
    redundancy-group group-id;
    status-control (active | standby);
}
minimum-links number;
rebalance-periodic {
    start-time time;
    interval number;
}
source-address-filter {
    mac-address;
}
(source-filtering | no-source-filtering);
}
auto-configure {
    remove-when-no-subscribers;
    stacked-vlan-ranges {
        access-profile profile-name;
        authentication {
            password password-string;
            username-include {
                circuit-type;
                delimiter delimiter-character;
                domain-name domain-name-string;
                interface-name;
                mac-address;
                option-82 ( circuit-id | remote-id);
                radius-realm radius-realm-string;
                user-prefix user-prefix-string;
            }
        }
    }
    dynamic-profile profile-name {
        accept (any | dhcp-v4 | dhcp-v6 | inet | inet6);
        ranges (any | low-tag-high-tag), (any | low-tag-high-tag);
    }
}
vlan-ranges {
    access-profile profile-name;
    authentication {
        password password-string;
        username-include {
            circuit-type;
            delimiter delimiter-character;
            domain-name domain-name-string;
            interface-name;
            mac-address;
            option-82;
            radius-realm radius-realm-string;
            user-prefix user-prefix-string;
        }
    }
}

```

```

    }
    dynamic-profile profile-name {
        accept (any | dhcp-v4 | dhcp-v6 | inet | inet6);
        ranges (any | low-tag)–(any | high-tag);
    }
}
override tag vlan-tag dynamic-profile profile name;
}
encapsulation (ethernet-bridge | ethernet-vpls | extended-vlan-bridge |
    extended-vlan-vpls | flexible-ethernet-services | vlan-vpls);
ether-options {
    802.3ad {
        aex;
        (backup | primary);
        lacp {
            force-up;
            port-priority
        }
    }
}
asynchronous-notification;
(auto-negotiation | no-auto-negotiation);
ethernet-switch-profile {
    ethernet-policer-profile {
        input-priority-map {
            ieee802.1p premium [ values ];
        }
        output-priority-map {
            classifier {
                premium {
                    forwarding-class class-name {
                        loss-priority (high | low);
                    }
                }
            }
        }
    }
    policer cos-policer-name {
        aggregate {
            bandwidth-limit bps;
            burst-size-limit bytes;
        }
        premium {
            bandwidth-limit bps;
            burst-size-limit bytes;
        }
    }
    tag-protocol-id;
}
(mac-learn-enable | no-mac-learn-enable);
}
(flow-control | no-flow-control);
ignore-l3-incompletes;
link-mode (automatic | full-duplex | half-duplex);
(lloopback | no-loopback);
keepalives <interval seconds> <down-count number> <up-count number>;
speed (1g | 10m | 100m | 10m-100m | auto-negotiation);
source-address-filter {

```

```

        mac-address;
    }
    source-filtering | no-source-filtering;
}
flexible-vlan-tagging;
(gratuitous-arp-reply | no-gratuitous-arp-reply);
hold-time (up milliseconds | down milliseconds);
interface-transmit-statistics;
(keepalives <down-count number> <interval seconds> <up-count number> |
 no-keepalives);
layer2-policer {
    apply-groups [ group-names ];
    apply-groups-except [ group-names ];
}
link-mode (automatic | full-duplex);
mac mac-address;
mtu bytes;
multi-chassis-protection peer-ip-address {
    interface interface-name;
}
native-vlan-id number;
no-gratuitous-arp-request;
optics-options {
    alarm low-light-alarm {
        (link-down | syslog);
    }
    warning low-light-warning {
        (link-down | syslog);
    }
}
wavelength nm;
}
passive-monitor-mode;
per-unit-scheduler;
speed (10m | 100m | 1g | auto | oc3 | oc12 | oc48);
stacked-vlan-tagging;
traceoptions {
    flag flag;
}
transmit-bucket {
    overflow discard;
    rate percentage;
    threshold bytes;
}
(traps | no-traps);
unidirectional;
vlan-tagging;
}

interface-name {
    unit logical-unit-number {
        disable;
        accept-source-mac {
            mac-address mac-address {
                policer {
                    input policer-name;

```

```

        output policer-name;
    }
}
accounting-profile name;
advisory-options {
    downstream-rate rate;
    upstream-rate rate;
}
arp-resp (restricted|unrestricted);
bandwidth rate;
clear-dont-fragment-bit;
copy-tos-to-outer-ip-header;
demux-destination family;
encapsulation (vlan-bridge | vlan-vpls);
epd-threshold cells plp1 cells;
filter filter-name;
inner-vlan-id-range start start-id end end-id;
input-vlan-map {
    (pop | pop-pop | pop-swap | push | push-push | swap | swap-push | swap-swap);
    inner-tag-protocol-id tpid;
    inner-vlan-id number;
    tag-protocol-id tpid;
    vlan-id number;
}
interface-shared-with psd numerical-index;
layer2-policer {
    input-hierarchical-policer policer-name;
    input-policer policer-name;
    input-three-color policer-name;
    output-policer policer-name;
    output-three-color policer-name;
}
multi-chassis-protection peer-ip-address {
    interface interface-name;
}
native-inner-vlan-id number;
output-vlan-map {
    (pop | pop-pop | pop-swap | push | push-push | swap | swap-push | swap-swap);
    inner-tag-protocol-id tpid;
    inner-vlan-id number;
    tag-protocol-id tpid;
    vlan-id number;
}
peer-interface interface-name;
peer-unit unit-number;
plp-to-clp;
proxy-arp <restricted | unrestricted>;
rpm {
    (client | server);
    twamp-server;
}
swap-by-poppush;
vlan-id number;
vlan-id-list [ vlan-id vlan-id vlan-id ];
vlan-id-range number-number;

```



```

vlan-tags (inner <tpid.>vlan-id | inner-list [vlan-id vlan-id–vlan-id ] |
inner-range <tpid.>vlan-id–vlan-id) outer <tpid.>vlan-id;
}

unit logical-unit-number {
  family ethernet-switching {
    filter{
      group filter-group-number;
      (input filter-name | input-list [ filter-names ]);
      (output filter-name | output-list [ filter-names ]);
      (inner-vlan-id-list [ vlan-ids ] | vlan-id number | vlan-id-list [ number
        number–number ]);
      interface-mode (access | trunk);
      policer {
        input policer-name;
        output policer-name;
      }
      vlan-rewrite {
        translate old-vlan-id new-vlan-id;
      }
      vlan {
        members [ all vlan-identifiers ];
      }
    }
  }
  family inet {
    filter {
      group filter-group-number;
      (input filter-name | input-list [ filter-names ]);
      (output filter-name | output-list [ filter-names ]);
    }
    input-hierarchical-policer policer-name;
    mac-validate (loose | strict);
    mtu bytes;
    no-neighbor-learn;
    no-redirects;
    policer {
      arp policer-template-name;
      input policer-name;
      output policer-name;
    }
    primary;
    receive-options-packets;
    receive-ttl-exceeded;
    rpf-check {
      fail-filter filter-name;
      mode loose;
    }
    sampling {
      (input | output | input output);
    }
    simple-filter {
      input filter-name;
    }
    targeted-broadcast {
      forward-and-send-to-re;
      forward-only;
    }
  }
}

```

```

    }
    unnumbered-address interface-name <destination address>
        <destination-profile profile-name> <preferred-source-address address>;
}

family inet6 {
    address ipv6-address {
        destination destination-address;
        eui-64;
        ndp ipv6-address <l2-interface interface-name> <(mac mac-address |
            multicast-mac multicast-mac-address) <publish>>;
        preferred;
        primary;
        vrrp-inet6-group group-number {
            (accept-data | no-accept-data);
            fast-interval milliseconds;
            inet6-advertise-interval seconds;
            (no-preempt; | ... the following preempt statement ...)
            preempt {
                hold-time seconds;
            }
            priority number;
            track {
                interface interface-name {
                    bandwidth-threshold bits-per-second priority-cost priority;
                    priority-cost priority;
                }
                priority-hold-time seconds;
                route ip-address-prefix/prefix-length routing-instance instance-name
                    priority-cost priority;
            }
            virtual-inet6-address [ addresses ];
            virtual-link-local-address ipv6-address;
            vrrp-inherit-from {
                active-group group-number;
                active-interface interface-name;
            }
        }
    }
    (dad-disable | no-dad-disable);
    filter {
        group filter-group-number;
        (input filter-name | input-list [ filter-names ]);
        (output filter-name | output-list [ filter-names ]);
    }
    input-hierarchical-policer policer-name;
    mtu bytes;
    nd6-stale-time seconds;
    no-neighbor-learn;
    policer {
        input policer-name;
        output policer-name;
    }
    rpf-check {
        fail-filter filter-name;
    }
}

```

```

        mode loose;
    }
    sampling {
        (input | output | input output);
    }
    unnumbered-address interface-name preferred-source-address address;
}

family iso {
    address iso-address;
    mtu bytes;
}

family mlfrr-end-to-end {
    bundle logical-interface-name;
}

family mpls {
    filter {
        group filter-group-number;
        (input filter-name | input-list [ filter-names ]);
        (output filter-name | output-list [ filter-names ]);
    }
    input-hierarchical-policer policer-name;
    maximum-labels maximum-labels;
    mtu bytes;
    policer {
        input policer-name;
        output policer-name;
    }
}

family vpls {
    core-facing;
    filter {
        group filter-group-number;
        (input filter-name | input-list [ filter-names ]);
        (output filter-name | output-list [ filter-names ]);
    }
    policer {
        input policer-name;
        output policer-name;
    }
}
}
}

```

Related Documentation • [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[\[edit logical-systems\] Hierarchy Level](#)

As indicated in the following hierarchy, you can include at this hierarchy level several of the hierarchies that can be included at the **[edit]** hierarchy level. However, some statements in a subhierarchy are not valid for logical systems. To learn which statements can be included under **[edit logical-systems *logical-system-name*]** on your device, issue the **set ?** command at the hierarchy level of interest.

```
logical-systems {
  logical-system-name {
    routing-options{
      nonstop-routing;
    }
    access {
      address-assignment {
        ... same statements as in the address-assignment subhierarchy in [edit access]
        Hierarchy Level ...
      }
    }
    access-profile profile-name;
    bridge-domains {
      ... (MX Series only) same statements as in [edit bridge-domains] Hierarchy Level ...
    }
    bridge-domains {
      ... (MX Series only) same statements as in [edit bridge-domains] Hierarchy Level ...
    }
    firewall {
      ... same statements as in several subhierarchies in [edit firewall] Hierarchy Level ...
    }
    forwarding-options {
      ... same statements as in [edit forwarding-options dhcp-relay] Hierarchy Level ...
    }
    interfaces {
      interface-name {
        unit logical-unit-number {
          ... some of the statements in the unit subhierarchy in [edit interfaces] Hierarchy
          Level ...
        }
      }
    }
    policy-options {
      ... same statements as in [edit policy-options] Hierarchy Level on page 63 ...
    }
    protocols {
      ... same statements as in [edit protocols] Hierarchy Level ...
    }
    routing-instances {
      ... most statements in [edit routing-instances] Hierarchy Level ...
    }
    routing-options {
      ... most statements in [edit routing-options] Hierarchy Level ...
    }
  }
}
```

```

}
switch-options {
  ... (MX Series only) same statements as in [edit switch-options] Hierarchy Level ...
}
system {
  services {
    dhcp-local-server {
      ... same statements as in the services dhcp-local-server subhierarchy in [edit
        system] Hierarchy Level ...
    }
  }
  syslog {
    ... most statements in syslog subhierarchy in [edit system] Hierarchy Level...
  }
}
}
}

```

Related Documentation • [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[\[edit multi-chassis\] Hierarchy Level](#)

```

multi-chassis {
  multi-chassis-protection ipv4-address {
    interface interface-name;
  }
}

```

Related Documentation • [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[\[edit policy-options\] Hierarchy Level](#)

Several statements in the **[edit policy-options]** hierarchy are valid at numerous locations within the hierarchy. To make the complete hierarchy easier to read, the repeated statements are listed in the following sections, which are referenced at the appropriate locations in “[Complete \[edit policy-options\] Hierarchy](#)” on page 67.

- [Common Policy Terms](#) on page 64
- [Common Policy Match Conditions](#) on page 65
- [Common Ingress Policy Match Conditions](#) on page 66
- [Complete \[edit policy-options\] Hierarchy](#) on page 67

Common Policy Terms

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in “[Common Ingress Policy Match Conditions](#)” on page 66 and “[Complete \[edit policy-options\] Hierarchy](#)” on page 67 instead of the statements being repeated.

- [edit policy-options policy-statement *policy-name* from prefix-list-filter *prefix-list-name* (exact | longer | orlonger)]
- [edit policy-options policy-statement *policy-name* from route-filter *ip-prefix* </*prefix-length*> (exact | longer | orlonger | through *ip-prefix* </*prefix-length*> | upto /*prefix-length*)]
- [edit policy-options policy-statement *policy-name* from source-address-filter *ip-prefix* </*prefix-length*> (exact | longer | orlonger | through *ip-prefix* </*prefix-length*> | upto /*prefix-length*)]
- [edit policy-options policy-statement *policy-name* term *term-name* from prefix-list-filter *prefix-list-name* (exact | longer | orlonger)]
- [edit policy-options policy-statement *policy-name* term *term-name* from route-filter *ip-prefix* </*prefix-length*> (exact | longer | orlonger | through *ip-prefix* </*prefix-length*> | upto /*prefix-length*)]
- [edit policy-options policy-statement *policy-name* term *term-name* from source-address-filter *ip-prefix* </*prefix-length*> (exact | longer | orlonger | through *ip-prefix* </*prefix-length*> | upto /*prefix-length*)]
- [edit policy-options policy-statement *policy-name* then]
- [edit policy-options policy-statement *policy-name* term *term-name* then]

The common policy terms are as follows:

```
(accept | reject);
aigp-originate distance;
as-path-expand (as-number | last-as) <count number>;
as-path-prepend as-number;
class class-name;
color (preference | add number | subtract number);
color2 (preference | add number | subtract number);
community (add | delete | set | + | - | =) community-name;
cos-next-hop-map map-name;
damping list-name;
default-action (accept | reject);
destination-class class-name;
external {
    nssa-only;
    type (1 | 2);
}
forwarding-class class-name;
install-nexthop <strict> (lsp [ lsp-names ] | lsp-regex [ regular-expressions ] |
    static-lsp [ lsp-names ] | static-lsp-regex [ regular-expressions ] )
```

```

    <except (lsp [ lsp-names ] | lsp-regex [ regular-expressions | static-lsp [ lsp-names ] |
    static-lsp-regex [ regular-expressions ]])>;
load-balance per-packet;
local-preference (preference | add number | subtract number);
metric (metric-value | add number | igp <metric-offset> | minimum-igp <metric-offset> |
    subtract number | ... the following complex expression ...);
expression {
    metric (multiplier number | offset number | multiplier number offset number);
    metric2 (multiplier number | offset number | multiplier number offset number);
}
metric2 (metric-value | add number | subtract number);
metric3 (metric-value | add number | subtract number);
metric4 (metric-value | add number | subtract number);
next (policy | term);
next-hop (ip-address | discard | next-table routing-table-name | peer-address | reject |
    self);
origin (egp | igp | incomplete);
preference (preference | add number | subtract number);
preference2 (preference | add number | subtract number);
priority (high | low | medium);
selected-mldp-egress
source-class class-name;
tag (tag-number | add number | subtract number);
tag2 (tag-number | add number | subtract number);
trace;
load-balance {
    per-packet;
    random;
}

```

Common Policy Match Conditions

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in “[Complete \[edit policy-options\] Hierarchy](#)” on page 67 instead of the statements being repeated.

- [edit policy-options policy-statement *policy-name* from]
- [edit policy-options policy-statement *policy-name* term *term-name* from]
- [edit policy-options policy-statement *policy-name* term *term-name* to]
- [edit policy-options policy-statement *policy-name* to]

The common policy match conditions are as follows:

```

area area-id;
as-path [ regular-expression-names ];
as-path-group [ as-path-group-names ];
color preference;
color2 preference;
community [ community-names ];
external {
    nssa-only;
    type (1 | 2);
}

```

```
family family-name;  
instance instance-name;  
interface [ interface-names ];  
level isis-level;  
local-preference value;  
metric metric-value;  
metric2 metric-value;  
metric3 metric-value;  
metric4 metric-value;  
neighbor [ ip-addresses ];  
next-hop [ ip-addresses ];  
nlri-route-type route-type-number;  
origin (egp | igp | incomplete);  
policy [ policy-names ];  
preference preference;  
preference2 preference;  
protocol [ protocol-names ];  
rib routing-table-name;  
tag [ tag-numbers ];  
tag2 tag-number;
```

Common Ingress Policy Match Conditions

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in [“Complete \[edit policy-options\] Hierarchy” on page 67](#) instead of the statements being repeated at each level.

- [edit policy-options policy-statement *policy-name* from]
- [edit policy-options policy-statement *policy-name* term *term-name* from]

The common ingress policy match conditions are as follows:

```
aggregate-contributor;  
condition [ conditions ];  
multicast-scope (scope-value | global | link-local | node-local | organization-local |  
    site-local) <orhigher | orlower>;  
next-hop-type merged;  
prefix-list prefix-list-name;  
prefix-list-filter prefix-list-name (exact | longer | orlonger) {  
    ... statements in Common Policy Terms on page 64 ...;  
}  
route-filter ip-prefix</prefix-length> (exact | longer | orlonger |  
    through ip-prefix</prefix-length> | upto /prefix-length) {  
    ... statements in Common Policy Terms on page 64 ...;  
}  
route-type (external | internal);  
rtf-prefix-list name route-targets  
source-address-filter ip-prefix</prefix-length> (exact | longer | orlonger |  
    through ip-prefix</prefix-length> | upto /prefix-length) {  
    ... statements in Common Policy Terms on page 64 ...;  
}  
state (active | inactive);
```


Complete [edit policy-options] Hierarchy

The statement hierarchy in this section can also be included at the [edit logical-systems *logical-system-name*] hierarchy level.

```

policy-options {
  as-path name regular-expression;
  as-path-group group-name {
    as-path name regular-expression;
  }
  community name {
    invert-match;
    members [ community-ids ];
  }
  condition condition-name {
    dynamic-db;
    if-route-exists{
      address;
      address-family {
        inet {
          address;
          table table-name;
        }
        ccc {
          interface-name;
          standby;
          peer-unit unit-number;
          table table-name;
        }
      }
      table table-name;
    }
  }
  damping name {
    disable;
    half-life minutes;
    max-suppress minutes;
    reuse number;
    suppress number;
  }
  policy-statement policy-name {
    from {
      ... statements in Common Policy Match Conditions on page 65 AND
      statements in Common Ingress Policy Match Conditions on page 66 ...
    }
    term term-name {
      from {
        ... statements in Common Policy Match Conditions on page 65 AND
        statements in Common Ingress Policy Match Conditions on page 66 ...
      }
      to {
        ... statements in Common Policy Match Conditions on page 65 ...
      }
      then {
        ... statements in Common Policy Terms on page 64 ...
      }
    }
  }
}

```

```
    }  
  }  
  to {  
    ...statements in Common Policy Match Conditions on page 65 ...  
  }  
  then {  
    ...statements in Common Policy Terms on page 64 ...  
  }  
}  
prefix-list list-name {  
  ip-prefix </prefix-length>;  
  apply-path path;  
}  
}
```

**Related
Documentation**

- [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[edit protocols] Hierarchy Level

Each of the following topics lists the statements at a subhierarchy of the **[edit protocols]** hierarchy.

- [\[edit protocols bfd\] Hierarchy Level](#)
- [\[edit protocols bgp\] Hierarchy Level on page 71](#)
- [\[edit protocols dot1x\] Hierarchy Level](#)
- [\[edit protocols dvmrp\] Hierarchy Level](#)
- [\[edit protocols igmp\] Hierarchy Level](#)
- **igmp-snooping**
- [\[edit protocols isis\] Hierarchy Level on page 82](#)
- [\[edit protocols l2-learning\] Hierarchy Level on page 84](#)
- [\[edit protocols lacp\] Configuration Statement Hierarchy on EX Series Switches](#)
- [\[edit protocols layer2-control\] Hierarchy Level on page 85](#)
- [\[edit protocols ldap\] Hierarchy Level on page 86](#)
- [\[edit protocols lldp\] Hierarchy Level](#)
- [\[edit protocols mld\] Hierarchy Level](#)
- [\[edit protocols mpls\] Hierarchy Level on page 89](#)
- [\[edit protocols msdp\] Hierarchy Level](#)
- [\[edit protocols mstp\] Hierarchy Level on page 90](#)
- [\[edit protocols mvrp\] Hierarchy Level](#)
- [\[edit protocols neighbor-discovery\] Hierarchy Level](#)
- [\[edit protocols oam\] Hierarchy Level](#)

- [\[edit protocols ospf\] Hierarchy Level on page 95](#)
- [\[edit protocols ospf3\] Hierarchy Level on page 99](#)
- [\[edit protocols pim\] Hierarchy Level on page 103](#)
- [\[edit protocols protection-group\] Hierarchy Level](#)
- [\[edit protocols rip\] Hierarchy Level on page 107](#)
- [\[edit protocols ripng\] Hierarchy Level on page 108](#)
- [\[edit protocols router-advertisement\] Hierarchy Level on page 109](#)
- [\[edit protocols router-discovery\] Hierarchy Level on page 110](#)
- [\[edit protocols rstp\] Hierarchy Level on page 111](#)
- [\[edit protocols sap\] Hierarchy Level on page 111](#)
- [\[edit protocols vrrp\] Hierarchy Level on page 112](#)
- [\[edit protocols vstp\] Hierarchy Level on page 112](#)

**Related
Documentation**

- [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

bfd

Syntax	<pre> bfd { traceoptions { file <i>filename</i> <files <i>number</i>> <match <i>regular-expression</i>> <size <i>size</i>> <world-readable no-world-readable>; flag <i>flag</i> <flag-modifier> <disable>; } } </pre>
Hierarchy Level	<p>[edit logical-systems <i>logical-system-name</i> protocols],</p> <p>[edit logical-systems <i>logical-system-name</i> routing-instances <i>routing-instance-name</i> protocols],</p> <p>[edit protocols],</p> <p>[edit routing-instances <i>routing-instance-name</i> protocols]</p>
Release Information	Statement introduced before Junos OS Release 7.4.
Description	Configure trace options for Bidirectional Forwarding Protocol (BFD) traffic.
Default	If you do not include this statement, no BFD tracing operations are performed.
Options	<p>disable—(Optional) Disable the BFD tracing operation. You can use this option to disable a single operation when you have defined a broad group of tracing operations, such as all.</p> <p>file <i>filename</i>—Name of the file to receive the output of the tracing operation. Enclose the name in quotation marks. All files are placed in the /var/log directory. We recommend that you place global routing protocol tracing output in the routing-log file.</p> <p>files <i>number</i>—(Optional) Maximum number of trace files. When a trace file named trace-file reaches its maximum size, it is renamed trace-file.0, then trace-file.1, and so on, until the maximum number of trace files is reached. Then the oldest trace file is overwritten.</p> <p>If you specify a maximum number of files, you also must specify a maximum file size with the size option.</p> <p>Range: 2 through 1000 files</p> <p>Default: 2 files</p> <p>flag <i>flag</i>—Tracing operation to perform. To specify more than one tracing operation, include multiple flag statements. These are the BFD protocol tracing options:</p> <ul style="list-style-type: none"> • adjacency—Trace adjacency messages. • all—Trace all options for BFD. • error—Trace all errors. • event—Trace all events. • issu—Trace in-service software upgrade (ISSU) packet activity.

- **nsr-packet**—Trace non-stop-routing (NSR) packet activity.
- **nsr-synchronization**—Trace NSR synchronization events.
- **packet**—Trace all packets.
- **pipe**—Trace pipe messages.
- **pipe-detail**—Trace pipe messages in detail.
- **ppm-packet**—Trace packet activity by periodic packet management (PPM).
- **state**—Trace state transitions.
- **timer**—Trace timer processing.

match *regular-expression*—(Optional) Regular expression for lines to be logged.

no-world-readable—(Optional) Prevent any user from reading the log file.

size *size*—(Optional) Maximum size of each trace file, in kilobytes (KB), megabytes (MB), or gigabytes (GB). When a trace file named ***trace-file*** reaches this size, it is renamed ***trace-file.0***. When the trace file again reaches its maximum size, ***trace-file.0*** is renamed ***trace-file.1*** and ***trace-file*** is renamed ***trace-file.0***. This renaming scheme continues until the maximum number of trace files is reached. Then, the oldest trace file is overwritten.

If you specify a maximum file size, you also must specify a maximum number of trace files with the **files** option.

Syntax: *xk* to specify KB, *xm* to specify MB, or *xg* to specify GB

Range: 10 KB through the maximum file size supported on your system

Default: 128 KB

world-readable—(Optional) Allow any user to read the log file.

Required Privilege Level	routing and trace—To view this statement in the configuration. routing-control and trace-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> • <i>Example: Configuring BFD for Static Routes for Faster Network Failure Detection</i>

[\[edit protocols bgp\] Hierarchy Level](#)

Several statements in the **[edit protocols mpls]** hierarchy are valid at numerous locations within it. To make the complete hierarchy easier to read, the repeated statements are listed in “[Common BGP Family Options](#)” on page 72 and that section is referenced at the appropriate locations in “[Complete \[edit protocols bgp\] Hierarchy](#)” on page 72.

- [Common BGP Family Options on page 72](#)
- [Complete \[edit protocols bgp\] Hierarchy on page 72](#)

Common BGP Family Options

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in “[Complete \[edit protocols bgp\] Hierarchy](#)” on page 72 instead of the statements being repeated.

- [edit protocols bgp family inet (any | flow | labeled-unicast | multicast | unicast)]
- [edit protocols bgp family inet6 (any | labeled-unicast | multicast | unicast)]
- [edit protocols bgp family (evpn | inet-mdt | inet-mvpn | inet6-mvpn | l2vpn) signaling]
- [edit protocols bgp family inet-vpn (any | flow | multicast | unicast)]
- [edit protocols bgp family inet6-vpn (any | multicast | unicast)]
- [edit protocols bgp family iso-vpn unicast]

The common BGP family options are as follows:

```
accepted-prefix-limit {
    maximum number;
    teardown <percentage> <idle-timeout (forever | minutes)>;
}
damping;
loops number;
prefix-limit {
    maximum number;
    teardown <percentage> <idle-timeout (forever | minutes)>;
}
rib-group group-name;
topology name {
    community {
        target identifier;
    }
}
```

Complete [edit protocols bgp] Hierarchy

The statement hierarchy listed in this section can also be included at the [edit logical-systems *logical-system-name*] hierarchy level.

```
protocols {
    bgp {
        disable;
        accept-remote-nexthop;
        advertise-external <conditional>;
        advertise-from-main-vpn-tables;
        advertise-inactive;
        (advertise-peer-as | no-advertise-peer-as);
        authentication-algorithm (aes-128-cmac-96 | hmac-sha-1-96 | md5);
        authentication-key key;
        authentication-key-chain key-chain;
        bfd-liveness-detection {
            authentication {
```

```

    algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
        meticulous-keyed-sha-1 | simple-password);
    key-chain key-chain-name;
    loose-check;
}
detection-time {
    threshold milliseconds;
}
holddown-interval milliseconds;
minimum-interval milliseconds;
minimum-receive-interval milliseconds;
multiplier number;
no-adaptation;
session-mode (automatic | multihop | single-hop);
transmit-interval {
    minimum-interval milliseconds;
    threshold milliseconds;
}
version (1 | automatic);
}
bmp {
    monitor (disable | enable);
    route-monitoring {
        none;
        post-policy {
            exclude-non-eligible;
        }
        pre-policy {
            exclude-non-feasible;
        }
    }
}
cluster cluster-identifier;
damping;
description text-description;
export [ policy-names ];
family family-name {
    ... the family subhierarchies appear after the main [edit protocols bgp] hierarchy ...
}
unconfigured-peer-graceful-restart;
graceful-restart {
    disable;
    restart-time seconds;
    stale-routes-time seconds;
}
graceful-restart {
    long-lived {
        receiver {
            enable;
            disable;
        }
        advertise-to-non-llgr-neighbor {
            omit-no-export;
        }
    }
}
}

```

```
graceful-restart {
  disable-notification-flag;
  disable-notification-extensions {
    omit-no-export;
  }
  forwarding-state-bit (from-fib | set); /* Configurable to be common for all address
    families */
  forwarding-state-bit (as-rr-client | from-fib); /* Configurable for each address family
    */
  long-lived {
    restarter {
      disable;
      stale-time interval;
    }
  }
}
group group-name {
  ... the group subhierarchy appears after the main [edit protocols bgp] hierarchy ...
}
hold-time seconds;
idle-after-switch-over (seconds | forever);
import [ policy-names ];
include-mp-next-hop;
ipsec-sa ipsec-sa;
keep (all | none);
local-address address;
local-as autonomous-system <loops number> <alias> <private>;
local-interface interface-name;
local-preference local-preference;
log-updown;
metric-out (metric | igp (delay-med-update | offset) | minimum-igp offset);
mtu-discovery;
multihop {
  no-nexthop-change;
  ttl tvl-value;
}
no-aggregator-id;
no-client-reflect;
out-delay seconds;
outbound-route-filter {
  bgp-orf-cisco-mode;
  prefix-based {
    accept {
      inet;
      inet6;
    }
  }
}
passive;
path-selection {
  always-compare-med;
  as-path-ignore;
  cisco-non-deterministic;
  external-router-id;
  med-plus-igp {
    igp-multiplier number;
  }
}
```



```

        med-multiplier number;
    }
}
peer-as autonomous-system;
preference preference;
remove-private;
tcp-mss segment-size;
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
tcp-aggressive-transmission;
vpn-apply-export;
}

bgp {
    family inet {
        (any | multicast) {
            ... statements in Common BGP Family Options on page 72 ...
        }
        flow {
            ... statements in Common BGP Family Options on page 72 PLUS ...
            no-validate [ validation-procedure-names ];
        }
        labeled-unicast {
            ... statements in Common BGP Family Options on page 72 PLUS ...
            add-path {
                receive;
                send {
                    path-count number;
                    prefix-policy [ policy-names ];
                }
            }
            aggregate-label {
                community community-name;
            }
            aigp [disable];
            explicit-null connected-only;
            per-group-label;
            per-prefix-label;
            protection;
            resolve-vpn;
            rib (inet.3 | inet6.3);
            traffic-statistics {
                file filename <files number> <size maximum-file-size> <world-readable |
                    no-world-readable>;
                interval seconds;
            }
        }
    }
    unicast {
        ... statements in Common BGP Family Options on page 72 PLUS ...
        add-path {
            receive;
            send {
                path-count number;

```

```

        prefix-policy [ policy-names ];
    }
}
topology name {
    community target identifier;
}
}
}
}

bgp {
    family inet6 {
        (any | multicast) {
            ... statements in Common BGP Family Options on page 72 ...
        }
        labeled-unicast {
            ... statements in Common BGP Family Options on page 72 PLUS ...
            add-path {
                receive;
                send {
                    path-count number;
                    prefix-policy [ policy-names ];
                }
            }
            aggregate-label {
                community community-name;
            }
            aigp [disable];
            explicit-null;
            per-group-label;
            protection;
            traffic-statistics {
                file filename <files number> <size maximum-file-size> <world-readable |
                    no-world-readable>;
                interval seconds;
            }
        }
    }
    unicast {
        ... statements in Common BGP Family Options on page 72 PLUS ...
        topology name {
            community target identifier;
        }
    }
}

bgp {
    family (evpn | inet-mdt | inet-mvpn | inet6-mvpn | l2vpn) {
        auto-discovery-only; # for l2vpn
        signaling {
            ... statements in Common BGP Family Options on page 72 ...
        }
    }
}

bgp {

```

```

family inet-vpn {
  (any | multicast | unicast) {
    ... statements in Common BGP Family Options on page 72 PLUS ...
    aggregate-label <community community-name>;
  }
  flow {
    ... statements in Common BGP Family Options on page 72 ...
  }
}

bgp {
  family inet6-vpn {
    (any | multicast | unicast) {
      ... statements in Common BGP Family Options on page 72 PLUS ...
      aggregate-label <community community-name>;
    }
  }
}

bgp {
  family iso-vpn {
    unicast {
      ... statements in Common BGP Family Options on page 72 PLUS ...
      aggregate-label <community community-name>;
    }
  }
}

bgp {
  family route-target {
    accepted-prefix-limit {
      maximum number;
      teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    advertise-default;
    external-paths number;
    prefix-limit {
      maximum number;
      teardown <percentage> <idle-timeout (forever | minutes)>;
    }
    proxy-generate <route-target-policy route-target-policy-name>;
  }
}

bgp {
  group group-name {
    ... same statements as at the [edit protocols bgp] hierarchy level PLUS ...
    allow [ all ip-prefix</prefix-length> ];
    as-override;
    multipath <multiple-as>;
    neighbor address {
      ... the neighbor subhierarchy appears after the main [edit protocols bgp group
        group-name] hierarchy ...
    }
    type (external | internal);
  }
}

```

```
... BUT NOT ...
disable; # NOT valid at this level
group group-name { ... } # NOT valid at this level
path-selection { ... } # NOT valid at this level
}

group group-name {
  neighbor address {
    ... same statements as at the [edit protocols bgp] hierarchy level PLUS ...
    as-override;
    multipath <multiple-as>;
    ... BUT NOT ...
    disable; # NOT valid at this level
    group group-name { ... } # NOT valid at this level
    neighbor address { ... } # NOT valid at this level
    path-selection { ... } # NOT valid at this level
  }
}
}
```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*

dvmrp

Syntax	<pre> dvmrp { disable; export [<i>policy-names</i>]; import [<i>policy-names</i>]; interface <i>interface-name</i> { disable; hold-time <i>seconds</i>; metric <i>metric</i>; mode (forwarding unicast-routing); } rib-group <i>group-name</i>; traceoptions { file <i>filename</i> <files <i>number</i>> <size <i>size</i>> <world-readable no-world-readable>; flag <i>flag</i> <flag-modifier> <disable>; } } </pre>
Hierarchy Level	[edit logical-systems <i>logical-system-name</i> protocols], [edit protocols]
Release Information	Statement introduced before Junos OS Release 7.4. Statement introduced in Junos OS Release 12.3R2 for EX Series switches.
Description	Enable DVMRP on the router or switch.
Default	DVMRP is disabled on the router or switch.
Options	The statements are explained separately.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> • <i>Example: Configuring DVMRP</i>

igmp

```
Syntax  igmp {
        accounting;
        interface interface-name {
            disable;
            (accounting | no-accounting);
            group-limit limit;
            group-policy [ policy-names ];
            group-threshold
            immediate-leave;
            log-interval
            oif-map map-name;
            passive;
            promiscuous-mode;
            ssm-map ssm-map-name;
            ssm-map-policy ssm-map-policy-name;
            static {
                group multicast-group-address {
                    exclude;
                    group-count number;
                    group-increment increment;
                    source ip-address {
                        source-count number;
                        source-increment increment;
                    }
                }
            }
            version version;
        }
        query-interval seconds;
        query-last-member-interval seconds;
        query-response-interval seconds;
        robust-count number;
        traceoptions {
            file filename <files number> <size size> <world-readable | no-world-readable>;
            flag flag <flag-modifier> <disable>;
        }
    }
```

Hierarchy Level [edit logical-systems *logical-system-name* protocols],
[edit protocols]

Release Information Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 12.1 for the QFX Series.
Statement introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Statement introduced in Junos OS Release 12.3R2 for EX Series switches.

Description Enable IGMP on the router or switch. IGMP must be enabled for the router or switch to receive multicast packets.

The remaining statements are explained separately.

Default	IGMP is disabled on the router or switch. IGMP is automatically enabled on all broadcast interfaces when you configure Protocol Independent Multicast (PIM) or Distance Vector Multicast Routing Protocol (DVMRP).
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> • <i>Enabling IGMP</i>

igmp-snooping

Syntax	<pre> igmp-snooping { vlan <i>vlan-id</i> { immediate-leave; interface <i>interface-name</i> { group-limit <i>limit</i>; host-only-interface; immediate-leave; multicast-router-interface; static { group <i>ip-address</i> { source <i>ip-address</i>; } } } } proxy { source-address <i>ip-address</i>; } query-interval <i>seconds</i>; query-last-member-interval <i>seconds</i>; query-response-interval <i>seconds</i>; robust-count <i>number</i>; } </pre>
Hierarchy Level	[edit protocols]
Release Information	Statement introduced in Junos OS Release 8.5.
Description	Enable IGMP snooping on the router or switch.
Default	IGMP snooping is disabled on the router or switch.
Options	The statements are explained separately.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> • <i>Understanding IGMP Snooping</i> • <i>IGMP Snooping in MC-LAG Active-Active Mode on MX Series Routers Overview</i>

[edit protocols isis] Hierarchy Level

The following statement hierarchy can also be included at the **[edit protocols isis]** hierarchy level.

```
protocols {
  isis {
    disable;
    clns-routing;
    clns-updown-compatibility
    context-identifier ip-address</prefix> {
      level (1 | 2) <disable>;
    }
    export [ policy-names ];
    graceful-restart {
      disable;
      helper-disable;
      restart-duration seconds;
    }
    ignore-attached-bit;
    interface interface-name {
      ... the interface subhierarchy appears after the main [edit protocols isis] hierarchy ...
    }
    label-switched-path name level level metric metric;
    level (1 | 2) {
      disable;
      authentication-key key;
      authentication-type authentication;
      external-preference preference;
      no-csnp-authentication;
      no-hello-authentication;
      no-psnp-authentication;
      preference preference;
      prefix-export-limit number;
      wide-metrics-only;
    }
    loose-authentication-check;
    lsp-lifetime seconds;
    max-areas number;
    no-adjacency-holddown;
    no-authentication-check;
    no-ipv4-routing;
    no-ipv6-routing;
    overload {
      advertise-high-metrics;
      timeout seconds;
    }
    reference-bandwidth reference-bandwidth;
    rib-group {
      inet group-name;
      inet6 group-name;
    }
    spf-options {
      delay milliseconds;
    }
  }
}
```



```

        holddown milliseconds;
        rapid-runs number;
    }
    topologies {
        ipv4-multicast;
        ipv6-multicast;
        ipv6-unicast;
    }
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag <flag-modifier> <disable>;
    }
    traffic-engineering {
        disable;
        family inet {
            shortcuts {
                multicast-rpf-routes:
            }
        }
        family inet6 {
            shortcuts;
        }
    }
    ignore-lsp-metrics;
}

isis {
    interface interface-name {
        disable;
        bfd-liveness-detection {
            authentication {
                algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
                    meticulous-keyed-sha-1 | simple-password);
                key-chain key-chain-name;
                loose-check;
            }
            detection-time {
                threshold milliseconds;
            }
            minimum-interval milliseconds;
            minimum-receive-interval milliseconds;
            multiplier number;
            no-adaptation;
            transmit-interval {
                minimum-interval milliseconds;
                threshold milliseconds;
            }
            version (1 | automatic);
        }
        checksum;
        csnp-interval (seconds | disable);
        hello-padding (adaptive | loose | strict);
        ldp-synchronization {
            disable;
            hold-time seconds;
        }
    }
}

```

```
    }
    level (1 | 2) {
        disable;
        hello-authentication-key key;
        hello-authentication-type authentication;
        hello-interval seconds;
        hold-time seconds;
        ipv4-multicast-metric number;
        ipv6-multicast-metric number;
        ipv6-unicast-metric number;
        metric metric;
        passive;
        priority number;
        te-metric metric;
    }
    link-protection;
    lsp-interval milliseconds;
    mesh-group (value | blocked);
    no-adjacency-down-notification;
    no-eligible-backup;
    no-ipv4-multicast;
    no-ipv6-multicast;
    no-ipv6-unicast;
    no-unicast-topology;
    node-link-protection;
    passive;
    point-to-point;
}
}
```

- Related Documentation**
- [Notational Conventions Used in Junos OS Configuration Hierarchies](#)
 - [\[edit protocols\] Hierarchy Level](#)

[\[edit protocols l2-learning\] Hierarchy Level](#)

```
protocols {
    l2-learning {
        global-mac-limit {
            limit;
            packet-action drop;
        }
        global-mac-statistics;
        global-mac-table-aging-time seconds;
        global-no-mac-learning;
    }
}
```

- Related Documentation**
- [Notational Conventions Used in Junos OS Configuration Hierarchies](#)
 - [\[edit protocols\] Hierarchy Level](#)

[edit protocols lacp] Hierarchy Level

The following statement hierarchy can also be included at the [edit logical-systems *logical-system-name*] hierarchy level.

```
protocols {
  lacp {
    traceoptions {
      file <filename> <files number> <match regular-expression> <size maximum-file-size>
      <world-readable | no-world-readable>;
      flag <flag>;
      no-remote-trace;
    }
    ppm (centralized | distributed)
  }
}
```

Related Documentation

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*

[edit protocols layer2-control] Hierarchy Level

The following statement hierarchy can also be included at the [edit logical-systems *logical-system-name*] hierarchy level.

```
protocols {
  layer2-control {
    bpdu-block {
      disable-timeout <seconds>;
      interface [ <interface-names> ];
    }
    mac-rewrite {
      interface <interface-name> {
        enable-all-ifl;
        protocol {
          cdp;
          stp;
          vtp;
          pvstp;
        }
      }
    }
  }
  nonstop-bridging;
  traceoptions {
    file <filename> <files number> <size maximum-file-size> <world-readable |
    no-world-readable>;
    flag <flag> <disable>;
  }
}
```

- Related Documentation**
- *layer2-control*
 - *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit protocols] Hierarchy Level*

[edit protocols ldp] Hierarchy Level

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```
protocols {
  ldp {
    (deaggregate | no-deaggregate);
    dod-request-policy [ policy-names ];
    egress-policy [ policy-names ];
    explicit-null;
    export [ policy-names ];
    graceful-restart {
      disable;
      helper-disable;
      maximum-neighbor-reconnect-time seconds;
      maximum-neighbor-recovery-time seconds;
      reconnect-time seconds;
      recovery-time seconds;
    }
    igp-synchronization holddown-interval seconds;
    import [ policy-names ];
    interface interface-name {
      (allow-subnet-mismatch | no-allow-subnet-mismatch);
      disable;
      hello-interval seconds;
      hold-time seconds;
      transport-address (interface | router-id);
    }
    keepalive-interval seconds;
    keepalive-timeout seconds;
    l2-smart-policy;
    log-updown {
      trap disable;
    }
    next-hop {
      merged {
        policy [ policy-names ];
      }
    }
    no-forwarding;
    oam {
      ... the oam subhierarchy appears after the main [edit protocols ldp] hierarchy ...
    }
    p2mp {
      root-address root-address;
      lsp-id id;
    }
  }
}
```

```

}
policing {
    fec class-address {
        ingress-traffic filter-name;
        transit-traffic filter-name;
    }
}
preference preference;
session destination-address {
    authentication-algorithm algorithm;
    authentication-key key;
    authentication-key-chain key-chain;
    downstream-on-demand;
}
session-protection <timeout seconds>;
strict-targeted-hellos;
targeted-hello {
    hello-interval seconds;
    hold-time seconds;
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
track-igp-metric;
traffic-statistics {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    interval seconds;
    no-penultimate-hop;
}
transport-address (address | interface | router-id);
}

oam {
    bfd-liveness-detection {
        detection-time {
            threshold milliseconds;
        }
    }
    ecmp;
    failure-action (remove-nexthop | remove-route);
    holddown-interval milliseconds;
    minimum-interval milliseconds;
    minimum-receive-interval milliseconds;
    multiplier number;
    no-adaptation;
    transmit-interval {
        minimum-interval milliseconds;
        threshold milliseconds;
    }
    version (1 | automatic);
}
fec class-address {
    bfd-liveness-detection {

```

```
... same statements as at the [edit protocols ldp oam bfd-liveness-detection]
  hierarchy level ...
}
no-bfd-liveness-detection;
periodic-traceroute {
  ... same statements as at the [edit protocols ldp oam periodic-traceroute]
    hierarchy level PLUS ...
  disable;
}
}
ingress-policy [ policy-names ];
periodic-traceroute {
  exp cos-value;
  fanout next-hops;
  frequency minutes;
  paths number;
  retries number;
  source address;
  ttl number;
  wait seconds;
}
}
}
```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit protocols] Hierarchy Level*

lldp

Syntax	<pre>lldp { advertisement-interval <i>seconds</i>; disable; hold-multiplier <i>number</i>; interface (all <i>interface-name</i>) { disable; } lldp-configuration-notification-interval <i>seconds</i>; management-address <i>ip-management-address</i>; port-description-type { interface-alias; interface-description; } port-id-subtype { interface-name; locally-assigned; } ptopo-configuration-maximum-hold-time <i>seconds</i>; ptopo-configuration-trap-interval <i>seconds</i>; traceoptions { file <i>filename</i> <files <i>number</i>> <size <i>maximum-file-size</i>> <world-readable no-world-readable>; flag <i>flag</i> <disable>; } transmit-delay <i>seconds</i>; }</pre>
Hierarchy Level	[edit protocols], [edit routing-instances <i>routing-instance-name</i> protocols]
Release Information	Statement introduced in Junos OS Release 9.6.
Description	Specify LLDP configuration parameters.
Options	The statements are explained separately.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> • <i>Configuring LLDP</i>

[edit protocols mpls] Hierarchy Level

- [Complete \[edit protocols mpls\] Hierarchy on page 89](#)

Complete [edit protocols mpls] Hierarchy

The statement hierarchy listed in this section can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```
protocols {
  mpls {
    disable;
    interface (interface-name | all) {
      always-mark-connection-protection-tlv;
      disable;
      admin-group [ group-names ];
      srlg srlg-name;
      static {
        protection-revert-time seconds;
      }
      switch-away-lsps;
    }
    egress-protection {
      context-identifier context-id {
        primary | protector;
        metric igp-metric-value;
        advertise-mode (stub-alias | stub-proxy);
      }
    }
    ipv6-tunneling;
    priority setup-priority hold-priority;
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag;
    }
  }
}
```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit protocols] Hierarchy Level*

[\[edit protocols mstp\] Hierarchy Level](#)

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```
protocols {
  mstp {
    disable;
    backup-bridge-priority priority;
    bpdu-block-on-edge;
    bpdu-destination-mac-address provider-bridge-group;
    bridge-priority priority;
    configuration-name configuration-name;
    forward-delay seconds;
    hello-time seconds;
    interface interface-name {
      bpdu-timeout-action {
        alarm;
        block;
      }
      cost cost;
    }
  }
}
```



```

    edge;
    mode (point-to-point | shared);
    no-root-port;
    priority interface-priority;
  }
  max-age seconds;
  max-hops hops;
  msti identifier {
    backup-bridge-priority priority;
    bridge-priority priority;
    interface interface-name {
      cost cost;
      priority interface-priority;
    }
    vlan [ vlan-ids ];
  }
  priority-hold-time seconds;
  revision-level revision-level;
  system-id mac-address {
    ip-address ip-address </prefix-length>;
  }
  traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag flag <disable>;
  }
  vpls-flush-on-topology-change;
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit protocols] Hierarchy Level*

neighbor-discovery

Syntax	<pre>neighbor-discovery { no-dad-on-state-change ; onlink-subnet-only; secure { security-level { (default secure-messages-only); } cryptographic-address { key-length <i>number</i>; key-pair <i>pathname</i>; } timestamp { clock-drift <i>number</i>; known-peer-window <i>number</i>; new-peer-window <i>number</i>; } traceoptions { file <i>filename</i> <files <i>number</i>> <match <i>regular-expression</i>> <size <i>size</i>> <world-readable no-world-readable>; flag <i>flag</i>; no-remote-trace; } } }</pre>
Hierarchy Level	[edit protocols]
Release Information	Statement introduced in Junos OS Release 9.3. Statement introduced in Junos OS Release 12.3R2 for EX Series switches.
Description	Enable Secure Neighbor Discovery. The remaining statements are explained separately.
Default	Disabled
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none">• <i>Example: Configuring Secure IPv6 Neighbor Discovery</i>

oam

```

Syntax  oam {
    ethernet{
        connectivity-fault-management {
            action-profile profile-name {
                action {
                    interface-down;
                }
                default-actions {
                    interface-down;
                }
                event {
                    adjacency-loss;
                }
            }
        }
        linktrace {
            age (30m | 10m | 1m | 30s | 10s);
            path-database-size path-database-size;
        }
        maintenance-domain domain-name {
            level number;
            mip-half-function (none | default | explicit);
            name-format (character-string | none | dns | mac+2oct);
            maintenance-association ma-name {
                continuity-check {
                    hold-interval minutes;
                    interface-status-tlv;
                    interval (10m | 10s | 1m | 1s | 100ms);
                    loss-threshold number;
                    port-status-tlv;
                }
                mep mep-id {
                    auto-discovery;
                    direction down;
                    interface interface-name;
                    remote-mep mep-id {
                        action-profile profile-name;
                    }
                }
            }
        }
    }
    performance-monitoring {
        sla-iterator-profiles {
            profile-name {
                calculation-weight {
                    delay delay-value;
                    delay-variation delay-variation-value;
                }
                cycle-time cycle-time-value;
                iteration-period iteration-period-value;
                measurement-type two-way-delay;
                passive;
            }
        }
    }
}

```

```

    }
  }
  traceoptions {
    file filename <files number> <match regex> <size size> <world-readable |
      no-world-readable>;
    flag flag ;
    no-remote-trace;
  }
}
link-fault-management {
  action-profile profile-name;
  action {
    syslog;
    link-down;
    send-critical-event
  }
  event {
    link-adjacency-loss;
    link-event-rate {
      frame-error count;
      frame-period count;
      frame-period-summary count;
      symbol-period count;
    }
  }
}
interface interface-name {
  link-discovery (active | passive);
  pdu-interval interval;
  pdu-threshold threshold-value;
  remote-loopback;
  event-thresholds {
    frame-error count;
    frame-period count;
    frame-period-summary count;
    symbol-period count;
  }
  negotiation-options {
    allow-remote-loopback;
    no-allow-link-events;
  }
}
traceoptions {
  file filename <files number> <match regex> <size size> <world-readable |
    no-world-readable>;
  flag flag ;
  no-remote-trace;
}
}
}

```

Hierarchy Level [edit protocols]

Release Information Statement introduced in Junos OS Release 9.4 for EX Series switches.
connectivity-fault-management introduced in Junos OS Release 10.2 for EX Series switches.

Description	Provide IEEE 802.3ah Operation, Administration, and Maintenance (OAM) link fault management (LFM) support for Ethernet interfaces on EX Series switches or configure connectivity fault management (CFM) for IEEE 802.1ag Operation, Administration, and Management (OAM) support on the switches.
	The remaining statements are explained separately.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.
Related Documentation	<ul style="list-style-type: none"> • <i>Example: Configuring Ethernet OAM Link Fault Management on EX Series Switches</i> • <i>Example: Configuring Ethernet OAM Connectivity Fault Management on EX Series Switches</i> • <i>Configuring Ethernet OAM Link Fault Management (CLI Procedure)</i> • <i>Configuring Ethernet OAM Connectivity Fault Management (CLI Procedure)</i>

[\[edit protocols ospf\] Hierarchy Level](#)

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```

protocols {
  ospf {
    disable;
    area area-id {
      ... the area subhierarchy appears after the main [edit protocols ospf] hierarchy ...
    }
    backup-spf-options {
      disable;
      downstream-paths-only;
      no-install;
      node-link-degradation;
      per-prefix-calculation {
        all;
        externals;
        stubs;
        summary;
      }
      remote-backup-calculation;
    }
    database-protection {
      ignore-count number;
      ignore-time seconds;
      maximum-lsa number;
      reset-time seconds;
      warning-only;
      warning-threshold percent;
    }
    export [ policy-names ];
    external-preference preference;
    graceful-restart {
      disable;

```

```

    helper-disable <both | restart-signaling | standard>;
    no-strict-lsa-checking;
    notify-duration seconds;
    restart-duration seconds;
}
import [ policy-names ];
lsa-refresh-interval;
no-nssa-abr;
no-rfc-1583;
overload <timeout seconds>;
preference preference;
prefix-export-limit number;
reference-bandwidth reference-bandwidth;
rib-group group-name;
spf-options {
    delay milliseconds;
    holddown milliseconds;
    rapid-runs number;
}
topology (default | ipv4-multicast | name) {
    backup-spf-options {
        disable;
        downstream-paths-only;
        no-install;
        remote-backup-calculation;
    }
    overload;
    prefix-export-limit number;
    spf-options {
        delay milliseconds;
        holddown milliseconds;
        rapid-runs number;
    }
    topology-id number;
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
traffic-engineering {
    advertise-unnumbered-interfaces;
    credibility-protocol-preference;
    ignore-lsp-metrics;
    multicast-rpf-routes;
    no-topology;
    shortcuts <lsp-metric-into-summary>;
}
}

ospf {
    area area-id {
        area-range ip-prefix </prefix-length> <exact> <override-metric metric> <restrict>;
        context-identifier identifier
        interface interface-name {

```

```

... the interface subhierarchy appears after the main [edit ospf area area-id] hierarchy
level ...
}
label-switched-path name {
  disable;
  metric metric;
  topology (name | default | ipv4-multicast) {
    disable;
    metric metric;
  }
}
network-summary-export [ policy-names ];
network-summary-import [ policy-names ];
nssa {
  area-range ip-prefix </prefix-length> <exact> <override-metric metric> <restrict>;
  default-lsa {
    default-metric metric;
    metric-type type;
    type-7;
  }
  (summaries | no-summaries);
}
peer-interface interface-name {
  disable;
  authentication {
    md5 key-id key key-string <start-time YYYY-MM-DD.hh:mm>;
    simple-password key-string;
  }
  dead-interval seconds;
  demand-circuit;
  flood-reduction;
  hello-interval seconds;
  no-neighbor-down-notification;
  retransmit-interval seconds;
  transit-delay seconds;
}
stub <default-metric metric> <summaries | no-summaries>;
virtual-link neighbor-id router-id transit-area area-id {
  disable;
  authentication {
    md5 key-id key key-string <start-time YYYY-MM-DD.hh:mm>;
    simple-password key-string;
  }
  dead-interval seconds;
  demand-circuit;
  flood-reduction;
  hello-interval seconds;
  ipsec-sa sa-name;
  no-neighbor-down-notification;
  retransmit-interval seconds;
  topology (name | default | ipv4-multicast) {
    disable;
    metric metric;
  }
  transit-delay seconds;
}

```

```
}  
  
area area-id {  
  interface interface-name {  
    disable;  
    authentication {  
      md5 key-id key key-string <start-time YYYY-MM-DD.hh:mm>;  
      simple-password key-string;  
    }  
    bandwidth-based-metrics {  
      bandwidth value metric number;  
    }  
    bfd-liveness-detection {  
      authentication {  
        algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |  
          meticulous-keyed-sha-1 | simple-password);  
        key-chain key-chain-name;  
        loose-check;  
      }  
      detection-time {  
        threshold milliseconds;  
      }  
      full-neighbors-only;  
      minimum-interval milliseconds;  
      minimum-receive-interval milliseconds;  
      multiplier number;  
      no-adaptation;  
      transmit-interval {  
        minimum-interval milliseconds;  
        threshold milliseconds;  
      }  
      version (1 | automatic);  
    }  
    dead-interval seconds;  
    demand-circuit;  
    dynamic-neighbors;  
    flood-reduction;  
    hello-interval seconds;  
    interface-type (nbma | p2mp | p2p);  
    ipsec-sa sa-name;  
    ldp-synchronization {  
      disable;  
      hold-time seconds;  
    }  
    (link-protection | node-link-protection);  
    metric metric;  
    neighbor address <eligible>;  
    no-eligible-backup;  
    no-eligible-remote-backup;  
    no-interface-state-traps;  
    no-neighbor-down-notification;  
    passive {  
      traffic-engineering {  
        remote-node-id address;  
      }  
    }  
  }  
}
```



```

poll-interval seconds;
priority number;
retransmit-interval seconds;
secondary;
te-metric metric;
topology (name | default | ipv4-multicast) {
    disable;
    bandwidth-based-metrics {
        bandwidth value;
        metric number;
    }
    metric metric;
}
transit-delay seconds;
}
}
}
}

```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*

[\[edit protocols ospf3\] Hierarchy Level](#)

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```

protocols {
  ospf3 {
    disable;
    area area-id {
      ... the area subhierarchy appears after the main [edit protocols ospf3] hierarchy ...
    }
    backup-spf-options {
      disable;
      downstream-paths-only;
      no-install;
      node-link-degradation;
      per-prefix-calculation {
        all;
        externals;
        stubs;
        summary;
      }
      remote-backup-calculation;
    }
    database-protection {
      ignore-count number;
      ignore-time seconds;
      maximum-lsa number;
      reset-time seconds;
      warning-only;
      warning-threshold percent;
    }
  }
}

```

```

export [ policy-names ];
external-preference preference;
graceful-restart {
    disable;
    helper-disable;
    no-strict-lsa-checking;
    notify-duration seconds;
    restart-duration seconds;
}
import [ policy-names ];
lsa-refresh-interval;
no-nssa-abr;
no-rfc-1583;
overload <timeout seconds>;
preference preference;
prefix-export-limit number;
realm (ipv4-multicast | ipv4-unicast | ipv6-multicast | ipv6-unicast) {
    ... the realm subhierarchies appear after the main [edit protocols ospf3] hierarchy ...
}
reference-bandwidth reference-bandwidth;
rib-group group-name;
spf-options {
    delay milliseconds;
    holddown milliseconds;
    no-ignore-our-externals;
    rapid-runs number;
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
traffic-engineering {
    ignore-lsp-metrics;
    shortcuts <lsp-metric-into-summary>;
}
}

ospf3 {
    area area-id {
        area-range ip-prefix </prefix-length> <exact> <override-metric metric> <restrict>;
        inter-area-prefix-export [ policy-names ];
        inter-area-prefix-import [ policy-names ];
        interface interface-name {
            ... the interface subhierarchy appears after the main [edit ospf3 area area-id]
                hierarchy level ...
        }
        nssa {
            area-range ip-prefix </prefix-length> <exact> <override-metric metric> <restrict>;
            default-lsa {
                default-metric metric;
                metric-type type;
                type-7;
            }
            (summaries | no-summaries);
        }
    }
}

```

```

stub <default-metric metric> <summaries | no-summaries>;
virtual-link neighbor-id router-id transit-area area-id {
    disable;
    dead-interval seconds;
    demand-circuit;
    flood-reduction;
    hello-interval seconds;
    ipsec-sa sa-name;
    retransmit-interval seconds;
    transit-delay seconds;
}
}

area area-id {
    interface interface-name {
        disable;
        bandwidth-based-metrics {
            bandwidth value metric number;
        }
        bfd-liveness-detection {
            authentication {
                algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
                    meticulous-keyed-sha-1 | simple-password);
                key-chain key-chain-name;
                loose-check;
            }
            detection-time {
                threshold milliseconds;
            }
            full-neighbors-only;
            minimum-interval milliseconds;
            minimum-receive-interval milliseconds;
            multiplier number;
            no-adaptation;
            transmit-interval {
                minimum-interval milliseconds;
                threshold milliseconds;
            }
            version (1 | automatic);
        }
        dead-interval seconds;
        demand-circuit;
        flood-reduction;
        hello-interval seconds;
        interface-type (p2mp-over-lan | p2p);
        ipsec-sa sa-name;
        (link-protection | node-link-protection);
        metric metric;
        no-eligible-backup;
        no-eligible-remote-backup;
        own-router-lsa;
        passive {
            traffic-engineering {
                remote-node-id address;
            }
        }
    }
}

```

```

        priority number;
        retransmit-interval seconds;
        transit-delay seconds;
    }
}

ospf3 {
    realm (ipv4-multicast| ipv6-multicast) {
        ... same statements as at the [edit protocols ospf3] hierarchy level, EXCEPT FOR ...
        area area-id {
            interface interface-name {
                no-eligible-backup;  # NOT valid at this level
            }
            virtual-link { ... }  # NOT valid at this level
        }
        backup-spf-options { ... }  # NOT valid at this level
        realm realm-identifier { ... }  # NOT valid at this level
        traffic-engineering { ... }  # NOT valid at this level
    }
}

ospf3 {
    realm ipv4-unicast {
        ... same statements as at the [edit protocols ospf3] hierarchy level, PLUS ...
        area area-id {
            interface interface-name {
                ldp-synchronization {
                    disable;
                    hold-time seconds;
                }
            }
        }

        ... BUT NOT ...
        area area-id {
            virtual-link { ... }  # NOT valid at this level
        }
        realm realm-identifier { ... }  # NOT valid at this level
        traffic-engineering { ... }  # NOT valid at this level
    }
}

ospf3 {
    realm ipv6-unicast {
        disable;
        backup-spf-options {
            disable;
            downstream-paths-only;
            no-install;
        }
    }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit protocols] Hierarchy Level*

[edit protocols pim] Hierarchy Level

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```
protocols {
  pim {
    disable;
    assert-timeout seconds;
    default-vpn-source {
      interface-name interface-name;
    }
    dense-groups {
      address <announce | reject>;
    }
    dr-election-on-p2p;
    export [ policy-names ];
    family (inet | inet6) {
      disable;
    }
    graceful-restart {
      disable;
      no-bidirectional-mode;
      restart-duration seconds;
    }
    import [ policy-names ];
    interface interface-name {
      ... the interface subhierarchy appears after the main [edit protocols pim] hierarchy ...
      family (inet | inet6) {
        disable;
      }
    }
    join-load-balance;
    join-prune-timeout seconds;
    nonstop-routing {
      disable;
    }
    override-interval milliseconds;
    propagation-delay milliseconds;
    reset-tracking-bit;
    rib-group {
      inet group-name;
      inet6 group-name;
    }
    rp {
      ... the rp subhierarchy appears after the main [edit protocols pim] hierarchy ...
    }
    sglimit {
      family (inet | inet6) {
        log-interval seconds;
      }
    }
  }
}
```

```

        maximum limit;
        threshold value;
    }
}
log-interval seconds;
maximum limit;
threshold value;
}
}
spt-threshold {
    infinity [ policy-names ];
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <flag-modifier> <disable>;
    flag (route | state) <flag-modifier> <disable> <filter <match-on prefix>
        <policy [ policy-names ]>>;
}
}

pim {
    interface interface-name {
        accept-remote-source;
        disable;
        bfd-liveness-detection {
            authentication {
                algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
                    meticulous-keyed-sha-1 | simple-password);
                key-chain key-chain-name;
                loose-check;
            }
            detection-time {
                threshold milliseconds;
            }
            minimum-interval milliseconds;
            minimum-receive-interval milliseconds;
            multiplier number;
            no-adaptation;
            transmit-interval {
                minimum-interval milliseconds;
                threshold milliseconds;
            }
            version (1 | automatic);
        }
    }
    bidirectional {
        df-election {
            backoff-period milliseconds;
            offer-period milliseconds;
            robustness-count number;
        }
    }
}
family (inet | inet6) {
    disable;
}
hello-interval seconds;

```

```

        bidirectional-sparse | bidirectional-sparse-dense mode (bidirectional-sparse |
        bidirectional-sparse-dense | dense | sparse | sparse-dense);
    neighbor-policy [ policy-names ];
    override-interval milliseconds;
    priority number;
    propagation-delay milliseconds;
    reset-tracking-bit;
    version (1 | 2);
}
}

pim {
    rp {
        auto-rp {
            (announce | discovery | mapping);
            (mapping-agent-election | no-mapping-agent-election);
        }
        bidirectional {
            address address {
                group-ranges {
                    destination-ip-prefix</prefix-length>;
                }
                hold-time seconds;
                priority number;
            }
        }
        bootstrap {
            family (inet | inet6) {
                export [ policy-names ];
                import [ policy-names ];
                priority number;
            }
        }
        bootstrap-export [ policy-names ];
        bootstrap-import [ policy-names ];
        bootstrap-priority number;
        dr-register-policy [ policy-names ];
        embedded-rp {
            group-ranges {
                ip-prefix</prefix-length>;
            }
            maximum-rps limit;
        }
        group-rp-mapping {
            family (inet | inet6) {
                log-interval seconds;
                maximum limit;
                threshold value;
            }
        }
        log-interval seconds;
        maximum limit;
        threshold value;
    }
}
local {

```

```

... the local subhierarchy appears after the main [edit protocols pim rp] hierarchy ...
}
register-limit {
  family (inet | inet6) {
    log-interval seconds;
    maximum limit;
    threshold value;
  }
}
log-interval seconds;
maximum limit;
threshold value;
}
}
rp-register-policy [ policy-names ];
static {
  address address {
    group-ranges {
      ip-prefix</prefix-length>;
    }
    override;
    version (1 | 2);
  }
}
}
rp {
  local {
    disable;
    address address;
    family (inet | inet6) {
      disable;
      address address;
      anycast-pim {
        local-address address;
        rp-set {
          address address <forward-msdp-sa>;
        }
      }
      group-ranges {
        ip-prefix</prefix-length>;
      }
      hold-time seconds;
      override;
      priority number;
    }
    group-ranges {
      ip-prefix</prefix-length>;
    }
    hold-time seconds;
    override;
    priority number;
  }
}
}
}

```


- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit protocols] Hierarchy Level*

[edit protocols rip] Hierarchy Level

The following statement hierarchy can also be included at the **[edit logical-systems logical-system-name]** hierarchy level.

```
protocols {
  rip {
    authentication-key password;
    authentication-type type;
    (check-zero | no-check-zero);
    graceful-restart {
      disable;
      restart-time seconds;
    }
    group group-name {
      ... the group subhierarchy appears after the main [edit protocols rip] hierarchy ...
    }
    holddown seconds;
    import [ policy-names ];
    message-size number;
    metric-in metric;
    receive (both | none | version-1 | version-2);
    rib-group group-name;
    route-timeout seconds;
    send (broadcast | multicast | none | version-1);
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag <flag-modifier> <disable>;
    }
    update-interval seconds;
  }

  rip {
    group group-name {
      bfd-liveness-detection {
        authentication {
          algorithm (keyed-md5 | keyed-sha-1 | meticulous-keyed-md5 |
            meticulous-keyed-sha-1 | simple-password);
          key-chain key-chain-name;
          loose-check;
        }
        detection-time {
          threshold milliseconds;
        }
      }
      minimum-interval milliseconds;
      minimum-receive-interval milliseconds;
      multiplier number;
      no-adaptation;
      transmit-interval {
```

```

        minimum-interval milliseconds;
        threshold milliseconds;
    }
    version (1 | automatic);
}
demand-circuit;
export [ policy-names ];
import [ policy-names ];
max-retrans-time seconds;
metric-out metric;
neighbor interface-name {
    ... the neighbor subhierarchy appears after the main [edit protocols rip group
        group-name] hierarchy level ...
}
preference preference;
route-timeout seconds;
update-interval seconds;
}

group group-name {
    neighbor neighbor-name {
        any-sender;
        authentication-key password;
        authentication-type type;
        bfd-liveness-detection {
            ... same statements as at the [edit protocols rip group group-name
                bfd-liveness-detection] hierarchy level ...
        }
        (check-zero | no-check-zero);
        demand-circuit;
        import [ policy-names ];
        max-retrans-time seconds;
        message-size number;
        metric-in metric;
        receive (both | none | version-1 | version-2);
        route-timeout seconds;
        send (broadcast | multicast | none | version-1);
        update-interval seconds;
    }
}
}
}

```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*

[edit protocols ripng] Hierarchy Level

The following statement hierarchy can also be included at the [edit logical-systems *logical-system-name*] hierarchy level.

```

protocols {
    ripng {
        graceful-restart {

```

```

        disable;
        restart-time seconds;
    }
    group group-name {
        export [ policy-names ];
        import [ policy-names ];
        metric-out metric;
        neighbor neighbor-name {
            import [ policy-names ];
            metric-in metric;
            receive <none>;
            route-timeout seconds;
            send <none>;
            update-interval seconds;
        }
        preference number;
        route-timeout seconds;
        update-interval seconds;
    }
    holddown seconds;
    import [ policy-names ];
    metric-in metric;
    receive <none>;
    route-timeout seconds;
    send <none>;
    update-interval seconds;
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag <flag-modifier> <disable>;
    }
}
}

```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*

[\[edit protocols router-advertisement\] Hierarchy Level](#)

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```

protocols {
    router-advertisement {
        interface interface-name {
            current-hop-limit number;
            default-lifetime seconds;
            dns-server-address address;
            (link-mtu | no-link-mtu);
            (managed-configuration | no-managed-configuration);
            max-advertisement-interval seconds;
            min-advertisement-interval seconds;
            (other-stateful-configuration | no-other-stateful-configuration);
            prefix prefix {

```

```

        (autonomous | no-autonomous);
        (on-link | no-on-link);
        preferred-lifetime seconds;
        valid-lifetime seconds;
    }
    reachable-time milliseconds;
    retransmit-timer milliseconds;
    virtual-router-only;
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag;
}
}

```

- Related Documentation**
- *Example: Configuring IPv6 Interfaces and Enabling Neighbor Discovery*
 - *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit protocols] Hierarchy Level*

[\[edit protocols router-discovery\] Hierarchy Level](#)

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```

protocols {
    router-discovery {
        disable;
        address address {
            (advertise | ignore);
            (broadcast | multicast);
            (ineligible | priority number);
        }
        interface interface-name {
            lifetime seconds;
            max-advertisement-interval seconds;
            min-advertisement-interval seconds;
        }
        traceoptions {
            file filename <files number> <size size> <world-readable | no-world-readable>;
            flag flag <flag-modifier> <disable>;
        }
    }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - *[edit protocols] Hierarchy Level*

[edit protocols rstp] Hierarchy Level

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```
protocols {
  rstp {
    disable;
    backup-bridge-priority priority;
    bpdu-block-on-edge;
    bpdu-destination-mac-address provider-bridge-group;
    bridge-priority priority;
    extended-system-id id;
    force-version stp;
    forward-delay seconds;
    hello-time seconds;
    interface interface-name {
      bpdu-timeout-action {
        alarm;
        block;
      }
      cost cost;
      edge;
      mode (point-to-point | shared);
      no-root-port;
      priority interface-priority;
    }
    max-age seconds;
    priority-hold-time seconds;
    system-id mac-address {
      ip-address ip-address</prefix-length>;
    }
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag <disable>;
    }
    vpls-flush-on-topology-change;
  }
}
```

Related Documentation

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*

[edit protocols sap] Hierarchy Level

The following statement hierarchy can also be included at the **[edit logical-systems *logical-system-name*]** hierarchy level.

```
protocols {
  sap {
    disable;
```

```
        listen address <port port>;
    }
}
```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*

[edit protocols vrrp] Hierarchy Level

The following statement hierarchy can also be included at the **[edit logical-systems logical-system-name]** hierarchy level.

```
protocols {
  vrrp {
    asymmetric-hold-time;
    delegate-processing;
    failover-delay milliseconds;
    global-advertisements-threshold advertisement-value;
    skew-timer-disable;
    startup-silent-period seconds;
    traceoptions {
      file <filename> <files number> <match regular-expression> <microsecond-stamp>
        <size maximum-file-size> <world-readable | no-world-readable>;
      flag flag;
      no-remote-trace;
    }
    version-3;
  }
}
```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*
- *Junos OS Hierarchy and RFC Reference*
- *Ethernet Interfaces Feature Guide for Routing Devices*
- *Junos OS Network Interfaces Library for Routing Devices*

[edit protocols vstp] Hierarchy Level

The following statement hierarchy can also be included at the **[edit logical-systems logical-system-name]** hierarchy level.

```
protocols {
  vstp {
    disable;
    bpdu-block-on-edge;
    force-version stp;
    interface interface-name {
      access-trunk
      bpdu-timeout-action {
```

```

    alarm;
    block;
  }
  cost cost;
  edge;
  mode (point-to-point | shared);
  no-root-port;
  priority interface-priority;
}
priority-hold-time seconds;
system-id mac-address {
  ip-address ip-address </prefix-length>;
}
vlan vlan-id {
  ... the vlan subhierarchy appears after the main [edit protocols vstp] hierarchy level ...
}
vpls-flush-on-topology-change;
}

vstp {
  vlan vlan-id {
    backup-bridge-priority priority;
    bridge-priority priority;
    forward-delay seconds;
    hello-time seconds;
    interface interface-name {
      ... same statements as at the [edit protocols vstp interface interface-name] hierarchy
      level ...
    }
    max-age seconds;
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
      flag flag <disable>;
    }
  }
}
}

```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *[edit protocols] Hierarchy Level*

Layer 2 Routing Instances Configuration Hierarchy

Use the **vpls** routing instance type for point-to-multipoint LAN implementations between a set of sites in a VPN.

To configure routing instances for Layer 2 networks, include the following statements:

```

routing-instances {
  routing-instance-name {
    access {
      address-assignment {

```

```

... same statements as in the address-assignment subhierarchy in [edit access]
Hierarchy Level ...
}
address-protection;
description text;
egress-protection {
    context-identifier context-id;
}
forwarding-options {
    ...forwarding-options...
}
instance-role role;
instance-type type;
interface interface-name;
l2-domain-id-for-l3 id;
l2vpn-id community;
layer3-domain-identifier identifier;
multicast-snooping-options {
    ... same statements as in [edit multicast-snooping-options] Hierarchy Level EXCEPT
    FOR ...
    traceoptions {...} # NOT valid at this level
}
no-irb-layer-2-copy;
no-local-switching;
no-vrf-advertise;
no-vrf-propagate-ttl;
pbb-options {
    default-bvlan bvlan;
    peer-instance instance;
    vlan-id vlan-id isid-list [ isid-numbers ]
}
protocols {
    ... the protocols subhierarchy appears after the main [edit routing-instances
    routing-instance-name] hierarchy ...
}
provider-tunnel {
    ... the provider-tunnel subhierarchy appears after the main [edit routing-instances
    routing-instance-name] hierarchy ...
}
route-distinguisher (as-number:number | ip-address:number);
routing-interface interface;
routing-options {
    ... the routing-options subhierarchy appears after the main [edit routing-instances
    routing-instance-name] hierarchy ...
}
service-groups {
    service-group-name {
        pbb-service-options {
            default-isid isid-number;
            isid isid-number vlan-id-list [ vlan-ids ];
            mac-address mac-address;
        }
        service-type type;
    }
}
switch-options {

```



```

    ... same statements as in [edit switch-options] Hierarchy Level ...
  }
  vlan-id (id | all | none);
  vlan-model one-to-one;
  vlan-tags outer <tpid.>vlan-id inner <tpid.>vlan-id;
  [edit vlans] Hierarchy Level on page 150 {
    ... same statements as in [edit vlans] Hierarchy Level ...
  }
  vrf-advertise-selective {
    family {
      inet-mvpn;
      inet6-mvpn;
    }
  }
  vrf-export [ policy-names ];
  vrf-import [ policy-names ];
  vrf-propagate-ttl;
  vrf-table-label;
  vrf-target {
    export community-name;
    import community-name;
  }
  protocols {
    ... protocols-configuration ...
  }
  routing-options {
    ... routing-options-configuration ...
  }
  bridge-domains {
    bridge-domain-name {
      domain-type bridge;
      interface interface-name;
      routing-interface routing-interface-name;
      vlan-id (Bridge Domain or VLAN) (none | all | number);
      vlan-tags outer number inner number;
      bridge-options {
        interface-mac-limit limit {
          packet-action drop;
        }
        interface interface-name {
          interface-mac-limit limit {
            packet-action drop;
          }
        }
        mac-statistics;
        mac-table-size limit {
          packet-action drop;
        }
        no-mac-learning;
        static-mac mac-address;
      }
    }
  }
}

```

With the exception of the **instance-type virtual-switch** statement (which configures a virtual-switch routing instance), you can include the statements at the following hierarchy levels:

- **[edit]**
- **[edit logical-systems *logical-system-name*]**

The **instance-type virtual-switch** statement is not supported at the **[edit logical-systems *logical-system-name*]** hierarchy level.

**Related
Documentation**

- *Routing Instances Overview*
- *Layer 2 Routing Instance Types*
- *Configuring a Layer 2 Virtual Switch*
- *Configuring a Layer 2 Control Protocol Routing Instance*

[edit routing-options] Hierarchy Level

Several statements in the **[edit routing-options]** hierarchy are valid at numerous locations within the hierarchy. To make the complete hierarchy easier to read, the repeated statements are listed in “[Common Routing Options](#)” on page 116 and that section is referenced at the appropriate locations in “[Complete \[edit routing-options\] Hierarchy](#)” on page 118.

- [Common Routing Options on page 116](#)
- [Complete \[edit routing-options\] Hierarchy on page 118](#)

Common Routing Options

This section lists statements that are valid at the following hierarchy levels, and is referenced at those levels in “[Complete \[edit routing-options\] Hierarchy](#)” on page 118 instead of the statements being repeated.

- **[edit routing-options aggregate defaults]**
- **[edit routing-options aggregate route *ip-prefix* </prefix-length>]**
- **[edit routing-options generate defaults]**
- **[edit routing-options generate route *ip-prefix* </prefix-length>]**
- **[edit routing-options static defaults]**
- **[edit routing-options static route *ip-prefix* </prefix-length>]**

The common routing options are as follows:

```
(active | passive);
as-path {
    aggregator as-number address;
    atomic-aggregate;
    origin (egp | igp | incomplete);
```

```
    path path-identifier;  
}  
color metric <type metric-type>;  
color2 metric <type metric-type>;  
community [ community-id no-advertise no-export no-export-subconfed ];  
metric metric <type metric-type>;  
metric2 metric <type metric-type>;  
metric3 metric <type metric-type>;  
metric4 metric <type metric-type>;  
passive;  
preference preference-value <type metric-type>;  
preference2 preference-value <type metric-type>;  
tag metric <type metric-type>;  
tag2 metric <type metric-type>;
```

Complete [edit routing-options] Hierarchy

The statement hierarchy in this section can also be included at the [edit logical-systems *logical-system-name*] hierarchy level.

```
routing-options {
  access {
    route ip-prefix</prefix-length> {
      metric metric;
      next-hop [ addresses ];
      preference preference-value;
      qualified-next-hop address;
      tag route-tag;
    }
  }
  access-internal {
    route ip-prefix</prefix-length> {
      next-hop [ addresses ];
      qualified-next-hop address;
      tag route-tag;
    }
  }
  admin-groups-extended group-name {
    group-value group-identifier;
  }
  admin-groups-extended-range {
    maximum maximum-number;
    minimum minimum-number;
  }
  aggregate {
    defaults {
      ... statements in Common Routing Options on page 116 PLUS ...
      (brief | full);
      discard;
    }
    route ip-prefix</prefix-length> {
      ... statements in Common Routing Options on page 116 PLUS ...
      (brief | full);
      discard;
      policy [ policy-names ];
    }
  }
  auto-export {
    disable;
    family inet {
      disable;
      flow {
        disable;
        rib-group rib-group;
      }
      multicast {
        disable;
        rib-group rib-group;
      }
      unicast {
```

```

        disable;
        rib-group rib-group;
    }
}
family inet6 {
    disable;
    multicast {
        disable;
        rib-group rib-group;
    }
    unicast {
        disable;
        rib-group rib-group;
    }
}
family iso {
    disable;
    unicast {
        disable;
        rib-group rib-group;
    }
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <flag-modifier> <disable>;
}
}
autonomous-system autonomous-system <asdot-notation> <loops number>;
no-bfd-triggered-local-repair;
bgp-orf-cisco-mode;
bmp {
    memory-limit bytes;
    station-address (ip-address | name);
    station-port-number port-number;
    statistics-timeout seconds;
}
confederation as-number members [ as-numbers ];
dynamic-tunnels tunnel-name {
    destination-networks prefix;
    gre;
    rsvp-te entry-name {
        destination-networks network-prefix;
        label-switched-path-template (Multicast) {
            default-template;
            template-name;
        }
    }
    source-address address;
}
fate-sharing {
    group group-name {
        cost value;
        from {
            address <to address>;
        }
    }
}

```

```

    }
  }
  flow {
    firewall-install-disable;
    route name {
      match {
        destination address;
        destination-port [ afs bgp biff bootpc bootps cmd cvspserver dhcp domain eklogin
          ekshell exec finger ftp ftp-data http https ident imap kerberos-sec klogin kpasswd
          krb-prop krbupdate kshell ldap ldp login mobileip-agent mobilip-mn msdp
          netbios-dgm netbios-ns netbios-ssn nfsd nntp ntalk ntp pop3 pptp printer radacct
          radius rip rkinit smtp snmp snmptrap snpp socks ssh sunrpc syslog tacacs
          tacacs-ds talk telnet tftp timed who xdmcp ];
        dscp [ code-points ];
        fragment [ don't-fragment first-fragment is-fragment last-fragment
          not-a-fragment ];
        icmp-code [ communication-prohibited-by-filtering destination-host-prohibited
          destination-host-unknown fragmentation-needed host-precedence-violation
          host-unreachable host-unreachable-for-tos ip-header-bad network-unreachable
          network-unreachable-for-tos port-unreachable precedence-cutoff-in-effect
          protocol-unreachable redirect-for-host redirect-for-network
          redirect-for-tos-and-host redirect-for-tos-and-net required-option-missing
          source-host-isolated source-route-failed ttl-eq-zero-during-reassembly
          ttl-eq-zero-during-transit ];
        icmp-type [ echo-reply echo-request info-reply info-request mask-reply
          mask-request parameter-problem redirect router-advertisement router-solicit
          source-quench time-exceeded timestamp timestamp-reply unreachable ];
        packet-length [ values ];
        port [ ... same values as for the preceding destination-port statement ... ];
        protocol [ ah esp gre icmp igmp ipip ospf pim rsvp sctp tcp udp ];
        source address;
        source-port [ ... same values as for the preceding destination-port statement ... ];
        tcp-flags [ ack fin push rst syn urgent ];
      }
      then {
        (accept | discard);
        community community-name;
        next-term;
        rate-limit value;
        routing-instance routing-instance-name;
        sample;
      }
    }
  }
  term order (legacy | standard);
  validation {
    traceoptions {
      file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
      flag flag <flag-modifier> <disable>;
    }
  }
}
forwarding-table {
  chained-composite-next-hop {
    ingress {
      l3vpn {

```

```

        extended-space;
    }
}
export [ policy-name ];
(indirect-next-hop | no-indirect-next-hop);
(indirect-next-hop-change-acknowledgements |
no-indirect-next-hop-change-acknowledgements;)
krt-nexthop-ack-timeout interval;
unicast-reverse-path (active-paths | feasible-paths);
}
generate {
    defaults {
        ... statements in Common Routing Options on page 116 PLUS ...
        (brief | full);
        discard;
    }
    route ip-prefix</prefix-length> {
        ... statements in Common Routing Options on page 116 PLUS ...
        (brief | full);
        discard;
        policy [ policy-names ];
    }
}
graceful-restart {
    disable;
    restart-duration seconds;
}
host-fast-reroute {
    global-arp-prefix-limit number;
    global-supplementary-blackout-timer minutes;
}
instance-export [ policy-names ];
instance-import [ policy-names ];
interface interface-name { # In the routing-instance only
    arp-prefix-limit number;
    link-protection;
    supplementary-blackout-timer minutes;
}
interface-routes {
    family (inet | inet6) {
        export {
            lan;
            point-to-point;
        }
        import [ policy-names ];
    }
    rib-group {
        inet group-name;
        inet6 group-name;
    }
}
martians {
    ip-prefix</prefix-length> (exact | longer | orlonger |
    prefix-length-range /minimum-prefix-length–/maximum-prefix-length |
    through ip-prefix</prefix-length> | upto /prefix-length> <allow>;

```

```

}
maximum-paths path-limit <log-only | threshold value> <log-interval seconds>;
maximum-prefixes prefix-limit <log-only | threshold value> <log-interval seconds>;
med-igp-update-interval minutes;
multicast {
    ... the multicast subhierarchy appears after the main [edit routing-options] hierarchy ...
}
nonstop-routing;
options {
    mark seconds;
    syslog {
        level level;
        upto level;
    }
}
ppm {
    no-delegate-processing;
}
resolution {
    rib routing-table-name {
        import [ policy-names ];
        resolution-ribs [ routing-table-names ];
    }
    tracefilter [ filter-policy-names ];
    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag <flag-modifier> <disable>;
    }
}
rib routing-table-name {
    access {
        ... same statements as at the [edit routing-options access] hierarchy level ...
    }
    access-internal {
        ... same statements as at the [edit routing-options access-internal] hierarchy level ...
    }
    aggregate {
        ... same statements as at the [edit routing-options aggregate] hierarchy level ...
    }
    generate {
        ... same statements as at the [edit routing-options generate] hierarchy level ...
    }
    martians {
        ip-prefix</prefix-length> (exact | longer | orlonger |
            prefix-length-range /minimum-prefix-length–/maximum-prefix-length |
            through ip-prefix</prefix-length> | upto /prefix-length) <allow>;
    }
    maximum-paths path-limit <log-only | threshold value> <log-interval seconds>;
    maximum-prefixes prefix-limit <log-only | threshold value> <log-interval seconds>;
    static {
        ... same statements as at the [edit routing-options static] hierarchy level ...
    }
}
rib-groups {
    group-name {

```



```

        export-rib table-name;
        import-policy [ policy-names ];
        import-rib [ table-names ];
    }
}
route-distinguisher-id address;
route-record;
router-id address;
source-routing {
    ip;
    ipv6;
}
srlg {
    srlg-name {
        srlg-cost srlg-cost;
        srlg-value srlg-value;
    }
}
static {
    ... the static subhierarchy appears after the main [edit routing-options] hierarchy ...
}
topologies {
    family (inet | inet6) {
        topology topology-name;
    }
}
traceoptions {
    file filename <files number> <size maximum-file-size> <world-readable |
        no-world-readable>;
    flag flag <disable>;
}
validation {
    group group-name {
        max-sessions number;
        session address {
            hold-time seconds;
            local-address local-ip-address;
            port port-number;
            preference number;
            record-lifetime seconds;
            refresh-time seconds;
        }
    }
}
notification-rib value;
static {
    record destination {
        maximum-length prefix-length {
            origin-autonomous-system as-number {
                validation-state (invalid | valid);
            }
        }
    }
}
}
traceoptions {
    file filename <files number> <size size> <world-readable | no-world-readable>;
    flag flag;
}

```

```
    }  
  }  
}  
  
routing-options {  
  multicast {  
    asm-override-ssm;  
    backup-pe-group group-name {  
      backups [ addresses ];  
      local-address address;  
    }  
    flow-map flow-map-name {  
      bandwidth <bps> <adaptive>;  
      forwarding-cache {  
        timeout (never <non-discard-entry-only> | minutes);  
      }  
      policy [ policy-names ];  
      redundant-sources [ addresses ];  
    }  
    forwarding-cache {  
      family (inet | inet6) {  
        threshold {  
          log-warning value;  
          suppress value <reuse value>;  
        }  
        threshold {  
          log-warning value;  
          suppress value <reuse value>;  
        }  
        timeout minutes;  
      }  
    }  
    interface interface-name {  
      maximum-bandwidth bps;  
      no-qos-adjust;  
      reverse-oif-mapping {  
        no-qos-adjust;  
      }  
      subscriber-leave-timer seconds;  
    }  
    pim-to-igmp-proxy {  
      upstream-interface [ interface-names ];  
    }  
    pim-to-mld-proxy {  
      upstream-interface [ interface-names ];  
    }  
    rpf-check-policy [ policy-names ];  
    scope scope-name {  
      interface [ interface-names ];  
      prefix ip-prefix </prefix-length>;  
    }  
    scope-policy [ policy-names ];  
    ssm-groups [ ip-prefix </prefix-length> ];  
    ssm-map ssm-map-name {  
      policy [ policy-names ];  
      source [ addresses ];  
    }  
  }  
}
```

```

    traceoptions {
        file filename <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag <disable>;
    }
}

routing-options {
    static {
        defaults {
            ... statements in Common Routing Options on page 116 PLUS ...
            (install | no-install);
            (readvertise | no-readvertise);
            (resolve | no-resolve);
            (retain | no-retain);
        }
        rib-group group-name;
        route destination-prefix {
            ... statements in Common Routing Options on page 116 PLUS ...
            backup-pe-group group-name;
            bfd-liveness-detection {
                detection-time {
                    threshold milliseconds;
                }
                holddown-interval milliseconds;
                local-address ip-address;
                minimum-interval milliseconds;
                minimum-receive-interval milliseconds;
                minimum-receive-ttl milliseconds;
                multiplier number;
                neighbor address;
                no-adaptation;
                transmit-interval {
                    minimum-interval milliseconds;
                    threshold milliseconds;
                }
                version (1 | automatic);
            }
            (discard | next-hop [ addresses ] | next-table address | receive | reject);
            (install | no-install);
            lsp-next-hop {
                metric metric;
                preference preference;
            }
            p2mp-lsp-next-hop lsp-name {
                metric metric;
                preference preference;
            }
            (readvertise | no-readvertise);
            (resolve | no-resolve);
            (retain | no-retain);
            static-lsp-next-hop lsp-name {
                metric metric;
                preference preference-value;
            }
        }
    }
}

```

```
    }  
  }  
}
```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*

[edit security] Hierarchy Level

Each of the following topics lists the statements at a subhierarchy of the **[edit security]** hierarchy.

- [\[edit security alarms\] Hierarchy Level on page 126](#)
- [\[edit security authentication-key-chains\] Hierarchy Level on page 126](#)
- [\[edit security certificates\] Hierarchy Level on page 127](#)
- [\[edit security ike\] Hierarchy Level on page 127](#)
- [\[edit security ipsec\] Hierarchy Level on page 128](#)
- [\[edit security log\] Hierarchy Level on page 129](#)
- [\[edit security pki\] Hierarchy Level on page 129](#)
- [\[edit security ssh-known-hosts\] Hierarchy Level on page 130](#)
- [\[edit security traceoptions\] Hierarchy Level on page 130](#)

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*

[edit security alarms] Hierarchy Level

```
security {  
  alarms {  
    audible;  
    potential-violation {  
      policy;  
      replay-attacks;  
    }  
  }  
}
```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- [\[edit security\] Hierarchy Level on page 126](#)

[edit security authentication-key-chains] Hierarchy Level

```
security {  
  authentication-key-chains {  
    key-chain key-chain-name {  
      key key {
```

```

        secret secret-data;
        start-time yyyy-mm-dd.hh:mm:ss;
    }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - [\[edit security\] Hierarchy Level on page 126](#)

[\[edit security certificates\] Hierarchy Level](#)

```

security {
  certificates {
    cache-size bytes;
    cache-timeout-negative seconds;
    certification-authority ca-profile-name {
      ca-name ca-identity;
      crl file-name;
      encoding (binary | pem);
      enrollment-url url-name;
      file certificate-filename;
      ldap-url url-name;
    }
    enrollment-retry attempts;
    local certificate-filename {
      certificate-key-string;
      load-key-file URL key-filename;
    }
    maximum-certificates number;
    path-length certificate-path-length;
  }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - [\[edit security\] Hierarchy Level on page 126](#)

[\[edit security ike\] Hierarchy Level](#)

```

security {
  ike {
    policy ike-peer-address {
      description description;
      encoding (binary | pem);
      identity identity-name;
      local-certificate certificate-filename;
      local-key-pair private-public-key-file;
      mode (aggressive | main);
      pre-shared-key (ascii-text key | hexadecimal key);
      proposals [ proposal-names ];
    }
    proposal ike-proposal-name {
      authentication-algorithm (md5 | sha-256 | sha1);
      authentication-method (dsa-signatures | pre-shared-keys | rsa-signatures);
    }
  }
}

```

```

        description description;
        dh-group (group1 | group2 | group5);
        encryption-algorithm (3des-cbc | aes-128-cbc | aes-192-cbc | aes-256-cbc | des-cbc);
        lifetime-seconds seconds;
    }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - [\[edit security\] Hierarchy Level on page 126](#)

[\[edit security ipsec\] Hierarchy Level](#)

```

security {
  ipsec {
    policy ipsec-policy-name {
      description text-description;
      perfect-forward-secrecy {
        keys (group1 | group14 | group2 | group5);
      }
      proposals [ proposal-names ];
    }
    proposal ipsec-proposal-name {
      authentication-algorithm (hmac-md5-96 | hmac-sha-256-128 | hmac-sha1-96);
      description text-description;
      encryption-algorithm (3des-cbc | aes-128-cbc | aes-192-cbc | aes-256-cbc | des-cbc);
      lifetime-seconds seconds;
      protocol (ah | bundle | esp);
    }
    security-association sa-name {
      description text-description;
      dynamic {
        ipsec-policy policy-name;
        replay-window-size (32 | 64);
      }
      manual {
        direction (bidirectional | inbound | outbound) {
          authentication {
            algorithm (hmac-md5-96 | hmac-sha1-96);
            key (ascii-text key | hexadecimal key);
          }
          auxiliary-spi spi-index;
          encryption {
            algorithm (3des-cbc | aes-128-cbc | aes-192-cbc | aes-256-cbc | des-cbc);
            key (ascii-text key | hexadecimal key);
          }
          protocol (ah | bundle | esp);
          spi spi-index;
          encryption {
            algorithm 3des-cbc;
            key ascii-text ascii-text-string;
          }
        }
      }
    }
  }
}

```

```

        mode (transport | tunnel);
    }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - [\[edit security\] Hierarchy Level on page 126](#)

[\[edit security log\] Hierarchy Level](#)

```

security {
  log {
    cache {
      exclude exclude-name {
        destination-address;
        destination-port;
        event-id;
        failure;
        interface-name;
        policy-name;
        process;
        protocol;
        source-address;
        source-port;
        success;
        username;
      }
      limit limit;
    }
  }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - [\[edit security\] Hierarchy Level on page 126](#)

[\[edit security pki\] Hierarchy Level](#)

```

security {
  pki {
    auto-re-enrollment {
      certificate-id certificate-id {
        ca-profile ca-profile-name;
        challenge-password password;
        re-enroll-trigger-time-percentage percentage;
        re-generate-keypair;
        validity-period days;
      }
    }
    ca-profile ca-profile-name {
      administrator {
        email-address email-address;
      }
      ca-identity ca-identifier;
      enrollment {

```

```
        retry attempts;  
        retry-interval seconds;  
        url url;  
    }  
    revocation-check {  
        disable;  
        crl {  
            disable on-download-failure;  
            refresh-interval hours;  
            url url {  
                password password;  
            }  
        }  
    }  
    routing-instance;  
}  
traceoptions {  
    file <filename> <files number> <match regular-expression> <size maximum-file-size>  
    <world-readable | no-world-readable>;  
    flag flag;  
}  
}
```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - [\[edit security\] Hierarchy Level on page 126](#)

[\[edit security ssh-known-hosts\] Hierarchy Level](#)

```
security {  
    ssh-known-hosts {  
        fetch-from-server server-name;  
        host hostname {  
            dsa-key dsa-key;  
            ecdsa-sha2-nistp256-key ecdsa-sha2-nistp256-key;  
            ecdsa-sha2-nistp384-key ecdsa-sha2-nistp384-key;  
            ecdsa-sha2-nistp521-key ecdsa-sha2-nistp521-key;  
            rsa-key rsa-key;  
            rsa1-key rsa1-key;  
        }  
        load-key-file key-file;  
    }  
}
```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - [\[edit security\] Hierarchy Level on page 126](#)

[\[edit security traceoptions\] Hierarchy Level](#)

```
security {  
    traceoptions {  
        file filename <files number> <size size>;  
    }  
}
```



```

    flag all;
    flag database;
    flag general;
    flag ike;
    flag parse;
    flag policy-manager;
    flag routing-socket;
    flag timer;
  }
}

```

- Related Documentation**
- *Notational Conventions Used in Junos OS Configuration Hierarchies*
 - [\[edit security\] Hierarchy Level on page 126](#)

[\[edit snmp\] Hierarchy Level](#)

```

snmp {
  client-list list-name {
    address {
      restrict;
    }
  }
  community community-name {
    authorization (read-only | read-write);
    client-list-name list-name;
    clients {
      address <restrict>;
    }
    logical-system logical-system-name {
      routing-instance instance-name;
    }
    routing-instance instance-name {
      client-list-name list-name;
      clients {
        address <restrict>;
      }
    }
  }
  view view-name;
}
contact contact-information;
description description;
engine-id {
  (local engine-id | use-default-ip-address | use-mac-address);
}
filter-duplicates;
filter-interfaces {
  interfaces
  all-internal-interfaces;
  interface 1;
  interface 2;
}
health-monitor {
  falling-threshold percentage;
  idp {

```

```

        falling-threshold;
        interval seconds;
        rising-threshold;
    }
    interval seconds;
    rising-threshold percentage;
}
interface [ interface-names ];
location location;
logical-system-trap-filter;
name system-name;
nonvolatile {
    commit-delay seconds;
}
rmon {
    alarm index {
        description description;
        falling-event-index index;
        falling-threshold integer;
        falling-threshold-interval seconds;
        interval seconds;
        request-type (get-next-request | get-request | walk-request);
        rising-event-index index;
        rising-threshold integer;
        sample-type (absolute-value | delta-value);
        startup-alarm (falling-alarm | rising-alarm | rising-or-falling alarm);
        syslog-subtag text-string;
        variable oid-variable;
    }
    event index {
        community community-name;
        description description;
        type (log | log-and-trap | none | snmptrap);
    }
    history index {
        bucket-size number;
        interface interface-name;
        interval seconds;
        owner owner-name;
    }
}
routing-instance-access {
    access-list {
        routing-instance-name <restrict>;
    }
}
traceoptions {
    file <files number> <match regular-expression> <size maximum-file-size>
        <world-readable | no-world-readable>;
    flag flag;
    no-remote-trace;
}
trap-group group-name {
    categories {
        authentication;
        chassis;
    }
}

```

```

    chassis-cluster;
    configuration;
    link;
    otn-alarms {
        alarm-name;
    }
    remote-operations;
    rmon-alarm;
    routing;
    services;
    sonet-alarms {
        alarm-name;
    }
    startup;
    vrrp-events;
}
destination-port port-number;
logical-system logical-system-name {
    routing-instance instance-name;
}
routing-instance instance-name;
targets {
    address;
}
version (all | v1 | v2);
}
trap-options {
    agent-address outgoing-interface;
    enterprise-oid;
    logical-system logical-system-name {
        routing-instance instance-name;
    }
    routing-instance instance-name {
        source-address (address | lo0);
    }
    source-address address;
}
v3 {
    ... the v3 subhierarchy appears after the main [edit snmp] hierarchy level ...
}
view view-name {
    oid object-identifier <exclude | include>;
}
}

snmp {
    v3 {
        notify name {
            tag tag-name;
            type (inform | trap);
        }
        notify-filter profile-name {
            oid oid <exclude | include>;
        }
        snmp-community community-index {
            community-name community-name;

```

```

context context-name;
security-name security-name;
tag tag-name;
}
target-address target-address-name {
    address address;
    address-mask address-mask;
    logical-system logical-system-name {
        routing-instance routing-instance-name;
    }
    port port-number;
    retry-count number;
    routing-instance routing-instance-name;
    tag-list tag-list;
    target-parameters parameter-name;
    timeout seconds;
}
target-parameters parameter-name {
    notify-filter profile-name;
    parameters {
        message-processing-model (v1 | v2c | v3);
        security-level (authentication | none | privacy);
        security-model (usm | v1 | v2c);
        security-name security-name;
    }
}
}
usm {
    local-engine {
        user username {
            authentication-md5 {
                authentication-password password;
            }
            authentication-none;
            authentication-sha {
                authentication-password password;
            }
            privacy-3des {
                privacy-password password;
            }
            privacy-aes128 {
                privacy-password password;
            }
            privacy-des {
                privacy-password password;
            }
            privacy-none;
        }
    }
}
remote-engine engine-id {
    user username {
        authentication-md5 {
            authentication-password password;
        }
        authentication-none;
        authentication-sha {
            authentication-password password;
        }
    }
}

```

```

    }
    privacy-3des {
        privacy-password password;
    }
    privacy-aes128 {
        privacy-password password;
    }
    privacy-des {
        privacy-password password;
    }
    privacy-none;
}
}
}
vacm {
    access {
        group group-name {
            context-prefix prefix {
                security-model (any | usm | v1 | v2c) {
                    security-level (authentication | none | privacy) {
                        context-match (exact | prefix);
                        notify-view view-name;
                        read-view view-name;
                        write-view view-name;
                    }
                }
            }
        }
    }
    default-context-prefix prefix {
        security-model (any | usm | v1 | v2c) {
            security-level (authentication | none | privacy) {
                context-match (exact | prefix);
                notify-view view-name;
                read-view view-name;
                write-view view-name;
            }
        }
    }
}
}
}
}
security-to-group {
    security-model (usm | v1 | v2c) {
        security-name security-name {
            group group-name;
        }
    }
}
}
}
}
}
}

```

**Related
Documentation**

- *Notational Conventions Used in Junos OS Configuration Hierarchies*
- *Understanding the Integrated Local Management Interface*

[edit switch-options] Hierarchy Level

```
switch-options {  
  interface interface-name {  
    interface-mac-limit {  
      number-of-addresses;  
      packet-action drop;  
    }  
    no-mac-learning;  
  }  
  interface-mac-limit {  
    number-of-addresses;  
    packet-action drop;  
  }  
  mac-statistics;  
  mac-table-size {  
    number-of-addresses;  
    packet-action drop;  
  }  
  no-mac-learning;  
  service-id number;  
}
```

[edit system] Hierarchy Level

```
system {  
  accounting {  
    destination {  
      radius {  
        server {  
          server-address {  
            accounting-port port-number;  
            max-outstanding-requests  
            port port-number;  
            retry number;  
            secret password;  
            source-address address;  
            timeout seconds;  
          }  
        }  
      }  
    }  
  }  
  tacplus {  
    server {  
      server-address {  
        port port-number;  
        secret password;  
        single-connection;  
        source-address address;  
        timeout seconds;  
      }  
    }  
  }  
  events [ change-log interactive-commands login ];
```

```

}
allow-6pe-traceroute;
allow-v4mapped-packets;
archival {
  configuration {
    archive-sites {
      ftp://<username>:<password>@<host>:<port>/<url-path>;
      scp://<username>:<password>@<host>:<port>/<url-path>;
    }
    transfer-interval interval;
    transfer-on-commit;
  }
}
arp {
  aging-timer minutes;
  gratuitous-arp-delay;
  gratuitous-arp-on-ifup;
  interfaces {
    logical-interface-name {
      aging-timer minutes;
    }
  }
  passive-learning;
  purging;
}
authentication-order [ authentication-methods ];
auto-configuration {
  traceoptions {
    file <filename> <files number> <match regular-expression> <size size>
      <world-readable | no-world-readable>;
    flag <all | auth | configuration | ;interfaces | io | rtsock | ui>
    level level;
    no-remote-trace;
  }
}
backup-router address <destination [ destination-addresses ]>;
commit {
  fast-synchronize;
  synchronize;
  server {
    commit-interval number;
    days-to-keep-error-logs number;
    maximum-aggregate-pool number;
    maximum-entries number;
    traceoptions {
      file <filename> <files number> <match regular-expression> <size size>
        <world-readable | no-world-readable>;
      flag <all | auth | configuration | ;interfaces | io | rtsock | ui>
      level level;
      no-remote-trace;
    }
  }
}
}
(compress-configuration-files | no-compress-configuration-files);
ddos-protection {
  global {

```

```

    disable-fpc;
    disable-logging;
    disable-routing-engine;
    flow-detection;
    flow-report-rate;
    violation-report-rate;
}
protocols protocol-group (aggregate | packet-type) {
    bandwidth packets-per-second;
    burst size;
    disable-fpc;
    disable-logging;
    disable-routing-engine;
    fpc {
        bandwidth-scale percentage;
        burst-scale percentage;
        disable-fpc;
    }
    priority level;
    recover-time seconds;
    flow-detection {
        flow-detect-time detect-period;
        no-flow-logging;
        timeout-active-flows enable-period;
        flow-level-bandwidth;
        flow-level-control (all | keep-all | police);
        flow-detection-mode (always-on | automatic | disabled);
        physical-interface;
        flow-recover-time recover-period;
        flow-timeout-time timeout-period;
        subscriber;
    }
}
}
traceoptions{
    file filename <files number> <match regular-expression> <size maximum-file-size>
        <world-readable | no-world-readable>;
    flag flag;
    level (all | error | info | notice | verbose | warning);
    no-remote-trace;
}
}
default-address-selection;
diag-port-authentication (encrypted-password "password" | plain-text-password);
dynamic-profile-options {
    versioning;
}
domain-name domain-name;
domain-search [ domain-list ];
donot-disable-ip6op-ondad;
extensions {
    providers {
        provider-id {
            license-type license deployment-scope [ deployments ];
        }
    }
}
resource-limits {

```



```

package package-name {
  resources {
    cpu {
      priority number;
      time seconds;
    }
    file {
      core-size bytes;
      open number;
      size bytes;
    }
    memory {
      data-size bytes;
      locked-in bytes;
      resident-set-size bytes;
      socket-buffers bytes;
      stack-size bytes;
    }
  }
}
process process-ui-name {
  resources {
    cpu {
      priority number;
      time seconds;
    }
    file {
      core-size bytes;
      open number;
      size bytes;
    }
    memory {
      data-size bytes;
      locked-in bytes;
      resident-set-size bytes;
      socket-buffers bytes;
      stack-size bytes;
    }
  }
}
}
fips {
  level level;
}
host-name hostname;
inet6-backup-router ipv6-address <destination address>;
internet-options {
  (gre-path-mtu-discovery | no-gre-path-mtu-discovery);
  icmpv4-rate-limit bucket-size number packet-rate rate;
  icmpv6-rate-limit bucket-size number packet-rate rate;
  (ipip-path-mtu-discovery | no-ipip-path-mtu-discovery);
  (ipv6-path-mtu-discovery | noipv6-path-mtu-discovery);
  ipv6-path-mtu-discovery-timeout;
  no-tcp-rfc1323-paws;
  no-tcp-rfc1323;
}

```

```

(path-mtu-discovery | no-path-mtu-discovery);
source-port upper-limit port-number;
(source-quench | no-source-quench);
tcp-drop-synfin-set;
}
kernel-replication;
license {
  autoupdate {
    url URL;
    password password;
  }
  renew before-expiration number;
  interval number
  traceoptions {
    file <filename> <files number> <size maximum-file-size> <world-readable |
      no-world-readable>;
    flag flag;
    no-remote-trace;
  }
}
location {
  altitude feet;
  building name;
  country-code code;
  floor number;
  hcoord horizontal-coordinate;
  lata service-area;
  latitude degrees;
  longitude degrees;
  npa-nxx number;
  postal-code postal-code;
  rack number;
  vcoord vertical-coordinate;
}
login {
  announcement "text";
  class class-name {
    access-end "hh<:mm:<ss>>";
    access-start "hh<:mm:<ss>>";
    allow-commands "regular-expression";
    ( allow-configuration | allow-configuration-regexps ) "regular expression 1" "regular
      expression 2";
    allowed-days [ sunday monday tuesday wednesday thursday friday saturday ];
    configuration-breadcrumbs;
    deny-commands "regular-expression";
    ( deny-configuration | deny-configuration-regexps ) "regular expression 1" "regular
      expression 2";
    idle-timeout minutes;
    logical-system logical-system-name;
    login-alarms;
    login-script filename;
    login-tip;
    permissions [ permissions ];
    security-role [ security-role ];
  }
  deny-sources (address address | apply-groups | apply-groups-except) ;

```

```

message "text";
password {
    change-type (character-sets | set-transitions);
    format (des | md5 | sha1);
    maximum-length length;
    minimum-changes number;
    minimum-length length;
    minimum-lower-cases number;
    minimum-numeric number;
    minimum-punctuations number;
    minimum-upper-cases number;
}
retry-options {
    backoff-factor number;
    backoff-threshold number;
    maximum-time number;
    minimum-time number;
    tries-before-disconnect number;
}
user username {
    authentication {
        (encrypted-password "password" | plain-text-password);
        load-key-file filename;
        ssh-dsa "public-key" <from hostname>;
        ssh-ecdsa "public-key" <from hostname>;
        ssh-rsa "public-key" <from hostname>;
    }
    class class-name;
    full-name "complete-name";
    uid uid-value;
}
}
max-configurations-on-flash number;
mirror-flash-on-disk;
name-server {
    address;
}
nd-maxmcast-solicit
nd-retransmit-timer
no-multicast-echo;
no-neighbor-learn;;
no-ping-record-route;
no-ping-time-stamp;
no-redirects;
no-redirects-ipv6;
ntp {
    authentication-key key-number type md5 value password;
    boot-server address;
    broadcast <address> <key key-number> <ttl value> <version value>;
    broadcast-client;
    multicast-client <address>;
    peer address <key key-number> <prefer> <version value>;
    server address <key key-number> <prefer> <version value>;
    source-address source-address;
    trusted-key [ key-numbers ];
}

```

```
pic-console-authentication {
  (encrypted-password "encrypted-password" | plain-text-password);
}
ports {
  auxiliary {
    disable;
    insecure;
    type (ansi | small-xterm | vt100 | xterm);
    port-type (mini-usb | rj45);
  }
  console {
    disable;
    insecure;
    log-out-on-disconnect;
    type (ansi | small-xterm | vt100 | xterm);
  }
}
processes {
  process-name (enable | disable) failover (alternate-media | other-routing-engine);
  command path;
  timeout seconds;
}
proxy {
  password password;
  port port-number;
  server (hostname | ip-address);
  username username;
}
radius-options {
  attributes {
    nas-ip-address address;
  }
  password-protocol mschap-v2;
}
radius-server {
  server-address {
    accounting-port port-number;
    max-outstanding-requests number;
    port port-number;
    retry number;
    secret password;
    source-address source-address;
    timeout seconds;
  }
}
root-authentication {
  (encrypted-password "password" | plain-text-password);
  load-key-file filename;
  ssh-dsa "public-key" <from hostname>;
  ssh-ecdsa "public-key" <from hostname>;
  ssh-rsa "public-key" <from hostname>;
}
(saved-core-context | no-saved-core-context);
saved-core-files number;
scripts {
```

```

load-scripts-from-flash;
commit {
    allow-transients;
    direct-access;
    file filename.xml {
        checksum (md5 | sha-256 | sha1) hash;
        optional;
        refresh;
        refresh-from url;
        source url;
    }
    max-datasize
    refresh;
    refresh-from url;
    traceoptions {
        file <filename> <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag;
        no-remote-trace;
    }
}
op {
    file filename.xml {
        arguments {
            argument-name {
                description descriptive-text;
            }
        }
        checksum (md5 | sha-256 | sha1) hash;
        command filename-alias;
        description descriptive-text;
        refresh;
        refresh-from url;
        source url;
    }
    max-datasize
    no-allow-url
    refresh;
    refresh-from url;
    traceoptions {
        file <filename> <files number> <size maximum-file-size> <world-readable |
            no-world-readable>;
        flag flag;
        no-remote-trace;
    }
}
}
static-host-mapping {
    hostname {
        alias [ aliases ];
        inet [ addresses ];
        inet6 [ addresses ];
        sysid system-identifier;
    }
}
syslog {

```

```

allow-duplicates;
archive <binary-data | no-binary-data> <files number> <size size> <world-readable |
  no-world-readable>;
console {
  any | authorization | change-log | conflict-log | daemon | dfc | external | firewall | ftp
    | interactive-commands | kernel | ntp | pfe | security | user) (alert | any | critical |
    emergency | error | info | none | notice | warning);
}
file filename {
  facility severity;
  allow-duplicates;
  any (alert | any | critical | emergency | error | info | none | notice | warning);
  archive <archive-sites {ftp-url <password password>}> <files number> <size size>
    <start-time "YYYY-MM-DD.hh:mm"> <transfer-interval minutes> <world-readable |
    no-world-readable>;
  authorization (alert | any | critical | emergency | error | info | none | notice | warning);
  change-log (alert | any | critical | emergency | error | info | none | notice | warning);
  conflict-log (alert | any | critical | emergency | error | info | none | notice | warning);
  daemon (alert | any | critical | emergency | error | info | none | notice | warning);
  dfc (alert | any | critical | emergency | error | info | none | notice | warning);
  explicit-priority;
  external (alert | any | critical | emergency | error | info | none | notice | warning);
  firewall (alert | any | critical | emergency | error | info | none | notice | warning);
  ftp (alert | any | critical | emergency | error | info | none | notice | warning);
  interactive-commands (alert | any | critical | emergency | error | info | none | notice
    | warning);
  kernel (alert | any | critical | emergency | error | info | none | notice | warning);
  match "regular-expression";
  ntp (alert | any | critical | emergency | error | info | none | notice | warning);
  pfe (alert | any | critical | emergency | error | info | none | notice | warning);
  security (alert | any | critical | emergency | error | info | none | notice | warning);
  structured-data {
    brief
  }
}
host (hostname | other-routing-engine | scc-master) {
  facility severity;
  authorization (alert | any | critical | emergency | error | info | none | notice | warning);
  change-log (alert | any | critical | emergency | error | info | none | notice | warning);
  conflict-log (alert | any | critical | emergency | error | info | none | notice | warning);
  daemon (alert | any | critical | emergency | error | info | none | notice | warning);
  dfc (alert | any | critical | emergency | error | info | none | notice | warning);
  explicit-priority;
  external (alert | any | critical | emergency | error | info | none | notice | warning);
  facility-override facility;
  firewall (alert | any | critical | emergency | error | info | none | notice | warning);
  ftp (alert | any | critical | emergency | error | info | none | notice | warning);
  interactive-commands (alert | any | critical | emergency | error | info | none | notice
    | warning);
  kernel (alert | any | critical | emergency | error | info | none | notice | warning);
  log-prefix string;
  match "regular-expression";
  ntp (alert | any | critical | emergency | error | info | none | notice | warning);
  pfe (alert | any | critical | emergency | error | info | none | notice | warning);
  security (alert | any | critical | emergency | error | info | none | notice | warning);
  source-address source-address;
  structured-data {

```

```

    brief
    user (username | *) {
    }
    log-rotate-frequency minutes;
    server;
    source-address address;
    time-format (year | millisecond | year millisecond);
    user (username | *) {
        facility severity;
        match "regular-expression";
    }
}
tacplus-options {
    (exclude-cmd-attribute | no-cmd-attribute-value);
    service-name service-name;
}
tacplus-server {
    server-address {
        port port-number;
        secret password;
        single-connection;
        source-address source-address;
        timeout seconds;
    }
}
time-zone (GMT | GMT+hour-offset | GMT-hour-offset | zone-name);
tracing destination-override syslog host address;
use-imported-time-zones;
}
}
system {
    services {
        database-replication {
            traceoptions {
                file <filename> <files number> <match regular-expression>
                <size maximum-file-size> <world-readable | no-world-readable>;
                flag flag;
                no-remote-trace;
            }
        }
        dhcp-local-server {
            authentication {
                password password;
                username-include {
                    circuit-type;
                    delimiter delimiter-character;
                    domain-name domain-name;
                    logical-system-name;
                    mac-address;
                    option-60;
                    option-82 <circuit-id> <remote-id>;
                    routing-instance-name;
                    user-prefix user-prefix;
                }
            }
        }
        OBSOLETE – duplicate-clients-on-interface;
    }
}

```

```

dynamic-profile (profile-name | junos-default-profile) <aggregate-clients <merge |
  replace> | use-primary primary-profile-name>;
forward-snooped-clients (all-interfaces | configured-interfaces |
  non-configured-interfaces);
group group-name {
  dynamic-profile (profile-name | junos-default-profile) <aggregate-clients <merge |
    replace> | use-primary primary-profile-name>;
  interface interface-name {
    exclude;
    overrides {
      ...same statements as at the [edit system services dhcp-local-server overrides]
        hierarchy level ...
    }
    trace;
    upto upto-interface-name;
  }
}
overrides {
  client-discover-match <option60-and-option82>;
  interface-client-limit number;
  OBSOLETE - no-arp;
  process-inform {
    pool pool-name;
  }
}
pool-match-order {
  external-authority;
  ip-address-first;
  option-82;
}
reconfigure {
  attempts attempt-count;
  clear-on-abort;
  strict;
  timeout timeout-value;
  token token-value;
  trigger {
    radius-disconnect;
  }
}
}
dhcpv4-profiles profile-name {
  bind-interface interface-name;
  dead-server-retry-interval interval-in-seconds;
  dead-server-successive-retry-attempt number-of-attempts;
  dhcp-server-selection-algorithm (highest-priority-server | round-robin);
  lease-time time-in-seconds;
  pool-name pool-name;
  retransmission-attempt number-of-attempts;
  retransmission-interval interval-in-seconds;
  servers ip-address {
    priority value;
  }
}
}
dhcpv6-profiles profile-name {
  bind-interface interface-name;

```



```

        lease-time time-in-seconds;
        pool-name pool-name;
        retransmission-attempt number-of-attempts;
        retransmission-interval interval-in-seconds;
    }
}
finger {
    connection-limit limit;
    rate-limit limit;
}
flow-tap-dtcp {
    ssh {
        connection-limit limit;
        rate-limit limit;
    }
}
ftp {
    connection-limit limit;
    rate-limit limit;
}
local-policy-decision-function {
    statistics {
        aacl-statistics-profile profile-name {
            aacl-fields {
                address;
                all-fields;
                application;
                application-group;
                input-bytes;
                input-interface;
                input-packets;
                ipv6-address
                ipv6-prefix-length
                mask;
                output-bytes;
                output-packets;
                subscriber-name;
                timestamp;
                vrf-name;
            }
            file filename;
            record-type (delta | interim);
        }
        file filename {
            archive-sites {
                url;
            }
            files number;
            size bytes;
            transfer-interval minutes;
        }
        record-type (data | interim);
    }
}
traceoptions {
    file <filename> <files number> <match regular-expression>
        <size maximum-file-size> <world-readable | no-world-readable>;

```

```
        flag flag;  
        no-remote-trace;  
    }  
}  
netconf {  
    ssh {  
        connection-limit limit;  
        port port;  
        rate-limit limit;  
    }  
    traceoptions {  
        file <filename> <files number> <match regular-expression> <size size>  
        <world-readable | no-world-readable>;  
        flag flag;  
        no-remote-trace;  
        on-demand;  
    }  
}  
outbound-ssh {  
    client client-id {  
        address {  
            port port-number;  
            retry number;  
            timeout seconds;  
        }  
        device-id device-id;  
        keep-alive {  
            retry number;  
            timeout seconds;  
        }  
        reconnect-strategy (in-order | sticky);  
        secret secret;  
        services netconf;  
    }  
    traceoptions {  
        file <filename> <files number> <match regular-expression>  
        <size maximum-file-size> <world-readable | no-world-readable>;  
        flag flag;  
        no-remote-trace;  
    }  
}  
resource-monitor {  
    resource-category jtree {  
        resource-type free-dwords {  
            low-watermark number;  
            high-watermark number;  
        }  
        resource-type free-pages {  
            low-watermark number;  
            high-watermark number;  
        }  
    }  
}  
no-throttle;  
no-logging;  
high-threshold number;  
traceoptions {
```

```

        file filename <files number> <match regular-expression> <size maximum-file-size>
          <world-readable | no-world-readable>;
        flag flag;
        no-remote-trace;
      }
    }
  service-deployment {
    local-certificate certificate-name;
    servers {
      server-address {
        port port-number;
        security-options {
          (ssl3 | tls);
        }
        user username;
      }
    }
    source-address source-address;
    traceoptions {
      flag flag;
    }
  }
  ssh {
    ciphers [ cipher-1 cipher-2 cipher-3 ... ]
    client-alive-count-max seconds;
    client-alive-interval seconds;
    connection-limit limit;
    hostkey-algorithm limit;
    key-exchange limit;
    macs limit;
    max-sessions-per-connection number;
    no-tcp-forwarding;
    protocol-version [v1 v2];
    rate-limit limit;
    root-login (allow | deny | deny-password);
  }
  subscriber-management {
    enforce-strict-scale-limit-license;
    gres-route-flush-delay;
    maintain-subscriber {
      interface-delete;
    }
    traceoptions {
      file filename <files number> <match regular-expression> <size maximum-file-size>
        <world-readable | no-world-readable>;
      flag flag;
      no-remote-trace;
    }
  }
  traceoptions {
    file filename <files number> <match regular-expression> <size maximum-file-size>
      <world-readable | no-world-readable>;
    flag flag;
    no-remote-trace;
  }
  telnet {

```

```
        connection-limit limit;  
        rate-limit limit;  
    }  
    tftp-server {  
        connection-limit limit;  
        rate-limit limit;  
    }  
    xnm-clear-text {  
        connection-limit limit;  
        rate-limit limit;  
    }  
    xnm-ssl {  
        connection-limit limit;  
        local-certificate certificate-name;  
        rate-limit limit;  
        ssl-renegotiation ;  
    }  
}
```

Related Documentation • [Notational Conventions Used in Junos OS Configuration Hierarchies](#)

[\[edit vlans\] Hierarchy Level](#)

```
vlans {  
    vlan-name {  
        description text-description;  
        domain-type bridge;  
        forwarding-options {  
            dhcp-security {  
                arp-inspection;  
                group name {  
                    interface interface-name {  
                        static-ip ip-address {  
                            mac mac-address;  
                        }  
                    }  
                }  
            }  
            overrides {  
                no-option82;  
                trusted;  
                untrusted;  
            }  
        }  
        ip-source-guard;  
        no-dhcp-snooping;  
        option-82 {  
            circuit-id {  
                prefix {  
                    host-name;  
                    logical-system-name;  
                    routing-instance-name;  
                }  
                use-interface-description (device | logical);  
                use-vlan-id;  
            }  
        }  
    }  
}
```

```

        remote-id {
            host-name;
            use-interface-description (device | logical);
            use-string string;
        }
        vendor-id {
            use-string string;
        }
    }
}
filter {
    input filter-name;
    output filter-name;
}
flood {
    input filter-name;
}
}
interface interface-name;
l3-interface interface-name;
mcae-mac-synchronize;
multicast-snooping-options {
    ... same statements as in multicast-snooping-options ...
}
no-irb-layer-2-copy;
service-id number;
switch-options {
    ... the switch-options subhierarchy appears after the main [edit vlans vlan-name]
    hierarchy ...
}
vlan-id (all | none | number);
vlan-id-list [ vlan-id-numbers ];
vlan-tags outer <tpid.>vlan-id <inner <tpid.>vlan-id>;
}

vlan-name {
    switch-options {
        interface interface-name {
            interface-mac-limit {
                limit;
                packet-action drop;
            }
            no-mac-learning;
            static-mac mac-address {
                vlan-id number;
            }
        }
    }
    interface-mac-limit {
        limit;
        packet-action drop;
    }
    mac-statistics;
    mac-table-size {
        number-of-addresses;
        packet-action drop;
    }
}

```

```
        no-mac-learning;  
    }  
}
```

PART 3

Administration

- [Operational Commands: CLI Interface on page 155](#)
- [Operational Commands: Software Installation on page 175](#)
- [Operational Commands: System Monitoring on page 233](#)

CHAPTER 6

Operational Commands: CLI Interface

- `set cli complete-on-space`
- `set cli directory`
- `set cli idle-timeout`
- `set cli prompt`
- `set cli restart-on-upgrade`
- `set cli screen-length`
- `set cli screen-width`
- `set cli terminal`
- `set cli timestamp`
- `show cli`
- `show cli authorization`
- `show cli directory`
- `show cli history`
- `start shell`

set cli complete-on-space

Syntax	set cli complete-on-space (off on)
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the command-line interface (CLI) to complete a partial command entry when you type a space or a tab. This is the default behavior of the CLI.
Options	off —Turn off command completion. on —Allow either a space or a tab to be used for command completion.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• show cli on page 165
List of Sample Output	set cli complete-on-space on page 156
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli complete-on-space

In the following example, pressing the Spacebar changes the partial command entry from **com** to **complete-on-space**. The example shows how adding the keyword **off** at the end of the command disables command completion.

```
user@host> set cli com<Space>
user@host>set cli complete-on-space off
Disabling complete-on-space
```

set cli directory

Syntax	set cli directory <i>directory</i>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the current working directory.
Options	<i>directory</i> —Pathname of the working directory.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• show cli directory on page 171
List of Sample Output	set cli directory on page 157
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli directory

```
user@host> set cli directory /var/home/regress
Current directory: /var/home/regress
```

set cli idle-timeout

Syntax	set cli idle-timeout < <i>minutes</i> >
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the maximum time that an individual session can be idle before the user is logged off the router or switch.
Options	<i>minutes</i> —(Optional) Maximum idle time. The range of values, in minutes, is 0 through 100,000. If you do not issue this command, and the user's login class does not specify this value, the user is never forced off the system after extended idle times. Setting the value to 0 disables the timeout.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• show cli on page 165
List of Sample Output	set cli idle-timeout on page 158
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli idle-timeout

```
user@host> set cli idle-timeout 60
Idle timeout set to 60 minutes
```

set cli prompt

Syntax	set cli prompt <i>string</i>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the prompt so that it is displayed within the CLI.
Options	<i>string</i> —CLI prompt string. To include spaces in the prompt, enclose the string in quotation marks. By default, the string is <i>username@hostname</i> .
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• show cli on page 165
List of Sample Output	set cli prompt on page 159
Output Fields	When you enter this command, the new CLI prompt is displayed.

Sample Output

set cli prompt

```
user@host> set cli prompt lab1-router>
lab1-router>
```

set cli restart-on-upgrade

Syntax	set cli restart-on-upgrade string (off on)
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	For an individual session, set the CLI to prompt you to restart the router or switch after upgrading the software.
Options	off —Disables the prompt. on —Enables the prompt.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• show cli on page 165
List of Sample Output	set cli restart-on-upgrade on page 160
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli restart-on-upgrade

```
user@host> set cli restart-on-upgrade on
Enabling restart-on-upgrade
```

set cli screen-length

Syntax	<code>set cli screen-length <i>length</i></code>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set terminal screen length.
Options	<i>length</i> —Number of lines of text that the terminal screen displays (0 through 10,000). The default is 24.
Additional Information	The point at which the ---(more)--- prompt appears on the screen is a function of this setting and the settings for the <code>set cli screen-width</code> and <code>set cli terminal</code> commands.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • <i>CLI User Interface Overview</i> • set cli screen-width on page 162 • set cli terminal on page 163 • show cli on page 165
List of Sample Output	set cli screen-length on page 161
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli screen-length

```
user@host> set cli screen-length 75
Screen length set to 75
```

set cli screen-width

Syntax	set cli screen-width <i>width</i>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the terminal screen width.
Options	<i>width</i> —Number of characters (0 through 1024) in a line. The default is 80.
Additional Information	The point at which the ---(more)--- prompt appears on the screen is a function of this setting and the settings for the set cli screen-length and set cli terminal commands.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• set cli screen-length on page 161• set cli terminal on page 163• show cli on page 165
List of Sample Output	set cli screen-width on page 162
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli screen-width

```
user@host> set cli screen-width
Screen width set to 132
```


set cli terminal


Syntax	<code>set cli terminal <i>terminal-type</i></code>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set the terminal type.
Options	<p><i>terminal-type</i>—Type of terminal that is connected to the Ethernet management port:</p> <ul style="list-style-type: none"> • ansi—ANSI-compatible terminal (80 characters by 24 lines) • small-xterm—Small xterm window (80 characters by 24 lines) • vt100—VT100-compatible terminal (80 characters by 24 lines) • xterm—Large xterm window (80 characters by 65 lines)
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • <i>CLI User Interface Overview</i> • set cli screen-length on page 161 • set cli screen-width on page 162 • show cli on page 165
List of Sample Output	set cli terminal on page 163
Output Fields	This command provides no output.

Sample Output

set cli terminal

```
user@host> set cli terminal xterm
```

set cli timestamp

Syntax	set cli timestamp (format <i>timestamp-format</i> disable)
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches.
Description	Set a timestamp for CLI output.
Options	<p>format <i>timestamp-format</i>—Set the date and time format for the timestamp. The timestamp format you specify can include the following placeholders in any order:</p> <ul style="list-style-type: none">• %m—Two-digit month• %d—Two-digit date• %T—Six-digit hour, minute, and seconds <p>disable—Remove the timestamp from the CLI.</p>
<div>NOTE: A timestamp is displayed by default when no command output is generated.</div>	
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none">• <i>CLI User Interface Overview</i>• show cli on page 165
List of Sample Output	set cli timestamp on page 164
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

set cli timestamp

```
user@host> set cli timestamp format '%m-%d-%T'
'04-21-17:39:13'
CLI timestamp set to: '%m-%d-%T'
```

show cli

List of Syntax	Syntax on page 165 Syntax (QFX Series and OCX Series) on page 165
Syntax	show cli
Syntax (QFX Series and OCX Series)	show cli <authorization> <directory> <history <i>count</i> >
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display configured CLI settings.
Options	This command has no options.
Required Privilege Level	view
List of Sample Output	show cli on page 166
Output Fields	Table 10 on page 165 lists the output fields for the show cli command. Output fields are listed in the approximate order in which they appear.

Table 10: show cli Output Fields

Field Name	Field Description
CLI complete-on-space	Capability to complete a partial command entry when you type a space or a tab: on or off .
CLI idle-timeout	Maximum time that an individual session can be idle before the user is logged out from the router or switch. When this feature is enabled, the number of minutes is displayed. Otherwise, the state is disabled .
CLI restart-on-upgrade	CLI is set to prompt you to restart the router or switch after upgrading the software: on or off .
CLI screen-length	Number of lines of text that the terminal screen displays.
CLI screen-width	Number of characters in a line on the terminal screen.
CLI terminal	Terminal type.
CLI is operating in	Mode: enhanced .
CLI timestamp	Date and time format for the timestamp. If the timestamp is not set, the state is disabled .
CLI working directory	Pathname of the working directory.

Sample Output

show cli

```
user@host> show cli
CLI complete-on-space set to on
CLI idle-timeout disabled
CLI restart-on-upgrade set to on
CLI screen-length set to 47
CLI screen-width set to 132
CLI terminal is 'vt100'
CLI is operating in enhanced mode
CLI timestamp disabled
CLI working directory is '/var/home/regress'
```

show cli authorization

Syntax	show cli authorization
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display the permissions for the current user.
Options	This command has no options.
Required Privilege Level	view
List of Sample Output	show cli authorization on page 169
Output Fields	Table 11 on page 167 lists the output fields for the show cli authorization command. In the table, all possible permissions are displayed and output fields are listed in alphabetical order.

Table 11: show cli authorization Output Fields

Field Name	Field Description
access	Can view access configuration information.
access-control	Can modify access configuration.
admin	Can view user account information.
admin-control	Can modify user account information.
clear	Can clear learned network information.
configure	Can enter configuration mode.
control	Can modify any configuration.
edit	Can edit configuration files.
field	Reserved for field (debugging) support.
firewall	Can view firewall configuration information.
firewall-control	Can modify firewall configuration information.
floppy	Can read from and write to removable media.
flow-tap	Can view flow-tap configuration information.

Table 11: show cli authorization Output Fields (*continued*)

Field Name	Field Description
flow-tap-control	Can configure flow-tap configuration information.
idp-profiler-operation	Can configure Profiler data.
interface	Can view interface configuration information.
interface-control	Can modify interface configuration information.
maintenance	Can perform system maintenance.
network	Can access the network by entering the ping , ssh , telnet , and traceroute commands.
pgcp-session-mirroring	Can view Packet Gateway Control Protocol session mirroring configuration.
pgcp-session-mirroring-control	Can modify Packet Gateway Control Protocol session mirroring configuration all-control.
reset	Can reset or restart interfaces and system processes.
rollback	Can roll back to previous configurations.
routing	Can view routing configuration information.
routing-control	Can modify routing configuration information.
secret	Can view passwords and authentication keys in the configuration.
secret-control	Can modify passwords and authentication keys in the configuration.
security	Can view security configuration information.
security-control	Can modify security configuration information.
shell	Can start a local shell.
snmp	Can view SNMP configuration information.
snmp-control	Can modify SNMP configuration information.
system	Can view system configuration information.
system-control	Can modify system configuration information.
trace	Can view trace file settings information.

Table 11: show cli authorization Output Fields (*continued*)

Field Name	Field Description
trace-control	Can modify trace file settings information.
view	Can view current values and statistics.
view-configuration	Can view all configuration information (not including secrets).

Sample Output

show cli authorization

```

user@host> show cli authorization
Current user: 'remote' login: 'user' class ''
Permissions:
  admin      -- Can view user accounts
  admin-control-- Can modify user accounts
  clear      -- Can clear learned network information
  configure  -- Can enter configuration mode
  control    -- Can modify any configuration
  edit       -- Can edit full files
  field      -- Special for field (debug) support
  floppy     -- Can read and write from the floppy
  interface  -- Can view interface configuration
  interface-control-- Can modify interface configuration
  network    -- Can access the network
  reset      -- Can reset/restart interfaces and daemons
  routing    -- Can view routing configuration
  routing-control-- Can modify routing configuration
  shell      -- Can start a local shell
  snmp       -- Can view SNMP configuration
  snmp-control-- Can modify SNMP configuration
  system     -- Can view system configuration
  system-control-- Can modify system configuration
  trace      -- Can view trace file settings
  trace-control-- Can modify trace file settings
  view       -- Can view current values and statistics
  maintenance -- Can become the super-user
  firewall   -- Can view firewall configuration
  firewall-control-- Can modify firewall configuration
  secret     -- Can view secret configuration
  secret-control-- Can modify secret configuration
  rollback   -- Can rollback to previous configurations
  security   -- Can view security configuration
  security-control-- Can modify security configuration
  access     -- Can view access configuration
  access-control-- Can modify access configuration
  view-configuration-- Can view all configuration (not including secrets)
  flow-tap   -- Can view flow-tap configuration
  flow-tap-control-- Can configure flow-tap service
Individual command authorization:
  Allow regular expression: none
  Deny regular expression: none
  Allow configuration regular expression: none
  Deny configuration regular expression: none

```

show cli directory

Syntax	show cli directory
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display the current working directory.
Options	This command has no options.
Required Privilege Level	view
List of Sample Output	show cli directory on page 171
Output Fields	Table 12 on page 171 lists the output fields for the show cli directory command. Output fields are listed in the approximate order in which they appear.

Table 12: show cli directory Output Fields

Field Name	Field Description
Current directory	Pathname of the current working directory.

Sample Output

show cli directory

```
user@host> show cli directory
Current directory: /var/home/regress
```

show cli history

Syntax	<code>show cli history</code> <code><count></code>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display a list of previous CLI commands.
Options	none —Display all previous CLI commands. count —(Optional) Maximum number of commands to display.
Required Privilege Level	view
List of Sample Output	show cli history on page 172
Output Fields	Table 13 on page 172 lists the output fields for the show cli history command. Output fields are listed in the approximate order in which they appear.

Table 13: show cli history Output Fields


Field Name	Field Description
<i>timestamp</i>	Time at which the command was entered.
<i>command-syntax</i>	Command that was entered.

Sample Output

show cli history

```
user@host> show cli history
11:14:14 -- show arp
11:22:10 -- show cli authorization
11:27:12 -- show cli history
```

start shell

Syntax	<code>start shell (csh sh)</code> <code><user username></code>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Exit from the CLI environment and create a UNIX-level shell. To return to the CLI, type exit from the shell.
<div>  NOTE: <ul style="list-style-type: none"> To issue this command, the user must have the required login access privileges configured by including the <code>permissions</code> statement at the <code>[edit system login class class-name]</code> hierarchy level. UNIX wheel group membership or permissions are no longer required to issue this command. </div>	
Options	<p>csh—Create a UNIX C shell.</p> <p>sh—Create a UNIX Bourne shell.</p> <p>user username—(Optional) Start the shell as another user.</p>
Additional Information	<p>When you are in the shell, the shell prompt has the following format:</p> <p><code>username@hostname%</code></p> <p>An example of the prompt is:</p> <p><code>root@host%</code></p>
Required Privilege Level	shell and maintenance
List of Sample Output	start shell csh on page 173
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

start shell csh

```
user@host> start shell csh
%
exit
%
```

```
username@hostname% start shell sh
%

exit
user@host>
```

CHAPTER 7

Operational Commands: Software Installation

- request system license add
- request system license delete
- request system license save
- request system reboot
- request system snapshot
- request system software add
- request system software delete
- request system software rollback
- request system software validate
- request system zeroize
- show system boot-messages
- show system license
- show system snapshot

request system license add

Syntax	<code>request system license add (<i>filename</i> terminal)</code>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 9.5 for SRX Series devices. Command introduced in Junos OS Release 11.1 for the QFX Series.
Description	Add a license key.
Options	<i>filename</i> —License key from a file or URL. Specify the filename or the URL where the key is located. <i>terminal</i> —License key from the terminal.
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• <i>Adding New Licenses (CLI Procedure)</i>
List of Sample Output	request system license add on page 176
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system license add

```
user@host> request system license add terminal
E408408918 aeaqib qcsbj a okbuq rcmxnq vjocwf uxfsta
          z5ufjb kdrmt6 57bimv 2f3ddp qttcdn 627q4a
          jx4s5x hiri
E408408918: successfully added
add license complete (no errors)
```

request system license delete

Syntax	<code>request system license delete (<i>license-identifier</i> license-identifier-list [<i>licenseid001</i> <i>licenseid002</i> <i>licenseid003</i>] all)</code>
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p> <p>Option license-identifier-list introduced in Junos OS Release 13.1.</p>
Description	Delete a license key. You can choose to delete one license at a time, all licenses at once, or a list of license identifiers enclosed in brackets.
Options	<p>license-identifier—Text string that uniquely identifies a license key.</p> <p>license-identifier-list [<i>licenseid001</i> <i>licenseid002</i> <i>licenseid003</i>....]—Delete multiple license identifiers as a list enclosed in brackets.</p> <p>all—Delete all licenses on the device.</p>
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"> • <i>Deleting a License (CLI Procedure)</i>

request system license save

Syntax	<code>request system license save (<i>filename</i> terminal)</code>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 9.5 for SRX Series devices.
Description	Save installed license keys to a file or URL.
Options	<i>filename</i> —License key from a file or URL. Specify the filename or the URL where the key is located. <i>terminal</i> —License key from the terminal.
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• <i>Saving License Keys</i>
List of Sample Output	request system license save on page 178
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system license save

```
user@host> request system license save ftp://user@host/license.conf
```


request system reboot

List of Syntax	Syntax on page 179 Syntax (EX Series Switches) on page 179 Syntax (TX Matrix Router) on page 179 Syntax (TX Matrix Plus Router) on page 179 Syntax (MX Series Router) on page 179
Syntax	<pre>request system reboot <at <i>time</i>> <both-routing-engines> <in <i>minutes</i>> <media (compact-flash disk removable-compact-flash usb)> <message "<i>text</i>"> <other-routing-engine></pre>
Syntax (EX Series Switches)	<pre>request system reboot <all-members> <at <i>time</i>> <both-routing-engines> <in <i>minutes</i>> <local> <media (external internal)> <member <i>member-id</i>> <message "<i>text</i>"> <other-routing-engine> <slice <i>slice</i>></pre>
Syntax (TX Matrix Router)	<pre>request system reboot <all-chassis all-lcc lcc <i>number</i> scc> <at <i>time</i>> <both-routing-engines> <in <i>minutes</i>> <media (compact-flash disk)> <message "<i>text</i>"> <other-routing-engine></pre>
Syntax (TX Matrix Plus Router)	<pre>request system reboot <all-chassis all-lcc lcc <i>number</i> sfc <i>number</i>> <at <i>time</i>> <both-routing-engines> <in <i>minutes</i>> <media (compact-flash disk)> <message "<i>text</i>"> <other-routing-engine> <partition (1 2 alternate)></pre>
Syntax (MX Series Router)	<pre>request system reboot <all-members> <at <i>time</i>> <both-routing-engines> <in <i>minutes</i>> <local></pre>

```
<media (external | internal)>  
<member member-id>  
<message "text">  
<other-routing-engine>
```

Release Information Command introduced before Junos OS Release 7.4.
Option **other-routing-engine** introduced in Junos OS Release 8.0.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Option **sfc** introduced for the TX Matrix Plus router in Junos OS Release 9.6.
Option **both-routing-engines** introduced in Junos OS Release 12.1.

Description Reboot the software.

Options **none**—Reboot the software immediately.

all-chassis—(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router or TX Matrix Plus router, reboot all routers connected to the TX Matrix or TX Matrix Plus router, respectively.

all-lcc—(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router or TX Matrix Plus router, reboot all line card chassis connected to the TX Matrix or TX Matrix Plus router, respectively.

all-members—(EX4200 switches and MX Series routers only) (Optional) Reboot the software on all members of the Virtual Chassis configuration.

at *time*—(Optional) Time at which to reboot the software, specified in one of the following ways:

- **now**—Stop or reboot the software immediately. This is the default.
- **+*minutes***—Number of minutes from now to reboot the software.
- ***yymmddhhmm***—Absolute time at which to reboot the software, specified as year, month, day, hour, and minute.
- ***hh:mm***—Absolute time on the current day at which to stop the software, specified in 24-hour time.

both-routing-engines—(Optional) Reboot both Routing Engines at the same time.

in *minutes*—(Optional) Number of minutes from now to reboot the software. This option is an alias for the **at +*minutes*** option.

lcc *number*—(TX Matrix routers and TX Matrix Plus routers only) (Optional) Line-card chassis number.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.

- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(EX4200 switches and MX Series routers only) (Optional) Reboot the software on the local Virtual Chassis member.

media (compact-flash | disk)—(Optional) Boot medium for next boot.

media (external | internal)—(EX Series switches and MX Series routers only) (Optional) Reboot the boot media:

- **external**—Reboot the external mass storage device.
- **internal**—Reboot the internal flash device.

member *member-id*—(EX4200 switches and MX Series routers only) (Optional) Reboot the software on the specified member of the Virtual Chassis configuration. For EX4200 switches, replace *member-id* with a value from 0 through 9. For an MX Series Virtual Chassis, replace *member-id* with a value of 0 or 1.

message "*text*"—(Optional) Message to display to all system users before stopping or rebooting the software.

other-routing-engine—(Optional) Reboot the other Routing Engine from which the command is issued. For example, if you issue the command from the master Routing Engine, the backup Routing Engine is rebooted. Similarly, if you issue the command from the backup Routing Engine, the master Routing Engine is rebooted.

partition—(TX Matrix Plus routers only) (Optional) Reboot using the specified partition on the boot media. This option has the following suboptions:

- **1**—Reboot from partition 1.
- **2**—Reboot from partition 2.
- **alternate**—Reboot from the alternate partition.

scc—(TX Matrix routers only) (Optional) Reboot the Routing Engine on the TX Matrix switch-card chassis. If you issue the command from re0, re0 is rebooted. If you issue the command from re1, re1 is rebooted.

sfc *number*—(TX Matrix Plus routers only) (Optional) Reboot the Routing Engine on the TX Matrix Plus switch-fabric chassis. If you issue the command from re0, re0 is rebooted. If you issue the command from re1, re1 is rebooted. Replace *number* with 0.

slice *slice*—(EX Series switches only) (Optional) Reboot a partition on the boot media. This option has the following suboptions:

- **1**—Power off partition 1.
- **2**—Power off partition 2.

- **alternate**—Reboot from the alternate partition.

Additional Information Reboot requests are recorded in the system log files, which you can view with the **show log** command (see [show log](#)). Also, the names of any running processes that are scheduled to be shut down are changed. You can view the process names with the **show system processes** command (see [show system processes](#)).

On a TX Matrix or TX Matrix Plus router, if you issue the **request system reboot** command on the master Routing Engine, all the master Routing Engines connected to the routing matrix are rebooted. If you issue this command on the backup Routing Engine, all the backup Routing Engines connected to the routing matrix are rebooted.



NOTE: Before issuing the **request system reboot** command on a TX Matrix Plus router with no options or the **all-chassis**, **all-lcc**, **lcc number**, or **sfc** options, verify that master Routing Engine for all routers in the routing matrix are in the same slot number. If the master Routing Engine for a line-card chassis is in a different slot number than the master Routing Engine for a TX Matrix Plus router, the line-card chassis might become logically disconnected from the routing matrix after the **request system reboot** command.



NOTE: To reboot a router that has two Routing Engines, reboot the backup Routing Engine (if you have upgraded it) first, and then reboot the master Routing Engine.

Required Privilege Level maintenance

Related Documentation

- [*clear system reboot*](#)
- [*request system halt*](#)
- [*Routing Matrix with a TX Matrix Plus Router Solutions Page*](#)

List of Sample Output

- [request system reboot on page 183](#)
- [request system reboot \(at 2300\) on page 183](#)
- [request system reboot \(in 2 Hours\) on page 183](#)
- [request system reboot \(Immediately\) on page 183](#)
- [request system reboot \(at 1:20 AM\) on page 183](#)

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system reboot

```
user@host> request system reboot
Reboot the system ? [yes,no] (no)
```

request system reboot (at 2300)

```
user@host> request system reboot at 2300 message ?Maintenance time!?
Reboot the system ? [yes,no] (no) yes
```

```
shutdown: [pid 186]
*** System shutdown message from root@berry.network.net ***
System going down at 23:00
```

request system reboot (in 2 Hours)

The following example, which assumes that the time is 5 PM (17:00), illustrates three different ways to request the system to reboot in two hours:

```
user@host> request system reboot at +120
user@host> request system reboot in 120
user@host> request system reboot at 19:00
```

request system reboot (Immediately)

```
user@host> request system reboot at now
```

request system reboot (at 1:20 AM)

To reboot the system at 1:20 AM, enter the following command. Because 1:20 AM is the next day, you must specify the absolute time.

```
user@host> request system reboot at 06060120
request system reboot at 120
Reboot the system at 120? [yes,no] (no) yes
```

request system snapshot

List of Syntax	Syntax on page 184 Syntax (ACX Series Routers) on page 184 Syntax (EX Series Switches) on page 184 Syntax (MX Series Routers) on page 184 Syntax (TX Matrix Routers) on page 184 Syntax (TX Matrix Plus Routers) on page 184
Syntax	<code>request system snapshot</code> <code><partition></code>
Syntax (ACX Series Routers)	<code>request system snapshot</code> <code><media type></code> <code><partition></code>
Syntax (EX Series Switches)	<code>request system snapshot</code> <code><all-members local member <i>member-id</i>></code> <code><media type></code> <code><partition></code> <code><re0 re1 routing-engine <i>routing-engine-id</i>></code> <code><slice alternate></code>
Syntax (MX Series Routers)	<code>request system snapshot</code> <code><all-members></code> <code><config-partition></code> <code><local></code> <code><member <i>member-id</i>></code> <code><media <i>usb-port-number</i>></code> <code><partition></code> <code><root-partition></code>
Syntax (TX Matrix Routers)	<code>request system snapshot</code> <code><all-chassis all-lcc lcc <i>number</i> scc></code> <code><config-partition></code> <code><partition></code> <code><root-partition></code>
Syntax (TX Matrix Plus Routers)	<code>request system snapshot</code> <code><all-chassis all-lcc lcc <i>number</i> sfc <i>number</i>></code> <code><config-partition></code> <code><partition></code> <code><root-partition></code>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 10.0 for EX Series switches. Command introduced in Junos OS Release 12.2 for ACX Series switches. Options <code><config-partition></code> and <code><root-partition></code> introduced in Junos OS Release 13.1 for M, MX, T, TX Series switches. Option <code>media <i>usb-port-number</i></code> introduced in Junos OS Release 13.2 for MX104 routers.

- Description**
- On the router, back up the currently running and active file system partitions to standby partitions that are not running. Specifically, the root file system (/) is backed up to /altroot, and /config is backed up to /altconfig. The root and /config file systems are on the router's flash drive, and the /altroot and /altconfig file systems are on the router's hard drive.
 - On the switch, take a snapshot of the files currently used to run the switch—the complete contents of the root (/), /altroot, /config, /var, and /var-tmp directories, which include the running Junos OS, the active configuration, and log files.



CAUTION: After you run the `request system snapshot` command, you cannot return to the previous version of the software, because the running and backup copies of the software are identical.

Options The specific options available depend upon the router or switch:

none—Back up the currently running software as follows:

- On the router, back up the currently running and active file system partitions to standby partitions that are not running. Specifically, the root file system (/) is backed up to /altroot, and /config is backed up to /altconfig. The root and /config file systems are on the router's flash drive, and the /altroot and /altconfig file systems are on the router's hard drive.
- On the switch, take a snapshot of the files currently used to run the switch and copy them to the media that the switch did not boot from. If the switch is booted from internal media, the snapshot is copied to external (USB) media. If the switch is booted from external (USB) media, the snapshot is copied to internal media.
- If the snapshot destination is external media but a USB flash drive is not connected, an error message is displayed.
- If the automatic snapshot procedure is already in progress, the command returns the following error: **Snapshot already in progress. Cannot start manual snapshot.** For additional information about the automatic snapshot feature, see *Understanding Resilient Dual-Root Partitions on Switches*.

all-chassis | all-lcc | lcc number —(TX Matrix and TX Matrix Plus router only) (Optional)

- **all-chassis**—On a TX Matrix router, archive data and executable areas for all Routing Engines in the chassis. On a TX Matrix Plus router, archive data and executable areas for all Routing Engines in the chassis.
- **all-lcc**—On a TX Matrix router, archive data and executable areas for all T640 routers (or line-card chassis) connected to a TX Matrix router. On a TX Matrix Plus router, archive data and executable areas for all routers (or line-card chassis) connected to a TX Matrix Plus router.
- **lcc number**—On a TX Matrix router, archive data and executable areas for a specific T640 router (or line-card chassis) that is connected to a TX Matrix router. On a

TX Matrix Plus router, archive data and executable areas for a specific router (line-card chassis) that is connected to a TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

all-members | local | member *member-id*—(EX Series switch Virtual Chassis and MX Series routers only) (Optional) Specify where to place the snapshot (archive data and executable areas) in a Virtual Chassis:

- **all-members**—Create a snapshot (archive data and executable areas) for all members of the Virtual Chassis.
- **local**—Create a snapshot (archive data and executable areas) on the member of the Virtual Chassis that you are currently logged into.
- **member *member-id***—Create a snapshot (archive data and executable areas) for the specified member of the Virtual Chassis.

config-partition—(M, MX, T, TX Series routers only) Create a snapshot of the configuration partition only and store it onto the default **/altconfig** on the hard disk device or an **/altconfig** on a USB device.

media type—(ACX Series, M320, T640, MX960 routers, and EX Series switches only)(Optional) Specify the boot device the software is copied to:

- **compact-flash**—Copy software to the primary compact flash drive.
- **external**—(Switches only) Copy software to an external mass storage device, such as a USB flash drive. If a USB drive is not connected, the switch displays an error message.
- **internal**—Copy software to an internal flash drive.
- **removable-compact-flash**—Copy software to the removable compact flash drive.
- **usb**—(ACX Series, M320, T640, MX960 routers only) Copy software to the device connected to the USB port.
- **usb0**—(MX104 routers only) Copy software to the device connected to the USB0 port.
- **usb1**—(MX104 routers only) Copy software to the device connected to the USB1 port.

partition—(Optional) Repartition the flash drive before a snapshot occurs. If the partition table on the flash drive is corrupted, the **request system snapshot** command fails and reports errors. The partition option is only supported for restoring the software image from the hard drive to the flash drive.

(Routers only) You cannot issue the request system snapshot command when you enable flash disk mirroring. We recommend that you disable flash disk mirroring when you upgrade or downgrade the software. For more information, see the *Junos OS Administration Library for Routing Devices*.

(EX Series switches only) If the snapshot destination is the media that the switch did not boot from, you must use the **partition** option.

re0 | re1 | routing-engine routing-engine-id—(EX6200 and EX8200 switches only) Specify where to place the snapshot in a redundant Routing Engine configuration.

- **re0**—Create a snapshot on Routing Engine 0.
- **re1**—Create a snapshot on Routing Engine 1.
- **routing-engine routing-engine-id**—Create a snapshot on the specified Routing Engine.

root-partition—(M, MX, T, TX Series routers only) Create a snapshot of the root partition only and store it onto the default **/altroot** on the hard disk device or an **/altroot** on a USB device.

slice alternate—(EX Series switches only) (Optional) Take a snapshot of the active root partition and copy it to the alternate slice on the boot media.

scc—(TX Matrix router only) (Optional) Archive data and executable areas for a TX Matrix router (or switch-card chassis).

sfc number—(TX Matrix Plus router only) (Optional) Archive data and executable areas for a TX Matrix Plus router (or switch-fabric chassis). Replace *number* with 0.

Additional Information

- (Routers only) Before upgrading the software on the router, when you have a known stable system, issue the **request system snapshot** command to back up the software, including the configuration, to the **/altroot** and **/altconfig** file systems. After you have upgraded the software on the router and are satisfied that the new packages are successfully installed and running, issue the **request system snapshot** command again to back up the new software to the **/altroot** and **/altconfig** file systems.
- (Routers only) You cannot issue the **request system snapshot** command when you enable flash disk mirroring. We recommend that you disable flash disk mirroring when you upgrade or downgrade the software. For more information, see the *Junos OS Administration Library for Routing Devices*.
- (TX Matrix and TX Matrix Plus router only) On a routing matrix, if you issue the **request system snapshot** command on the master Routing Engine, all the master Routing Engines connected to the routing matrix are backed up. If you issue this command on the backup Routing Engine, all the backup Routing Engines connected to the routing matrix are backed up.

Required Privilege Level maintenance

Related Documentation

- [show system snapshot on page 230](#)
- *show system auto-snapshot*

List of Sample Output

- [request system snapshot \(Routers\) on page 188](#)
- [request system snapshot \(EX Series Switches\) on page 188](#)
- [request system snapshot \(When the Partition Flag Is On\) on page 188](#)
- [request system snapshot \(MX104 routers when media device is missing\) on page 189](#)
- [request system snapshot \(When Mirroring Is Enabled\) on page 189](#)
- [request system snapshot all-lcc \(Routing Matrix\) on page 189](#)
- [request system snapshot all-members \(Virtual Chassis\) on page 189](#)

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

[request system snapshot \(Routers\)](#)

```
user@host> request system snapshot
umount: /altroot: not currently mounted
Copying / to /altroot.. (this may take a few minutes)
umount: /altconfig: not currently mounted
Copying /config to /altconfig.. (this may take a few minutes)
```

The following filesystems were archived: / /config

[request system snapshot \(EX Series Switches\)](#)

```
user@switch> request system snapshot partition
Clearing current label...
Partitioning external media (/dev/da1) ...
Partitions on snapshot:

    Partition  Mountpoint  Size    Snapshot argument
    s1a       /altroot   179M    none
    s2a       /          180M    none
    s3d       /var/tmp   361M    none
    s3e       /var       121M    none
    s4d       /config    60M     none
Copying '/dev/da0s1a' to '/dev/da1s1a' .. (this may take a few minutes)
Copying '/dev/da0s2a' to '/dev/da1s2a' .. (this may take a few minutes)
Copying '/dev/da0s3d' to '/dev/da1s3d' .. (this may take a few minutes)
Copying '/dev/da0s3e' to '/dev/da1s3e' .. (this may take a few minutes)
Copying '/dev/da0s4d' to '/dev/da1s4d' .. (this may take a few minutes)
The following filesystems were archived: /altroot / /var/tmp /var /config
```

[request system snapshot \(When the Partition Flag Is On\)](#)

```
user@host> request system snapshot partition
Performing preliminary partition checks ...
Partitioning ad0 ...
umount: /altroot: not currently mounted
Copying / to /altroot.. (this may take a few minutes)

The following filesystems were archived: / /config
```

request system snapshot (MX104 routers when media device is missing)

```
user@host > request system snapshot media usb0
error: usb0 media missing or invalid
```

request system snapshot (When Mirroring Is Enabled)

```
user@host> request system snapshot
Snapshot is not possible since mirror-flash-on-disk is configured.
```

request system snapshot all-lcc (Routing Matrix)

```
user@host> request system snapshot all-lcc
lcc0-re0:
-----
Copying '/' to '/altroot' .. (this may take a few minutes)
Copying '/config' to '/altconfig' .. (this may take a few minutes)
The following filesystems were archived: / /config

lcc2-re0:
-----
Copying '/' to '/altroot' .. (this may take a few minutes)
Copying '/config' to '/altconfig' .. (this may take a few minutes)
The following filesystems were archived: / /config
```

request system snapshot all-members (Virtual Chassis)

```
user@switch> request system snapshot all-members media internal
fpc0:
-----
Copying '/dev/da0s2a' to '/dev/da0s1a' .. (this may take a few minutes)
The following filesystems were archived: /

fpc1:
-----
Copying '/dev/da0s2a' to '/dev/da0s1a' .. (this may take a few minutes)
The following filesystems were archived: /

fpc2:
-----
Copying '/dev/da0s2a' to '/dev/da0s1a' .. (this may take a few minutes)
The following filesystems were archived: /

fpc3:
-----
Copying '/dev/da0s2a' to '/dev/da0s1a' .. (this may take a few minutes)
The following filesystems were archived: /

fpc4:
-----
Copying '/dev/da0s2a' to '/dev/da0s1a' .. (this may take a few minutes)
The following filesystems were archived: /

fpc5:
-----
Copying '/dev/da0s2a' to '/dev/da0s1a' .. (this may take a few minutes)
The following filesystems were archived: /
```

request system software add

List of Syntax	Syntax on page 190 Syntax (EX Series Switches) on page 190 Syntax (TX Matrix Router) on page 190 Syntax (TX Matrix Plus Router) on page 190 Syntax (MX Series Router) on page 191 Syntax (QFX Series) on page 191
Syntax	<code>request system software add <i>package-name</i></code> <code><best-effort-load></code> <code><delay-restart></code> <code><force></code> <code><no-copy></code> <code><no-validate></code> <code><re0 re1></code> <code><reboot></code> <code><set [<i>package-name package-name</i>]></code> <code><unlink></code> <code><upgrade-with-config></code> <code><upgrade-with-config-format <i>format</i>></code> <code><validate></code>
Syntax (EX Series Switches)	<code>request system software add <i>package-name</i></code> <code><best-effort-load></code> <code><delay-restart></code> <code><force></code> <code><no-copy></code> <code><no-validate></code> <code><re0 re1></code> <code><reboot></code> <code><set [<i>package-name package-name</i>]></code> <code><upgrade-with-config></code> <code><upgrade-with-config-format <i>format</i>></code> <code><validate></code>
Syntax (TX Matrix Router)	<code>request system software add <i>package-name</i></code> <code><best-effort-load></code> <code><delay-restart></code> <code><force></code> <code><lcc <i>number</i> scc></code> <code><no-copy></code> <code><no-validate></code> <code><re0 re1></code> <code><reboot></code> <code><set [<i>package-name package-name</i>]></code> <code><unlink></code> <code><upgrade-with-config></code> <code><upgrade-with-config-format <i>format</i>></code> <code><validate></code>
Syntax (TX Matrix Plus Router)	<code>request system software add <i>package-name</i></code> <code><best-effort-load></code>

```

<delay-restart>
<force>
<lcc number | sfc number>
<no-copy>
<no-validate>
<re0 | re1>
<reboot>
<set [package-name package-name]>
<unlink>
<upgrade-with-config>
<upgrade-with-config-format format>
<validate>

```

Syntax (MX Series Router) request system software add *package-name*

```

<best-effort-load>
<delay-restart>
<force>
<member member-id>
<no-copy>
<no-validate>
<re0 | re1>
<reboot>
<set [package-name package-name]>
<unlink>
<upgrade-with-config>
<upgrade-with-config-format format>
<validate>

```

Syntax (QFX Series) request system software add *package-name*

```

<best-effort-load>
<component all>
<delay-restart>
<force>
<force-host>
<no-copy>
<no-validate>
<partition>
<reboot>
<unlink>
<upgrade-with-config>
<upgrade-with-config-format format>
<validate>

```

Release Information Command introduced before Junos OS Release 7.4.

best-effort-load and **unlink** options added in Junos OS Release 7.4.

Command introduced in Junos OS Release 9.0 for EX Series switches.

sfc option introduced for the TX Matrix Plus router in Junos OS Release 9.6.

Command introduced in Junos OS Release 11.1 for the QFX Series.

set [*package-name package-name*] option added in Junos OS Release 11.1 for EX Series switches.

set [*package-name package-name*] option added in Junos OS Release 12.2 for M Series, MX Series, T Series routers, and Branch SRX Series Services Gateways.



NOTE: On EX Series switches, the set `[package-name package-name]` option allows you to install only two software packages on a mixed EX4200 and EX4500 Virtual Chassis, whereas, on M Series, MX Series, T Series routers, and Branch SRX Series Services Gateways, the set `[package-name package-name]` option allows you to install multiple software packages and software add-on packages at the same time.

`upgrade-with-config` and `upgrade-with-config-format` *format* options added in Junos OS Release 12.3 for M Series routers, MX Series routers, T Series routers, EX Series Ethernet switches, and QFX Series devices.

Description



NOTE: We recommend that you always download the software image to `/var/tmp` only. On EX Series and QFX Series switches, you must use the `/var/tmp` directory. Other directories are not supported.

Install a software package or bundle on the router or switch.



WARNING: Any configuration changes performed after inputting the `request system software add` command will be lost when the system reboots with an upgraded version of Junos OS.



NOTE: When graceful Routing Engine switchover (GRES) is enabled on a device, you must perform a unified ISSU operation to update the software running on the device. With GRES enabled, if you attempt to perform a software upgrade by entering the `request system software add package-name` command, an error message is displayed stating that only in-service-software-upgrades are supported when GRES is configured. In such a case, you must either remove the GRES configuration before you attempt the upgrade or perform a unified ISSU.

Options *package-name*—Location from which the software package or bundle is to be installed.
For example:

- `/var/tmp/package-name`—For a software package or bundle that is being installed from a local directory on the router or switch.
- `protocol://hostname/pathname/package-name`—For a software package or bundle that is to be downloaded and installed from a remote location. Replace *protocol* with one of the following:
 - `ftp`—File Transfer Protocol.

Use **ftp://hostname/pathname/package-name**. To specify authentication credentials, use

ftp://<username>:<password>@hostname/pathname/package-name. To have the system prompt you for the password, specify **prompt** in place of the password. If a password is required, and you do not specify the password or **prompt**, an error message is displayed.

- **http**—Hypertext Transfer Protocol.
Use **http://hostname/pathname/package-name**. To specify authentication credentials, use
http://<username>:<password>@hostname/pathname/package-name. If a password is required and you omit it, you are prompted for it.
- **scp**—Secure copy (available only for Canada and U.S. version).
Use **scp://hostname/pathname/package-name**. To specify authentication credentials, use
scp://<username>:<password>@hostname/pathname/package-name.



NOTE:

- The **pathname** in the protocol is the relative path to the user's home directory on the remote system and not the root directory.
- Do not use the **scp** protocol in the **request system software add** command to download and install a software package or bundle from a remote location. The previous statement does not apply to the QFabric switch. The software upgrade is handled by the MGD process which does not support **scp**.
Use the **file copy** command to copy the software package or bundle from the remote location to the **/var/tmp** directory on the hard disk:
file copy scp://source/package-name /var/tmp
Then install the software package or bundle using the **request system software add** command:
request system software add /var/tmp/package-name

best-effort-load—(Optional) Activate a partial load and treat parsing errors as warnings instead of errors.

component all—(QFabric systems only) (Optional) Install software package on all of the QFabric components.

delay-restart—(Optional) Install a software package or bundle, but do not restart software processes.

force—(Optional) Force the addition of the software package or bundle (ignore warnings).

force-host—(Optional) Force the addition of host software package or bundle (ignore warnings) on the QFX5100 device.

lcc *number*—(TX Matrix routers and TX Matrix Plus routers only) (Optional) In a routing matrix based on the TX Matrix router, install a software package or bundle on a T640 router that is connected to the TX Matrix router. In a routing matrix based on the TX Matrix Plus router, install a software package or bundle on a router that is connected to the TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

member *member-id*—(MX Series routers only) (Optional) Install a software package on the specified Virtual Chassis member. Replace *member-id* with a value of 0 or 1.

partition—(QFX3500 switches only) (Optional) Format and repartition the media before installation.

scc—(TX Matrix routers only) (Optional) Install a software package or bundle on a Routing Engine on a TX Matrix router (or switch-card chassis).

sfc *number*—(TX Matrix Plus routers only) (Optional) Install a software package or bundle on a Routing Engine on a TX Matrix Plus router. Replace *number* with 0.

no-copy—(Optional) Install a software package or bundle, but do not save copies of the package or bundle files.

no-validate—(Optional) When loading a software package or bundle with a different release, suppress the default behavior of the **validate** option.

re0 | re1—(Optional) On routers or switches that support dual or redundant Routing Engines, load a software package or bundle on the Routing Engine in slot 0 (re0) or the Routing Engine in slot 1 (re1).

reboot—(Optional) After adding the software package or bundle, reboot the system. On a QFabric switch, the software installation is not complete until you reboot the component for which you have installed the software.

set [*package-name package-name*]—(Mixed EX4200 and EX4500 Virtual Chassis only) (Optional) Install two software packages—a package for an EX4200 switch and the same release of the package for an EX4500 switch—to upgrade all member switches in a mixed EX4200 and EX4500 Virtual Chassis.

set [*package-name package-name*]—(M Series, MX Series, T Series routers, and Branch SRX Series Services Gateways only) (Optional) Install multiple software packages and software add-on packages at the same time.

unlink—(Optional) On M Series, T Series, and MX Series routers, use the unlink option to remove the software package from this directory after a successful upgrade is completed.

upgrade-with-config—(Optional) Install one or more configuration files.

upgrade-with-config-format *format*—(Optional) Specify the configuration file format, **text** or **xml**. The default format is **text**.



NOTE: The **upgrade-with-config** and **upgrade-with-config-format** options are only available locally on the router or switch. In a routing matrix, the configuration is applied only to the local router and is not propagated to other routers.

The options are validated during the validation process and applied to the router or switch during the upgrade process. If the upgrade process is successful, the options are removed from the configuration. If the upgrade process fails, the configuration file is renamed with the **.failed** suffix.

validate—(Optional) Validate the software package or bundle against the current configuration as a prerequisite to adding the software package or bundle. This is the default behavior when the software package or bundle being added is a different release.



NOTE: The **validate** option only works on systems that do not have **graceful-switchover (GRES)** enabled. To use the **validate** option on a system with GRES, either disable GRES for the duration of the installation, or install using the command **request system software in-service-upgrade**, which requires nonstop active routing (NSR) to be enabled when using GRES.

Additional Information

Before upgrading the software on the router or switch, when you have a known stable system, issue the **request system snapshot** command to back up the software, including the configuration, to the **/altroot** and **/altconfig** file systems. After you have upgraded the software on the router or switch and are satisfied that the new package or bundle is successfully installed and running, issue the **request system snapshot** command again to back up the new software to the **/altroot** and **/altconfig** file systems.



NOTE: The **request system snapshot** command is currently not supported on the QFabric system. Also, you cannot add or install multiple packages on a QFabric system.

After you run the **request system snapshot** command, you cannot return to the previous version of the software, because the running and backup copies of the software are identical.

If you are upgrading more than one package at the same time, delete the operating system package, jkernel, last. Add the operating system package, jkernel, first and the routing software package, jroute, last. If you are upgrading all packages at once, delete and add them in the following order:

```
user@host> request system software add /var/tmp/jbase
user@host> request system software add /var/tmp/jkernel
user@host> request system software add /var/tmp/jpfe
user@host> request system software add /var/tmp/jdocs
user@host> request system software add /var/tmp/jroute
user@host> request system software add /var/tmp/jcrypto
```

By default, when you issue the **request system software add *package-name*** command on a TX Matrix master Routing Engine, all the T640 master Routing Engines that are connected to it are upgraded to the same version of software. If you issue the same command on the TX Matrix backup Routing Engine, all the T640 backup Routing Engines that are connected to it are upgraded to the same version of software.

Likewise, when you issue the **request system software add *package-name*** command on a TX Matrix Plus master Routing Engine, all the T1600 or T4000 master Routing Engines that are connected to it are upgraded to the same version of software. If you issue the same command on the TX Matrix Plus backup Routing Engine, all the T1600 or T4000 backup Routing Engines that are connected to it are upgraded to the same version of software.

Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• request system software delete on page 199• request system software rollback on page 203• <i>request system storage cleanup</i>• <i>Upgrading Software</i>• <i>Upgrading Software on a QFabric System</i>• Routing Matrix with a TX Matrix Plus Router Solutions Page
List of Sample Output	request system software add validate on page 197 request system software add (Mixed EX4200 and EX4500 Virtual Chassis) on page 197 request system software add component all (QFabric Systems) on page 198
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system software add validate

```

user@host> request system software add validate /var/tmp/jinstall-7.2R1.7-domestic-signed.tgz
Checking compatibility with configuration
Initializing...
Using jbase-7.1R2.2
Using /var/tmp/jinstall-7.2R1.7-domestic-signed.tgz
Verified jinstall-7.2R1.7-domestic.tgz signed by PackageProduction_7_2_0
Using /var/validate/tmp/jinstall-signed/jinstall-7.2R1.7-domestic.tgz
Using /var/validate/tmp/jinstall/jbundle-7.2R1.7-domestic.tgz
Checking jbundle requirements on /
Using /var/validate/tmp/jbundle/jbase-7.2R1.7.tgz
Using /var/validate/tmp/jbundle/jkernel-7.2R1.7.tgz
Using /var/validate/tmp/jbundle/jcrypto-7.2R1.7.tgz
Using /var/validate/tmp/jbundle/jpfe-7.2R1.7.tgz
Using /var/validate/tmp/jbundle/jdocs-7.2R1.7.tgz
Using /var/validate/tmp/jbundle/jroute-7.2R1.7.tgz
Validating against /config/juniper.conf.gz
mgd: commit complete
Validation succeeded
Validating against /config/rescue.conf.gz
mgd: commit complete
Validation succeeded
Installing package '/var/tmp/jinstall-7.2R1.7-domestic-signed.tgz' ...
Verified jinstall-7.2R1.7-domestic.tgz signed by PackageProduction_7_2_0
Adding jinstall...

WARNING: This package will load JUNOS 7.2R1.7 software.
WARNING: It will save JUNOS configuration files, and SSH keys
WARNING: (if configured), but erase all other files and information
WARNING: stored on this machine. It will attempt to preserve dumps
WARNING: and log files, but this can not be guaranteed. This is the
WARNING: pre-installation stage and all the software is loaded when
WARNING: you reboot the system.

Saving the config files ...
Installing the bootstrap installer ...

WARNING: A REBOOT IS REQUIRED TO LOAD THIS SOFTWARE CORRECTLY. Use the
WARNING: 'request system reboot' command when software installation is
WARNING: complete. To abort the installation, do not reboot your system,
WARNING: instead use the 'request system software delete jinstall'
WARNING: command as soon as this operation completes.

Saving package file in /var/sw/pkg/jinstall-7.2R1.7-domestic-signed.tgz ...
Saving state for rollback ...

```

Sample Output

request system software add (Mixed EX4200 and EX4500 Virtual Chassis)

```


user@switch> request system software add set
[/var/tmp/jinstall-ex-4200-11.1R1.1-domestic-signed.tgz
/var/tmp/jinstall-ex-4500-11.1R1.1-domestic-signed.tgz]
...

```

request system software add component all (QFabric Systems)

```
user@switch> request system software add /pbdata/packages/jinstall-qfabric-12.2X50-D1.3.rpm  
component all  
...
```

request system software delete

List of Syntax	Syntax on page 199 Syntax (TX Matrix Router) on page 199 Syntax (TX Matrix Plus Router) on page 199
Syntax	<pre>request system software delete <i>software-package</i> <force> <reboot> <set [<i>package-name package-name</i>]></pre>
Syntax (TX Matrix Router)	<pre>request system software delete <i>software-package</i> <force> <lcc <i>number</i> <i>scc</i>> <reboot> <set [<i>package-name package-name</i>]></pre>
Syntax (TX Matrix Plus Router)	<pre>request system software delete <i>software-package</i> <force> <lcc <i>number</i> <i>sfc number</i>> <reboot> <set [<i>package-name package-name</i>]></pre>
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Option sfc introduced for the TX Matrix Plus router in Junos OS Release 9.6.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p> <p>Option set [<i>package-name package-name</i>] added in Junos OS Release 12.2 for M Series, MX Series, T Series routers, and Branch SRX Services Gateways.</p> <p>Option reboot introduced in Junos OS Release 12.3.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>
Description	Remove a software package or bundle from the router or switch.
<div style="text-align: center;">  <p>CAUTION: Before removing a software package or bundle, make sure that you have already placed the new software package or bundle that you intend to load onto the router or switch.</p> </div>	
Options	<p><i>software-package</i>—Software package or bundle name. You can delete any or all of the following software bundles or packages:</p> <ul style="list-style-type: none"> • jbase—(Optional) Junos base software suite • crypto—(Optional, in domestic version only) Junos security software • docs—(Optional) Junos online documentation file • kernel—(Optional) Junos kernel software suite • pf—(Optional) Junos Packet Forwarding Engine support

- **jroute**—(Optional) Junos routing software suite
- **junos**—(Optional) Junos base software



NOTE: On EX Series switches, some of the package names are different than those listed. To see the list of packages that you can delete on an EX Series switch, enter the command **show system software**.

force—(Optional) Ignore warnings and force removal of the software.

lcc number—(TX Matrix routers and TX Matrix Plus routers only) (Optional) In a routing matrix, delete a software package or bundle on a T640 router indicated by **lcc number** that is connected to the TX Matrix router. In a routing matrix, delete a software package or bundle on a router indicated by **lcc number** that is connected to the TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

re0 | re1—(Optional) On routers or switches that support dual or redundant Routing Engines, delete a software package or bundle on the Routing Engine in slot 0 (re0) or the Routing Engine in slot 1 (re1).

reboot—As of Junos OS 12.3 and greater, automatically reboot upon completing the **request system software delete** command.

scc—(TX Matrix routers only) (Optional) Remove an extension or upgrade package from the TX Matrix router (or switch-card chassis).

set [package-name package-name]—(M Series, MX Series, T Series routers, and Branch SRX Series Services Gateways only) (Optional) Install multiple software packages or software add-on packages at the same time.

sfc number—(TX Matrix Plus routers only) (Optional) Remove an extension or upgrade package from the TX Matrix Plus router. Replace *number* with 0.

Additional Information Before upgrading the software on the router or switch, when you have a known stable system, issue the **request system snapshot** command to back up the software, including the configuration, to the /altroot and /altconfig file systems (on routers) or the /, /altroot,

/config, /var, and /var/tmp file systems (on switches). After you have upgraded the software on the router or switch and are satisfied that the new packages are successfully installed and running, issue the **request system snapshot** command again to back up the new software to the /altroot and /altconfig file systems (on routers) or the /, /altroot, /config, /var, and /var/tmp file systems (on switches). After you run the **request system snapshot** command, you cannot return to the previous version of the software, because the running and backup copies of the software are identical.

Required Privilege Level maintenance

Related Documentation

- [request system software add on page 190](#)
- [request system software rollback on page 203](#)
- [request system software validate on page 207](#)
- [Routing Matrix with a TX Matrix Plus Router Solutions Page](#)

List of Sample Output [request system software delete jdocs on page 201](#)

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

[request system software delete jdocs](#)

The following example displays the system software packages before and after the **jdocs** package is deleted through the **request system software delete** command:

```
user@host> show system software
Information for jbase:

Comment:
JUNOS Base OS Software Suite [7.2R1.7]

Information for jcrypto:

Comment:
JUNOS Crypto Software Suite [7.2R1.7]

Information for jdocs:

Comment:
JUNOS Online Documentation [7.2R1.7]

Information for jkernel:

Comment:
JUNOS Kernel Software Suite [7.2R1.7]

...
```

```
user@host> request system software delete jdocs  
Removing package 'jdocs' ...
```

```
user@host> show system software  
Information for jbase:
```

```
Comment:  
JUNOS Base OS Software Suite [7.2R1.7]
```

```
Information for jcrypto:
```

```
Comment:  
JUNOS Crypto Software Suite [7.2R1.7]
```

```
Information for jkernel:
```

```
Comment:  
JUNOS Kernel Software Suite [7.2R1.7]
```

```
...
```


request system software rollback

List of Syntax	Syntax on page 203 Syntax (EX Series Switches) on page 203 Syntax (TX Matrix Router) on page 203 Syntax (TX Matrix Plus Router) on page 203 Syntax (MX Series Router) on page 203
Syntax	request system software rollback
Syntax (EX Series Switches)	request system software rollback <all-members> <local> <member <i>member-id</i> > <reboot>
Syntax (TX Matrix Router)	request system software rollback <lcc <i>number</i> scc> <reboot>
Syntax (TX Matrix Plus Router)	request system software rollback <lcc <i>number</i> sfc <i>number</i> > <reboot>
Syntax (MX Series Router)	request system software rollback <all-members> <local> <member <i>member-id</i> > <reboot>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Option sfc introduced for the TX Matrix Plus router in Junos OS Release 9.6. Command introduced in Junos OS Release 11.1 for the QFX Series. Command behavior changed in Junos OS Release 12.1. Option reboot introduced in Junos OS Release 12.3.
Description	<p>For all versions of Junos OS up to and including Junos OS 11.4, revert to the software that was loaded at the last successful request system software add command.</p> <p>As of Junos OS 12.1 and greater, revert to the last known good state before the most recent request system software (add delete) command. For example, using rollback in Junos OS 12.1 after using request system software add restores the system to a known good state prior to using the add command. Similarly, using rollback in Junos OS 12.1 after using request system software delete restores the system to a known good state prior to using the delete command.</p> <p>A software rollback fails if any required package (or a bundle package containing the required package) cannot be found in <code>/var/sw/pkg</code>.</p> <p><i>Additional Information</i></p>

- On M Series and T Series routers, if **request system software add <jinstall> reboot** was used for the previous installation, then **request system software rollback** has no effect. In this case, use **jinstall** to reinstall the required package.
- On M Series and T Series routers, if **request system software add <sdk1>** was used for the previous installation, then **request system software rollback** removes the last installed SDK package (**sdk1** in this example).
- On SRX Series devices with dual root systems, when **request system software rollback** is run, the system switches to the alternate root. Each root can have a different version of Junos OS. Rollback takes each root back to the previously installed image.
- On QFX3500 and QFX3600 devices in a mixed Virtual Chassis, when the **request system software rollback** command is issued, the system does not rollback to the image stored in the alternate partition.
- On QFX5100 switches, the **reboot** option has been removed. To reboot the switch after a software rollback, issue the **request system reboot** command as a separate, secondary command.

Options **all-members**—(EX4200 switches and MX Series routers only) (Optional) Attempt to roll back to the previous set of packages on all members of the Virtual Chassis configuration.

lcc number—(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router, attempt to roll back to the previous set of packages on a T640 router connected to the TX Matrix router. On a TX Matrix Plus router, attempt to roll back to the previous set of packages on a connected router connected to the TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(EX4200 switches and MX Series routers only) (Optional) Attempt to roll back to the previous set of packages on the local Virtual Chassis member.

member member-id—(EX4200 switches and MX Series routers only) (Optional) Attempt to roll back to the previous set of packages on the specified member of the Virtual Chassis configuration. For EX4200 switches, replace *member-id* with a value from 0 through 9. For an MX Series Virtual Chassis, replace *member-id* with a value of 0 or 1.

none—For all versions of Junos OS up to and including Junos OS 11.4, revert to the set of software as of the last successful **request system software add**. As of Junos OS 12.1 and greater, revert to the last known good state before the most recent **request system software (add | delete)** command.

reboot—As of Junos OS 12.3 and greater, automatically reboot upon completing the **request system software rollback** command.

scc—(TX Matrix routers only) (Optional) Attempt to roll back to the previous set of packages on the TX Matrix router (or switch-card chassis).

sfc number—(TX Matrix Plus routers only) (Optional) Attempt to roll back to the previous set of packages on the TX Matrix Plus router. Replace *number* with 0.

Required Privilege Level maintenance

Related Documentation

- *request system software abort*
- [request system software add on page 190](#)
- [request system software delete on page 199](#)
- [request system software validate on page 207](#)
- *request system configuration rescue delete*
- *request system configuration rescue save*
- [Routing Matrix with a TX Matrix Plus Router Solutions Page](#)

List of Sample Output [request system software rollback on page 206](#)

Output Fields When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system software rollback

```
user@host> request system software rollback
Verified SHA1 checksum of ./jbase-7.2R1.7.tgz
Verified SHA1 checksum of ./jdocs-7.2R1.7.tgz
Verified SHA1 checksum of ./jroute-7.2R1.7.tgz
Installing package './jbase-7.2R1.7.tgz' ...
Available space: 35495 require: 7335
Installing package './jdocs-7.2R1.7.tgz' ...
Available space: 35339 require: 3497
Installing package './jroute-7.2R1.7.tgz' ...
Available space: 35238 require: 6976
NOTICE: uncommitted changes have been saved in
/var/db/config/juniper.conf.pre-install
Reloading /config/juniper.conf.gz ...
Activating /config/juniper.conf.gz ...
mgd: commit complete
Restarting mgd ...
Restarting aprobed ...
Restarting apsd ...
Restarting cosd ...
Restarting fsad ...
Restarting fud ...
Restarting gcdrd ...
Restarting ilmid ...
Restarting irsd ...
Restarting l2tpd ...
Restarting mib2d ...
Restarting nasd ...
Restarting pppoed ...
Restarting rdd ...
Restarting rmopd ...
Restarting rtspd ...
Restarting sampled ...
Restarting serviced ...
Restarting snmpd ...
Restarting spd ...
Restarting vrrpd ...

WARNING: cli has been replaced by an updated version:
CLI release 7.2R1.7 built by builder on 2005-04-22 02:03:44 UTC
Restart cli using the new version ? [yes,no] (yes) yes

Restarting cli ...
user@host
```

request system software validate

List of Syntax	Syntax on page 207 Syntax (TX Matrix Router) on page 207 Syntax (TX Matrix Plus Router) on page 207 Syntax (MX Series Router) on page 207
Syntax	<pre>request system software validate <i>package-name</i> <set [<i>package-name package-name</i>]> <upgrade-with-config> <upgrade-with-config-format <i>format</i>></pre>
Syntax (TX Matrix Router)	<pre>request system software validate <i>package-name</i> <lcc <i>number</i> scc> <set [<i>package-name package-name</i>]> <upgrade-with-config> <upgrade-with-config-format <i>format</i>></pre>
Syntax (TX Matrix Plus Router)	<pre>request system software validate <i>package-name</i> <lcc <i>number</i> sfc <i>number</i>> <set [<i>package-name package-name</i>]> <upgrade-with-config> <upgrade-with-config-format <i>format</i>></pre>
Syntax (MX Series Router)	<pre>request system software validate <i>package-name</i> <member <i>member-id</i>> <set [<i>package-name package-name</i>]> <upgrade-with-config> <upgrade-with-config-format <i>format</i>></pre>
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>sfc option introduced for the TX Matrix Plus router in Junos OS Release 9.6.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p> <p>set [<i>package-name package-name</i>] option added in Junos OS Release 12.2 for M Series, MX Series, T Series routers, and Branch SRX Series Services Gateways.</p> <p>upgrade-with-config and upgrade-with-config-format <i>format</i> options added in Junos OS Release 12.3 for M Series routers, MX Series routers, and T Series routers.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>
Description	Validate candidate software against the current configuration of the router.
Options	<p>lcc <i>number</i>—(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router, validate the software bundle or package on a specific T640 router (or line-card chassis) that is connected to the TX Matrix router. On a TX Matrix Plus router, validate the software bundle or package for a specific router that is connected to the TX Matrix Plus router.</p>

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

member *member-id*—(MX Series routers only) (Optional) Validate the software bundle or package on the specified member of the Virtual Chassis configuration. For an MX Series Virtual Chassis, replace *member-id* with a value of 0 or 1.

package-name—Name of the software bundle or package to test.

scc—(TX Matrix routers only) (Optional) Validate the software bundle or package for the TX Matrix router (or switch-card chassis).

set [*package-name package-name*]—(M Series, MX Series, T Series routers, and Branch SRX Series Services Gateways only) (Optional) Install multiple software packages or software add-on packages at the same time.

sfc *number*—(TX Matrix Plus routers only) (Optional) Validate the software bundle or package for the TX Matrix Plus router.

upgrade-with-config—(Optional) Install one or more configuration files.

upgrade-with-config-format *format*—(Optional) Specify the configuration file format, **text** or **xml**. The default format is **text**.



NOTE: The **upgrade-with-config** and **upgrade-with-config-format** options are only available locally on the router or switch. In a routing matrix, the configuration is applied only to the local router and is not propagated to other routers.

The options are validated during the validation process and applied to the router or switch during the upgrade process. If the upgrade process is successful, the options are removed from the configuration. If the upgrade process fails, the configuration file is renamed with the **.failed** suffix.

Additional Information By default, when you issue the **request system software validate** command on a TX Matrix master Routing Engine, all the T640 master Routing Engines that are connected to it are validated. If you issue the same command on the TX Matrix backup Routing Engine, all

the T640 backup Routing Engines that are connected to it are upgraded to the same version of software.

Likewise, if you issue the **request system software validate** command on a TX Matrix Plus master Routing Engine, all the T1600 or T4000 master Routing Engines that are connected to it are validated. If you issue the same command on a TX Matrix Plus backup Routing Engine, all the T1600 or T4000 backup Routing Engines that are connected to it are upgraded to the same version of software.

Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"> • <i>request system software abort</i> • request system software add on page 190 • request system software delete on page 199 • request system software rollback on page 203 • Routing Matrix with a TX Matrix Plus Router Solutions Page
List of Sample Output	request system software validate (Successful Case) on page 209 request system software validate (Failure Case) on page 209
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

request system software validate (Successful Case)

```

user@host> request system software validate /var/sw/pkg/jbundle-5.3I20020124_0520_sjg.tgz
Checking compatibility with configuration
Initializing...
Using /packages/jbase-5.3I20020122_1901_sjg
Using /var/sw/pkg/jbundle-5.3I20020124_0520_sjg.tgz
Using /var/chroot/var/tmp/jbundle/jbase-5.3I20020124_0520_sjg.tgz
Using /var/chroot/var/tmp/jbundle/jkernel-5.3I20020124_0520_sjg.tgz
Using /var/chroot/var/tmp/jbundle/jcrypto-5.3I20020124_0520_sjg.tgz
Using /var/chroot/var/tmp/jbundle/jpfe-5.3I20020124_0520_sjg.tgz
Using /var/chroot/var/tmp/jbundle/jdocs-5.3I20020124_0520_sjg.tgz
Using /var/chroot/var/tmp/jbundle/jroute-5.3I20020124_0520_sjg.tgz
Validating against /config/juniper.conf.gz
mgd: commit complete

WARNING: cli has been replaced by an updated version:
CLI release 5.3I0 built by sjg on 2002-01-24 05:23:53 UTC
Restart cli using the new version ? [yes,no] (yes)

```

request system software validate (Failure Case)

```

user@host> request system software validate 6.3/
Pushing bundle to lcc0-re0
error: Failed to transfer package to lcc0-re0


user@host> request system software validate test

```

```
Pushing bundle to lcc0-re0  
Pushing bundle to lcc2-re0
```

```
lcc0-re0:  
gzip: stdin: not in gzip format  
tar: child returned status 1  
ERROR: Not a valid package: /var/tmp/test
```


request system zeroize

Syntax	request system zeroize <media> <local>
Release Information	<p>Command introduced before Junos OS Release 9.0.</p> <p>Command introduced in Junos OS Release 11.2 for EX Series switches.</p> <p>Option media added in Junos OS Release 11.4 for EX Series switches.</p> <p>Command introduced in Junos OS Release 12.2 for MX Series routers.</p> <p>Command introduced in Junos OS Release 12.3 for the QFX Series.</p> <p>Option local added in Junos OS Release 14.1.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>
Description	<p> NOTE: The media option is not available on the QFX Series.</p> <p>Remove all configuration information on the Routing Engines and reset all key values. If the device has dual Routing Engines, the command is broadcast to all Routing Engines on the device. The command removes all data files, including customized configuration and log files, by unlinking the files from their directories. The command removes all user-created files from the system including all plain-text passwords, secrets, and private keys for SSH, local encryption, local authentication, IPsec, RADIUS, TACACS+, and SNMP.</p> <p>This command reboots the device and sets it to the factory default configuration. After the reboot, you cannot access the device through the management Ethernet interface. Log in through the console as root and start the Junos OS CLI by typing cli at the prompt.</p> <p>To completely erase user-created data so that it is unrecoverable, use the media option.</p>
Options	<p>media—(Optional) In addition to removing all configuration and log files, causes memory and the media to be scrubbed, removing all traces of any user-created files. Every storage device attached to the system is scrubbed, including disks, flash drives, removable USBs, and so on. The duration of the scrubbing process is dependent on the size of the media being erased. As a result, the request system zeroize media operation can take considerably more time than the request system zeroize operation. However, the critical security parameters are all removed at the beginning of the process.</p> <p>local—(Optional) Remove all the configuration information and restore all the key values on the active Routing Engine.</p>
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none"> • request system snapshot on page 184 • <i>Reverting to the Default Factory Configuration for the EX Series Switch</i>

- *Reverting to the Rescue Configuration for the EX Series Switch*
- *Reverting to the Default Factory Configuration*
- *Reverting to the Rescue Configuration*
- *Reverting to the Default Factory Configuration by Using the request system zeroize Command*

List of Sample Output [request system zeroize on page 212](#)
[request system zeroize media on page 213](#)

Sample Output

request system zeroize

```
user@host> request system zeroize
warning: System will be rebooted and may not boot without configuration
Erase all data, including configuration and log files? [yes,no] (no) yes

0 1 1 0 0 0 done

syncing disks... All buffers synced.
Uptime: 5d19h20m26s
recorded reboot as normal shutdown
Rebooting...

U-Boot 1.1.6 (Mar 11 2011 - 04:39:06)

Board: EX4200-24T 2.11
EPLD: Version 6.0 (0x85)
DRAM: Initializing (1024 MB)
FLASH: 8 MB

Firmware Version: --- 01.00.00 ---
USB: scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.4
(user@juniper.net, Fri Mar 11 03:03:36 UTC 2011)
Memory: 1024MB
bootsequencing is enabled
bootsuccess is set
new boot device = disk0s1:
Loading /boot/defaults/loader.conf
/kernel data=0x915c84+0xa1260 syms=[0x4+0x7cbd0+0x4+0xb1c19]

Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel]...
Kernel entry at 0x800000e0 ...
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
Copyright (c) 1996-2011, Juniper Networks, Inc.
All rights reserved.
Copyright (c) 1992-2006 The FreeBSD Project.
```

Copyright (c) 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994
 The Regents of the University of California. All rights reserved.
 JUNOS 11.1R1.8 #0: 2011-03-09 20:14:25 UTC

user@juniper.net:/volume/build/junos/11.1/release/11.1R1.8/obj-powerpc/bsd/kernels/
 JUNIPER-EX/kernel
 Timecounter "decrementer" frequency 50000000 Hz quality 0
 cpu0: Freescale e500v2 core revision 2.2
 cpu0: HID0 80004080
 ...

request system zeroize media

```
user@host> request system zeroize media
warning: System will be rebooted and may not boot without configuration
Erase all data, including configuration and log files? [yes,no] (no) yes

warning: ipsec-key-management subsystem not running - not needed by configuration.
warning: zeroizing fpc0

{master:0}
root> Waiting (max 60 seconds) for system process `vnlr' to stop...done
...
Syncing disks, vnodes remaining...2 4 2 4 3 2 1 1 0 0 0 done

syncing disks... All buffers synced.
Uptime: 14m50s
recorded reboot as normal shutdown
Rebooting...

U-Boot 1.1.6 (Apr 21 2011 - 13:58:42)

Board: EX4200-48PX 1.1
EPLD: Version 8.0 (0x82)
DRAM: Initializing (512 MB)
FLASH: 8 MB
NAND: No NAND device found!!!
0 MiB

Firmware Version: --- 01.00.00 ---
USB: scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.2
(vtseng@svl-junos-pool27.juniper.net, Fri Feb 26 17:48:51 PST 2010)
Memory: 512MB
Loading /boot/defaults/loader.conf
/kernel data=0x9abfdc+0xb06e4 syms=[0x4+0x83b30+0x4+0xbd7c6]

Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel] in 1 second... Booting [/kernel]...
Kernel entry at 0x800000e0 ...
GDB: no debug ports present
KDB: debugger backends: ddb
KDB: current backend: ddb
Copyright (c) 1996-2011, Juniper Networks, Inc.
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Copyright (c) 1992-2006 The FreeBSD Project.
```

```
Copyright (c) 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994
The Regents of the University of California. All rights reserved.
JUNOS 11.4R1.2 #0: 2011-10-27 18:05:39 UTC
user@juniper.net:/volume/build/junos/11.4/release/11.4R1.2/obj-powerpc/
bsd/kernels/JUNIPER-EX/kernel
can't re-use a leaf (all_slot_serialid)!
Timecounter "decrementer" frequency 50000000 Hz quality 0
cpu0: Freescale e500v2 core revision 2.2
cpu0: HID0 80004080<EMCP,TBEN,EN_MAS7_UPDATE>
real memory = 511705088 (488 MB)
avail memory = 500260864 (477 MB)
ETHERNET SOCKET BRIDGE initialising
Initializing EXSERIES platform properties ...
. . .
Automatic reboot in progress...
Media check on da0 on ex platforms
** /dev/da0s2a
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 20055 free (31 frags, 2503 blocks, 0.0% fragmentation)
zeroizing /dev/da0s1a ...
. . .
zeroizing /dev/da0s3d ...
. . .
zeroizing /dev/da0s3e ...
. . .
zeroizing /dev/da0s4d ...
. . .
zeroizing /dev/da0s4e ...
. . .

syncing disks... All buffers synced.
Uptime: 3m40s
Rebooting...

U-Boot 1.1.6 (Apr 21 2011 - 13:58:42)

Board: EX4200-48PX 1.1
EPLD: Version 8.0 (0x82)
DRAM: Initializing (512 MB)
FLASH: 8 MB
NAND: No NAND device found!!!
0 MiB

Firmware Version: --- 01.00.00 ---
USB: scanning bus for devices... 2 USB Device(s) found
      scanning bus for storage devices... 1 Storage Device(s) found

ELF file is 32 bit
Consoles: U-Boot console

FreeBSD/PowerPC U-Boot bootstrap loader, Revision 2.2
(vtseng@svl-junos-pool27.juniper.net, Fri Feb 26 17:48:51 PST 2010)
Memory: 512MB
Loading /boot/defaults/loader.conf
/kernel data=0x9abfdc+0xb06e4 syms=[0x4+0x83b30+0x4+0xbd7c6]

Hit [Enter] to boot immediately, or space bar for command prompt.
Booting [/kernel] in 1 second... Booting [/kernel]...
Kernel entry at 0x800000e0 ...
GDB: no debug ports present
KDB: debugger backends: ddb
```

```

KDB: current backend: ddb
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Copyright (c) 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994
The Regents of the University of California. All rights reserved.
JUNOS 11.4R1.2 #0: 2011-10-27 18:05:39 UTC
user@juniper.net:/volume/build/junos/11.4/release/11.4R1.2/obj-powerpc/
bsd/kernels/JUNIPER-EX/kernel
can't re-use a leaf (all_slot_serialid!)
Timecounter "decrementer" frequency 50000000 Hz quality 0
cpu0: Freescale e500v2 core revision 2.2
cpu0: HIO 80004080 <EMCP,TBEN,EN_MAS7_UPDATE>
real memory = 511705088 (488 MB)
avail memory = 500260864 (477 MB)
ETHERNET SOCKET BRIDGE initialising
Initializing EXSERIES platform properties ...
. . .
Automatic reboot in progress...
Media check on da0 on ex platforms
** /dev/da0s1a
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 20064 free (48 frags, 2502 blocks, 0.1% fragmentation)
zeroizing /dev/da0s2a ...
. . .
Creating initial configuration...mgd: error: Cannot open configuration file:
/config/juniper.conf
mgd: warning: activating factory configuration
mgd: commit complete
mgd: -----
mgd: Please login as 'root'. No password is required.
mgd: To start Initial Setup, type 'ezsetup' at the JUNOS prompt.
mgd: To start JUNOS CLI, type 'cli' at the JUNOS prompt.
mgd: -----
Setting initial options: debugger_on_panic=NO debugger_on_break=NO.
Starting optional daemons: .
Doing initial network setup:
. . .

Amnesiac (ttyu0)

```

show system boot-messages

List of Syntax	Syntax on page 216
	Syntax (EX Series Switches) on page 216
	Syntax (TX Matrix Router) on page 216
	Syntax (TX Matrix Plus Router) on page 216
	Syntax (MX Series Router) on page 216
Syntax	Syntax (QFX Series) on page 216
	Syntax show system boot-messages
Syntax (EX Series Switches)	show system boot-messages
	<all-members>
	<local>
	<member <i>member-id</i> >
Syntax (TX Matrix Router)	show system boot-messages
	<all-chassis all-lcc lcc <i>number</i> scc>
Syntax (TX Matrix Plus Router)	show system boot-messages
	<all-chassis all-lcc lcc <i>number</i> sfc <i>number</i> >
Syntax (MX Series Router)	show system boot-messages
	<all-members>
	<local>
	<member <i>member-id</i> >
Syntax (QFX Series)	show system boot-messages
	infrastructure <i>name</i> interconnect-device <i>name</i> node-group <i>name</i>
Release Information	Command introduced before Junos OS Release 7.4.
	Command introduced in Junos OS Release 9.0 for EX Series switches.
	sfc option introduced for the TX Matrix Plus router in Junos OS Release 9.6.
	Command introduced in Junos OS Release 11.1 for the QFX Series.
	Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display initial messages generated by the system kernel upon startup. These messages are the contents of <code>/var/run/dmesg.boot</code> .
Options	none —Display all boot time messages.
	all-chassis —(TX Matrix routers and TX Matrix Plus routers only) (Optional) Display boot time messages for all of the chassis.
	all-lcc —(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display boot time messages for all T640 routers connected to a TX Matrix router. On a TX Matrix Plus router, display boot time messages for all connected T1600 or T4000 LCCs.
	all-members —(EX4200 switches and MX Series routers only) (Optional) Display boot time messages on all members of the Virtual Chassis configuration.

infrastructure *name*—(QFabric systems only) (Optional) Display boot time messages on the fabric control Routing Engine or fabric manager Routing engines.

interconnect-device *name*—(QFabric systems only) (Optional) Display boot time messages on the Interconnect device.

lcc *number*—(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display boot time messages for a specific T640 router connected to a TX Matrix router. On a TX Matrix Plus router, display boot time messages for a specific router connected to a TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(EX4200 switches and MX Series routers only) (Optional) Display boot time messages on the local Virtual Chassis member.

member *member-id*—(EX4200 switches and MX Series routers only) (Optional) Display boot time messages on the specified member of the Virtual Chassis configuration. For EX4200 switches, replace *member-id* with a value from 0 through 9. For an MX Series Virtual Chassis, replace *member-id* with a value of 0 or 1.

node-group *name*—(QFabric systems only) (Optional) Display boot time messages on the Node group.

scc—(TX Matrix routers only) (Optional) Display boot time messages for the TX Matrix router (or switch-card chassis).

sfc *number*—(TX Matrix Plus routers only) (Optional) Display boot time messages for the TX Matrix Plus router. Replace *number* with 0.

Additional Information By default, when you issue the **show system boot-messages** command on the master Routing Engine of a TX Matrix router or a TX Matrix Plus router, the command is broadcast to all the master Routing Engines of the LCCs connected to it in the routing matrix. Likewise, if you issue the same command on the backup Routing Engine of a TX Matrix or a TX Matrix Plus router, the command is broadcast to all backup Routing Engines of the LCCs that are connected to it in the routing matrix.

Required Privilege Level view

Related Documentation

- [Routing Matrix with a TX Matrix Plus Router Solutions Page](#)

List of Sample Output

- [show system boot-messages \(TX Matrix Router\) on page 218](#)
- [show system boot-messages lcc \(TX Matrix Router\) on page 219](#)
- [show system boot-messages \(TX Matrix Plus Router\) on page 220](#)
- [show system boot-messages \(QFX3500 Switch\) on page 220](#)

Sample Output

show system boot-messages (TX Matrix Router)

```

user@host> show system boot-messages
Copyright (c) 1992-1998 FreeBSD Inc.
Copyright (c) 1996-2000 Juniper Networks, Inc.
All rights reserved.
Copyright (c) 1982, 1986, 1989, 1991, 1993
    The Regents of the University of California. All rights reserved.

JUNOS 4.1-20000216-Zf8469 #0: 2000-02-16 12:57:28 UTC
    tlim@single.juniper.net:/p/build/20000216-0905/4.1/release_kernel/sys/compil
e/GENERIC
CPU: Pentium Pro (332.55-MHz 686-class CPU)
    Origin = "GenuineIntel" Id = 0x66a Stepping=10
    Features=0x183f9ff<FPU,VME,DE,PSE,TSC,MSR,PAE,MCE,CX8,SEP,MTRR,PGE,MCA,CMOV,<b
16>,<b17>,MMX,<b24>>
Teknor CPU Card Recognized
real memory = 805306368 (786432K bytes)
avail memory = 786280448 (767852K bytes)
Probing for devices on PCI bus 0:
chip0 <generic PCI bridge (vendor=8086 device=7192 subclass=0)> rev 3 class 6000
0 on pci0:0:0
chip1 <Intel 82371AB PCI-ISA bridge> rev 1 class 60100 on pci0:7:0
chip2 <Intel 82371AB IDE interface> rev 1 class 10180 on pci0:7:1
chip3 <Intel 82371AB USB interface> rev 1 class c0300 int d irq 11 on pci0:7:2
smb0 <Intel 82371AB SMB controller> rev 1 class 68000 on pci0:7:3
pcic0 <TI PCI-1131 PCI-CardBus Bridge> rev 1 class 60700 int a irq 15 on pci0:13
:0
TI1131 PCI Config Reg: [pci only][FUNC0 pci int]
pcic1 <TI PCI-1131 PCI-CardBus Bridge> rev 1 class 60700 int b irq 12 on pci0:13
:1
TI1131 PCI Config Reg: [pci only][FUNC1 pci int]
fxp0 <Intel EtherExpress Pro 10/100B Ethernet> rev 8 class 20000 int a irq 12 on

pci0:16:0
chip4 <generic PCI bridge (vendor=1011 device=0022 subclass=4)> rev 4 class 6040
0 on pci0:17:0
fxp1 <Intel EtherExpress Pro 10/100B Ethernet> rev 8 class 20000 int a irq 10 on

pci0:19:0
Probing for devices on PCI bus 1:
mcs0 <Miscellaneous Control Subsystem> rev 12 class ff0000 int a irq 12 on pci1:
13:0
fxp2 <Intel EtherExpress Pro 10/100B Ethernet> rev 8 class 20000 int a irq 10 on

pci1:14:0
Probing for devices on the ISA bus:
sc0 at 0x60-0x6f irq 1 on motherboard
sc0: EGA color <16 virtual consoles, flags=0x0>
ed0 not found at 0x300

```



```

ed1 not found at 0x280
ed2 not found at 0x340
psm0 not found at 0x60
sio0 at 0x3f8-0x3ff irq 4 flags 0x20010 on isa
sio0: type 16550A, console
sio1 at 0x3e8-0x3ef irq 5 flags 0x20000 on isa
sio1: type 16550A
sio2 at 0x2f8-0x2ff irq 3 flags 0x20000 on isa
sio2: type 16550A
pcic0 at 0x3e0-0x3e1 on isa
PC-Card ctlr(0) TI PCI-1131 [CardBus bridge mode] (5 mem & 2 I/O windows)
pcic0: slot 0 controller I/O address 0x3e0
npx0 flags 0x1 on motherboard
npx0: INT 16 interface
fdc0: direction bit not set
fdc0: cmd 3 failed at out byte 1 of 3
fdc0 not found at 0x3f0
wdc0 at 0x1f0-0x1f7 irq 14 on isa
wdc0: unit 0 (wd0): <SunDisk SQFXB-80>, single-sector-i/o
wd0: 76MB (156672 sectors), 612 cyls, 8 heads, 32 S/T, 512 B/S
wdc0: unit 1 (wd1): <IBM-DCXA-210000>
wd1: 8063MB (16514064 sectors), 16383 cyls, 16 heads, 63 S/T, 512 B/S
wdc1 not found at 0x170
wdc2 not found at 0x180
ep0 not found at 0x300
fxp0: Ethernet address 00:a0:a5:12:05:5a
fxp1: Ethernet address 00:a0:a5:12:05:59
fxp2: Ethernet address 02:00:00:00:00:01
swapon: adding /dev/wd1s1b as swap device
Automatic reboot in progress...
/dev/rwd0s1a: clean, 16599 free (95 frags, 2063 blocks, 0.1% fragmentation)
/dev/rwd0s1e: clean, 9233 free (9 frags, 1153 blocks, 0.1% fragmentation)
/dev/rwd0s1a: clean, 16599 free (95 frags, 2063 blocks, 0.1% fragmentation)
/dev/rwd1s1f: clean, 4301055 free (335 frags, 537590 blocks, 0.0% fragmentation)

```

show system boot-messages lcc (TX Matrix Router)

```

user@host> show system boot-messages lcc 2
lcc2-re0:
-----
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Copyright (c) 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994
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JUNOS 7.0-20040912.0 #0: 2004-09-12 09:16:32 UTC

builder@benten.juniper.net:/build/benten-b/7.0/20040912.0/obj-i386/sys/compile/JUNIPER
Timecounter "i8254" frequency 1193182 Hz
Timecounter "TSC" frequency 601368936 Hz
CPU: Pentium III/Pentium III Xeon/Celeron (601.37-MHz 686-class CPU)
    Origin = "GenuineIntel" Id = 0x68a Stepping = 10

Features=0x387f9ff<FPU,WME,DE,PSE,TSC,MSR,PAE,MCE,CX8,SEP,MTRR,PGE,MCA,CMOV,PAT,PSE36,PN,MMX,FXSR,SSE>
real memory = 2147467264 (2097136K bytes)
sio0: gdb debugging port
avail memory = 2084040704 (2035196K bytes)
Preloaded elf kernel "kernel" at 0xc06d9000.
DEVFS: ready for devices
Pentium Pro MTRR support enabled
md0: Malloc disk

```

```

DRAM Data Integrity Mode: ECC Mode with h/w scrubbing
npx0: <math processor> on motherboard
npx0: INT 16 interface
pcib0: <ServerWorks NB6635 3.0LE host to PCI bridge> on motherboard
pci0: <PCI bus> on pcib0
pcic-pci0: <TI PCI-1410 PCI-CardBus Bridge> irq 15 at device 1.0 on pci0
pcic-pci0: TI12XX PCI Config Reg: [pwr save][pci only]
fxp0: <Intel Embedded 10/100 Ethernet> port 0x1000-0x103f mem
0xfb800000-0xfb81ffff,0xfb820000-0xfb820fff irq 9 at device 3.0 on pci0
fxp1: <Intel Embedded 10/100 Ethernet> port 0x1040-0x107f mem
0xfb840000-0xfb85ffff,0xfb821000-0xfb821fff irq 11 at device 4.0 on pci0
...

```

show system boot-messages (TX Matrix Plus Router)

```

user@host> show system boot-messages
sfc0-re0:
-----
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JUNOS 9.6B3.3 #0: 2009-06-17 19:52:08 UTC

builder@lanath.juniper.net:/volume/build/junos/9.6/release/9.6B3.3/obj-i386/bsd/sys/compile/JUNIPER
MPTable: Timecounter "i8254" frequency 1193182 Hz quality 0 CPU: Intel(R) Xeon(R)
CPU          L5238 @ 2.66GHz (2660.01-MHz 686-class CPU)   Origin =
"GenuineIntel" Id = 0x1067a Stepping = 10   Features=0xbfebfbff
...
lcc1-re0:
-----
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JUNOS 9.6-20090617.0 #0: 2009-06-17 04:15:14 UTC

builder@lanath.juniper.net:/volume/build/junos/9.6/production/20090617.0/obj-i386/bsd/sys/compile/JUNIPER
Timecounter "i8254" frequency 1193182 Hz quality 0
CPU: Intel(R) Xeon(R) CPU          @ 1.86GHz (1862.01-MHz 686-class CPU)

Origin = "GenuineIntel" Id = 0x1067a Stepping = 10
Features=0xbfebfbff
...

```

show system boot-messages (QFX3500 Switch)

```

user@switch> show sytem boot-messages
getmemsize: msgbufp[size=32768] = 0x81d07fe4

System physical memory distribution:
-----
Total physical memory: 4160749568 (3968 MB)
Physical memory used: 3472883712 (3312 MB)
Physical memory allocated to kernel: 2130706432 (2032 MB)
Physical memory allocated to user BTLB: 1342177280 (1280 MB)
-----

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```

```

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JUNOS 11.1I #0: 2010-09-17 19:18:07 UTC

ssiano@svl-junos-pool125.juniper.net:/c/ssiano/DEV_QFX_SI_BRANCH/03/20100917.399988/
obj-xlr/bsd/sys/compile/JUNIPER-DCTOR
WARNING: debug.mpsafenet forced to 0 as ipsec requires Giant
JUNOS 11.1I #0: 2010-09-17 19:18:07 UTC

ssiano@svl-junos-pool125.juniper.net:/c/ssiano/DEV_QFX_SI_BRANCH/03/20100917.399988/
obj-xlr/bsd/sys/compile/JUNIPER-DCTOR
real memory = 3472883712 (3312MB)
avail memory = 1708171264 (1629MB)
cpuid: 0, bt1b_cpumap:0xffffffff8
FreeBSD/SMP: Multiprocessor System Detected: 12 CPUs
ETHERNET SOCKET BRIDGE initialising
Initializing QFX platform properties ..
cpu0 on motherboard
: RMI's XLR CPU Rev. 0.3 with no FPU implemented
  L1 Cache: I size 32kb(32 line), D size 32kb(32 line), eight way.
  L2 Cache: Size 1024kb, eight way
pic_lbus0: <XLR Local Bus>
pic_lbus0: <XLR Local Bus> on motherboard
Enter qfx control ethernet probe addr:0xc5eeec00
gmac4: <XLR GMAC GE Ethernet> on pic_lbus0
me0: Ethernet address 00:1d:b5:f7:68:40
Enter qfx control ethernet probe addr:0xc5eeeb40
gmac5: <XLR GMAC GE Ethernet> on pic_lbus0
me1: Ethernet address 00:1d:b5:f7:68:41
Enter qfx control ethernet probe addr:0xc5eeea80
gmac6: <XLR GMAC GE Ethernet> on pic_lbus0
me1: Ethernet address 00:1d:b5:f7:68:42
sio0 on pic_lbus0
Entering sioattach
sio0: type 16550A, console
xls_setup_intr: skip irq 3, xlr regs are set up somewhere else.
gblmem0 on pic_lbus0
ehci0: <RMI XLS USB 2.0 controller> on pic_lbus0
ehci_bus_attach: allocated resource. tag=1, base=bef24000
xls_ehci_init: endian hardware swapping NOT enabled.
usb0: EHCI version 1.0
usb0 on ehci0
usb0: USB revision 2.0
uhub0: vendor 0x0000 EHCI root hub, class 9/0, rev 2.00/1.00, addr 1
uhub0: 2 ports with 2 removable, self powered
umass0: USB USBFlashDrive, rev 2.00/11.00, addr 2
pcib0: PCIe link 0 up
pcib0: PCIe link 2 up
pcib0: PCIe link 3 up
pcib0: <XLS PCI Host Controller> on pic_lbus0
pci0: <PCI bus> on pcib0
pcib1: <PCI-PCI bridge> at device 0.0 on pci0
pci1: <PCI bus> on pcib1
pci1: <network, ethernet> at device 0.0 (no driver attached)
pcib2: <PCI-PCI bridge> at device 1.0 on pci0
pcib3: <PCI-PCI bridge> at device 2.0 on pci0
pci2: <PCI bus> on pcib3
pci2: <network, ethernet> at device 0.0 (no driver attached)
pcib4: <PCI-PCI bridge> at device 3.0 on pci0

```

```
pci3: <PCI bus> on pcib4
pci3: <network, ethernet> at device 0.0 (no driver attached)
cfi device address space at 0xbc000000
cfi0: <AMD/Fujitsu - 8MB> on pic_lbus0
cfi device address space at 0xbc000000
i2c0: <I2C bus controller> on pic_lbus0
i2c1: <I2C bus controller> on pic_lbus0
qfx_fmn0 on pic_lbus0
pool offset 1503776768
xlr_lbus0: <XLR Local Bus Controller> on motherboard
qfx_bcpld_probe[124]
qfx_bcpld_probe[138]: dev_type=0x0
qfx_bcpld_probe[124]
qfx_bcpld0: QFX BCPLD probe success
qfx_bcpld0qfx_bcpld_attach[174]
qfx_bcpld_attach[207] : bus_space_tag=0x0, bus_space_handle=0xbd900000
qfx_bcpld_probe[124]
qfx_bcpld1: QFX BCPLD probe success
qfx_bcpld1qfx_bcpld_attach[174]
tor_bcpld_slave_attach[1245] : bus_space_tag=0x0, bus_space_handle=0xbda00000
Initializing product: 96 ..
bmeb: bmeb_lib_init done 0xc60a5000, addr 0x809c99a0
bme0:Virtual BME driver initializing
Timecounter "mips" frequency 1200000000 Hz quality 0
Timecounter "xlr_pic_timer" frequency 66666666 Hz quality 1
Timecounters tick every 1.000 msec
Loading the NETPFE fc module
IPsec: Initialized Security Association Processing.
SMP: AP CPU #3 Launched!
SMP: AP CPU #1 Launched!
SMP: AP CPU #2 Launched!
SMP: AP CPU #4 Launched!
SMP: AP CPU #5 Launched!
SMP: AP CPU #7 Launched!
SMP: AP CPU #6 Launched!
SMP: AP CPU #11 Launched!
SMP: AP CPU #10 Launched!
SMP: AP CPU #9 Launched!
SMP: AP CPU #8 Launched!
da0 at umass-sim0 bus 0 target 0 lun 0
da0: <USB USBFlashDrive 1100> Removable Direct Access SCSI-0 device
da0: 40.000MB/s transfers
da0: 3920MB (8028160 512 byte sectors: 255H 63S/T 499C)
Trying to mount root from ufs:/dev/da0s1a
```

show system license

Syntax	show system license <installed keys usage>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 13.3 for the MX104 3D Universal Edge Routers.
Description	Display licenses and information about how they are used.
Options	<p>none—Display all license information.</p> <p>installed—(Optional) Display installed licenses only.</p> <p>keys—(Optional) Display a list of license keys. Use this information to verify that each expected license key is present.</p> <p>usage—(Optional) Display the state of licensed features.</p>
Required Privilege Level	maintenance
List of Sample Output	show system license on page 224 show system license installed on page 225 show system license keys on page 225 show system license usage on page 225 show system license (MX104 Routers) on page 225 show system license installed (MX104 Routers) on page 226 show system license keys (MX104 Routers) on page 226 show system license usage (MX104 Routers) on page 226 show system license (MX104 Routers) on page 226 show system license installed (MX104 Routers) on page 227 show system license keys (MX104 Routers) on page 227 show system license usage (MX104 Routers) on page 227 show system license (MX104 Routers) on page 228 show system license installed (MX104 Routers) on page 228 show system license keys (MX104 Routers) on page 228 show system license usage (MX104 Routers) on page 229 show system license (QFX Series) on page 229
Output Fields	Table 14 on page 223 lists the output fields for the show system license command. Output fields are listed in the approximate order in which they appear.

Table 14: show system license Output Fields

Field Name	Field Description
Feature name	Name assigned to the configured feature. You use this information to verify that all the features for which you installed licenses are present.

Table 14: show system license Output Fields (*continued*)

Field Name	Field Description
Licenses used	<p>Number of licenses used by a router or switch. You use this information to verify that the number of licenses used matches the number configured. If a licensed feature is configured, the feature is considered used.</p> <p>NOTE: In Junos OS Release 10.1 and later, the Licenses used column displays the actual usage count based on the number of active sessions or connections as reported by the corresponding feature daemons. This is applicable for scalable license-based features such as Subscriber Access (scale-subscriber), L2TP (scale-l2tp), Mobile IP (scale-mobile-ip), and so on.</p>
Licenses installed	<p>Information about the installed license key:</p> <ul style="list-style-type: none"> • License identifier—Identifier associated with a license key. • State—State of the license key: valid or invalid. An invalid state indicates that the key was entered incorrectly or is not valid for the specific device. • License version—Version of a license. The version indicates how the license is validated, the type of signature, and the signer of the license key. • Valid for device—Device that can use a license key. • Group defined—Group membership of a device. • Features—Feature associated with a license, such as data link switching (DLSw).
Licenses needed	Number of licenses required for features being used but not yet properly licensed.
Expiry	Amount of time left within the grace period before a license is required for a feature being used.

Sample Output

show system license

```
user@host> show system license
```

```
License usage:
```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
subscriber-accounting	2	2	0	permanent
subscriber-authentication	1	2	0	permanent
subscriber-address-assignment	2	2	0	permanent
subscriber-vlan	2	2	0	permanent
subscriber-ip	0	2	0	permanent
scale-subscriber	2	3	0	permanent
scale-l2tp	4	5	0	permanent
scale-mobile-ip	1	2	0	permanent

```
Licenses installed:
```

```
License identifier: XXXXXXXXXX
```

```
License version: 2
```

```
Features:
```

```
subscriber-accounting - Per Subscriber Radius Accounting
permanent
subscriber-authentication - Per Subscriber Radius Authentication
permanent
subscriber-address-assignment - Radius/SRC Address Pool Assignment
permanent
subscriber-vlan - Dynamic Auto-sensed Vlan
```

```

permanent
subscriber-ip    - Dynamic and Static IP
permanent

```

show system license installed

```

user@host> show system license installed
License identifier: XXXXXXXXXX
License version: 2
Features:
  subscriber-accounting - Per Subscriber Radius Accounting
  permanent
  subscriber-authentication - Per Subscriber Radius Authentication
  permanent
  subscriber-address-assignment - Radius/SRC Address Pool Assignment
  permanent
  subscriber-vlan    - Dynamic Auto-sensed Vlan
  permanent
  subscriber-ip      - Dynamic and Static IP
  permanent

```

show system license keys

```

user@host> show system license keys
XXXXXXXXXX xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
          xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
          xxxxxx xxxxxx xxx

```

show system license usage

```

user@host> show system license usage
License usage:

```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
subscriber-accounting	2	2	0	permanent
subscriber-authentication	1	2	0	permanent
subscriber-address-assignment	2	2	0	permanent
subscriber-vlan	2	2	0	permanent
subscriber-ip	0	2	0	permanent
scale-subscriber	2	3	0	permanent
scale-l2tp	4	5	0	permanent
scale-mobile-ip	1	2	0	permanent

show system license (MX104 Routers)

In the following output, ports 0 and 1 are activated by installing the license to activate the first two built-in ports.

```

user@host> show system license
License usage:

```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent

```

Licenses installed:
License identifier: XXXXXXXXXX
License version: 2
Features:

```

```

MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1)
upgrade
    permanent

```

show system license installed (MX104 Routers)

In the following output, ports 0 and 1 are activated by installing the license to activate the first two built-in ports.

```

user@host > show system license installed
License identifier: XXXXXXXXXX
License version: 2
Features:
MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1)
upgrade
    permanent

```

show system license keys (MX104 Routers)

In the following output, ports 0 and 1 are activated by installing the license to activate the first two built-in ports.

```

user@host > show system license keys

XXXXXXXXXX xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
          xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
          xxxxxx xxxx

```

show system license usage (MX104 Routers)

In the following output, ports 0 and 1 are activated by installing the license to activate the first two built-in ports.

```

user@host > show system license usage

```

Feature name	Licenses used	Licenses installed	Expiry needed	
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent

show system license (MX104 Routers)

In the following output, ports 2 and 3 are activated by installing the license to activate the next two built-in ports after installing the license to activate the first two built-in ports.

```

user@host > show system license
License usage:

```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent
MX104-2x10Gig-port-2-3	0	1	0	permanent

```

Licenses installed:
License identifier: XXXXXXXXXX
License version: 2

```



```

Features:
MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1)
upgrade
    permanent

License identifier: XXXXXXXXXX
License version: 2
Features:
MX104-2x10Gig-port-2-3 - MX104 2X10Gig Builtin Port(xe-2/0/2 & xe-2/0/3)
upgrade
    permanent

```

show system license installed (MX104 Routers)

In the following output, ports 2 and 3 are activated by installing the license to activate the next two built-in ports after installing the license to activate the first two built-in ports.

```

user@host > show system license installed
License identifier: XXXXXXXXXX
License version: 2
Features:
MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1)
upgrade
    permanent

License identifier: XXXXXXXXXX
License version: 2
Features:
MX104-2x10Gig-port-2-3 - MX104 2X10Gig Builtin Port(xe-2/0/2 & xe-2/0/3)
upgrade
    permanent

```

show system license keys (MX104 Routers)

In the following output, ports 2 and 3 are activated by installing the license to activate the next two built-in ports after installing the license to activate the first two built-in ports.

```

user@host > show system license keys

XXXXXXXXXX xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
          xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
          xxxxxx xxxx

XXXXXXXXXX xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
          xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx
          xxxxxx xxxx

```

show system license usage (MX104 Routers)

In the following output, ports 2 and 3 are activated by installing the license to activate the next two built-in ports after installing the license to activate the first two built-in ports.

```

user@host > show system license usage

```

Feature name	Licenses used	Licenses installed	Expiry needed	
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent

scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent
MX104-2x10Gig-port-2-3	0	1	0	permanent

show system license (MX104 Routers)

In the following output, ports 0,1,2, and 3 are activated by installing a single license key to activate all four built-in ports.

```
user@host > show system license
```

License usage:

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent
MX104-2x10Gig-port-2-3	0	1	0	permanent

Licenses installed:

License identifier: XXXXXXXXXX

License version: 2

Features:

MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1)

upgrade

permanent

MX104-2x10Gig-port-2-3 - MX104 2X10Gig Builtin Port(xe-2/0/2 & xe-2/0/3)

upgrade

permanent

show system license installed (MX104 Routers)

In the following output, ports 0,1,2, and 3 are activated by installing a single license key to activate all four built-in ports.

```
user@host > show system license installed
```

License identifier: XXXXXXXXXX

License version: 2

Features:

MX104-2x10Gig-port-0-1 - MX104 2X10Gig Builtin Port(xe-2/0/0 & xe-2/0/1)

upgrade

permanent

MX104-2x10Gig-port-2-3 - MX104 2X10Gig Builtin Port(xe-2/0/2 & xe-2/0/3)

upgrade

permanent

show system license keys (MX104 Routers)

In the following output, ports 0,1,2, and 3 are activated by installing a single license key to activate all four built-in ports.

```
user@host > show system license keys
```

```
XXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
XXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX
XXXXXXXX XXXXXX X
```

show system license usage (MX104 Routers)

In the following output, ports 0,1,2, and 3 are activated by installing a single license key to activate all four built-in ports.

```
user@host > show system license usage
```

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
scale-subscriber	0	1000	0	permanent
scale-l2tp	0	1000	0	permanent
scale-mobile-ip	0	1000	0	permanent
MX104-2x10Gig-port-0-1	0	1	0	permanent
MX104-2x10Gig-port-2-3	0	1	0	permanent

show system license (QFX Series)


```
user@switch> show system license
```

License usage:

Feature name	Licenses used	Licenses installed	Licenses needed	Expiry
qfx-edge-fab	1	1	1	permanent

Licenses installed:
 License identifier: JUNOS417988
 License version: 1
 Features:
 qfx-edge-fab - QFX3000 Series QF/Node feature license
 permanent

show system snapshot

List of Syntax	Syntax on page 230 Syntax (EX Series Switches) on page 230
Syntax	show system snapshot
Syntax (EX Series Switches)	show system snapshot <all-members local member <i>member-id</i> > <media (external internal)>
Release Information	Command introduced in Junos OS Release 7.6. Command introduced in Junos OS Release 10.0 for EX Series switches.
Description	Display information about the backup software: <ul style="list-style-type: none"> On the routers, display information about the backup software, which is located in the <code>/altroot</code>, and <code>/altconfig</code> file systems or on the alternate media. On the switches, display information about the backup of the root file system (<code>/</code>) and directories <code>/altroot</code>, <code>/config</code>, <code>/var</code>, and <code>/var/tmp</code>, which are located either on an external USB flash drive or in internal flash memory.
<div>  NOTE: To back up software, use the <code>request system snapshot</code> command. </div>	
Options	none —Display information about the backup software. all-members local member <i>member-id</i> —(EX Series switch Virtual Chassis only) (Optional) Display the snapshot in a Virtual Chassis: <ul style="list-style-type: none"> all-members—Display the snapshot for all members of the Virtual Chassis. local—Display the snapshot on the member of the Virtual Chassis that you are currently logged into. member <i>member-id</i>—Display the snapshot for the specified member of the Virtual Chassis. media (external internal) —(EX Series switch only) (Optional) Display the destination media location for the snapshot. The external option specifies the snapshot on an external mass storage device, such as a USB flash drive. The internal option specifies the snapshot on an internal memory source, such as internal flash memory. If no additional options are specified, the command displays the snapshot stored in both slices.
Required Privilege Level	view

- Related Documentation**
- [request system snapshot on page 184](#)
- List of Sample Output**
- [show system snapshot \(Router\) on page 231](#)
 - [show system snapshot media external \(Switch\) on page 231](#)
 - [show system snapshot media internal \(Switch\) on page 232](#)
- Output Fields**
- Table 15 on page 231 lists the output fields for the **show system snapshot** command. Output fields are listed in the approximate order in which they appear.

Table 15: show system snapshot Output Fields

Field Name	Field Description
Creation date	Date and time of the last snapshot.
JUNOS version on snapshot	Junos OS release number of individual software packages.

Sample Output

show system snapshot (Router)

```

user@host> show system snapshot
Information for snapshot on hard-disk
Creation date: Oct 5 13:53:29 2005
JUNOS version on snapshot:
  jbase   : 7.3R2.5
  jcrypto: 7.3R2.5
  jdocs   : 7.3R2.5
  jkernel: 7.3R2.5
  jpfe    : M40-7.3R2.5
  jroute  : 7.3R2.5

```

show system snapshot media external (Switch)

```

user@switch> show system snapshot media external
Information for snapshot on      external (/dev/dals1a) (backup)
Creation date: Mar 19 03:37:18 2012
JUNOS version on snapshot:
  jbase   : ex-12.1I20120111_0048_user
  jcrypto-ex: 12.1I20120111_0048_user
  jdocs-ex: 12.1I20120111_0048_user
  jroute-ex: 12.1I20120111_0048_user
  jswitch-ex: 12.1I20120111_0048_user
  jweb-ex: 12.1I20120111_0048_user
Information for snapshot on      external (/dev/dals2a) (primary)
Creation date: Mar 19 03:38:25 2012
JUNOS version on snapshot:
  jbase   : ex-12.2I20120305_2240_user
  jcrypto-ex: 12.2I20120305_2240_user
  jdocs-ex: 12.2I20120305_2240_user
  jroute-ex: 12.2I20120305_2240_user
  jswitch-ex: 12.2I20120305_2240_user
  jweb-ex: 12.2I20120305_2240_user

```

show system snapshot media internal (Switch)

```
user@switch> show system snapshot media internal
Information for snapshot on internal (/dev/da0s1a) (backup)
Creation date: Mar 14 05:01:02 2011
JUNOS version on snapshot:
  jbase : 11.1R1.9
  jcrypto-ex: 11.1R1.9
  jdocs-ex: 11.1R1.9
  jkernel-ex: 11.1R1.9
  jroute-ex: 11.1R1.9
  jswitch-ex: 11.1R1.9
  jweb-ex: 11.1R1.9
  jpfe-ex42x: 11.1R1.9
Information for snapshot on internal (/dev/da0s2a) (primary)
Creation date: Mar 30 08:46:27 2011
JUNOS version on snapshot:
  jbase : 11.2-20110330.0
  jcrypto-ex: 11.2-20110330.0
  jdocs-ex: 11.2-20110330.0
  jkernel-ex: 11.2-20110330.0
  jroute-ex: 11.2-20110330.0
  jswitch-ex: 11.2-20110330.0
  jweb-ex: 11.2-20110330.0
  jpfe-ex42x: 11.2-20110330.0
```

CHAPTER 8

Operational Commands: System Monitoring

- `show chassis alarms`
- `show chassis environment`
- `show chassis environment cb`
- `show chassis environment fpc`
- `show chassis environment pem`
- `show chassis environment routing-engine`
- `show chassis fan`
- `show chassis hardware`
- `show chassis location`
- `show chassis pic`
- `show chassis routing-engine`
- `show chassis temperature-thresholds`
- `show log`
- `show system alarms`
- `show system processes`
- `show system statistics`
- `show system uptime`

show chassis alarms

List of Syntax	Syntax on page 234 Syntax (TX Matrix Routers) on page 234 Syntax (TX Matrix Plus Routers) on page 234 Syntax (MX Series Routers) on page 234 Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers) on page 234 Syntax (QFX Series) on page 234 Syntax (OCX Series) on page 234 Syntax (PTX Series Packet Transport Routers) on page 234 Syntax (ACX Series Universal Access Routers) on page 234
Syntax	show chassis alarms
Syntax (TX Matrix Routers)	show chassis alarms <lcc <i>number</i> scc>
Syntax (TX Matrix Plus Routers)	show chassis alarms <lcc <i>number</i> sfc <i>number</i> >
Syntax (MX Series Routers)	show chassis alarms <all-members> <local> <member <i>member-id</i> >
Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers)	show chassis alarms
Syntax (QFX Series)	show chassis alarms <interconnect-device <i>name</i> > <node-device <i>name</i> >
Syntax (OCX Series)	show chassis alarms
Syntax (PTX Series Packet Transport Routers)	show chassis alarms
Syntax (ACX Series Universal Access Routers)	show chassis alarms
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. sfc option for the TX Matrix Plus router introduced in Junos OS Release 9.6. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 12.1 for the PTX Series Packet Transport Routers.

Command introduced in Junos OS Release 12.2 for the ACX Series Universal Access Routers.

Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.

Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.

Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.

Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.

Description Display information about the conditions that have been configured to trigger alarms.

Options **none**—Display information about the conditions that have been configured to trigger alarms.

all-members—(MX Series routers only) (Optional) Display information about alarm conditions for all the member routers of the Virtual Chassis configuration.

interconnect-device *name*—(QFabric systems only) (Optional) Display information about alarm conditions for the Interconnect device.

lcc *number*—(TX Matrix router and TX Matrix Plus router only) (Optional) Line-card chassis number.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers only) (Optional) Display information about alarm conditions for the local Virtual Chassis member.

member *member-id*—(MX Series routers only) (Optional) Display information about alarm conditions for the specified member of the Virtual Chassis configuration. Replace *member-id* variable with a value of 0 or 1.

node-device *name*—(QFabric systems only) (Optional) Display information about alarm conditions for the Node device.

scc—(TX Matrix router only) (Optional) Show information about the TX Matrix router (switch-card chassis).

sfc *number*—(TX Matrix Plus router only) (Optional) Show information about the respective TX Matrix Plus router, which is the switch-fabric chassis. Replace *number* variable with 0.

Additional Information You cannot clear the alarms for chassis components. Instead, you must remedy the cause of the alarm. When a chassis alarm LED is lit, it indicates that you are running the router or switch in a manner that we do not recommend.

On routers, you can manually silence external devices connected to the alarm relay contacts by pressing the alarm cutoff button, located on the craft interface. Silencing the device does not remove the alarm messages from the display (if present on the router) or extinguish the alarm LEDs. In addition, new alarms that occur after you silence an external device reactivate the external device.

In Junos OS release 11.1 and later, alarms for fans also show the slot number of the fans in the CLI output.

In Junos OS Release 11.2 and later, the command output on EX8200 switches shows the detailed location (**Plane/FPC/PFE**) for link errors in the chassis.

In Junos OS Release 10.2 and later, an alarm is shown on T Series routers for a standby sonic clock generator (SCG) that is offline or absent.

You may often see the following error messages, in which only the error code is shown and no other information is provided:

```
Apr 12 08:04:10 send: red alarm set, device FPC 6, reason FPC 6 Major Errors - Error code:
257
Apr 12 08:04:19 send: red alarm set, device FPC 1, reason FPC 1 Major Errors - Error code:
559
```

To understand what CM_ALARM error codes mean, you need to first identify the structure of the CM Alarm codes. A CM_ALARM code has the following structure:

Bits:	Error type:
1-31	Major (1)
0	Minor (0)

According to the table above, the LSB (bit 0) identifies the **Error Type** (major alarm, if the bit is set and minor alarm if the bit is unset). The rest of the bits (1 - 31) identify the actual error code.

Take an example of the following error code, which was logged on a T1600:

```
Apr 12 08:04:10 send: red alarm set, device FPC 1, reason FPC 1 Major Errors - Error code:
559
```

First, you have to convert 559 to binary; that is **100010111**. The LSB in this case is 1, which means that this is a major alarm. After removing the LSB, you are left with **10001011**, which is equal to 279 in decimal. This is the actual error code, its meaning can be found from the following list:

Chip Type: L Chip	Code
CMALARM_LCHIP_LOUT_DESRD_PARITY_ERR	1

CMALARM_LCHIP_LOUT_DESRD_UNINIT_ERR	2
CMALARM_LCHIP_LOUT_DESRD_ILLEGALLINK_ERR	3
CMALARM_LCHIP_LOUT_DESRD_ILLEGALSIZERR	4
CMALARM_LCHIP_LOUT_HDRF_TOERR_ERR	5
CMALARM_LCHIP_LOUT_HDRF_PARITY_ERR	6
CMALARM_LCHIP_LOUT_HDRF_UCERR_ERR	7
CMALARM_LCHIP_LOUT_NLIF_CRCDROP_ERR	8
CMALARM_LCHIP_LOUT_NLIF_CRCERR_ERR	9
CMALARM_LCHIP_UCODE_TIMEOUT_ERR	10
CMALARM_LCHIP_LIN_SRCTL_ACCT_DROP_ERR	11
CMALARM_LCHIP_LIN_SRCTL_ACCT_ADDR_SIZE_ERR	12
CMALARM_LCHIP_SRAM_PARITY_ERR	13
CMALARM_LCHIP_UCODE_OVFLW_ERR	14
CMALARM_LCHIP_LOUT_HDRF_MTU_ERR	15

Chip Type: M Chip	Code
CMALARM_MCHIP_ECC_UNCORRECT_ERR	128

Chip Type: N Chip	Code
CMALARM_NCHIP_RDDMA_JBUS_TIMEOUT_ERR	256
CMALARM_NCHIP_RDDMA_FIFO_OVFLW_ERR	257
CMALARM_NCHIP_RDDMA_FIFO_UNFLW_ERR	258
CMALARM_NCHIP_RDDMA_SIZE_ERR	259
CMALARM_NCHIP_RDDMA_JBUS_CRC_ERR	260
CMALARM_NCHIP_WRDMA_PKTR_ERR	261
CMALARM_NCHIP_WRDMA_PKT_CRC_ERR	262
CMALARM_NCHIP_WRDMA_JBUS_TIMEOUT_ERR	263

CMALARM_NCHIP_WRDMA_FIFO_OVFLW_ERR	264
CMALARM_NCHIP_WRDMA_FIFO_UNFLW_ERR	265
CMALARM_NCHIP_WRDMA_PKT_LEN_ERR	266
CMALARM_NCHIP_WRDMA_JBUS_CRC_ERR	267
CMALARM_NCHIP_PKTR_DMA_AGE_ERR	268
CMALARM_NCHIP_PKTR_ICELLSIG_ERR	269
CMALARM_NCHIP_PKTR_FTTL_ERR	270
CMALARM_NCHIP_RODR_OFFSET_OVFLW_ERR	271
CMALARM_NCHIP_PKTR_TMO_CELL_ERR	272
CMALARM_NCHIP_PKTR_TMO_OUTRANGE_ERR	273
CMALARM_NCHIP_PKTR_MD_REQUEST_Q_OVFLW_ERR	274
CMALARM_NCHIP_PKTR_DMA_BUFFER_OVFLW_ERR	275
CMALARM_NCHIP_PKTR_GRT_OVFLW_ERR	276
CMALARM_NCHIP_FRQ_ERR	277
CMALARM_NCHIP_RODR_IN_Q_OVFLW_ERR	278
CMALARM_NCHIP_DBUF_CRC_ERR	279
<hr/>	
Chip Type: R Chip	Code
CMALARM_RCHIP_SRAM_PARITY_ERR	512
<hr/>	
Chip Type: R Chip	Code
CMALARM_ICHIP_WO_DESRD_ID_ERR	601
CMALARM_ICHIP_WO_DESRD_DATA_ERR	602
CMALARM_ICHIP_WO_DESRD_OFLOW_ERR	603
CMALARM_ICHIP_WO_HDRF_UCERR_ERR	604
CMALARM_ICHIP_WO_HDRF_MTUERR_ERR	605
CMALARM_ICHIP_WO_HDRF_PARITY_ERR	606

CMALARM_ICHIP_WO_HDRF_TOERR_ERR	607
CMALARM_ICHIP_WO_IP_CRC_ERR	608
CMALARM_ICHIP_WO_IP_INTER_ERR	609
CMALARM_ICHIP_WI_WAN_TIMEOUT_ERR	625
CMALARM_ICHIP_WI_FAB_TIMEOUT_ERR	626
CMALARM_ICHIP_RLDRAM_BIST_ERR	630
CMALARM_ICHIP_SDRAM_BIST_ERR	631
CMALARM_ICHIP_RLDRAM_PARITY_ERR	632
CMALARM_ICHIP_SDRAM_UNCORRECT_ERR	633
CMALARM_ICHIP_SDRAM_CORRECT_ERR	634
CMALARM_ICHIP_FUSE_DONE_ERR	635

According to the table above, the **279** error code corresponds to **CMALARM_NCHIP_DBUF_CRC_ERR**; this means that new CRC errors were seen on the NCHIP of this particular FPC, which is FPC as per the logs.

If you do not want to convert decimal to binary and vice versa, you may use the following shortcut:

For major alarms, the **Actual Error Code = (Error Code - 1)/2**, where **Error Code** is the code that you get in the log message. For example, if you get the following log:

Apr 12 08:04:10 send: red alarm set, device FPC 6, reason FPC 6 Major Errors - Error code: 257

Actual Error Code = $(257-1)/2 = 128$. Similarly, for minor alarms, Actual Error Code = $(\text{Error Code})/2$

Required Privilege Level

view

Related Documentation

- *Configuring an RMON Alarm Entry and Its Attributes*
- *Chassis Conditions That Trigger Alarms*

List of Sample Output

[show chassis alarms \(Alarms Active\) on page 241](#)
[show chassis alarms \(No Alarms Active\) on page 241](#)
[show chassis alarms \(Fan Tray\) on page 241](#)
[show chassis alarms \(MX104 Router\) on page 241](#)
[show chassis alarms \(MX2010 Router\) on page 241](#)

[show chassis alarms \(MX2020 Router\) on page 241](#)
[show chassis alarms \(MX960, MX480, and MX240 Routers showing Major CB Failure\) on page 241](#)
[show chassis alarms \(T4000 Router\) on page 242](#)
[show chassis alarms \(Unreachable Destinations Present on a T Series Router\) on page 242](#)
[show chassis alarms \(FPC Offline Due to Unreachable Destinations on a T Series Router\) on page 242](#)
[show chassis alarms \(SCG Absent on a T Series Router\) on page 243](#)
[show chassis alarms \(Alarms Active on a TX Matrix Router\) on page 243](#)
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[show chassis alarms \(Alarms on a T4000 Router After the enhanced-mode Statement is Enabled\) on page 245](#)
[show chassis alarms \(Backup Routing Engine\) on page 245](#)
[show chassis alarms \(EX Series Switch\) on page 245](#)
[show chassis alarms \(Alarms Active on the QFX Series and OCX Series Switches\) on page 246](#)
[show chassis alarms node-device \(Alarms Active on the QFabric System\) on page 246](#)
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[show chassis alarms \(Alarms Active on an ACX2000 Universal Access Router\) on page 248](#)
[show chassis alarms \(Active Alarm to Indicate Status of the Bad SCB Clock on MX Series\) on page 248](#)

Output Fields [Table 16 on page 240](#) lists the output fields for the **show chassis alarms** command. Output fields are listed in the approximate order in which they appear.

Table 16: show chassis alarms Output Fields

Field Name	Field Description
Alarm time	Date and time the alarm was first recorded.
Class	Severity class for this alarm: Minor or Major .
Description	Information about the alarm.

Sample Output

show chassis alarms (Alarms Active)

```
user@host> show chassis alarms
3 alarms are currently active
Alarm time      Class Description
2000-02-07 10:12:22 UTC Major fxp0: ethernet link down
2000-02-07 10:11:54 UTC Minor YELLOW ALARM - PEM 1 Removed
2000-02-07 10:11:03 UTC Minor YELLOW ALARM - Lower Fan Tray Removed
```

show chassis alarms (No Alarms Active)

```
user@host> show chassis alarms
No alarms are currently active
```

show chassis alarms (Fan Tray)

```
user@host> show chassis alarms
4 alarms currently active
Alarm time      Class Description
2010-11-11 20:27:38 UTC Major Side Fan Tray 7 Failure
2010-11-11 20:27:13 UTC Minor Side Fan Tray 7 Overspeed
2010-11-11 20:27:13 UTC Major Side Fan Tray 5 Failure
2010-11-11 20:27:13 UTC Major Side Fan Tray 0 Failure
```

show chassis alarms (MX104 Router)

```
user@host >show chassis alarms
1 alarms currently active
Alarm time      Class Description
2013-06-05 14:43:31 IST Minor Backup RE Active
```

show chassis alarms (MX2010 Router)

```
user@host> show chassis alarms
7 alarms currently active
Alarm time      Class Description
2012-08-07 00:46:06 PDT Major Fan Tray 2 Failure
2012-08-06 18:24:36 PDT Minor Redundant feed missing for PSM 6
2012-08-06 07:41:04 PDT Minor Redundant feed missing for PSM 8
2012-08-04 02:42:06 PDT Minor Redundant feed missing for PSM 5
2012-08-03 21:14:24 PDT Minor Loss of communication with Backup RE
2012-08-03 12:26:03 PDT Minor Redundant feed missing for PSM 4
2012-08-03 10:40:18 PDT Minor Redundant feed missing for PSM 7
```

show chassis alarms (MX2020 Router)

```
user@host> show chassis alarms
1 alarms currently active
Alarm time      Class Description
2012-10-03 12:14:59 PDT Minor Plane 0 not online
```

show chassis alarms (MX960, MX480, and MX240 Routers showing Major CB Failure)

A major CB 0 failure alarm occurs in the event of a bad CB (unknown or mismatched CBs do not trigger this alarm in Junos Release OS 12.3R9 and later). Following GRES or recovery, if the hardware issue persists, the traffic moves to the good CB and continues. If the alarm was triggered by something transient like a power zone budget on GRES, bringing the CB back online can clear the alarm. Otherwise, replace the bad CB. Note

that fabric link speed is not impacted by an offline SCB. The alarm might be raised on CB0, CB1, and CB2.

```
user@host> show chassis alarms
6 alarms currently active
Alarm time          Class Description
2014-10-31 16:49:41 EDT Major PEM 3 Not OK
2014-10-31 16:49:41 EDT Major PEM 2 Not OK
2014-10-31 16:49:31 EDT Major CB 0 Failure
2014-10-31 16:49:31 EDT Minor CB 0 Fabric Chip 0 Not Online
2014-10-31 16:49:31 EDT Minor CB 0 Fabric Chip 1 Not Online
2014-10-31 16:49:31 EDT Minor Backup RE Active
```

show chassis alarms (T4000 Router)

```
user@host> show chassis alarms
9 alarms currently active
Alarm time          Class Description
2007-06-02 01:41:10 UTC Minor RE 0 Not Supported
2007-06-02 01:41:10 UTC Minor CB 0 Not Supported
2007-06-02 01:41:10 UTC Minor Mixed Master and Backup RE types
2007-05-30 19:37:33 UTC Major SPMB 1 not online
2007-05-30 19:37:29 UTC Minor Front Bottom Fan Tray Absent
2007-05-30 19:37:13 UTC Major PEM 1 Input Failure
2007-05-30 19:37:13 UTC Major PEM 0 Not OK
2007-05-30 19:37:03 UTC Major PEM 0 Improper for Platform
2007-05-30 19:37:03 UTC Minor Backup RE Active
```

show chassis alarms (Unreachable Destinations Present on a T Series Router)

```
user@host> show chassis alarms
10 alarms currently active
Alarm time          Class Description
2011-08-30 18:43:53 PDT Major FPC 7 has unreachable destinations
2011-08-30 18:43:53 PDT Major FPC 5 has unreachable destinations
2011-08-30 18:43:52 PDT Major FPC 3 has unreachable destinations
2011-08-30 18:43:52 PDT Major FPC 2 has unreachable destinations
2011-08-30 18:43:52 PDT Minor SIB 0 Not Online
2011-08-30 18:43:33 PDT Minor SIB 4 Not Online
2011-08-30 18:43:28 PDT Minor SIB 3 Not Online
2011-08-30 18:43:05 PDT Minor SIB 2 Not Online
2011-08-30 18:43:28 PDT Minor SIB 1 Not Online
2011-08-30 18:43:05 PDT Major PEM 1 Not Ok
```

show chassis alarms (FPC Offline Due to Unreachable Destinations on a T Series Router)

```
user@host> show chassis alarms
10 alarms currently active
Alarm time          Class Description
2011-08-30 18:43:53 PDT Major FPC 7 offline due to unreachable destinations
2011-08-30 18:43:53 PDT Major FPC 5 offline due to unreachable destinations
2011-08-30 18:43:52 PDT Major FPC 3 offline due to unreachable destinations
2011-08-30 18:43:52 PDT Major FPC 2 offline due to unreachable destinations
2011-08-30 18:43:52 PDT Minor SIB 0 Not Online
2011-08-30 18:43:33 PDT Minor SIB 4 Not Online
2011-08-30 18:43:28 PDT Minor SIB 3 Not Online
2011-08-30 18:43:05 PDT Minor SIB 2 Not Online
2011-08-30 18:43:28 PDT Minor SIB 1 Not Online
2011-08-30 18:43:05 PDT Major PEM 1 Not Ok
```


show chassis alarms (SCG Absent on a T Series Router)

```

user@host> show chassis alarms
4 alarms currently active
Alarm time          Class  Description
2011-01-23 21:42:46 PST  Major  SCG 0 NO EXT CLK MEAS-BKUP SCG ABS

```

show chassis alarms (Alarms Active on a TX Matrix Router)

```

user@host> show chassis alarms
scc-re0:
-----
8 alarms currently active
Alarm time          Class  Description
2004-08-05 18:43:53 PDT  Minor  LCC 0 Minor Errors
2004-08-05 18:43:53 PDT  Minor  SIB 3 Not Online
2004-08-05 18:43:52 PDT  Major  SIB 2 Absent
2004-08-05 18:43:52 PDT  Major  SIB 1 Absent
2004-08-05 18:43:52 PDT  Major  SIB 0 Absent
2004-08-05 18:43:33 PDT  Major  LCC 2 Major Errors
2004-08-05 18:43:28 PDT  Major  LCC 0 Major Errors
2004-08-05 18:43:05 PDT  Minor  LCC 2 Minor Errors
lcc0-re0:
-----
5 alarms currently active
Alarm time          Class  Description
2004-08-05 18:43:53 PDT  Minor  SIB 3 Not Online
2004-08-05 18:43:49 PDT  Major  SIB 2 Absent
2004-08-05 18:43:49 PDT  Major  SIB 1 Absent
2004-08-05 18:43:49 PDT  Major  SIB 0 Absent
2004-08-05 18:43:28 PDT  Major  PEM 0 Not OK
lcc2-re0:
-----
5 alarms currently active
Alarm time          Class  Description
2004-08-05 18:43:35 PDT  Minor  SIB 3 Not Online
2004-08-05 18:43:33 PDT  Major  SIB 2 Absent
2004-08-05 18:43:33 PDT  Major  SIB 1 Absent
2004-08-05 18:43:33 PDT  Major  SIB 0 Absent
2004-08-05 18:43:05 PDT  Minor  PEM 1 Absent

```

show chassis alarms (TX Matrix Plus router with 3D SIBs)

```

user@host> show chassis alarms
sfc0-re0:
-----
Alarm time          Class  Description
2014-04-08 14:35:13 IST  Minor  FPM 0 SFC Config Size Changed
2014-04-08 14:32:58 IST  Major  Fan Tray Failure
2014-04-08 14:31:53 IST  Major  SIB F13 6 Fault
2014-04-08 14:31:43 IST  Major  SIB F13 11 Fault
2014-04-08 14:31:08 IST  Minor  Check SIB F13 12 CXP 14 Fbr Cbl
2014-04-08 14:31:08 IST  Minor  Check SIB F13 12 CXP 8 Fbr Cbl
2014-04-08 14:31:08 IST  Minor  Check SIB F13 12 CXP 3 Fbr Cbl
2014-04-08 14:31:08 IST  Major  SIB F13 12 CXP 15 fault
2014-04-08 14:31:08 IST  Minor  SIB F13 12 CXP 14 LOL
2014-04-08 14:31:08 IST  Minor  Check SIB F13 12 CXP 14
2014-04-08 14:31:08 IST  Major  SIB F13 12 CXP 10 fault
2014-04-08 14:31:08 IST  Minor  SIB F13 12 CXP 8 LOL
2014-04-08 14:31:08 IST  Minor  Check SIB F13 12 CXP 8

```

```

2014-04-08 14:31:08 IST Major SIB F13 12 CXP 7 fault
2014-04-08 14:31:08 IST Major SIB F13 12 CXP 4 fault
2014-04-08 14:31:08 IST Minor SIB F13 12 CXP 3 LOL
2014-04-08 14:31:08 IST Minor Check SIB F13 12 CXP 3
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 14 Fbr Cbl
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 12 Fbr Cbl
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 8 Fbr Cbl
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 6 Fbr Cbl
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 4 Fbr Cbl
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 2 Fbr Cbl
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 0 Fbr Cbl
2014-04-08 14:31:08 IST Minor SIB F13 6 CXP 14 LOL
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 14
2014-04-08 14:31:08 IST Minor SIB F13 6 CXP 12 LOL
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 12
2014-04-08 14:31:08 IST Major SIB F13 6 CXP 10 fault
2014-04-08 14:31:08 IST Minor SIB F13 6 CXP 8 LOL
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 8
2014-04-08 14:31:08 IST Minor SIB F13 6 CXP 6 LOL
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 6
2014-04-08 14:31:08 IST Minor SIB F13 6 CXP 4 LOL
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 4
2014-04-08 14:31:08 IST Minor SIB F13 6 CXP 2 LOL
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 2
2014-04-08 14:31:08 IST Minor SIB F13 6 CXP 0 LOL
2014-04-08 14:31:08 IST Minor Check SIB F13 6 CXP 0
2014-04-08 14:31:08 IST Minor SIB F13 12 CXP 14 XC HSL Link Error
2014-04-08 14:29:27 IST Minor LCC 0 Minor Errors
2014-04-08 14:28:37 IST Major LCC 0 Major Errors
2014-04-08 14:28:37 IST Major LCC 2 Major Errors
2014-04-08 14:28:37 IST Minor LCC 2 Minor Errors
2014-04-08 14:28:24 IST Major SIB F2S 4/6 Absent
2014-04-08 14:28:24 IST Major SIB F2S 4/4 Absent
2014-04-08 14:28:24 IST Major SIB F2S 4/2 Absent
2014-04-08 14:28:24 IST Major SIB F2S 4/0 Absent
2014-04-08 14:28:24 IST Major SIB F2S 3/6 Absent
2014-04-08 14:28:24 IST Major SIB F2S 3/4 Absent
2014-04-08 14:28:24 IST Major SIB F2S 3/2 Absent
2014-04-08 14:28:24 IST Major SIB F2S 3/0 Absent
2014-04-08 14:28:24 IST Major SIB F13 9 Absent
2014-04-08 14:28:24 IST Major SIB F13 8 Absent
2014-04-08 14:28:24 IST Major SIB F13 7 Absent
2014-04-08 14:28:24 IST Major SIB F13 4 Absent
2014-04-08 14:28:24 IST Major SIB F13 1 Absent
2014-04-08 14:28:22 IST Major PEM 0 Input Failure
2014-04-08 14:28:22 IST Major PEM 0 Not OK

```

lcc0-re0:

12 alarms currently active

Alarm time	Class	Description
2014-04-08 14:36:08 IST	Minor	CB 1 M/S Switch Changed
2014-04-08 14:36:08 IST	Minor	CB 1 CHASSIS ID Changed
2014-04-08 14:35:43 IST	Minor	CB 0 M/S Switch Changed
2014-04-08 14:35:43 IST	Minor	CB 0 CHASSIS ID Changed
2014-04-08 14:29:30 IST	Minor	SIB 4 Not Online
2014-04-08 14:29:30 IST	Minor	SIB 3 Not Online
2014-04-08 14:29:30 IST	Minor	SIB 2 Not Online
2014-04-08 14:29:24 IST	Major	Rear Fan Tray Failure
2014-04-08 14:29:24 IST	Major	Front Bottom Fan Tray Improper for Platform
2014-04-08 14:29:24 IST	Major	Front Top Fan Tray Improper for Platform

```

2014-04-08 14:28:37 IST Major SIB 4 Absent
2014-04-08 14:28:37 IST Major SIB 3 Absent

```

```
lcc2-re0:
```

```
-----
12 alarms currently active
```

Alarm time	Class	Description
2014-04-08 14:36:02 IST	Minor	CB 1 M/S Switch Changed
2014-04-08 14:36:02 IST	Minor	CB 1 CHASSIS ID Changed
2014-04-08 14:35:42 IST	Minor	CB 0 M/S Switch Changed
2014-04-08 14:34:42 IST	Minor	CB 0 CHASSIS ID Changed
2014-04-08 14:29:29 IST	Minor	SIB 0 CXP 7 Unsupported Optics
2014-04-08 14:29:27 IST	Major	Front Bottom Fan Tray Improper for Platform
2014-04-08 14:29:27 IST	Major	Front Top Fan Tray Improper for Platform
2014-04-08 14:29:25 IST	Minor	SIB 4 Not Online
2014-04-08 14:29:25 IST	Minor	SIB 3 Not Online
2014-04-08 14:28:47 IST	Major	PEM 0 Not OK
2014-04-08 14:28:36 IST	Major	SIB 2 Absent
2014-04-08 14:28:36 IST	Minor	Host 0 Boot from alternate media

```
lcc6-re0:
```

```
-----
2 alarms currently active
```

Alarm time	Class	Description
2013-11-06 04:03:56 PST	Minor	SIB 1 CXP 0 XC HSL Link Error
2013-11-06 03:49:32 PST	Major	PEM 1 Not OK

show chassis alarms (Alarms on a T4000 Router After the enhanced-mode Statement is Enabled)

To enable improved virtual private LAN service (VPLS) MAC address learning on T4000 routers, you must include the **enhanced-mode** statement at the **[edit chassis network-services]** hierarchy level and reboot the router. When router reboots, only the T4000 Type 5 FPCs are required to be present on the router. If there are any other FPCs (apart from T4000 Type 5 FPCs) on the T4000 router, such FPCs become offline, and FPC misconfiguration alarms are generated. The **show chassis alarm** command output displays FPC misconfiguration (**FPC *fpc-slot* misconfig**) as the reason for the generation of the alarms.

```

user@host> show chassis alarms
2 alarms currently active
Alarm time      Class  Description
2011-10-22 10:10:47 PDT  Major  FPC 1 misconfig
2011-10-22 10:10:46 PDT  Major  FPC 0 misconfig

```

show chassis alarms (Backup Routing Engine)

```

user@host> show chassis alarms
2 alarms are currently active
Alarm time      Class  Description
2005-04-07 10:12:22 PDT  Minor  Host 1 Boot from alternate media
2005-04-07 10:11:54 PDT  Major  Host 1 compact-flash missing in Boot List

```

show chassis alarms (EX Series Switch)

```

user@switch> show chassis alarms
4 alarms currently active
Alarm time      Class  Description
2014-03-12 15:36:09 UTC  Minor  Require a Fan Tray upgrade
2014-03-12 15:00:02 UTC  Major  PEM 0 Input Failure

```

```

2014-03-12 15:00:02 UTC Major PEM 0 Not OK
2014-03-12 14:59:51 UTC Minor Host 1 Boot from alternate media

```

show chassis alarms (Alarms Active on the QFX Series and OCX Series Switches)

```

user@switch> show chassis alarms
1 alarms currently active
Alarm time          Class Description
2012-03-05 2:10:24 UTC Major FPC 0 PEM 0 Airflow not matching Chassis Airflow

```

show chassis alarms node-device (Alarms Active on the QFabric System)

```

user@switch> show chassis alarms node-device ED3691
node-device ED3694
3 alarms currently active
Alarm time          Class Description
2011-08-24 16:04:15 UTC Major ED3694:fte-0/1/2: Link down
2011-08-24 16:04:14 UTC Major ED3694:fte-0/1/0: Link down
2011-08-24 14:21:14 UTC Major ED3694 PEM 0 is not supported/powered

```

show chassis alarms (Alarms Active on the QFabric System)

```

user@switch> show chassis alarms
IC-A0001:
-----
1 alarms currently active
Alarm time          Class Description
2011-08-24 16:04:15 UTC Minor Backup RE Active

ED3694:
-----
3 alarms currently active
Alarm time          Class Description
2011-08-24 16:04:15 UTC Major ED3694:fte-0/1/2: Link down
2011-08-24 16:04:14 UTC Major ED3694:fte-0/1/0: Link down
2011-08-24 14:21:14 UTC Major ED3694 PEM 0 is not supported/powered

SNG-0:
-----

NW-NG-0:
-----
1 alarms currently active
Alarm time          Class Description
2011-08-24 15:49:27 UTC Major ED3691 PEM 0 is not supported/powered

```

show chassis alarms (Alarms Active on an EX8200 Switch)

```

user@switch> show chassis alarms

6 alarms currently active
Alarm time          Class Description
2010-12-02 19:15:22 UTC Major Fan Tray Failure
2010-12-02 19:15:22 UTC Major Fan Tray Failure
2010-12-02 19:15:14 UTC Minor Check CB 0 Fabric Chip 1 on Plane/FPC/PFE: 1/5/0,
1/5/1, 1/5/2, 1/5/3, 1/7/0, 1/7/1, 1/7/2, 1/7/3, 2/5/0, 2/5/1, ...
2010-12-02 19:15:14 UTC Minor Check CB 0 Fabric Chip 0 on Plane/FPC/PFE: 1/5/0,
1/5/1, 1/5/2, 1/5/3, 1/7/0, 1/7/1, 1/7/2, 1/7/3, 2/5/0, 2/5/1, ...
2010-12-02 19:14:18 UTC Major PSU 1 Output Failure
2010-12-02 19:14:18 UTC Minor Loss of communication with Backup RE

```

show chassis alarms (Alarms Active on a PTX5000 Packet Transport Router)

```
user@host> show chassis alarms
```

```
23 alarms currently active
Alarm time      Class  Description
2011-07-12 16:22:05 PDT  Minor  No Redundant Power for Rear Chassis
2011-07-12 16:22:05 PDT  Major  PDU 0 PSM 1 Not OK
2011-07-12 16:21:57 PDT  Minor  No Redundant Power for Fan 0-2
2011-07-12 16:21:57 PDT  Major  PDU 0 PSM 0 Not OK
2011-07-12 15:56:06 PDT  Major  PDU 1 PSM 2 Not OK
2011-07-12 15:56:06 PDT  Minor  No Redundant Power for FPC 0-7
2011-07-12 15:56:06 PDT  Major  PDU 0 PSM 3 Not OK
2011-07-12 15:28:20 PDT  Major  PDU 0 PSM 2 Not OK
2011-07-12 15:19:14 PDT  Minor  Backup RE Active
```

show chassis alarms (Mix of PDUs Alarm on a PTX5000 Packet Transport Router with FPC2-PTX-P1A)

All PDUs installed on a PTX5000 router must be of the same type. The **Mix of PDUs or Power Manager Non Operational** alarm is raised when different types of PDUs are installed on a PTX5000 router.

```
user@host> show chassis alarms
```

```
15 alarms currently active
Alarm time      Class  Description
2013-03-19 23:03:53 PDT  Minor  No Redundant Power
2013-03-19 23:03:48 PDT  Minor  Mix of PDUs
2013-03-19 23:03:47 PDT  Minor  PDU 1 PSM 3 Absent
2013-03-19 23:03:47 PDT  Minor  PDU 1 PSM 2 Absent
2013-03-19 23:03:47 PDT  Minor  PDU 1 PSM 1 Absent
2013-03-19 23:03:47 PDT  Minor  PDU 1 PSM 0 Absent
2013-03-19 23:03:46 PDT  Major  No CG Online
```

show chassis alarms (PDU Converter Failed Alarm on a PTX5000 Packet Transport Router with FPC2-PTX-P1A)

The **PDU Converter Failed** alarm is raised when one or more 36 V booster converter of a DC PDU fails. If two or more 36 V booster converter fails, fan trays fail and the router might get over heated. Therefore, when this alarm is raised, check the PDU and replace it, if required.

```
user@host> show chassis alarms
```

```
11 alarms currently active
Alarm time      Class  Description
2013-12-11 22:14:13 PST  Minor  No Redundant Power for System
2013-12-11 22:14:10 PST  Major  PDU 0 PSM 7 Not OK
2013-12-11 22:14:10 PST  Major  PDU 0 PSM 6 Not OK
2013-12-11 22:14:10 PST  Major  PDU 0 PSM 5 Not OK
2013-12-11 22:14:10 PST  Major  PDU 0 PSM 4 Not OK
2013-12-11 22:14:10 PST  Major  PDU 0 PSM 3 Not OK
2013-12-11 22:14:10 PST  Major  PDU 0 PSM 2 Not OK
2013-12-11 22:14:10 PST  Major  PDU 0 PSM 1 Not OK
2013-12-11 22:14:10 PST  Major  PDU 0 PSM 0 Not OK
2013-12-11 22:14:10 PST  Major  PDU 0 Not OK
2013-12-11 22:14:01 PST  Major  PDU 0 Converter Failed
```

show chassis alarms (No Power for System Alarm on a PTX5000 Packet Transport Router with FPC2-PTX-P1A)

```
user@host> show chassis alarms
```

```
8 alarms currently active
Alarm time      Class  Description
```

```
2013-11-19 01:58:41 PST Major No Power for System
2013-11-19 01:58:37 PST Major PDU 0 PSM 1 Not OK
2013-11-19 01:56:46 PST Major PDU 0 PSM 2 Not OK
2013-11-19 01:54:26 PST Major PDU 0 PSM 3 Not OK
2013-11-19 01:53:30 PST Major PDU 1 PSM 3 Not OK
2013-11-19 01:53:29 PST Major PDU 1 PSM 2 Not OK
2013-11-19 01:53:29 PST Major PDU 1 PSM 1 Not OK
2013-11-19 01:53:29 PST Major PDU 1 PSM 0 Not OK
```

show chassis alarms (Alarms Active on an ACX2000 Universal Access Router)

```
user@host> show chassis alarms
7 alarms currently active
Alarm time          Class Description
2012-05-22 11:19:09 UTC Major xe-0/3/1: Link down
2012-05-22 11:19:09 UTC Major xe-0/3/0: Link down
2012-05-22 11:19:09 UTC Major ge-0/1/7: Link down
2012-05-22 11:19:09 UTC Major ge-0/1/6: Link down
2012-05-22 11:19:09 UTC Major ge-0/1/3: Link down
2012-05-22 11:19:09 UTC Major ge-0/1/2: Link down
2012-05-22 11:19:09 UTC Major ge-0/1/1: Link down
```

show chassis alarms (Active Alarm to Indicate Status of the Bad SCB Clock on MX Series)

```
user@host> show chassis alarms
1 alarm currently active
Alarm time          Class Description
2013-08-06 07:48:35 PDT Major CB 0 19.44 MHz clock failure
```

show chassis environment

List of Syntax	Syntax on page 249 Syntax (T320, T640, T1600, and T4000 Routers) on page 249 Syntax (TX Matrix Routers) on page 249 Syntax (TX Matrix Plus Routers) on page 249 Syntax (MX Series Routers) on page 249 Syntax (MX104 3D Universal Edge Routers) on page 249 Syntax (MX2010 and MX2020 3D Universal Edge Routers) on page 250 Syntax (EX8200 Switches) on page 250 Syntax (EX Series Switches except EX8200) on page 250 Syntax (QFX Series) on page 250 Syntax (OCX Series) on page 250 Syntax (PTX Series Packet Transport Routers) on page 250 Syntax (ACX Series Universal Access Routers) on page 250
Syntax	show chassis environment
Syntax (T320, T640, T1600, and T4000 Routers)	show chassis environment <code><cb cb-slot-number></code> <code><fpc fpc-slot-number></code> <code><fpm></code> <code><pem pem-slot-number></code> <code><routing-engine re-slot-number></code> <code><scg scg-slot-number></code> <code><sib sib-slot-number></code>
Syntax (TX Matrix Routers)	show chassis environment <code><lcc number scc></code>
Syntax (TX Matrix Plus Routers)	show chassis environment <code><cb cb-slot-number></code> <code><cip cip-slot-number></code> <code><fpc fpc-slot-number></code> <code><fpm></code> <code><lcc number></code> <code><pem pem-slot-number></code> <code><routing-engine re-slot-number></code> <code><scg scg-slot-number></code> <code><sfc number></code> <code><sib sib-slot-number></code>
Syntax (MX Series Routers)	show chassis environment <code><all-members></code> <code><local></code> <code><member member-id></code>
Syntax (MX104 3D Universal Edge Routers)	show chassis environment <code><cb></code> <code><pem pem-slot-number></code> <code><routing-engine re-slot-number></code>

Syntax (MX2010 and MX2020 3D Universal Edge Routers)	<pre>show chassis environment <adc <i>adc-slot-number</i>> <all-members> <cb <i>cb-slot-number</i>> <fan <i>fantray-slot-number</i>> <fpc <i>fpc-slot-number</i>> <fpm> <local> <member <i>member-id</i>> <monitored> <psm <i>psm-slot-number</i>> <routing-engine <i>re-slot-number</i>> <sfb <i>sfb-slot-number</i>></pre>
Syntax (EX8200 Switches)	<pre>show chassis environment <all-members> <cb <i>cb-slot-number</i>> <fpc <i>fpc-slot-number</i>> <local> <member <i>member-id</i>> <psu <i>psu-slot-number</i>> <routing-engine <i>re-slot-number</i>></pre>
Syntax (EX Series Switches except EX8200)	<pre>show chassis environment <all-members> <fpc <i>fpc-slot-number</i>> <local> <member <i>member-id</i>> <power-supply-unit> <routing-engine></pre>
Syntax (QFX Series)	<pre>show chassis environment <cb <i>slot-number</i> <interconnect-device <i>name</i>>> <fpc <i>slot-number</i> <interconnect-device <i>name</i>>> <interconnect-device <i>name</i> <slot-number> <node-device <i>name</i>> <pem <i>slot-number</i> (interconnect-device <i>name</i> <i>slot-number</i>) (node-device <i>name</i>)> <routing-engine <i>name</i> <interconnect-device <i>name</i> <i>slot-number</i>>></pre>
Syntax (OCX Series)	<pre>show chassis environment</pre>
Syntax (PTX Series Packet Transport Routers)	<pre>show chassis environment <cb <i>cb-slot-number</i>> <ccg <i>ccg-slot-number</i>> <fpc <i>fpc-slot-number</i>> <fpm> <monitored> <pdu <i>pdu-slot-number</i>> <routing-engine <i>re-slot-number</i>> <sib <i>sib-slot-number</i>></pre>
Syntax (ACX Series Universal Access Routers)	<pre>show chassis environment <cb <i>cb-slot-number</i>> <pem <i>pem-slot-number</i>> <routing-engine <i>re-slot-number</i>></pre>

Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>sfc option introduced for the TX Matrix Plus router in Junos OS Release 9.6.</p> <p>Command introduced in Junos OS Release 11.1 for QFX Series.</p> <p>Command introduced in Junos OS Release 12.1x48 for PTX Series Packet Transport Routers.</p> <p>monitored option added in Junos OS Release 12.1x48 for PTX Series Packet Transport Routers.</p> <p>Command introduced in Junos OS Release 12.1 for T4000 Core Routers.</p> <p>Command introduced in Junos OS Release 12.2 for ACX Series Universal Access Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.</p> <p>pem option introduced in Junos OS Release 12.3 for ACX4000 Universal Access Routers.</p> <p>Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.</p> <p>all-members, local, and member member-id options introduced in Junos OS Release 15.1 for MX2020 and MX2010 routers.</p>
Description	<p>Display environmental information about the router or switch chassis, including the temperature and information about the fans, power supplies, and Routing Engine.</p> <p>In addition, on ACX4000 routers, display temperature information about the different channels of a Modular Interface Card (MIC). The number of channels displayed depends on the type of MIC installed.</p> <p>Starting with Junos OS Release 14.1, the show chassis environment cb cb-slot-number ccg ccg-slot-number fpc fpc-slot-number fpm monitored pdu pdu-slot-number routing-engine re-slot-number sib sib-slot-number operational mode command output displays environmental information for the new DC power supply module (PSM) and power distribution unit (PDU) that are added to provide power to the high-density FPC (FPC2-PTX-PIA) and other components in a PTX5000 Packet Transport Router.</p>
Options	<p>none—Display environmental information about the router or switch chassis. On a TX Matrix router, display environmental information about the TX Matrix router and its attached T640 routers. On a TX Matrix Plus router, display environmental information about the TX Matrix Plus router and its attached routers.</p> <p>all-members—(MX Series routers and EX Series switches only) (Optional) Display chassis environmental information for all the members of the Virtual Chassis configuration.</p> <p>adc adc-slot-number—(MX2020 and MX2010 routers only) (Optional) Display chassis environmental information for the adapter cards. For MX2020 routers, replace adc-slot-number with a value from 0 through 19. For MX2010 routers, replace adc-slot-number with a value from 0 through 9.</p> <p>cb cb-slot-number—(ACX Series Universal Access Routers, EX Series switches, M120, M320, and M40e routers, MX Series routers, MX2020 routers, MX2010 routers, PTX Series Packet Transport Routers, QFX Series, and T Series routers, and TX Matrix Plus routers only) (Optional) Display chassis environmental information for the Control Board. On devices other than EX Series switches, replace cb-slot with 0 or</p>

1. For the EX Series switches, see *EX Series Switches Hardware and CLI Terminology Mapping* for information on CB slot numbering.

cip *cip-slot-number*—(TX Matrix Plus routers only) (Optional) Display chassis environmental information for the Connection Interface Panel (CIP). Replace the ***cip-slot-number*** variable with a value of 0 or 1.

cb interconnect-device *name*—(QFabric systems only) (Optional) Display chassis environmental information for the Control Board on an Interconnect device.

ccg *ccg-slot-number*—(PTX Series only) (Optional) Display chassis environmental information for the Centralized Clock Generator. Replace ***cb-slot*** with a value of 0 or 1.

fan *fantray-slot-number*—(MX2020 and MX2010 routers only) (Optional) Display chassis environmental information for the fan trays. Replace ***fantray-slot-number*** with a value from 0 through 3.

fpc *fpc-slot*—(EX Series switches, M120, M320, and M40e routers, MX Series routers, MX2010 routers, MX2020 routers, PTX Series Packet Transport Routers, QFX Series, QFX3500 switches, QFabric systems, T Series routers, and TX Matrix Plus routers) (Optional) Display chassis environmental information for a specified Flexible PIC Concentrator. For MX2010 routers, replace ***fpc-slot*** with a value from 0 through 9. For MX2020 routers, replace ***fpc-slot*** with a value from 0 through 19. For information about FPC numbering, see [show chassis environment fpc](#). On a QFabric system, display chassis environmental information for a specified Flexible PIC Concentrator on an Interconnect device. On an EX Series switch, display chassis environmental information for a specified Flexible PIC Concentrator; see *EX Series Switches Hardware and CLI Terminology Mapping* for information on FPC numbering. On a TX Matrix Plus router with 3D SIBs replace ***fpc-slot*** with a value from 0 through 63.

fpm—(M120, M320, and M40e routers, MX2010 routers, MX2020 routers, PTX Series, Packet Transport Routers, T Series routers, and TX Matrix Plus routers only) (Optional) Display chassis environmental information for the craft interface (FPM).

interconnect-device *name*—(QFabric systems only) (Optional) Display chassis environmental information for the Interconnect device.

lcc *number*—(TX Matrix routers and TX Matrix Plus routers only) (Optional) Line-card chassis number.

Replace ***number*** with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers and EX Series switches only) (Optional) Display chassis environmental information for the local Virtual Chassis member.

member *member-id*—(MX Series routers and EX Series switches only) (Optional) Display chassis environmental information for the specified member of the Virtual Chassis configuration. On MX Series routers, replace *member-id* with a value of 0 or 1. For EX Series switches, see *member* for member ID values.

monitored—(MX2020 routers and PTX Series Packet Transport Routers only) (Optional) Display chassis environmental information for monitored temperatures only. Temperatures that are not included in temperature alarm computations are not displayed.

node-device *name*—(QFabric systems only) (Optional) Display chassis environmental information for the Node device.

pdu *pdu-slot-number*—(PTX Series only) (Optional) Display chassis environmental information for the specified power distribution unit.

pem—(QFX3500 switches and QFabric systems only) (Optional) Display chassis environmental information for the Power Entry Module on the specified Interconnect device or Node device.

pem *pem-slot-number*—(ACX Series Universal Access Routers, M120, M320, and M40e routers, MX Series routers, MX104 routers, QFX Series, and T Series routers only) (Optional) Display chassis environmental information for the Power Entry Module on the specified Power Entry Module. For information about the options, see [show chassis environment pem](#).

psm *psm-slot-number*—(MX2020 and MX2010 routers only) (Optional) Display chassis environmental information for the power supply module. For MX2020 routers, replace *psm-slot-number* with a value from 0 through 17. For MX2010 routers, replace *psm-slot-number* with a value from 0 through 8.

psu *psu-slot-number*—(EX Series switches only) (Optional) Display chassis environmental information for a specified power supply. See *EX Series Switches Hardware and CLI Terminology Mapping* for detailed information.

routing-engine—(QFX3500 switches and QFabric systems only) (Optional) Display chassis environmental information for the Routing Engine on the specified Interconnect device.

routing-engine *re-slot-number*—(Optional) Display chassis environmental information for the specified Routing Engine. For information about the options, see [show chassis environment routing-engine](#).

scg—(T Series routers only) (Optional) Display chassis environmental information about the SONET Clock Generator.

scc—(TX Matrix routers only) (Optional) Display chassis environmental information about the TX Matrix router (switch-card chassis).

sfb sfb-slot-number—(MX2020 and MX2010 routers only) (Optional) Display chassis environmental information for the power supply module. Replace **sfb-slot-number** with a value from 0 through 7.

sfc number—(TX Matrix Plus routers only) (Optional) Display chassis environmental information about the respective TX Matrix Plus router (switch-fabric chassis). Replace **number** variable with 0.

sib sib-slot-number—(M320 routers, PTX Series Packet Transport Routers, and T Series routers only) (Optional) Display chassis environmental information about the specified switch interface board. For information about the options, see *show chassis environment sib*.

Required Privilege Level view

Related Documentation

- *show chassis environment adc*
- [show chassis environment cb on page 312](#)
- *show chassis environment ccg*
- *show chassis environment cip*
- [show chassis environment fpc on page 330](#)
- *show chassis environment fpm*
- *show chassis environment lcc*
- *show chassis environment mcs*
- *show chassis environment monitored*
- *show chassis environment pcg*
- *show chassis environment pdu*
- [show chassis environment pem on page 356](#)
- *show chassis environment psm*
- *show chassis environment psu*
- [show chassis environment routing-engine on page 365](#)
- *show chassis environment scg*
- *show chassis environment sfb*
- *show chassis environment sib*
- *show chassis environment sfc*

List of Sample Output

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[show chassis environment \(M7i Router\) on page 257](#)
[show chassis environment \(M10 Router\) on page 258](#)
[show chassis environment \(M10i Router\) on page 258](#)

[show chassis environment \(M20 Router\) on page 258](#)
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[show chassis environment \(QFX Series and OCX Series\) on page 305](#)
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[show chassis environment \(PTX5000 Packet Transport Router\) on page 307](#)
[show chassis environment \(PTX5000 Packet Transport Router with FPC2-PTX-P1A\) on page 310](#)
[show chassis environment \(ACX2000 Universal Access Router\) on page 310](#)
[show chassis environment \(ACX4000 Universal Access Router\) on page 311](#)

Output Fields [Table 17 on page 256](#) lists the output fields for the **show chassis environment** command. Output fields are listed in the approximate order in which they appear.

Table 17: show chassis environment Output Fields

Field Name	Field Description
Class	<p>Information about the category or class of chassis component:</p> <ul style="list-style-type: none"> • Power: Power information: <ul style="list-style-type: none"> • (M5, M10, M20, and M40 routers and EX Series switches only) Power supply status: OK, Testing, (during initial power-on), Failed, or Absent. • (M7i, M10i, M40e, M120, M160, M320, and T Series routers and EX Series switches only) Power Entry Modules status: OK, Testing, (during initial power-on), Check, Failed, or Absent. • (PTX Series only) Power information is reported in PDU or PSM combinations. The status is: OK, Testing, (during initial power-on), Check, Failed, or Absent. • Temp: Temperature of air flowing through the chassis in degrees Celsius (C) and Fahrenheit (F). <ul style="list-style-type: none"> • On PTX Series Packet Transport Routers and MX2010 and MX2020 Routers, multiple cooling zones are supported. FRU temperatures in each zone are coordinated with the fan speed of fan trays in those zones. • EX2200 switches have a side-to-rear cooling system. The Local Intake temperature is measured by the sensor on the right side of the chassis, and the Remote Intake temperature is measured by the sensor on the left side of the chassis. • Pic: On ACX4000 Routers, multiple temperature channels on a MIC. The status is: OK and the Measurement is in degrees Celsius (C) and Fahrenheit (F). • Fan: Fan status: OK, Testing (during initial power-on), Failed, or Absent. On PTX Series Packet Transport Routers and MX2010 and MX2020 Routers, multiple fan trays are supported. Fan status is reported in Fan Tray or Fan combinations. Measurement indicates actual fan RPM (PTX and MX2010 and MX2020 Routers only). • Misc: Information about other components of the chassis. <ul style="list-style-type: none"> • On some routers, this field indicates the status of one or more additional components. • On the M40e, M160, and M320 router, Misc includes CIP (Connector Interface Panel). OK indicates that the CIP is present. Absent indicates that the CIP is not present. • On T Series routers, Misc includes CIP and SPMB (Switch Processor Mezzanine Board). OK indicates that the CIP or SPMB is present. Absent indicates that the CIP or SPMB is not present. • On PTX Series Packet Transport Routers, Misc includes the SPMB (Switch Processor Mezzanine Board). The SPMB is located on the control boards. OK indicates that the control board is present. Absent indicates that the control board is not present.
Item	<p>(MX2010 and MX2020 Routers) Information about the chassis component: Routing Engines, Controls Boards (CBs), Switch Fabric Boards (SFBs), PICs, Flexible PIC Concentrators (FPCs), and Adapter Cards (ADCs).</p> <p>(MX104 Routers) Information about the chassis components: Routing Engines, Control Board (CB), Power Entry Module (PEM), and Compact Forwarding Engine Board (AFEB).</p> <p>(QFabric Systems) Information about the chassis component: Control Boards, Routing Engines, Flexible PIC Concentrators (FPCs), and Power Entry Modules (PEMs), Node Devices, and Interconnect Devices.</p> <p>(QFX Series) Information about the chassis component: Flexible PIC Concentrators (FPCs), and Power Entry Modules (PEMs).</p>

Table 17: show chassis environment Output Fields (*continued*)

Field Name	Field Description
Status	<p>(MX104, MX2010, and MX2020 Routers) Status of the specified chassis component. For example, if the Class is Fan, the fan status can be:</p> <ul style="list-style-type: none"> • OK: The fans are operational. • Testing: The fans are being tested during initial power-on. • Failed: The fans have failed or the fans are not spinning. • Absent: The fan tray is not installed. <p>If the Class is Power, the power supply status can be:</p> <ul style="list-style-type: none"> • OK: The power component is operational. • Testing: The power component is being tested during initial power-on. • Check: There is insufficient power---that is, fewer than the minimum required feeds are connected. • Failed: The inputs leads have failed. • Absent: The power component is not installed.
Measurement	<p>(MX104, MX2010, and MX2020 Routers) Dependant on the Class. For example, if the Class is Temp, indicates the temperature in degree Celsius and degrees Fahrenheit. If the Class is Fan, indicates actual fan RPM.</p>

Sample Output

show chassis environment (M5 Router)

```

user@host> show chassis environment
Class Item          Status      Measurement
Power Power Supply A   OK
       Power Supply B Absent
Temp  FPC 0           OK          30 degrees C / 86 degrees F
       FEB          OK          33 degrees C / 91 degrees F
       PS Intake     OK          27 degrees C / 80 degrees F
       PS Exhaust    OK          27 degrees C / 80 degrees F
       Routing Engine OK          34 degrees C / 93 degrees F
Fans  Left Fan 1      OK          Spinning at normal speed
       Left Fan 2      OK          Spinning at normal speed
       Left Fan 3      OK          Spinning at normal speed
       Left Fan 4      OK          Spinning at normal speed
Misc  Craft Interface OK

```

show chassis environment (M7i Router)

```

user@host> show chassis environment
Class Item          Status      Measurement
Power Power Supply 0   OK
       Power Supply 1 Absent
Temp  Intake          OK          22 degrees C / 71 degrees F
       FPC 0          OK          23 degrees C / 73 degrees F
       Power Supplies OK          23 degrees C / 73 degrees F
       CFEB Intake     OK          24 degrees C / 75 degrees F
       CFEB Exhaust    OK          29 degrees C / 84 degrees F
       Routing Engine   OK          26 degrees C / 78 degrees F
Fans  Fan 1           OK          Spinning at normal speed
       Fan 2           OK          Spinning at normal speed

```

Fan 3	OK	Spinning at normal speed
Fan 4	OK	Spinning at normal speed

show chassis environment (M10 Router)

```

user@host> show chassis environment
Class Item                Status      Measurement
Power Power Supply A      OK
      Power Supply B      Failed
Temp  FPC 0                OK          36 degrees C / 96 degrees F
      FPC 1                OK          35 degrees C / 95 degrees F
      FEB                  OK          34 degrees C / 93 degrees F
      PS Intake            OK          31 degrees C / 87 degrees F
      PS Exhaust           OK          34 degrees C / 93 degrees F
      Routing Engine       OK          35 degrees C / 95 degrees F
Fans  Left Fan 1           OK          Spinning at normal speed
      Left Fan 2           OK          Spinning at normal speed
      Left Fan 3           OK          Spinning at normal speed
      Left Fan 4           OK          Spinning at normal speed
Misc  Craft Interface      OK

```

show chassis environment (M10i Router)

```

user@host> show chassis environment
Class Item                Status      Measurement
Power Power Supply 0      OK
      Power Supply 1      OK
      Power Supply 2      Absent
      Power Supply 3      Absent
Temp  Intake              OK          26 degrees C / 78 degrees F
      FPC 0                OK          27 degrees C / 80 degrees F
      FPC 1                OK          28 degrees C / 82 degrees F
      Lower Power Supplies OK          29 degrees C / 84 degrees F
      Upper Power Supplies OK          28 degrees C / 82 degrees F
      CFEB Intake          OK          27 degrees C / 80 degrees F
      CFEB Exhaust         OK          36 degrees C / 96 degrees F
      Routing Engine 0     OK          31 degrees C / 87 degrees F
      Routing Engine 1     OK          27 degrees C / 80 degrees F
Fans  Fan Tray 0 Fan 1     OK          Spinning at normal speed
      Fan Tray 0 Fan 2     OK          Spinning at normal speed
      Fan Tray 0 Fan 3     OK          Spinning at normal speed
      Fan Tray 0 Fan 4     OK          Spinning at normal speed
      Fan Tray 0 Fan 5     OK          Spinning at normal speed
      Fan Tray 0 Fan 6     OK          Spinning at normal speed
      Fan Tray 0 Fan 7     OK          Spinning at normal speed
      Fan Tray 0 Fan 8     OK          Spinning at normal speed
      Fan Tray 1 Fan 1     Absent
      Fan Tray 1 Fan 2     Absent
      Fan Tray 1 Fan 3     Absent
      Fan Tray 1 Fan 4     Absent
      Fan Tray 1 Fan 5     Absent
      Fan Tray 1 Fan 6     Absent
      Fan Tray 1 Fan 7     Absent
      Fan Tray 1 Fan 8     Absent

```

show chassis environment (M20 Router)

```

user@host> show chassis environment

```


Class	Item	Status	Measurement
Power	Power Supply A	OK	
	Power Supply B	Absent	
Temp	FPC 0	OK	28 degrees C / 82 degrees F
	FPC 1	OK	27 degrees C / 80 degrees F
	Power Supply A	OK	22 degrees C / 71 degrees F
	Power Supply B	Absent	
	SSB 0	OK	30 degrees C / 86 degrees F
	Backplane	OK	22 degrees C / 71 degrees F
Fans	Routing Engine 0	OK	26 degrees C / 78 degrees F
	Routing Engine 1	Testing	
	Rear Fan	OK	Spinning at normal speed
	Front Upper Fan	OK	Spinning at normal speed
	Front Middle Fan	OK	Spinning at normal speed
	Front Bottom Fan	OK	Spinning at normal speed
Misc	Craft Interface	OK	

show chassis environment (M40 Router)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Power	Power Supply A	OK	
	Power Supply B	Absent	
Temp	FPC 3	OK	24 degrees C / 75 degrees F
	FPC 6	OK	26 degrees C / 78 degrees F
	SCB	OK	26 degrees C / 78 degrees F
	Backplane @ A1	OK	28 degrees C / 82 degrees F
	Backplane @ A2	OK	23 degrees C / 73 degrees F
	Routing Engine	OK	26 degrees C / 78 degrees F
Fans	Top Impeller	OK	Spinning at normal speed
	Bottom impeller	OK	Spinning at normal speed
	Rear Left Fan	OK	Spinning at normal speed
	Rear Center Fan	OK	Spinning at normal speed
	Rear Right Fan	OK	Spinning at normal speed
Misc	Craft Interface	OK	

show chassis environment (M40e Router)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Power	PEM 0	OK	
	PEM 1	Absent	
Temp	PCG 0	OK	44 degrees C / 111 degrees F
	PCG 1	OK	47 degrees C / 116 degrees F
	Routing Engine 0	OK	40 degrees C / 104 degrees F
	Routing Engine 1	OK	37 degrees C / 98 degrees F
	MCS 0	OK	45 degrees C / 113 degrees F
	MCS 1	OK	42 degrees C / 107 degrees F
	SFM 0 SPP	OK	40 degrees C / 104 degrees F
	SFM 0 SPR	OK	44 degrees C / 111 degrees F
	SFM 1 SPP	OK	43 degrees C / 109 degrees F
	SFM 1 SPR	OK	45 degrees C / 113 degrees F
	FPC 0	OK	38 degrees C / 100 degrees F
	FPC 1	OK	40 degrees C / 104 degrees F
	FPC 2	OK	38 degrees C / 100 degrees F
	FPC 4	OK	34 degrees C / 93 degrees F
	FPC 5	OK	43 degrees C / 109 degrees F
	FPC 6	OK	41 degrees C / 105 degrees F
	FPC 7	OK	43 degrees C / 109 degrees F

	FPM CMB	OK	28 degrees C / 82 degrees F
	FPM Display	OK	28 degrees C / 82 degrees F
Fans	Rear Bottom Blower	OK	Spinning at normal speed
	Rear Top Blower	OK	Spinning at normal speed
	Front Top Blower	OK	Spinning at normal speed
	Fan Tray Rear Left	OK	Spinning at normal speed
	Fan Tray Rear Right	OK	Spinning at normal speed
	Fan Tray Front Left	OK	Spinning at normal speed
	Fan Tray Front Right	OK	Spinning at normal speed
Misc	CIP	OK	

show chassis environment (M120 Router)

user@host> show chassis environment

Class	Item	Status	Measurement
Temp	PEM 0	OK	
	PEM 1	OK	
	Routing Engine 0	OK	43 degrees C / 109 degrees F
	Routing Engine 1	OK	44 degrees C / 111 degrees F
	CB 0 Intake	OK	33 degrees C / 91 degrees F
	CB 0 Exhaust A	OK	36 degrees C / 96 degrees F
	CB 0 Exhaust B	OK	35 degrees C / 95 degrees F
	CB 1 Intake	OK	34 degrees C / 93 degrees F
	CB 1 Exhaust A	OK	38 degrees C / 100 degrees F
	CB 1 Exhaust B	OK	35 degrees C / 95 degrees F
	FEB 3 Intake	OK	35 degrees C / 95 degrees F
	FEB 3 Exhaust A	OK	37 degrees C / 98 degrees F
	FEB 3 Exhaust B	OK	39 degrees C / 102 degrees F
	FEB 4 Intake	OK	33 degrees C / 91 degrees F
	FEB 4 Exhaust A	OK	39 degrees C / 102 degrees F
	FEB 4 Exhaust B	OK	36 degrees C / 96 degrees F
	FPC 2 Exhaust A	OK	32 degrees C / 89 degrees F
	FPC 2 Exhaust B	OK	31 degrees C / 87 degrees F
	FPC 3 Exhaust A	OK	32 degrees C / 89 degrees F
	FPC 3 Exhaust B	OK	33 degrees C / 91 degrees F
	FPC 4 Exhaust A	OK	32 degrees C / 89 degrees F
	FPC 4 Exhaust B	OK	30 degrees C / 86 degrees F
Fans	Front Top Tray Fan 1	OK	Spinning at normal speed
	Front Top Tray Fan 2	OK	Spinning at normal speed
	Front Top Tray Fan 3	OK	Spinning at normal speed
	Front Top Tray Fan 4	OK	Spinning at normal speed
	Front Top Tray Fan 5	OK	Spinning at normal speed
	Front Top Tray Fan 6	OK	Spinning at normal speed
	Front Top Tray Fan 7	OK	Spinning at normal speed
	Front Top Tray Fan 8	OK	Spinning at normal speed
	Front Bottom Tray Fan 1	OK	Spinning at normal speed
	Front Bottom Tray Fan 2	OK	Spinning at normal speed
	Front Bottom Tray Fan 3	OK	Spinning at normal speed
	Front Bottom Tray Fan 4	OK	Spinning at normal speed
	Front Bottom Tray Fan 5	OK	Spinning at normal speed
	Front Bottom Tray Fan 6	OK	Spinning at normal speed
	Front Bottom Tray Fan 7	OK	Spinning at normal speed
	Front Bottom Tray Fan 8	OK	Spinning at normal speed
	Rear Top Tray Fan 1	OK	Spinning at normal speed
	Rear Top Tray Fan 2	OK	Spinning at normal speed
	Rear Top Tray Fan 3	OK	Spinning at normal speed
	Rear Top Tray Fan 4	OK	Spinning at normal speed
	Rear Top Tray Fan 5	OK	Spinning at normal speed
	Rear Top Tray Fan 6	OK	Spinning at normal speed
	Rear Top Tray Fan 7	OK	Spinning at normal speed

Rear Top Tray Fan 8	OK	Spinning at normal speed
Rear Bottom Tray Fan 1	OK	Spinning at normal speed
Rear Bottom Tray Fan 2	OK	Spinning at normal speed
Rear Bottom Tray Fan 3	OK	Spinning at normal speed
Rear Bottom Tray Fan 4	OK	Spinning at normal speed
Rear Bottom Tray Fan 5	OK	Spinning at normal speed
Rear Bottom Tray Fan 6	OK	Spinning at normal speed
Rear Bottom Tray Fan 7	OK	Spinning at normal speed
Rear Bottom Tray Fan 8	OK	Spinning at normal speed

show chassis environment (M160 Router)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Power	PEM 0	OK	PEM 1
			Absent
Temp	PCG 0	OK	45 degrees C / 113 degrees F
	PCG 1	Absent	
	Routing Engine 0	OK	35 degrees C / 95 degrees F
	Routing Engine 1	Absent	
	MCS 0	OK	50 degrees C / 122 degrees F
	SFM 0 SPP	OK	47 degrees C / 116 degrees F
	SFM 0 SPR	OK	49 degrees C / 120 degrees F
	SFM 1 SPP	OK	50 degrees C / 122 degrees F
	SFM 1 SPR	OK	50 degrees C / 122 degrees F
	SFM 2 SPP	OK	51 degrees C / 123 degrees F
	SFM 2 SPR	OK	52 degrees C / 125 degrees F
	SFM 3 SPP	OK	52 degrees C / 125 degrees F
	SFM 3 SPR	OK	48 degrees C / 118 degrees F
	FPC 0	OK	45 degrees C / 113 degrees F
	FPC 6	OK	43 degrees C / 109 degrees F
	FPM CMB	OK	31 degrees C / 87 degrees F
	FPM Display	OK	33 degrees C / 91 degrees F
Fans	Rear Bottom Blower	OK	Spinning at normal speed
	Rear Top Blower	OK	Spinning at normal speed
	Front Top Blower	OK	Spinning at normal speed
	Fan Tray Rear Left	OK	Spinning at normal speed
	Fan Tray Rear Right	OK	Spinning at normal speed
	Fan Tray Front Left	OK	Spinning at normal speed
	Fan Tray Front Right	OK	Spinning at normal speed
Misc	CIP	OK	

show chassis environment (M320 Router)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Temp	PEM 0	Absent	
	PEM 1	Absent	
	PEM 2	OK	
	PEM 3	OK	
	Routing Engine 0	OK	33 degrees C / 91 degrees F
	Routing Engine 1	OK	32 degrees C / 89 degrees F
	CB 0	OK	36 degrees C / 96 degrees F
	CB 1	OK	36 degrees C / 96 degrees F
	SIB 0	OK	38 degrees C / 100 degrees F
	SIB 1	OK	29 degrees C / 84 degrees F
	SIB 2	OK	38 degrees C / 100 degrees F
	SIB 3	OK	41 degrees C / 105 degrees F
	FPC 0 Intake	OK	28 degrees C / 82 degrees F
	FPC 0 Exhaust	OK	40 degrees C / 104 degrees F
	FPC 1 Intake	OK	29 degrees C / 84 degrees F

	FPC 1 Exhaust	OK	39 degrees C / 102 degrees F
	FPC 2 Intake	OK	28 degrees C / 82 degrees F
	FPC 2 Exhaust	OK	38 degrees C / 100 degrees F
	FPC 3 Intake	OK	28 degrees C / 82 degrees F
	FPC 3 Exhaust	OK	39 degrees C / 102 degrees F
	FPC 6 Intake	OK	27 degrees C / 80 degrees F
	FPC 6 Exhaust	OK	39 degrees C / 102 degrees F
	FPC 7 Intake	OK	27 degrees C / 80 degrees F
	FPC 7 Exhaust	OK	42 degrees C / 107 degrees F
	FPM GBUS	OK	30 degrees C / 86 degrees F
Fan	Top Left Front fan	OK	Spinning at normal speed
	Top Right Rear fan	OK	Spinning at normal speed
	Top Right Front fan	OK	Spinning at normal speed
	Top Left Rear fan	OK	Spinning at normal speed
	Bottom Left Front fan	OK	Spinning at normal speed
	Bottom Right Rear fan	OK	Spinning at normal speed
	Bottom Right Front fan	OK	Spinning at normal speed
	Bottom Left Rear fan	OK	Spinning at normal speed
	Rear Fan 1 (TOP)	OK	Spinning at normal speed
	Rear Fan 2	OK	Spinning at normal speed
	Rear Fan 3	OK	Spinning at normal speed
	Rear Fan 4	OK	Spinning at normal speed
	Rear Fan 5	OK	Spinning at normal speed
	Rear Fan 6	OK	Spinning at normal speed
	Rear Fan 7 (Bottom)	OK	Spinning at normal speed
Misc	CIP	OK	

show chassis environment (MX104 Router)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Temp	PEM 0	OK	34 degrees C / 93 degrees F
	PEM 1	Absent	
	ABB 0 Intake	OK	33 degrees C / 91 degrees F
	ABB 0 Exhaust A	OK	42 degrees C / 107 degrees F
	ABB 0 Exhaust B	OK	43 degrees C / 109 degrees F
	ABB 1 Intake	Absent	
	ABB 1 Exhaust A	Absent	
	ABB 1 Exhaust B	Absent	
	Routing Engine 0	OK	34 degrees C / 93 degrees F
	Routing Engine 0 CPU	OK	46 degrees C / 114 degrees F
	Routing Engine 1	Absent	
	Routing Engine 1 CPU	Absent	
Fans	AFEB 0 AFEB Processor	OK	33 degrees C / 91 degrees F
	Fan 1	OK	Spinning at normal speed
	Fan 2	OK	Spinning at normal speed
	Fan 3	OK	Spinning at normal speed
	Fan 4	OK	Spinning at normal speed
	Fan 5	OK	Spinning at normal speed

show chassis environment (MX240 Router)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Temp	PEM 0	OK	40 degrees C / 104 degrees F
	PEM 1	OK	45 degrees C / 113 degrees F
	PEM 2	Absent	
	PEM 3	Absent	
	Routing Engine 0	OK	39 degrees C / 102 degrees F
	Routing Engine 1	OK	37 degrees C / 98 degrees F

CB 0 Intake	OK	36 degrees C / 96 degrees F
CB 0 Exhaust A	OK	34 degrees C / 93 degrees F
CB 0 Exhaust B	OK	38 degrees C / 100 degrees F
CB 0 ACBC	OK	37 degrees C / 98 degrees F
CB 0 SF A	OK	49 degrees C / 120 degrees F
CB 0 SF B	OK	41 degrees C / 105 degrees F
CB 1 Intake	OK	37 degrees C / 98 degrees F
CB 1 Exhaust A	OK	34 degrees C / 93 degrees F
CB 1 Exhaust B	OK	39 degrees C / 102 degrees F
CB 1 ACBC	OK	38 degrees C / 100 degrees F
CB 1 SF A	OK	47 degrees C / 116 degrees F
CB 1 SF B	OK	41 degrees C / 105 degrees F
FPC 1 Intake	OK	33 degrees C / 91 degrees F
FPC 1 Exhaust A	OK	38 degrees C / 100 degrees F
FPC 1 Exhaust B	OK	53 degrees C / 127 degrees F
FPC 1 I3 0 TSensor	OK	50 degrees C / 122 degrees F
FPC 1 I3 0 Chip	OK	53 degrees C / 127 degrees F
FPC 1 I3 1 TSensor	OK	49 degrees C / 120 degrees F
FPC 1 I3 1 Chip	OK	52 degrees C / 125 degrees F
FPC 1 I3 2 TSensor	OK	47 degrees C / 116 degrees F
FPC 1 I3 2 Chip	OK	49 degrees C / 120 degrees F
FPC 1 I3 3 TSensor	OK	44 degrees C / 111 degrees F
FPC 1 I3 3 Chip	OK	46 degrees C / 114 degrees F
FPC 1 IA 0 TSensor	OK	45 degrees C / 113 degrees F
FPC 1 IA 0 Chip	OK	44 degrees C / 111 degrees F
FPC 1 IA 1 TSensor	OK	44 degrees C / 111 degrees F
FPC 1 IA 1 Chip	OK	48 degrees C / 118 degrees F
FPC 2 Intake	OK	32 degrees C / 89 degrees F
FPC 2 Exhaust A	OK	40 degrees C / 104 degrees F
FPC 2 Exhaust B	OK	52 degrees C / 125 degrees F
FPC 2 I3 0 TSensor	OK	52 degrees C / 125 degrees F
FPC 2 I3 0 Chip	OK	56 degrees C / 132 degrees F
FPC 2 I3 1 TSensor	OK	52 degrees C / 125 degrees F
FPC 2 I3 1 Chip	OK	55 degrees C / 131 degrees F
FPC 2 I3 2 TSensor	OK	49 degrees C / 120 degrees F
FPC 2 I3 2 Chip	OK	52 degrees C / 125 degrees F
FPC 2 I3 3 TSensor	OK	44 degrees C / 111 degrees F
FPC 2 I3 3 Chip	OK	48 degrees C / 118 degrees F
FPC 2 IA 0 TSensor	OK	50 degrees C / 122 degrees F
FPC 2 IA 0 Chip	OK	48 degrees C / 118 degrees F
FPC 2 IA 1 TSensor	OK	47 degrees C / 116 degrees F
FPC 2 IA 1 Chip	OK	53 degrees C / 127 degrees F
Fans Front Fan	OK	Spinning at normal speed
Middle Fan	OK	Spinning at normal speed
Rear Fan	OK	Spinning at normal speed

show chassis environment (MX240 Router with SCBE)

user@host> show chassis environment			
Class	Item	Status	Measurement
Temp	PEM 0	OK	40 degrees C / 104 degrees F
	PEM 1	OK	45 degrees C / 113 degrees F
	PEM 2	Absent	
	PEM 3	Absent	
	Routing Engine 0	OK	39 degrees C / 102 degrees F
	Routing Engine 1	OK	37 degrees C / 98 degrees F
	CB 0 Intake	OK	36 degrees C / 96 degrees F
	CB 0 Exhaust A	OK	34 degrees C / 93 degrees F
	CB 0 Exhaust B	OK	38 degrees C / 100 degrees F
	CB 0 ACBC	OK	37 degrees C / 98 degrees F
	CB 0 XF A	OK	49 degrees C / 120 degrees F

	CB 0 XF B	OK	41 degrees C / 105 degrees F
	CB 1 Intake	OK	37 degrees C / 98 degrees F
	CB 1 Exhaust A	OK	34 degrees C / 93 degrees F
	CB 1 Exhaust B	OK	39 degrees C / 102 degrees F
	CB 1 ACBC	OK	38 degrees C / 100 degrees F
	CB 1 XF A	OK	47 degrees C / 116 degrees F
	CB 1 XF B	OK	41 degrees C / 105 degrees F
	FPC 1 Intake	OK	33 degrees C / 91 degrees F
	FPC 1 Exhaust A	OK	38 degrees C / 100 degrees F
	FPC 1 Exhaust B	OK	53 degrees C / 127 degrees F
	FPC 1 I3 0 TSensor	OK	50 degrees C / 122 degrees F
	FPC 1 I3 0 Chip	OK	53 degrees C / 127 degrees F
	FPC 1 I3 1 TSensor	OK	49 degrees C / 120 degrees F
	FPC 1 I3 1 Chip	OK	52 degrees C / 125 degrees F
	FPC 1 I3 2 TSensor	OK	47 degrees C / 116 degrees F
	FPC 1 I3 2 Chip	OK	49 degrees C / 120 degrees F
	FPC 1 I3 3 TSensor	OK	44 degrees C / 111 degrees F
	FPC 1 I3 3 Chip	OK	46 degrees C / 114 degrees F
	FPC 1 IA 0 TSensor	OK	45 degrees C / 113 degrees F
	FPC 1 IA 0 Chip	OK	44 degrees C / 111 degrees F
	FPC 1 IA 1 TSensor	OK	44 degrees C / 111 degrees F
	FPC 1 IA 1 Chip	OK	48 degrees C / 118 degrees F
	FPC 2 Intake	OK	32 degrees C / 89 degrees F
	FPC 2 Exhaust A	OK	40 degrees C / 104 degrees F
	FPC 2 Exhaust B	OK	52 degrees C / 125 degrees F
	FPC 2 I3 0 TSensor	OK	52 degrees C / 125 degrees F
	FPC 2 I3 0 Chip	OK	56 degrees C / 132 degrees F
	FPC 2 I3 1 TSensor	OK	52 degrees C / 125 degrees F
	FPC 2 I3 1 Chip	OK	55 degrees C / 131 degrees F
	FPC 2 I3 2 TSensor	OK	49 degrees C / 120 degrees F
	FPC 2 I3 2 Chip	OK	52 degrees C / 125 degrees F
	FPC 2 I3 3 TSensor	OK	44 degrees C / 111 degrees F
	FPC 2 I3 3 Chip	OK	48 degrees C / 118 degrees F
	FPC 2 IA 0 TSensor	OK	50 degrees C / 122 degrees F
	FPC 2 IA 0 Chip	OK	48 degrees C / 118 degrees F
	FPC 2 IA 1 TSensor	OK	47 degrees C / 116 degrees F
	FPC 2 IA 1 Chip	OK	53 degrees C / 127 degrees F
Fans	Front Fan	OK	Spinning at normal speed
	Middle Fan	OK	Spinning at normal speed
	Rear Fan	OK	Spinning at normal speed

show chassis environment (MX480 Router)

user@host> show chassis environment			
Class	Item	Status	Measurement
Temp	PEM 0	OK	35 degrees C / 95 degrees F
	PEM 1	OK	40 degrees C / 104 degrees F
	PEM 2	Absent	
	PEM 3	Absent	
	Routing Engine 0	OK	44 degrees C / 111 degrees F
	Routing Engine 1	OK	45 degrees C / 113 degrees F
	CB 0 Intake	OK	36 degrees C / 96 degrees F
	CB 0 Exhaust A	OK	38 degrees C / 100 degrees F
	CB 0 Exhaust B	OK	39 degrees C / 102 degrees F
	CB 0 ACBC	OK	37 degrees C / 98 degrees F
	CB 0 SF A	OK	51 degrees C / 123 degrees F
	CB 0 SF B	OK	44 degrees C / 111 degrees F
	CB 1 Intake	OK	36 degrees C / 96 degrees F
	CB 1 Exhaust A	OK	39 degrees C / 102 degrees F
	CB 1 Exhaust B	OK	40 degrees C / 104 degrees F
	CB 1 ACBC	OK	37 degrees C / 98 degrees F

CB 1 SF A	OK	50 degrees C / 122 degrees F
CB 1 SF B	OK	43 degrees C / 109 degrees F
FPC 0 Intake	OK	36 degrees C / 96 degrees F
FPC 0 Exhaust A	OK	39 degrees C / 102 degrees F
FPC 0 Exhaust B	OK	51 degrees C / 123 degrees F
FPC 0 I3 0 TSensor	OK	49 degrees C / 120 degrees F
FPC 0 I3 0 Chip	OK	56 degrees C / 132 degrees F
FPC 0 I3 1 TSensor	OK	47 degrees C / 116 degrees F
FPC 0 I3 1 Chip	OK	52 degrees C / 125 degrees F
FPC 0 I3 2 TSensor	OK	46 degrees C / 114 degrees F
FPC 0 I3 2 Chip	OK	48 degrees C / 118 degrees F
FPC 0 I3 3 TSensor	OK	42 degrees C / 107 degrees F
FPC 0 I3 3 Chip	OK	45 degrees C / 113 degrees F
FPC 0 IA 0 TSensor	OK	45 degrees C / 113 degrees F
FPC 0 IA 0 Chip	OK	45 degrees C / 113 degrees F
FPC 0 IA 1 TSensor	OK	44 degrees C / 111 degrees F
FPC 0 IA 1 Chip	OK	48 degrees C / 118 degrees F
FPC 1 Intake	OK	37 degrees C / 98 degrees F
FPC 1 Exhaust A	OK	41 degrees C / 105 degrees F
FPC 1 Exhaust B	OK	52 degrees C / 125 degrees F
FPC 1 I3 0 TSensor	OK	51 degrees C / 123 degrees F
FPC 1 I3 0 Chip	OK	57 degrees C / 134 degrees F
FPC 1 I3 1 TSensor	OK	48 degrees C / 118 degrees F
FPC 1 I3 1 Chip	OK	52 degrees C / 125 degrees F
FPC 1 I3 2 TSensor	OK	46 degrees C / 114 degrees F
FPC 1 I3 2 Chip	OK	50 degrees C / 122 degrees F
FPC 1 I3 3 TSensor	OK	42 degrees C / 107 degrees F
FPC 1 I3 3 Chip	OK	46 degrees C / 114 degrees F
FPC 1 IA 0 TSensor	OK	49 degrees C / 120 degrees F
FPC 1 IA 0 Chip	OK	48 degrees C / 118 degrees F
FPC 1 IA 1 TSensor	OK	46 degrees C / 114 degrees F
FPC 1 IA 1 Chip	OK	50 degrees C / 122 degrees F
Fans Top Rear Fan	OK	Spinning at normal speed
Bottom Rear Fan	OK	Spinning at normal speed
Top Middle Fan	OK	Spinning at normal speed
Bottom Middle Fan	OK	Spinning at normal speed
Top Front Fan	OK	Spinning at normal speed
Bottom Front Fan	OK	Spinning at normal speed

show chassis environment (MX480 Router with SCBE)

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user@host> show chassis environment
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Class	Item	Status	Measurement
Temp	PEM 0	OK	35 degrees C / 95 degrees F
	PEM 1	OK	40 degrees C / 104 degrees F
	PEM 2	Absent	
	PEM 3	Absent	
	Routing Engine 0	OK	44 degrees C / 111 degrees F
	Routing Engine 1	OK	45 degrees C / 113 degrees F
	CB 0 Intake	OK	36 degrees C / 96 degrees F
	CB 0 Exhaust A	OK	38 degrees C / 100 degrees F
	CB 0 Exhaust B	OK	39 degrees C / 102 degrees F
	CB 0 ACBC	OK	37 degrees C / 98 degrees F
	CB 0 XF A	OK	51 degrees C / 123 degrees F
	CB 0 XF B	OK	44 degrees C / 111 degrees F
	CB 1 Intake	OK	36 degrees C / 96 degrees F
	CB 1 Exhaust A	OK	39 degrees C / 102 degrees F
	CB 1 Exhaust B	OK	40 degrees C / 104 degrees F
	CB 1 ACBC	OK	37 degrees C / 98 degrees F
	CB 1 XF A	OK	50 degrees C / 122 degrees F
	CB 1 XF B	OK	43 degrees C / 109 degrees F

	FPC 0 Intake	OK	36 degrees C / 96 degrees F
	FPC 0 Exhaust A	OK	39 degrees C / 102 degrees F
	FPC 0 Exhaust B	OK	51 degrees C / 123 degrees F
	FPC 0 I3 0 TSensor	OK	49 degrees C / 120 degrees F
	FPC 0 I3 0 Chip	OK	56 degrees C / 132 degrees F
	FPC 0 I3 1 TSensor	OK	47 degrees C / 116 degrees F
	FPC 0 I3 1 Chip	OK	52 degrees C / 125 degrees F
	FPC 0 I3 2 TSensor	OK	46 degrees C / 114 degrees F
	FPC 0 I3 2 Chip	OK	48 degrees C / 118 degrees F
	FPC 0 I3 3 TSensor	OK	42 degrees C / 107 degrees F
	FPC 0 I3 3 Chip	OK	45 degrees C / 113 degrees F
	FPC 0 IA 0 TSensor	OK	45 degrees C / 113 degrees F
	FPC 0 IA 0 Chip	OK	45 degrees C / 113 degrees F
	FPC 0 IA 1 TSensor	OK	44 degrees C / 111 degrees F
	FPC 0 IA 1 Chip	OK	48 degrees C / 118 degrees F
	FPC 1 Intake	OK	37 degrees C / 98 degrees F
	FPC 1 Exhaust A	OK	41 degrees C / 105 degrees F
	FPC 1 Exhaust B	OK	52 degrees C / 125 degrees F
	FPC 1 I3 0 TSensor	OK	51 degrees C / 123 degrees F
	FPC 1 I3 0 Chip	OK	57 degrees C / 134 degrees F
	FPC 1 I3 1 TSensor	OK	48 degrees C / 118 degrees F
	FPC 1 I3 1 Chip	OK	52 degrees C / 125 degrees F
	FPC 1 I3 2 TSensor	OK	46 degrees C / 114 degrees F
	FPC 1 I3 2 Chip	OK	50 degrees C / 122 degrees F
	FPC 1 I3 3 TSensor	OK	42 degrees C / 107 degrees F
	FPC 1 I3 3 Chip	OK	46 degrees C / 114 degrees F
	FPC 1 IA 0 TSensor	OK	49 degrees C / 120 degrees F
	FPC 1 IA 0 Chip	OK	48 degrees C / 118 degrees F
	FPC 1 IA 1 TSensor	OK	46 degrees C / 114 degrees F
	FPC 1 IA 1 Chip	OK	50 degrees C / 122 degrees F
Fans	Top Rear Fan	OK	Spinning at normal speed
	Bottom Rear Fan	OK	Spinning at normal speed
	Top Middle Fan	OK	Spinning at normal speed
	Bottom Middle Fan	OK	Spinning at normal speed
	Top Front Fan	OK	Spinning at normal speed
	Bottom Front Fan	OK	Spinning at normal speed

show chassis environment (MX960 Router)

user@host> show chassis environment			
Class	Item	Status	Measurement
Temp	PEM 0	Absent	
	PEM 1	Absent	
	PEM 2	Check	
	PEM 3	OK	35 degrees C / 95 degrees F
	Routing Engine 0	OK	37 degrees C / 98 degrees F
	Routing Engine 1	Absent	
	CB 0 Intake	OK	24 degrees C / 75 degrees F
	CB 0 Exhaust A	OK	30 degrees C / 86 degrees F
	CB 0 Exhaust B	OK	27 degrees C / 80 degrees F
	CB 1 Intake	Absent	
	CB 1 Exhaust A	Absent	
	CB 1 Exhaust B	Absent	
	CB 1 ACBC	Absent	
	CB 1 SF A	Absent	
	CB 1 SF B	Absent	
	CB 2 Intake	Absent	
	CB 2 Exhaust A	Absent	
	CB 2 Exhaust B	Absent	
	CB 2 ACBC	Absent	
	CB 2 SF A	Absent	

	CB 2 SF B	Absent	
	FPC 4 Intake	OK	24 degrees C / 75 degrees F
	FPC 4 Exhaust A	OK	36 degrees C / 96 degrees F
	FPC 4 Exhaust B	OK	38 degrees C / 100 degrees F
	FPC 7 Intake	OK	24 degrees C / 75 degrees F
	FPC 7 Exhaust A	OK	36 degrees C / 96 degrees F
	FPC 7 Exhaust B	OK	42 degrees C / 107 degrees F
Fans	Top Fan Tray Temp	Failed	
	Top Tray Fan 1	OK	Spinning at normal speed
	Top Tray Fan 2	OK	Spinning at normal speed
	Top Tray Fan 3	OK	Spinning at normal speed
	Top Tray Fan 4	OK	Spinning at normal speed
	Top Tray Fan 5	OK	Spinning at normal speed
	Top Tray Fan 6	OK	Spinning at normal speed
	Bottom Fan Tray Temp	Failed	
	Bottom Tray Fan 1	OK	Spinning at normal speed
	Bottom Tray Fan 2	OK	Spinning at normal speed
	Bottom Tray Fan 3	OK	Spinning at normal speed
	Bottom Tray Fan 4	OK	Spinning at normal speed
	Bottom Tray Fan 5	OK	Spinning at normal speed
	Bottom Tray Fan 6	OK	Spinning at normal speed

show chassis environment (MX960 Router with SCBE)

user@host> show chassis environment

Class	Item	Status	Measurement
Temp	PEM 0	Absent	
	PEM 1	OK	50 degrees C / 122 degrees F
	PEM 2	OK	50 degrees C / 122 degrees F
	PEM 3	OK	50 degrees C / 122 degrees F
	Routing Engine 0	OK	42 degrees C / 107 degrees F
	Routing Engine 0 CPU	OK	51 degrees C / 123 degrees F
	Routing Engine 1	OK	39 degrees C / 102 degrees F
	Routing Engine 1 CPU	OK	44 degrees C / 111 degrees F
	CB 0 Intake	OK	35 degrees C / 95 degrees F
	CB 0 Exhaust A	OK	36 degrees C / 96 degrees F
	CB 0 Exhaust B	OK	43 degrees C / 109 degrees F
	CB 0 ACBC	OK	38 degrees C / 100 degrees F
	CB 0 XF A	OK	53 degrees C / 127 degrees F
	CB 0 XF B	OK	47 degrees C / 116 degrees F
	CB 1 Intake	OK	35 degrees C / 95 degrees F
	CB 1 Exhaust A	OK	35 degrees C / 95 degrees F
	CB 1 Exhaust B	OK	41 degrees C / 105 degrees F
	CB 1 ACBC	OK	38 degrees C / 100 degrees F
	CB 1 XF A	OK	52 degrees C / 125 degrees F
	CB 1 XF B	OK	47 degrees C / 116 degrees F
	CB 2 Intake	OK	32 degrees C / 89 degrees F
	CB 2 Exhaust A	OK	30 degrees C / 86 degrees F
	CB 2 Exhaust B	OK	35 degrees C / 95 degrees F
	CB 2 ACBC	OK	33 degrees C / 91 degrees F
	CB 2 XF A	OK	51 degrees C / 123 degrees F
	CB 2 XF B	OK	50 degrees C / 122 degrees F
	FPC 0 Intake	OK	35 degrees C / 95 degrees F
	FPC 0 Exhaust A	OK	39 degrees C / 102 degrees F
	FPC 0 Exhaust B	OK	50 degrees C / 122 degrees F
	FPC 0 I3 0 TSensor	OK	50 degrees C / 122 degrees F
	FPC 0 I3 0 Chip	OK	56 degrees C / 132 degrees F
	FPC 0 I3 1 TSensor	OK	47 degrees C / 116 degrees F
	FPC 0 I3 1 Chip	OK	50 degrees C / 122 degrees F
	FPC 0 I3 2 TSensor	OK	45 degrees C / 113 degrees F
	FPC 0 I3 2 Chip	OK	48 degrees C / 118 degrees F

FPC 0 I3 3 TSensor	OK	41 degrees C / 105 degrees F
FPC 0 I3 3 Chip	OK	44 degrees C / 111 degrees F
FPC 0 IA 0 TSensor	OK	45 degrees C / 113 degrees F
FPC 0 IA 0 Chip	OK	45 degrees C / 113 degrees F
FPC 0 IA 1 TSensor	OK	44 degrees C / 111 degrees F
FPC 0 IA 1 Chip	OK	48 degrees C / 118 degrees F
FPC 1 Intake	OK	36 degrees C / 96 degrees F
FPC 1 Exhaust A	OK	47 degrees C / 116 degrees F
FPC 1 Exhaust B	OK	43 degrees C / 109 degrees F
FPC 1 LU 0 TCAM TSensor	OK	53 degrees C / 127 degrees F
FPC 1 LU 0 TCAM Chip	OK	57 degrees C / 134 degrees F
FPC 1 LU 0 TSensor	OK	53 degrees C / 127 degrees F
FPC 1 LU 0 Chip	OK	60 degrees C / 140 degrees F
FPC 1 MQ 0 TSensor	OK	53 degrees C / 127 degrees F
FPC 1 MQ 0 Chip	OK	56 degrees C / 132 degrees F
FPC 1 LU 1 TCAM TSensor	OK	51 degrees C / 123 degrees F
FPC 1 LU 1 TCAM Chip	OK	52 degrees C / 125 degrees F
FPC 1 LU 1 TSensor	OK	51 degrees C / 123 degrees F
FPC 1 LU 1 Chip	OK	53 degrees C / 127 degrees F
FPC 1 MQ 1 TSensor	OK	51 degrees C / 123 degrees F
FPC 1 MQ 1 Chip	OK	58 degrees C / 136 degrees F
FPC 2 Intake	OK	35 degrees C / 95 degrees F
FPC 2 Exhaust A	OK	39 degrees C / 102 degrees F
FPC 2 Exhaust B	OK	54 degrees C / 129 degrees F
FPC 2 I3 0 TSensor	OK	52 degrees C / 125 degrees F
FPC 2 I3 0 Chip	OK	59 degrees C / 138 degrees F
FPC 2 I3 1 TSensor	OK	48 degrees C / 118 degrees F
FPC 2 I3 1 Chip	OK	52 degrees C / 125 degrees F
FPC 2 I3 2 TSensor	OK	47 degrees C / 116 degrees F
FPC 2 I3 2 Chip	OK	49 degrees C / 120 degrees F
FPC 2 I3 3 TSensor	OK	41 degrees C / 105 degrees F
FPC 2 I3 3 Chip	OK	44 degrees C / 111 degrees F
FPC 2 IA 0 TSensor	OK	47 degrees C / 116 degrees F
FPC 2 IA 0 Chip	OK	46 degrees C / 114 degrees F
FPC 2 IA 1 TSensor	OK	45 degrees C / 113 degrees F
FPC 2 IA 1 Chip	OK	49 degrees C / 120 degrees F
FPC 3 Intake	OK	34 degrees C / 93 degrees F
FPC 3 Exhaust A	OK	34 degrees C / 93 degrees F
FPC 3 Exhaust B	OK	47 degrees C / 116 degrees F
FPC 3 I3 0 TSensor	OK	48 degrees C / 118 degrees F
FPC 3 I3 0 Chip	OK	52 degrees C / 125 degrees F
FPC 3 I3 1 TSensor	OK	46 degrees C / 114 degrees F
FPC 3 I3 1 Chip	OK	48 degrees C / 118 degrees F
FPC 3 IA 0 TSensor	OK	41 degrees C / 105 degrees F
FPC 3 IA 0 Chip	OK	40 degrees C / 104 degrees F
FPC 5 Intake	OK	42 degrees C / 107 degrees F
FPC 5 Exhaust A	OK	42 degrees C / 107 degrees F
FPC 5 Exhaust B	OK	53 degrees C / 127 degrees F
FPC 5 LU 0 TSensor	OK	53 degrees C / 127 degrees F
FPC 5 LU 0 Chip	OK	54 degrees C / 129 degrees F
FPC 5 LU 1 TSensor	OK	53 degrees C / 127 degrees F
FPC 5 LU 1 Chip	OK	61 degrees C / 141 degrees F
FPC 5 LU 2 TSensor	OK	53 degrees C / 127 degrees F
FPC 5 LU 2 Chip	OK	51 degrees C / 123 degrees F
FPC 5 LU 3 TSensor	OK	53 degrees C / 127 degrees F
FPC 5 LU 3 Chip	OK	53 degrees C / 127 degrees F
FPC 5 MQ 0 TSensor	OK	47 degrees C / 116 degrees F
FPC 5 MQ 0 Chip	OK	52 degrees C / 125 degrees F
FPC 5 MQ 1 TSensor	OK	47 degrees C / 116 degrees F
FPC 5 MQ 1 Chip	OK	52 degrees C / 125 degrees F
FPC 5 MQ 2 TSensor	OK	47 degrees C / 116 degrees F

FPC 5 MQ 2 Chip	OK	46 degrees C / 114 degrees F
FPC 5 MQ 3 TSensor	OK	47 degrees C / 116 degrees F
FPC 5 MQ 3 Chip	OK	45 degrees C / 113 degrees F
FPC 7 Intake	OK	36 degrees C / 96 degrees F
FPC 7 Exhaust A	OK	35 degrees C / 95 degrees F
FPC 7 Exhaust B	OK	33 degrees C / 91 degrees F
FPC 7 QX 0 TSensor	OK	42 degrees C / 107 degrees F
FPC 7 QX 0 Chip	OK	47 degrees C / 116 degrees F
FPC 7 LU 0 TCAM TSensor	OK	42 degrees C / 107 degrees F
FPC 7 LU 0 TCAM Chip	OK	44 degrees C / 111 degrees F
FPC 7 LU 0 TSensor	OK	42 degrees C / 107 degrees F
FPC 7 LU 0 Chip	OK	46 degrees C / 114 degrees F
FPC 7 MQ 0 TSensor	OK	42 degrees C / 107 degrees F
FPC 7 MQ 0 Chip	OK	45 degrees C / 113 degrees F
FPC 8 Intake	OK	33 degrees C / 91 degrees F
FPC 8 Exhaust A	OK	33 degrees C / 91 degrees F
FPC 8 Exhaust B	OK	36 degrees C / 96 degrees F
FPC 8 I3 0 TSensor	OK	38 degrees C / 100 degrees F
FPC 8 I3 0 Chip	OK	43 degrees C / 109 degrees F
FPC 8 BDS 0 TSensor	OK	37 degrees C / 98 degrees F
FPC 8 BDS 0 Chip	OK	36 degrees C / 96 degrees F
FPC 8 IA 0 TSensor	OK	37 degrees C / 98 degrees F
FPC 8 IA 0 Chip	OK	37 degrees C / 98 degrees F
FPC 10 Intake	OK	38 degrees C / 100 degrees F
FPC 10 Exhaust A	OK	36 degrees C / 96 degrees F
FPC 10 Exhaust B	OK	41 degrees C / 105 degrees F
FPC 10 I3 0 TSensor	OK	40 degrees C / 104 degrees F
FPC 10 I3 0 Chip	OK	42 degrees C / 107 degrees F
FPC 10 I3 1 TSensor	OK	40 degrees C / 104 degrees F
FPC 10 I3 1 Chip	OK	44 degrees C / 111 degrees F
FPC 10 I3 2 TSensor	OK	42 degrees C / 107 degrees F
FPC 10 I3 2 Chip	OK	43 degrees C / 109 degrees F
FPC 10 I3 3 TSensor	OK	39 degrees C / 102 degrees F
FPC 10 I3 3 Chip	OK	44 degrees C / 111 degrees F
FPC 10 IA 0 TSensor	OK	36 degrees C / 96 degrees F
FPC 10 IA 0 Chip	OK	36 degrees C / 96 degrees F
FPC 10 IA 1 TSensor	OK	43 degrees C / 109 degrees F
FPC 10 IA 1 Chip	OK	42 degrees C / 107 degrees F
Fans Top Fan Tray Temp	OK	37 degrees C / 98 degrees F
Top Tray Fan 1	OK	Spinning at normal speed
Top Tray Fan 2	OK	Spinning at normal speed
Top Tray Fan 3	OK	Spinning at normal speed
Top Tray Fan 4	OK	Spinning at normal speed
Top Tray Fan 5	OK	Spinning at normal speed
Top Tray Fan 6	OK	Spinning at normal speed
Bottom Fan Tray Temp	OK	28 degrees C / 82 degrees F
Bottom Tray Fan 1	OK	Spinning at normal speed
Bottom Tray Fan 2	OK	Spinning at normal speed
Bottom Tray Fan 3	OK	Spinning at normal speed
Bottom Tray Fan 4	OK	Spinning at normal speed
Bottom Tray Fan 5	OK	Spinning at normal speed
Bottom Tray Fan 6	OK	Spinning at normal speed

show chassis environment (MX960 Router with MPC5EQ)

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user@host> show chassis environment
Class Item          Status      Measurement
Temp  PEM 0            OK          50 degrees C / 122 degrees F
      PEM 1            OK          45 degrees C / 113 degrees F
      PEM 2            OK          45 degrees C / 113 degrees F
      PEM 3            Absent

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Routing Engine 0	OK	31 degrees C / 87 degrees F
Routing Engine 0 CPU	OK	30 degrees C / 86 degrees F
Routing Engine 1	Present	
Routing Engine 1 CPU	Present	
CB 0 Intake	OK	29 degrees C / 84 degrees F
CB 0 Exhaust A	OK	29 degrees C / 84 degrees F
CB 0 Exhaust B	OK	34 degrees C / 93 degrees F
CB 0 ACBC	OK	32 degrees C / 89 degrees F
CB 0 XF A	OK	49 degrees C / 120 degrees F
CB 0 XF B	OK	45 degrees C / 113 degrees F
CB 1 Intake	OK	26 degrees C / 78 degrees F
CB 1 Exhaust A	OK	26 degrees C / 78 degrees F
CB 1 Exhaust B	OK	27 degrees C / 80 degrees F
CB 1 ACBC	OK	26 degrees C / 78 degrees F
CB 1 XF A	OK	32 degrees C / 89 degrees F
CB 1 XF B	OK	32 degrees C / 89 degrees F
CB 2 Intake	OK	28 degrees C / 82 degrees F
CB 2 Exhaust A	OK	27 degrees C / 80 degrees F
CB 2 Exhaust B	OK	33 degrees C / 91 degrees F
CB 2 ACBC	OK	30 degrees C / 86 degrees F
CB 2 XF A	OK	48 degrees C / 118 degrees F
CB 2 XF B	OK	46 degrees C / 114 degrees F
FPC 0 Intake	OK	38 degrees C / 100 degrees F
FPC 0 Exhaust A	OK	48 degrees C / 118 degrees F
FPC 0 Exhaust B	OK	49 degrees C / 120 degrees F
FPC 0 XL TSen	OK	48 degrees C / 118 degrees F
FPC 0 XL Chip	OK	50 degrees C / 122 degrees F
FPC 0 XL_XR0 TSen	OK	48 degrees C / 118 degrees F
FPC 0 XL_XR0 Chip	OK	53 degrees C / 127 degrees F
FPC 0 XL_XR1 TSen	OK	48 degrees C / 118 degrees F
FPC 0 XL_XR1 Chip	OK	54 degrees C / 129 degrees F
FPC 0 XQ TSen	OK	48 degrees C / 118 degrees F
FPC 0 XQ Chip	OK	52 degrees C / 125 degrees F
FPC 0 XQ_XR0 TSen	OK	48 degrees C / 118 degrees F
FPC 0 XQ_XR0 Chip	OK	62 degrees C / 143 degrees F
FPC 0 XQ_XR1 TSen	OK	48 degrees C / 118 degrees F
FPC 0 XQ_XR1 Chip	OK	62 degrees C / 143 degrees F
FPC 0 XM 0 TSen	OK	53 degrees C / 127 degrees F
FPC 0 XM 0 Chip	OK	63 degrees C / 145 degrees F
FPC 0 XM 1 TSen	OK	53 degrees C / 127 degrees F
FPC 0 XM 1 Chip	OK	46 degrees C / 114 degrees F
FPC 0 PLX PCIe Switch TSe	OK	53 degrees C / 127 degrees F
FPC 0 PLX PCIe Switch Chi	OK	66 degrees C / 150 degrees F
FPC 1 Intake	OK	31 degrees C / 87 degrees F
FPC 1 Exhaust A	OK	38 degrees C / 100 degrees F
FPC 1 Exhaust B	OK	49 degrees C / 120 degrees F
FPC 1 LU 0 TSen	OK	41 degrees C / 105 degrees F
FPC 1 LU 0 Chip	OK	47 degrees C / 116 degrees F
FPC 1 LU 1 TSen	OK	41 degrees C / 105 degrees F
FPC 1 LU 1 Chip	OK	42 degrees C / 107 degrees F
FPC 1 LU 2 TSen	OK	41 degrees C / 105 degrees F
FPC 1 LU 2 Chip	OK	46 degrees C / 114 degrees F
FPC 1 LU 3 TSen	OK	41 degrees C / 105 degrees F
FPC 1 LU 3 Chip	OK	51 degrees C / 123 degrees F
FPC 1 XM 0 TSen	OK	41 degrees C / 105 degrees F
FPC 1 XM 0 Chip	OK	49 degrees C / 120 degrees F
FPC 1 XF 0 TSen	OK	41 degrees C / 105 degrees F
FPC 1 XF 0 Chip	OK	63 degrees C / 145 degrees F
FPC 1 PLX Switch TSen	OK	41 degrees C / 105 degrees F
FPC 1 PLX Switch Chip	OK	43 degrees C / 109 degrees F
FPC 3 Intake	OK	31 degrees C / 87 degrees F

FPC 3 Exhaust A	OK	37 degrees C / 98 degrees F
FPC 3 Exhaust B	OK	43 degrees C / 109 degrees F
FPC 3 LU 0 TSen	OK	42 degrees C / 107 degrees F
FPC 3 LU 0 Chip	OK	43 degrees C / 109 degrees F
FPC 3 LU 1 TSen	OK	42 degrees C / 107 degrees F
FPC 3 LU 1 Chip	OK	46 degrees C / 114 degrees F
FPC 3 LU 2 TSen	OK	42 degrees C / 107 degrees F
FPC 3 LU 2 Chip	OK	40 degrees C / 104 degrees F
FPC 3 LU 3 TSen	OK	42 degrees C / 107 degrees F
FPC 3 LU 3 Chip	OK	41 degrees C / 105 degrees F
FPC 3 MQ 0 TSen	OK	37 degrees C / 98 degrees F
FPC 3 MQ 0 Chip	OK	37 degrees C / 98 degrees F
FPC 3 MQ 1 TSen	OK	37 degrees C / 98 degrees F
FPC 3 MQ 1 Chip	OK	40 degrees C / 104 degrees F
FPC 3 MQ 2 TSen	OK	37 degrees C / 98 degrees F
FPC 3 MQ 2 Chip	OK	36 degrees C / 96 degrees F
FPC 3 MQ 3 TSen	OK	37 degrees C / 98 degrees F
FPC 3 MQ 3 Chip	OK	38 degrees C / 100 degrees F
FPC 4 Intake	OK	34 degrees C / 93 degrees F
FPC 4 Exhaust A	OK	45 degrees C / 113 degrees F
FPC 4 Exhaust B	OK	47 degrees C / 116 degrees F
FPC 4 XL TSen	OK	44 degrees C / 111 degrees F
FPC 4 XL Chip	OK	47 degrees C / 116 degrees F
FPC 4 XL_XR0 TSen	OK	44 degrees C / 111 degrees F
FPC 4 XL_XR0 Chip	OK	48 degrees C / 118 degrees F
FPC 4 XL_XR1 TSen	OK	44 degrees C / 111 degrees F
FPC 4 XL_XR1 Chip	OK	47 degrees C / 116 degrees F
FPC 4 XQ TSen	OK	44 degrees C / 111 degrees F
FPC 4 XQ Chip	OK	47 degrees C / 116 degrees F
FPC 4 XQ_XR0 TSen	OK	44 degrees C / 111 degrees F
FPC 4 XQ_XR0 Chip	OK	57 degrees C / 134 degrees F
FPC 4 XQ_XR1 TSen	OK	44 degrees C / 111 degrees F
FPC 4 XQ_XR1 Chip	OK	58 degrees C / 136 degrees F
FPC 4 XM 0 TSen	OK	51 degrees C / 123 degrees F
FPC 4 XM 0 Chip	OK	61 degrees C / 141 degrees F
FPC 4 XM 1 TSen	OK	51 degrees C / 123 degrees F
FPC 4 XM 1 Chip	OK	47 degrees C / 116 degrees F
FPC 4 PLX PCIe Switch TSe	OK	51 degrees C / 123 degrees F
FPC 4 PLX PCIe Switch Chi	OK	60 degrees C / 140 degrees F
FPC 5 Intake	OK	34 degrees C / 93 degrees F
FPC 5 Exhaust A	OK	45 degrees C / 113 degrees F
FPC 5 Exhaust B	OK	47 degrees C / 116 degrees F
FPC 5 XL TSen	OK	45 degrees C / 113 degrees F
FPC 5 XL Chip	OK	47 degrees C / 116 degrees F
FPC 5 XL_XR0 TSen	OK	45 degrees C / 113 degrees F
FPC 5 XL_XR0 Chip	OK	49 degrees C / 120 degrees F
FPC 5 XL_XR1 TSen	OK	45 degrees C / 113 degrees F
FPC 5 XL_XR1 Chip	OK	49 degrees C / 120 degrees F
FPC 5 XQ TSen	OK	45 degrees C / 113 degrees F
FPC 5 XQ Chip	OK	48 degrees C / 118 degrees F
FPC 5 XQ_XR0 TSen	OK	45 degrees C / 113 degrees F
FPC 5 XQ_XR0 Chip	OK	60 degrees C / 140 degrees F
FPC 5 XQ_XR1 TSen	OK	45 degrees C / 113 degrees F
FPC 5 XQ_XR1 Chip	OK	58 degrees C / 136 degrees F
FPC 5 XM 0 TSen	OK	50 degrees C / 122 degrees F
FPC 5 XM 0 Chip	OK	48 degrees C / 118 degrees F
FPC 5 XM 1 TSen	OK	50 degrees C / 122 degrees F
FPC 5 XM 1 Chip	OK	47 degrees C / 116 degrees F
FPC 5 PLX PCIe Switch TSe	OK	50 degrees C / 122 degrees F
FPC 5 PLX PCIe Switch Chi	OK	59 degrees C / 138 degrees F
FPC 7 Intake	OK	32 degrees C / 89 degrees F

FPC 7 Exhaust A	OK	32 degrees C / 89 degrees F
FPC 7 Exhaust B	OK	33 degrees C / 91 degrees F
FPC 7 LU 0 TSen	OK	49 degrees C / 120 degrees F
FPC 7 LU 0 Chip	OK	44 degrees C / 111 degrees F
FPC 7 LU 1 TSen	OK	49 degrees C / 120 degrees F
FPC 7 LU 1 Chip	OK	47 degrees C / 116 degrees F
FPC 7 LU 2 TSen	OK	49 degrees C / 120 degrees F
FPC 7 LU 2 Chip	OK	39 degrees C / 102 degrees F
FPC 7 LU 3 TSen	OK	49 degrees C / 120 degrees F
FPC 7 LU 3 Chip	OK	43 degrees C / 109 degrees F
FPC 7 XM 0 TSen	OK	49 degrees C / 120 degrees F
FPC 7 XM 0 Chip	OK	57 degrees C / 134 degrees F
FPC 7 XM 1 TSen	OK	49 degrees C / 120 degrees F
FPC 7 XM 1 Chip	OK	48 degrees C / 118 degrees F
FPC 7 PLX Switch TSen	OK	49 degrees C / 120 degrees F
FPC 7 PLX Switch Chip	OK	45 degrees C / 113 degrees F
FPC 8 Intake	OK	36 degrees C / 96 degrees F
FPC 8 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 8 Exhaust B	OK	46 degrees C / 114 degrees F
FPC 8 XL TSen	OK	46 degrees C / 114 degrees F
FPC 8 XL Chip	OK	47 degrees C / 116 degrees F
FPC 8 XL_XR0 TSen	OK	46 degrees C / 114 degrees F
FPC 8 XL_XR0 Chip	OK	53 degrees C / 127 degrees F
FPC 8 XL_XR1 TSen	OK	46 degrees C / 114 degrees F
FPC 8 XL_XR1 Chip	OK	52 degrees C / 125 degrees F
FPC 8 XQ TSen	OK	46 degrees C / 114 degrees F
FPC 8 XQ Chip	OK	46 degrees C / 114 degrees F
FPC 8 XQ_XR0 TSen	OK	46 degrees C / 114 degrees F
FPC 8 XQ_XR0 Chip	OK	59 degrees C / 138 degrees F
FPC 8 XQ_XR1 TSen	OK	46 degrees C / 114 degrees F
FPC 8 XQ_XR1 Chip	OK	57 degrees C / 134 degrees F
FPC 8 XM 0 TSen	OK	52 degrees C / 125 degrees F
FPC 8 XM 0 Chip	OK	61 degrees C / 141 degrees F
FPC 8 XM 1 TSen	OK	52 degrees C / 125 degrees F
FPC 8 XM 1 Chip	OK	47 degrees C / 116 degrees F
FPC 8 PLX PCIe Switch TSe	OK	52 degrees C / 125 degrees F
FPC 8 PLX PCIe Switch Chi	OK	63 degrees C / 145 degrees F
FPC 9 Intake	OK	31 degrees C / 87 degrees F
FPC 9 Exhaust A	OK	34 degrees C / 93 degrees F
FPC 9 Exhaust B	OK	35 degrees C / 95 degrees F
FPC 9 QX 0 TSen	OK	42 degrees C / 107 degrees F
FPC 9 QX 0 Chip	OK	45 degrees C / 113 degrees F
FPC 9 LU 0 TCAM TSen	OK	42 degrees C / 107 degrees F
FPC 9 LU 0 TCAM Chip	OK	41 degrees C / 105 degrees F
FPC 9 LU 0 TSen	OK	42 degrees C / 107 degrees F
FPC 9 LU 0 Chip	OK	43 degrees C / 109 degrees F
FPC 9 MQ 0 TSen	OK	42 degrees C / 107 degrees F
FPC 9 MQ 0 Chip	OK	43 degrees C / 109 degrees F
FPC 9 QX 1 TSen	OK	38 degrees C / 100 degrees F
FPC 9 QX 1 Chip	OK	40 degrees C / 104 degrees F
FPC 9 LU 1 TCAM TSen	OK	38 degrees C / 100 degrees F
FPC 9 LU 1 TCAM Chip	OK	38 degrees C / 100 degrees F
FPC 9 LU 1 TSen	OK	38 degrees C / 100 degrees F
FPC 9 LU 1 Chip	OK	41 degrees C / 105 degrees F
FPC 9 MQ 1 TSen	OK	38 degrees C / 100 degrees F
FPC 9 MQ 1 Chip	OK	41 degrees C / 105 degrees F
FPC 10 Intake	OK	35 degrees C / 95 degrees F
FPC 10 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 10 Exhaust B	OK	46 degrees C / 114 degrees F
FPC 10 XL TSen	OK	42 degrees C / 107 degrees F
FPC 10 XL Chip	OK	44 degrees C / 111 degrees F

FPC 10 XL_XR0 TSen	OK	42 degrees C / 107 degrees F
FPC 10 XL_XR0 Chip	OK	47 degrees C / 116 degrees F
FPC 10 XL_XR1 TSen	OK	42 degrees C / 107 degrees F
FPC 10 XL_XR1 Chip	OK	48 degrees C / 118 degrees F
FPC 10 XQ TSen	OK	42 degrees C / 107 degrees F
FPC 10 XQ Chip	OK	46 degrees C / 114 degrees F
FPC 10 XQ_XR0 TSen	OK	42 degrees C / 107 degrees F
FPC 10 XQ_XR0 Chip	OK	57 degrees C / 134 degrees F
FPC 10 XQ_XR1 TSen	OK	42 degrees C / 107 degrees F
FPC 10 XQ_XR1 Chip	OK	53 degrees C / 127 degrees F
FPC 10 XM 0 TSen	OK	51 degrees C / 123 degrees F
FPC 10 XM 0 Chip	OK	61 degrees C / 141 degrees F
FPC 10 XM 1 TSen	OK	51 degrees C / 123 degrees F
FPC 10 XM 1 Chip	OK	49 degrees C / 120 degrees F
FPC 10 PLX PCIe Switch TSe	OK	51 degrees C / 123 degrees F
FPC 10 PLX PCIe Switch Chi	OK	61 degrees C / 141 degrees F
FPC 11 Intake	OK	33 degrees C / 91 degrees F
FPC 11 Exhaust A	OK	33 degrees C / 91 degrees F
FPC 11 Exhaust B	OK	34 degrees C / 93 degrees F
FPC 11 LU 0 TSen	OK	50 degrees C / 122 degrees F
FPC 11 LU 0 Chip	OK	48 degrees C / 118 degrees F
FPC 11 LU 1 TSen	OK	50 degrees C / 122 degrees F
FPC 11 LU 1 Chip	OK	50 degrees C / 122 degrees F
FPC 11 LU 2 TSen	OK	50 degrees C / 122 degrees F
FPC 11 LU 2 Chip	OK	41 degrees C / 105 degrees F
FPC 11 LU 3 TSen	OK	50 degrees C / 122 degrees F
FPC 11 LU 3 Chip	OK	48 degrees C / 118 degrees F
FPC 11 XM 0 TSen	OK	50 degrees C / 122 degrees F
FPC 11 XM 0 Chip	OK	57 degrees C / 134 degrees F
FPC 11 XM 1 TSen	OK	50 degrees C / 122 degrees F
FPC 11 XM 1 Chip	OK	52 degrees C / 125 degrees F
FPC 11 PLX Switch TSen	OK	50 degrees C / 122 degrees F
FPC 11 PLX Switch Chip	OK	45 degrees C / 113 degrees F
Fans Top Fan Tray Temp	OK	42 degrees C / 107 degrees F
Top Tray Fan 1	OK	Spinning at high speed
Top Tray Fan 2	OK	Spinning at high speed
Top Tray Fan 3	OK	Spinning at high speed
Top Tray Fan 4	OK	Spinning at high speed
Top Tray Fan 5	OK	Spinning at high speed
Top Tray Fan 6	OK	Spinning at high speed
Top Tray Fan 7	OK	Spinning at high speed
Top Tray Fan 8	OK	Spinning at high speed
Top Tray Fan 9	OK	Spinning at high speed
Top Tray Fan 10	OK	Spinning at high speed
Top Tray Fan 11	OK	Spinning at high speed
Top Tray Fan 12	OK	Spinning at high speed
Bottom Fan Tray Temp	OK	33 degrees C / 91 degrees F
Bottom Tray Fan 1	OK	Spinning at high speed
Bottom Tray Fan 2	OK	Spinning at high speed
Bottom Tray Fan 3	OK	Spinning at high speed
Bottom Tray Fan 4	OK	Spinning at high speed
Bottom Tray Fan 5	OK	Spinning at high speed
Bottom Tray Fan 6	OK	Spinning at high speed
Bottom Tray Fan 7	OK	Spinning at high speed
Bottom Tray Fan 8	OK	Spinning at high speed
Bottom Tray Fan 9	OK	Spinning at high speed
Bottom Tray Fan 10	OK	Spinning at high speed
Bottom Tray Fan 11	OK	Spinning at high speed
Bottom Tray Fan 12	OK	Spinning at high speed

show chassis environment (MX2020 Router)

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Class	Item	Status	Measurement
Temp	PSM 0	Absent	
	PSM 1	Absent	
	PSM 2	OK	41 degrees C / 105 degrees F
	PSM 3	OK	39 degrees C / 102 degrees F
	PSM 4	OK	39 degrees C / 102 degrees F
	PSM 5	OK	38 degrees C / 100 degrees F
	PSM 6	OK	38 degrees C / 100 degrees F
	PSM 7	OK	38 degrees C / 100 degrees F
	PSM 8	OK	37 degrees C / 98 degrees F
	PSM 9	Absent	
	PSM 10	Absent	
	PSM 11	OK	47 degrees C / 116 degrees F
	PSM 12	OK	45 degrees C / 113 degrees F
	PSM 13	OK	44 degrees C / 111 degrees F
	PSM 14	OK	44 degrees C / 111 degrees F
	PSM 15	OK	43 degrees C / 109 degrees F
	PSM 16	OK	42 degrees C / 107 degrees F
	PSM 17	OK	41 degrees C / 105 degrees F
	PDM 0	OK	
	PDM 1	Absent	
	PDM 2	Absent	
	PDM 3	OK	
	CB 0 IntakeA-Zone0	OK	45 degrees C / 113 degrees F
	CB 0 IntakeB-Zone1	OK	34 degrees C / 93 degrees F
	CB 0 IntakeC-Zone0	OK	48 degrees C / 118 degrees F
	CB 0 ExhaustA-Zone0	OK	45 degrees C / 113 degrees F
	CB 0 ExhaustB-Zone1	OK	37 degrees C / 98 degrees F
	CB 0 TCBC-Zone0	OK	41 degrees C / 105 degrees F
	CB 1 IntakeA-Zone0	OK	46 degrees C / 114 degrees F
	CB 1 IntakeB-Zone1	OK	42 degrees C / 107 degrees F
	CB 1 IntakeC-Zone0	OK	49 degrees C / 120 degrees F
	CB 1 ExhaustA-Zone0	OK	46 degrees C / 114 degrees F
	CB 1 ExhaustB-Zone1	OK	41 degrees C / 105 degrees F
	CB 1 TCBC-Zone0	OK	46 degrees C / 114 degrees F
	SPMB 0 Intake	OK	33 degrees C / 91 degrees F
	SPMB 1 Intake	OK	42 degrees C / 107 degrees F
	Routing Engine 0	OK	35 degrees C / 95 degrees F
	Routing Engine 0 CPU	OK	34 degrees C / 93 degrees F
	Routing Engine 1	OK	44 degrees C / 111 degrees F
	Routing Engine 1 CPU	OK	42 degrees C / 107 degrees F
	SFB 0 Intake-Zone0	OK	55 degrees C / 131 degrees F
	SFB 0 Exhaust-Zone1	OK	48 degrees C / 118 degrees F
	SFB 0 IntakeA-Zone0	OK	50 degrees C / 122 degrees F
	SFB 0 IntakeB-Zone1	OK	40 degrees C / 104 degrees F
	SFB 0 Exhaust-Zone0	OK	52 degrees C / 125 degrees F
	SFB 0 SFB-XF2-Zone1	OK	61 degrees C / 141 degrees F
	SFB 0 SFB-XF1-Zone0	OK	69 degrees C / 156 degrees F
	SFB 0 SFB-XF0-Zone0	OK	68 degrees C / 154 degrees F
	SFB 1 Intake-Zone0	OK	56 degrees C / 132 degrees F
	SFB 1 Exhaust-Zone1	OK	47 degrees C / 116 degrees F
	SFB 1 IntakeA-Zone0	OK	51 degrees C / 123 degrees F
	SFB 1 IntakeB-Zone1	OK	40 degrees C / 104 degrees F
	SFB 1 Exhaust-Zone0	OK	51 degrees C / 123 degrees F
	SFB 1 SFB-XF2-Zone1	OK	62 degrees C / 143 degrees F
	SFB 1 SFB-XF1-Zone0	OK	67 degrees C / 152 degrees F
	SFB 1 SFB-XF0-Zone0	OK	69 degrees C / 156 degrees F
	SFB 2 Intake-Zone0	OK	56 degrees C / 132 degrees F

SFB 2 Exhaust-Zone1	OK	47 degrees C / 116 degrees F
SFB 2 IntakeA-Zone0	OK	51 degrees C / 123 degrees F
SFB 2 IntakeB-Zone1	OK	40 degrees C / 104 degrees F
SFB 2 Exhaust-Zone0	OK	53 degrees C / 127 degrees F
SFB 2 SFB-XF2-Zone1	OK	65 degrees C / 149 degrees F
SFB 2 SFB-XF1-Zone0	OK	69 degrees C / 156 degrees F
SFB 2 SFB-XF0-Zone0	OK	70 degrees C / 158 degrees F
SFB 3 Intake-Zone0	OK	57 degrees C / 134 degrees F
SFB 3 Exhaust-Zone1	OK	48 degrees C / 118 degrees F
SFB 3 IntakeA-Zone0	OK	52 degrees C / 125 degrees F
SFB 3 IntakeB-Zone1	OK	41 degrees C / 105 degrees F
SFB 3 Exhaust-Zone0	OK	53 degrees C / 127 degrees F
SFB 3 SFB-XF2-Zone1	OK	66 degrees C / 150 degrees F
SFB 3 SFB-XF1-Zone0	OK	69 degrees C / 156 degrees F
SFB 3 SFB-XF0-Zone0	OK	71 degrees C / 159 degrees F
SFB 4 Intake-Zone0	OK	58 degrees C / 136 degrees F
SFB 4 Exhaust-Zone1	OK	49 degrees C / 120 degrees F
SFB 4 IntakeA-Zone0	OK	54 degrees C / 129 degrees F
SFB 4 IntakeB-Zone1	OK	42 degrees C / 107 degrees F
SFB 4 Exhaust-Zone0	OK	53 degrees C / 127 degrees F
SFB 4 SFB-XF2-Zone1	OK	64 degrees C / 147 degrees F
SFB 4 SFB-XF1-Zone0	OK	68 degrees C / 154 degrees F
SFB 4 SFB-XF0-Zone0	OK	71 degrees C / 159 degrees F
SFB 5 Intake-Zone0	OK	58 degrees C / 136 degrees F
SFB 5 Exhaust-Zone1	OK	50 degrees C / 122 degrees F
SFB 5 IntakeA-Zone0	OK	53 degrees C / 127 degrees F
SFB 5 IntakeB-Zone1	OK	43 degrees C / 109 degrees F
SFB 5 Exhaust-Zone0	OK	54 degrees C / 129 degrees F
SFB 5 SFB-XF2-Zone1	OK	66 degrees C / 150 degrees F
SFB 5 SFB-XF1-Zone0	OK	69 degrees C / 156 degrees F
SFB 5 SFB-XF0-Zone0	OK	74 degrees C / 165 degrees F
SFB 6 Intake-Zone0	OK	58 degrees C / 136 degrees F
SFB 6 Exhaust-Zone1	OK	49 degrees C / 120 degrees F
SFB 6 IntakeA-Zone0	OK	53 degrees C / 127 degrees F
SFB 6 IntakeB-Zone1	OK	43 degrees C / 109 degrees F
SFB 6 Exhaust-Zone0	OK	53 degrees C / 127 degrees F
SFB 6 SFB-XF2-Zone1	OK	65 degrees C / 149 degrees F
SFB 6 SFB-XF1-Zone0	OK	68 degrees C / 154 degrees F
SFB 6 SFB-XF0-Zone0	OK	72 degrees C / 161 degrees F
SFB 7 Intake-Zone0	OK	57 degrees C / 134 degrees F
SFB 7 Exhaust-Zone1	OK	50 degrees C / 122 degrees F
SFB 7 IntakeA-Zone0	OK	53 degrees C / 127 degrees F
SFB 7 IntakeB-Zone1	OK	43 degrees C / 109 degrees F
SFB 7 Exhaust-Zone0	OK	54 degrees C / 129 degrees F
SFB 7 SFB-XF2-Zone1	OK	68 degrees C / 154 degrees F
SFB 7 SFB-XF1-Zone0	OK	69 degrees C / 156 degrees F
SFB 7 SFB-XF0-Zone0	OK	73 degrees C / 163 degrees F
FPC 0 Intake	OK	41 degrees C / 105 degrees F
FPC 0 Exhaust A	OK	48 degrees C / 118 degrees F
FPC 0 Exhaust B	OK	62 degrees C / 143 degrees F
FPC 0 LU 0 TSen	OK	59 degrees C / 138 degrees F
FPC 0 LU 0 Chip	OK	62 degrees C / 143 degrees F
FPC 0 LU 1 TSen	OK	59 degrees C / 138 degrees F
FPC 0 LU 1 Chip	OK	64 degrees C / 147 degrees F
FPC 0 LU 2 TSen	OK	59 degrees C / 138 degrees F
FPC 0 LU 2 Chip	OK	53 degrees C / 127 degrees F
FPC 0 LU 3 TSen	OK	59 degrees C / 138 degrees F
FPC 0 LU 3 Chip	OK	53 degrees C / 127 degrees F
FPC 0 MQ 0 TSen	OK	47 degrees C / 116 degrees F
FPC 0 MQ 0 Chip	OK	49 degrees C / 120 degrees F
FPC 0 MQ 1 TSen	OK	47 degrees C / 116 degrees F

FPC 0 MQ 1 Chip	OK	51 degrees C / 123 degrees F
FPC 0 MQ 2 TSen	OK	47 degrees C / 116 degrees F
FPC 0 MQ 2 Chip	OK	44 degrees C / 111 degrees F
FPC 0 MQ 3 TSen	OK	47 degrees C / 116 degrees F
FPC 0 MQ 3 Chip	OK	45 degrees C / 113 degrees F
FPC 1 Intake	OK	40 degrees C / 104 degrees F
FPC 1 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 1 Exhaust B	OK	58 degrees C / 136 degrees F
FPC 1 LU 0 TSen	OK	55 degrees C / 131 degrees F
FPC 1 LU 0 Chip	OK	56 degrees C / 132 degrees F
FPC 1 LU 1 TSen	OK	55 degrees C / 131 degrees F
FPC 1 LU 1 Chip	OK	58 degrees C / 136 degrees F
FPC 1 LU 2 TSen	OK	55 degrees C / 131 degrees F
FPC 1 LU 2 Chip	OK	49 degrees C / 120 degrees F
FPC 1 LU 3 TSen	OK	55 degrees C / 131 degrees F
FPC 1 LU 3 Chip	OK	51 degrees C / 123 degrees F
FPC 1 MQ 0 TSen	OK	47 degrees C / 116 degrees F
FPC 1 MQ 0 Chip	OK	48 degrees C / 118 degrees F
FPC 1 MQ 1 TSen	OK	47 degrees C / 116 degrees F
FPC 1 MQ 1 Chip	OK	50 degrees C / 122 degrees F
FPC 1 MQ 2 TSen	OK	47 degrees C / 116 degrees F
FPC 1 MQ 2 Chip	OK	44 degrees C / 111 degrees F
FPC 1 MQ 3 TSen	OK	47 degrees C / 116 degrees F
FPC 1 MQ 3 Chip	OK	44 degrees C / 111 degrees F
FPC 2 Intake	OK	39 degrees C / 102 degrees F
FPC 2 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 2 Exhaust B	OK	61 degrees C / 141 degrees F
FPC 2 LU 0 TSen	OK	58 degrees C / 136 degrees F
FPC 2 LU 0 Chip	OK	60 degrees C / 140 degrees F
FPC 2 LU 1 TSen	OK	58 degrees C / 136 degrees F
FPC 2 LU 1 Chip	OK	65 degrees C / 149 degrees F
FPC 2 LU 2 TSen	OK	58 degrees C / 136 degrees F
FPC 2 LU 2 Chip	OK	51 degrees C / 123 degrees F
FPC 2 LU 3 TSen	OK	58 degrees C / 136 degrees F
FPC 2 LU 3 Chip	OK	53 degrees C / 127 degrees F
FPC 2 MQ 0 TSen	OK	47 degrees C / 116 degrees F
FPC 2 MQ 0 Chip	OK	50 degrees C / 122 degrees F
FPC 2 MQ 1 TSen	OK	47 degrees C / 116 degrees F
FPC 2 MQ 1 Chip	OK	52 degrees C / 125 degrees F
FPC 2 MQ 2 TSen	OK	47 degrees C / 116 degrees F
FPC 2 MQ 2 Chip	OK	45 degrees C / 113 degrees F
FPC 2 MQ 3 TSen	OK	47 degrees C / 116 degrees F
FPC 2 MQ 3 Chip	OK	46 degrees C / 114 degrees F
FPC 3 Intake	OK	40 degrees C / 104 degrees F
FPC 3 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 3 Exhaust B	OK	61 degrees C / 141 degrees F
FPC 3 LU 0 TSen	OK	58 degrees C / 136 degrees F
FPC 3 LU 0 Chip	OK	61 degrees C / 141 degrees F
FPC 3 LU 1 TSen	OK	58 degrees C / 136 degrees F
FPC 3 LU 1 Chip	OK	62 degrees C / 143 degrees F
FPC 3 LU 2 TSen	OK	58 degrees C / 136 degrees F
FPC 3 LU 2 Chip	OK	51 degrees C / 123 degrees F
FPC 3 LU 3 TSen	OK	58 degrees C / 136 degrees F
FPC 3 LU 3 Chip	OK	53 degrees C / 127 degrees F
FPC 3 MQ 0 TSen	OK	48 degrees C / 118 degrees F
FPC 3 MQ 0 Chip	OK	50 degrees C / 122 degrees F
FPC 3 MQ 1 TSen	OK	48 degrees C / 118 degrees F
FPC 3 MQ 1 Chip	OK	54 degrees C / 129 degrees F
FPC 3 MQ 2 TSen	OK	48 degrees C / 118 degrees F
FPC 3 MQ 2 Chip	OK	45 degrees C / 113 degrees F
FPC 3 MQ 3 TSen	OK	48 degrees C / 118 degrees F

FPC 3 MQ 3 Chip	OK	48 degrees C / 118 degrees F
FPC 4 Intake	OK	40 degrees C / 104 degrees F
FPC 4 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 4 Exhaust B	OK	62 degrees C / 143 degrees F
FPC 4 LU 0 TSen	OK	59 degrees C / 138 degrees F
FPC 4 LU 0 Chip	OK	62 degrees C / 143 degrees F
FPC 4 LU 1 TSen	OK	59 degrees C / 138 degrees F
FPC 4 LU 1 Chip	OK	65 degrees C / 149 degrees F
FPC 4 LU 2 TSen	OK	59 degrees C / 138 degrees F
FPC 4 LU 2 Chip	OK	51 degrees C / 123 degrees F
FPC 4 LU 3 TSen	OK	59 degrees C / 138 degrees F
FPC 4 LU 3 Chip	OK	53 degrees C / 127 degrees F
FPC 4 MQ 0 TSen	OK	48 degrees C / 118 degrees F
FPC 4 MQ 0 Chip	OK	52 degrees C / 125 degrees F
FPC 4 MQ 1 TSen	OK	48 degrees C / 118 degrees F
FPC 4 MQ 1 Chip	OK	53 degrees C / 127 degrees F
FPC 4 MQ 2 TSen	OK	48 degrees C / 118 degrees F
FPC 4 MQ 2 Chip	OK	46 degrees C / 114 degrees F
FPC 4 MQ 3 TSen	OK	48 degrees C / 118 degrees F
FPC 4 MQ 3 Chip	OK	47 degrees C / 116 degrees F
FPC 5 Intake	OK	41 degrees C / 105 degrees F
FPC 5 Exhaust A	OK	50 degrees C / 122 degrees F
FPC 5 Exhaust B	OK	63 degrees C / 145 degrees F
FPC 5 LU 0 TSen	OK	60 degrees C / 140 degrees F
FPC 5 LU 0 Chip	OK	63 degrees C / 145 degrees F
FPC 5 LU 1 TSen	OK	60 degrees C / 140 degrees F
FPC 5 LU 1 Chip	OK	66 degrees C / 150 degrees F
FPC 5 LU 2 TSen	OK	60 degrees C / 140 degrees F
FPC 5 LU 2 Chip	OK	56 degrees C / 132 degrees F
FPC 5 LU 3 TSen	OK	60 degrees C / 140 degrees F
FPC 5 LU 3 Chip	OK	54 degrees C / 129 degrees F
FPC 5 MQ 0 TSen	OK	49 degrees C / 120 degrees F
FPC 5 MQ 0 Chip	OK	52 degrees C / 125 degrees F
FPC 5 MQ 1 TSen	OK	49 degrees C / 120 degrees F
FPC 5 MQ 1 Chip	OK	53 degrees C / 127 degrees F
FPC 5 MQ 2 TSen	OK	49 degrees C / 120 degrees F
FPC 5 MQ 2 Chip	OK	48 degrees C / 118 degrees F
FPC 5 MQ 3 TSen	OK	49 degrees C / 120 degrees F
FPC 5 MQ 3 Chip	OK	47 degrees C / 116 degrees F
FPC 6 Intake	OK	42 degrees C / 107 degrees F
FPC 6 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 6 Exhaust B	OK	63 degrees C / 145 degrees F
FPC 6 LU 0 TSen	OK	61 degrees C / 141 degrees F
FPC 6 LU 0 Chip	OK	64 degrees C / 147 degrees F
FPC 6 LU 1 TSen	OK	61 degrees C / 141 degrees F
FPC 6 LU 1 Chip	OK	66 degrees C / 150 degrees F
FPC 6 LU 2 TSen	OK	61 degrees C / 141 degrees F
FPC 6 LU 2 Chip	OK	56 degrees C / 132 degrees F
FPC 6 LU 3 TSen	OK	61 degrees C / 141 degrees F
FPC 6 LU 3 Chip	OK	56 degrees C / 132 degrees F
FPC 6 MQ 0 TSen	OK	50 degrees C / 122 degrees F
FPC 6 MQ 0 Chip	OK	56 degrees C / 132 degrees F
FPC 6 MQ 1 TSen	OK	50 degrees C / 122 degrees F
FPC 6 MQ 1 Chip	OK	59 degrees C / 138 degrees F
FPC 6 MQ 2 TSen	OK	50 degrees C / 122 degrees F
FPC 6 MQ 2 Chip	OK	49 degrees C / 120 degrees F
FPC 6 MQ 3 TSen	OK	50 degrees C / 122 degrees F
FPC 6 MQ 3 Chip	OK	49 degrees C / 120 degrees F
FPC 7 Intake	OK	41 degrees C / 105 degrees F
FPC 7 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 7 Exhaust B	OK	63 degrees C / 145 degrees F

FPC 7 LU 0 TSen	OK	60 degrees C / 140 degrees F
FPC 7 LU 0 Chip	OK	61 degrees C / 141 degrees F
FPC 7 LU 1 TSen	OK	60 degrees C / 140 degrees F
FPC 7 LU 1 Chip	OK	65 degrees C / 149 degrees F
FPC 7 LU 2 TSen	OK	60 degrees C / 140 degrees F
FPC 7 LU 2 Chip	OK	54 degrees C / 129 degrees F
FPC 7 LU 3 TSen	OK	60 degrees C / 140 degrees F
FPC 7 LU 3 Chip	OK	53 degrees C / 127 degrees F
FPC 7 MQ 0 TSen	OK	50 degrees C / 122 degrees F
FPC 7 MQ 0 Chip	OK	53 degrees C / 127 degrees F
FPC 7 MQ 1 TSen	OK	50 degrees C / 122 degrees F
FPC 7 MQ 1 Chip	OK	54 degrees C / 129 degrees F
FPC 7 MQ 2 TSen	OK	50 degrees C / 122 degrees F
FPC 7 MQ 2 Chip	OK	47 degrees C / 116 degrees F
FPC 7 MQ 3 TSen	OK	50 degrees C / 122 degrees F
FPC 7 MQ 3 Chip	OK	47 degrees C / 116 degrees F
FPC 8 Intake	OK	41 degrees C / 105 degrees F
FPC 8 Exhaust A	OK	50 degrees C / 122 degrees F
FPC 8 Exhaust B	OK	62 degrees C / 143 degrees F
FPC 8 LU 0 TSen	OK	59 degrees C / 138 degrees F
FPC 8 LU 0 Chip	OK	62 degrees C / 143 degrees F
FPC 8 LU 1 TSen	OK	59 degrees C / 138 degrees F
FPC 8 LU 1 Chip	OK	64 degrees C / 147 degrees F
FPC 8 LU 2 TSen	OK	59 degrees C / 138 degrees F
FPC 8 LU 2 Chip	OK	55 degrees C / 131 degrees F
FPC 8 LU 3 TSen	OK	59 degrees C / 138 degrees F
FPC 8 LU 3 Chip	OK	54 degrees C / 129 degrees F
FPC 8 MQ 0 TSen	OK	49 degrees C / 120 degrees F
FPC 8 MQ 0 Chip	OK	51 degrees C / 123 degrees F
FPC 8 MQ 1 TSen	OK	49 degrees C / 120 degrees F
FPC 8 MQ 1 Chip	OK	52 degrees C / 125 degrees F
FPC 8 MQ 2 TSen	OK	49 degrees C / 120 degrees F
FPC 8 MQ 2 Chip	OK	46 degrees C / 114 degrees F
FPC 8 MQ 3 TSen	OK	49 degrees C / 120 degrees F
FPC 8 MQ 3 Chip	OK	47 degrees C / 116 degrees F
FPC 9 Intake	OK	42 degrees C / 107 degrees F
FPC 9 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 9 Exhaust B	OK	63 degrees C / 145 degrees F
FPC 9 LU 0 TSen	OK	60 degrees C / 140 degrees F
FPC 9 LU 0 Chip	OK	65 degrees C / 149 degrees F
FPC 9 LU 1 TSen	OK	60 degrees C / 140 degrees F
FPC 9 LU 1 Chip	OK	67 degrees C / 152 degrees F
FPC 9 LU 2 TSen	OK	60 degrees C / 140 degrees F
FPC 9 LU 2 Chip	OK	54 degrees C / 129 degrees F
FPC 9 LU 3 TSen	OK	60 degrees C / 140 degrees F
FPC 9 LU 3 Chip	OK	54 degrees C / 129 degrees F
FPC 9 MQ 0 TSen	OK	51 degrees C / 123 degrees F
FPC 9 MQ 0 Chip	OK	55 degrees C / 131 degrees F
FPC 9 MQ 1 TSen	OK	51 degrees C / 123 degrees F
FPC 9 MQ 1 Chip	OK	59 degrees C / 138 degrees F
FPC 9 MQ 2 TSen	OK	51 degrees C / 123 degrees F
FPC 9 MQ 2 Chip	OK	49 degrees C / 120 degrees F
FPC 9 MQ 3 TSen	OK	51 degrees C / 123 degrees F
FPC 9 MQ 3 Chip	OK	49 degrees C / 120 degrees F
FPC 10 Intake	OK	44 degrees C / 111 degrees F
FPC 10 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 10 Exhaust B	OK	55 degrees C / 131 degrees F
FPC 10 LU 0 TSen	OK	54 degrees C / 129 degrees F
FPC 10 LU 0 Chip	OK	55 degrees C / 131 degrees F
FPC 10 LU 1 TSen	OK	54 degrees C / 129 degrees F
FPC 10 LU 1 Chip	OK	59 degrees C / 138 degrees F

FPC 10 LU 2 TSen	OK	54 degrees C / 129 degrees F
FPC 10 LU 2 Chip	OK	52 degrees C / 125 degrees F
FPC 10 LU 3 TSen	OK	54 degrees C / 129 degrees F
FPC 10 LU 3 Chip	OK	51 degrees C / 123 degrees F
FPC 10 MQ 0 TSen	OK	48 degrees C / 118 degrees F
FPC 10 MQ 0 Chip	OK	49 degrees C / 120 degrees F
FPC 10 MQ 1 TSen	OK	48 degrees C / 118 degrees F
FPC 10 MQ 1 Chip	OK	52 degrees C / 125 degrees F
FPC 10 MQ 2 TSen	OK	48 degrees C / 118 degrees F
FPC 10 MQ 2 Chip	OK	47 degrees C / 116 degrees F
FPC 10 MQ 3 TSen	OK	48 degrees C / 118 degrees F
FPC 10 MQ 3 Chip	OK	47 degrees C / 116 degrees F
FPC 11 Intake	OK	30 degrees C / 86 degrees F
FPC 11 Exhaust A	OK	35 degrees C / 95 degrees F
FPC 11 Exhaust B	OK	30 degrees C / 86 degrees F
FPC 11 LU 0 TSen	OK	57 degrees C / 134 degrees F
FPC 11 LU 0 Chip	OK	58 degrees C / 136 degrees F
FPC 11 LU 1 TSen	OK	57 degrees C / 134 degrees F
FPC 11 LU 1 Chip	OK	62 degrees C / 143 degrees F
FPC 11 LU 2 TSen	OK	57 degrees C / 134 degrees F
FPC 11 LU 2 Chip	OK	53 degrees C / 127 degrees F
FPC 11 LU 3 TSen	OK	57 degrees C / 134 degrees F
FPC 11 LU 3 Chip	OK	54 degrees C / 129 degrees F
FPC 11 MQ 0 TSen	OK	52 degrees C / 125 degrees F
FPC 11 MQ 0 Chip	OK	52 degrees C / 125 degrees F
FPC 11 MQ 1 TSen	OK	52 degrees C / 125 degrees F
FPC 11 MQ 1 Chip	OK	57 degrees C / 134 degrees F
FPC 11 MQ 2 TSen	OK	52 degrees C / 125 degrees F
FPC 11 MQ 2 Chip	OK	48 degrees C / 118 degrees F
FPC 11 MQ 3 TSen	OK	52 degrees C / 125 degrees F
FPC 11 MQ 3 Chip	OK	52 degrees C / 125 degrees F
FPC 12 Intake	OK	40 degrees C / 104 degrees F
FPC 12 Exhaust A	OK	47 degrees C / 116 degrees F
FPC 12 Exhaust B	OK	52 degrees C / 125 degrees F
FPC 12 LU 0 TSen	OK	51 degrees C / 123 degrees F
FPC 12 LU 0 Chip	OK	52 degrees C / 125 degrees F
FPC 12 LU 1 TSen	OK	51 degrees C / 123 degrees F
FPC 12 LU 1 Chip	OK	55 degrees C / 131 degrees F
FPC 12 LU 2 TSen	OK	51 degrees C / 123 degrees F
FPC 12 LU 2 Chip	OK	47 degrees C / 116 degrees F
FPC 12 LU 3 TSen	OK	51 degrees C / 123 degrees F
FPC 12 LU 3 Chip	OK	50 degrees C / 122 degrees F
FPC 12 MQ 0 TSen	OK	46 degrees C / 114 degrees F
FPC 12 MQ 0 Chip	OK	46 degrees C / 114 degrees F
FPC 12 MQ 1 TSen	OK	46 degrees C / 114 degrees F
FPC 12 MQ 1 Chip	OK	50 degrees C / 122 degrees F
FPC 12 MQ 2 TSen	OK	46 degrees C / 114 degrees F
FPC 12 MQ 2 Chip	OK	44 degrees C / 111 degrees F
FPC 12 MQ 3 TSen	OK	46 degrees C / 114 degrees F
FPC 12 MQ 3 Chip	OK	46 degrees C / 114 degrees F
FPC 13 Intake	OK	40 degrees C / 104 degrees F
FPC 13 Exhaust A	OK	48 degrees C / 118 degrees F
FPC 13 Exhaust B	OK	52 degrees C / 125 degrees F
FPC 13 LU 0 TSen	OK	51 degrees C / 123 degrees F
FPC 13 LU 0 Chip	OK	52 degrees C / 125 degrees F
FPC 13 LU 1 TSen	OK	51 degrees C / 123 degrees F
FPC 13 LU 1 Chip	OK	55 degrees C / 131 degrees F
FPC 13 LU 2 TSen	OK	51 degrees C / 123 degrees F
FPC 13 LU 2 Chip	OK	48 degrees C / 118 degrees F
FPC 13 LU 3 TSen	OK	51 degrees C / 123 degrees F
FPC 13 LU 3 Chip	OK	48 degrees C / 118 degrees F

FPC 13 MQ 0 TSen	OK	46 degrees C / 114 degrees F
FPC 13 MQ 0 Chip	OK	46 degrees C / 114 degrees F
FPC 13 MQ 1 TSen	OK	46 degrees C / 114 degrees F
FPC 13 MQ 1 Chip	OK	50 degrees C / 122 degrees F
FPC 13 MQ 2 TSen	OK	46 degrees C / 114 degrees F
FPC 13 MQ 2 Chip	OK	44 degrees C / 111 degrees F
FPC 13 MQ 3 TSen	OK	46 degrees C / 114 degrees F
FPC 13 MQ 3 Chip	OK	46 degrees C / 114 degrees F
FPC 14 Intake	OK	40 degrees C / 104 degrees F
FPC 14 Exhaust A	OK	50 degrees C / 122 degrees F
FPC 14 Exhaust B	OK	51 degrees C / 123 degrees F
FPC 14 LU 0 TSen	OK	50 degrees C / 122 degrees F
FPC 14 LU 0 Chip	OK	50 degrees C / 122 degrees F
FPC 14 LU 1 TSen	OK	50 degrees C / 122 degrees F
FPC 14 LU 1 Chip	OK	54 degrees C / 129 degrees F
FPC 14 LU 2 TSen	OK	50 degrees C / 122 degrees F
FPC 14 LU 2 Chip	OK	47 degrees C / 116 degrees F
FPC 14 LU 3 TSen	OK	50 degrees C / 122 degrees F
FPC 14 LU 3 Chip	OK	49 degrees C / 120 degrees F
FPC 14 MQ 0 TSen	OK	47 degrees C / 116 degrees F
FPC 14 MQ 0 Chip	OK	46 degrees C / 114 degrees F
FPC 14 MQ 1 TSen	OK	47 degrees C / 116 degrees F
FPC 14 MQ 1 Chip	OK	51 degrees C / 123 degrees F
FPC 14 MQ 2 TSen	OK	47 degrees C / 116 degrees F
FPC 14 MQ 2 Chip	OK	45 degrees C / 113 degrees F
FPC 14 MQ 3 TSen	OK	47 degrees C / 116 degrees F
FPC 14 MQ 3 Chip	OK	48 degrees C / 118 degrees F
FPC 15 Intake	OK	44 degrees C / 111 degrees F
FPC 15 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 15 Exhaust B	OK	60 degrees C / 140 degrees F
FPC 15 LU 0 TSen	OK	50 degrees C / 122 degrees F
FPC 15 LU 0 Chip	OK	56 degrees C / 132 degrees F
FPC 15 LU 1 TSen	OK	50 degrees C / 122 degrees F
FPC 15 LU 1 Chip	OK	50 degrees C / 122 degrees F
FPC 15 LU 2 TSen	OK	50 degrees C / 122 degrees F
FPC 15 LU 2 Chip	OK	58 degrees C / 136 degrees F
FPC 15 LU 3 TSen	OK	50 degrees C / 122 degrees F
FPC 15 LU 3 Chip	OK	63 degrees C / 145 degrees F
FPC 15 XM 0 TSen	OK	50 degrees C / 122 degrees F
FPC 15 XM 0 Chip	OK	56 degrees C / 132 degrees F
FPC 15 XF 0 TSen	OK	50 degrees C / 122 degrees F
FPC 15 XF 0 Chip	OK	68 degrees C / 154 degrees F
FPC 15 PLX Switch TSen	OK	50 degrees C / 122 degrees F
FPC 15 PLX Switch Chip	OK	56 degrees C / 132 degrees F
FPC 16 Intake	OK	42 degrees C / 107 degrees F
FPC 16 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 16 Exhaust B	OK	53 degrees C / 127 degrees F
FPC 16 LU 0 TSen	OK	51 degrees C / 123 degrees F
FPC 16 LU 0 Chip	OK	52 degrees C / 125 degrees F
FPC 16 LU 1 TSen	OK	51 degrees C / 123 degrees F
FPC 16 LU 1 Chip	OK	55 degrees C / 131 degrees F
FPC 16 LU 2 TSen	OK	51 degrees C / 123 degrees F
FPC 16 LU 2 Chip	OK	48 degrees C / 118 degrees F
FPC 16 LU 3 TSen	OK	51 degrees C / 123 degrees F
FPC 16 LU 3 Chip	OK	49 degrees C / 120 degrees F
FPC 16 MQ 0 TSen	OK	49 degrees C / 120 degrees F
FPC 16 MQ 0 Chip	OK	48 degrees C / 118 degrees F
FPC 16 MQ 1 TSen	OK	49 degrees C / 120 degrees F
FPC 16 MQ 1 Chip	OK	53 degrees C / 127 degrees F
FPC 16 MQ 2 TSen	OK	49 degrees C / 120 degrees F
FPC 16 MQ 2 Chip	OK	46 degrees C / 114 degrees F

FPC 16 MQ 3 TSen	OK	49 degrees C / 120 degrees F
FPC 16 MQ 3 Chip	OK	49 degrees C / 120 degrees F
FPC 17 Intake	OK	43 degrees C / 109 degrees F
FPC 17 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 17 Exhaust B	OK	55 degrees C / 131 degrees F
FPC 17 LU 0 TSen	OK	54 degrees C / 129 degrees F
FPC 17 LU 0 Chip	OK	57 degrees C / 134 degrees F
FPC 17 LU 1 TSen	OK	54 degrees C / 129 degrees F
FPC 17 LU 1 Chip	OK	60 degrees C / 140 degrees F
FPC 17 LU 2 TSen	OK	54 degrees C / 129 degrees F
FPC 17 LU 2 Chip	OK	53 degrees C / 127 degrees F
FPC 17 LU 3 TSen	OK	54 degrees C / 129 degrees F
FPC 17 LU 3 Chip	OK	53 degrees C / 127 degrees F
FPC 17 MQ 0 TSen	OK	49 degrees C / 120 degrees F
FPC 17 MQ 0 Chip	OK	50 degrees C / 122 degrees F
FPC 17 MQ 1 TSen	OK	49 degrees C / 120 degrees F
FPC 17 MQ 1 Chip	OK	54 degrees C / 129 degrees F
FPC 17 MQ 2 TSen	OK	49 degrees C / 120 degrees F
FPC 17 MQ 2 Chip	OK	47 degrees C / 116 degrees F
FPC 17 MQ 3 TSen	OK	49 degrees C / 120 degrees F
FPC 17 MQ 3 Chip	OK	51 degrees C / 123 degrees F
FPC 18 Intake	OK	44 degrees C / 111 degrees F
FPC 18 Exhaust A	OK	53 degrees C / 127 degrees F
FPC 18 Exhaust B	OK	57 degrees C / 134 degrees F
FPC 18 LU 0 TSen	OK	56 degrees C / 132 degrees F
FPC 18 LU 0 Chip	OK	57 degrees C / 134 degrees F
FPC 18 LU 1 TSen	OK	56 degrees C / 132 degrees F
FPC 18 LU 1 Chip	OK	62 degrees C / 143 degrees F
FPC 18 LU 2 TSen	OK	56 degrees C / 132 degrees F
FPC 18 LU 2 Chip	OK	53 degrees C / 127 degrees F
FPC 18 LU 3 TSen	OK	56 degrees C / 132 degrees F
FPC 18 LU 3 Chip	OK	55 degrees C / 131 degrees F
FPC 18 MQ 0 TSen	OK	51 degrees C / 123 degrees F
FPC 18 MQ 0 Chip	OK	54 degrees C / 129 degrees F
FPC 18 MQ 1 TSen	OK	51 degrees C / 123 degrees F
FPC 18 MQ 1 Chip	OK	58 degrees C / 136 degrees F
FPC 18 MQ 2 TSen	OK	51 degrees C / 123 degrees F
FPC 18 MQ 2 Chip	OK	50 degrees C / 122 degrees F
FPC 18 MQ 3 TSen	OK	51 degrees C / 123 degrees F
FPC 18 MQ 3 Chip	OK	53 degrees C / 127 degrees F
FPC 19 Intake	OK	48 degrees C / 118 degrees F
FPC 19 Exhaust A	OK	56 degrees C / 132 degrees F
FPC 19 Exhaust B	OK	64 degrees C / 147 degrees F
FPC 19 LU 0 TSen	OK	63 degrees C / 145 degrees F
FPC 19 LU 0 Chip	OK	64 degrees C / 147 degrees F
FPC 19 LU 1 TSen	OK	63 degrees C / 145 degrees F
FPC 19 LU 1 Chip	OK	70 degrees C / 158 degrees F
FPC 19 LU 2 TSen	OK	63 degrees C / 145 degrees F
FPC 19 LU 2 Chip	OK	61 degrees C / 141 degrees F
FPC 19 LU 3 TSen	OK	63 degrees C / 145 degrees F
FPC 19 LU 3 Chip	OK	62 degrees C / 143 degrees F
FPC 19 MQ 0 TSen	OK	56 degrees C / 132 degrees F
FPC 19 MQ 0 Chip	OK	60 degrees C / 140 degrees F
FPC 19 MQ 1 TSen	OK	56 degrees C / 132 degrees F
FPC 19 MQ 1 Chip	OK	62 degrees C / 143 degrees F
FPC 19 MQ 2 TSen	OK	56 degrees C / 132 degrees F
FPC 19 MQ 2 Chip	OK	56 degrees C / 132 degrees F
FPC 19 MQ 3 TSen	OK	56 degrees C / 132 degrees F
FPC 19 MQ 3 Chip	OK	57 degrees C / 134 degrees F
ADC 0 Intake	OK	40 degrees C / 104 degrees F
ADC 0 Exhaust	OK	52 degrees C / 125 degrees F

ADC 0 ADC-XF1	OK	59 degrees C / 138 degrees F
ADC 0 ADC-XF0	OK	66 degrees C / 150 degrees F
ADC 1 Intake	OK	38 degrees C / 100 degrees F
ADC 1 Exhaust	OK	50 degrees C / 122 degrees F
ADC 1 ADC-XF1	OK	59 degrees C / 138 degrees F
ADC 1 ADC-XF0	OK	63 degrees C / 145 degrees F
ADC 2 Intake	OK	37 degrees C / 98 degrees F
ADC 2 Exhaust	OK	52 degrees C / 125 degrees F
ADC 2 ADC-XF1	OK	53 degrees C / 127 degrees F
ADC 2 ADC-XF0	OK	61 degrees C / 141 degrees F
ADC 3 Intake	OK	40 degrees C / 104 degrees F
ADC 3 Exhaust	OK	51 degrees C / 123 degrees F
ADC 3 ADC-XF1	OK	61 degrees C / 141 degrees F
ADC 3 ADC-XF0	OK	64 degrees C / 147 degrees F
ADC 4 Intake	OK	39 degrees C / 102 degrees F
ADC 4 Exhaust	OK	51 degrees C / 123 degrees F
ADC 4 ADC-XF1	OK	60 degrees C / 140 degrees F
ADC 4 ADC-XF0	OK	63 degrees C / 145 degrees F
ADC 5 Intake	OK	38 degrees C / 100 degrees F
ADC 5 Exhaust	OK	54 degrees C / 129 degrees F
ADC 5 ADC-XF1	OK	56 degrees C / 132 degrees F
ADC 5 ADC-XF0	OK	67 degrees C / 152 degrees F
ADC 6 Intake	OK	39 degrees C / 102 degrees F
ADC 6 Exhaust	OK	52 degrees C / 125 degrees F
ADC 6 ADC-XF1	OK	59 degrees C / 138 degrees F
ADC 6 ADC-XF0	OK	66 degrees C / 150 degrees F
ADC 7 Intake	OK	39 degrees C / 102 degrees F
ADC 7 Exhaust	OK	54 degrees C / 129 degrees F
ADC 7 ADC-XF1	OK	62 degrees C / 143 degrees F
ADC 7 ADC-XF0	OK	70 degrees C / 158 degrees F
ADC 8 Intake	OK	39 degrees C / 102 degrees F
ADC 8 Exhaust	OK	52 degrees C / 125 degrees F
ADC 8 ADC-XF1	OK	61 degrees C / 141 degrees F
ADC 8 ADC-XF0	OK	65 degrees C / 149 degrees F
ADC 9 Intake	OK	41 degrees C / 105 degrees F
ADC 9 Exhaust	OK	51 degrees C / 123 degrees F
ADC 9 ADC-XF1	OK	63 degrees C / 145 degrees F
ADC 9 ADC-XF0	OK	63 degrees C / 145 degrees F
ADC 10 Intake	OK	48 degrees C / 118 degrees F
ADC 10 Exhaust	OK	53 degrees C / 127 degrees F
ADC 10 ADC-XF1	OK	67 degrees C / 152 degrees F
ADC 10 ADC-XF0	OK	66 degrees C / 150 degrees F
ADC 12 Intake	OK	49 degrees C / 120 degrees F
ADC 12 Exhaust	OK	54 degrees C / 129 degrees F
ADC 12 ADC-XF1	OK	67 degrees C / 152 degrees F
ADC 12 ADC-XF0	OK	67 degrees C / 152 degrees F
ADC 13 Intake	OK	49 degrees C / 120 degrees F
ADC 13 Exhaust	OK	57 degrees C / 134 degrees F
ADC 13 ADC-XF1	OK	66 degrees C / 150 degrees F
ADC 13 ADC-XF0	OK	69 degrees C / 156 degrees F
ADC 14 Intake	OK	51 degrees C / 123 degrees F
ADC 14 Exhaust	OK	59 degrees C / 138 degrees F
ADC 14 ADC-XF1	OK	69 degrees C / 156 degrees F
ADC 14 ADC-XF0	OK	74 degrees C / 165 degrees F
ADC 15 Intake	OK	50 degrees C / 122 degrees F
ADC 15 Exhaust	OK	59 degrees C / 138 degrees F
ADC 15 ADC-XF1	OK	68 degrees C / 154 degrees F
ADC 15 ADC-XF0	OK	69 degrees C / 156 degrees F
ADC 16 Intake	OK	52 degrees C / 125 degrees F
ADC 16 Exhaust	OK	58 degrees C / 136 degrees F
ADC 16 ADC-XF1	OK	68 degrees C / 154 degrees F

ADC 16 ADC-XF0	OK	70 degrees C / 158 degrees F
ADC 17 Intake	OK	52 degrees C / 125 degrees F
ADC 17 Exhaust	OK	59 degrees C / 138 degrees F
ADC 17 ADC-XF1	OK	69 degrees C / 156 degrees F
ADC 17 ADC-XF0	OK	71 degrees C / 159 degrees F
ADC 18 Intake	OK	53 degrees C / 127 degrees F
ADC 18 Exhaust	OK	59 degrees C / 138 degrees F
ADC 18 ADC-XF1	OK	68 degrees C / 154 degrees F
ADC 18 ADC-XF0	OK	73 degrees C / 163 degrees F
ADC 19 Intake	OK	50 degrees C / 122 degrees F
ADC 19 Exhaust	OK	59 degrees C / 138 degrees F
ADC 19 ADC-XF1	OK	68 degrees C / 154 degrees F
ADC 19 ADC-XF0	OK	72 degrees C / 161 degrees F
Fans Fan Tray 0 Fan 1	OK	7440 RPM
Fan Tray 0 Fan 2	OK	7200 RPM
Fan Tray 0 Fan 3	OK	6960 RPM
Fan Tray 0 Fan 4	OK	7200 RPM
Fan Tray 0 Fan 5	OK	7080 RPM
Fan Tray 0 Fan 6	OK	6840 RPM
Fan Tray 1 Fan 1	OK	6840 RPM
Fan Tray 1 Fan 2	OK	6960 RPM
Fan Tray 1 Fan 3	OK	6960 RPM
Fan Tray 1 Fan 4	OK	7080 RPM
Fan Tray 1 Fan 5	OK	6960 RPM
Fan Tray 1 Fan 6	OK	6960 RPM
Fan Tray 2 Fan 1	OK	8640 RPM
Fan Tray 2 Fan 2	OK	8640 RPM
Fan Tray 2 Fan 3	OK	8760 RPM
Fan Tray 2 Fan 4	OK	8760 RPM
Fan Tray 2 Fan 5	OK	8640 RPM
Fan Tray 2 Fan 6	OK	8640 RPM
Fan Tray 3 Fan 1	OK	8520 RPM
Fan Tray 3 Fan 2	OK	8520 RPM
Fan Tray 3 Fan 3	OK	8640 RPM
Fan Tray 3 Fan 4	OK	8640 RPM
Fan Tray 3 Fan 5	OK	8520 RPM
Fan Tray 3 Fan 6	OK	8520 RPM

show chassis environment (MX2020 Router with MPC5EQ and MPC6E)

Class	Item	Status	Measurement
Temp	PSM 0	OK	32 degrees C / 89 degrees F
	PSM 1	OK	32 degrees C / 89 degrees F
	PSM 2	OK	32 degrees C / 89 degrees F
	PSM 3	OK	32 degrees C / 89 degrees F
	PSM 4	OK	32 degrees C / 89 degrees F
	PSM 5	OK	33 degrees C / 91 degrees F
	PSM 6	OK	32 degrees C / 89 degrees F
	PSM 7	OK	32 degrees C / 89 degrees F
	PSM 8	OK	32 degrees C / 89 degrees F
	PSM 9	Absent	
	PSM 10	Absent	
	PSM 11	Absent	
	PSM 12	OK	33 degrees C / 91 degrees F
	PSM 13	OK	33 degrees C / 91 degrees F
	PSM 14	OK	34 degrees C / 93 degrees F
	PSM 15	OK	34 degrees C / 93 degrees F
	PSM 16	OK	33 degrees C / 91 degrees F
	PSM 17	OK	33 degrees C / 91 degrees F
	PDM 0	OK	
	PDM 1	OK	

PDM 2	OK	
PDM 3	OK	
CB 0 IntakeA-Zone0	OK	34 degrees C / 93 degrees F
CB 0 IntakeB-Zone1	OK	26 degrees C / 78 degrees F
CB 0 IntakeC-Zone0	OK	38 degrees C / 100 degrees F
CB 0 ExhaustA-Zone0	OK	34 degrees C / 93 degrees F
CB 0 ExhaustB-Zone1	OK	27 degrees C / 80 degrees F
CB 0 TCBC-Zone0	OK	32 degrees C / 89 degrees F
CB 1 IntakeA-Zone0	OK	24 degrees C / 75 degrees F
CB 1 IntakeB-Zone1	OK	22 degrees C / 71 degrees F
CB 1 IntakeC-Zone0	OK	34 degrees C / 93 degrees F
CB 1 ExhaustA-Zone0	OK	31 degrees C / 87 degrees F
CB 1 ExhaustB-Zone1	OK	24 degrees C / 75 degrees F
CB 1 TCBC-Zone0	OK	27 degrees C / 80 degrees F
SPMB 0 Intake	OK	25 degrees C / 77 degrees F
SPMB 1 Intake	OK	23 degrees C / 73 degrees F
Routing Engine 0	OK	28 degrees C / 82 degrees F
Routing Engine 0 CPU	OK	25 degrees C / 77 degrees F
Routing Engine 1	OK	25 degrees C / 77 degrees F
Routing Engine 1 CPU	OK	24 degrees C / 75 degrees F
SFB 0 Intake-Zone0	OK	45 degrees C / 113 degrees F
SFB 0 Exhaust-Zone1	OK	34 degrees C / 93 degrees F
SFB 0 IntakeA-Zone0	OK	32 degrees C / 89 degrees F
SFB 0 IntakeB-Zone1	OK	28 degrees C / 82 degrees F
SFB 0 Exhaust-Zone0	OK	36 degrees C / 96 degrees F
SFB 0 SFB-XF2-Zone1	OK	46 degrees C / 114 degrees F
SFB 0 SFB-XF1-Zone0	OK	48 degrees C / 118 degrees F
SFB 0 SFB-XF0-Zone0	OK	60 degrees C / 140 degrees F
SFB 1 Intake-Zone0	OK	44 degrees C / 111 degrees F
SFB 1 Exhaust-Zone1	OK	34 degrees C / 93 degrees F
SFB 1 IntakeA-Zone0	OK	35 degrees C / 95 degrees F
SFB 1 IntakeB-Zone1	OK	27 degrees C / 80 degrees F
SFB 1 Exhaust-Zone0	OK	37 degrees C / 98 degrees F
SFB 1 SFB-XF2-Zone1	OK	47 degrees C / 116 degrees F
SFB 1 SFB-XF1-Zone0	OK	49 degrees C / 120 degrees F
SFB 1 SFB-XF0-Zone0	OK	56 degrees C / 132 degrees F
SFB 2 Intake-Zone0	OK	41 degrees C / 105 degrees F
SFB 2 Exhaust-Zone1	OK	34 degrees C / 93 degrees F
SFB 2 IntakeA-Zone0	OK	35 degrees C / 95 degrees F
SFB 2 IntakeB-Zone1	OK	28 degrees C / 82 degrees F
SFB 2 Exhaust-Zone0	OK	37 degrees C / 98 degrees F
SFB 2 SFB-XF2-Zone1	OK	47 degrees C / 116 degrees F
SFB 2 SFB-XF1-Zone0	OK	55 degrees C / 131 degrees F
SFB 2 SFB-XF0-Zone0	OK	55 degrees C / 131 degrees F
SFB 3 Intake-Zone0	OK	43 degrees C / 109 degrees F
SFB 3 Exhaust-Zone1	OK	33 degrees C / 91 degrees F
SFB 3 IntakeA-Zone0	OK	35 degrees C / 95 degrees F
SFB 3 IntakeB-Zone1	OK	27 degrees C / 80 degrees F
SFB 3 Exhaust-Zone0	OK	36 degrees C / 96 degrees F
SFB 3 SFB-XF2-Zone1	OK	46 degrees C / 114 degrees F
SFB 3 SFB-XF1-Zone0	OK	46 degrees C / 114 degrees F
SFB 3 SFB-XF0-Zone0	OK	57 degrees C / 134 degrees F
SFB 4 Intake-Zone0	OK	36 degrees C / 96 degrees F
SFB 4 Exhaust-Zone1	OK	32 degrees C / 89 degrees F
SFB 4 IntakeA-Zone0	OK	31 degrees C / 87 degrees F
SFB 4 IntakeB-Zone1	OK	26 degrees C / 78 degrees F
SFB 4 Exhaust-Zone0	OK	32 degrees C / 89 degrees F
SFB 4 SFB-XF2-Zone1	OK	44 degrees C / 111 degrees F
SFB 4 SFB-XF1-Zone0	OK	45 degrees C / 113 degrees F
SFB 4 SFB-XF0-Zone0	OK	52 degrees C / 125 degrees F
SFB 5 Intake-Zone0	OK	31 degrees C / 87 degrees F

SFB 5 Exhaust-Zone1	OK	30 degrees C / 86 degrees F
SFB 5 IntakeA-Zone0	OK	26 degrees C / 78 degrees F
SFB 5 IntakeB-Zone1	OK	24 degrees C / 75 degrees F
SFB 5 Exhaust-Zone0	OK	29 degrees C / 84 degrees F
SFB 5 SFB-XF2-Zone1	OK	43 degrees C / 109 degrees F
SFB 5 SFB-XF1-Zone0	OK	47 degrees C / 116 degrees F
SFB 5 SFB-XF0-Zone0	OK	49 degrees C / 120 degrees F
SFB 6 Intake-Zone0	OK	30 degrees C / 86 degrees F
SFB 6 Exhaust-Zone1	OK	29 degrees C / 84 degrees F
SFB 6 IntakeA-Zone0	OK	25 degrees C / 77 degrees F
SFB 6 IntakeB-Zone1	OK	24 degrees C / 75 degrees F
SFB 6 Exhaust-Zone0	OK	29 degrees C / 84 degrees F
SFB 6 SFB-XF2-Zone1	OK	43 degrees C / 109 degrees F
SFB 6 SFB-XF1-Zone0	OK	44 degrees C / 111 degrees F
SFB 6 SFB-XF0-Zone0	OK	45 degrees C / 113 degrees F
SFB 7 Intake-Zone0	OK	31 degrees C / 87 degrees F
SFB 7 Exhaust-Zone1	OK	30 degrees C / 86 degrees F
SFB 7 IntakeA-Zone0	OK	26 degrees C / 78 degrees F
SFB 7 IntakeB-Zone1	OK	24 degrees C / 75 degrees F
SFB 7 Exhaust-Zone0	OK	28 degrees C / 82 degrees F
SFB 7 SFB-XF2-Zone1	OK	50 degrees C / 122 degrees F
SFB 7 SFB-XF1-Zone0	OK	43 degrees C / 109 degrees F
SFB 7 SFB-XF0-Zone0	OK	47 degrees C / 116 degrees F
FPC 0 Intake	OK	31 degrees C / 87 degrees F
FPC 0 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 0 Exhaust B	OK	43 degrees C / 109 degrees F
FPC 0 XL TSen	OK	42 degrees C / 107 degrees F
FPC 0 XL Chip	OK	46 degrees C / 114 degrees F
FPC 0 XL_XR0 TSen	OK	42 degrees C / 107 degrees F
FPC 0 XL_XR0 Chip	OK	48 degrees C / 118 degrees F
FPC 0 XL_XR1 TSen	OK	42 degrees C / 107 degrees F
FPC 0 XL_XR1 Chip	OK	48 degrees C / 118 degrees F
FPC 0 XQ TSen	OK	42 degrees C / 107 degrees F
FPC 0 XQ Chip	OK	44 degrees C / 111 degrees F
FPC 0 XQ_XR0 TSen	OK	42 degrees C / 107 degrees F
FPC 0 XQ_XR0 Chip	OK	57 degrees C / 134 degrees F
FPC 0 XQ_XR1 TSen	OK	42 degrees C / 107 degrees F
FPC 0 XQ_XR1 Chip	OK	55 degrees C / 131 degrees F
FPC 0 XM 0 TSen	OK	48 degrees C / 118 degrees F
FPC 0 XM 0 Chip	OK	62 degrees C / 143 degrees F
FPC 0 XM 1 TSen	OK	48 degrees C / 118 degrees F
FPC 0 XM 1 Chip	OK	44 degrees C / 111 degrees F
FPC 0 PLX PCIe Switch TSe	OK	48 degrees C / 118 degrees F
FPC 0 PLX PCIe Switch Chi	OK	57 degrees C / 134 degrees F
FPC 1 Intake	OK	29 degrees C / 84 degrees F
FPC 1 Exhaust A	OK	36 degrees C / 96 degrees F
FPC 1 Exhaust B	OK	44 degrees C / 111 degrees F
FPC 1 LU 0 TSen	OK	38 degrees C / 100 degrees F
FPC 1 LU 0 Chip	OK	45 degrees C / 113 degrees F
FPC 1 LU 1 TSen	OK	38 degrees C / 100 degrees F
FPC 1 LU 1 Chip	OK	38 degrees C / 100 degrees F
FPC 1 LU 2 TSen	OK	38 degrees C / 100 degrees F
FPC 1 LU 2 Chip	OK	42 degrees C / 107 degrees F
FPC 1 LU 3 TSen	OK	38 degrees C / 100 degrees F
FPC 1 LU 3 Chip	OK	47 degrees C / 116 degrees F
FPC 1 XM 0 TSen	OK	38 degrees C / 100 degrees F
FPC 1 XM 0 Chip	OK	44 degrees C / 111 degrees F
FPC 1 XF 0 TSen	OK	38 degrees C / 100 degrees F
FPC 1 XF 0 Chip	OK	54 degrees C / 129 degrees F
FPC 1 PLX Switch TSen	OK	38 degrees C / 100 degrees F
FPC 1 PLX Switch Chip	OK	41 degrees C / 105 degrees F

FPC 2 Intake	OK	28 degrees C / 82 degrees F
FPC 2 Exhaust A	OK	28 degrees C / 82 degrees F
FPC 2 Exhaust B	OK	28 degrees C / 82 degrees F
FPC 2 LU 0 TSen	OK	40 degrees C / 104 degrees F
FPC 2 LU 0 Chip	OK	40 degrees C / 104 degrees F
FPC 2 LU 1 TSen	OK	40 degrees C / 104 degrees F
FPC 2 LU 1 Chip	OK	41 degrees C / 105 degrees F
FPC 2 LU 2 TSen	OK	40 degrees C / 104 degrees F
FPC 2 LU 2 Chip	OK	34 degrees C / 93 degrees F
FPC 2 LU 3 TSen	OK	40 degrees C / 104 degrees F
FPC 2 LU 3 Chip	OK	38 degrees C / 100 degrees F
FPC 2 XM 0 TSen	OK	40 degrees C / 104 degrees F
FPC 2 XM 0 Chip	OK	47 degrees C / 116 degrees F
FPC 2 XM 1 TSen	OK	40 degrees C / 104 degrees F
FPC 2 XM 1 Chip	OK	42 degrees C / 107 degrees F
FPC 2 PLX Switch TSen	OK	40 degrees C / 104 degrees F
FPC 2 PLX Switch Chip	OK	39 degrees C / 102 degrees F
FPC 3 Intake	OK	27 degrees C / 80 degrees F
FPC 3 Exhaust A	OK	38 degrees C / 100 degrees F
FPC 3 Exhaust B	OK	31 degrees C / 87 degrees F
FPC 3 QX 0 TSen	OK	38 degrees C / 100 degrees F
FPC 3 QX 0 Chip	OK	42 degrees C / 107 degrees F
FPC 3 LU 0 TCAM TSen	OK	38 degrees C / 100 degrees F
FPC 3 LU 0 TCAM Chip	OK	43 degrees C / 109 degrees F
FPC 3 LU 0 TSen	OK	38 degrees C / 100 degrees F
FPC 3 LU 0 Chip	OK	42 degrees C / 107 degrees F
FPC 3 MQ 0 TSen	OK	38 degrees C / 100 degrees F
FPC 3 MQ 0 Chip	OK	39 degrees C / 102 degrees F
FPC 3 QX 1 TSen	OK	32 degrees C / 89 degrees F
FPC 3 QX 1 Chip	OK	36 degrees C / 96 degrees F
FPC 3 LU 1 TCAM TSen	OK	32 degrees C / 89 degrees F
FPC 3 LU 1 TCAM Chip	OK	35 degrees C / 95 degrees F
FPC 3 LU 1 TSen	OK	32 degrees C / 89 degrees F
FPC 3 LU 1 Chip	OK	37 degrees C / 98 degrees F
FPC 3 MQ 1 TSen	OK	32 degrees C / 89 degrees F
FPC 3 MQ 1 Chip	OK	36 degrees C / 96 degrees F
FPC 4 Intake	OK	29 degrees C / 84 degrees F
FPC 4 Exhaust A	OK	36 degrees C / 96 degrees F
FPC 4 Exhaust B	OK	40 degrees C / 104 degrees F
FPC 4 XL TSen	OK	39 degrees C / 102 degrees F
FPC 4 XL Chip	OK	42 degrees C / 107 degrees F
FPC 4 XL_XR0 TSen	OK	39 degrees C / 102 degrees F
FPC 4 XL_XR0 Chip	OK	45 degrees C / 113 degrees F
FPC 4 XL_XR1 TSen	OK	39 degrees C / 102 degrees F
FPC 4 XL_XR1 Chip	OK	46 degrees C / 114 degrees F
FPC 4 XQ TSen	OK	39 degrees C / 102 degrees F
FPC 4 XQ Chip	OK	42 degrees C / 107 degrees F
FPC 4 XQ_XR0 TSen	OK	39 degrees C / 102 degrees F
FPC 4 XQ_XR0 Chip	OK	54 degrees C / 129 degrees F
FPC 4 XQ_XR1 TSen	OK	39 degrees C / 102 degrees F
FPC 4 XQ_XR1 Chip	OK	53 degrees C / 127 degrees F
FPC 4 XM 0 TSen	OK	45 degrees C / 113 degrees F
FPC 4 XM 0 Chip	OK	59 degrees C / 138 degrees F
FPC 4 XM 1 TSen	OK	45 degrees C / 113 degrees F
FPC 4 XM 1 Chip	OK	41 degrees C / 105 degrees F
FPC 4 PLX PCIe Switch TSe	OK	45 degrees C / 113 degrees F
FPC 4 PLX PCIe Switch Chi	OK	58 degrees C / 136 degrees F
FPC 5 Intake	OK	29 degrees C / 84 degrees F
FPC 5 Exhaust A	OK	33 degrees C / 91 degrees F
FPC 5 Exhaust B	OK	39 degrees C / 102 degrees F
FPC 5 LU 0 TSen	OK	40 degrees C / 104 degrees F

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FPC 5 LU 0 Chip          OK          40 degrees C / 104 degrees F
FPC 5 LU 1 TSen          OK          40 degrees C / 104 degrees F
FPC 5 LU 1 Chip          OK          45 degrees C / 113 degrees F
FPC 5 LU 2 TSen          OK          40 degrees C / 104 degrees F
FPC 5 LU 2 Chip          OK          40 degrees C / 104 degrees F
FPC 5 LU 3 TSen          OK          40 degrees C / 104 degrees F
FPC 5 LU 3 Chip          OK          46 degrees C / 114 degrees F
FPC 5 MQ 0 TSen          OK          32 degrees C / 89 degrees F
FPC 5 MQ 0 Chip          OK          33 degrees C / 91 degrees F
FPC 5 MQ 1 TSen          OK          32 degrees C / 89 degrees F
FPC 5 MQ 1 Chip          OK          35 degrees C / 95 degrees F
FPC 5 MQ 2 TSen          OK          32 degrees C / 89 degrees F
FPC 5 MQ 2 Chip          OK          32 degrees C / 89 degrees F
FPC 5 MQ 3 TSen          OK          32 degrees C / 89 degrees F
FPC 5 MQ 3 Chip          OK          32 degrees C / 89 degrees F
FPC 9 Intake             OK          25 degrees C / 77 degrees F
FPC 9 Exhaust A          OK          37 degrees C / 98 degrees F
FPC 9 Exhaust B          OK          40 degrees C / 104 degrees F
FPC 9 XL 0 TSen          OK          40 degrees C / 104 degrees F
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show chassis environment (MX2010 Router)

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user@host> show chassis environment
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Class	Item	Status	Measurement
Temp	PSM 0	OK	7 degrees C / 44 degrees F
	PSM 1	OK	7 degrees C / 44 degrees F
	PSM 2	OK	7 degrees C / 44 degrees F
	PSM 3	OK	6 degrees C / 42 degrees F
	PSM 4	OK	6 degrees C / 42 degrees F
	PSM 5	OK	6 degrees C / 42 degrees F
	PSM 6	OK	6 degrees C / 42 degrees F
	PSM 7	OK	7 degrees C / 44 degrees F
	PSM 8	OK	7 degrees C / 44 degrees F
	PDM 0	OK	
	PDM 1	Absent	
	CB 0 IntakeA-Zone0	OK	14 degrees C / 57 degrees F
	CB 0 IntakeB-Zone1	OK	7 degrees C / 44 degrees F
	CB 0 IntakeC-Zone0	OK	22 degrees C / 71 degrees F
	CB 0 ExhaustA-Zone0	OK	14 degrees C / 57 degrees F
	CB 0 ExhaustB-Zone1	OK	9 degrees C / 48 degrees F
	CB 0 TCBC-Zone0	OK	11 degrees C / 51 degrees F
	CB 1 IntakeA-Zone0	OK	9 degrees C / 48 degrees F
	CB 1 IntakeB-Zone1	OK	5 degrees C / 41 degrees F
	CB 1 IntakeC-Zone0	OK	20 degrees C / 68 degrees F
	CB 1 ExhaustA-Zone0	OK	12 degrees C / 53 degrees F
	CB 1 ExhaustB-Zone1	OK	7 degrees C / 44 degrees F
	CB 1 TCBC-Zone0	OK	10 degrees C / 50 degrees F
	SPMB 0 Intake	OK	5 degrees C / 41 degrees F
	SPMB 1 Intake	OK	4 degrees C / 39 degrees F
	Routing Engine 0	OK	9 degrees C / 48 degrees F
	Routing Engine 0 CPU	OK	9 degrees C / 48 degrees F
	Routing Engine 1	OK	6 degrees C / 42 degrees F
	Routing Engine 1 CPU	OK	6 degrees C / 42 degrees F
	SFB 0 Intake-Zone0	OK	26 degrees C / 78 degrees F
	SFB 0 Exhaust-Zone1	OK	17 degrees C / 62 degrees F
	SFB 0 IntakeA-Zone0	OK	16 degrees C / 60 degrees F
	SFB 0 IntakeB-Zone1	OK	11 degrees C / 51 degrees F
	SFB 0 Exhaust-Zone0	OK	18 degrees C / 64 degrees F
	SFB 0 SFB-XF2-Zone1	OK	25 degrees C / 77 degrees F
	SFB 0 SFB-XF1-Zone0	OK	23 degrees C / 73 degrees F

SFB 0 SFB-XF0-Zone0	OK	33 degrees C / 91 degrees F
SFB 1 Intake-Zone0	OK	27 degrees C / 80 degrees F
SFB 1 Exhaust-Zone1	OK	15 degrees C / 59 degrees F
SFB 1 IntakeA-Zone0	OK	20 degrees C / 68 degrees F
SFB 1 IntakeB-Zone1	OK	10 degrees C / 50 degrees F
SFB 1 Exhaust-Zone0	OK	19 degrees C / 66 degrees F
SFB 1 SFB-XF2-Zone1	OK	26 degrees C / 78 degrees F
SFB 1 SFB-XF1-Zone0	OK	27 degrees C / 80 degrees F
SFB 1 SFB-XF0-Zone0	OK	32 degrees C / 89 degrees F
SFB 2 Intake-Zone0	OK	21 degrees C / 69 degrees F
SFB 2 Exhaust-Zone1	OK	13 degrees C / 55 degrees F
SFB 2 IntakeA-Zone0	OK	18 degrees C / 64 degrees F
SFB 2 IntakeB-Zone1	OK	9 degrees C / 48 degrees F
SFB 2 Exhaust-Zone0	OK	16 degrees C / 60 degrees F
SFB 2 SFB-XF2-Zone1	OK	24 degrees C / 75 degrees F
SFB 2 SFB-XF1-Zone0	OK	21 degrees C / 69 degrees F
SFB 2 SFB-XF0-Zone0	OK	26 degrees C / 78 degrees F
SFB 4 Intake-Zone0	OK	28 degrees C / 82 degrees F
SFB 4 Exhaust-Zone1	OK	16 degrees C / 60 degrees F
SFB 4 IntakeA-Zone0	OK	18 degrees C / 64 degrees F
SFB 4 IntakeB-Zone1	OK	11 degrees C / 51 degrees F
SFB 4 Exhaust-Zone0	OK	19 degrees C / 66 degrees F
SFB 4 SFB-XF2-Zone1	OK	27 degrees C / 80 degrees F
SFB 4 SFB-XF1-Zone0	OK	27 degrees C / 80 degrees F
SFB 4 SFB-XF0-Zone0	OK	32 degrees C / 89 degrees F
SFB 5 Intake-Zone0	OK	22 degrees C / 71 degrees F
SFB 5 Exhaust-Zone1	OK	14 degrees C / 57 degrees F
SFB 5 IntakeA-Zone0	OK	18 degrees C / 64 degrees F
SFB 5 IntakeB-Zone1	OK	10 degrees C / 50 degrees F
SFB 5 Exhaust-Zone0	OK	17 degrees C / 62 degrees F
SFB 5 SFB-XF2-Zone1	OK	22 degrees C / 71 degrees F
SFB 5 SFB-XF1-Zone0	OK	29 degrees C / 84 degrees F
SFB 5 SFB-XF0-Zone0	OK	27 degrees C / 80 degrees F
SFB 6 Intake-Zone0	OK	27 degrees C / 80 degrees F
SFB 6 Exhaust-Zone1	OK	13 degrees C / 55 degrees F
SFB 6 IntakeA-Zone0	OK	19 degrees C / 66 degrees F
SFB 6 IntakeB-Zone1	OK	10 degrees C / 50 degrees F
SFB 6 Exhaust-Zone0	OK	20 degrees C / 68 degrees F
SFB 6 SFB-XF2-Zone1	OK	24 degrees C / 75 degrees F
SFB 6 SFB-XF1-Zone0	OK	32 degrees C / 89 degrees F
SFB 6 SFB-XF0-Zone0	OK	33 degrees C / 91 degrees F
SFB 7 Intake-Zone0	OK	25 degrees C / 77 degrees F
SFB 7 Exhaust-Zone1	OK	13 degrees C / 55 degrees F
SFB 7 IntakeA-Zone0	OK	14 degrees C / 57 degrees F
SFB 7 IntakeB-Zone1	OK	8 degrees C / 46 degrees F
SFB 7 Exhaust-Zone0	OK	17 degrees C / 62 degrees F
SFB 7 SFB-XF2-Zone1	OK	21 degrees C / 69 degrees F
SFB 7 SFB-XF1-Zone0	OK	21 degrees C / 69 degrees F
SFB 7 SFB-XF0-Zone0	OK	33 degrees C / 91 degrees F
FPC 0 Intake	OK	13 degrees C / 55 degrees F
FPC 0 Exhaust A	OK	13 degrees C / 55 degrees F
FPC 0 Exhaust B	OK	14 degrees C / 57 degrees F
FPC 0 LU 0 TSen	OK	28 degrees C / 82 degrees F
FPC 0 LU 0 Chip	OK	25 degrees C / 77 degrees F
FPC 0 LU 1 TSen	OK	28 degrees C / 82 degrees F
FPC 0 LU 1 Chip	OK	27 degrees C / 80 degrees F
FPC 0 LU 2 TSen	OK	28 degrees C / 82 degrees F
FPC 0 LU 2 Chip	OK	19 degrees C / 66 degrees F
FPC 0 LU 3 TSen	OK	28 degrees C / 82 degrees F
FPC 0 LU 3 Chip	OK	23 degrees C / 73 degrees F
FPC 0 XM 0 TSen	OK	28 degrees C / 82 degrees F

FPC 0 XM 0 Chip	OK	33 degrees C / 91 degrees F
FPC 0 XM 1 TSen	OK	28 degrees C / 82 degrees F
FPC 0 XM 1 Chip	OK	26 degrees C / 78 degrees F
FPC 0 PLX Switch TSen	OK	28 degrees C / 82 degrees F
FPC 0 PLX Switch Chip	OK	26 degrees C / 78 degrees F
FPC 1 Intake	OK	10 degrees C / 50 degrees F
FPC 1 Exhaust A	OK	24 degrees C / 75 degrees F
FPC 1 Exhaust B	OK	28 degrees C / 82 degrees F
FPC 1 LU 0 TSen	OK	22 degrees C / 71 degrees F
FPC 1 LU 0 Chip	OK	31 degrees C / 87 degrees F
FPC 1 LU 1 TSen	OK	22 degrees C / 71 degrees F
FPC 1 LU 1 Chip	OK	21 degrees C / 69 degrees F
FPC 1 LU 2 TSen	OK	22 degrees C / 71 degrees F
FPC 1 LU 2 Chip	OK	25 degrees C / 77 degrees F
FPC 1 LU 3 TSen	OK	22 degrees C / 71 degrees F
FPC 1 LU 3 Chip	OK	33 degrees C / 91 degrees F
FPC 1 XM 0 TSen	OK	22 degrees C / 71 degrees F
FPC 1 XM 0 Chip	OK	30 degrees C / 86 degrees F
FPC 1 XF 0 TSen	OK	22 degrees C / 71 degrees F
FPC 1 XF 0 Chip	OK	37 degrees C / 98 degrees F
FPC 1 PLX Switch TSen	OK	22 degrees C / 71 degrees F
FPC 1 PLX Switch Chip	OK	22 degrees C / 71 degrees F
FPC 2 Intake	OK	9 degrees C / 48 degrees F
FPC 2 Exhaust A	OK	10 degrees C / 50 degrees F
FPC 2 Exhaust B	OK	10 degrees C / 50 degrees F
FPC 2 LU 0 TSen	OK	26 degrees C / 78 degrees F
FPC 2 LU 0 Chip	OK	25 degrees C / 77 degrees F
FPC 2 LU 1 TSen	OK	26 degrees C / 78 degrees F
FPC 2 LU 1 Chip	OK	26 degrees C / 78 degrees F
FPC 2 LU 2 TSen	OK	26 degrees C / 78 degrees F
FPC 2 LU 2 Chip	OK	17 degrees C / 62 degrees F
FPC 2 LU 3 TSen	OK	26 degrees C / 78 degrees F
FPC 2 LU 3 Chip	OK	22 degrees C / 71 degrees F
FPC 2 XM 0 TSen	OK	26 degrees C / 78 degrees F
FPC 2 XM 0 Chip	OK	34 degrees C / 93 degrees F
FPC 2 XM 1 TSen	OK	26 degrees C / 78 degrees F
FPC 2 XM 1 Chip	OK	26 degrees C / 78 degrees F
FPC 2 PLX Switch TSen	OK	26 degrees C / 78 degrees F
FPC 2 PLX Switch Chip	OK	20 degrees C / 68 degrees F
FPC 3 Intake	OK	12 degrees C / 53 degrees F
FPC 3 Exhaust A	OK	16 degrees C / 60 degrees F
FPC 3 Exhaust B	OK	26 degrees C / 78 degrees F
FPC 3 LU 0 TSen	OK	23 degrees C / 73 degrees F
FPC 3 LU 0 Chip	OK	26 degrees C / 78 degrees F
FPC 3 LU 1 TSen	OK	23 degrees C / 73 degrees F
FPC 3 LU 1 Chip	OK	27 degrees C / 80 degrees F
FPC 3 LU 2 TSen	OK	23 degrees C / 73 degrees F
FPC 3 LU 2 Chip	OK	22 degrees C / 71 degrees F
FPC 3 LU 3 TSen	OK	23 degrees C / 73 degrees F
FPC 3 LU 3 Chip	OK	21 degrees C / 69 degrees F
FPC 3 MQ 0 TSen	OK	15 degrees C / 59 degrees F
FPC 3 MQ 0 Chip	OK	18 degrees C / 64 degrees F
FPC 3 MQ 1 TSen	OK	15 degrees C / 59 degrees F
FPC 3 MQ 1 Chip	OK	20 degrees C / 68 degrees F
FPC 3 MQ 2 TSen	OK	15 degrees C / 59 degrees F
FPC 3 MQ 2 Chip	OK	17 degrees C / 62 degrees F
FPC 3 MQ 3 TSen	OK	15 degrees C / 59 degrees F
FPC 3 MQ 3 Chip	OK	16 degrees C / 60 degrees F
FPC 4 Intake	OK	11 degrees C / 51 degrees F
FPC 4 Exhaust A	OK	22 degrees C / 71 degrees F
FPC 4 Exhaust B	OK	28 degrees C / 82 degrees F

FPC 4 LU 0 TSen	OK	22 degrees C / 71 degrees F
FPC 4 LU 0 Chip	OK	33 degrees C / 91 degrees F
FPC 4 LU 1 TSen	OK	22 degrees C / 71 degrees F
FPC 4 LU 1 Chip	OK	21 degrees C / 69 degrees F
FPC 4 LU 2 TSen	OK	22 degrees C / 71 degrees F
FPC 4 LU 2 Chip	OK	26 degrees C / 78 degrees F
FPC 4 LU 3 TSen	OK	22 degrees C / 71 degrees F
FPC 4 LU 3 Chip	OK	33 degrees C / 91 degrees F
FPC 4 XM 0 TSen	OK	22 degrees C / 71 degrees F
FPC 4 XM 0 Chip	OK	30 degrees C / 86 degrees F
FPC 4 XF 0 TSen	OK	22 degrees C / 71 degrees F
FPC 4 XF 0 Chip	OK	37 degrees C / 98 degrees F
FPC 4 PLX Switch TSen	OK	22 degrees C / 71 degrees F
FPC 4 PLX Switch Chip	OK	23 degrees C / 73 degrees F
FPC 5 Intake	OK	12 degrees C / 53 degrees F
FPC 5 Exhaust A	OK	12 degrees C / 53 degrees F
FPC 5 Exhaust B	OK	12 degrees C / 53 degrees F
FPC 5 LU 0 TSen	OK	27 degrees C / 80 degrees F
FPC 5 LU 0 Chip	OK	28 degrees C / 82 degrees F
FPC 5 LU 1 TSen	OK	27 degrees C / 80 degrees F
FPC 5 LU 1 Chip	OK	27 degrees C / 80 degrees F
FPC 5 LU 2 TSen	OK	27 degrees C / 80 degrees F
FPC 5 LU 2 Chip	OK	19 degrees C / 66 degrees F
FPC 5 LU 3 TSen	OK	27 degrees C / 80 degrees F
FPC 5 LU 3 Chip	OK	22 degrees C / 71 degrees F
FPC 5 XM 0 TSen	OK	27 degrees C / 80 degrees F
FPC 5 XM 0 Chip	OK	36 degrees C / 96 degrees F
FPC 5 XM 1 TSen	OK	27 degrees C / 80 degrees F
FPC 5 XM 1 Chip	OK	26 degrees C / 78 degrees F
FPC 5 PLX Switch TSen	OK	27 degrees C / 80 degrees F
FPC 5 PLX Switch Chip	OK	24 degrees C / 75 degrees F
FPC 6 Intake	OK	12 degrees C / 53 degrees F
FPC 6 Exhaust A	OK	17 degrees C / 62 degrees F
FPC 6 Exhaust B	OK	28 degrees C / 82 degrees F
FPC 6 LU 0 TSen	OK	24 degrees C / 75 degrees F
FPC 6 LU 0 Chip	OK	29 degrees C / 84 degrees F
FPC 6 LU 1 TSen	OK	24 degrees C / 75 degrees F
FPC 6 LU 1 Chip	OK	30 degrees C / 86 degrees F
FPC 6 LU 2 TSen	OK	24 degrees C / 75 degrees F
FPC 6 LU 2 Chip	OK	24 degrees C / 75 degrees F
FPC 6 LU 3 TSen	OK	24 degrees C / 75 degrees F
FPC 6 LU 3 Chip	OK	22 degrees C / 71 degrees F
FPC 6 MQ 0 TSen	OK	16 degrees C / 60 degrees F
FPC 6 MQ 0 Chip	OK	19 degrees C / 66 degrees F
FPC 6 MQ 1 TSen	OK	16 degrees C / 60 degrees F
FPC 6 MQ 1 Chip	OK	20 degrees C / 68 degrees F
FPC 6 MQ 2 TSen	OK	16 degrees C / 60 degrees F
FPC 6 MQ 2 Chip	OK	17 degrees C / 62 degrees F
FPC 6 MQ 3 TSen	OK	16 degrees C / 60 degrees F
FPC 6 MQ 3 Chip	OK	16 degrees C / 60 degrees F
FPC 7 Intake	OK	10 degrees C / 50 degrees F
FPC 7 Exhaust A	OK	10 degrees C / 50 degrees F
FPC 7 Exhaust B	OK	11 degrees C / 51 degrees F
FPC 7 LU 0 TSen	OK	26 degrees C / 78 degrees F
FPC 7 LU 0 Chip	OK	26 degrees C / 78 degrees F
FPC 7 LU 1 TSen	OK	26 degrees C / 78 degrees F
FPC 7 LU 1 Chip	OK	29 degrees C / 84 degrees F
FPC 7 LU 2 TSen	OK	26 degrees C / 78 degrees F
FPC 7 LU 2 Chip	OK	19 degrees C / 66 degrees F
FPC 7 LU 3 TSen	OK	26 degrees C / 78 degrees F
FPC 7 LU 3 Chip	OK	24 degrees C / 75 degrees F

FPC 7 XM 0 TSen	OK	26 degrees C / 78 degrees F
FPC 7 XM 0 Chip	OK	34 degrees C / 93 degrees F
FPC 7 XM 1 TSen	OK	26 degrees C / 78 degrees F
FPC 7 XM 1 Chip	OK	32 degrees C / 89 degrees F
FPC 7 PLX Switch TSen	OK	26 degrees C / 78 degrees F
FPC 7 PLX Switch Chip	OK	22 degrees C / 71 degrees F
FPC 8 Intake	OK	10 degrees C / 50 degrees F
FPC 8 Exhaust A	OK	22 degrees C / 71 degrees F
FPC 8 Exhaust B	OK	28 degrees C / 82 degrees F
FPC 8 LU 0 TSen	OK	20 degrees C / 68 degrees F
FPC 8 LU 0 Chip	OK	33 degrees C / 91 degrees F
FPC 8 LU 1 TSen	OK	20 degrees C / 68 degrees F
FPC 8 LU 1 Chip	OK	23 degrees C / 73 degrees F
FPC 8 LU 2 TSen	OK	20 degrees C / 68 degrees F
FPC 8 LU 2 Chip	OK	26 degrees C / 78 degrees F
FPC 8 LU 3 TSen	OK	20 degrees C / 68 degrees F
FPC 8 LU 3 Chip	OK	33 degrees C / 91 degrees F
FPC 8 XM 0 TSen	OK	20 degrees C / 68 degrees F
FPC 8 XM 0 Chip	OK	29 degrees C / 84 degrees F
FPC 8 XF 0 TSen	OK	20 degrees C / 68 degrees F
FPC 8 XF 0 Chip	OK	38 degrees C / 100 degrees F
FPC 8 PLX Switch TSen	OK	20 degrees C / 68 degrees F
FPC 8 PLX Switch Chip	OK	24 degrees C / 75 degrees F
FPC 9 Intake	OK	11 degrees C / 51 degrees F
FPC 9 Exhaust A	OK	11 degrees C / 51 degrees F
FPC 9 Exhaust B	OK	11 degrees C / 51 degrees F
FPC 9 LU 0 TSen	OK	25 degrees C / 77 degrees F
FPC 9 LU 0 Chip	OK	24 degrees C / 75 degrees F
FPC 9 LU 1 TSen	OK	25 degrees C / 77 degrees F
FPC 9 LU 1 Chip	OK	26 degrees C / 78 degrees F
FPC 9 LU 2 TSen	OK	25 degrees C / 77 degrees F
FPC 9 LU 2 Chip	OK	16 degrees C / 60 degrees F
FPC 9 LU 3 TSen	OK	25 degrees C / 77 degrees F
FPC 9 LU 3 Chip	OK	21 degrees C / 69 degrees F
FPC 9 XM 0 TSen	OK	25 degrees C / 77 degrees F
FPC 9 XM 0 Chip	OK	32 degrees C / 89 degrees F
FPC 9 XM 1 TSen	OK	25 degrees C / 77 degrees F
FPC 9 XM 1 Chip	OK	25 degrees C / 77 degrees F
FPC 9 PLX Switch TSen	OK	25 degrees C / 77 degrees F
FPC 9 PLX Switch Chip	OK	21 degrees C / 69 degrees F
ADC 0 Intake	OK	12 degrees C / 53 degrees F
ADC 0 Exhaust	OK	20 degrees C / 68 degrees F
ADC 0 ADC-XF1	OK	26 degrees C / 78 degrees F
ADC 0 ADC-XF0	OK	32 degrees C / 89 degrees F
ADC 1 Intake	OK	11 degrees C / 51 degrees F
ADC 1 Exhaust	OK	21 degrees C / 69 degrees F
ADC 1 ADC-XF1	OK	24 degrees C / 75 degrees F
ADC 1 ADC-XF0	OK	31 degrees C / 87 degrees F
ADC 2 Intake	OK	14 degrees C / 57 degrees F
ADC 2 Exhaust	OK	21 degrees C / 69 degrees F
ADC 2 ADC-XF1	OK	28 degrees C / 82 degrees F
ADC 2 ADC-XF0	OK	34 degrees C / 93 degrees F
ADC 3 Intake	OK	13 degrees C / 55 degrees F
ADC 3 Exhaust	OK	19 degrees C / 66 degrees F
ADC 3 ADC-XF1	OK	24 degrees C / 75 degrees F
ADC 3 ADC-XF0	OK	31 degrees C / 87 degrees F
ADC 4 Intake	OK	9 degrees C / 48 degrees F
ADC 4 Exhaust	OK	22 degrees C / 71 degrees F
ADC 4 ADC-XF1	OK	28 degrees C / 82 degrees F
ADC 4 ADC-XF0	OK	35 degrees C / 95 degrees F
ADC 5 Intake	OK	12 degrees C / 53 degrees F

	ADC 5 Exhaust	OK	22 degrees C / 71 degrees F
	ADC 5 ADC-XF1	OK	28 degrees C / 82 degrees F
	ADC 5 ADC-XF0	OK	34 degrees C / 93 degrees F
	ADC 6 Intake	OK	11 degrees C / 51 degrees F
	ADC 6 Exhaust	OK	21 degrees C / 69 degrees F
	ADC 6 ADC-XF1	OK	26 degrees C / 78 degrees F
ADC 6	ADC-XF0	OK	35 degrees C / 95 degrees F
	ADC 7 Intake	OK	14 degrees C / 57 degrees F
	ADC 7 Exhaust	OK	22 degrees C / 71 degrees F
	ADC 7 ADC-XF1	OK	26 degrees C / 78 degrees F
	ADC 7 ADC-XF0	OK	34 degrees C / 93 degrees F
	ADC 8 Intake	OK	14 degrees C / 57 degrees F
	ADC 8 Exhaust	OK	21 degrees C / 69 degrees F
	ADC 8 ADC-XF1	OK	24 degrees C / 75 degrees F
	ADC 8 ADC-XF0	OK	31 degrees C / 87 degrees F
	ADC 9 Intake	OK	10 degrees C / 50 degrees F
	ADC 9 Exhaust	OK	22 degrees C / 71 degrees F
	ADC 9 ADC-XF1	OK	28 degrees C / 82 degrees F
	ADC 9 ADC-XF0	OK	36 degrees C / 96 degrees F
Fans	Fan Tray 0 Fan 1	OK	3480 RPM
	Fan Tray 0 Fan 2	OK	3480 RPM
	Fan Tray 0 Fan 3	OK	3480 RPM
	Fan Tray 0 Fan 4	OK	3360 RPM
	Fan Tray 0 Fan 5	OK	3360 RPM
	Fan Tray 0 Fan 6	OK	3480 RPM
	Fan Tray 1 Fan 1	OK	3360 RPM
	Fan Tray 1 Fan 2	OK	3360 RPM
	Fan Tray 1 Fan 3	OK	3360 RPM
	Fan Tray 1 Fan 4	OK	3480 RPM
	Fan Tray 1 Fan 5	OK	3480 RPM
	Fan Tray 1 Fan 6	OK	3480 RPM
	Fan Tray 2 Fan 1	OK	3360 RPM
	Fan Tray 2 Fan 2	OK	3360 RPM
	Fan Tray 2 Fan 3	OK	3480 RPM
	Fan Tray 2 Fan 4	OK	3480 RPM
	Fan Tray 2 Fan 5	OK	3360 RPM
	Fan Tray 2 Fan 6	OK	3480 RPM
	Fan Tray 3 Fan 1	OK	3360 RPM
	Fan Tray 3 Fan 2	OK	3360 RPM
	Fan Tray 3 Fan 3	OK	3480 RPM
	Fan Tray 3 Fan 4	OK	3480 RPM
	Fan Tray 3 Fan 5	OK	3480 RPM
	Fan Tray 3 Fan 6	OK	3360 RPM

show chassis environment (T320 Router)

user@host> show chassis environment

Class	Item	Status	Measurement
Power	PEM 0	OK	
	PEM 1	Absent	
Temp	SCG 0	OK	28 degrees C / 82 degrees F
	SCG 1	OK	28 degrees C / 82 degrees F
	Routing Engine 0	OK	31 degrees C / 87 degrees F
	Routing Engine 1	OK	30 degrees C / 86 degrees F
	CB 0	OK	32 degrees C / 89 degrees F
	CB 1	OK	32 degrees C / 89 degrees F
	SIB 0	OK	33 degrees C / 91 degrees F
	SIB 1	OK	33 degrees C / 91 degrees F
	SIB 2	OK	34 degrees C / 93 degrees F
	FPC 0 Top	OK	38 degrees C / 100 degrees F
	FPC 0 Bottom	OK	32 degrees C / 89 degrees F

	FPC 1 Top	OK	38 degrees C / 100 degrees F
	FPC 1 Bottom	OK	33 degrees C / 91 degrees F
	FPC 2 Top	OK	36 degrees C / 96 degrees F
	FPC 2 Bottom	OK	31 degrees C / 87 degrees F
	FPM GBUS	OK	26 degrees C / 78 degrees F
	FPM Display	OK	29 degrees C / 84 degrees F
Fans	Top Left Front fan	OK	Spinning at normal speed
	Top Left Middle fan	OK	Spinning at normal speed
	Top Left Rear fan	OK	Spinning at normal speed
	Top Right Front fan	OK	Spinning at normal speed
	Top Right Middle fan	OK	Spinning at normal speed
	Top Right Rear fan	OK	Spinning at normal speed
	Bottom Left Front fan	OK	Spinning at normal speed
	Bottom Left Middle fan	OK	Spinning at normal speed
	Bottom Left Rear fan	OK	Spinning at normal speed
	Bottom Right Front fan	OK	Spinning at normal speed
	Bottom Right Middle fan	OK	Spinning at normal speed
	Bottom Right Rear fan	OK	Spinning at normal speed
	Rear Tray Top fan	OK	Spinning at normal speed
	Rear Tray Second fan	OK	Spinning at normal speed
	Rear Tray Middle fan	OK	Spinning at normal speed
	Rear Tray Fourth fan	OK	Spinning at normal speed
	Rear Tray Bottom fan	OK	Spinning at normal speed
Misc	CIP	OK	
	SPMB 0	OK	
	SPMB 1	OK	

show chassis environment (T640 Router)

```
user@host> show chassis environment
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Class	Item	Status	Measurement
Temp	PEM 0	Absent	
	PEM 1	OK	22 degrees C / 71 degrees F
	SCG 0	OK	30 degrees C / 86 degrees F
	SCG 1	OK	30 degrees C / 86 degrees F
	Routing Engine 0	Present	
	Routing Engine 1	OK	27 degrees C / 80 degrees F
	CB 0	Present	
	CB 1	OK	33 degrees C / 91 degrees F
	SIB 0	Absent	
	SIB 1	Absent	
	SIB 2	Absent	
	SIB 3	Absent	
	SIB 4	Absent	
	FPC 4 Top	Testing	
	FPC 4 Bottom	Testing	
	FPC 5 Top	Testing	
	FPC 5 Bottom	Testing	
	FPC 6 Top	Testing	
	FPC 6 Bottom	Testing	
	FPM GBUS	OK	23 degrees C / 73 degrees F
	FPM Display	Absent	
Fans	Top Left Front fan	OK	Spinning at normal speed
	Top Left Middle fan	OK	Spinning at normal speed
	Top Left Rear fan	OK	Spinning at normal speed
	Top Right Front fan	OK	Spinning at normal speed
	Top Right Middle fan	OK	Spinning at normal speed
	Top Right Rear fan	OK	Spinning at normal speed
	Bottom Left Front fan	OK	Spinning at normal speed
	Bottom Left Middle fan	OK	Spinning at normal speed

	Bottom Left Rear fan	OK	Spinning at normal speed
	Bottom Right Front fan	OK	Spinning at normal speed
	Bottom Right Middle fan	OK	Spinning at normal speed
	Bottom Right Rear fan	OK	Spinning at normal speed
	Fourth Blower from top	OK	Spinning at normal speed
	Bottom Blower	OK	Spinning at normal speed
	Middle Blower	OK	Spinning at normal speed
	Top Blower	OK	Spinning at normal speed
	Second Blower from top	OK	Spinning at normal speed
Misc	CIP	OK	
	SPMB 0	OK	
	SPMB 1	OK	

show chassis environment (T4000 Router)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Temp	PEM 0	OK	33 degrees C / 91 degrees F
	PEM 1	Absent	
	SCG 0	OK	33 degrees C / 91 degrees F
	SCG 1	OK	33 degrees C / 91 degrees F
	Routing Engine 0	OK	33 degrees C / 91 degrees F
	Routing Engine 0 CPU	OK	50 degrees C / 122 degrees F
	Routing Engine 1	OK	32 degrees C / 89 degrees F
	Routing Engine 1 CPU	OK	46 degrees C / 114 degrees F
	CB 0	OK	32 degrees C / 89 degrees F
	CB 1	OK	33 degrees C / 91 degrees F
	SIB 0	OK	42 degrees C / 107 degrees F
	SIB 1	OK	42 degrees C / 107 degrees F
	SIB 2	OK	42 degrees C / 107 degrees F
	SIB 3	OK	43 degrees C / 109 degrees F
	SIB 4	OK	45 degrees C / 113 degrees F
	FPC 0 Fan Intake	OK	34 degrees C / 93 degrees F
	FPC 0 Fan Exhaust	OK	48 degrees C / 118 degrees F
	FPC 0 PMB	OK	47 degrees C / 116 degrees F
	FPC 0 LMB0	OK	50 degrees C / 122 degrees F
	FPC 0 LMB1	OK	41 degrees C / 105 degrees F
	FPC 0 LMB2	OK	35 degrees C / 95 degrees F
	FPC 0 PFE1 LU2	OK	46 degrees C / 114 degrees F
	FPC 0 PFE1 LU0	OK	41 degrees C / 105 degrees F
	FPC 0 PFE0 LU0	OK	57 degrees C / 134 degrees F
	FPC 0 XF1	OK	46 degrees C / 114 degrees F
	FPC 0 XF0	OK	52 degrees C / 125 degrees F
	FPC 0 XM1	OK	41 degrees C / 105 degrees F
	FPC 0 XM0	OK	50 degrees C / 122 degrees F
	FPC 0 PFE0 LU1	OK	56 degrees C / 132 degrees F
	FPC 0 PFE0 LU2	OK	45 degrees C / 113 degrees F
	FPC 0 PFE1 LU1	OK	37 degrees C / 98 degrees F
	FPC 3 Fan Intake	OK	36 degrees C / 96 degrees F
	FPC 3 Fan Exhaust	OK	51 degrees C / 123 degrees F
	FPC 3 PMB	OK	43 degrees C / 109 degrees F
	FPC 3 LMB0	OK	57 degrees C / 134 degrees F
	FPC 3 LMB1	OK	54 degrees C / 129 degrees F
	FPC 3 LMB2	OK	38 degrees C / 100 degrees F
	FPC 3 PFE1 LU2	OK	63 degrees C / 145 degrees F
	FPC 3 PFE1 LU0	OK	45 degrees C / 113 degrees F
	FPC 3 PFE0 LU0	OK	69 degrees C / 156 degrees F
	FPC 3 XF1	OK	62 degrees C / 143 degrees F
	FPC 3 XF0	OK	63 degrees C / 145 degrees F
	FPC 3 XM1	OK	43 degrees C / 109 degrees F

FPC 3 XM0	OK	67 degrees C / 152 degrees F
FPC 3 PFE0 LU1	OK	63 degrees C / 145 degrees F
FPC 3 PFE0 LU2	OK	66 degrees C / 150 degrees F
FPC 3 PFE1 LU1	OK	41 degrees C / 105 degrees F
FPC 5 Top	OK	39 degrees C / 102 degrees F
FPC 5 Bottom	OK	38 degrees C / 100 degrees F
FPC 6 Fan Intake	OK	33 degrees C / 91 degrees F
FPC 6 Fan Exhaust	OK	49 degrees C / 120 degrees F
FPC 6 PMB	OK	40 degrees C / 104 degrees F
FPC 6 LMB0	OK	60 degrees C / 140 degrees F
FPC 6 LMB1	OK	58 degrees C / 136 degrees F
FPC 6 LMB2	OK	40 degrees C / 104 degrees F
FPC 6 PFE1 LU2	OK	69 degrees C / 156 degrees F
FPC 6 PFE1 LU0	OK	45 degrees C / 113 degrees F
FPC 6 PFE0 LU0	OK	71 degrees C / 159 degrees F
FPC 6 XF1	OK	58 degrees C / 136 degrees F
FPC 6 XF0	OK	65 degrees C / 149 degrees F
FPC 6 XM1	OK	39 degrees C / 102 degrees F
FPC 6 XM0	OK	66 degrees C / 150 degrees F
FPC 6 PFE0 LU1	OK	69 degrees C / 156 degrees F
FPC 6 PFE0 LU2	OK	69 degrees C / 156 degrees F
FPC 6 PFE1 LU1	OK	42 degrees C / 107 degrees F
FPM GBUS	OK	24 degrees C / 75 degrees F
FPM Display	OK	27 degrees C / 80 degrees F
Fans Top Left Front fan	OK	Spinning at high speed
Top Left Middle fan	OK	Spinning at high speed
Top Left Rear fan	OK	Spinning at high speed
Top Right Front fan	OK	Spinning at high speed
Top Right Middle fan	OK	Spinning at high speed
Top Right Rear fan	OK	Spinning at high speed
Bottom Left Front fan	OK	Spinning at high speed
Bottom Left Middle fan	OK	Spinning at high speed
Bottom Left Rear fan	OK	Spinning at high speed
Bottom Right Front fan	OK	Spinning at high speed
Bottom Right Middle fan	OK	Spinning at high speed
Bottom Right Rear fan	OK	Spinning at high speed
Rear Tray Top fan	OK	Spinning at high speed
Rear Tray Second fan	OK	Spinning at high speed
Rear Tray Third fan	OK	Spinning at high speed
Rear Tray Fourth fan	OK	Spinning at high speed
Rear Tray Fifth fan	OK	Spinning at high speed
Rear Tray Sixth fan	OK	Spinning at high speed
Rear Tray Seventh fan	OK	Spinning at high speed
Rear Tray Bottom fan	OK	Spinning at high speed
Misc CIP	OK	
SPMB 0	OK	
SPMB 1	OK	

show chassis environment (TX Matrix Router)

```
user@host> show chassis environment
scc-re0:
```

```
-----
Class Item          Status      Measurement
Temp PEM 0          Absent
    PEM 1           OK          29 degrees C / 84 degrees F
    Routing Engine 0 OK          34 degrees C / 93 degrees F
    Routing Engine 1 OK          34 degrees C / 93 degrees F
    CB 0             OK          32 degrees C / 89 degrees F
    CB 1             OK          32 degrees C / 89 degrees F
    SIB 0            OK          44 degrees C / 111 degrees F
```

	SIB 0 (B)	OK	44 degrees C / 111 degrees F
	FPM GBUS	OK	27 degrees C / 80 degrees F
	FPM Display	OK	32 degrees C / 89 degrees F
Fans	Top Left Front fan	OK	Spinning at normal speed
	Top Left Middle fan	OK	Spinning at normal speed
	Top Left Rear fan	OK	Spinning at normal speed
	Top Right Front fan	OK	Spinning at normal speed
	Top Right Middle fan	OK	Spinning at normal speed
	Top Right Rear fan	OK	Spinning at normal speed
	Bottom Left Front fan	OK	Spinning at normal speed
	Bottom Left Middle fan	OK	Spinning at normal speed
	Bottom Left Rear fan	OK	Spinning at normal speed
	Bottom Right Front fan	OK	Spinning at normal speed
	Bottom Right Middle fan	OK	Spinning at normal speed
	Bottom Right Rear fan	OK	Spinning at normal speed
	Rear Tray Top fan	OK	Spinning at normal speed
	Rear Tray Second fan	OK	Spinning at normal speed
	Rear Tray Third fan	OK	Spinning at normal speed
	Rear Tray Fourth fan	OK	Spinning at normal speed
	Rear Tray Fifth fan	OK	Spinning at normal speed
	Rear Tray Sixth fan	OK	Spinning at normal speed
	Rear Tray Seventh fan	OK	Spinning at normal speed
	Rear Tray Bottom fan	OK	Spinning at normal speed
Misc	CIP 0	OK	
	CIP 1	OK	
	SPMB 0	OK	
	SPMB 1	OK	

1cc0-re0:

Class	Item	Status	Measurement
Temp	PEM 0	OK	29 degrees C / 84 degrees F
	PEM 1	Absent	
	SCG 0	OK	35 degrees C / 95 degrees F
	SCG 1	Absent	
	Routing Engine 0	OK	39 degrees C / 102 degrees F
	Routing Engine 1	OK	36 degrees C / 96 degrees F
	CB 0	OK	32 degrees C / 89 degrees F
	CB 1	OK	32 degrees C / 89 degrees F
	SIB 0	OK	40 degrees C / 104 degrees F
	SIB 0 (B)	OK	51 degrees C / 123 degrees F
	FPC 0 Top	OK	45 degrees C / 113 degrees F
	FPC 0 Bottom	OK	31 degrees C / 87 degrees F
	FPC 1 Top	OK	34 degrees C / 93 degrees F
	FPC 1 Bottom	OK	31 degrees C / 87 degrees F
	FPM GBUS	OK	30 degrees C / 86 degrees F
	FPM Display	OK	34 degrees C / 93 degrees F
Fans	Top Left Front fan	OK	Spinning at normal speed
	Top Left Middle fan	OK	Spinning at normal speed
	Top Left Rear fan	OK	Spinning at normal speed
	Top Right Front fan	OK	Spinning at normal speed
	Top Right Middle fan	OK	Spinning at normal speed
	Top Right Rear fan	OK	Spinning at normal speed
	Bottom Left Front fan	OK	Spinning at normal speed
	Bottom Left Middle fan	OK	Spinning at normal speed
	Bottom Left Rear fan	OK	Spinning at normal speed
	Bottom Right Front fan	OK	Spinning at normal speed
	Bottom Right Middle fan	OK	Spinning at normal speed
	Bottom Right Rear fan	OK	Spinning at normal speed
	Rear Tray Top fan	OK	Spinning at normal speed
	Rear Tray Second fan	OK	Spinning at normal speed

```

Rear Tray Third fan    OK      Spinning at normal speed
Rear Tray Fourth fan   OK      Spinning at normal speed
Rear Tray Fifth fan    OK      Spinning at normal speed
Rear Tray Sixth fan    OK      Spinning at normal speed
Rear Tray Seventh fan  OK      Spinning at normal speed
Rear Tray Bottom fan   OK      Spinning at normal speed
Misc CIP               OK
SPMB 0                 OK
SPMB 1                 OK

```

```
lcc2-re0:
```

```

-----
Class Item              Status      Measurement
Temp PEM 0              OK          29 degrees C / 84 degrees F
      PEM 1              Absent
      SCG 0              OK          32 degrees C / 89 degrees F
      SCG 1              Absent
      Routing Engine 0    OK          31 degrees C / 87 degrees F
      Routing Engine 1    OK          32 degrees C / 89 degrees F
      CB 0               OK          30 degrees C / 86 degrees F
      SIB 0              OK          38 degrees C / 100 degrees F
      SIB 0 (B)          OK          49 degrees C / 120 degrees F
      FPC 0 Top          OK          45 degrees C / 113 degrees F
      FPC 0 Bottom       OK          33 degrees C / 91 degrees F
      FPC 1 Top          OK          37 degrees C / 98 degrees F
      FPC 1 Bottom       OK          33 degrees C / 91 degrees F
      FPM GBUS           OK          30 degrees C / 86 degrees F
      FPM Display        OK          34 degrees C / 93 degrees F
Fans  Top Left Front fan OK          Spinning at normal speed
      Top Left Middle fan OK          Spinning at normal speed
...

```

show chassis environment (T1600 Router)

```

user@host> show chassis environment
Class Item              Status      Measurement
Temp PEM 0              OK          27 degrees C / 80 degrees F
      PEM 1              Absent
      SCG 0              OK          31 degrees C / 87 degrees F
      SCG 1              OK          35 degrees C / 95 degrees F
      Routing Engine 0    OK          30 degrees C / 86 degrees F
      Routing Engine 1    OK          30 degrees C / 86 degrees F
      CB 0               OK          31 degrees C / 87 degrees F
      CB 1               OK          31 degrees C / 87 degrees F
      SIB 0              OK          41 degrees C / 105 degrees F
      SIB 0 (B)          OK          34 degrees C / 93 degrees F
      SIB 1              OK          0 degrees C / 32 degrees F
      SIB 1 (B)          OK          0 degrees C / 32 degrees F
      SIB 2              OK          0 degrees C / 32 degrees F
      SIB 2 (B)          OK          0 degrees C / 32 degrees F
      SIB 3              OK          0 degrees C / 32 degrees F
      SIB 3 (B)          OK          0 degrees C / 32 degrees F
      SIB 4              OK          0 degrees C / 32 degrees F
      SIB 4 (B)          OK          0 degrees C / 32 degrees F
      FPC 0 Top          OK          49 degrees C / 120 degrees F
      FPC 0 Bottom       OK          50 degrees C / 122 degrees F
      FPC 1 Top          OK          48 degrees C / 118 degrees F
      FPC 1 Bottom       OK          49 degrees C / 120 degrees F
      FPM GBUS           OK          27 degrees C / 80 degrees F
      FPM Display        OK          30 degrees C / 86 degrees F
Fans  Top Left Front fan OK          Spinning at normal speed

```

Top Left Middle fan	OK	Spinning at normal speed
Top Left Rear fan	OK	Spinning at normal speed
Top Right Front fan	OK	Spinning at normal speed
Top Right Middle fan	OK	Spinning at normal speed
Top Right Rear fan	OK	Spinning at normal speed
Bottom Left Front fan	OK	Spinning at normal speed
Bottom Left Middle fan	OK	Spinning at normal speed
Bottom Left Rear fan	OK	Spinning at normal speed
Bottom Right Front fan	OK	Spinning at normal speed
Bottom Right Middle fan	OK	Spinning at normal speed
Bottom Right Rear fan	OK	Spinning at normal speed
Rear Tray Top fan	OK	Spinning at normal speed
Rear Tray Second fan	OK	Spinning at normal speed
Rear Tray Third fan	OK	Spinning at normal speed
Rear Tray Fourth fan	OK	Spinning at normal speed
Rear Tray Fifth fan	OK	Spinning at normal speed
Rear Tray Sixth fan	OK	Spinning at normal speed
Rear Tray Seventh fan	OK	Spinning at normal speed
Rear Tray Bottom fan	OK	Spinning at normal speed
Misc CIP	OK	
SPMB 0	OK	
SPMB 1	OK	

show chassis environment (TX Matrix Plus Router)

```
user@host> show chassis environment
sfc0-re0:
```

Class	Item	Status	Measurement
Temp	PEM 0	OK	28 degrees C / 82 degrees F
	PEM 1	Absent	
	Routing Engine 0	OK	27 degrees C / 80 degrees F
	Routing Engine 1	OK	29 degrees C / 84 degrees F
	CB 0 Intake	OK	26 degrees C / 78 degrees F
	CB 0 Exhaust A	OK	25 degrees C / 77 degrees F
	CB 0 Exhaust B	OK	25 degrees C / 77 degrees F
	CB 1 Intake	OK	26 degrees C / 78 degrees F
	CB 1 Exhaust A	OK	26 degrees C / 78 degrees F
	CB 1 Exhaust B	OK	26 degrees C / 78 degrees F
	SIB F13 0	OK	47 degrees C / 116 degrees F
	SIB F13 0 (B)	OK	48 degrees C / 118 degrees F
	SIB F13 1	OK	38 degrees C / 100 degrees F
	SIB F13 1 (B)	OK	37 degrees C / 98 degrees F
	SIB F2S 0/0	OK	27 degrees C / 80 degrees F
	SIB F2S 0/2	OK	28 degrees C / 82 degrees F
	SIB F2S 0/4	OK	27 degrees C / 80 degrees F
	SIB F2S 0/6	OK	28 degrees C / 82 degrees F
	SIB F2S 1/0	OK	26 degrees C / 78 degrees F
	SIB F2S 1/2	OK	26 degrees C / 78 degrees F
	SIB F2S 1/4	OK	26 degrees C / 78 degrees F
	SIB F2S 1/6	OK	26 degrees C / 78 degrees F
	SIB F2S 2/0	OK	25 degrees C / 77 degrees F
	SIB F2S 2/2	OK	25 degrees C / 77 degrees F
	SIB F2S 2/4	OK	23 degrees C / 73 degrees F
	CIP 0 Intake	OK	23 degrees C / 73 degrees F
	CIP 0 Exhaust A	OK	24 degrees C / 75 degrees F
	CIP 0 Exhaust B	OK	24 degrees C / 75 degrees F
	CIP 1 Intake	OK	24 degrees C / 75 degrees F
	CIP 1 Exhaust A	OK	25 degrees C / 77 degrees F
	CIP 1 Exhaust B	OK	25 degrees C / 77 degrees F
Fans	Fan Tray 0 Fan 1	OK	Spinning at normal speed

Fan Tray 0 Fan 2	OK	Spinning at normal speed
Fan Tray 0 Fan 3	OK	Spinning at normal speed
Fan Tray 0 Fan 4	OK	Spinning at normal speed
Fan Tray 0 Fan 5	OK	Spinning at normal speed
Fan Tray 0 Fan 6	OK	Spinning at normal speed
Fan Tray 1 Fan 1	OK	Spinning at normal speed
Fan Tray 1 Fan 2	OK	Spinning at normal speed
Fan Tray 1 Fan 3	OK	Spinning at normal speed
Fan Tray 1 Fan 4	OK	Spinning at normal speed
Fan Tray 1 Fan 5	OK	Spinning at normal speed
Fan Tray 1 Fan 6	OK	Spinning at normal speed
Fan Tray 2 Fan 1	OK	Spinning at normal speed
Fan Tray 2 Fan 2	OK	Spinning at normal speed
Fan Tray 2 Fan 3	OK	Spinning at normal speed
Fan Tray 2 Fan 4	OK	Spinning at normal speed
Fan Tray 2 Fan 5	OK	Spinning at normal speed
Fan Tray 2 Fan 6	OK	Spinning at normal speed
Fan Tray 2 Fan 7	OK	Spinning at normal speed
Fan Tray 2 Fan 8	OK	Spinning at normal speed
Fan Tray 2 Fan 9	OK	Spinning at normal speed
Fan Tray 3 Fan 1	OK	Spinning at normal speed
Fan Tray 3 Fan 2	OK	Spinning at normal speed
Fan Tray 3 Fan 3	OK	Spinning at normal speed
Fan Tray 3 Fan 4	OK	Spinning at normal speed
Fan Tray 3 Fan 5	OK	Spinning at normal speed
Fan Tray 3 Fan 6	OK	Spinning at normal speed
Fan Tray 3 Fan 7	OK	Spinning at normal speed
Fan Tray 3 Fan 8	OK	Spinning at normal speed
Fan Tray 3 Fan 9	OK	Spinning at normal speed
Fan Tray 4 Fan 1	OK	Spinning at normal speed
Fan Tray 4 Fan 2	OK	Spinning at normal speed
Fan Tray 4 Fan 3	OK	Spinning at normal speed
Fan Tray 4 Fan 4	OK	Spinning at normal speed
Fan Tray 4 Fan 5	OK	Spinning at normal speed
Fan Tray 4 Fan 6	OK	Spinning at normal speed
Fan Tray 4 Fan 7	OK	Spinning at normal speed
Fan Tray 4 Fan 8	OK	Spinning at normal speed
Fan Tray 4 Fan 9	OK	Spinning at normal speed
Fan Tray 5 Fan 1	OK	Spinning at normal speed
Fan Tray 5 Fan 2	OK	Spinning at normal speed
Fan Tray 5 Fan 3	OK	Spinning at normal speed
Fan Tray 5 Fan 4	OK	Spinning at normal speed
Fan Tray 5 Fan 5	OK	Spinning at normal speed
Fan Tray 5 Fan 6	OK	Spinning at normal speed
Fan Tray 5 Fan 7	OK	Spinning at normal speed
Fan Tray 5 Fan 8	OK	Spinning at normal speed
Fan Tray 5 Fan 9	OK	Spinning at normal speed
Misc SPMB 0	OK	
SPMB 1	OK	

```
lcc0-re0:
```

Class	Item	Status	Measurement
Temp	PEM 0	OK	27 degrees C / 80 degrees F
	PEM 1	Absent	
	SCG 0	OK	31 degrees C / 87 degrees F
	SCG 1	OK	35 degrees C / 95 degrees F
	Routing Engine 0	OK	30 degrees C / 86 degrees F
	Routing Engine 1	OK	30 degrees C / 86 degrees F
	CB 0	OK	31 degrees C / 87 degrees F
	CB 1	OK	31 degrees C / 87 degrees F

	SIB 0	OK	41 degrees C / 105 degrees F
	SIB 0 (B)	OK	34 degrees C / 93 degrees F
	SIB 1	OK	0 degrees C / 32 degrees F
	SIB 1 (B)	OK	0 degrees C / 32 degrees F
	SIB 2	OK	0 degrees C / 32 degrees F
	SIB 2 (B)	OK	0 degrees C / 32 degrees F
	SIB 3	OK	0 degrees C / 32 degrees F
	SIB 3 (B)	OK	0 degrees C / 32 degrees F
	SIB 4	OK	0 degrees C / 32 degrees F
	SIB 4 (B)	OK	0 degrees C / 32 degrees F
	FPC 0 Top	OK	49 degrees C / 120 degrees F
	FPC 0 Bottom	OK	50 degrees C / 122 degrees F
	FPC 1 Top	OK	48 degrees C / 118 degrees F
	FPC 1 Bottom	OK	49 degrees C / 120 degrees F
	FPM GBUS	OK	27 degrees C / 80 degrees F
	FPM Display	OK	30 degrees C / 86 degrees F
Fans	Top Left Front fan	OK	Spinning at normal speed
	Top Left Middle fan	OK	Spinning at normal speed
	Top Left Rear fan	OK	Spinning at normal speed
	Top Right Front fan	OK	Spinning at normal speed
	Top Right Middle fan	OK	Spinning at normal speed
	Top Right Rear fan	OK	Spinning at normal speed
	Bottom Left Front fan	OK	Spinning at normal speed
	Bottom Left Middle fan	OK	Spinning at normal speed
	Bottom Left Rear fan	OK	Spinning at normal speed
	Bottom Right Front fan	OK	Spinning at normal speed
	Bottom Right Middle fan	OK	Spinning at normal speed
	Bottom Right Rear fan	OK	Spinning at normal speed
	Rear Tray Top fan	OK	Spinning at normal speed
	Rear Tray Second fan	OK	Spinning at normal speed
	Rear Tray Third fan	OK	Spinning at normal speed
	Rear Tray Fourth fan	OK	Spinning at normal speed
	Rear Tray Fifth fan	OK	Spinning at normal speed
	Rear Tray Sixth fan	OK	Spinning at normal speed
	Rear Tray Seventh fan	OK	Spinning at normal speed
	Rear Tray Bottom fan	OK	Spinning at normal speed
Misc	CIP	OK	
	SPMB 0	OK	
	SPMB 1	OK	

show chassis environment (TX Matrix Plus router with 3D SIBs)

```
user@host> show chassis environment
sfc0-re0:
```

Class	Item	Status	Measurement
Temp	PEM 0	Check	30 degrees C / 86 degrees F
	PEM 1	OK	33 degrees C / 91 degrees F
	Routing Engine 0	OK	28 degrees C / 82 degrees F
	Routing Engine 0 CPU	OK	42 degrees C / 107 degrees F
	Routing Engine 1	OK	29 degrees C / 84 degrees F
	Routing Engine 1 CPU	OK	44 degrees C / 111 degrees F
	CB 0 Intake	OK	30 degrees C / 86 degrees F
	CB 0 Exhaust A	OK	28 degrees C / 82 degrees F
	CB 0 Exhaust B	OK	30 degrees C / 86 degrees F
	CB 1 Intake	OK	31 degrees C / 87 degrees F
	CB 1 Exhaust A	OK	27 degrees C / 80 degrees F
	CB 1 Exhaust B	OK	31 degrees C / 87 degrees F
	SIB F13 0 Board	OK	44 degrees C / 111 degrees F
	SIB F13 0 XF Junction	OK	62 degrees C / 143 degrees F
	SIB F13 3 Board	OK	45 degrees C / 113 degrees F

	SIB F13 3 XF Junction	OK	60 degrees C / 140 degrees F
	SIB F13 6 Board	OK	47 degrees C / 116 degrees F
	SIB F13 6 XF Junction	OK	62 degrees C / 143 degrees F
	SIB F2S 0/0 Board	OK	32 degrees C / 89 degrees F
	SIB F2S 0/0 XF Junction	OK	42 degrees C / 107 degrees F
	SIB F2S 0/2 Board	OK	31 degrees C / 87 degrees F
	SIB F2S 0/2 XF Junction	OK	41 degrees C / 105 degrees F
	SIB F2S 0/4 Board	OK	31 degrees C / 87 degrees F
	SIB F2S 0/4 XF Junction	OK	42 degrees C / 107 degrees F
	SIB F2S 0/6 Board	OK	31 degrees C / 87 degrees F
	SIB F2S 0/6 XF Junction	OK	41 degrees C / 105 degrees F
	SIB F2S 1/0 Board	OK	31 degrees C / 87 degrees F
	SIB F2S 1/0 XF Junction	OK	41 degrees C / 105 degrees F
	SIB F2S 1/2 Board	OK	29 degrees C / 84 degrees F
	SIB F2S 1/2 XF Junction	OK	39 degrees C / 102 degrees F
	SIB F2S 1/4 Board	OK	29 degrees C / 84 degrees F
	SIB F2S 1/4 XF Junction	OK	35 degrees C / 95 degrees F
	SIB F2S 1/6 Board	OK	30 degrees C / 86 degrees F
	SIB F2S 1/6 XF Junction	OK	41 degrees C / 105 degrees F
	SIB F2S 2/0 Board	OK	30 degrees C / 86 degrees F
	SIB F2S 2/0 XF Junction	OK	42 degrees C / 107 degrees F
	SIB F2S 2/2 Board	OK	28 degrees C / 82 degrees F
	SIB F2S 2/2 XF Junction	OK	39 degrees C / 102 degrees F
	SIB F2S 2/4 Board	OK	29 degrees C / 84 degrees F
	SIB F2S 2/4 XF Junction	OK	42 degrees C / 107 degrees F
	SIB F2S 2/6 Board	OK	29 degrees C / 84 degrees F
	SIB F2S 2/6 XF Junction	OK	41 degrees C / 105 degrees F
	CIP 0 Intake	OK	25 degrees C / 77 degrees F
	CIP 0 Exhaust A	OK	26 degrees C / 78 degrees F
	CIP 0 Exhaust B	OK	26 degrees C / 78 degrees F
	CIP 1 Intake	OK	26 degrees C / 78 degrees F
	CIP 1 Exhaust A	OK	27 degrees C / 80 degrees F
	CIP 1 Exhaust B	OK	27 degrees C / 80 degrees F
Fans	Fan Tray 0 Fan 1	OK	Spinning at normal speed
	Fan Tray 0 Fan 2	OK	Spinning at normal speed
	Fan Tray 0 Fan 3	OK	Spinning at normal speed
	Fan Tray 0 Fan 4	OK	Spinning at normal speed
	Fan Tray 0 Fan 5	OK	Spinning at normal speed
	Fan Tray 0 Fan 6	OK	Spinning at normal speed
	Fan Tray 1 Fan 1	OK	Spinning at normal speed
	Fan Tray 1 Fan 2	OK	Spinning at normal speed
	Fan Tray 1 Fan 3	OK	Spinning at normal speed
	Fan Tray 1 Fan 4	OK	Spinning at normal speed
	Fan Tray 1 Fan 5	OK	Spinning at normal speed
	Fan Tray 1 Fan 6	OK	Spinning at normal speed
	Fan Tray 2 Fan 1	OK	Spinning at normal speed
	Fan Tray 2 Fan 2	OK	Spinning at normal speed
	Fan Tray 2 Fan 3	OK	Spinning at normal speed
	Fan Tray 2 Fan 4	OK	Spinning at normal speed
	Fan Tray 2 Fan 5	OK	Spinning at normal speed
	Fan Tray 2 Fan 6	OK	Spinning at normal speed
	Fan Tray 2 Fan 7	OK	Spinning at normal speed
	Fan Tray 2 Fan 8	OK	Spinning at normal speed
	Fan Tray 2 Fan 9	OK	Spinning at normal speed
	Fan Tray 3 Fan 1	OK	Spinning at normal speed
	Fan Tray 3 Fan 2	OK	Spinning at normal speed
	Fan Tray 3 Fan 3	OK	Spinning at normal speed
	Fan Tray 3 Fan 4	OK	Spinning at normal speed
	Fan Tray 3 Fan 5	OK	Spinning at normal speed
	Fan Tray 3 Fan 6	OK	Spinning at normal speed
	Fan Tray 3 Fan 7	OK	Spinning at normal speed

	Fan Tray 3 Fan 8	OK	Spinning at normal speed
	Fan Tray 3 Fan 9	OK	Spinning at normal speed
	Fan Tray 4 Fan 1	OK	Spinning at normal speed
	Fan Tray 4 Fan 2	OK	Spinning at normal speed
	Fan Tray 4 Fan 3	OK	Spinning at normal speed
	Fan Tray 4 Fan 4	OK	Spinning at normal speed
	Fan Tray 4 Fan 5	OK	Spinning at normal speed
	Fan Tray 4 Fan 6	OK	Spinning at normal speed
	Fan Tray 4 Fan 7	OK	Spinning at normal speed
	Fan Tray 4 Fan 8	OK	Spinning at normal speed
	Fan Tray 4 Fan 9	OK	Spinning at normal speed
	Fan Tray 5 Fan 1	OK	Spinning at normal speed
	Fan Tray 5 Fan 2	OK	Spinning at normal speed
	Fan Tray 5 Fan 3	OK	Spinning at normal speed
	Fan Tray 5 Fan 4	OK	Spinning at normal speed
	Fan Tray 5 Fan 5	OK	Spinning at normal speed
	Fan Tray 5 Fan 6	OK	Spinning at normal speed
	Fan Tray 5 Fan 7	OK	Spinning at normal speed
	Fan Tray 5 Fan 8	OK	Spinning at normal speed
	Fan Tray 5 Fan 9	Check	
Misc	SPMB 0	OK	
	SPMB 1	OK	

lcc0-re0:

Class	Item	Status	Measurement
Temp	PEM 0	OK	29 degrees C / 84 degrees F
	PEM 1	Check	29 degrees C / 84 degrees F
	SCG 0	OK	32 degrees C / 89 degrees F
	SCG 1	OK	33 degrees C / 91 degrees F
	Routing Engine 0	OK	32 degrees C / 89 degrees F
	Routing Engine 0 CPU	OK	51 degrees C / 123 degrees F
	Routing Engine 1	OK	32 degrees C / 89 degrees F
	Routing Engine 1 CPU	OK	49 degrees C / 120 degrees F
	CB 0	OK	34 degrees C / 93 degrees F
	CB 1	OK	34 degrees C / 93 degrees F
	SIB 0	OK	39 degrees C / 102 degrees F
	SIB 0 (B)	Absent	
	SIB 1	OK	39 degrees C / 102 degrees F
	SIB 1 (B)	Absent	
	SIB 2	OK	39 degrees C / 102 degrees F
	SIB 2 (B)	Absent	
	FPC 4 Top	OK	43 degrees C / 109 degrees F
	FPC 4 Bottom	OK	43 degrees C / 109 degrees F
	FPC 7 Fan Intake	OK	35 degrees C / 95 degrees F
	FPC 7 Fan Exhaust	OK	50 degrees C / 122 degrees F
	FPC 7 PMB	OK	50 degrees C / 122 degrees F
	FPC 7 LMB0	OK	55 degrees C / 131 degrees F
	FPC 7 LMB1	OK	49 degrees C / 120 degrees F
	FPC 7 LMB2	OK	39 degrees C / 102 degrees F
	FPC 7 PFE1 LU2	OK	55 degrees C / 131 degrees F
	FPC 7 PFE1 LU0	OK	45 degrees C / 113 degrees F
	FPC 7 PFE0 LU0	OK	62 degrees C / 143 degrees F
	FPC 7 XF1	OK	52 degrees C / 125 degrees F
	FPC 7 XF0	OK	61 degrees C / 141 degrees F
	FPC 7 XM1	OK	39 degrees C / 102 degrees F
	FPC 7 XM0	OK	56 degrees C / 132 degrees F
	FPC 7 PFE0 LU1	OK	60 degrees C / 140 degrees F
	FPC 7 PFE0 LU2	OK	55 degrees C / 131 degrees F
	FPC 7 PFE1 LU1	OK	41 degrees C / 105 degrees F
	FPM GBUS	OK	24 degrees C / 75 degrees F

	FPM Display	OK	28 degrees C / 82 degrees F
Fans	Top Left Front fan	OK	Spinning at normal speed
	Top Left Middle fan	OK	Spinning at normal speed
	Top Left Rear fan	OK	Spinning at normal speed
	Top Right Front fan	OK	Spinning at normal speed
	Top Right Middle fan	OK	Spinning at normal speed
	Top Right Rear fan	OK	Spinning at normal speed
	Bottom Left Front fan	OK	Spinning at normal speed
	Bottom Left Middle fan	OK	Spinning at normal speed
	Bottom Left Rear fan	OK	Spinning at normal speed
	Bottom Right Front fan	OK	Spinning at normal speed
	Bottom Right Middle fan	OK	Spinning at normal speed
	Bottom Right Rear fan	OK	Spinning at normal speed
	Rear Tray fan 1 (Top)	OK	Spinning at normal speed
	Rear Tray fan 2	OK	Spinning at normal speed
	Rear Tray fan 3	OK	Spinning at normal speed
	Rear Tray fan 4	OK	Spinning at normal speed
Misc	Rear Tray fan 5	OK	Spinning at normal speed
	Rear Tray fan 6	OK	Spinning at normal speed
	Rear Tray fan 7	OK	Spinning at normal speed
	Rear Tray fan 8	OK	Spinning at normal speed
	Rear Tray fan 9	OK	Spinning at normal speed
	Rear Tray fan 10	OK	Spinning at normal speed
	Rear Tray fan 11	OK	Spinning at normal speed
	Rear Tray fan 12	OK	Spinning at normal speed
	Rear Tray fan 13	OK	Spinning at normal speed
	Rear Tray fan 14	OK	Spinning at normal speed
	Rear Tray fan 15	OK	Spinning at normal speed
	Rear Tray fan 16 (Bottom)	OK	Spinning at normal speed
	CIP	OK	
	SPMB 0	OK	
	SPMB 1	OK	

show chassis environment (EX4200 Standalone Switch)

```
user@switch> show chassis environment
```

Class	Item	Status	Measurement
Power	FPC 0 Power Supply 0	OK	
	FPC 0 Power Supply 1	Absent	
Temp	FPC 0 CPU	OK	41 degrees C / 105 degrees F
	FPC 0 EX-PFE1	OK	42 degrees C / 107 degrees F
	FPC 0 EX-PFE2	OK	46 degrees C / 114 degrees F
	FPC 0 GEPHY Front Left	OK	25 degrees C / 77 degrees F
	FPC 0 GEPHY Front Right	OK	27 degrees C / 80 degrees F
	FPC 0 Uplink Conn	OK	29 degrees C / 84 degrees F
Fans	FPC 0 Fan 1	OK	Spinning at normal speed
	FPC 0 Fan 2	OK	Spinning at normal speed
	FPC 0 Fan 3	OK	Spinning at normal speed

show chassis environment (EX8216 Switch)

```
user@switch> show chassis environment
```

Class	Item	Status	Measurement
Power	PSU 0	OK	
	PSU 1	OK	
	PSU 2	OK	
	PSU 3	Check	
	PSU 4	Absent	
	PSU 5	Absent	
Temp	CB 0 Intake	OK	23 degrees C / 73 degrees F
	CB 0 Exhaust	OK	26 degrees C / 78 degrees F

	CB 1 Intake	OK	22 degrees C / 71 degrees F
	CB 1 Exhaust	OK	25 degrees C / 77 degrees F
	FPC 4 Intake	OK	49 degrees C / 120 degrees F
	FPC 4 Exhaust	OK	59 degrees C / 138 degrees F
	SIB 5 Intake	OK	25 degrees C / 77 degrees F
	SIB 5 Exhaust	OK	35 degrees C / 95 degrees F
	SIB 6 Intake	OK	25 degrees C / 77 degrees F
	SIB 6 Exhaust	OK	38 degrees C / 100 degrees F
Fans	Top Fan 1	OK	Spinning at normal speed
	Top Fan 2	OK	Spinning at normal speed
	Top Fan 3	OK	Spinning at normal speed
	Top Fan 4	OK	Spinning at normal speed
	Top Fan 5	OK	Spinning at normal speed
	Top Fan 6	OK	Spinning at normal speed
	Top Fan 7	OK	Spinning at normal speed
	Top Fan 8	OK	Spinning at normal speed
	Top Fan 9	OK	Spinning at normal speed
	Bottom Fan 1	OK	Spinning at normal speed
	Bottom Fan 2	OK	Spinning at normal speed
	Bottom Fan 3	OK	Spinning at normal speed
	Bottom Fan 4	OK	Spinning at normal speed
	Bottom Fan 5	OK	Spinning at normal speed
	Bottom Fan 6	OK	Spinning at normal speed
	Bottom Fan 7	OK	Spinning at normal speed
	Bottom Fan 8	OK	Spinning at normal speed
	Bottom Fan 9	OK	Spinning at normal speed

show chassis environment (EX9200 Switch)

```
user@switch> show chassis environment
```

Class	Item	Status	Measurement
Temp	PEM 0	Check	
	PEM 1	OK	40 degrees C / 104 degrees F
	PEM 2	OK	40 degrees C / 104 degrees F
	PEM 3	Absent	
	Routing Engine 0	OK	35 degrees C / 95 degrees F
	Routing Engine 0 CPU	OK	33 degrees C / 91 degrees F
	Routing Engine 1	OK	38 degrees C / 100 degrees F
	Routing Engine 1 CPU	OK	33 degrees C / 91 degrees F
	CB 0 Intake	OK	35 degrees C / 95 degrees F
	CB 0 Exhaust A	OK	33 degrees C / 91 degrees F
	CB 0 Exhaust B	OK	40 degrees C / 104 degrees F
	CB 0 ACBC	OK	39 degrees C / 102 degrees F
	CB 0 XF A	OK	49 degrees C / 120 degrees F
	CB 0 XF B	OK	46 degrees C / 114 degrees F
	CB 1 Intake	OK	37 degrees C / 98 degrees F
	CB 1 Exhaust A	OK	32 degrees C / 89 degrees F
	CB 1 Exhaust B	OK	39 degrees C / 102 degrees F
	CB 1 ACBC	OK	41 degrees C / 105 degrees F
	CB 1 XF A	OK	49 degrees C / 120 degrees F
	CB 1 XF B	OK	49 degrees C / 120 degrees F
	FPC 2 Intake	OK	37 degrees C / 98 degrees F
	FPC 2 Exhaust A	OK	40 degrees C / 104 degrees F
	FPC 2 Exhaust B	OK	34 degrees C / 93 degrees F
	FPC 2 LU 0 TCAM TSen	OK	44 degrees C / 111 degrees F
	FPC 2 LU 0 TCAM Chip	OK	48 degrees C / 118 degrees F
	FPC 2 LU 0 TSen	OK	44 degrees C / 111 degrees F
	FPC 2 LU 0 Chip	OK	60 degrees C / 140 degrees F
	FPC 2 MQ 0 TSen	OK	44 degrees C / 111 degrees F
	FPC 2 MQ 0 Chip	OK	51 degrees C / 123 degrees F
	FPC 3 Intake	OK	39 degrees C / 102 degrees F

```

FPC 3 Exhaust A          OK          51 degrees C / 123 degrees F

[...Output truncated...]

Fans  Top Rear Fan       OK          Spinning at intermediate-speed
      Bottom Rear Fan    OK          Spinning at intermediate-speed
      Top Middle Fan     OK          Spinning at intermediate-speed
      Bottom Middle Fan  OK          Spinning at intermediate-speed
      Top Front Fan      OK          Spinning at intermediate-speed
      Bottom Front Fan   OK          Spinning at intermediate-speed

```

show chassis environment (QFX Series and OCX Series)

```

user@switch> show chassis environment
Class Item                Status      Measurement
Power FPC 0 Power Supply 0 OK
      FPC 0 Power Supply 1 OK
Temp  FPC 0 Sensor TopLeft I OK          26 degrees C / 78 degrees F
      FPC 0 Sensor TopRight I OK          24 degrees C / 75 degrees F
      FPC 0 Sensor TopLeft E OK          30 degrees C / 86 degrees F
      FPC 0 Sensor TopRight E OK          30 degrees C / 86 degrees F
      FPC 0 Sensor TopMiddle I OK          30 degrees C / 86 degrees F
      FPC 0 Sensor TopMiddle E OK          38 degrees C / 100 degrees F
      FPC 0 Sensor Bottom I OK          34 degrees C / 93 degrees F
      FPC 0 Sensor Bottom E OK          38 degrees C / 100 degrees F
      FPC 0 Sensor Die Temp OK          38 degrees C / 100 degrees F
      FPC 0 Sensor Mgmt Brd I OK          24 degrees C / 75 degrees F
      FPC 0 Sensor Switch I OK          28 degrees C / 82 degrees F
Fans  FPC 0 Fan 1 (left)   Failed
      FPC 0 Fan 2 (right) OK          Spinning at normal speed
      FPC 0 Fan 3 (middle) OK          Spinning at normal speed

```

show chassis environment interconnect-device (QFabric System)

```

user@switch> show chassis environment interconnect-device IC-A0004
Class Item                Status      Measurement
CB 0
CB 0 L Intake             OK          30 degrees C / 86 degrees F
CB 0 R Intake             OK          31 degrees C / 87 degrees F
CB 0 L Exhaust            OK          32 degrees C / 89 degrees F
CB 0 R Exhaust            OK          33 degrees C / 91 degrees F
Routing Engine 0 CPU temp OK          51 degrees C / 123 degrees F
CB 1
CB 1 L Intake             OK          27 degrees C / 80 degrees F
CB 1 R Intake             OK          29 degrees C / 84 degrees F
CB 1 L Exhaust            OK          31 degrees C / 87 degrees F
CB 1 R Exhaust            OK          32 degrees C / 89 degrees F
Routing Engine 1 CPU temp OK          40 degrees C / 104 degrees F
FC 0 FPC 0
FPC 0 L Intake            OK          25 degrees C / 77 degrees F
FPC 0 R Intake            OK          28 degrees C / 82 degrees F
FPC 0 L Exhaust           OK          28 degrees C / 82 degrees F
FPC 0 R Exhaust           OK          29 degrees C / 84 degrees F
FC 7 FPC 7
FPC 7 L Intake            OK          25 degrees C / 77 degrees F
FPC 7 R Intake            OK          26 degrees C / 78 degrees F
FPC 7 L Exhaust           OK          28 degrees C / 82 degrees F
FPC 7 R Exhaust           OK          29 degrees C / 84 degrees F
RC 0 FPC 8
FPC 8 L Intake            OK          25 degrees C / 77 degrees F
FPC 8 R Intake            OK          26 degrees C / 78 degrees F

```

FPC 8 L Exhaust	OK	32 degrees C / 89 degrees F
FPC 8 R Exhaust	OK	30 degrees C / 86 degrees F
RC 7 FPC 15		
FPC 15 L Intake	OK	24 degrees C / 75 degrees F
FPC 15 R Intake	OK	25 degrees C / 77 degrees F
FPC 15 L Exhaust	OK	33 degrees C / 91 degrees F
FPC 15 R Exhaust	OK	31 degrees C / 87 degrees F
Fans TFT 0 Fan 0	OK	Spinning at normal speed
Fans TFT 0 Fan 1	OK	Spinning at normal speed
Fans TFT 0 Fan 2	OK	Spinning at normal speed
Fans TFT 0 Fan 3	OK	Spinning at normal speed
Fans TFT 0 Fan 4	OK	Spinning at normal speed
Fans TFT 0 Fan 5	OK	Spinning at normal speed
Fans BFT 1 Fan 0	OK	Spinning at normal speed
Fans BFT 1 Fan 1	OK	Spinning at normal speed
Fans BFT 1 Fan 2	OK	Spinning at normal speed
Fans BFT 1 Fan 3	Check	
Fans BFT 1 Fan 4	OK	Spinning at normal speed
Fans BFT 1 Fan 5	OK	Spinning at normal speed
Fans SFT 0 Fan 0 Rotor 0	OK	Spinning at normal speed
Fans SFT 0 Fan 0 Rotor 1	OK	Spinning at normal speed
Fans SFT 0 Fan 1 Rotor 0	OK	Spinning at normal speed
Fans SFT 0 Fan 1 Rotor 1	OK	Spinning at normal speed
Fans SFT 0 Fan 2 Rotor 0	OK	Spinning at normal speed
Fans SFT 0 Fan 2 Rotor 1	OK	Spinning at normal speed
Fans SFT 0 Fan 3 Rotor 0	OK	Spinning at normal speed
Fans SFT 0 Fan 3 Rotor 1	OK	Spinning at normal speed
Fans SFT 1 Fan 0 Rotor 0	OK	Spinning at normal speed
Fans SFT 1 Fan 0 Rotor 1	OK	Spinning at normal speed
Fans SFT 1 Fan 1 Rotor 0	OK	Spinning at normal speed
Fans SFT 1 Fan 1 Rotor 1	OK	Spinning at normal speed
Fans SFT 1 Fan 2 Rotor 0	OK	Spinning at normal speed
Fans SFT 1 Fan 2 Rotor 1	OK	Spinning at normal speed
Fans SFT 1 Fan 3 Rotor 0	OK	Spinning at normal speed
Fans SFT 1 Fan 3 Rotor 1	OK	Spinning at normal speed
Fans SFT 2 Fan 0 Rotor 0	OK	Spinning at normal speed
Fans SFT 2 Fan 0 Rotor 1	OK	Spinning at normal speed
Fans SFT 2 Fan 1 Rotor 0	OK	Spinning at normal speed
Fans SFT 2 Fan 1 Rotor 1	OK	Spinning at normal speed
Fans SFT 2 Fan 2 Rotor 0	OK	Spinning at normal speed
Fans SFT 2 Fan 2 Rotor 1	OK	Spinning at normal speed
Fans SFT 2 Fan 3 Rotor 0	OK	Spinning at normal speed
Fans SFT 2 Fan 3 Rotor 1	OK	Spinning at normal speed
Fans SFT 3 Fan 0 Rotor 0	OK	Spinning at normal speed
Fans SFT 3 Fan 0 Rotor 1	OK	Spinning at normal speed
Fans SFT 3 Fan 1 Rotor 0	OK	Spinning at normal speed
Fans SFT 3 Fan 1 Rotor 1	OK	Spinning at normal speed
Fans SFT 3 Fan 2 Rotor 0	OK	Spinning at normal speed
Fans SFT 3 Fan 2 Rotor 1	OK	Spinning at normal speed
Fans SFT 3 Fan 3 Rotor 0	OK	Spinning at normal speed
Fans SFT 3 Fan 3 Rotor 1	OK	Spinning at normal speed
Fans SFT 4 Fan 0 Rotor 0	OK	Spinning at normal speed
Fans SFT 4 Fan 0 Rotor 1	OK	Spinning at normal speed
Fans SFT 4 Fan 1 Rotor 0	OK	Spinning at normal speed
Fans SFT 4 Fan 1 Rotor 1	OK	Spinning at normal speed
Fans SFT 4 Fan 2 Rotor 0	OK	Spinning at normal speed
Fans SFT 4 Fan 2 Rotor 1	OK	Spinning at normal speed
Fans SFT 4 Fan 3 Rotor 0	OK	Spinning at normal speed
Fans SFT 4 Fan 3 Rotor 1	OK	Spinning at normal speed
Fans SFT 5 Fan 0 Rotor 0	OK	Spinning at normal speed
Fans SFT 5 Fan 0 Rotor 1	OK	Spinning at normal speed

Fans	SFT 5	Fan 1	Rotor 0	OK	Spinning at normal speed
Fans	SFT 5	Fan 1	Rotor 1	OK	Spinning at normal speed
Fans	SFT 5	Fan 2	Rotor 0	OK	Spinning at normal speed
Fans	SFT 5	Fan 2	Rotor 1	OK	Spinning at normal speed
Fans	SFT 5	Fan 3	Rotor 0	OK	Spinning at normal speed
Fans	SFT 5	Fan 3	Rotor 1	OK	Spinning at normal speed
Fans	SFT 6	Fan 0	Rotor 0	OK	Spinning at normal speed
Fans	SFT 6	Fan 0	Rotor 1	OK	Spinning at normal speed
Fans	SFT 6	Fan 1	Rotor 0	OK	Spinning at normal speed
Fans	SFT 6	Fan 1	Rotor 1	OK	Spinning at normal speed
Fans	SFT 6	Fan 2	Rotor 0	OK	Spinning at normal speed
Fans	SFT 6	Fan 2	Rotor 1	OK	Spinning at normal speed
Fans	SFT 6	Fan 3	Rotor 0	OK	Spinning at normal speed
Fans	SFT 6	Fan 3	Rotor 1	OK	Spinning at normal speed
Fans	SFT 7	Fan 0	Rotor 0	OK	Spinning at normal speed
Fans	SFT 7	Fan 0	Rotor 1	OK	Spinning at normal speed
Fans	SFT 7	Fan 1	Rotor 0	OK	Spinning at normal speed
Fans	SFT 7	Fan 1	Rotor 1	OK	Spinning at normal speed
Fans	SFT 7	Fan 2	Rotor 0	OK	Spinning at normal speed
Fans	SFT 7	Fan 2	Rotor 1	OK	Spinning at normal speed
Fans	SFT 7	Fan 3	Rotor 0	OK	Spinning at normal speed
Fans	SFT 7	Fan 3	Rotor 1	OK	Spinning at normal speed
Power	PEM 0			OK	30 degrees C / 86 degrees F
Power	PEM 1			OK	30 degrees C / 86 degrees F
Power	PEM 2			OK	30 degrees C / 86 degrees F
Power	PEM 3			Absent	
Power	PEM 4			Absent	
Power	PEM 5			Absent	

show chassis environment node-device (QFabric System)

```

user@switch> show chassis environment node-device node1
Class Item                               Status Measurement
Power node1 Power Supply 0              Absent
      node1 Power Supply 1              Absent
Fans  node1 Fan Tray 0                  Testing
      node1 Fan Tray 1                  Testing
      node1 Fan Tray 2                  Testing

```

show chassis environment pem node-device (QFabric System)

```

user@switch> show chassis environment pem node-device node1
FPC 0 PEM 0 status:
  State           Check
  Airflow         Front to Back
  Temperature      OK
  AC Input:        OK
  DC Output        Voltage(V) Current(A) Power(W) Load(%)
                   12          10       120      18
FPC 0 PEM 1 status:
  State           Online
  Airflow         Back to Front
  Temperature      OK
  AC Input:        OK
  DC Output        Voltage(V) Current(A) Power(W) Load(%)
                   11          10       110      17

```

show chassis environment (PTX5000 Packet Transport Router)

```

user@host> show chassis environment
Class Item                               Status Measurement
Temp PDU 0                               OK

```

PDU 0 PSM 0	OK	36 degrees C / 96 degrees F
PDU 0 PSM 1	OK	38 degrees C / 100 degrees F
PDU 0 PSM 2	OK	38 degrees C / 100 degrees F
PDU 0 PSM 3	OK	37 degrees C / 98 degrees F
PDU 1	Absent	
CCG 0	OK	44 degrees C / 111 degrees F
CCG 1	OK	44 degrees C / 111 degrees F
Routing Engine 0	OK	62 degrees C / 143 degrees F
Routing Engine 0 CPU	OK	75 degrees C / 167 degrees F
Routing Engine 1	OK	51 degrees C / 123 degrees F
Routing Engine 1 CPU	OK	64 degrees C / 147 degrees F
CB 0 Intake	OK	38 degrees C / 100 degrees F
CB 0 Exhaust A	OK	46 degrees C / 114 degrees F
CB 0 Exhaust B	OK	42 degrees C / 107 degrees F
CB 1 Intake	OK	35 degrees C / 95 degrees F
CB 1 Exhaust A	OK	39 degrees C / 102 degrees F
CB 1 Exhaust B	OK	36 degrees C / 96 degrees F
SIB 0 Exhaust	OK	47 degrees C / 116 degrees F
SIB 0 Junction	OK	45 degrees C / 113 degrees F
SIB 1 Exhaust	OK	44 degrees C / 111 degrees F
SIB 1 Junction	OK	43 degrees C / 109 degrees F
SIB 2 Exhaust	OK	47 degrees C / 116 degrees F
SIB 2 Junction	OK	42 degrees C / 107 degrees F
SIB 3 Exhaust	OK	43 degrees C / 109 degrees F
SIB 3 Junction	OK	43 degrees C / 109 degrees F
SIB 4 Exhaust	OK	47 degrees C / 116 degrees F
SIB 4 Junction	OK	42 degrees C / 107 degrees F
SIB 5 Exhaust	OK	42 degrees C / 107 degrees F
SIB 5 Junction	OK	40 degrees C / 104 degrees F
SIB 6 Exhaust	OK	46 degrees C / 114 degrees F
SIB 6 Junction	OK	42 degrees C / 107 degrees F
SIB 7 Exhaust	OK	43 degrees C / 109 degrees F
SIB 7 Junction	OK	39 degrees C / 102 degrees F
SIB 8 Exhaust	OK	44 degrees C / 111 degrees F
SIB 8 Junction	OK	41 degrees C / 105 degrees F
FPC 0 PMB	OK	35 degrees C / 95 degrees F
FPC 0 Intake	OK	33 degrees C / 91 degrees F
FPC 0 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 0 Exhaust B	OK	43 degrees C / 109 degrees F
FPC 0 TL0	OK	48 degrees C / 118 degrees F
FPC 0 TQ0	OK	53 degrees C / 127 degrees F
FPC 0 TL1	OK	56 degrees C / 132 degrees F
FPC 0 TQ1	OK	58 degrees C / 136 degrees F
FPC 0 TL2	OK	55 degrees C / 131 degrees F
FPC 0 TQ2	OK	56 degrees C / 132 degrees F
FPC 0 TL3	OK	59 degrees C / 138 degrees F
FPC 0 TQ3	OK	59 degrees C / 138 degrees F
FPC 2 PMB	OK	35 degrees C / 95 degrees F
FPC 2 Intake	OK	34 degrees C / 93 degrees F
FPC 2 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 2 Exhaust B	OK	52 degrees C / 125 degrees F
FPC 2 TL0	OK	53 degrees C / 127 degrees F
FPC 2 TQ0	OK	53 degrees C / 127 degrees F
FPC 2 TL1	OK	57 degrees C / 134 degrees F
FPC 2 TQ1	OK	58 degrees C / 136 degrees F
FPC 2 TL2	OK	54 degrees C / 129 degrees F
FPC 2 TQ2	OK	59 degrees C / 138 degrees F
FPC 2 TL3	OK	60 degrees C / 140 degrees F
FPC 2 TQ3	OK	64 degrees C / 147 degrees F
PIC 2/0 Ambient	OK	49 degrees C / 120 degrees F
FPC 3 PMB	OK	34 degrees C / 93 degrees F

FPC 3 Intake	OK	35 degrees C / 95 degrees F
FPC 3 Exhaust A	OK	54 degrees C / 129 degrees F
FPC 3 Exhaust B	OK	49 degrees C / 120 degrees F
FPC 3 TL0	OK	49 degrees C / 120 degrees F
FPC 3 TQ0	OK	55 degrees C / 131 degrees F
FPC 3 TL1	OK	56 degrees C / 132 degrees F
FPC 3 TQ1	OK	58 degrees C / 136 degrees F
FPC 3 TL2	OK	56 degrees C / 132 degrees F
FPC 3 TQ2	OK	59 degrees C / 138 degrees F
FPC 3 TL3	OK	62 degrees C / 143 degrees F
FPC 3 TQ3	OK	63 degrees C / 145 degrees F
PIC 3/1	Absent	
FPC 5 PMB	OK	35 degrees C / 95 degrees F
FPC 5 Intake	OK	34 degrees C / 93 degrees F
FPC 5 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 5 Exhaust B	OK	53 degrees C / 127 degrees F
FPC 5 TL0	OK	54 degrees C / 129 degrees F
FPC 5 TQ0	OK	52 degrees C / 125 degrees F
FPC 5 TL1	OK	61 degrees C / 141 degrees F
FPC 5 TQ1	OK	60 degrees C / 140 degrees F
FPC 5 TL2	OK	55 degrees C / 131 degrees F
FPC 5 TQ2	OK	55 degrees C / 131 degrees F
FPC 5 TL3	OK	59 degrees C / 138 degrees F
FPC 5 TQ3	OK	58 degrees C / 136 degrees F
PIC 5/0 Ambient	OK	51 degrees C / 123 degrees F
PIC 5/1 Ambient	OK	34 degrees C / 93 degrees F
PIC 5/1 cfp-5/1/0	OK	34 degrees C / 93 degrees F
PIC 5/1 cfp-5/1/1	OK	36 degrees C / 96 degrees F
FPC 6 PMB	OK	36 degrees C / 96 degrees F
FPC 6 Intake	OK	33 degrees C / 91 degrees F
FPC 6 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 6 Exhaust B	OK	39 degrees C / 102 degrees F
FPC 6 TL0	OK	44 degrees C / 111 degrees F
FPC 6 TQ0	OK	54 degrees C / 129 degrees F
FPC 6 TL1	OK	59 degrees C / 138 degrees F
FPC 6 TQ1	OK	58 degrees C / 136 degrees F
FPC 6 TL2	OK	60 degrees C / 140 degrees F
FPC 6 TQ2	OK	57 degrees C / 134 degrees F
FPC 6 TL3	OK	65 degrees C / 149 degrees F
FPC 6 TQ3	OK	60 degrees C / 140 degrees F
FPC 7 PMB	OK	35 degrees C / 95 degrees F
FPC 7 Intake	OK	33 degrees C / 91 degrees F
FPC 7 Exhaust A	OK	53 degrees C / 127 degrees F
FPC 7 Exhaust B	OK	40 degrees C / 104 degrees F
FPC 7 TL0	OK	46 degrees C / 114 degrees F
FPC 7 TQ0	OK	58 degrees C / 136 degrees F
FPC 7 TL1	OK	53 degrees C / 127 degrees F
FPC 7 TQ1	OK	59 degrees C / 138 degrees F
FPC 7 TL2	OK	56 degrees C / 132 degrees F
FPC 7 TQ2	OK	61 degrees C / 141 degrees F
FPC 7 TL3	OK	63 degrees C / 145 degrees F
FPC 7 TQ3	OK	63 degrees C / 145 degrees F
FPM I2CS	OK	37 degrees C / 98 degrees F
Fans Fan Tray 0 Fan 1	OK	3042 RPM
Fan Tray 0 Fan 2	OK	3042 RPM
Fan Tray 0 Fan 3	OK	3000 RPM
Fan Tray 0 Fan 4	OK	3042 RPM
Fan Tray 0 Fan 5	OK	3000 RPM
Fan Tray 0 Fan 6	OK	3042 RPM
Fan Tray 0 Fan 7	OK	3085 RPM
Fan Tray 0 Fan 8	OK	3042 RPM

Fan Tray 0 Fan 9	OK	3042 RPM
Fan Tray 0 Fan 10	OK	3085 RPM
Fan Tray 0 Fan 11	OK	3085 RPM
Fan Tray 0 Fan 12	OK	3128 RPM
Fan Tray 0 Fan 13	OK	3128 RPM
Fan Tray 0 Fan 14	OK	3042 RPM
Fan Tray 1 Fan 1	OK	2299 RPM
Fan Tray 1 Fan 2	OK	2399 RPM
Fan Tray 1 Fan 3	OK	2299 RPM
Fan Tray 1 Fan 4	OK	2266 RPM
Fan Tray 1 Fan 5	OK	2266 RPM
Fan Tray 1 Fan 6	OK	2366 RPM
Fan Tray 2 Fan 1	OK	2199 RPM
Fan Tray 2 Fan 2	OK	2133 RPM
Fan Tray 2 Fan 3	OK	2366 RPM
Fan Tray 2 Fan 4	OK	2233 RPM
Fan Tray 2 Fan 5	OK	2399 RPM
Fan Tray 2 Fan 6	OK	2233 RPM
Misc SPMB 0 Intake	OK	50 degrees C / 122 degrees F
SPMB 1 Intake	OK	40 degrees C / 104 degrees F

show chassis environment (PTX5000 Packet Transport Router with FPC2-PTX-P1A)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Temp	PDU 0	OK	
	PDU 0 PSM 0	OK	41 degrees C / 105 degrees F
	PDU 0 PSM 1	Absent	
	PDU 0 PSM 2	OK	43 degrees C / 109 degrees F
	PDU 0 PSM 3	Absent	
	PDU 0 PSM 4	OK	44 degrees C / 111 degrees F
	PDU 0 PSM 5	Absent	
	PDU 0 PSM 6	OK	45 degrees C / 113 degrees F
	PDU 0 PSM 7	Absent	
	PDU 1	OK	
	PDU 1 PSM 0	Absent	
	PDU 1 PSM 1	OK	45 degrees C / 113 degrees F
	PDU 1 PSM 2	Absent	
	PDU 1 PSM 3	OK	43 degrees C / 109 degrees F
	PDU 1 PSM 4	Absent	
	PDU 1 PSM 5	OK	46 degrees C / 114 degrees F
	PDU 1 PSM 6	Absent	
	PDU 1 PSM 7	OK	46 degrees C / 114 degrees F
	CCG 0	OK	27 degrees C / 80 degrees F
	CCG 1	OK	29 degrees C / 84 degrees F
	...		

show chassis environment (ACX2000 Universal Access Router)

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
	PCB Left	OK	44 degrees C / 111 degrees F
	SFP+ Xcvr	OK	50 degrees C / 122 degrees F
	FEB	OK	70 degrees C / 158 degrees F
	PCB Up	OK	63 degrees C / 145 degrees F
	PCB Mid	OK	66 degrees C / 150 degrees F
	Telecom Mod	OK	65 degrees C / 149 degrees F
	Routing Engine	OK	54 degrees C / 129 degrees F
	Heater off		

show chassis environment (ACX4000 Universal Access Router)

On the ACX4000 router, the MIC output of the **show chassis environment** command varies depending on the number of temperature channels present in the installed MIC.

```
user@host> show chassis environment
```

Class	Item	Status	Measurement
Temp	PEM 0	OK	33 degrees C / 91 degrees F
	PEM 1	Absent	
	PCB Bottom	OK	30 degrees C / 86 degrees F
	PCB Middle	OK	34 degrees C / 93 degrees F
	BCM56445	OK	33 degrees C / 91 degrees F
	SFP+ Xcvr	OK	32 degrees C / 89 degrees F
	Fan tray inlet	OK	39 degrees C / 102 degrees F
	Exhaust	OK	30 degrees C / 86 degrees F
	Routing Engine	OK	32 degrees C / 89 degrees F
	Heater off		
Pic	PIC 0/0 Channel 0	OK	28 degrees C / 82 degrees F
	PIC 0/0 Channel 1	OK	29 degrees C / 84 degrees F
	PIC 0/0 Channel 2	OK	0 degrees C / 32 degrees F
	PIC 0/0 Channel 3	OK	0 degrees C / 32 degrees F
	PIC 0/0 Channel 4	OK	0 degrees C / 32 degrees F
	PIC 0/0 Channel 5	OK	0 degrees C / 32 degrees F
	PIC 0/0 Channel 6	OK	0 degrees C / 32 degrees F
	PIC 0/0 Channel 7	OK	0 degrees C / 32 degrees F
	PIC 0/0 Channel 8	OK	0 degrees C / 32 degrees F
	PIC 0/0 Channel 9	OK	0 degrees C / 32 degrees F
	PIC 1/0 Channel 0	OK	33 degrees C / 91 degrees F
	PIC 1/0 Channel 1	OK	31 degrees C / 87 degrees F
	PIC 1/0 Channel 2	OK	30 degrees C / 86 degrees F
	PIC 1/0 Channel 3	OK	0 degrees C / 32 degrees F
	PIC 1/0 Channel 4	OK	0 degrees C / 32 degrees F
	PIC 1/0 Channel 5	OK	0 degrees C / 32 degrees F
	PIC 1/0 Channel 6	OK	0 degrees C / 32 degrees F
	PIC 1/0 Channel 7	OK	0 degrees C / 32 degrees F
	PIC 1/0 Channel 8	OK	0 degrees C / 32 degrees F
	PIC 1/1 Channel 0	OK	31 degrees C / 87 degrees F
	PIC 1/1 Channel 1	OK	29 degrees C / 84 degrees F
	PIC 1/1 Channel 2	OK	28 degrees C / 82 degrees F
	PIC 1/1 Channel 3	OK	0 degrees C / 32 degrees F
	PIC 1/1 Channel 4	OK	0 degrees C / 32 degrees F
	PIC 1/1 Channel 5	OK	0 degrees C / 32 degrees F
	PIC 1/1 Channel 6	OK	0 degrees C / 32 degrees F
	PIC 1/1 Channel 7	OK	0 degrees C / 32 degrees F
	PIC 1/1 Channel 8	OK	0 degrees C / 32 degrees F
Fans	Fan 1	OK	Spinning at normal speed
	Fan 2	OK	Spinning at normal speed

show chassis environment cb

List of Syntax	Syntax on page 312 Syntax (TX Matrix Routers) on page 312 Syntax (TX Matrix Plus Routers) on page 312 Syntax (MX Series Routers) on page 312 Syntax (MX104 3D Universal Edge Routers) on page 312 Syntax (MX2010 and MX2020 3D Universal Edge Routers) on page 312 Syntax (QFabric System) on page 312
Syntax	show chassis environment cb <slot>
Syntax (TX Matrix Routers)	show chassis environment cb <lcc number scc> <slot>
Syntax (TX Matrix Plus Routers)	show chassis environment cb <lcc number sfc number > <slot>
Syntax (MX Series Routers)	show chassis environment cb <slot> <all-members> <local> <member member-id>
Syntax (MX104 3D Universal Edge Routers)	show chassis environment cb
Syntax (MX2010 and MX2020 3D Universal Edge Routers)	show chassis environment cb <slot>
Syntax (QFabric System)	show chassis environment cb <slot interconnect-device <i>interconnect-device-name</i> > < interconnect-device <i>interconnect-device-name</i> slot>
Release Information	Command introduced before Junos Release 7.4. Command introduced in Junos OS Release 9.4 for EX Series switches. Command introduced in Junos OS Release 12.1x48 for PTX Series Packet Transport Routers. Command introduced in Junos OS Release 12.1 for T4000 Core Routers. sfc option introduced for the TX Matrix Plus router in Junos Release 9.6. Command introduced in Junos OS Release 11.3 for the QFX Series. Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers. Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers. Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.

Description	(M120, M320, MX Series, and T Series routers, EX8200 switches, and PTX Series Packet Transport Routers only) Display environmental information about the Control Boards (CBs).
Options	<p>none—Display environmental information about all CBs. For a TX Matrix router, display environmental information about all CBs on the TX Matrix router and its attached T640 routers. For a TX Matrix Plus router, display environmental information about all CBs on the TX Matrix Plus router and its attached T1600 or T4000 routers.</p> <p>all-members—(MX Series routers only) (Optional) Display environmental information about the CBs on all the members of the Virtual Chassis configuration.</p> <p>interconnect-device—(QFabric systems only) Display environmental information about CBs on the Interconnect device.</p> <p>lcc number—(TX Matrix router and TX Matrix Plus router only) (Optional) Line-card chassis number. Replace <i>number</i> with the following values depending on the LCC configuration:</p> <ul style="list-style-type: none"> • 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix. • 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix. • 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix. • 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix. <p>local—(MX Series routers only) (Optional) Display environmental information about the CBs on the local Virtual Chassis member.</p> <p>member member-id—(MX Series routers only) (Optional) Display environmental information about the CBs on the specified member of the Virtual Chassis configuration. Replace <i>member-id</i> with a value of 0 or 1.</p> <p>scc—(TX Matrix router only) (Optional) Display environmental information about the CBs in the TX Matrix router (switch-card chassis).</p> <p>sfc number—(TX Matrix Plus router only) (Optional) Display environmental information about the CBs in the TX Matrix Plus router (or switch-fabric chassis).</p> <p>slot—(Optional) Display environmental information about the specified CB. On routers and PTX Series Packet Transport Routers, replace <i>slot</i> with 0 or 1. On EX Series switches replace <i>slot</i> with 0, 1, or 2. On QFX Series switches, replace <i>slot</i> with 0 or 1.</p>
Required Privilege Level	view

- Related Documentation**
- [request chassis cb](#)
 - [Understanding Switching Control Board Redundancy](#)

- List of Sample Output**
- [show chassis environment cb \(M120 Router\) on page 315](#)
 - [show chassis environment cb \(M320 Router\) on page 315](#)
 - [show chassis environment cb \(MX80 Router\) on page 316](#)
 - [show chassis environment cb \(MX104 Router\) on page 316](#)
 - [show chassis environment cb \(MX240 Router\) on page 317](#)
 - [show chassis environment cb \(MX240 Router with Enhanced MX SCB\) on page 317](#)
 - [show chassis environment cb \(MX480 Router\) on page 317](#)
 - [show chassis environment cb \(MX480 Router with Enhanced MX SCB\) on page 318](#)
 - [show chassis environment cb \(MX960 Router\) on page 318](#)
 - [show chassis environment cb \(MX960 Router with Enhanced MX SCB\) on page 319](#)
 - [show chassis environment cb \(MX2020 Router\) on page 319](#)
 - [show chassis environment cb \(MX2010 Router\) on page 320](#)
 - [show chassis environment cb \(T4000 Core Router\) on page 321](#)
 - [show chassis environment cb \(TX Matrix Router\) on page 321](#)
 - [show chassis environment cb \(TX Matrix Plus Router\) on page 322](#)
 - [show chassis environment cb \(EX8200 Switch\) on page 326](#)
 - [show chassis environment cb \(EX8208 Switch\) on page 327](#)
 - [show chassis environment cb \(PTX5000 Packet Transport Router\) on page 328](#)
 - [show chassis environment cb \(QFabric System\) on page 329](#)

- Output Fields** [Table 18 on page 314](#) lists the output fields for the **show chassis environment cb** command. Output fields are listed in the approximate order in which they appear.

Table 18: show chassis environment cb Output Fields

Field Name	Field Description
State	<p>Status of the CB. If two CBs are installed and online, one is functioning as the master, and the other is the standby.</p> <ul style="list-style-type: none"> • Online—CB is online and running. • Offline—CB is powered down. <p>NOTE: On the EX8208 switch, the installation can include three CBs.</p>
Temperature	<p>Temperature in Celsius (C) and Fahrenheit (F) of the air flowing past the CB.</p> <ul style="list-style-type: none"> • Temperature Intake—Measures the temperature of the air intake to cool the power supplies. • Temperature Exhaust—Measures the temperature of the hot air exhaust. <p>NOTE: On the MX2010 and MX2020 routers, the intake temperature measures the temperature of the air intake to cool the Control Board (CB). The MX2010 and MX2020 routers include intake and exhaust temperatures for multiple zones (Intake A, Intake B, Intake C, Exhaust A, Exhaust B, and TCBC).</p>
Power	<p>Power required and measured on the CB. The left column displays the required power, in volts. The right column displays the measured power, in millivolts.</p>
BUS Revision	<p>Revision level of the generic bus device. (Not on switches.)</p>

Table 18: show chassis environment cb Output Fields (*continued*)

Field Name	Field Description
FPGA Revision	Revision level of the field-programmable gate array (FPGA). (Not on switches.)
PMBus device (on MX240, MX480, and MX960 routers with Enhanced MX SCB)	Enhanced SCB on MX 240, MX480, and MX960 routers allows the system to save power by supplying only the amount of voltage that is required. Configurable PMBus devices are used to provide the voltage for each individual device. There is one PMBus device for each XF ASIC so that the output can be customized to each device. The following PMBus device information is displayed for routers with Enhanced MX SCB: <ul style="list-style-type: none"> • Expected voltage • Measured voltage • Measured current • Calculated power

Sample Output

show chassis environment cb (M120 Router)

```

user@host> show chassis environment cb
CB 0 status:
  State                Online Master
  Temperature          33 degrees C / 91 degrees F
  Power
    1.2 V              1214 mV
    1.5 V              1495 mV
    2.5 V              2494 mV
    3.3 V              3319 mV
    5.0 V              5085 mV
    3.3 V bias         3296 mV
  Bus Revision         12
  FPGA Revision        17
CB 1 status:
  State                Online Standby
  Temperature          34 degrees C / 93 degrees F
  Power
    1.2 V              1195 mV
    1.5 V              1495 mV
    2.5 V              2504 mV
    3.3 V              3312 mV
    5.0 V              5111 mV
    3.3 V bias         3296 mV
  Bus Revision         12
  FPGA Revision        17

```

show chassis environment cb (M320 Router)

```

user@host> show chassis environment cb
CB 0 status:
  State                Online Master
  Temperature          29 degrees C / 84 degrees F
  Power:
    1.8 V              1805 mV
    2.5 V              2501 mV
    3.3 V              3293 mV
    4.6 V              4725 mV

```

```
5.0 V          5032 mV
12.0 V         11975 mV
3.3 V bias     3286 mV
8.0 V bias     7589 mV
BUS Revision    40
FPGA Revision   7
CB 1 status:
State           Online Standby
Temperature     32 degrees C / 89 degrees F
Power:
1.8 V          1802 mV
2.5 V          2482 mV
3.3 V          3289 mV
4.6 V          4720 mV
5.0 V          5001 mV
12.0 V         11946 mV
3.3 V bias     3274 mV
8.0 V bias     7562 mV
BUS Revision    40
FPGA Revision   7
```

show chassis environment cb (MX80 Router)

```
user@host> show chassis environment cb
CB 0 status:
State           Online Master
Temperature     36 degrees C / 96 degrees F
Power 1
1.0 V           1034 mV
1.0 V MQ        1037 mV
1.0 V LU        1005 mV
1.2 V           1218 mV
1.5 V           1524 mV
1.8 V           1814 mV
2.5 V           2558 mV
3.3 V           3296 mV
5.0 V           5233 mV
5.0 V bias      5207 mV
12.0 V          12162 mV
```

show chassis environment cb (MX104 Router)

```
user@host > show chassis environment cb
CB 0 status:
State           Online Master
Temperature     33 degrees C / 91 degrees F
Power 1
0.75 V          751 mV
1.0 V           1005 mV
1.1 V           1113 mV
1.5 V           1494 mV
2.5 V           2518 mV
3.3 V           3338 mV
5.0 V           4960 mV
12.0 V          12006 mV
FPGA Revision    25
CB 1 status:
State           Empty
```

show chassis environment cb (MX240 Router)

```

user@host> show chassis environment cb
CB 0 status:
State                               Online Standby
Temperature                         37 degrees C / 98 degrees F
Power 1
  1.2 V                             1208 mV
  1.5 V                             1521 mV
  1.8 V                             1811 mV
  2.5 V                             2513 mV
  3.3 V                             3332 mV
  5.0 V                             5059 mV
  12.0 V                             12162 mV
  1.25 V                             1260 mV
  3.3 V SM3                         3306 mV
  5.0 V RE                          5085 mV
  12.0 V RE                         11872 mV
Power 2
  11.3 V bias PEM                   11272 mV
  4.6 V bias MidPlane               4827 mV
  11.3 V bias FPD                   11272 mV
  11.3 V bias POE 0                 11292 mV
  11.3 V bias POE 1                 11253 mV
Bus Revision                         42
FPGA Revision                       1

```

show chassis environment cb (MX240 Router with Enhanced MX SCB)

```

user@host> show chassis environment cb
CB 0 status:
State                               Online Standby
Temperature                         37 degrees C / 98 degrees F
Power 1
  1.2 V                             1208 mV
  1.5 V                             1521 mV
  1.8 V                             1811 mV
  2.5 V                             2513 mV
  3.3 V                             3332 mV
  5.0 V                             5059 mV
  12.0 V                             12162 mV
  1.25 V                             1260 mV
  3.3 V SM3                         3306 mV
  5.0 V RE                          5085 mV
  12.0 V RE                         11872 mV
Power 2
  11.3 V bias PEM                   11272 mV
  4.6 V bias MidPlane               4827 mV
  11.3 V bias FPD                   11272 mV
  11.3 V bias POE 0                 11292 mV
  11.3 V bias POE 1                 11253 mV
Bus Revision                         42
FPGA Revision                       1
PMBus
device      Expected voltage    Measured voltage    Measured current    Calculated power
XF ASIC A   1000 mV                     997 mV              11031 mA             10997 mW
XF ASIC B   1000 mV                     996 mV              12125 mA             12076 mW

```

show chassis environment cb (MX480 Router)

```

user@host> show chassis environment cb

```

```

CB 0 status:
State                               Online Master
Temperature                         41 degrees C / 105 degrees F
Power 1
  1.2 V                             1202 mV
  1.5 V                             1511 mV
  1.8 V                             1798 mV
  2.5 V                             2507 mV
  3.3 V                             3312 mV
  5.0 V                             5027 mV
  12.0 V                            12200 mV
  1.25 V                            1260 mV
  3.3 V SM3                         3293 mV
  5 V RE                            5040 mV
  12 V RE                           11910 mV
Power 2
  11.3 V bias PEM                   11156 mV
  4.6 V bias MidPlane               4801 mV
  11.3 V bias FPD                   11214 mV
  11.3 V bias POE 0                 11098 mV
  11.3 V bias POE 1                 11330 mV
Bus Revision                        42
FPGA Revision                       1

```

show chassis environment cb (MX480 Router with Enhanced MX SCB)

```

user@host> show chassis environment cb
CB 0 status:
State                               Online Master
Temperature                         41 degrees C / 105 degrees F
Power 1
  1.2 V                             1202 mV
  1.5 V                             1511 mV
  1.8 V                             1798 mV
  2.5 V                             2507 mV
  3.3 V                             3312 mV
  5.0 V                             5027 mV
  12.0 V                            12200 mV
  1.25 V                            1260 mV
  3.3 V SM3                         3293 mV
  5 V RE                            5040 mV
  12 V RE                           11910 mV
Power 2
  11.3 V bias PEM                   11156 mV
  4.6 V bias MidPlane               4801 mV
  11.3 V bias FPD                   11214 mV
  11.3 V bias POE 0                 11098 mV
  11.3 V bias POE 1                 11330 mV
Bus Revision                        42
FPGA Revision                       1
PMBus                               Expected Measured Measured Calculated
device                             voltage voltage current power
  XF ASIC A                        1000 mV   997 mV  11031 mA  10997 mW
  XF ASIC B                        1000 mV   996 mV  12125 mA  12076 mW

```

show chassis environment cb (MX960 Router)

```

user@host> show chassis environment cb
CB 0 status:
State                               Online Master
Temperature                         24 degrees C / 75 degrees F

```

```

Power 1
  1.2 V          1965 mV
  1.5 V          2465 mV
  1.8 V          2990 mV
  2.5 V          3296 mV
  3.3 V          3296 mV
  5.0 V          6593 mV
  12.0 V         13187 mV
  3.3 V bias     3296 mV
  1.25 V         1994 mV
  3.3 V SM3      3296 mV
  5 V RE         6593 mV
  12 V RE        13174 mV
Power 2          Sensor failure
Bus Revision     4
FPGA Revision    3

```

show chassis environment cb (MX960 Router with Enhanced MX SCB)

```

user@host> show chassis environment cb
CB 0 status:
  State          Online Master
  Temperature     24 degrees C / 75 degrees F
  Power 1
    1.2 V          1965 mV
    1.5 V          2465 mV
    1.8 V          2990 mV
    2.5 V          3296 mV
    3.3 V          3296 mV
    5.0 V          6593 mV
    12.0 V         13187 mV
    3.3 V bias     3296 mV
    1.25 V         1994 mV
    3.3 V SM3      3296 mV
    5 V RE         6593 mV
    12 V RE        13174 mV
  Power 2          Sensor failure
  Bus Revision     4
  FPGA Revision    3
  PMBus
  device           Expected voltage Measured voltage Measured current Calculated power
  XF ASIC A        1000 mV          997 mV          11031 mA       10997 mW
  XF ASIC B        1000 mV          996 mV          12125 mA       12076 mW

```

show chassis environment cb (MX2020 Router)

```

user@host> show chassis environment cb
CB 0 status:
  State          Online Master
  IntakeA-Zone0 Temperature 44 degrees C / 111 degrees F
  IntakeB-Zone1 Temperature 34 degrees C / 93 degrees F
  IntakeC-Zone0 Temperature 45 degrees C / 113 degrees F
  ExhaustA-Zone0 Temperature 43 degrees C / 109 degrees F
  ExhaustB-Zone1 Temperature 36 degrees C / 96 degrees F
  TCBC-Zone0 Temperature 39 degrees C / 102 degrees F
  Power 1
    1.0 V          1011 mV
    1.2 V          1208 mV
    1.8 V          1801 mV
    2.5 V          2552 mV
    3.3 V          3312 mV

```

```

5.0 V          5040 mV
5.0 V RE       4988 mV
12.0 V         12065 mV
12.0 V RE      12046 mV
Bus Revision    99
FPGA Revision  270
CB 1 status:
State           Online Standby
IntakeA-Zone0 Temperature 45 degrees C / 113 degrees F
IntakeB-Zone1 Temperature 41 degrees C / 105 degrees F
IntakeC-Zone0 Temperature 46 degrees C / 114 degrees F
ExhaustA-Zone0 Temperature 44 degrees C / 111 degrees F
ExhaustB-Zone1 Temperature 41 degrees C / 105 degrees F
TCBC-Zone0 Temperature 45 degrees C / 113 degrees F
Power 1
1.0 V          1008 mV
1.2 V          1208 mV
1.8 V          1798 mV
2.5 V          2539 mV
3.3 V          3325 mV
5.0 V          5033 mV
5.0 V RE       4950 mV
12.0 V         12046 mV
12.0 V RE      11968 mV
Bus Revision    99
FPGA Revision    0

```

show chassis environment cb (MX2010 Router)

```

user@host> show chassis environment cb
CB 0 status:
State           Online Master
IntakeA-Zone0 Temperature 36 degrees C / 96 degrees F
IntakeB-Zone1 Temperature 30 degrees C / 86 degrees F
IntakeC-Zone0 Temperature 38 degrees C / 100 degrees F
ExhaustA-Zone0 Temperature 36 degrees C / 96 degrees F
ExhaustB-Zone1 Temperature 32 degrees C / 89 degrees F
TCBC-Zone0 Temperature 34 degrees C / 93 degrees F
Power 1
1.0 V          1015 mV
1.2 V          1205 mV
1.8 V          1804 mV
2.5 V          2552 mV
3.3 V          3325 mV
5.0 V          5020 mV
5.0 V RE       4988 mV
12.0 V         12104 mV
12.0 V RE      12026 mV
Bus Revision    100
FPGA Revision  270
CB 1 status:
State           Online
IntakeA-Zone0 Temperature 35 degrees C / 95 degrees F
IntakeB-Zone1 Temperature 28 degrees C / 82 degrees F
IntakeC-Zone0 Temperature 37 degrees C / 98 degrees F
ExhaustA-Zone0 Temperature 34 degrees C / 93 degrees F
ExhaustB-Zone1 Temperature 29 degrees C / 84 degrees F
TCBC-Zone0 Temperature 32 degrees C / 89 degrees F
Power 1
1.0 V          1011 mV
1.2 V          1208 mV

```

1.8 V	1788 mV
2.5 V	2526 mV
3.3 V	3319 mV
5.0 V	5046 mV
5.0 V RE	4975 mV
12.0 V	12046 mV
12.0 V RE	12007 mV
Bus Revision	100
FPGA Revision	0

show chassis environment cb (T4000 Core Router)

```

user@host> show chassis environment cb
CB 0 status:
  State                Online Master
  Temperature          33 degrees C / 91 degrees F
  Power 1
    1.8 V              1805 mV
    2.5 V              2523 mV
    3.3 V              3324 mV
    3.3 V bias         3296 mV
    4.6 V              4680 mV
    5.0 V              4893 mV
    8.0 V bias         7572 mV
    12.0 V             11916 mV
  Power 2
    1.0 V              993 mV
    1.2 V              1210 mV
    3.3 V RE           3330 mV
  Bus Revision         51
  FPGA Revision        5
CB 1 status:
  State                Online Standby
  Temperature          33 degrees C / 91 degrees F
  Power 1
    1.8 V              1810 mV
    2.5 V              2496 mV
    3.3 V              3308 mV
    3.3 V bias         3286 mV
    4.6 V              4692 mV
    5.0 V              4954 mV
    8.0 V bias         7282 mV
    12.0 V             11926 mV
  Power 2
    1.0 V              993 mV
    1.2 V              1185 mV
    3.3 V RE           3316 mV
  Bus Revision         51
  FPGA Revision        5

```

show chassis environment cb (TX Matrix Router)

```

user@host> show chassis environment cb
-----
CB 0 status:
  State                Online Master
  Temperature          32 degrees C / 89 degrees F
  Power:
    1.8 V              1797 mV
    2.5 V              2477 mV
    3.3 V              3311 mV

```

```

4.6 V          4727 mV
5.0 V          5015 mV
12.0 V         12185 mV
3.3 V bias     3304 mV
8.0 V bias     7870 mV
BUS Revision    40
FPGA Revision   1
CB 1 status:
State           Online Standby
...

lcc0-re0:
-----
CB 0 status:
State           Online Master
Temperature      32 degrees C / 89 degrees F
Power:
  1.8 V          1787 mV
  2.5 V          2473 mV
  3.3 V          3306 mV
  4.6 V          4793 mV
  5.0 V          5025 mV
  12.0 V         12156 mV
  3.3 V bias     3289 mV
  8.0 V bias     7609 mV
BUS Revision    40
FPGA Revision   5
CB 1 status:
State           Online Standby
....
BUS Revision    40
FPGA Revision   5

lcc2-re0:
-----
CB 0 status:
State           Online Master
...
CB 1 status:
State           Online Standby
...

```

show chassis environment cb (TX Matrix Plus Router)

```

user@host> show chassis environment cb
sfc0-re0:
-----
CB 0 status:
State           Online Master
Temperature      38 degrees C / 100 degrees F
Power 1
  1.0 V          1005 mV
  1.1 V          1108 mV
  1.2 V          1205 mV
  1.25 V         1269 mV
  1.5 V          1508 mV
  1.8 V          1814 mV
  2.5 V          2507 mV
  3.3 V          3306 mV
  3.3 V bias     3300 mV
  9.0 V          9058 mV

```



```

    9.0 V RE          9107 mV
Power 2
    3.9 V            3963 mV
    5.0 V            5020 mV
    9.0 V            9087 mV
Bus Revision         79
FPGA Revision        23
CB 1 status:
State                Online Standby
Temperature           39 degrees C / 102 degrees F
Power 1
    1.0 V            1002 mV
    1.1 V            1105 mV
    1.2 V            1198 mV
    1.25 V           1276 mV
    1.5 V            1504 mV
    1.8 V            1804 mV
    2.5 V            2507 mV
    3.3 V            3300 mV
    3.3 V bias       3293 mV
    9.0 V            9039 mV
    9.0 V RE         9049 mV
Power 2
    3.9 V            3892 mV
    5.0 V            5040 mV
    9.0 V            9058 mV
Bus Revision         79
FPGA Revision        23

```

```
lcc0-re0:
```

```

-----
CB 0 status:
State                Online Master
Temperature           39 degrees C / 102 degrees F
Power 1
    1.8 V            1799 mV
    2.5 V            2499 mV
    3.3 V            3327 mV
    3.3 V bias       3299 mV
    4.6 V            4673 mV
    5.0 V            4918 mV
    8.0 V bias       7308 mV
    12.0 V           11887 mV
Power 2
    1.0 V            996 mV
    1.2 V            1199 mV
    3.3 V RE         3319 mV
Bus Revision         51
FPGA Revision        3
CB 1 status:
State                Online Standby
Temperature           40 degrees C / 104 degrees F
Power 1
    1.8 V            1800 mV
    2.5 V            2496 mV
    3.3 V            3322 mV
    3.3 V bias       3284 mV
    4.6 V            4680 mV
    5.0 V            4954 mV
    8.0 V bias       7284 mV
    12.0 V           11902 mV

```

```

Power 2
  1.0 V          998 mV
  1.2 V          1205 mV
  3.3 V RE       3327 mV
Bus Revision     51
FPGA Revision    3

```

1cc1-re0:

```

-----
CB 0 status:
State           Online Master
Temperature      41 degrees C / 105 degrees F
Power 1
  1.8 V          1804 mV
  2.5 V          2517 mV
  3.3 V          3300 mV
  3.3 V bias     3284 mV
  4.6 V          4681 mV
  5.0 V          4927 mV
  8.0 V bias     7357 mV
  12.0 V         11907 mV
Power 2
  1.0 V          991 mV
  1.2 V          1202 mV
  3.3 V RE       3301 mV
Bus Revision     51
FPGA Revision    3

```

```

CB 1 status:
State           Online Standby
Temperature      40 degrees C / 104 degrees F
Power 1
  1.8 V          1805 mV
  2.5 V          2528 mV
  3.3 V          3324 mV
  3.3 V bias     3289 mV
  4.6 V          4694 mV
  5.0 V          4959 mV
  8.0 V bias     7311 mV
  12.0 V         11926 mV
Power 2
  1.0 V          998 mV
  1.2 V          1200 mV
  3.3 V RE       3313 mV
Bus Revision     51
FPGA Revision    3

```

1cc2-re0:

```

-----
CB 0 status:
State           Online Master
Temperature      41 degrees C / 105 degrees F
Power 1
  1.8 V          1805 mV
  2.5 V          2494 mV
  3.3 V          3333 mV
  3.3 V bias     3296 mV
  4.6 V          4673 mV
  5.0 V          4901 mV
  8.0 V bias     7343 mV
  12.0 V         11916 mV
Power 2

```

1.0 V	993 mV
1.2 V	1213 mV
3.3 V RE	3328 mV
Bus Revision	51
FPGA Revision	3
CB 1 status:	
State	Online Standby
Temperature	41 degrees C / 105 degrees F
Power 1	
1.8 V	1804 mV
2.5 V	2523 mV
3.3 V	3334 mV
3.3 V bias	3291 mV
4.6 V	4697 mV
5.0 V	4969 mV
8.0 V bias	7308 mV
12.0 V	11936 mV
Power 2	
1.0 V	996 mV
1.2 V	1200 mV
3.3 V RE	3328 mV
Bus Revision	51
FPGA Revision	3

lcc3-re0:

CB 0 status:	
State	Online Master
Temperature	37 degrees C / 98 degrees F
Power 1	
1.8 V	1809 mV
2.5 V	2510 mV
3.3 V	3296 mV
3.3 V bias	3291 mV
4.6 V	4670 mV
5.0 V	4905 mV
8.0 V bias	7211 mV
12.0 V	11882 mV
Power 2	
1.0 V	996 mV
1.2 V	1188 mV
3.3 V RE	3326 mV
Bus Revision	51
FPGA Revision	5
CB 1 status:	
State	Online Standby
Temperature	38 degrees C / 100 degrees F
Power 1	
1.8 V	1813 mV
2.5 V	2510 mV
3.3 V	3322 mV
3.3 V bias	3289 mV
4.6 V	4692 mV
5.0 V	4967 mV
8.0 V bias	7194 mV
12.0 V	11916 mV
Power 2	
1.0 V	996 mV
1.2 V	1205 mV
3.3 V RE	3273 mV

```
Bus Revision          51
FPGA Revision         5
```

show chassis environment cb (EX8200 Switch)

```
user@host> show chassis environment cb
```

CB 0 status:

State	Online Master
Temperature Intake	20 degrees C / 68 degrees F
Temperature Exhaust	24 degrees C / 75 degrees F
Power 1	
1.1 V	1086 mV
1.2 V	1179 mV
1.2 V *	1182 mV
1.2 V *	1182 mV
1.25 V	1211 mV
1.5 V	1472 mV
1.8 V	1756 mV
2.5 V	2449 mV
3.3 V	3254 mV
3.3 V bias	3300 mV
5.0 V	4911 mV
12.0 V	11891 mV

Power 2

3.3 V bias *	3615 mV
3.3 V bias *	3615 mV
3.3 V bias *	3567 mV
3.3 V bias *	3664 mV
4.3 V bias *	4224 mV
4.3 V bias *	4215 mV
4.3 V bias *	4224 mV
4.3 V bias *	4205 mV
4.3 V bias *	4195 mV
4.3 V bias *	4215 mV
5.0 V bias	4920 mV

CB 1 status:

State	Online Standby
Temperature Intake	19 degrees C / 66 degrees F
Temperature Exhaust	23 degrees C / 73 degrees F
Power 1	
1.1 V	1082 mV
1.2 V	1169 mV
1.2 V *	1179 mV
1.2 V *	1179 mV
1.25 V	1214 mV
1.5 V	1482 mV
1.8 V	1759 mV
2.5 V	2481 mV
3.3 V	3248 mV
3.3 V bias	3306 mV
5.0 V	4911 mV
12.0 V	11910 mV

Power 2

3.3 V bias *	3644 mV
3.3 V bias *	3664 mV
3.3 V bias *	3586 mV
3.3 V bias *	3654 mV
4.3 V bias *	4224 mV
4.3 V bias *	4215 mV
4.3 V bias *	4224 mV

```

4.3 V bias *      4205 mV
4.3 V bias *      4244 mV
4.3 V bias *      4215 mV
5.0 V bias        4930 mV
CB 2 status:
State             Online
Temperature Intake 19 degrees C / 66 degrees F
Temperature Exhaust 23 degrees C / 73 degrees F
Power 1
1.2 V             1195 mV
1.5 V             1511 mV
1.8 V             1804 mV
2.5 V             2526 mV
3.3 V             3300 mV
3.3 V bias        3306 mV
12.0 V            12220 mV

```

show chassis environment cb (EX8208 Switch)

```

user@host> show chassis environment cb
CB 0 status:
State             Online Master
Temperature Intake 20 degrees C / 68 degrees F
Temperature Exhaust 24 degrees C / 75 degrees F
Power 1
1.1 V             1086 mV
1.2 V             1179 mV
1.2 V *           1182 mV
1.2 V *           1182 mV
1.25 V            1211 mV
1.5 V             1466 mV
1.8 V             1759 mV
2.5 V             2455 mV
3.3 V             3261 mV
3.3 V bias        3300 mV
5.0 V             4930 mV
12.0 V            11891 mV
Power 2
3.3 V bias *      3606 mV
3.3 V bias *      3615 mV
3.3 V bias *      3567 mV
3.3 V bias *      3673 mV
4.3 V bias *      4224 mV
4.3 V bias *      4215 mV
4.3 V bias *      4234 mV
4.3 V bias *      4205 mV
4.3 V bias *      4186 mV
4.3 V bias *      4215 mV
5.0 V bias        4940 mV
CB 1 status:
State             Online Standby
Temperature Intake 19 degrees C / 66 degrees F
Temperature Exhaust 23 degrees C / 73 degrees F
Power 1
1.1 V             1086 mV
1.2 V             1169 mV
1.2 V *           1179 mV
1.2 V *           1179 mV
1.25 V            1211 mV
1.5 V             1479 mV
1.8 V             1759 mV

```

```

2.5 V                2475 mV
3.3 V                3235 mV
3.3 V bias           3306 mV
5.0 V                4930 mV
12.0 V              11891 mV
Power 2
3.3 V bias *         3644 mV
3.3 V bias *         3664 mV
3.3 V bias *         3586 mV
3.3 V bias *         3654 mV
4.3 V bias *         4215 mV
4.3 V bias *         4224 mV
4.3 V bias *         4215 mV
4.3 V bias *         4215 mV
4.3 V bias *         4234 mV
4.3 V bias *         4224 mV
5.0 V bias           4920 mV
CB 2 status:
State                Online
Temperature Intake    20 degrees C / 68 degrees F
Temperature Exhaust   24 degrees C / 75 degrees F
Power 1
1.2 V                1202 mV
1.5 V                1508 mV
1.8 V                1804 mV
2.5 V                2520 mV
3.3 V                3300 mV
3.3 V bias           3300 mV
12.0 V              12200 mV

```

show chassis environment cb (PTX5000 Packet Transport Router)

```

user@host> show chassis environment cb
CB 0 status:
State                Online Master
Intake Temperature    38 degrees C / 100 degrees F
Exhaust A Temperature 45 degrees C / 113 degrees F
Exhaust B Temperature 42 degrees C / 107 degrees F
Power 1
1.2 V                1200 mV
1.25 V              1250 mV
2.5 V                2500 mV
3.3 V                3300 mV
Power 2
1.0 V                1000 mV
3.3 V bias           3293 mV
3.9 V                3921 mV
Bus Revision          132
FPGA Revision         27
CB 1 status:
State                Online Standby
Intake Temperature    34 degrees C / 93 degrees F
Exhaust A Temperature 39 degrees C / 102 degrees F
Exhaust B Temperature 36 degrees C / 96 degrees F
Power 1
1.2 V                1199 mV
1.25 V              1250 mV
2.5 V                2499 mV
3.3 V                3299 mV
Power 2
1.0 V                1000 mV

```

3.3 V bias	3312 mV
3.9 V	3961 mV
Bus Revision	132
FPGA Revision	28

show chassis environment cb (QFabric System)

```
user@switch> show chassis environment cb interconnect-device IC-123 0
CB 0 status:
```

State	Online Master
Left Intake Temperature	33 degrees C / 91 degrees F
Right Intake Temperature	33 degrees C / 91 degrees F
Left Exhaust Temperature	36 degrees C / 96 degrees F
Right Exhaust Temperature	35 degrees C / 95 degrees F
Power	OK
VDD 3V3	3294 mV
VDD 2V5	2436 mV
VDD 1V8	1746 mV
VDD 1V5	1460 mV
VDD 1V25	1210 mV
VDD 1V2	1164 mV
CPU CORE 1V2	1120 mV
VDD 1V0	968 mV
VDD 5V0	5088 mV
CPU MP BIAS 4V3	4050 mV
BIAS 3V3	3180 mV
VTT 0V9	866 mV

show chassis environment fpc

List of Syntax	Syntax on page 330 Syntax (TX Matrix and TX Matrix Plus Routers) on page 330 Syntax (MX Series Routers) on page 330 Syntax (MX2010 3D Universal Edge Routers) on page 330 Syntax (MX2020 3D Universal Edge Routers) on page 330 Syntax (QFX Series) on page 330 Syntax (OCX Series) on page 330
Syntax	show chassis environment fpc <slot>
Syntax (TX Matrix and TX Matrix Plus Routers)	show chassis environment fpc <lcc number> <slot>
Syntax (MX Series Routers)	show chassis environment fpc <slot> <all-members> <local> <member member-id>
Syntax (MX2010 3D Universal Edge Routers)	show chassis environment fpc <slot>
Syntax (MX2020 3D Universal Edge Routers)	show chassis environment fpc <slot>
Syntax (QFX Series)	show chassis environment fpc <fpc-slot> interconnect-device <i>name</i>
Syntax (OCX Series)	show chassis environment fpc <fpc-slot>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. Command introduced in Junos OS Release 11.1 for QFX Series. Command introduced in Junos OS Release 12.1x48 for PTX Series Packet Transport Routers. Command introduced in Junos OS Release 12.1 for T4000 Core Routers. Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers. Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	(M40e, M120, M160, M320, MX Series, T Series routers, EX Series, QFX Series, and PTX Series routers only) Display environmental information about Flexible PIC Concentrators (FPCs).

Options **none**—Display environmental information about all FPCs. On a TX Matrix router, display environmental information about all FPCs on the TX Matrix router and its attached T640 routers. On a TX Matrix Plus router, display environmental information about all FPCs on the TX Matrix Plus router and its attached routers.

all-members—(MX Series routers only) (Optional) Display environmental information for the FPCs in all the members of the Virtual Chassis configuration.

interconnect-device *name*—(QFabric systems only) (Optional) Display chassis environmental information for the Interconnect device.

lcc *number*—(TX Matrix router and TX Matrix Plus router only) (Optional) Line-card chassis number.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers only) (Optional) Display environmental information for the FPCs in the local Virtual Chassis member.

member *member-id*—(MX Series routers only) (Optional) Display environmental information for the FPCs in the specified member of the Virtual Chassis configuration. Replace *member-id* with a value of 0 or 1.

slot or fpc-slot—(Optional) Display environmental information about an individual FPC:

- (TX Matrix and TX Matrix Plus routers only) On a TX Matrix router, if you specify the number of the T640 router by using only the **lcc *number*** option (the recommended method), replace **slot** with a value from 0 through 7. Similarly, on a TX Matrix Plus router, if you specify the number of the router by using only the **lcc *number*** option (the recommended method), replace **slot** with a value from 0 through 7. Otherwise, replace **slot** with a value from 0 through 31. For example, the following commands have the same result:

```
user@host> show chassis environment fpc 1 lcc 1
user@host> show chassis environment fpc 9
```

- M120 router—Replace **slot** with a value from 0 through 5.
- MX240 router—Replace **slot** with a value from 0 through 2.
- MX480 router—Replace **slot** with a value from 0 through 5.
- MX960 router—Replace **slot** with a value from 0 through 11.
- MX2010 router—Replace **slot** with a value from 0 through 9.

- MX2020 router—Replace **slot** with a value from 0 through 19.
- Other routers—Replace **slot** with a value from 0 through 7.
- EX Series switches:
 - EX3200 switches and EX4200 standalone switches—Replace **slot** with 0.
 - EX4200 switches in a Virtual Chassis configuration—Replace **slot** with a value from 0 through 9 (switch's member ID).
 - EX6210 switches—Replace **slot** with a value from 0 through 3 (line card only), 4 or 5 (line card or Switch Fabric and Routing Engine (SRE) module), or 6 through 9 (line card only).
 - EX8208 switches—Replace **slot** with a value from 0 through 7 (line card).
 - EX8216 switches—Replace **slot** with a value from 0 through 15 (line card).
- QFX3500 switches —Replace **fpc-slot** with 0 through 15.
- PTX5000 Packet Transport Router—Replace **fpc-slot** with 0 through 7.

Required Privilege Level view

Related Documentation

- *request chassis fpc*
- *show chassis fpc*
- *show chassis fpc-feb-connectivity*
- *Configuring the Junos OS to Resynchronize FPC Sequence Numbers with Active FPCs when an FPC Comes Online*
- *MX960 Flexible PIC Concentrator Description*

List of Sample Output

[show chassis environment fpc \(M120 Router\) on page 334](#)
[show chassis environment fpc \(M160 Router\) on page 335](#)
[show chassis environment fpc \(M320 Router\) on page 335](#)
[show chassis environment fpc \(MX2020 Router\) on page 336](#)
[show chassis environment fpc \(MX2010 Router\) on page 339](#)
[show chassis environment fpc \(MX240 Router\) on page 341](#)
[show chassis environment fpc \(MX480 Router\) on page 342](#)
[show chassis environment fpc \(MX960 Router\) on page 343](#)
[show chassis environment fpc \(MX480 Router with 100-Gigabit Ethernet CFP\) on page 344](#)
[show chassis environment fpc \(MX240, MX480, MX960 with Application Services Modular Line Card\) on page 345](#)
[show chassis environment fpc \(T320, T640, and T1600 Routers\) on page 346](#)
[show chassis environment fpc \(T4000 Router\) on page 346](#)
[show chassis environment fpc lcc \(TX Matrix Router\) on page 351](#)
[show chassis environment fpc lcc \(TX Matrix Plus Router\) on page 352](#)
[show chassis environment fpc \(QFX Series and OCX Series\) on page 353](#)
[show chassis environment fpc interconnect-device \(QFabric Systems\) on page 353](#)

[show chassis environment fpc 0 \(PTX5000 Packet Transport Router\) on page 353](#)
[show chassis environment fpc 07 \(PTX5000 Packet Transport Router with FPC2-PTX-P1A\) on page 354](#)
[show chassis environment FPC 1 \(MX Routers with Media Services Blade \[MSB\]\) on page 355](#)

Output Fields [Table 19 on page 333](#) lists the output fields for the **show chassis environment fpc** command. Output fields are listed in the approximate order in which they appear.

Table 19: show chassis environment fpc Output Fields

Field Name	Field Description
State	<p>Status of the FPC:</p> <ul style="list-style-type: none"> • Unknown—FPC is not detected by the router. • Empty—No FPC is present. • Present—FPC is detected by the chassis daemon but is either not supported by the current version of the Junos OS, or the FPC is coming up but not yet online. • Ready—FPC is in intermediate or transition state. • Announce online—Intermediate state during which the FPC is coming up but not yet online, and the chassis manager acknowledges the chassisd FPC online initiative. • Online—FPC is online and running. • Offline—FPC is powered down. • Diagnostics—FPC is set to operate in diagnostics mode.
Temperature	(M40e and M160 routers and QFX Series only) Temperature of the air flowing past the FPC.
PMB Temperature	<p>(PTX Series only) Temperature of the air flowing past the PMB (bottom of the FPC).</p> <p>The PTX5000 Packet Transport Router with FPC2-PTX-P1A include multiple temperatures for PMB (TEMPO and TEMP1).</p>
PMB CPU Temperature	(PTX5000 Packet Transport Router with FPC2-PTX-P1A only) Temperature of the air flowing past the PMB CPU.
Temperature Intake	(M320 routers, MX2010 routers, MX2020 routers, and PTX Series only) Temperature of the air flowing into the chassis.
Temperature Top	(T Series routers only) Temperature of the air flowing past the top of the FPC.
Temperature Exhaust	<p>(M120 and M320 routers, MX2010 routers, MX2020 routers, and PTX Series only) Temperature of the air flowing out of the chassis.</p> <p>The PTX Series Packet Transport Routers, and the MX2010 and MX2020 routers include exhaust temperatures for multiple zones (Exhaust A and Exhaust B).</p>
Temperature Bottom	(T Series routers only) Temperature of the air flowing past the bottom of the FPC.
TL <i>n</i> Temperature	(PTX Series only) Temperature of the air flowing past the specified TL area of the packet forwarding engine (PFE) on the FPC.
TQ <i>n</i> Temperature	(PTX Series only) Temperature of the air flowing past the specified TQ area of the packet forwarding engine (PFE) on the FPC.

Table 19: show chassis environment fpc Output Fields (*continued*)

Field Name	Field Description
Temperature MMBO	(T640 router only) Temperature of the air flowing past the type 3 FPC.
Temperature MMB1	(M320 and T Series routers only) Temperature of the air flowing past the type 1, type 2, and type 3 FPC.
Power	Information about the voltage supplied to the FPC. The left column displays the required power, in volts. The right column displays the measured power, in millivolts.
CMB Revision or BUS revision	Revision level of the chassis management bus device (M Series router) or bus (T Series routers).

Sample Output

show chassis environment fpc (M120 Router)

```

user@host> show chassis environment fpc
FPC 2 status:
  State                               Online
  Temperature Exhaust A               32 degrees C / 89 degrees F
  Temperature Exhaust B               31 degrees C / 87 degrees F
  Power A-Board
    1.2 V                             1202 mV
    1.5 V                             1508 mV
    1.8 V                             1798 mV
    2.5 V                             2507 mV
    3.3 V                             3351 mV
    5.0 V                             4995 mV
    3.3 V bias                         3296 mV
    1.2 V Rocket IO                   1205 mV
    1.5 V Rocket IO                   1501 mV
  I2C Slave Revision                 12
FPC 3 status:
  State                               Online
  Temperature Exhaust A               31 degrees C / 87 degrees F
  Temperature Exhaust B               33 degrees C / 91 degrees F
  Power A-Board
    1.2 V                             1211 mV
    1.5 V                             1501 mV
    1.8 V                             1798 mV
    2.5 V                             2471 mV
    3.3 V                             3293 mV
    5.0 V                             4930 mV
    3.3 V bias                         3296 mV
    1.2 V Rocket IO                   1205 mV
    1.5 V Rocket IO                   1501 mV
  Power B-Board
    1.2 V                             1214 mV
    1.5 V                             1501 mV
    2.5 V                             2471 mV
    3.3 V                             3300 mV
    5.0 V                             4943 mV
    3.3 V bias                         3296 mV
    1.2 V Rocket IO                   1205 mV
    1.5 V Rocket IO                   1501 mV

```

```

I2C Slave Revision      12
FPC 4 status:
State                   Online
Temperature Exhaust A   32 degrees C / 89 degrees F
Temperature Exhaust B   30 degrees C / 86 degrees F
Power A-Board
  1.2 V                 1195 mV
  1.5 V                 1504 mV
  1.8 V                 1801 mV
  2.5 V                 2504 mV
  3.3 V                 3293 mV
  5.0 V                 4917 mV
  3.3 V bias            3296 mV
  1.2 V Rocket IO       1202 mV
  1.5 V Rocket IO       1492 mV
I2C Slave Revision      12

```

show chassis environment fpc (M160 Router)

```

user@host> show chassis environment fpc
FPC 0 status:
State                   Online
Temperature              42 degrees C / 107 degrees F
Power:
  1.5 V                 1500 mV
  2.5 V                 2509 mV
  3.3 V                 3308 mV
  5.0 V                 4991 mV
  5.0 V bias            4952 mV
  8.0 V bias            8307 mV
CMB Revision            12
FPC 1 status:
State                   Online
Temperature              45 degrees C / 113 degrees F
Power:
  1.5 V                 1498 mV
  2.5 V                 2501 mV
  3.3 V                 3319 mV
  5.0 V                 5020 mV
  5.0 V bias            5025 mV
  8.0 V bias            8307 mV
CMB Revision            12

```

show chassis environment fpc (M320 Router)

```

user@host> show chassis environment fpc
FPC 0 status:
State                   Online
Temperature Intake       27 degrees C / 80 degrees F
Temperature Exhaust      38 degrees C / 100 degrees F
Temperature MMB1         31 degrees C / 87 degrees F
Power:
  1.5 V                 1487 mV
  1.5 V *               1494 mV
  1.8 V                 1821 mV
  2.5 V                 2533 mV
  3.3 V                 3323 mV
  5.0 V                 5028 mV
  3.3 V bias            3296 mV
  5.0 V bias            4984 mV
CMB Revision            16

```

```

FPC 1 status:
State                               Online
Temperature Intake                  27 degrees C / 80 degrees F
Temperature Exhaust                  37 degrees C / 98 degrees F
Temperature MMB1                     32 degrees C / 89 degrees F
Power:
  1.5 V                             1504 mV
  1.5 V *                           1499 mV
  1.8 V                             1820 mV
  2.5 V                             2529 mV
  3.3 V                             3328 mV
  5.0 V                             5013 mV
  3.3 V bias                         3294 mV
  5.0 V bias                         4984 mV
CMB Revision                         16
FPC 2 status:
State                               Online
Temperature Intake                  28 degrees C / 82 degrees F
Temperature Exhaust                  38 degrees C / 100 degrees F
Temperature MMB1                     32 degrees C / 89 degrees F
Power:
  1.5 V                             1498 mV
  1.5 V *                           1487 mV
  1.8 V                             1816 mV
  2.5 V                             2531 mV
  3.3 V                             3324 mV
  5.0 V                             5025 mV
  3.3 V bias                         3277 mV
  5.0 V bias                         5013 mV
CMB Revision                         17
FPC 3 status:
...
```

show chassis environment fpc (MX2020 Router)

```

user@host> show chassis environment fpc
FPC 0 status:
State                               Online
Temperature Intake                  41 degrees C / 105 degrees F
Temperature Exhaust A               48 degrees C / 118 degrees F
Temperature Exhaust B               60 degrees C / 140 degrees F
Temperature LU 0 TSen               56 degrees C / 132 degrees F
Temperature LU 0 Chip               59 degrees C / 138 degrees F
Temperature LU 1 TSen               56 degrees C / 132 degrees F
Temperature LU 1 Chip               61 degrees C / 141 degrees F
Temperature LU 2 TSen               56 degrees C / 132 degrees F
Temperature LU 2 Chip               52 degrees C / 125 degrees F
Temperature LU 3 TSen               56 degrees C / 132 degrees F
Temperature LU 3 Chip               52 degrees C / 125 degrees F
Temperature MQ 0 TSen               49 degrees C / 120 degrees F
Temperature MQ 0 Chip               49 degrees C / 120 degrees F
Temperature MQ 1 TSen               49 degrees C / 120 degrees F
Temperature MQ 1 Chip               52 degrees C / 125 degrees F
Temperature MQ 2 TSen               49 degrees C / 120 degrees F
Temperature MQ 2 Chip               45 degrees C / 113 degrees F
Temperature MQ 3 TSen               49 degrees C / 120 degrees F
Temperature MQ 3 Chip               46 degrees C / 114 degrees F
Power
  AS-BIAS3V3-z12105                 3299 mV
  AS-VDD1V8-z12006                  1807 mV
  AS-VDD2V5-z12006                  2512 mV
```

```

AS-AVDD1V0-z12004          997 mV
AS-PCIE_1V0-z12004          996 mV
AS-VDD3V3-z12004           3294 mV
AS-VDD_1V5A-z12004         1501 mV
AS-VDD_1V5B-z12004         1498 mV
AS-LU0_1V0-z12004          998 mV
AS-LU1_1V0-z12004         1002 mV
AS-MQ0_1V0-z12004          999 mV
AS-MQ1_1V0-z12004          994 mV
AS-LU2_1V0-z12004         1000 mV
AS-LU3_1V0-z12004          998 mV
AS-MQ2_1V0-z12004         1002 mV
AS-MQ3_1V0-z12004          999 mV
AS-PMB_1V1-z12006          1096 mV
I2C Slave Revision          68
FPC 1 status:
State                        Online
Temperature Intake           39 degrees C / 102 degrees F
Temperature Exhaust A        48 degrees C / 118 degrees F
Temperature Exhaust B        55 degrees C / 131 degrees F
Temperature LU 0 TSen        52 degrees C / 125 degrees F
Temperature LU 0 Chip        54 degrees C / 129 degrees F
Temperature LU 1 TSen        52 degrees C / 125 degrees F
Temperature LU 1 Chip        56 degrees C / 132 degrees F
Temperature LU 2 TSen        52 degrees C / 125 degrees F
Temperature LU 2 Chip        49 degrees C / 120 degrees F
Temperature LU 3 TSen        52 degrees C / 125 degrees F
Temperature LU 3 Chip        50 degrees C / 122 degrees F
Temperature MQ 0 TSen        48 degrees C / 118 degrees F
Temperature MQ 0 Chip        48 degrees C / 118 degrees F
Temperature MQ 1 TSen        48 degrees C / 118 degrees F
Temperature MQ 1 Chip        51 degrees C / 123 degrees F
Temperature MQ 2 TSen        48 degrees C / 118 degrees F
Temperature MQ 2 Chip        45 degrees C / 113 degrees F
Temperature MQ 3 TSen        48 degrees C / 118 degrees F
Temperature MQ 3 Chip        45 degrees C / 113 degrees F
Power
AS-BIAS3V3-z12105           3291 mV
AS-VDD1V8-z12006            1786 mV
AS-VDD2V5-z12006            2496 mV
AS-AVDD1V0-z12004           1000 mV
AS-PCIE_1V0-z12004           1000 mV
AS-VDD3V3-z12004            3294 mV
AS-VDD_1V5A-z12004           1500 mV
AS-VDD_1V5B-z12004           1498 mV
AS-LU0_1V0-z12004            1003 mV
AS-LU1_1V0-z12004            1000 mV
AS-MQ0_1V0-z12004            1000 mV
AS-MQ1_1V0-z12004            995 mV
AS-LU2_1V0-z12004            1002 mV
AS-LU3_1V0-z12004            997 mV
AS-MQ2_1V0-z12004            1000 mV
AS-MQ3_1V0-z12004            998 mV
AS-PMB_1V1-z12006            1096 mV
I2C Slave Revision          68
FPC 2 status:
State                        Online
Temperature Intake           39 degrees C / 102 degrees F
Temperature Exhaust A        48 degrees C / 118 degrees F
Temperature Exhaust B        58 degrees C / 136 degrees F
Temperature LU 0 TSen        55 degrees C / 131 degrees F

```

Temperature LU 0 Chip	57 degrees C / 134 degrees F
Temperature LU 1 TSen	55 degrees C / 131 degrees F
Temperature LU 1 Chip	63 degrees C / 145 degrees F
Temperature LU 2 TSen	55 degrees C / 131 degrees F
Temperature LU 2 Chip	51 degrees C / 123 degrees F
Temperature LU 3 TSen	55 degrees C / 131 degrees F
Temperature LU 3 Chip	52 degrees C / 125 degrees F
Temperature MQ 0 TSen	48 degrees C / 118 degrees F
Temperature MQ 0 Chip	50 degrees C / 122 degrees F
Temperature MQ 1 TSen	48 degrees C / 118 degrees F
Temperature MQ 1 Chip	52 degrees C / 125 degrees F
Temperature MQ 2 TSen	48 degrees C / 118 degrees F
Temperature MQ 2 Chip	47 degrees C / 116 degrees F
Temperature MQ 3 TSen	48 degrees C / 118 degrees F
Temperature MQ 3 Chip	47 degrees C / 116 degrees F
Power	
AS-BIAS3V3-z12105	3299 mV
AS-VDD1V8-z12006	1805 mV
AS-VDD2V5-z12006	2510 mV
AS-AVDD1V0-z12004	999 mV
AS-PCIE_1V0-z12004	998 mV
AS-VDD3V3-z12004	3296 mV
AS-VDD_1V5A-z12004	1492 mV
AS-VDD_1V5B-z12004	1497 mV
AS-LU0_1V0-z12004	997 mV
AS-LU1_1V0-z12004	1000 mV
AS-MQ0_1V0-z12004	998 mV
AS-MQ1_1V0-z12004	1001 mV
AS-LU2_1V0-z12004	996 mV
AS-LU3_1V0-z12004	995 mV
AS-MQ2_1V0-z12004	998 mV
AS-MQ3_1V0-z12004	997 mV
AS-PMB_1V1-z12006	1100 mV
I2C Slave Revision	68
FPC 3 status:	
State	Online
Temperature Intake	41 degrees C / 105 degrees F
Temperature Exhaust A	48 degrees C / 118 degrees F
Temperature Exhaust B	58 degrees C / 136 degrees F
Temperature LU 0 TSen	56 degrees C / 132 degrees F
Temperature LU 0 Chip	59 degrees C / 138 degrees F
Temperature LU 1 TSen	56 degrees C / 132 degrees F
Temperature LU 1 Chip	61 degrees C / 141 degrees F
Temperature LU 2 TSen	56 degrees C / 132 degrees F
Temperature LU 2 Chip	51 degrees C / 123 degrees F
Temperature LU 3 TSen	56 degrees C / 132 degrees F
Temperature LU 3 Chip	53 degrees C / 127 degrees F
Temperature MQ 0 TSen	50 degrees C / 122 degrees F
Temperature MQ 0 Chip	51 degrees C / 123 degrees F
Temperature MQ 1 TSen	50 degrees C / 122 degrees F
Temperature MQ 1 Chip	55 degrees C / 131 degrees F
Temperature MQ 2 TSen	50 degrees C / 122 degrees F
Temperature MQ 2 Chip	47 degrees C / 116 degrees F
Temperature MQ 3 TSen	50 degrees C / 122 degrees F
Temperature MQ 3 Chip	50 degrees C / 122 degrees F
Power	
AS-BIAS3V3-z12105	3305 mV
AS-VDD1V8-z12006	1810 mV
AS-VDD2V5-z12006	2508 mV
AS-AVDD1V0-z12004	999 mV
AS-PCIE_1V0-z12004	1001 mV


```

AS-VDD3V3-z12004      3294 mV
AS-VDD_1V5A-z12004    1500 mV
AS-VDD_1V5B-z12004    1498 mV
AS-LU0_1V0-z12004     998 mV
AS-LU1_1V0-z12004     998 mV
AS-MQ0_1V0-z12004     999 mV
AS-MQ1_1V0-z12004     998 mV
AS-LU2_1V0-z12004    1000 mV
AS-LU3_1V0-z12004    1001 mV
AS-MQ2_1V0-z12004     996 mV
AS-MQ3_1V0-z12004     998 mV
AS-PMB_1V1-z12006    1098 mV
I2C Slave Revision    68
FPC 4 status:
...

```

show chassis environment fpc (MX2010 Router)

```

user@host> show chassis environment fpc
FPC 0 status:
State      Online
Temperature Intake      36 degrees C / 96 degrees F
Temperature Exhaust A   42 degrees C / 107 degrees F
Temperature Exhaust B   51 degrees C / 123 degrees F
Temperature LU 0 TSen    49 degrees C / 120 degrees F
Temperature LU 0 Chip    50 degrees C / 122 degrees F
Temperature LU 1 TSen    49 degrees C / 120 degrees F
Temperature LU 1 Chip    54 degrees C / 129 degrees F
Temperature LU 2 TSen    49 degrees C / 120 degrees F
Temperature LU 2 Chip    45 degrees C / 113 degrees F
Temperature LU 3 TSen    49 degrees C / 120 degrees F
Temperature LU 3 Chip    46 degrees C / 114 degrees F
Temperature MQ 0 TSen    40 degrees C / 104 degrees F
Temperature MQ 0 Chip    41 degrees C / 105 degrees F
Temperature MQ 1 TSen    40 degrees C / 104 degrees F
Temperature MQ 1 Chip    44 degrees C / 111 degrees F
Temperature MQ 2 TSen    40 degrees C / 104 degrees F
Temperature MQ 2 Chip    38 degrees C / 100 degrees F
Temperature MQ 3 TSen    40 degrees C / 104 degrees F
Temperature MQ 3 Chip    41 degrees C / 105 degrees F
Power
AS-BIAS3V3-z12105      3300 mV
AS-VDD1V8-z12006      1805 mV
AS-VDD2V5-z12006      2505 mV
AS-AVDD1V0-z12004     998 mV
AS-PCIE_1V0-z12004     999 mV
AS-VDD3V3-z12004      3303 mV
AS-VDD_1V5A-z12004    1497 mV
AS-VDD_1V5B-z12004    1497 mV
AS-LU0_1V0-z12004     998 mV
AS-LU1_1V0-z12004    1003 mV
AS-MQ0_1V0-z12004     998 mV
AS-MQ1_1V0-z12004     998 mV
AS-LU2_1V0-z12004     997 mV
AS-LU3_1V0-z12004    1001 mV
AS-MQ2_1V0-z12004     996 mV
AS-MQ3_1V0-z12004     994 mV
AS-PMB_1V1-z12006    1097 mV
I2C Slave Revision    68
FPC 1 status:
State      Online

```

```

Temperature Intake          34 degrees C / 93 degrees F
Temperature Exhaust A       46 degrees C / 114 degrees F
Temperature Exhaust B       54 degrees C / 129 degrees F
Temperature LU 0 TSen       45 degrees C / 113 degrees F
Temperature LU 0 Chip       55 degrees C / 131 degrees F
Temperature LU 1 TSen       45 degrees C / 113 degrees F
Temperature LU 1 Chip       44 degrees C / 111 degrees F
Temperature LU 2 TSen       45 degrees C / 113 degrees F
Temperature LU 2 Chip       50 degrees C / 122 degrees F
Temperature LU 3 TSen       45 degrees C / 113 degrees F
Temperature LU 3 Chip       58 degrees C / 136 degrees F
Temperature XM 0 TSen       45 degrees C / 113 degrees F
Temperature XM 0 Chip       51 degrees C / 123 degrees F
Temperature XF 0 TSen       45 degrees C / 113 degrees F
Temperature XF 0 Chip       63 degrees C / 145 degrees F
Temperature PLX Switch TSen 45 degrees C / 113 degrees F
Temperature PLX Switch Chip 47 degrees C / 116 degrees F
Power
MPC-BIAS3V3-z12105         3300 mV
MPC-VDD3V3-z16100          3294 mV
MPC-VDD2V5-z16100          2505 mV
MPC-VDD1V8-z12004          1796 mV
MPC-AVDD1V0-z12004          991 mV
MPC-VDD1V2-z16100          1196 mV
MPC-VDD1V5A-z12004         1491 mV
MPC-VDD1V5B-z12004         1492 mV
MPC-XF_0V9-z12004          996 mV
MPC-PCIE_1V0-z16100        1003 mV
MPC-LU0_1V0-z12004          996 mV
MPC-LU1_1V0-z12004          996 mV
MPC-LU2_1V0-z12004          998 mV
MPC-LU3_1V0-z12004          994 mV
MPC-12VA-BMR453            12031 mV
MPC-12VB-BMR453            12003 mV
MPC-PMB_1V1-z12006          1104 mV
MPC-PMB_1V2-z12106          1194 mV
MPC-XM_0V9-vt273m          911 mV
I2C Slave Revision         110
FPC 8 status:
State                       Online
Temperature Intake          32 degrees C / 89 degrees F
Temperature Exhaust A       44 degrees C / 111 degrees F
Temperature Exhaust B       37 degrees C / 98 degrees F
Temperature LU 0 TCAM TSen  41 degrees C / 105 degrees F
Temperature LU 0 TCAM Chip  49 degrees C / 120 degrees F
Temperature LU 0 TSen       41 degrees C / 105 degrees F
Temperature LU 0 Chip       52 degrees C / 125 degrees F
Temperature MQ 0 TSen       41 degrees C / 105 degrees F
Temperature MQ 0 Chip       47 degrees C / 116 degrees F
Temperature LU 1 TCAM TSen  39 degrees C / 102 degrees F
Temperature LU 1 TCAM Chip  42 degrees C / 107 degrees F
Temperature LU 1 TSen       39 degrees C / 102 degrees F
Temperature LU 1 Chip       46 degrees C / 114 degrees F
Temperature MQ 1 TSen       39 degrees C / 102 degrees F
Temperature MQ 1 Chip       45 degrees C / 113 degrees F
Power
MPC-BIAS3V3-z12105         3296 mV
MPC-VDD3V3-z12006          3298 mV
MPC-VDD2V5-z12006          2505 mV
MPC-TCAM_1V0-z12004          997 mV
MPC-AVDD1V0-z12006         1007 mV

```

```

MPC-VDD1V8-z12006      1803 mV
MPC-PCIE_1V0-z12006    1004 mV
MPC-LU0_1V0-z12004     1000 mV
MPC-MQ0_1V0-z12004      999 mV
MPC-VDD_1V5-z12004     1498 mV
MPC-PMB_1V1-z12006     1102 mV
MPC-9VA-BMR453         9009 mV
MPC-9VB-BMR453         8960 mV
MPC-PMB_1V2-z12105     1202 mV
MPC-LU1_1V0-z12004     1005 mV
MPC-MQ1_1V0-z12004     1000 mV
I2C Slave Revision      70
FPC 9 status:
State                   Online
Temperature Intake      34 degrees C / 93 degrees F
Temperature Exhaust A   41 degrees C / 105 degrees F
Temperature Exhaust B   54 degrees C / 129 degrees F
Temperature LU 0 TSen   51 degrees C / 123 degrees F
Temperature LU 0 Chip   52 degrees C / 125 degrees F
Temperature LU 1 TSen   51 degrees C / 123 degrees F
Temperature LU 1 Chip   55 degrees C / 131 degrees F
Temperature LU 2 TSen   51 degrees C / 123 degrees F
Temperature LU 2 Chip   47 degrees C / 116 degrees F
Temperature LU 3 TSen   51 degrees C / 123 degrees F
Temperature LU 3 Chip   47 degrees C / 116 degrees F
Temperature MQ 0 TSen   40 degrees C / 104 degrees F
Temperature MQ 0 Chip   42 degrees C / 107 degrees F
Temperature MQ 1 TSen   40 degrees C / 104 degrees F
Temperature MQ 1 Chip   44 degrees C / 111 degrees F
Temperature MQ 2 TSen   40 degrees C / 104 degrees F
Temperature MQ 2 Chip   38 degrees C / 100 degrees F
Temperature MQ 3 TSen   40 degrees C / 104 degrees F
Temperature MQ 3 Chip   40 degrees C / 104 degrees F
Power
AS-BIAS3V3-z12105      3302 mV
AS-VDD1V8-z12006      1808 mV
AS-VDD2V5-z12006      2513 mV
AS-AVDD1V0-z12004      997 mV
AS-PCIE_1V0-z12004      999 mV
AS-VDD3V3-z12004      3294 mV
AS-VDD_1V5A-z12004     1503 mV
AS-VDD_1V5B-z12004     1502 mV
AS-LU0_1V0-z12004      996 mV
AS-LU1_1V0-z12004      999 mV
AS-MQ0_1V0-z12004      997 mV
AS-MQ1_1V0-z12004      999 mV
AS-LU2_1V0-z12004      997 mV
AS-LU3_1V0-z12004      998 mV
AS-MQ2_1V0-z12004     1000 mV
AS-MQ3_1V0-z12004     1000 mV
AS-PMB_1V1-z12006     1102 mV
I2C Slave Revision      68

```

show chassis environment fpc (MX240 Router)

```

user@host> show chassis environment fpc
FPC 1 status:
State                   Online
Temperature Intake      34 degrees C / 93 degrees F
Temperature Exhaust A   39 degrees C / 102 degrees F
Temperature Exhaust B   53 degrees C / 127 degrees F

```

```

Temperature I3 0 TSensor 51 degrees C / 123 degrees F
Temperature I3 0 Chip    54 degrees C / 129 degrees F
Temperature I3 1 TSensor 50 degrees C / 122 degrees F
Temperature I3 1 Chip    53 degrees C / 127 degrees F
Temperature I3 2 TSensor 48 degrees C / 118 degrees F
Temperature I3 2 Chip    51 degrees C / 123 degrees F
Temperature I3 3 TSensor 45 degrees C / 113 degrees F
Temperature I3 3 Chip    48 degrees C / 118 degrees F
Temperature IA 0 TSensor 45 degrees C / 113 degrees F
Temperature IA 0 Chip    45 degrees C / 113 degrees F
Temperature IA 1 TSensor 45 degrees C / 113 degrees F
Temperature IA 1 Chip    49 degrees C / 120 degrees F
Power
  1.5 V      1492 mV
  2.5 V      2507 mV
  3.3 V      3306 mV
  1.8 V PFE 0 1801 mV
  1.8 V PFE 1 1804 mV
  1.8 V PFE 2 1798 mV
  1.8 V PFE 3 1798 mV
  1.2 V PFE 0 1169 mV
  1.2 V PFE 1 1189 mV
  1.2 V PFE 2 1182 mV
  1.2 V PFE 3 1176 mV
I2C Slave Revision 42
FPC 2 status:
State Online
Temperature Intake 33 degrees C / 91 degrees F
Temperature Exhaust A 41 degrees C / 105 degrees F
Temperature Exhaust B 53 degrees C / 127 degrees F
Temperature I3 0 TSensor 53 degrees C / 127 degrees F
Temperature I3 0 Chip 58 degrees C / 136 degrees F
Temperature I3 1 TSensor 52 degrees C / 125 degrees F
Temperature I3 1 Chip 56 degrees C / 132 degrees F
Temperature I3 2 TSensor 50 degrees C / 122 degrees F
Temperature I3 2 Chip 52 degrees C / 125 degrees F
Temperature I3 3 TSensor 46 degrees C / 114 degrees F
Temperature I3 3 Chip 49 degrees C / 120 degrees F
Temperature IA 0 TSensor 51 degrees C / 123 degrees F
Temperature IA 0 Chip 49 degrees C / 120 degrees F
Temperature IA 1 TSensor 48 degrees C / 118 degrees F
Temperature IA 1 Chip 53 degrees C / 127 degrees F
Power
  1.5 V      1492 mV
  2.5 V      2445 mV
  3.3 V      3293 mV
  1.8 V PFE 0 1827 mV
  1.8 V PFE 1 1775 mV
  1.8 V PFE 2 1788 mV
  1.8 V PFE 3 1798 mV
  1.2 V PFE 0 1250 mV
  1.2 V PFE 1 1234 mV
  1.2 V PFE 2 1231 mV
  1.2 V PFE 3 1192 mV
I2C Slave Revision 42

```

show chassis environment fpc (MX480 Router)

```

user@host> show chassis environment fpc
FPC 1 status:
State Online

```

```

Temperature Intake          36 degrees C / 96 degrees F
Temperature Exhaust A       41 degrees C / 105 degrees F
Temperature Exhaust B       55 degrees C / 131 degrees F
Temperature I3 0 TSensor    55 degrees C / 131 degrees F
Temperature I3 0 Chip        57 degrees C / 134 degrees F
Temperature I3 1 TSensor    53 degrees C / 127 degrees F
Temperature I3 1 Chip        53 degrees C / 127 degrees F
Temperature I3 2 TSensor    52 degrees C / 125 degrees F
Temperature I3 2 Chip        49 degrees C / 120 degrees F
Temperature I3 3 TSensor    47 degrees C / 116 degrees F
Temperature I3 3 Chip        47 degrees C / 116 degrees F
Temperature IA 0 TSensor    54 degrees C / 129 degrees F
Temperature IA 0 Chip        58 degrees C / 136 degrees F
Temperature IA 1 TSensor    48 degrees C / 118 degrees F
Temperature IA 1 Chip        53 degrees C / 127 degrees F
Power
  1.5 V                      1479 mV
  2.5 V                      2542 mV
  3.3 V                      3319 mV
  1.8 V PFE 0                1811 mV
  1.8 V PFE 1                1804 mV
  1.8 V PFE 2                1804 mV
  1.8 V PFE 3                1814 mV
  1.2 V PFE 0                1192 mV
  1.2 V PFE 1                1202 mV
  1.2 V PFE 2                1205 mV
  1.2 V PFE 3                1189 mV
I2C Slave Revision          40

```

show chassis environment fpc (MX960 Router)

```
user@host> show chassis environment fpc
```

```
FPC 5 status:
```

```

State      Online
Temperature Intake      27 degrees C / 80 degrees F
Temperature Exhaust A   34 degrees C / 93 degrees F
Temperature Exhaust B   40 degrees C / 104 degrees F
Temperature I3 0 TSensor 39 degrees C / 102 degrees F
Temperature I3 0 Chip    41 degrees C / 105 degrees F
Temperature I3 1 TSensor 38 degrees C / 100 degrees F
Temperature I3 1 Chip    37 degrees C / 98 degrees F
Temperature I3 2 TSensor 37 degrees C / 98 degrees F
Temperature I3 2 Chip    34 degrees C / 93 degrees F
Temperature I3 3 TSensor 32 degrees C / 89 degrees F
Temperature I3 3 Chip    33 degrees C / 91 degrees F
Temperature IA 0 TSensor 39 degrees C / 102 degrees F
Temperature IA 0 Chip    44 degrees C / 111 degrees F
Temperature IA 1 TSensor 36 degrees C / 96 degrees F
Temperature IA 1 Chip    44 degrees C / 111 degrees F
Power
  1.5 V                      1479 mV
  2.5 V                      2523 mV
  3.3 V                      3254 mV
  1.8 V PFE 0                1798 mV
  1.8 V PFE 1                1798 mV
  1.8 V PFE 2                1807 mV
  1.8 V PFE 3                1791 mV
  1.2 V PFE 0                1173 mV
  1.2 V PFE 1                1179 mV
  1.2 V PFE 2                1179 mV
  1.2 V PFE 3                1185 mV

```

```

I2C Slave Revision      6
FPC 6 status:
State                   Online
Temperature Intake      25 degrees C / 77 degrees F
Temperature Exhaust A   38 degrees C / 100 degrees F
Temperature Exhaust B   38 degrees C / 100 degrees F
Temperature I3 0 TSensor 40 degrees C / 104 degrees F
Temperature I3 0 Chip   40 degrees C / 104 degrees F
Temperature I3 1 TSensor 40 degrees C / 104 degrees F
Temperature I3 1 Chip   38 degrees C / 100 degrees F
Temperature I3 2 TSensor 37 degrees C / 98 degrees F
Temperature I3 2 Chip   32 degrees C / 89 degrees F
Temperature I3 3 TSensor 34 degrees C / 93 degrees F
Temperature I3 3 Chip   33 degrees C / 91 degrees F
Temperature IA 0 TSensor 45 degrees C / 113 degrees F
Temperature IA 0 Chip   47 degrees C / 116 degrees F
Temperature IA 1 TSensor 37 degrees C / 98 degrees F
Temperature IA 1 Chip   42 degrees C / 107 degrees F
Power
  1.5 V                1485 mV
  2.5 V                2510 mV
  3.3 V                3332 mV
  1.8 V PFE 0          1801 mV
  1.8 V PFE 1          1814 mV
  1.8 V PFE 2          1804 mV
  1.8 V PFE 3          1820 mV
  1.2 V PFE 0          1192 mV
  1.2 V PFE 1          1189 mV
  1.2 V PFE 2          1202 mV
  1.2 V PFE 3          1156 mV
I2C Slave Revision      40

```

show chassis environment fpc (MX480 Router with 100-Gigabit Ethernet CFP)

```

user@host> show chassis environment fpc
FPC 0 status:
State                   Online
Temperature Intake      32 degrees C / 89 degrees F
Temperature Exhaust A   39 degrees C / 102 degrees F
Temperature Exhaust B   37 degrees C / 98 degrees F
Temperature QX 0 TSen   44 degrees C / 111 degrees F
Temperature QX 0 Chip   48 degrees C / 118 degrees F
Temperature LU 0 TCAM TSen 44 degrees C / 111 degrees F
Temperature LU 0 TCAM Chip 47 degrees C / 116 degrees F
Temperature LU 0 TSen   44 degrees C / 111 degrees F
Temperature LU 0 Chip   48 degrees C / 118 degrees F
Temperature MQ 0 TSen   44 degrees C / 111 degrees F
Temperature MQ 0 Chip   47 degrees C / 116 degrees F
Power
  MPC-BIAS3V3-z12105    3297 mV
  MPC-VDD3V3-z12105    3306 mV
  MPC-VDD2V5-z12105    2498 mV
  MPC-TCAM_1V0-z12004   999 mV
  MPC-AVDD1V0-z12006    999 mV
  MPC-VDD1V8-z12006    1796 mV
  MPC-PCIE_1V0-z12006   1002 mV
  MPC-LU0_1V0-z12004    997 mV
  MPC-MQ0_1V0-z12004    995 mV
  MPC-VDD_1V5-z12004    1496 mV
  MPC-PMB_1V1-z12006    1094 mV
  MPC-9VA-BMR453        9054 mV

```

```

MPC-9VB-BMR453          9037 mV
MPC-PMB_1V2-z12106      1191 mV
MPC-QXM0_1V0-z12006     1000 mV
I2C Slave Revision      66
FPC 1 status:
State                    Online
Temperature Intake       35 degrees C / 95 degrees F
Temperature Exhaust A    50 degrees C / 122 degrees F
Temperature Exhaust B    56 degrees C / 132 degrees F
Temperature LU 0 TSen     46 degrees C / 114 degrees F
Temperature LU 0 Chip     59 degrees C / 138 degrees F
Temperature LU 1 TSen     46 degrees C / 114 degrees F
Temperature LU 1 Chip     45 degrees C / 113 degrees F
Temperature LU 2 TSen     46 degrees C / 114 degrees F
Temperature LU 2 Chip     60 degrees C / 140 degrees F
Temperature LU 3 TSen     46 degrees C / 114 degrees F
Temperature LU 3 Chip     71 degrees C / 159 degrees F
Temperature XM 0 TSen     46 degrees C / 114 degrees F
Temperature XM 0 Chip     -18 degrees C / 0 degrees F
Temperature XF 0 TSen     46 degrees C / 114 degrees F
Temperature XF 0 Chip     76 degrees C / 168 degrees F
Power
MPC-BIAS3V3-z12105      3292 mV
MPC-VDD3V3-z16100       3303 mV
MPC-VDD2V5-z16100       2501 mV
MPC-VDD1V8-z12004       1801 mV
MPC-AVDD1V0-z12006       996 mV
MPC-VDD1V2-z16100       1199 mV
MPC-VDD1V5A-z12004      1493 mV
MPC-VDD1V5B-z12004      1498 mV
MPC-XF_0V9-z12006       996 mV
MPC-PCIE_1V0-z16100     1000 mV
MPC-LU0_1V0-z12004       994 mV
MPC-LU1_1V0-z12004       994 mV
MPC-LU2_1V0-z12004       992 mV
MPC-LU3_1V0-z12004       993 mV
MPC-12VA-BMR453         12003 mV
MPC-12VB-BMR453         12043 mV
MPC-PMB_1V1-z12006      1091 mV
MPC-PMB_1V2-z12106      1196 mV
MPC-XM_0V9-vt273m       899 mV
I2C Slave Revision      106

```

show chassis environment fpc (MX240, MX480, MX960 with Application Services Modular Line Card)

```

user@host>show chassis environment fpc 1
FPC 1 status:
State                    Online
Temperature Intake       36 degrees C / 96 degrees F
Temperature Exhaust A    39 degrees C / 102 degrees F
Temperature LU TSen      52 degrees C / 125 degrees F
Temperature LU Chip      54 degrees C / 129 degrees F
Temperature XM TSen      52 degrees C / 125 degrees F
Temperature XM Chip      60 degrees C / 140 degrees F
Temperature PCIE TSen    52 degrees C / 125 degrees F
Temperature PCIE Chip    69 degrees C / 156 degrees F
Power
MPC-BIAS3V3-z12106      3302 mV
MPC-VDD3V3-z16100       3325 mV
MPC-AVDD1V0-z16100      1007 mV
MPC-PCIE_1V0-z16100     904 mV

```

```

MPC-LU0_1V0-z12004      996 mV
MPC-VDD_1V5-z12004      1498 mV
MPC-12VA-BMR453          11733 mV
MPC-12VB-BMR453          11728 mV
MPC-XM_0V9-vt273m        900 mV
I2C Slave Revision       81

```

show chassis environment fpc (T320, T640, and T1600 Routers)

```

user@host> show chassis environment fpc
FPC 0 status:
State                               Online
Temperature Top                     42 degrees C / 107 degrees F
Temperature Bottom                   36 degrees C / 96 degrees F
Temperature MMB1                     39 degrees C / 102 degrees F
Power:
  1.8 V                             1959 mV
  2.5 V                             2495 mV
  3.3 V                             3344 mV
  5.0 V                             5047 mV
  1.8 V bias                         1787 mV
  3.3 V bias                         3291 mV
  5.0 V bias                         4998 mV
  8.0 V bias                         7343 mV
BUS Revision                         40
FPC 1 status:
State                               Online
Temperature Top                     42 degrees C / 107 degrees F
Temperature Bottom                   39 degrees C / 102 degrees F
Temperature MMB1                     40 degrees C / 104 degrees F
Power:
  1.8 V                             1956 mV
  2.5 V                             2498 mV
  3.3 V                             3340 mV
  5.0 V                             5023 mV
  1.8 V bias                         1782 mV
  3.3 V bias                         3277 mV
  5.0 V bias                         4989 mV
  8.0 V bias                         7289 mV
BUS Revision                         40
FPC 2 status:
State                               Online
Temperature Top                     43 degrees C / 109 degrees F
Temperature Bottom                   39 degrees C / 102 degrees F
Temperature MMB1                     41 degrees C / 105 degrees F
Power:
  1.8 V                             1963 mV
  2.5 V                             2503 mV
  3.3 V                             3340 mV
  5.0 V                             5042 mV
  1.8 V bias                         1797 mV
  3.3 V bias                         3311 mV
  5.0 V bias                         5013 mV
  8.0 V bias                         7221 mV
BUS Revision                         40

```

show chassis environment fpc (T4000 Router)

```

user@host> show chassis environment fpc
FPC 0 status:
State                               Online

```


Fan Intake	34 degrees C / 93 degrees F
Fan Exhaust	48 degrees C / 118 degrees F
PMB	47 degrees C / 116 degrees F
LMB0	50 degrees C / 122 degrees F
LMB1	41 degrees C / 105 degrees F
LMB2	35 degrees C / 95 degrees F
PFE1 LU2	46 degrees C / 114 degrees F
PFE1 LU0	41 degrees C / 105 degrees F
PFE0 LU0	57 degrees C / 134 degrees F
XF1	47 degrees C / 116 degrees F
XF0	52 degrees C / 125 degrees F
XM1	41 degrees C / 105 degrees F
XM0	50 degrees C / 122 degrees F
PFE0 LU1	56 degrees C / 132 degrees F
PFE0 LU2	45 degrees C / 113 degrees F
PFE1 LU1	37 degrees C / 98 degrees F
Power 1	
1.0 V	991 mV
1.2 V bias	1195 mV
1.8 V	1788 mV
2.5 V	2483 mV
3.3 V	3289 mV
3.3 V bias	3299 mV
12.0 V A	10608 mV
12.0 V B	10637 mV
Power 2	
0.9 V	881 mV
0.9 V PFE0	916 mV
0.9 V PFE1	903 mV
1.0 V PFE0	1012 mV
1.0 V PFE1	1002 mV
1.1 V	1095 mV
1.5 V_0	1494 mV
1.5 V_1	1479 mV
Power 3	
1.0 V PFE0	1000 mV
1.0 V PFE1	1002 mV
1.0 V PFE0 *	995 mV
1.0 V PFE1 *	995 mV
1.8 V PFE 0	1788 mV
1.8 V PFE 1	1789 mV
2.5 V	2482 mV
12.0 V	11614 mV
Power 4	
1.0 V PFE0 LU0	1003 mV
1.0 V PFE1 LU0	1003 mV
1.0 V PFE1 LU2	1004 mV
1.0 V PFE0 LU0 *	995 mV
1.0 V PFE1 LU0 *	998 mV
1.0 V PFE1 LU2 *	996 mV
12.0 V	11643 mV
12.0 V C	11711 mV
Power (Base/PMB/MMB)	
LMB0 VDD2V5	2488 mV
LMB0 VDD1V8	1788 mV
LMB0 VDD1V5	1496 mV
LMB0 PFE0 LU0 AVDD1V0	1002 mV
LMB0 PFE0 LU0 VDD1V0	1000 mV
LMB0 VDD12V0	10752 mV
LMB1 VDD2V5	2472 mV
LMB1 VDD1V8	1792 mV

LMB1 VDD1V5	1480 mV
LMB1 PFE0 LU2 AVDD1V0	994 mV
LMB1 PFE0 LU2 VDD1V0	1002 mV
LMB1 VDD12V0	10800 mV
LMB2 VDD2V5	2472 mV
LMB2 VDD1V8	1792 mV
LMB2 VDD1V5	1486 mV
LMB2 PFE1 LU1 AVDD1V0	996 mV
LMB2 PFE1 LU1 VDD1V0	998 mV
LMB2 VDD12V0	10704 mV
PMB 1.05v	1049 mV
PMB 1.5v	1500 mV
PMB 2.5v	2500 mV
PMB 3.3v	3299 mV
Bus Revision	113
FPC 3 status:	
State	Online
Fan Intake	37 degrees C / 98 degrees F
Fan Exhaust	51 degrees C / 123 degrees F
PMB	43 degrees C / 109 degrees F
LMB0	57 degrees C / 134 degrees F
LMB1	54 degrees C / 129 degrees F
LMB2	38 degrees C / 100 degrees F
PFE1 LU2	63 degrees C / 145 degrees F
PFE1 LU0	45 degrees C / 113 degrees F
PFE0 LU0	69 degrees C / 156 degrees F
XF1	62 degrees C / 143 degrees F
XF0	63 degrees C / 145 degrees F
XM1	43 degrees C / 109 degrees F
XM0	67 degrees C / 152 degrees F
PFE0 LU1	63 degrees C / 145 degrees F
PFE0 LU2	66 degrees C / 150 degrees F
PFE1 LU1	41 degrees C / 105 degrees F
Power 1	
1.0 V	1002 mV
1.2 V bias	1201 mV
1.8 V	1785 mV
2.5 V	2485 mV
3.3 V	3288 mV
3.3 V bias	3285 mV
12.0 V A	10412 mV
12.0 V B	10515 mV
Power 2	
0.9 V	882 mV
0.9 V PFE0	920 mV
0.9 V PFE1	905 mV
1.0 V PFE0	1015 mV
1.0 V PFE1	1001 mV
1.1 V	1094 mV
1.5 V_0	1495 mV
1.5 V_1	1478 mV
Power 3	
0.92 V PFE1	998 mV
1.0 V PFE0	997 mV
1.0 V PFE0 *	992 mV
1.0 V PFE1 *	991 mV
1.8 V PFE 0	1780 mV
1.8 V PFE 1	1797 mV
2.5 V	2492 mV
12.0 V	11604 mV
Power 4	

1.0 V PFE0 LU0	1003 mV
1.0 V PFE1 LU0	1004 mV
1.0 V PFE1 LU2	1003 mV
1.0 V PFE0 LU0 *	1000 mV
1.0 V PFE1 LU0 *	1001 mV
1.0 V PFE1 LU2 *	1003 mV
12.0 V	11653 mV
12.0 V C	11672 mV
Power (Base/PMB/MMB)	
LMB0 VDD2V5	2512 mV
LMB0 VDD1V8	1790 mV
LMB0 VDD1V5	1500 mV
LMB0 PFE0 LU0 AVDD1V0	1004 mV
LMB0 PFE0 LU0 VDD1V0	1002 mV
LMB0 VDD12V0	10608 mV
LMB1 VDD2V5	2472 mV
LMB1 VDD1V8	1788 mV
LMB1 VDD1V5	1480 mV
LMB1 PFE0 LU2 AVDD1V0	1000 mV
LMB1 PFE0 LU2 VDD1V0	1004 mV
LMB1 VDD12V0	10672 mV
LMB2 VDD2V5	2488 mV
LMB2 VDD1V8	1798 mV
LMB2 VDD1V5	1494 mV
LMB2 PFE1 LU1 AVDD1V0	1000 mV
LMB2 PFE1 LU1 VDD1V0	1004 mV
LMB2 VDD12V0	10528 mV
PMB 1.05v	1050 mV
PMB 1.5v	1500 mV
PMB 2.5v	2499 mV
PMB 3.3v	3299 mV
Bus Revision	113
FPC 5 status:	
State	Online
Temperature Top	39 degrees C / 102 degrees F
Temperature Bottom	38 degrees C / 100 degrees F
Power	
1.8 V	1804 mV
1.8 V bias	1802 mV
3.3 V	3294 mV
3.3 V bias	3277 mV
5.0 V bias	5008 mV
5.0 V TOP	5067 mV
8.0 V bias	6642 mV
Power (Base/PMB/MMB)	
1.2 V	1202 mV
1.5 V	1504 mV
5.0 V BOT	5079 mV
12.0 V TOP Base	11848 mV
12.0 V BOT Base	11780 mV
1.1 V PMB	1111 mV
1.2 V PMB	1189 mV
1.5 V PMB	1494 mV
1.8 V PMB	1819 mV
2.5 V PMB	2503 mV
3.3 V PMB	3294 mV
5.0 V PMB	5035 mV
12.0 V PMB	11788 mV
0.75 MMB TOP	766 mV
1.5 V MMB TOP	1484 mV
1.8 V MMB TOP	1772 mV

2.5 V MMB TOP	2485 mV
1.2 V MMB TOP	1137 mV
5.0 V MMB TOP	4946 mV
12.0 V MMB TOP	11772 mV
3.3 V MMB TOP	3289 mV
0.75 MMB BOT	759 mV
1.5 V MMB BOT	1482 mV
1.8 V MMB BOT	1792 mV
2.5 V MMB BOT	2490 mV
1.2 V MMB BOT	1145 mV
5.0 V MMB BOT	4922 mV
12.0 V MMB BOT	11625 mV
3.3 V MMB BOT	3282 mV
APS 00	2495 mV
APS 01	3308 mV
APS 02	3301 mV
5.0 V PIC 0	4967 mV
APS 10	2512 mV
APS 11	3316 mV
APS 12	3304 mV
5.0 V PIC 1	5081 mV
Bus Revision	49
FPC 6 status:	
State	Online
Fan Intake	34 degrees C / 93 degrees F
Fan Exhaust	49 degrees C / 120 degrees F
PMB	40 degrees C / 104 degrees F
LMB0	60 degrees C / 140 degrees F
LMB1	58 degrees C / 136 degrees F
LMB2	40 degrees C / 104 degrees F
PFE1 LU2	69 degrees C / 156 degrees F
PFE1 LU0	45 degrees C / 113 degrees F
PFE0 LU0	71 degrees C / 159 degrees F
XF1	58 degrees C / 136 degrees F
XF0	65 degrees C / 149 degrees F
XM1	40 degrees C / 104 degrees F
XM0	66 degrees C / 150 degrees F
PFE0 LU1	69 degrees C / 156 degrees F
PFE0 LU2	68 degrees C / 154 degrees F
PFE1 LU1	42 degrees C / 107 degrees F
Power 1	
1.0 V	998 mV
1.2 V bias	1191 mV
1.8 V	1781 mV
2.5 V	2487 mV
3.3 V	3302 mV
3.3 V bias	3300 mV
12.0 V A	10388 mV
12.0 V B	10388 mV
Power 2	
0.9 V	902 mV
0.9 V PFE0	921 mV
0.9 V PFE1	907 mV
1.0 V PFE0	996 mV
1.0 V PFE1	974 mV
1.1 V	1095 mV
1.5 V_0	1495 mV
1.5 V_1	1478 mV
Power 3	
1.0 V PFE0	997 mV
1.0 V PFE1	998 mV

```

1.0 V PFE0 *          993 mV
1.0 V PFE1 *          991 mV
1.8 V PFE 0          1796 mV
1.8 V PFE 1          1789 mV
2.5 V                2465 mV
12.0 V              11609 mV
Power 4
1.0 V PFE0 LU0        1003 mV
1.0 V PFE1 LU0        1006 mV
1.0 V PFE1 LU2        1002 mV
1.0 V PFE0 LU0 *      1000 mV
1.0 V PFE1 LU0 *      998 mV
1.0 V PFE1 LU2 *      998 mV
12.0 V              11638 mV
12.0 V C             11702 mV
Power (Base/PMB/MMB)
LMB0 VDD2V5          2484 mV
LMB0 VDD1V8          1780 mV
LMB0 VDD1V5          1496 mV
LMB0 PFE0 LU0 AVDD1V0 998 mV
LMB0 PFE0 LU0 VDD1V0 1004 mV
LMB0 VDD12V0        10528 mV
LMB1 VDD2V5          2472 mV
LMB1 VDD1V8          1776 mV
LMB1 VDD1V5          1474 mV
LMB1 PFE0 LU2 AVDD1V0 994 mV
LMB1 PFE0 LU2 VDD1V0 1004 mV
LMB1 VDD12V0        10544 mV
LMB2 VDD2V5          2476 mV
LMB2 VDD1V8          1790 mV
LMB2 VDD1V5          1492 mV
LMB2 PFE1 LU1 AVDD1V0 996 mV
LMB2 PFE1 LU1 VDD1V0 1010 mV
LMB2 VDD12V0        10528 mV
PMB 1.05v            1050 mV
PMB 1.5v             1499 mV
PMB 2.5v             2500 mV
PMB 3.3v             3300 mV
Bus Revision          80

```

show chassis environment fpc lcc (TX Matrix Router)

```

user@host> show chassis environment fpc lcc 0
lcc0-re0:

```

FPC 1 status:

```

State                Online
Temperature Top       30 degrees C / 86 degrees F
Temperature Bottom    25 degrees C / 77 degrees F
Temperature MMB0      Absent
Temperature MMB1      27 degrees C / 80 degrees F
Power:
1.8 V                1813 mV
2.5 V                2504 mV
3.3 V                3338 mV
5.0 V                5037 mV
1.8 V bias           1797 mV
3.3 V bias           3301 mV
5.0 V bias           5013 mV
8.0 V bias           7345 mV
BUS Revision          40

```

```

FPC 2 status:
State                               Online
Temperature Top                     37 degrees C / 98 degrees F
Temperature Bottom                   26 degrees C / 78 degrees F
Temperature MMB0                     32 degrees C / 89 degrees F
Temperature MMB1                     27 degrees C / 80 degrees F
Power:
  1.8 V                             1791 mV
  2.5 V                             2517 mV
  3.3 V                             3308 mV
  5.0 V                             5052 mV
  1.8 V bias                         1797 mV
  3.3 V bias                         3289 mV
  5.0 V bias                         4991 mV
  8.0 V bias                         7477 mV
BUS Revision                         40

```

show chassis environment fpc lcc (TX Matrix Plus Router)

```

user@host> show chassis environment fpc lcc 0
lcc0-re0:

```

```

-----
FPC 1 status:
State                               Online
Temperature Top                     46 degrees C / 114 degrees F
Temperature Bottom                   47 degrees C / 116 degrees F
Power
  1.8 V                             1788 mV
  1.8 V bias                         1787 mV
  3.3 V                             3321 mV
  3.3 V bias                         3306 mV
  5.0 V bias                         5018 mV
  5.0 V TOP                          5037 mV
  8.0 V bias                         7223 mV
Power (Base/PMB/MMB)
  1.2 V                             1205 mV
  1.5 V                             1503 mV
  5.0 V BOT                          5084 mV
  12.0 V TOP Base                    11775 mV
  12.0 V BOT Base                    11794 mV
  1.1 V PMB                          1108 mV
  1.2 V PMB                          1196 mV
  1.5 V PMB                          1499 mV
  1.8 V PMB                          1811 mV
  2.5 V PMB                          2515 mV
  3.3 V PMB                          3318 mV
  5.0 V PMB                          5030 mV
  12.0 V PMB                         11832 mV
  0.75 MMB TOP                       752 mV
  1.5 V MMB TOP                      1489 mV
  1.8 V MMB TOP                      1782 mV
  2.5 V MMB TOP                      2498 mV
  1.2 V MMB TOP                      1155 mV
  5.0 V MMB TOP                      4902 mV
  12.0 V MMB TOP                     11721 mV
  3.3 V MMB TOP                      3316 mV
  0.75 MMB BOT                       754 mV
  1.5 V MMB BOT                      1482 mV
  1.8 V MMB BOT                      1758 mV
  2.5 V MMB BOT                      2488 mV
  1.2 V MMB BOT                      1157 mV

```

5.0 V MMB BOT	4962 mV
12.0 V MMB BOT	11691 mV
3.3 V MMB BOT	3308 mV
APS 00	1484 mV
APS 01	2503 mV
APS 02	3313 mV
5.0 V PIC 0	5025 mV
APS 10	1501 mV
APS 11	2466 mV
APS 12	3311 mV
5.0 V PIC 1	5081 mV
Bus Revision	49

show chassis environment fpc (QFX Series and OCX Series)

```
user@switch> show chassis environment fpc 0
FPC 0 status:
State                Online
Temperature           42 degrees C / 107 degrees F
```

show chassis environment fpc interconnect-device (QFabric Systems)

```
user@switch> show chassis environment fpc interconnect-device interconnect1 0
FC 0 FPC 0 status:
State                Online
Left Intake Temperature 24 degrees C / 75 degrees F
Right Intake Temperature 24 degrees C / 75 degrees F
Left Exhaust Temperature 27 degrees C / 80 degrees F
Right Exhaust Temperature 27 degrees C / 80 degrees F
Power
  BIAS 3V3            3330 mV
  VDD 3V3              3300 mV
  VDD 2V5              2502 mV
  VDD 1V5              1496 mV
  VDD 1V2              1194 mV
  VDD 1V0              1000 mV
  SW0 VDD 1V0          1020 mV
  SW0 CVDD 1V025       1032 mV
  SW1 VDD 1V0          1022 mV
  SW1 CVDD 1V025       1030 mV
  VDD 12V0 DIV3_33     3414 mV
```

show chassis environment fpc 0 (PTX5000 Packet Transport Router)

```
user@host> show chassis environment fpc 0
FPC 0 status:
State                Online
PMB Temperature      35 degrees C / 95 degrees F
Intake Temperature    33 degrees C / 91 degrees F
Exhaust A Temperature 51 degrees C / 123 degrees F
Exhaust B Temperature 43 degrees C / 109 degrees F
TL0 Temperature       48 degrees C / 118 degrees F
TQ0 Temperature       53 degrees C / 127 degrees F
TL1 Temperature       56 degrees C / 132 degrees F
TQ1 Temperature       58 degrees C / 136 degrees F
TL2 Temperature       55 degrees C / 131 degrees F
TQ2 Temperature       57 degrees C / 134 degrees F
TL3 Temperature       59 degrees C / 138 degrees F
TQ3 Temperature       59 degrees C / 138 degrees F
Power
  PMB 1.05v           1049 mV
  PMB 1.5v            1500 mV
```

PMB	2.5v	2500 mV
PMB	3.3v	3299 mV
PFE0	1.5v	1500 mV
PFE0	1.0v	999 mV
TQ0	0.9v	900 mV
TL0	0.9v	900 mV
PFE1	1.5v	1499 mV
PFE1	1.0v	999 mV
TQ1	0.9v	899 mV
TL1	0.9v	900 mV
PFE2	1.5v	1500 mV
PFE2	1.0v	1000 mV
TQ2	0.9v	900 mV
TL2	0.9v	900 mV
PFE3	1.5v	1499 mV
PFE3	1.0v	1000 mV
TQ3	0.9v	900 mV
TL3	0.9v	900 mV
Bias	3.3v	3327 mV
FPC	3.3v	3300 mV
FPC	2.5v	2500 mV
SAM	0.9v	900 mV
A	12.0v	2014 mV
B	12.0v	2030 mV

show chassis environment fpc 07 (PTX5000 Packet Transport Router with FPC2-PTX-PIA)

```
user@host> show chassis environment fpc 07
```

```
FPC 7 status:
```

State	Online
PMB TEMPO Temperature	32 degrees C / 89 degrees F
PMB TEMP1 Temperature	28 degrees C / 82 degrees F
PMB CPU Temperature	46 degrees C / 114 degrees F
Intake Temperature	35 degrees C / 95 degrees F
Exhaust A Temperature	55 degrees C / 131 degrees F
Exhaust B Temperature	54 degrees C / 129 degrees F
TL5 Temperature	59 degrees C / 138 degrees F
TQ5 Temperature	57 degrees C / 134 degrees F
TL6 Temperature	57 degrees C / 134 degrees F
TQ6 Temperature	51 degrees C / 123 degrees F
TL1 Temperature	76 degrees C / 168 degrees F
TQ1 Temperature	58 degrees C / 136 degrees F
TL2 Temperature	75 degrees C / 167 degrees F
TQ2 Temperature	57 degrees C / 134 degrees F
TL4 Temperature	52 degrees C / 125 degrees F
TQ4 Temperature	66 degrees C / 150 degrees F
TL7 Temperature	52 degrees C / 125 degrees F
TQ7 Temperature	60 degrees C / 140 degrees F
TL0 Temperature	72 degrees C / 161 degrees F
TQ0 Temperature	73 degrees C / 163 degrees F
TL3 Temperature	64 degrees C / 147 degrees F
TQ3 Temperature	70 degrees C / 158 degrees F
Power	
PMB 1.05v	1049 mV
PMB 3.3v	3299 mV
PMB 1.1v-a	1100 mV
PMB 1.5v	1499 mV
PMB 1.1v-b	1100 mV
Base 3.3v	3300 mV
FPC Base 2.5v	2499 mV
TL1 0.9v	897 mV

TQ1	0.9v	897 mV
PFE1	1.0v	999 mV
PFE1	1.5v	1499 mV
TL2	0.9v	897 mV
TQ2	0.9v	897 mV
PFE2	1.0v	999 mV
PFE2	1.5v	1499 mV
FPC Base	1.0v	1000 mV
FPC Base	1.2v	1199 mV
TL5	0.9v	898 mV
TQ5	0.9v	898 mV
PFE5	1.0v	1000 mV
PFE5	1.5v	1500 mV
TL6	0.9v	897 mV
TQ6	0.9v	897 mV
PFE6	1.0v	1000 mV
PFE6	1.5v	1499 mV
Mezz Base	2.5v	2500 mV
TL0	0.9v	896 mV
TQ0	0.9v	896 mV
PFE0	1.0v	999 mV
PFE0	1.5v	1499 mV

show chassis environment FPC 1 (MX Routers with Media Services Blade [MSB])

```
user@switch> show chassis environment fpc 1
```

```
FPC 1 status:
```

State	Online
Temperature Intake	36 degrees C / 96 degrees F
Temperature Exhaust A	39 degrees C / 102 degrees F
Temperature LU TSen	52 degrees C / 125 degrees F
Temperature LU Chip	54 degrees C / 129 degrees F
Temperature XM TSen	52 degrees C / 125 degrees F
Temperature XM Chip	60 degrees C / 140 degrees F
Temperature PCIe TSen	52 degrees C / 125 degrees F
Temperature PCIe Chip	69 degrees C / 156 degrees F
Power	
MPC-BIAS3V3-z12106	3302 mV
MPC-VDD3V3-z16100	3325 mV
MPC-AVDD1V0-z16100	1007 mV
MPC-PCIE_1V0-z16100	904 mV
MPC-LU0_1V0-z12004	996 mV
MPC-VDD_1V5-z12004	1498 mV
MPC-12VA-BMR453	11733 mV
MPC-12VB-BMR453	11728 mV
MPC-XM_0V9-vt273m	900 mV
I2C Slave Revision	81

show chassis environment pem

List of Syntax	Syntax on page 356 Syntax (ACX4000 Router) on page 356 Syntax (TX Matrix Routers) on page 356 Syntax (TX Matrix Plus Routers) on page 356 Syntax (MX Series Router) on page 356 Syntax (MX104 3D Universal Edge Routers) on page 356 Syntax (QFX Series) on page 356 Syntax (OCX Series) on page 356
Syntax	show chassis environment pem <slot>
Syntax (ACX4000 Router)	show chassis environment pem
Syntax (TX Matrix Routers)	show chassis environment pem <lcc number scc> <slot>
Syntax (TX Matrix Plus Routers)	show chassis environment pem <lcc number sfc number> <slot>
Syntax (MX Series Router)	show chassis environment pem <slot> <all-members> <local> <member member-id>
Syntax (MX104 3D Universal Edge Routers)	show chassis environment pem <slot>
Syntax (QFX Series)	show chassis environment pem <slot (interconnect-device name slot) (node-device name)>
Syntax (OCX Series)	show chassis environment pem <slot>
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS 11.3 for the QFX Series. Command introduced in Junos OS 12.3R2 for EX Series. Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display Power Entry Module (PEM) environmental status information.



NOTE: The new high-capacity (4100W) enhanced DC PEM on MX960 routers includes a new design that can condition the input voltage. This results in the output voltage differing from the input voltage. The earlier generation of DC PEMs coupled the input power directly to the output, thereby making it safe to assume that the output voltage was equal to the input voltage.

- Options** **none**—Display environmental information about both PEMs. For the TX Matrix router, display environmental information about the PEMs, the TX Matrix router, and its attached T640 routers. For the TX Matrix Plus router, display environmental information about the PEMs, the TX Matrix Plus router, and its attached routers.
- all-members**—(MX Series routers only) (Optional) Display environmental information about the PEMs in all the member routers of the Virtual Chassis configuration.
- interconnect-device *name***—(QFabric systems only) (Optional) Display chassis environmental information about the PEMs in the Interconnect device.
- lcc *number***—(TX Matrix router and TX Matrix Plus router only) (Optional) Line-card chassis number.
Replace *number* with the following values depending on the LCC configuration:
- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
 - 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
 - 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
 - 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- local**—(MX Series routers only) (Optional) Display environmental information about the PEM in the local Virtual Chassis member.
- member *member-id***—(MX Series routers only) (Optional) Display environmental information about the PEM in the specified member of the Virtual Chassis configuration. Replace *member-id* with a value of 0 or 1.
- node-device *name***—(QFabric systems only) (Optional) Display chassis environmental information about the PEMs in the Node device.
- scc**—(TX Matrix routers only) (Optional) Display environmental information about the PEM in the TX Matrix router (switch-card chassis).
- sfc**—(TX Matrix Plus routers only) (Optional) Display environmental information about the PEM in the TX Matrix Plus router (or switch-fabric chassis).

slot —(Optional) Display environmental information about an individual PEM. Replace **slot** with 0 or 1.

Required Privilege Level view

Related Documentation

- [show chassis hardware on page 383](#)

List of Sample Output

[show chassis environment pem \(M40e Router\) on page 359](#)
[show chassis environment pem \(M120 Router\) on page 359](#)
[show chassis environment pem \(M160 Router\) on page 360](#)
[show chassis environment pem \(M320 Router\) on page 360](#)
[show chassis environment pem \(MX104 Router\) on page 360](#)
[show chassis environment pem \(MX240 Router\) on page 360](#)
[show chassis environment pem \(MX480 Router\) on page 361](#)
[show chassis environment pem \(MX960 Router\) on page 361](#)
[show chassis environment pem \(T320 Router\) on page 361](#)
[show chassis environment pem \(T640 Router\) on page 361](#)
[show chassis environment pem \(T4000 Router\) on page 361](#)
[show chassis environment pem \(T640/T1600/T4000 Routers With Six-Input DC Power Supply\) on page 362](#)
[show chassis environment pem lcc \(TX Matrix Routing Matrix\) on page 362](#)
[show chassis environment pem scc \(TX Matrix Routing Matrix\) on page 363](#)
[show chassis environment pem sfc \(TX Matrix Plus Routing Matrix\) on page 363](#)
[show chassis environment pem lcc \(TX Matrix Plus Routing Matrix\) on page 363](#)
[show chassis environment pem node-device \(QFabric System\) on page 364](#)
[show chassis environment pem \(QFX Series and OCX Series\) on page 364](#)
[show chassis environment pem interconnect-device \(QFabric System\) on page 364](#)

Output Fields [Table 20 on page 358](#) lists the output fields for the **show chassis environment pem** command. Output fields are listed in the approximate order in which they appear.

Table 20: show chassis environment pem Output Fields

Field Name	Field Description
PEM <i>slot</i> status	Number of the PEM slot.
State	Status of the PEM.
Temperature	Temperature of the air flowing past the PEM.
AC Input	Status of the AC input for the specified component
AC Output	Status of the AC output for the specified component.
DC input	Status of the DC input for the specified component.
DC output	Status of the DC output for the specified component.

Table 20: show chassis environment pem Output Fields (*continued*)

Field Name	Field Description
Load	(Not available on M40e or M160 routers) Information about the load on supply, in percentage of rated current being used.
Voltage	(M120, M160, M320, T640, T1600, TX Matrix, and TX Matrix Plus routers only) Information about voltage supplied to the PEM. (MX104 routers only) Information about voltage supplied by the PEM to the system.
Current	(T640, T1600, TX Matrix, and TX Matrix Plus routers only) Information about the PEM current.
Power	(T640, T1600, TX Matrix, and TX Matrix Plus routers only) Information about the PEM power.
SCG/CB/SIB	(T640, T1600, TX Matrix, and TX Matrix Plus routers only) SONET Clock Generator/Control Board/Switch Interface Board.
FAN	(T640, T1600, and T4000 routers with six-input DC power supply only) Information about the DC output to the fan.

Sample Output

show chassis environment pem (M40e Router)

```

user@host> show chassis environment pem
PEM 0 status:
  State                Online
  Temperature          OK
  AC input             OK
  DC output            OK

```

show chassis environment pem (M120 Router)

```

user@host> show chassis environment pem
PEM 0 status:
  State                Online
  Temperature          OK
  DC Input:           OK
  DC Output:          OK
  Load               Less than 20 percent
  Voltage:
    48.0 V input       52864 mV
    48.0 V fan supply  41655 mV
    3.3 V              3399 mV
PEM 1 status:
  State                Online
  Temperature          OK
  DC Input:           OK
  DC Output:          OK
  Load               Less than 20 percent
  Voltage:
    48.0 V input       54537 mV
    48.0 V fan supply  42910 mV
    3.3 V              3506 mV

```

show chassis environment pem (M160 Router)

```
user@host> show chassis environment pem
PEM 0 status:
  State                Online
  Temperature           OK
  DC input              OK
  DC output             OK
  Load                 Less than 20 percent
  Voltage:
    48.0 V input        54833 mV
    48.0 V fan supply   50549 mV
    8.0 V bias          8239 mV
    5.0 V bias          5006 mV
```

show chassis environment pem (M320 Router)

```
user@host> show chassis environment pem
PEM 2 status:
  State                Online
  Temperature           OK
  DC input              OK
  Load                 Less than 40 percent
    48.0 V input        51853 mV
    48.0 V fan supply   48877 mV
    8.0 V bias          8449 mV
    5.0 V bias          4998 mV
PEM 3 status:
  State                Online
  Temperature           OK
  DC input              OK
  Load                 Less than 40 percent
    48.0 V input        51717 mV
    48.0 V fan supply   49076 mV
    8.0 V bias          8442 mV
    5.0 V bias          4998 mV
```

show chassis environment pem (MX104 Router)

```
user@host> show chassis environment pem
PEM 0 status:
  State                Online
  Temperature           OK
  DC Output:           OK
  Voltage:
    12.0 V output       12281 mV
    3.3 V output        3353 mV
PEM 1 status:
  State                Empty
```

show chassis environment pem (MX240 Router)

```
user@host> show chassis environment pem
PEM 0 status:
  State                Online
  Temperature           OK
  DC Output:           OK
PEM 1 status:
  State                Online
  Temperature           OK
  DC Output:           OK
```

show chassis environment pem (MX480 Router)

```

user@host> show chassis environment pem
PEM 0 status:
  State           Online
  Temperature      OK
  DC Input:        OK
  DC Output:       OK
  Voltage:
PEM 1 status:
  State           Online
  Temperature      OK
  DC Input:        OK
  DC Output:       OK
  Voltage:

```

show chassis environment pem (MX960 Router)

```

user@host> show chassis environment pem
PEM 2 status:
  State           Present
PEM 3 status:
  State           Online
  Temperature      OK
  DC Output:       OK

```

show chassis environment pem (T320 Router)

```

user@host> show chassis environment pem
PEM 0 status:
  State           Online
  Temperature      OK
  DC input:        OK

```

show chassis environment pem (T640 Router)

```

user@host> show chassis environment pem
PEM 0 status:
  State           Online
  Temperature      22 degrees C / 71 degrees F
  AC input: OK
  DC output:
    Voltage      Current      Power      Load
    FPC 0        56875        606        34        4
    FPC 1        57016        525        29        3
    FPC 2         0         0         0         0
    FPC 3         0         0         0         0
    FPC 4         0         0         0         0
    FPC 5         0         0         0         0
    FPC 6        57158        1581       90        12
    FPC 7         0         0         0         0
  SCG/CB/SIB     56750        1125       63         5

```

show chassis environment pem (T4000 Router)

```

user@host> show chassis environment pem
PEM 0 status:
  State           Online
  Temperature      33 degrees C / 91 degrees F
  DC Input:        OK
    Voltage(V)    Current(A)    Power(W)    Load(%)
  INPUT 0        54.625       9.812       535        22

```

INPUT 1	54.625	10.250	559	23
INPUT 2	55.125	0.125	6	0
INPUT 3	54.500	10.062	548	22
INPUT 4	54.750	9.375	513	21
INPUT 5	54.750	10.187	557	23
DC Output	Voltage(V)	Current(A)	Power(W)	Load(%)
FPC 0	55.750	10.125	564	37
FPC 1	51.625	0.000	0	0
FPC 2	52.000	0.000	0	0
FPC 3	55.062	10.437	574	38
FPC 4	52.125	0.000	0	0
FPC 5	55.000	9.375	515	34
FPC 6	55.187	9.687	534	35
FPC 7	51.437	0.000	0	0
SCG/CB/SIB	55.375	15.750	872	35
FAN	54.562	14.750	804	42

show chassis environment pem (T640/T1600/T4000 Routers With Six-Input DC Power Supply)

```

user@host> show chassis environment pem
PEM 1 status:
State                Online
Temperature          36 degrees C / 96 degrees F
DC Input:            OK
                    Voltage(V)  Current(A)  Power(W)  Load(%)
INPUT 0              0.000      0.000      0         0
INPUT 1              54.875      3.812      209       27
INPUT 2              55.375      3.937      218       29
INPUT 3              54.625      3.750      204       27
INPUT 4              55.125      3.375      186       24
INPUT 5              55.125      3.375      186       24
DC Output            Voltage(V)  Current(A)  Power(W)  Load(%)
FPC 0                52.312      0.000      0         0
FPC 1                52.687      0.000      0         0
FPC 2                52.812      0.000      0         0
FPC 3                55.812      7.062      394       52
FPC 4                52.625      0.000      0         0
FPC 5                52.625      0.000      0         0
FPC 6                52.750      0.000      0         0
FPC 7                52.750      0.000      0         0
SCG/CB/SIB           55.937      11.937     667       55
FAN                  55.812      4.937      275       36

```

show chassis environment pem lcc (TX Matrix Routing Matrix)

```

user@host> show chassis environment pem 0 lcc 0
lcc0-re0:

```

```

-----
PEM 0 status:
State                Present
Temperature          27 degrees C / 80 degrees F
DC input:            Check
DC output:            Voltage  Current    Power    Load
FPC 0                0         0         0         0
FPC 1                0         0         0         0
FPC 2                0         0         0         0
FPC 3                0         0         0         0
FPC 4                0         0         0         0
FPC 5                0         0         0         0
FPC 6                0         0         0         0

```


FPC 7	0	0	0	0
SCG/CB/SIB	0	0	0	0

show chassis environment pem scc (TX Matrix Routing Matrix)

```
user@host> show chassis environment pem scc
scc-re0:
```

```
-----
PEM 1 status:
State                Online
Temperature          24 degrees C / 75 degrees F
DC input:            OK
DC output:           Voltage Current      Power      Load
SIB 0                0          0          0          0
SIB 1                0          0          0          0
SIB 2                0          0          0          0
SIB 3                56550        0          0          0
SIB 4                55958        6912        386         51
```

show chassis environment pem sfc (TX Matrix Plus Routing Matrix)

```
user@host> show chassis environment pem sfc 0
sfc0-re0:
```

```
-----
PEM 0 status:
State                Online
Temperature          35 degrees C / 95 degrees F
DC Input:            OK
DC Output           Voltage Current      Power      Load
Channel 0           53820    14140        761         59
Channel 1           53550    12720        681         53
Channel 2           53840    12930        696         54
Channel 3           53690    14990        804         63
Channel 4           53620    15070        808         63
Channel 5           53900    14820        798         62
Channel 6           54120     5020        271         21
```

show chassis environment pem lcc (TX Matrix Plus Routing Matrix)

```
user@host> show chassis environment lcc 0
```

```
lcc0-re1:
```

```
-----
PEM 0 status:
State                Online
Temperature          38 degrees C / 100 degrees F
DC Input:            OK
DC Output           Voltage Current      Power      Load
FPC 0                0          0          0          0
FPC 1                0          0          0          0
FPC 2                0          0          0          0
FPC 3                0          0          0          0
FPC 4                56408    7575        427         56
FPC 5                0          0          0          0
FPC 6                56266    7956        447         59
FPC 7                56283    6100        343         45
SCG/CB/SIB           55916    8950        500         41
PEM 1 status:
State                Present
Temperature          35 degrees C / 95 degrees F
DC Input:            Check
DC Output           Voltage Current      Power      Load
```

FPC 0	0	0	0	0
FPC 1	0	0	0	0
FPC 2	0	0	0	0
FPC 3	0	0	0	0
FPC 4	0	0	0	0
FPC 5	0	0	0	0
FPC 6	0	0	0	0
FPC 7	0	0	0	0
SCG/CB/SIB	0	0	0	0

show chassis environment pem node-device (QFabric System)

```

user@switch> show chassis environment pem node-device node1
FPC 0 PEM 0 status:
  State           Check
  Airflow         Front to Back
  Temperature      OK
  AC Input:       OK
  DC Output       Voltage(V) Current(A) Power(W) Load(%)
                  12         10       120     18
FPC 0 PEM 1 status:
  State           Online
  Airflow         Back to Front
  Temperature      OK
  AC Input:       OK
  DC Output       Voltage(V) Current(A) Power(W) Load(%)
                  11         10       110     17

```

show chassis environment pem (QFX Series and OCX Series)

```

user@switch> show chassis environment pem
FPC 0 PEM 1 status:
  State           Online
  Airflow         Front to Back
  Temperature      OK
  AC Input:       OK
  DC Output       Voltage(V) Current(A) Power(W) Load(%)
                  12         17       204     31

```

show chassis environment pem interconnect-device (QFabric System)

```

user@switch> show chassis environment pem interconnect-device IC1
IC1 PEM 1 status:
  State           Online
  Airflow         Front to Back
  Temperature      OK
  AC Input:       OK
  DC Output       Voltage(V) Current(A) Power(W) Load(%)
                  12         18       216     33

```

show chassis environment routing-engine

List of Syntax	Syntax on page 365 Syntax (TX Matrix Routers) on page 365 Syntax (TX Matrix Plus Routers) on page 365 Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers) on page 365 Syntax (MX Series Routers) on page 365 Syntax (QFX Series) on page 365 Syntax (OCX Series) on page 365
Syntax	show chassis environment routing-engine <slot>
Syntax (TX Matrix Routers)	show chassis environment routing-engine <lcc number scc> <slot>
Syntax (TX Matrix Plus Routers)	show chassis environment routing-engine <lcc number sfc number> <slot>
Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers)	show chassis environment routing-engine <slot>
Syntax (MX Series Routers)	show chassis environment routing-engine <slot> <all-members> <local> <member member-id>
Syntax (QFX Series)	show chassis environment routing-engine interconnect-device <i>name</i>
Syntax (OCX Series)	show chassis environment routing-engine
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>sfc option introduced for the TX Matrix Plus router in Junos OS Release 9.6.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p> <p>Command introduced in Junos OS Release 12.1 for the PTX Series Packet Transport Routers.</p> <p>Command introduced in Junos OS Release 12.1 for the T4000 Core Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>
Description	Display Routing Engine environmental status information.

Options **none**—Display environmental information about all Routing Engines. For a TX Matrix router, display environmental information about all Routing Engines on the TX Matrix router and its attached T640 routers. For a TX Matrix Plus router, display environmental information about all Routing Engines on the TX Matrix Plus router and its attached routers.

all-members—(MX Series routers only) (Optional) Display environmental information about the Routing Engines in all member routers in the Virtual Chassis configuration.

interconnect-device *name*—(QFabric systems only) (Optional) Display environmental information about the Routing Engines for the Interconnect device.

lcc *number*—(TX Matrix router and TX Matrix Plus router only) (Optional) Line-card chassis number.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers only) (Optional) Display environmental information about the Routing Engines in the local Virtual Chassis member.

member *member-id*—(MX Series routers only) (Optional) Display environmental information about the Routing Engines in the specified member in the Virtual Chassis configuration. Replace *member-id* with the value of 0 or 1.

scc—(TX Matrix router only) (Optional) Display environmental information about the Routing Engine in the TX Matrix router (switch-card chassis).

sfc—(TX Matrix Plus router only) (Optional) Display environmental information about the Routing Engine in the TX Matrix Plus router (or switch-fabric chassis).

slot—(Optional) Display environmental information about an individual Routing Engine. On M10i, M20, M40e, M120, M160, M320, MX Series, MX104 routers, MX2010 routers, MX2020 routers, and T Series routers, replace *slot* with 0 or 1. On M5, M7i, M10, and M40 routers, replace *slot* with 0. On EX3200 and EX4200 standalone switches, replace *slot* with 0. On EX4200 switches in a Virtual Chassis configuration and on EX8208 and EX8216 switches, replace *slot* with 0 or 1. On the QFX3500 switch, there is only one Routing Engine, so you do not need to specify the slot number. On PTX Series Packet Transport Routers, replace *slot* with 0 or 1.

Required Privilege Level view

- Related Documentation**
- [request chassis routing-engine master](#)
 - [show chassis routing-engine on page 579](#)

- List of Sample Output**
- [show chassis environment routing-engine \(Nonredundant\) on page 367](#)
 - [show chassis environment routing-engine \(Redundant\) on page 367](#)
 - [show chassis environment routing-engine \(MX104 Router\) on page 368](#)
 - [show chassis environment routing-engine \(MX2010 Router\) on page 368](#)
 - [show chassis environment routing-engine \(MX2020 Router\) on page 368](#)
 - [show chassis environment routing-engine \(TX Matrix Plus Router\) on page 368](#)
 - [show chassis environment routing-engine \(T4000 Core Router\) on page 369](#)
 - [show chassis environment routing-engine \(QFX Series and OCX Series\) on page 369](#)
 - [show chassis environment routing-engine interconnect-device \(QFabric System\) on page 369](#)
 - [show chassis environment routing-engine \(PTX5000 Packet Transport Router\) on page 369](#)

- Output Fields**
- Table 21 on page 367 lists the output fields for the **show chassis environment routing-engine** command. Output fields are listed in the approximate order in which they appear.

Table 21: show chassis environment routing-engine Output Fields

Field Name	Field Description
Routing engine <i>slot</i> status	Number of the Routing Engine slot: 0 or 1.
State	Status of the Routing Engine: <ul style="list-style-type: none"> • Online Master—Routing Engine is online, operating as Master. • Online Standby—Routing Engine is online, operating as Standby. • Offline—Routing Engine is offline.
Temperature	Temperature of the air flowing past the Routing Engine.
CPU Temperature	(PTX Series and T4000 Core Routers only) Temperature of the air flowing past the Routing Engine CPU.

Sample Output

show chassis environment routing-engine (Nonredundant)

```
user@host> show chassis environment routing-engine
Routing Engine 0 status:
  State                Online Master
  Temperature          27 degrees C / 80 degrees
```

show chassis environment routing-engine (Redundant)

```
user@host> show chassis environment routing-engine
Route Engine 0 status:
  State                Online Master
  Temperature:         26 degrees C / 78 degrees F
Route Engine 1 status:
```

```

State:                Online Standby
Temperature:          26 degrees C / 78 degrees F

```

show chassis environment routing-engine (MX104 Router)

```

user@ host >show chassis environment routing-engine
Routing Engine 0 status:
  State                Online Master
  Temperature           34 degrees C / 93 degrees F
  CPU Temperature       43 degrees C / 109 degrees F
Routing Engine 1 status:
  State                Online Standby
  Temperature           33 degrees C / 91 degrees F
  CPU Temperature       39 degrees C / 102 degrees F

```

show chassis environment routing-engine (MX2010 Router)

```

user@host> show chassis environment routing-engine
Routing Engine 0 status:
  State                Online Master
  Temperature           37 degrees C / 98 degrees F
  CPU Temperature       37 degrees C / 98 degrees F
Routing Engine 1 status:
  State                Online Standby
  Temperature           35 degrees C / 95 degrees F
  CPU Temperature       34 degrees C / 93 degrees F

```

show chassis environment routing-engine (MX2020 Router)

```

user@host> show chassis environment routing-engine
Routing Engine 0 status:
  State                Online Master
  Temperature           35 degrees C / 95 degrees F
  CPU Temperature       34 degrees C / 93 degrees F
Routing Engine 1 status:
  State                Online Standby
  Temperature           44 degrees C / 111 degrees F
  CPU Temperature       43 degrees C / 109 degrees F

```

show chassis environment routing-engine (TX Matrix Plus Router)

```

user@host> show chassis environment routing-engine
sfc0-re0:
-----
Routing Engine 0 status:
  State                Online Master
  Temperature           26 degrees C / 78 degrees F
Routing Engine 1 status:
  State                Online Standby
  Temperature           28 degrees C / 82 degrees F

lcc0-re0:
-----
Routing Engine 0 status:
  State                Online Master
  Temperature           30 degrees C / 86 degrees F
Routing Engine 1 status:
  State                Online Standby
  Temperature           29 degrees C / 84 degrees F

```

show chassis environment routing-engine (T4000 Core Router)

```

user@host> show chassis environment routing-engine
Routing Engine 0 status:
  State           Online Master
  Temperature      33 degrees C / 91 degrees F
  CPU Temperature  50 degrees C / 122 degrees F
Routing Engine 1 status:
  State           Online Standby
  Temperature      33 degrees C / 91 degrees F
  CPU Temperature  46 degrees C / 114 degrees F

```

show chassis environment routing-engine (QFX Series and OCX Series)

```

user@switch> show chassis environment routing-engine
Routing Engine 0 status:
  State           Online Master
  Temperature      42 degrees C / 107 degrees F

```

show chassis environment routing-engine interconnect-device (QFabric System)

```

user@switch> show chassis environment routing-engine interconnect-device interconnect1
routing-engine interconnect-device interconnect1
Routing Engine 0 status:
  State           Online Standby
  Temperature      52 degrees C / 125 degrees F
Routing Engine 1 status:
  State           Online Master
  Temperature      57 degrees C / 134 degrees F

```

show chassis environment routing-engine (PTX5000 Packet Transport Router)

```

user@switch> show chassis environment routing-engine
Routing Engine 0 status:
  State           Online Master
  Temperature      55 degrees C / 131 degrees F
  CPU Temperature  66 degrees C / 150 degrees F
Routing Engine 1 status:
  State           Online Standby
  Temperature      52 degrees C / 125 degrees F
  CPU Temperature  64 degrees C / 147 degrees F

```

show chassis fan

List of Syntax	Syntax on page 370 Syntax (ACX4000 Series Router) on page 370 Syntax (MX Series Router) on page 370 Syntax (T Series Routers) on page 370 Syntax (MX104, MX2010, and MX2020 3D Universal Edge Router) on page 370 Syntax (QFX Series) on page 370 Syntax (OCX Series) on page 370 Syntax (TX Matrix Router) on page 370 Syntax (TX Matrix Plus Router) on page 370
Syntax	show chassis fan
Syntax (ACX4000 Series Router)	show chassis fan
Syntax (MX Series Router)	show chassis fan <all-members> <local> <member <i>member-id</i> >
Syntax (T Series Routers)	show chassis fan
Syntax (MX104, MX2010, and MX2020 3D Universal Edge Router)	show chassis fan
Syntax (QFX Series)	show chassis fan <interconnect-device <i>name</i> >
Syntax (OCX Series)	show chassis fan
Syntax (TX Matrix Router)	show chassis fan <lcc <i>number</i> scc>
Syntax (TX Matrix Plus Router)	show chassis fan <lcc <i>number</i> sfc <i>number</i> >
Release Information	Command introduced in Junos OS Release 10.0 on MX Series 3D Universal Edge Routers, M120 routers, and M320 routers, T320 routers, T640 routers, T1600 routers, TX Matrix Routers, and TX Matrix Plus routers. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 11.4 for EX Series switches. Command introduced in Junos OS Release 12.3 for PTX5000 Packet Transport Routers. Command introduced in Junos OS Release 12.1 for T4000 routers. Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers. Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers. Command introduced in Junos OS Release 12.3 for ACX Series Routers.

Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.
 Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.

Description (T Series routers, TX Matrix routers, TX Matrix Plus routers, M120 routers, M320 routers, MX104 routers, MX2010 routers, MX2020 routers, MX Series 3D Universal Edge Routers, QFX3008-I Interconnect devices, QFX Series, OCX Series, EX Series switches, and PTX Series Packet Transport Routers only) Show information about the fan tray and fans.

Options **all-members**—(MX Series routers only) (Optional) Display information about the fan tray and fans for all members of the Virtual Chassis configuration.

local—(MX Series routers only) (Optional) Display information about the fan tray and fans for the local Virtual Chassis member.

member *member-id*—(MX Series routers only) (Optional) Display information about the fan tray and fans for the specified member of the Virtual Chassis configuration. For an MX Series Virtual Chassis, replace *member-id* variable with a value 0 or 1.

interconnect-device *name*—(QFX3000-G QFabric systems only) (Optional) Display information about the fan tray and fans for the specified QFX3008-I Interconnect device.

lcc *number*—(TX Matrix and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display information about the fan tray and fans for the specified T640 router (line-card chassis) that is connected to a TX Matrix router. On a TX Matrix Plus router, display information about the fan tray and fans for the specified router (line-card chassis) that is connected to a TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

scc—(TX Matrix routers only) (Optional) Display information about the fan tray and fans for the TX Matrix router (switch-card chassis).

sfc *number*—(TX Matrix Plus routers only) (Optional) Display information about the fan tray and fans for the TX Matrix Plus router (switch-fabric chassis). Replace *number* variable with 0.

Required Privilege Level view

List of Sample Output [show chassis fan on page 373](#)

[show chassis fan \(QFabric Systems\) on page 373](#)
[show chassis fan \(EX Series Switches\) on page 374](#)
[show chassis fan \(T320 Router\) on page 375](#)
[show chassis fan \(T640 Router\) on page 375](#)
[show chassis fan \(T1600 Router\) on page 375](#)
[show chassis fan \(T4000 Core Router\) on page 376](#)
[show chassis fan \(TX Matrix Router\) on page 376](#)
[show chassis fan \(TX Matrix Plus Router\) on page 377](#)
[show chassis fan \(TX Matrix Plus Router with 3D SIBs\) on page 378](#)
[show chassis fan \(PTX5000 Packet Transport Router\) on page 380](#)
[show chassis fan \(MX104 Router\) on page 381](#)
[show chassis fan \(MX2010 Router\) on page 381](#)
[show chassis fan \(MX2020 Router\) on page 381](#)
[show chassis fan \(ACX4000 Router\) on page 382](#)
[show chassis fan \(QFX5100 Switch and OCX Series\) on page 382](#)

Output Fields Table 22 on page 372 lists the output fields for the **show chassis fan** command. Output fields are listed in the approximate order in which they appear.

Table 22: show chassis fan Output Fields

Field Name	Field Description
Item	Fan item identifier.
Status	Status of the fan: <ul style="list-style-type: none"> • OK—Fan is running properly and within the normal range. • Check—Fan is in Check state because of some fault or alarm condition.
RPM	(T Series routers, TX Matrix routers, TX Matrix Plus routers, MX Series 3D Universal Edge Routers, QFX3108 Interconnect devices, and EX Series switches only) Fan speed in revolutions per minute (RPM).
% RPM	(MX2010 routers, MX2020 routers, and PTX Series Packet Transport Routers only) Percentage of the fan speed being used.
Measurement	(T Series routers, TX Matrix routers, TX Matrix Plus routers, MX Series 3D Universal Edge Routers, QFX3108 Interconnect devices, and EX Series switches only) Fan speed status based on different chassis cooling requirements: <ul style="list-style-type: none"> • Spinning at high speed • Spinning at intermediate speed • Spinning at normal speed • Spinning at low speed (except EX Series switches) (MX2010 routers, MX2020 routers, and PTX Series Packet Transport Routers only) Fan speed in revolutions per minute (RPM) for each fan in the fan tray.

Sample Output

show chassis fan

```
user@host> show chassis fan
```

Item	Status	RPM	Measurement
Top Tray Fan 1	OK	3790	Spinning at normal speed
Top Tray Fan 2	OK	3769	Spinning at normal speed
Top Tray Fan 3	OK	3769	Spinning at normal speed
Top Tray Fan 4	OK	3790	Spinning at normal speed
Top Tray Fan 5	OK	3790	Spinning at normal speed
Top Tray Fan 6	OK	3769	Spinning at normal speed
Top Tray Fan 7	OK	3790	Spinning at normal speed
Top Tray Fan 8	OK	3769	Spinning at normal speed
Top Tray Fan 9	OK	3769	Spinning at normal speed
Top Tray Fan 10	OK	3790	Spinning at normal speed
Top Tray Fan 11	OK	3790	Spinning at normal speed
Top Tray Fan 12	OK	3769	Spinning at normal speed
Bottom Tray Fan 1	OK	2880	Spinning at normal speed
Bottom Tray Fan 2	OK	2912	Spinning at normal speed
Bottom Tray Fan 3	OK	2928	Spinning at normal speed
Bottom Tray Fan 4	OK	2896	Spinning at normal speed
Bottom Tray Fan 5	OK	2896	Spinning at normal speed
Bottom Tray Fan 6	OK	2928	Spinning at normal speed

show chassis fan (QFabric Systems)

```
user@host> show chassis fan interconnect-device interconnect1
```

Item	Status	RPM	Measurement
TFT 0 Fan 0	OK	2849	Spinning at normal speed
TFT 0 Fan 1	OK	2821	Spinning at normal speed
TFT 0 Fan 2	OK	2735	Spinning at normal speed
TFT 0 Fan 3	OK	2815	Spinning at normal speed
TFT 0 Fan 4	OK	2828	Spinning at normal speed
TFT 0 Fan 5	OK	2863	Spinning at normal speed
BFT 1 Fan 0	OK	2941	Spinning at normal speed
BFT 1 Fan 1	OK	3008	Spinning at normal speed
BFT 1 Fan 2	OK	3073	Spinning at normal speed
BFT 1 Fan 3	OK	2925	Spinning at normal speed
BFT 1 Fan 4	OK	2863	Spinning at normal speed
BFT 1 Fan 5	OK	2933	Spinning at normal speed
SFT 0 Fan 0 Rotor 0	OK	15472	Spinning at normal speed
SFT 0 Fan 0 Rotor 1	OK	14477	Spinning at normal speed
SFT 0 Fan 1 Rotor 0	OK	15561	Spinning at normal speed
SFT 0 Fan 1 Rotor 1	OK	14210	Spinning at normal speed
SFT 0 Fan 2 Rotor 0	OK	16167	Spinning at normal speed
SFT 0 Fan 2 Rotor 1	OK	14248	Spinning at normal speed
SFT 0 Fan 3 Rotor 0	OK	16463	Spinning at normal speed
SFT 0 Fan 3 Rotor 1	OK	14099	Spinning at normal speed
SFT 1 Fan 0 Rotor 0	OK	15083	Spinning at normal speed
SFT 1 Fan 0 Rotor 1	OK	13533	Spinning at normal speed
SFT 1 Fan 1 Rotor 0	OK	16071	Spinning at normal speed
SFT 1 Fan 1 Rotor 1	OK	14400	Spinning at normal speed
SFT 1 Fan 2 Rotor 0	OK	15517	Spinning at normal speed
SFT 1 Fan 2 Rotor 1	OK	14210	Spinning at normal speed
SFT 1 Fan 3 Rotor 0	OK	16413	Spinning at normal speed
SFT 1 Fan 3 Rotor 1	OK	14400	Spinning at normal speed
SFT 2 Fan 0 Rotor 0	OK	15297	Spinning at normal speed
SFT 2 Fan 0 Rotor 1	OK	14634	Spinning at normal speed

SFT 2 Fan 1 Rotor 0	OK	15561	Spinning at normal speed
SFT 2 Fan 1 Rotor 1	OK	14285	Spinning at normal speed
SFT 2 Fan 2 Rotor 0	OK	15835	Spinning at normal speed
SFT 2 Fan 2 Rotor 1	OK	14400	Spinning at normal speed
SFT 2 Fan 3 Rotor 0	OK	15789	Spinning at normal speed
SFT 2 Fan 3 Rotor 1	OK	14323	Spinning at normal speed
SFT 3 Fan 0 Rotor 0	OK	16314	Spinning at normal speed
SFT 3 Fan 0 Rotor 1	OK	14876	Spinning at normal speed
SFT 3 Fan 1 Rotor 0	OK	15835	Spinning at normal speed
SFT 3 Fan 1 Rotor 1	OK	14323	Spinning at normal speed
SFT 3 Fan 2 Rotor 0	OK	16265	Spinning at normal speed
SFT 3 Fan 2 Rotor 1	OK	14594	Spinning at normal speed
SFT 3 Fan 3 Rotor 0	OK	16071	Spinning at normal speed
SFT 3 Fan 3 Rotor 1	OK	14323	Spinning at normal speed
SFT 4 Fan 0 Rotor 0	OK	15652	Spinning at normal speed
SFT 4 Fan 0 Rotor 1	OK	14438	Spinning at normal speed
SFT 4 Fan 1 Rotor 0	OK	16167	Spinning at normal speed
SFT 4 Fan 1 Rotor 1	OK	14555	Spinning at normal speed
SFT 4 Fan 2 Rotor 0	OK	16023	Spinning at normal speed
SFT 4 Fan 2 Rotor 1	OK	14361	Spinning at normal speed
SFT 4 Fan 3 Rotor 0	OK	16216	Spinning at normal speed
SFT 4 Fan 3 Rotor 1	OK	14438	Spinning at normal speed
SFT 5 Fan 0 Rotor 0	OK	15297	Spinning at normal speed
SFT 5 Fan 0 Rotor 1	OK	14173	Spinning at normal speed
SFT 5 Fan 1 Rotor 0	OK	15472	Spinning at normal speed
SFT 5 Fan 1 Rotor 1	OK	13846	Spinning at normal speed
SFT 5 Fan 2 Rotor 0	OK	15340	Spinning at normal speed
SFT 5 Fan 2 Rotor 1	OK	13917	Spinning at normal speed
SFT 5 Fan 3 Rotor 0	OK	15835	Spinning at normal speed
SFT 5 Fan 3 Rotor 1	OK	13917	Spinning at normal speed
SFT 6 Fan 0 Rotor 0	OK	15743	Spinning at normal speed
SFT 6 Fan 0 Rotor 1	OK	14594	Spinning at normal speed
SFT 6 Fan 1 Rotor 0	OK	16167	Spinning at normal speed
SFT 6 Fan 1 Rotor 1	OK	14634	Spinning at normal speed
SFT 6 Fan 2 Rotor 0	OK	16167	Spinning at normal speed
SFT 6 Fan 2 Rotor 1	OK	14516	Spinning at normal speed
SFT 6 Fan 3 Rotor 0	OK	16666	Spinning at normal speed
SFT 6 Fan 3 Rotor 1	OK	14438	Spinning at normal speed
SFT 7 Fan 0 Rotor 0	OK	15517	Spinning at normal speed
SFT 7 Fan 0 Rotor 1	OK	14438	Spinning at normal speed
SFT 7 Fan 1 Rotor 0	OK	15517	Spinning at normal speed
SFT 7 Fan 1 Rotor 1	OK	14361	Spinning at normal speed
SFT 7 Fan 2 Rotor 0	OK	16167	Spinning at normal speed
SFT 7 Fan 2 Rotor 1	OK	14555	Spinning at normal speed
SFT 7 Fan 3 Rotor 0	OK	15697	Spinning at normal speed
SFT 7 Fan 3 Rotor 1	OK	14361	Spinning at normal speed

show chassis fan (EX Series Switches)

```
user@host> show chassis fan
```

Item	Status	RPM	Measurement
Fan 1	OK	3477	Spinning at normal speed
Fan 2	OK	3477	Spinning at normal speed
Fan 3	OK	3479	Spinning at normal speed
Fan 4	OK	3508	Spinning at normal speed
Fan 5	OK	3517	Spinning at normal speed
Fan 6	OK	3531	Spinning at normal speed
Fan 7	OK	3439	Spinning at normal speed
Fan 8	OK	3424	Spinning at normal speed
Fan 9	OK	3413	Spinning at normal speed

Fan 10	OK	3439	Spinning at normal speed
Fan 11	OK	3446	Spinning at normal speed
Fan 12	OK	3432	Spinning at normal speed

show chassis fan (T320 Router)

```
user@host> show chassis fan
```

Item	Status	RPM	Measurement
Top Left Front fan	OK	2850	Spinning at normal speed
Top Left Middle fan	OK	2820	Spinning at normal speed
Top Left Rear fan	OK	2970	Spinning at normal speed
Top Right Front fan	OK	2790	Spinning at normal speed
Top Right Middle fan	OK	2640	Spinning at normal speed
Top Right Rear fan	OK	2790	Spinning at normal speed
Bottom Left Front fan	OK	2520	Spinning at normal speed
Bottom Left Middle fan	OK	2610	Spinning at normal speed
Bottom Left Rear fan	OK	2550	Spinning at normal speed
Bottom Right Front fan	OK	2610	Spinning at normal speed
Bottom Right Middle fan	OK	2880	Spinning at normal speed
Bottom Right Rear fan	OK	2790	Spinning at normal speed
Rear Tray Top fan	OK	2130	Spinning at normal speed
Rear Tray Second fan	OK	2190	Spinning at normal speed
Rear Tray Middle fan	OK	2250	Spinning at normal speed
Rear Tray Fourth fan	OK	2220	Spinning at normal speed
Rear Tray Bottom fan	OK	2280	Spinning at normal speed

show chassis fan (T640 Router)

```
user@host> show chassis fan
```

Item	Status	RPM	Measurement
Top Left Front fan	OK	3420	Spinning at normal speed
Top Left Middle fan	OK	3420	Spinning at normal speed
Top Left Rear fan	OK	3420	Spinning at normal speed
Top Right Front fan	OK	3420	Spinning at normal speed
Top Right Middle fan	OK	3420	Spinning at normal speed
Top Right Rear fan	OK	3450	Spinning at normal speed
Bottom Left Front fan	OK	3390	Spinning at normal speed
Bottom Left Middle fan	OK	3420	Spinning at normal speed
Bottom Left Rear fan	OK	3390	Spinning at normal speed
Bottom Right Front fan	OK	3390	Spinning at normal speed
Bottom Right Middle fan	OK	3390	Spinning at normal speed
Bottom Right Rear fan	OK	3390	Spinning at normal speed
Rear Tray Top fan	OK	5220	Spinning at normal speed
Rear Tray Second fan	OK	5220	Spinning at normal speed
Rear Tray Third fan	OK	5220	Spinning at normal speed
Rear Tray Fourth fan	OK	5220	Spinning at normal speed
Rear Tray Fifth fan	OK	5220	Spinning at normal speed
Rear Tray Sixth fan	OK	5220	Spinning at normal speed
Rear Tray Seventh fan	OK	5220	Spinning at normal speed
Rear Tray Bottom fan	OK	5220	Spinning at normal speed

show chassis fan (T1600 Router)

```
user@host> show chassis fan
```

Item	Status	RPM	Measurement
Top Left Front fan	OK	3420	Spinning at normal speed
Top Left Middle fan	OK	3420	Spinning at normal speed
Top Left Rear fan	OK	3450	Spinning at normal speed
Top Right Front fan	OK	3420	Spinning at normal speed

Top Right Middle fan	OK	3420	Spinning at normal speed
Top Right Rear fan	OK	3390	Spinning at normal speed
Bottom Left Front fan	OK	3420	Spinning at normal speed
Bottom Left Middle fan	OK	3420	Spinning at normal speed
Bottom Left Rear fan	OK	3390	Spinning at normal speed
Bottom Right Front fan	OK	3390	Spinning at normal speed
Bottom Right Middle fan	OK	3420	Spinning at normal speed
Bottom Right Rear fan	OK	3390	Spinning at normal speed
Rear Tray Top fan	OK	5190	Spinning at normal speed
Rear Tray Second fan	OK	5190	Spinning at normal speed
Rear Tray Third fan	OK	5190	Spinning at normal speed
Rear Tray Fourth fan	OK	5190	Spinning at normal speed
Rear Tray Fifth fan	OK	5190	Spinning at normal speed
Rear Tray Sixth fan	OK	5190	Spinning at normal speed
Rear Tray Seventh fan	OK	5190	Spinning at normal speed
Rear Tray Bottom fan	OK	5190	Spinning at normal speed

show chassis fan (T4000 Core Router)

```
user@host> show chassis fan
```

Item	Status	RPM	Measurement
Top Left Front fan	OK	5190	Spinning at high speed
Top Left Middle fan	OK	5220	Spinning at high speed
Top Left Rear fan	OK	5190	Spinning at high speed
Top Right Front fan	OK	5160	Spinning at high speed
Top Right Middle fan	OK	5190	Spinning at high speed
Top Right Rear fan	OK	5160	Spinning at high speed
Bottom Left Front fan	OK	6030	Spinning at high speed
Bottom Left Middle fan	OK	6090	Spinning at high speed
Bottom Left Rear fan	OK	6090	Spinning at high speed
Bottom Right Front fan	OK	6030	Spinning at high speed
Bottom Right Middle fan	OK	6060	Spinning at high speed
Bottom Right Rear fan	OK	6060	Spinning at high speed
Rear Tray Top fan	OK	10000	Spinning at high speed
Rear Tray Second fan	OK	10000	Spinning at high speed
Rear Tray Third fan	OK	10000	Spinning at high speed
Rear Tray Fourth fan	OK	10000	Spinning at high speed
Rear Tray Fifth fan	OK	10000	Spinning at high speed
Rear Tray Sixth fan	OK	10000	Spinning at high speed
Rear Tray Seventh fan	OK	10000	Spinning at high speed
Rear Tray Bottom fan	OK	10000	Spinning at high speed

show chassis fan (TX Matrix Router)

```
user@host> show chassis fan
scc-re0:
```

Item	Status	RPM	Measurement
Top Left Front fan	OK	3420	Spinning at normal speed
Top Left Middle fan	OK	3390	Spinning at normal speed
Top Left Rear fan	OK	3420	Spinning at normal speed
Top Right Front fan	OK	3390	Spinning at normal speed
Top Right Middle fan	OK	3420	Spinning at normal speed
Top Right Rear fan	OK	3390	Spinning at normal speed
Bottom Left Front fan	OK	3420	Spinning at normal speed
Bottom Left Middle fan	OK	3450	Spinning at normal speed
Bottom Left Rear fan	OK	3420	Spinning at normal speed
Bottom Right Front fan	OK	3420	Spinning at normal speed
Bottom Right Middle fan	OK	3420	Spinning at normal speed
Bottom Right Rear fan	OK	3420	Spinning at normal speed

Rear Tray Top fan	OK	3420	Spinning at normal speed
Rear Tray Second fan	OK	5190	Spinning at normal speed
Rear Tray Third fan	OK	5190	Spinning at normal speed
Rear Tray Fourth fan	OK	5190	Spinning at normal speed
Rear Tray Fifth fan	OK	3420	Spinning at normal speed
Rear Tray Sixth fan	OK	3420	Spinning at normal speed
Rear Tray Seventh fan	OK	3420	Spinning at normal speed
Rear Tray Bottom fan	OK	3420	Spinning at normal speed

```
lcc2-re0:
```

Item	Status	RPM	Measurement
Top Left Front fan	OK	3420	Spinning at normal speed
Top Left Middle fan	OK	3420	Spinning at normal speed
Top Left Rear fan	OK	3450	Spinning at normal speed
Top Right Front fan	OK	3420	Spinning at normal speed
Top Right Middle fan	OK	3450	Spinning at normal speed
Top Right Rear fan	OK	3360	Spinning at normal speed
Bottom Left Front fan	OK	3420	Spinning at normal speed
Bottom Left Middle fan	OK	3480	Spinning at normal speed
Bottom Left Rear fan	OK	3420	Spinning at normal speed
Bottom Right Front fan	OK	3420	Spinning at normal speed
Bottom Right Middle fan	OK	3390	Spinning at normal speed
Bottom Right Rear fan	OK	3420	Spinning at normal speed
Rear Tray Top fan	OK	3420	Spinning at normal speed
Rear Tray Second fan	OK	3420	Spinning at normal speed
Rear Tray Third fan	OK	3420	Spinning at normal speed
Rear Tray Fourth fan	OK	3420	Spinning at normal speed
Rear Tray Fifth fan	OK	3420	Spinning at normal speed
Rear Tray Sixth fan	OK	3420	Spinning at normal speed
Rear Tray Seventh fan	OK	3420	Spinning at normal speed
Rear Tray Bottom fan	OK	3420	Spinning at normal speed

show chassis fan (TX Matrix Plus Router)

```
user@host> show chassis fan
sfc0-re0:
```

Item	Status	RPM	Measurement
Fan Tray 0 Fan 1	OK	4350	Spinning at normal speed
Fan Tray 0 Fan 2	OK	4380	Spinning at normal speed
Fan Tray 0 Fan 3	OK	4410	Spinning at normal speed
Fan Tray 0 Fan 4	OK	4380	Spinning at normal speed
Fan Tray 0 Fan 5	OK	4350	Spinning at normal speed
Fan Tray 0 Fan 6	OK	4380	Spinning at normal speed
Fan Tray 1 Fan 1	OK	4410	Spinning at normal speed
Fan Tray 1 Fan 2	OK	4380	Spinning at normal speed
Fan Tray 1 Fan 3	OK	4410	Spinning at normal speed
Fan Tray 1 Fan 4	OK	4380	Spinning at normal speed
Fan Tray 1 Fan 5	OK	4410	Spinning at normal speed
Fan Tray 1 Fan 6	OK	4410	Spinning at normal speed
Fan Tray 2 Fan 1	OK	4380	Spinning at normal speed
Fan Tray 2 Fan 2	OK	4380	Spinning at normal speed
Fan Tray 2 Fan 3	OK	4380	Spinning at normal speed
Fan Tray 2 Fan 4	OK	4410	Spinning at normal speed
Fan Tray 2 Fan 5	OK	4380	Spinning at normal speed
Fan Tray 2 Fan 6	OK	4410	Spinning at normal speed
Fan Tray 2 Fan 7	OK	4410	Spinning at normal speed
Fan Tray 2 Fan 8	OK	4380	Spinning at normal speed
Fan Tray 2 Fan 9	OK	4380	Spinning at normal speed
Fan Tray 3 Fan 1	OK	4350	Spinning at normal speed

Fan Tray 3 Fan 2	OK	4380	Spinning at normal speed
Fan Tray 3 Fan 3	OK	4410	Spinning at normal speed
Fan Tray 3 Fan 4	OK	4440	Spinning at normal speed
Fan Tray 3 Fan 5	OK	4380	Spinning at normal speed
Fan Tray 3 Fan 6	OK	4410	Spinning at normal speed
Fan Tray 3 Fan 7	OK	4410	Spinning at normal speed
Fan Tray 3 Fan 8	OK	4380	Spinning at normal speed
Fan Tray 3 Fan 9	OK	4410	Spinning at normal speed
Fan Tray 4 Fan 1	OK	4410	Spinning at normal speed
Fan Tray 4 Fan 2	OK	4410	Spinning at normal speed
Fan Tray 4 Fan 3	OK	4380	Spinning at normal speed
Fan Tray 4 Fan 4	OK	4380	Spinning at normal speed
Fan Tray 4 Fan 5	OK	4410	Spinning at normal speed
Fan Tray 4 Fan 6	OK	4410	Spinning at normal speed
Fan Tray 4 Fan 7	OK	4410	Spinning at normal speed
Fan Tray 4 Fan 8	OK	4410	Spinning at normal speed
Fan Tray 4 Fan 9	OK	4410	Spinning at normal speed
Fan Tray 5 Fan 1	OK	4350	Spinning at normal speed
Fan Tray 5 Fan 2	OK	4380	Spinning at normal speed
Fan Tray 5 Fan 3	OK	4380	Spinning at normal speed
Fan Tray 5 Fan 4	OK	4350	Spinning at normal speed
Fan Tray 5 Fan 5	OK	4380	Spinning at normal speed
Fan Tray 5 Fan 6	OK	4410	Spinning at normal speed
Fan Tray 5 Fan 7	OK	4410	Spinning at normal speed
Fan Tray 5 Fan 8	OK	4380	Spinning at normal speed
Fan Tray 5 Fan 9	OK	4410	Spinning at normal speed

```
lcc0-re0:
```

Item	Status	RPM	Measurement
Top Left Front fan	OK	3420	Spinning at normal speed
Top Left Middle fan	OK	3420	Spinning at normal speed
Top Left Rear fan	OK	3420	Spinning at normal speed
Top Right Front fan	OK	3450	Spinning at normal speed
Top Right Middle fan	OK	3420	Spinning at normal speed
Top Right Rear fan	OK	3420	Spinning at normal speed
Bottom Left Front fan	OK	3420	Spinning at normal speed
Bottom Left Middle fan	OK	3420	Spinning at normal speed
Bottom Left Rear fan	OK	3390	Spinning at normal speed
Bottom Right Front fan	OK	3420	Spinning at normal speed
Bottom Right Middle fan	OK	3390	Spinning at normal speed
Bottom Right Rear fan	OK	3390	Spinning at normal speed
Rear Tray Top fan	OK	7050	Spinning at normal speed
Rear Tray Second fan	OK	7050	Spinning at normal speed
Rear Tray Third fan	OK	7050	Spinning at normal speed
Rear Tray Fourth fan	OK	7050	Spinning at normal speed
Rear Tray Fifth fan	OK	7050	Spinning at normal speed
Rear Tray Sixth fan	OK	7050	Spinning at normal speed
Rear Tray Seventh fan	OK	7050	Spinning at normal speed
Rear Tray Bottom fan	OK	7050	Spinning at normal speed

show chassis fan (TX Matrix Plus Router with 3D SIBs)

```
user@host> show chassis fan
sfc0-re0:
```

Item	Status	RPM	Measurement
Fan Tray 0 Fan 1	OK	4830	Spinning at normal speed
Fan Tray 0 Fan 2	OK	4860	Spinning at normal speed
Fan Tray 0 Fan 3	OK	4830	Spinning at normal speed
Fan Tray 0 Fan 4	OK	4800	Spinning at normal speed

Fan Tray 0 Fan 5	OK	4830	Spinning at normal speed
Fan Tray 0 Fan 6	OK	4770	Spinning at normal speed
Fan Tray 1 Fan 1	OK	4800	Spinning at normal speed
Fan Tray 1 Fan 2	OK	4770	Spinning at normal speed
Fan Tray 1 Fan 3	OK	4800	Spinning at normal speed
Fan Tray 1 Fan 4	OK	4770	Spinning at normal speed
Fan Tray 1 Fan 5	OK	4770	Spinning at normal speed
Fan Tray 1 Fan 6	OK	4800	Spinning at normal speed
Fan Tray 2 Fan 1	OK	4800	Spinning at normal speed
Fan Tray 2 Fan 2	OK	4800	Spinning at normal speed
Fan Tray 2 Fan 3	OK	4830	Spinning at normal speed
Fan Tray 2 Fan 4	OK	4830	Spinning at normal speed
Fan Tray 2 Fan 5	OK	4830	Spinning at normal speed
Fan Tray 2 Fan 6	OK	4830	Spinning at normal speed
Fan Tray 2 Fan 7	OK	4800	Spinning at normal speed
Fan Tray 2 Fan 8	OK	4830	Spinning at normal speed
Fan Tray 2 Fan 9	OK	4800	Spinning at normal speed
Fan Tray 3 Fan 1	OK	4860	Spinning at normal speed
Fan Tray 3 Fan 2	OK	4860	Spinning at normal speed
Fan Tray 3 Fan 3	OK	4800	Spinning at normal speed
Fan Tray 3 Fan 4	OK	4830	Spinning at normal speed
Fan Tray 3 Fan 5	OK	4830	Spinning at normal speed
Fan Tray 3 Fan 6	OK	4830	Spinning at normal speed
Fan Tray 3 Fan 7	OK	4830	Spinning at normal speed
Fan Tray 3 Fan 8	OK	4800	Spinning at normal speed
Fan Tray 3 Fan 9	OK	4800	Spinning at normal speed
Fan Tray 4 Fan 1	OK	4830	Spinning at normal speed
Fan Tray 4 Fan 2	OK	4830	Spinning at normal speed
Fan Tray 4 Fan 3	OK	4830	Spinning at normal speed
Fan Tray 4 Fan 4	OK	4830	Spinning at normal speed
Fan Tray 4 Fan 5	OK	4830	Spinning at normal speed
Fan Tray 4 Fan 6	OK	4860	Spinning at normal speed
Fan Tray 4 Fan 7	OK	4800	Spinning at normal speed
Fan Tray 4 Fan 8	OK	4860	Spinning at normal speed
Fan Tray 4 Fan 9	OK	4770	Spinning at normal speed
Fan Tray 5 Fan 1	OK	4830	Spinning at normal speed
Fan Tray 5 Fan 2	OK	4830	Spinning at normal speed
Fan Tray 5 Fan 3	OK	4830	Spinning at normal speed
Fan Tray 5 Fan 4	OK	4800	Spinning at normal speed
Fan Tray 5 Fan 5	OK	4800	Spinning at normal speed
Fan Tray 5 Fan 6	OK	4800	Spinning at normal speed
Fan Tray 5 Fan 7	OK	4830	Spinning at normal speed
Fan Tray 5 Fan 8	OK	4830	Spinning at normal speed
Fan Tray 5 Fan 9	Check	2010	

1cc0-re0:

Item	Status	RPM	Measurement
Top Left Front fan	OK	3420	Spinning at normal speed
Top Left Middle fan	OK	3390	Spinning at normal speed
Top Left Rear fan	OK	3390	Spinning at normal speed
Top Right Front fan	OK	3420	Spinning at normal speed
Top Right Middle fan	OK	3420	Spinning at normal speed
Top Right Rear fan	OK	3450	Spinning at normal speed
Bottom Left Front fan	OK	3420	Spinning at normal speed
Bottom Left Middle fan	OK	3390	Spinning at normal speed
Bottom Left Rear fan	OK	3420	Spinning at normal speed
Bottom Right Front fan	OK	3420	Spinning at normal speed
Bottom Right Middle fan	OK	3390	Spinning at normal speed
Bottom Right Rear fan	OK	3420	Spinning at normal speed
Rear Tray fan 1 (Top)	OK	7740	Spinning at normal speed

Rear Tray fan 2	OK	7740	Spinning at normal speed
Rear Tray fan 3	OK	7740	Spinning at normal speed
Rear Tray fan 4	OK	7740	Spinning at normal speed
Rear Tray fan 5	OK	7740	Spinning at normal speed
Rear Tray fan 6	OK	7740	Spinning at normal speed
Rear Tray fan 7	OK	7740	Spinning at normal speed
Rear Tray fan 8	OK	7740	Spinning at normal speed
Rear Tray fan 9	OK	7740	Spinning at normal speed
Rear Tray fan 10	OK	7740	Spinning at normal speed
Rear Tray fan 11	OK	7740	Spinning at normal speed
Rear Tray fan 12	OK	7740	Spinning at normal speed
Rear Tray fan 13	OK	7740	Spinning at normal speed
Rear Tray fan 14	OK	7740	Spinning at normal speed
Rear Tray fan 15	OK	7740	Spinning at normal speed
Rear Tray fan 16 (Bottom)	OK	7740	Spinning at normal speed

```
1cc2-re0:
```

Item	Status	RPM	Measurement
Top Left Front fan	OK	3420	Spinning at normal speed
Top Left Middle fan	OK	3390	Spinning at normal speed
Top Left Rear fan	OK	3420	Spinning at normal speed
Top Right Front fan	OK	3420	Spinning at normal speed
Top Right Middle fan	OK	3420	Spinning at normal speed
Top Right Rear fan	OK	3450	Spinning at normal speed
Bottom Left Front fan	OK	3420	Spinning at normal speed
Bottom Left Middle fan	OK	3390	Spinning at normal speed
Bottom Left Rear fan	OK	3420	Spinning at normal speed
Bottom Right Front fan	OK	3420	Spinning at normal speed
Bottom Right Middle fan	OK	3390	Spinning at normal speed
Bottom Right Rear fan	OK	3420	Spinning at normal speed
Rear Tray fan 1 (Top)	OK	7740	Spinning at normal speed
Rear Tray fan 2	OK	7740	Spinning at normal speed
Rear Tray fan 3	OK	7740	Spinning at normal speed
Rear Tray fan 4	OK	7740	Spinning at normal speed
Rear Tray fan 5	OK	7740	Spinning at normal speed
Rear Tray fan 6	OK	7740	Spinning at normal speed
Rear Tray fan 7	OK	7740	Spinning at normal speed
Rear Tray fan 8	OK	7740	Spinning at normal speed
Rear Tray fan 9	OK	7740	Spinning at normal speed
Rear Tray fan 10	OK	7740	Spinning at normal speed
Rear Tray fan 11	OK	7740	Spinning at normal speed
Rear Tray fan 12	OK	7740	Spinning at normal speed
Rear Tray fan 13	OK	7740	Spinning at normal speed
Rear Tray fan 14	OK	7740	Spinning at normal speed
Rear Tray fan 15	OK	7740	Spinning at normal speed
Rear Tray fan 16 (Bottom)	OK	7740	Spinning at normal speed

show chassis fan (PTX5000 Packet Transport Router)

```
user@host> show chassis fan
user@host> show chassis fan
```

Item	Status	% RPM	Measurement
Fan Tray 0 Fan 1	OK	29%	2700 RPM
Fan Tray 0 Fan 2	OK	29%	2700 RPM
Fan Tray 0 Fan 3	OK	29%	2742 RPM
Fan Tray 0 Fan 4	OK	29%	2700 RPM
Fan Tray 0 Fan 5	OK	30%	2828 RPM
Fan Tray 0 Fan 6	OK	30%	2828 RPM
Fan Tray 0 Fan 7	OK	29%	2700 RPM
Fan Tray 0 Fan 8	OK	30%	2785 RPM

Fan Tray 0 Fan 9	OK	30%	2828 RPM
Fan Tray 0 Fan 10	OK	30%	2828 RPM
Fan Tray 0 Fan 11	OK	30%	2785 RPM
Fan Tray 0 Fan 12	OK	30%	2828 RPM
Fan Tray 0 Fan 13	OK	31%	2871 RPM
Fan Tray 0 Fan 14	OK	30%	2828 RPM
Fan Tray 1 Fan 1	OK	42%	3033 RPM
Fan Tray 1 Fan 2	OK	42%	3066 RPM
Fan Tray 1 Fan 3	OK	43%	3099 RPM
Fan Tray 1 Fan 4	OK	43%	3166 RPM
Fan Tray 1 Fan 5	OK	45%	3266 RPM
Fan Tray 1 Fan 6	OK	43%	3133 RPM
Fan Tray 2 Fan 1	OK	29%	2099 RPM
Fan Tray 2 Fan 2	OK	30%	2199 RPM
Fan Tray 2 Fan 3	OK	30%	2166 RPM
Fan Tray 2 Fan 4	OK	33%	2399 RPM
Fan Tray 2 Fan 5	OK	29%	2133 RPM
Fan Tray 2 Fan 6	OK	32%	2366 RPM

show chassis fan (MX104 Router)

```
user@host > show chassis fan
```

Item	Status	RPM	Measurement
Fan 1	OK	5640	Spinning at normal speed
Fan 2	OK	5640	Spinning at normal speed
Fan 3	OK	5760	Spinning at normal speed
Fan 4	OK	5640	Spinning at normal speed
Fan 5	OK	5640	Spinning at normal speed

show chassis fan (MX2010 Router)

```
user@host > show chassis fan
```

Item	Status	% RPM	Measurement
Fan Tray 0 Fan 1	OK	37%	3360 RPM
Fan Tray 0 Fan 2	OK	38%	3480 RPM
Fan Tray 0 Fan 3	OK	37%	3360 RPM
Fan Tray 0 Fan 4	OK	37%	3360 RPM
Fan Tray 0 Fan 5	OK	38%	3480 RPM
Fan Tray 0 Fan 6	OK	37%	3360 RPM
Fan Tray 1 Fan 1	OK	38%	3480 RPM
Fan Tray 1 Fan 2	OK	40%	3600 RPM
Fan Tray 1 Fan 3	OK	38%	3480 RPM
Fan Tray 1 Fan 4	OK	38%	3480 RPM
Fan Tray 1 Fan 5	OK	38%	3480 RPM
Fan Tray 1 Fan 6	OK	38%	3480 RPM
Fan Tray 2 Fan 1	OK	38%	3480 RPM
Fan Tray 2 Fan 2	OK	41%	3720 RPM
Fan Tray 2 Fan 3	OK	38%	3480 RPM
Fan Tray 2 Fan 4	OK	38%	3480 RPM
Fan Tray 2 Fan 5	OK	38%	3480 RPM
Fan Tray 2 Fan 6	OK	38%	3480 RPM
Fan Tray 3 Fan 1	OK	38%	3480 RPM
Fan Tray 3 Fan 2	OK	40%	3600 RPM
Fan Tray 3 Fan 3	OK	40%	3600 RPM
Fan Tray 3 Fan 4	OK	40%	3600 RPM
Fan Tray 3 Fan 5	OK	40%	3600 RPM
Fan Tray 3 Fan 6	OK	38%	3480 RPM

show chassis fan (MX2020 Router)

```
user@host > show chassis fan
```

Item	Status	% RPM	Measurement
Fan Tray 0 Fan 1	OK	37%	3360 RPM
Fan Tray 0 Fan 2	OK	37%	3360 RPM
Fan Tray 0 Fan 3	OK	36%	3240 RPM
Fan Tray 0 Fan 4	OK	37%	3360 RPM
Fan Tray 0 Fan 5	OK	37%	3360 RPM
Fan Tray 0 Fan 6	OK	37%	3360 RPM
Fan Tray 1 Fan 1	OK	37%	3360 RPM
Fan Tray 1 Fan 2	OK	37%	3360 RPM
Fan Tray 1 Fan 3	OK	37%	3360 RPM
Fan Tray 1 Fan 4	OK	37%	3360 RPM
Fan Tray 1 Fan 5	OK	37%	3360 RPM
Fan Tray 1 Fan 6	OK	36%	3240 RPM
Fan Tray 2 Fan 1	OK	37%	3360 RPM
Fan Tray 2 Fan 2	OK	37%	3360 RPM
Fan Tray 2 Fan 3	OK	37%	3360 RPM
Fan Tray 2 Fan 4	OK	37%	3360 RPM
Fan Tray 2 Fan 5	OK	37%	3360 RPM
Fan Tray 2 Fan 6	OK	38%	3480 RPM
Fan Tray 3 Fan 1	OK	38%	3480 RPM
Fan Tray 3 Fan 2	OK	38%	3480 RPM
Fan Tray 3 Fan 3	OK	38%	3480 RPM
Fan Tray 3 Fan 4	OK	37%	3360 RPM
Fan Tray 3 Fan 5	OK	37%	3360 RPM
Fan Tray 3 Fan 6	OK	37%	3360 RPM

show chassis fan (ACX4000 Router)

```
user@host > show chassis fan
```

Item	Status	RPM	Measurement
Fan 1	OK	4140	Spinning at normal speed
Fan 2	OK	4200	Spinning at normal speed

show chassis fan (QFX5100 Switch and OCX Series)

```
user@switch > show chassis fan
```

Item	Status	RPM	Measurement
FPC 0 Tray 0 Fan 0	OK	6428	Spinning at normal speed
FPC 0 Tray 0 Fan 1	OK	5515	Spinning at normal speed
FPC 0 Tray 1 Fan 0	OK	6360	Spinning at normal speed
FPC 0 Tray 1 Fan 1	OK	5532	Spinning at normal speed

show chassis hardware

List of Syntax	Syntax on page 383 Syntax (EX Series) on page 383 Syntax (T4000 Router) on page 383 Syntax (TX Matrix Router) on page 383 Syntax (TX Matrix Plus Router) on page 383 Syntax (MX Series Routers) on page 383 Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers) on page 383 Syntax (QFX Series) on page 384 Syntax (OCX Series) on page 384 Syntax (PTX Series Packet Transport Routers) on page 384 Syntax (ACX Series Universal Access Routers) on page 384
Syntax	show chassis hardware <detail extensive> <clei-models> <models>
Syntax (EX Series)	show chassis hardware <clei-models> <detail extensive> <models>
Syntax (T4000 Router)	show chassis hardware <clei-models> <detail extensive> <models>
Syntax (TX Matrix Router)	show chassis hardware <clei-models> <detail extensive> <models> <lcc <i>number</i> scc>
Syntax (TX Matrix Plus Router)	show chassis hardware <clei-models> <detail extensive> <models> <lcc <i>number</i> sfc <i>number</i> >
Syntax (MX Series Routers)	show chassis hardware <detail extensive> <clei-models> <models> <all-members> <local> <member <i>member-id</i> >
Syntax (MX104, MX2010, and MX2020)	show chassis hardware <clei-models> <detail extensive>

3D Universal Edge Routers)	<models>
Syntax (QFX Series)	show chassis hardware <detail extensive> <clei-models> <interconnect-device <i>name</i> > <node-device <i>name</i> > <models>
Syntax (OCX Series)	show chassis hardware <detail extensive> <clei-models> <models>
Syntax (PTX Series Packet Transport Routers)	show chassis hardware <detail extensive> <clei-models> <models>
Syntax (ACX Series Universal Access Routers)	show chassis hardware <detail extensive> <clei-models> <models>
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>models option introduced in Junos OS Release 8.2.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>sfc option introduced for the TX Matrix Plus router in Junos OS Release 9.6.</p> <p>Command introduced in Junos OS Release 11.1 for QFX Series.</p> <p>Command introduced in Junos OS Release 12.1X48 for PTX Series Packet Transport Routers.</p> <p>Command introduced in Junos OS Release 12.2 for ACX Series Universal Access Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>
Description	<p>Display a list of all Flexible PIC Concentrators (FPCs) and PICs installed in the router or switch chassis, including the hardware version level and serial number.</p> <p>In the EX Series switch command output, FPC refers to the following:</p> <ul style="list-style-type: none">• On EX2200 switches, EX3200 switches, EX4200 standalone switches, and EX4500 switches—Refers to the switch; FPC <i>number</i> is always 0.• On EX4200 switches in a Virtual Chassis configuration—Refers to the member of a Virtual Chassis; FPC <i>number</i> equals the member ID, from 0 through 9.• On EX8208 and EX8216 switches—Refers to a line card; FPC <i>number</i> equals the slot number for the line card. <p>On QFX3500, QFX5100, and OCX Series standalone switches, both the FPC and FPC <i>number</i> are always 0.</p>

On T4000 Type 5 FPCs, there are no **top temperature sensor** or **bottom temperature sensor** parameters. Instead, **fan intake temperature sensor** and **fan exhaust temperature sensors** parameters are displayed.

Starting from Junos OS Release 11.4, the output of the **show chassis hardware models** operational mode command displays the enhanced midplanes FRU model numbers (CHAS-BP3-MX240-S, CHAS-BP3-MX480-S or CHAS-BP3-MX960-S) based on the router. Prior to release 11.4, the FRU model numbers are left blank when the router has enhanced midplanes. Note that the enhanced midplanes are introduced through the Junos OS Release 13.3, but can be supported on all Junos OS releases.

Starting with Junos OS Release 14.1, the output of the **show chassis hardware detail | extensive | clei-models | models** operational mode command displays the new DC power supply module (PSM) and power distribution unit (PDU) that are added to provide power to the high-density FPC (FPC2-PTX-P1A) and other components in a PTX5000 Packet Transport Router.

Options **none**—Display information about hardware. For a TX Matrix router, display information about the TX Matrix router and its attached T640 routers. For a TX Matrix Plus router, display information about the TX Matrix Plus router and its attached routers.

clei-models—(Optional) Display Common Language Equipment Identifier (CLEI) barcode and model number for orderable field-replaceable units (FRUs).

detail—(Optional) Include RAM and disk information in output.

extensive—(Optional) Display ID EEPROM information.

all-members—(MX Series routers only) (Optional) Display hardware-specific information for all the members of the Virtual Chassis configuration.

interconnect-device *name*—(QFabric systems only) (Optional) Display hardware-specific information for the Interconnect device.

lcc *number*—(TX Matrix routers and TX Matrix Plus router only) (Optional) On a TX Matrix router, display hardware information for a specified T640 router (line-card chassis) that is connected to the TX Matrix router. On a TX Matrix Plus router, display hardware information for a specified router (line-card chassis) that is connected to the TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers only) (Optional) Display hardware-specific information for the local Virtual Chassis members.

member *member-id*—(MX Series routers and EX Series switches) (Optional) Display hardware-specific information for the specified member of the Virtual Chassis configuration. Replace *member-id* variable with a value 0 or 1.

models—(Optional) Display model numbers and part numbers for orderable FRUs and, for components that use ID EEPROM format v2, the CLEI code.

node-device *name*—(QFabric systems only) (Optional) Display hardware-specific information for the Node device.

scc—(TX Matrix router only) (Optional) Display hardware information for the TX Matrix router (switch-card chassis).

sfc *number*—(TX Matrix Plus router only) (Optional) Display hardware information for the TX Matrix Plus router (switch-fabric chassis). Replace *number* variable with 0.

Additional Information The **show chassis hardware detail** command now displays DIMM information for the following Routing Engines:

Table 23: Routing Engines Displaying DIMM Information

Routing Engines	Routers
RE-S-1800x2 and RE-S-1800x4	MX240, MX480, and MX960 routers
RE-A-1800x2	M120 and M320 routers

In Junos OS Release 11.4 and later, the output for the **show chassis hardware models** operational mode command for MX Series routers display the enhanced midplanes FRU model numbers—CHAS-BP3-MX240-S, CHAS-BP3-MX480-S, or CHAS-BP3-MX960-S—based on the router. In releases before Junos OS Release 11.4, the FRU model numbers are left blank when the router has enhanced midplanes. Note that the enhanced midplanes are introduced through Junos OS Release 13.3, but can be supported on all Junos OS releases.

Required Privilege Level view

Related Documentation

- [show chassis power](#)

List of Sample Output

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- [show chassis hardware clei-models \(EX8216 Switch\) on page 393](#)
- [show chassis hardware clei-models \(T1600 Router\) on page 394](#)
- [show chassis hardware detail \(EX4200 Switch\) on page 395](#)
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Output Fields Table 24 on page 390 lists the output fields for the **show chassis hardware** command. Output fields are listed in the approximate order in which they appear.

Table 24: show chassis hardware Output Fields

Field Name	Field Description	Level of Output
Item	<p>Chassis component:</p> <ul style="list-style-type: none"> (EX Series switches)—Information about the chassis, Routing Engine (SRE and Routing Engine modules in EX8200 switches), power supplies, fan trays, and LCD panel. Also displays information about Flexible PIC Concentrators (FPCs) and associated Physical Interface Cards (PICs). Information about the backplane, midplane, and SIBs (SF modules) is displayed for EX8200 switches. See <i>EX Series Switches Hardware and CLI Terminology Mapping</i>. (MX Series routers and EX Series switches)—Information about the backplane, Routing Engine, Power Entry Modules (PEMs), and fan trays. Also displays information about Flexible PIC Concentrators (FPCs) and associated Physical Interface Cards (PICs), Modular Port Concentrators (MPCs) and associated Modular Interface Cards (MICs), or Dense Port Concentrators (DPCs). MX80 routers have a single Routing Engine and a built-in Packet Forwarding Engine that attaches directly to MICs. The Packet Forwarding Engine has two “pseudo” FPCs (FPC 0 and FPC1). MX80 routers also have a Forwarding Engine Board (FEB). MX104 routers have a built-in Packet forwarding Engine and a Forwarding Engine Board (FEB). The Packet Forwarding Engine of the MX104 router has three “pseudo” FPCs (FPC0, FPC1, and FPC2). (M Series routers, except for the M320 router)—Information about the backplane; power supplies; fan trays; Routing Engine; maxicab (the connection between the Routing Engine and the backplane, for the M40 router only); SCB, SSB, SFM, or FEB; MCS and PCG (for the M160 router only); each FPC and PIC; and each fan, blower, and impeller. (M120, M320, and T Series routers)—Information about the backplane, power supplies, fan trays, midplane, FPM (craft interface), CIP, PEM, SCG, CB, FPC, PIC, SFP, SPMB, and SIB. (QFX Series)—Information about the chassis, Pseudo CB, Routing Engine, power supplies, fan trays, Interconnect devices, and Node devices. Also displays information about Flexible PIC Concentrators (FPCs) and associated Physical Interface Cards (PICs). (PTX Series)—Information about the chassis, midplane, craft interface (FPM), power distribution units (PDUs) and Power Supply Modules (PSMs), Centralized Clock Generators (CCGs), Routing Engines, Control Boards (CBs) and Switch Processor Mezzanine Boards (SPMBs), Flexible PIC Concentrators (FPCs), PICs, Switch Interface Boards (SIBs), and fan trays (vertical and horizontal). (MX2010 and MX2020 routers)—Information about the chassis, midplane, craft interface (FPM), power midplane (PMP), Power Supply Modules (PSMs), Power Distribution Modules (PDMs), Routing Engines, Control Boards (CBs) and Switch Processor Mezzanine Boards (SPMBs), Switch Fabric Boards (SFBs), Flexible PIC Concentrators (FPCs), PICs, adapter cards (ADCs) and fan trays. 	All levels
Version	Revision level of the chassis component.	All levels
Part number	Part number of the chassis component.	All levels
Serial number	Serial number of the chassis component. The serial number of the backplane is also the serial number of the router chassis. Use this serial number when you need to contact Juniper Networks Customer Support about the router or switch chassis.	All levels

Table 24: show chassis hardware Output Fields (*continued*)

Field Name	Field Description	Level of Output
Assb ID or Assembly ID	(extensive keyword only) Identification number that describes the FRU hardware.	extensive
Assembly Version	(extensive keyword only) Version number of the FRU hardware.	extensive
Assembly Flags	(extensive keyword only) Flags.	extensive
FRU model number	(clei-models , extensive , and models keyword only) Model number of the FRU hardware component.	none specified
CLEI code	(clei-models and extensive keyword only) Common Language Equipment Identifier code. This value is displayed only for hardware components that use ID EEPROM format v2. This value is not displayed for components that use ID EEPROM format v1.	none specified
EEPROM Version	ID EEPROM version used by the hardware component: 0x00 (version 0), 0x01 (version 1), or 0x02 (version 2).	extensive
Description	<p>Brief description of the hardware item:</p> <ul style="list-style-type: none"> • Type of power supply. • Type of PIC. If the PIC type is not supported on the current software release, the output states Hardware Not Supported. • Type of FPC: FPC Type 1, FPC Type 2, FPC Type 3, FPC Type 4, or FPC TypeOC192. <p>On EX Series switches, a brief description of the FPC.</p> <p>The following list shows the PIM abbreviation in the output and the corresponding PIM name.</p> <ul style="list-style-type: none"> • 2x FE—Either two built-in Fast Ethernet interfaces (fixed PIM) or dual-port Fast Ethernet PIM • 4x FE—4-port Fast Ethernet ePIM • 1x GE Copper—Copper Gigabit Ethernet ePIM (one 10-Mbps, 100-Mbps, or 1000-Mbps port) • 1x GE SFP—SFP Gigabit Ethernet ePIM (one fiber port) • 2x Serial—Dual-port serial PIM • 2x T1—Dual-port T1 PIM • 2x E1—Dual-port E1 PIM • 2x CT1E1—Dual-port channelized T1/E1 PIM • 1x T3—T3 PIM (one port) • 1x E3—E3 PIM (one port) • 4x BRI S/T—4-port ISDN BRI S/T PIM • 4x BRI U—4-port ISDN BRI U PIM • 1x ADSL Annex A—ADSL 2/2+ Annex A PIM (one port, for POTS) • 1x ADSL Annex B—ADSL 2/2+ Annex B PIM (one port, for ISDN) • 2x SHDSL (ATM)—G SHDSL PIM (2-port two-wire module or 1-port four-wire module) 	All levels

Table 24: show chassis hardware Output Fields (*continued*)

Field Name	Field Description	Level of Output
	<ul style="list-style-type: none"> • 1x TGM550—TGM550 Telephony Gateway Module (Avaya VoIP gateway module with one console port, two analog LINE ports, and two analog TRUNK ports) • 1x DS1 TIM510—TIM510 E1/T1 Telephony Interface Module (Avaya VoIP media module with one E1 or T1 trunk termination port and ISDN PRI backup) • 4x FXS, 4x FXO, TIM514—TIM514 Analog Telephony Interface Module (Avaya VoIP media module with four analog LINE ports and four analog TRUNK ports) • 4x BRI TIM521—TIM521 BRI Telephony Interface Module (Avaya VoIP media module with four ISDN BRI ports) • Crypto Accelerator Module—For enhanced performance of cryptographic algorithms used in IP Security (IPsec) services • MPC M16x10GE—16-port 10-Gigabit Module Port Concentrator that supports SFP+ optical transceivers. (Not on EX Series switches.) • For hosts, the Routing Engine type. • For small form-factor pluggable transceiver (SFP) modules, the type of fiber: LX, SX, LH, or T. • LCD description for EX Series switches (except EX2200 switches). • MPC2—1-port MPC2 that supports two separate slots for MICs. • MPC3E—1-port MPC3E that supports two separate slots for MICs (MIC-3D-1X100GE-CFP and MIC-3D-20GE-SFP) on MX960, MX480, and MX240 routers. The MPC3E maps one MIC to one PIC (1 MIC, 1 PIC), which differs from the mapping of legacy MPCs. • 100GBASE-LR4, pluggable CFP optics • Supports the Enhanced MX Switch Control Board with fabric redundancy and existing SCBs without fabric redundancy. • Interoperates with existing MX Series line cards, including Flexible Port Concentrators (FPC), Dense Port Concentrators (DPCs), and Modular Port Concentrators (MPCs). • MPC4E—Fixed configuration MPC4E that is available in two flavors: MPC4E-3D-32XGE-SFP and MPC4E-3D-2CGE-8XGE on MX2020, MX960, MX480, and MX240 routers. • LCD description for MX Series routers 	

Sample Output

show chassis hardware (EX8216 Switch)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis       REV 06   710-016845   CY0109220035  EX8216
Midplane      REV 06   710-016845   BA0909120112  EX8216-MP
CB 0          REV 22   710-020771   AX0109197723  EX8216-RE320
CB 1          REV 22   710-020771   AX0109197726  EX8216-RE320
  Routing Engine 1    BUILTIN      BUILTIN        RE-EX8216
FPC 3         REV 19   710-020683   BC0109083125  EX8200-48F
  CPU         REV 13   710-020598   BF0109144549  EX8200-CPU
FPC 4         REV 17   710-020683   BC0108500127  EX8200-48F
  CPU         REV 10   710-020598   BF0108460510  EX8200-CPU

```

PIC 0		BUILTIN	BUILTIN	48x 100 Base-QFX/1000
Base-X				
Xcvr 1	REV 01	740-011613	PE70V89	SFP-SX
Xcvr 11	REV 01	740-011613	PE70YCE	SFP-SX
Xcvr 12	REV 01	740-011613	PE70VSH	SFP-SX
Xcvr 13	REV 01	740-011613	E08C02063	SFP-SX
Xcvr 14	REV 01	740-011613	PE70VKU	SFP-SX
Xcvr 15	REV 01	740-011613	E08E03372	SFP-SX
Xcvr 21	REV 01	740-011613	PE70VAD	SFP-SX
Xcvr 22	REV 01	740-011613	E08E01228	SFP-SX
Xcvr 23	REV 01	740-011613	PE70VSL	SFP-SX
Xcvr 24	REV 01	740-011613	E08E03409	SFP-SX
Xcvr 25	REV 01	740-011613	PE70VL4	SFP-SX
Xcvr 26	REV 01	740-011613	PDQ4L2Z	SFP-SX
Xcvr 27	REV 01	740-011613	PE70WFK	SFP-SX
Xcvr 28	REV 01	740-011782	PBD2B5U	SFP-SX
Xcvr 29	REV 01	740-011613	PE70UQX	SFP-SX
Xcvr 30	REV 01	740-011613	PE70VL5	SFP-SX
Xcvr 31	REV 01	740-011613	PE70V0F	SFP-SX
Xcvr 32	REV 01	740-011613	E08C02052	SFP-SX
Xcvr 33	REV 01	740-011613	E08C02197	SFP-SX
Xcvr 34	REV 01	740-011613	PE70V0L	SFP-SX
Xcvr 35	REV 01	740-011613	E08E03390	SFP-SX
Xcvr 36	REV 01	740-011613	PDQ4VL9	SFP-SX
Xcvr 37	REV 01	740-011613	E08E03370	SFP-SX
Xcvr 38	REV 01	740-011613	E08E03362	SFP-SX
Xcvr 39	REV 01	740-011613	E08C02065	SFP-SX
Xcvr 40	REV 01	740-011613	E08E03405	SFP-SX
Xcvr 41	REV 01	740-011613	E08E03411	SFP-SX
Xcvr 43	REV 01	740-011613	E08C02171	SFP-SX
Xcvr 45	REV 01	740-011613	E08E03410	SFP-SX
FPC 13	REV 16	710-016837	BB0109051344	EX8200-8XS
CPU				
SIB 0	REV 10	710-021613	AY0109166244	EX8216-SF320
SIB 1	REV 10	710-021613	AY0109166357	EX8216-SF320
SIB 2	REV 10	710-021613	AY0109166362	EX8216-SF320
SIB 3	REV 10	710-021613	AY0109166338	EX8216-SF320
SIB 4	REV 10	710-021613	AY0109166350	EX8216-SF320
SIB 5	REV 10	710-021613	AY0109166365	EX8216-SF320
SIB 6	REV 10	710-021613	AY0109166361	EX8216-SF320
SIB 7	REV 10	710-021613	AY0109166399	EX8216-SF320
PSU 0	REV 17	740-021466	BG0709170003	EX8200-AC2K
PSU 1	REV 17	740-021466	BG0709170004	EX8200-AC2K
PSU 2	REV 17	740-021466	BG0709170020	EX8200-AC2K
PSU 3	REV 17	740-021466	BG0709170017	EX8200-AC2K
PSU 4	REV 17	740-021466	BG0709170008	EX8200-AC2K
PSU 5	REV 17	740-021466	BG0709170018	EX8200-AC2K
Top Fan Tray				
FTC 0	REV 4	760-022620	CX1209140212	EX8216-FT
FTC 1	REV 4	760-022620	CX1209140212	EX8216-FT
Bottom Fan Tray				
FTC 0	REV 4	760-022620	CX1209140211	EX8216-FT
FTC 1	REV 4	760-022620	CX1209140211	EX8216-FT
LCD 0	REV 04	710-025742	CE0109186919	EX8200 LCD

show chassis hardware clei-models (EX8216 Switch)

```

user@host> show chassis hardware clei-models
Hardware inventory:
Item          Version  Part number  CLEI code  FRU model number
Midplane      REV 08   710-016845

```



```

PSU 0          REV 05  740-023002  COUPAEAEAA  EX8200-PWR-AC3KR
PSU 1          REV 05  740-023002  COUPAEAEAA  EX8200-PWR-AC3KR
PSU 2          REV 05  740-023002  COUPAEAEAA  EX8200-PWR-AC3KR
PSU 3          REV 05  740-023002  COUPAEAEAA  EX8200-PWR-AC3KR
PSU 4          REV 05  740-023002  COUPAEAEAA  EX8200-PWR-AC3KR
PSU 5          REV 05  740-023002  COUPAEAEAA  EX8200-PWR-AC3KR
Top Fan Tray
Bottom Fan Tray

```

show chassis hardware clei-models (T1600 Router)

```

user@host> show chassis hardware clei-models
Hardware inventory:
Item                Version  Part number  CLEI code  FRU model number
Midplane            REV 03  710-005608
FPM Display         REV 05  710-002897
CIP                 REV 06  710-002895
PEM 0               Rev 07  740-017906  IPUPAC7KTA  PWR-T1600-3-80-DC-S
PEM 1               Rev 18  740-002595  PWR-T-DC-S
SCG 0               REV 15  710-003423  SCG-T-S
Routing Engine 0    REV 08  740-014082  RE-A-2000-4096-S
Routing Engine 1    REV 07  740-014082  RE-A-2000-4096-S
CB 0                REV 05  710-007655  CB-T-S
CB 1                REV 03  710-017707  CB-T-S
FPC 0               REV 07  710-013558  T640-FPC2-E2
  PIC 0             REV 01  750-010618  PB-4GE-SFP
  PIC 1             REV 06  750-001900  PB-10C48-SON-SMSR
  PIC 2             REV 14  750-001901  PB-40C12-SON-SMIR
  PIC 3             REV 07  750-001900  PB-10C48-SON-SMSR
FPC 1               REV 06  710-013553  T640-FPC1-E2
  PIC 0             REV 08  750-001072  P-1GE-SX
  PIC 1             REV 10  750-012266  PB-4GE-TYPE1-SFP-IQ2
  PIC 2             REV 22  750-005634  PB-1CHOC12SMIR-QPP
FPC 2
  PIC 0             REV 16  750-007141  PC-10GE-SFP
  PIC 1             REV 06  750-015217  PC-8GE-TYPE3-SFP-IQ2
  PIC 2             REV 05  750-004695  PC-TUNNEL
  PIC 3             REV 17  750-009553  PC-40C48-SON-SFP
FPC 3               REV 01  710-010154  T640-FPC3-E
  PIC 0             REV 07  750-012793  PC-1XGE-TYPE3-XFP-IQ2
  PIC 1             REV 25  750-007141  PC-10GE-SFP
  PIC 2             REV 17  750-009553  PC-40C48-SON-SFP
  PIC 3             REV 32  750-003700  PC-10C192-SON-VSR
FPC 4               REV 16  710-013037  T1600-FPC4-ES
  PIC 1             REV 06  750-034781  PD-1CE-CFP
FPC 5               REV 02  710-013037  T1600-FPC4-ES
  PIC 0             REV 16  750-012518  PD-40C192-SON-XFP
  PIC 1             REV 01  750-010850  PD-10C768-SON-SR
FPC 6               REV 14  710-013037  T1600-FPC4-ES
  PIC 0             REV 11  750-017405  PD-4XGE-XFP
  PIC 1             REV 13  750-017405  PD-4XGE-XFP
FPC 7               REV 09  710-007529  T640-FPC3
  PIC 0             REV 10  750-012793  PC-1XGE-TYPE3-XFP-IQ2
  PIC 1             REV 01  750-015217  PC-8GE-TYPE3-SFP-IQ2
  PIC 2             REV 01  750-015217  PC-8GE-TYPE3-SFP-IQ2
  PIC 3             REV 15  750-009450  PC-10C192-SON-SR2
SIB 0               REV 07  710-013074  SIB-I-T1600-S
SIB 1               REV 07  710-013074  SIB-I-T1600-S
SIB 2               REV 07  710-013074  SIB-I-T1600-S
SIB 3               REV 07  710-013074  SIB-I-T1600-S
SIB 4               REV 07  710-013074  SIB-I-T1600-S

```



```

Fan Tray 0
Fan Tray 1
Fan Tray 2
FANTRAY-T-S
FANTRAY-T-S
FAN-REAR-TX-T640-S

```

show chassis hardware detail (EX4200 Switch)

```

user@host> show chassis hardware detail
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Routing Engine 0 REV 11    750-021256   BM0208327733  EX4200-24T
Routing Engine 0 REV 11    750-021256   BM0208327733  EX4200-24T, 8 POE
FPC 0          REV 11    750-021256   BM0208327733  EX4200-24T, 8 POE
CPU
PIC 0          REV 11    750-021256   BM0208327733  EX4200-24T, 8 POE
CPU
PIC 0          REV 11    750-021256   BM0208327733  EX4200-24T, 8 POE
PIC 1          REV 03B   711-021270   AR0208162285  4x GE SFP
BRD            REV 08    711-021264   AK0208328289  EX4200-24T, 8 POE
Power Supply 0  REV 03    740-020957   AT0508346354  PS 320W AC
Fan Tray

```

show chassis hardware (EX4300 Switch)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Routing Engine 0 REV 04    650-044930   PD3713160055  EX4300-48P
Routing Engine 0 REV 04    650-044930   PD3713160055  EX4300-48P
FPC 0          REV 04    650-044930   PD3713160055  EX4300-48P
CPU
PIC 0          REV 04    650-044930   PD3713160055  EX4300-48P
PIC 1          REV 04    650-044930   PD3713160055  EX4300-48P
Power Supply 0  REV 01    740-046871   1EDA3090026   JPSU-1100-AC-AFO-A
Fan Tray 0
(AFO)
Fan Tray 1
(AFO)
Fan Module, Airflow Out
Fan Module, Airflow Out

```

show chassis hardware models (EX4500 Switch)

```

user@host> show chassis hardware models
Hardware inventory:
Item          Version  Part number  Serial number  FRU model number
Routing Engine 0 REV 01    750-035700   GG0210271867  EX4500-40F-FB-C
Routing Engine 0 REV 01    750-035700   GG0210271867  EX4500-40F-FB-C
FPC 0          REV 01    750-035700   GG0210271867  EX4500-40F-FB-C
PIC 0          REV 01    750-035700   GG0210271867  EX4500-40F-FB-C
Power Supply 1  REV 01    740-029654   H884FS00JC09  EX4500-PWR1-AC-FB

```

show chassis hardware detail (EX9200 Switch)

```

user@switch> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Midplane      REV 05    710-017414   TS2912        EX9208-BP
FPM Board     REV 02    710-017254   XN1804        Front Panel Display
PEM 0         Rev 01    740-022697   QCS0906C033   PS 1.2-1.7kW; 100-240V
AC in
PEM 1         Rev 01    740-022697   QCS0906C095   PS 1.2-1.7kW; 100-240V
AC in
Routing Engine 0 REV 08    740-031116   9009122883    RE-S-EX9200-1800X4
CB 0          REV 16    750-031391   CAAW4391      EX9200-SCBEF

```

PC 0	REV 07	750-049612	CABJ9312	EX9200 40x1G Copper
CPU	REV 04	711-038484	CABH8268	MPCE PMB 2G
MIC 0	REV 02	750-049607	CABT9623	40x 1GE RJ45
PIC 0		BUILTIN	BUILTIN	10x 1GE RJ45
PIC 1		BUILTIN	BUILTIN	10x 1GE RJ45
PIC 2		BUILTIN	BUILTIN	10x 1GE RJ45
PIC 3		BUILTIN	BUILTIN	10x 1GE RJ45
FPC 1	REV 10	710-013699	CAAN3529	EX9200-40x1G-SFP
CPU	REV 04	711-038484	CAAL7608	MPCE PMB 2G
MIC 0	REV 26	750-028392	CAAS5151	20x 1GE SFP
PIC 0		BUILTIN	BUILTIN	10x 1GE SFP
PIC 1		BUILTIN	BUILTIN	10x 1GE SFP
MIC 1	REV 26	750-028392	CAAC8006	20x 1GE SFP
PIC 2		BUILTIN	BUILTIN	10x 1GE SFP
Xcvr 8	REV 01	740-011613	E08L03674	SFP-SX
Xcvr 9	REV 01	740-011613	E08M00243	SFP-SX
PIC 3		BUILTIN	BUILTIN	10x 1GE SFP
FPC 3	REV 10	710-013699	CAAR5261	EX9200-40x1G-SFP
CPU	REV 04	711-038484	CAAS2118	MPCE PMB 2G
MIC 0	REV 26	750-028392	CAAS5067	20x 1GE SFP
PIC 0		BUILTIN	BUILTIN	10x 1GE SFP
Xcvr 2	REV 01	740-031851	PNA7L8U	SFP-SX
Xcvr 3	REV 02	740-011613	AM0943SEKGZ	SFP-SX
Xcvr 4	REV 02	740-011613	AM0943SEJZ9	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE SFP
MIC 1	REV 26	750-028392	CAAS5132	20x 1GE SFP
PIC 2		BUILTIN	BUILTIN	10x 1GE SFP
Xcvr 4	REV 01	740-011613	E08D02625	SFP-SX
Xcvr 9	REV 02	740-011613	PJH4RD9	SFP-SX
PIC 3		BUILTIN	BUILTIN	10x 1GE SFP
Xcvr 0	REV 01	740-011613	AM0813S8YME	SFP-SX
Fan Tray				Left Fan Tray

show chassis hardware (M7i Router)

user@host> show chassis hardware

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			31959	M7i
Midplane	REV 02	710-008761	CA0209	M7i Midplane
Power Supply 0	Rev 04	740-008537	PD10272	AC Power Supply
Routing Engine	REV 01	740-008846	1000396803	RE-5.0
CFEB	REV 02	750-009492	CA0166	Internet Processor IIv1
FPC 0				E-FPC
PIC 0	REV 04	750-003163	HJ6416	1x G/E, 1000 BASE-SX
PIC 1	REV 04	750-003163	HJ6423	1x G/E, 1000 BASE-SX
PIC 2	REV 04	750-003163	HJ6421	1x G/E, 1000 BASE-SX
PIC 3	REV 02	750-003163	HJ0425	1x G/E, 1000 BASE-SX
FPC 1				E-FPC
PIC 2	REV 01	750-009487	HM2275	ASP - Integrated
PIC 3	REV 01	750-009098	CA0142	2x F/E, 100 BASE-TX

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			B1157	M7i
Midplane	REV 05	710-008761	DM0840	M7i Midplane
Power Supply 0	Rev 08	740-008537	TE53755	AC Power Supply
Routing Engine	REV 07	740-011202	1000736567	RE-850
CFEB	REV 09	750-010463	DK6952	Internet Processor II
FPC 0				E-FPC
PIC 0	REV 12	750-012838	DL7993	4x 1GE(LAN), IQ2
Xcvr 0	REV 01	740-011614	PD94TDJ	SFP-LX10

Xcvr 1	REV 01	740-011615	PAD5EER	UNSUPPORTED
Xcvr 2	REV 01	740-011614	PD94THU	SFP-LX10
Xcvr 3		NON-JNPR	PDC2E7A	SFP-LX10
PIC 1	REV 03	750-023116	JT0203	4x CHSTM1 SDH CE SFP
Xcvr 0	REV 01	740-012434	AGT063832PS	SFP-SR
Xcvr 1	REV 01	740-012434	AGT063832LY	SFP-SR
Xcvr 3	REV 01	740-016064	C06J19018	SFP-LR
PIC 2	REV 15	750-014895	DM5757	MultiServices 100
PIC 3	REV 01	750-025390	JW9448	12x T1/E1 CE
FPC 1				E-FPC
PIC 2		BUILTIN	BUILTIN	1x Tunnel
PIC 3	REV 09	750-009099	DM0899	1x G/E, 1000 BASE
Xcvr 0	REV 01	740-012434	AGT07150HGJ	UNSUPPORTED
Fan Tray				Rear Fan Tray

show chassis hardware (M10 Router)

```
user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               1122          M10
Midplane      REV 1.1  710-001950  S/N AC6626
Power supply A Rev 01   740-002497  S/N LC36095   AC
Power supply B Rev 01   740-002497  S/N LC36100   AC
Display      REV 1.2  710-001995  S/N AC6656
Host          18000005dfb3fb01 teknor
FEB           REV 01   710-001948  S/N AC6632    Internet Processor II
FPC 0
  PIC 0       REV 08   750-001072  S/N AB2485    1x G/E, 1000 BASE-SX
  PIC 1       REV 01   750-000613  S/N AA1048    1x OC-12 SONET, SMIR
FPC 1
Fan Tray 0
Fan Tray 1    FANTRAY-M10I-S
               FANTRAY-M10I-S
```

show chassis hardware models (M10 Router)

```
user@host> show chassis hardware models
Hardware inventory:
Item          Version  Part number  CLEI code  FRU model number
Midplane      REV 04   710-008920
Power Supply 0 Rev 06   740-008537  PWR-M10i-M7i-AC-S
Power Supply 1 Rev 06   740-008537  PWR-M10i-M7i-AC-S
HCM 0         REV 03   710-010580  HCM-M10i-S
HCM 1         REV 03   710-010580  HCM-M10i-S
Routing Engine 0 REV 09   740-009459  RE-400-256-S
CFEB 0        REV 05   750-010465  FEB-M10i-M7i-S
FPC 0
  PIC 0       REV 10   750-002971  PE-40C3-SON-MM
  PIC 1       REV 11   750-002992  PE-4FE-TX
  PIC 2       REV 03   750-002977  PE-20C3-ATM-MM
  PIC 3       REV 08   750-005724  PE-20C3-ATM2-MM
FPC 1
  PIC 2       REV 12   750-008425  PE-AS
  PIC 3       REV 13   750-005636  PE-4CHDS3-QPP
Fan Tray 0    FANTRAY-M10I-S
Fan Tray 1    FANTRAY-M10I-S
```

show chassis hardware (M20 Router)

```
user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
```

Chassis			20033	M20
Backplane	REV 07	710-001517	S/N AA7940	
Power supply B	Rev 01	740-001465	S/N 000001	AC
Display	REV 02	710-001519	S/N AA9704	
Host 0			98000004f8f27501	teknor
SSB slot 0	REV 01	710-001951	S/N AD5905	Internet Processor II
SSRAM bank 0	REV 01	710-001385	S00480	2 MB
SSRAM bank 1	REV 01	710-001385	S00490	2 MB
SSRAM bank 2	REV 01	710-001385	S001:?	2 MB
SSRAM bank 3	REV 01	710-001385	S00483	2 MB
SSB slot 1	N/A	N/A	N/A	Backup
FPC 1	REV 01	710-001292	S/N AB7528	
SSRAM	REV 01	710-000077	S/N 304209	1 MB
SDRAM bank 0	REV 01	710-000099	S/N 000603	64 MB
SDRAM bank 1	REV 01	710-000099	S/N 000414	64 MB
PIC 0	REV 03	750-000612	S/N AB8433	2x OC-3 ATM, MM
PIC 1	REV 01	750-000616	S/N AA1168	1x OC-12 ATM, MM
PIC 2	REV 01	750-000613	S/N AA1008	1x OC-12 SONET, SMIR
PIC 3	REV 01	750-002501	S/N AD5810	4x E3
FPC 2	REV 01	710-001292	S/N AC0119	
SSRAM	REV 01	710-000077	S/N 503241	1 MB
SDRAM bank 0	REV 01	710-000099	S/N 306835	64 MB
SDRAM bank 1	REV 01	710-000099	S/N 306832	64 MB
Fan Tray 0				Front Upper Fan Tray
Fan Tray 1				Front Middle Fan Tray
Fan Tray 2				Front Bottom Fan Tray
Fan Tray 3				Rear Fan Tray

show chassis hardware models (M20 Router)

```
user@host> show chassis hardware models
```

Hardware inventory:				
Item	Version	Part number	CLEI code	FRU model number
Backplane	REV 03	710-002334		CHAS-MP-M20-S
Power Supply A	REV 06	740-001465		PWR-M20-AC-S
Display	REV 04	710-001519		CRAFT-M20-S
Routing Engine 0	REV 06	740-003239		RE-333-768-S
Routing Engine 1	REV 06	740-003239		RE-333-768-S
SSB 0	REV 02	710-001951		SSB-E-M20
SSB 1	N/A	N/A		
FPC 0	REV 03	710-003308		FPC-E
PIC 0	REV 08	750-002303		P-4FE-TX
PIC 1	REV 07	750-004745		P-2MCDS3
PIC 2	REV 03	750-002965		PE-4CHDS3
FPC 1	REV 03	710-003308		FPC-E
PIC 0	REV 03	750-002914		P-20C3-ATM-MM
Fan Tray 0				FANTRAY-F-M20-S
Fan Tray 1				FANTRAY-F-M20-S
Fan Tray 2				FANTRAY-F-M20-S
Fan Tray 3				FANTRAY-R-M20-S

show chassis hardware (M40 Router)

```
user@host> show chassis hardware
```

Hardware inventory:				
Item	Version	Part number	Serial number	Description
Backplane	REV 02	710-000073	S/N AA0053	
Power supply A	Rev 2	740-000235	S/N 000042	DC
Maxicab	REV X1	710-000229	S/N AA0139	
Minicab	REV X1	710-000482	S/N AA0201	
Display	REV 06	710-000150	S/N AA0905	

```

Host
SCB
  SSRAM bank 0 REV 02 710-000075 S/N AA0158 cpv5000
  SSRAM bank 1 REV 02 710-000077 S/N AA2267 Internet Processor I
  SSRAM bank 2 REV 02 710-000077 S/N AA2269 1 MB
  SSRAM bank 3 REV 02 710-000077 S/N AA2268 1 MB
FPC 0
  SSRAM REV 01 710-000175 S/N AA0048
  SDRAM bank 0 REV 01 710-000077 S/N AA2333 1 MB
  SDRAM bank 1 REV 01 710-000099 S/N AA2332 64 MB
  PIC 0 REV X1 710-000099 S/N AA2337 64 MB
  PIC 1 REV 04 750-000613 S/N aa0343 1x OC-12 SONET, SMIR
  PIC 2 REV 04 750-000613 S/N AA0379 1x OC-12 SONET, SMIR
  PIC 3 REV 04 750-000613 S/N AA0377 1x OC-12 SONET, SMIR
  PIC 3 REV 04 750-000613 S/N AA0378 1x Tunnel
FPC 2
  SSRAM REV 01 710-000175 S/N AA0042
  SDRAM bank 0 REV 02 710-000077 S/N AA2288 1 MB
  SDRAM bank 1 REV 01 710-000099 S/N AA2331 64 MB
  SDRAM bank 1 REV 01 710-000099 S/N AA2330 64 MB
  PIC 0 REV X1 750-000603 S/N AA0143 4x OC-3 SONET, SMIR
  PIC 1 REV X1 750-000615 S/N AA0149 4x OC-3 SONET, MM
  PIC 2 REV X1 750-000611 S/N AA0148 4x OC-3 SONET, MM
  PIC 3 REV 04 750-000613 S/N AA0330 1x OC-12 SONET, SMIR
FPC 4
  SSRAM REV 01 710-000175 S/N AA0050
  SDRAM bank 0 REV 01 710-000077 S/N AA2327 1 MB
  SDRAM bank 1 REV 01 710-000099 S/N AA2329 64 MB
  SDRAM bank 1 REV 01 710-000099 S/N AA2328 64 MB
  PIC 0 REV 04 750-000613 S/N AA0320 1x OC-12 SONET, SMIR
  PIC 2 REV 05 750-000616 S/N AA1341 1x OC-12 ATM, MM
  PIC 3 REV 08 750-001072 S/N AB2462 1x G/E, 1000 BASE-SX
FPC 5
  SSRAM REV 10 710-000175 S/N AA7663
  SDRAM bank 0 REV 01 710-000077 S/N 501590 1 MB
  SDRAM bank 1 REV 01 710-000099 S/N 300949 64 MB
  SDRAM bank 1 REV 01 710-000099 S/N 300868 64 MB
  PIC 1 REV 01 750-001323 S/N AB1670 1x Tunnel

```

show chassis hardware (M40e Router)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Midplane      REV 01   710-005071   AX3671
FPM CMB       REV 03   710-001642   AR9074
FPM Display   REV 03   710-001647   AR7331
CIP           REV 04   710-002649   BB4449
PEM 0         Rev 01   740-003787   MC12364       Power Entry Module
PEM 1         Rev 01   740-003787   MC12383       Power Entry Module
PCG 0         REV 07   710-001568   AG1332
PCG 1         REV 07   710-001568   AR3789
Host 0
MCS 0         REV 11   710-001226   AN5813
SFM 0 SPP     REV 07   710-001228   AG4676
SFM 0 SPR     REV 05   710-002189   AE4735       Internet Processor II
SFM 1 SPP     REV 07   710-001228   AP1347
SFM 1 SPR     REV 05   710-002189   BE0063       Internet Processor II
FPC 0         REV 01   710-011725   BE0669       M40e-EP-FPC Type 1
CPU           REV 01   710-004600   BD9504
PIC 0         REV 03   750-003737   AY3991       4x G/E, 1000 BASE-SX
FPC 1         REV 01   710-005197   BD9842       M40e-FPC Type 2
CPU           REV 01   710-004600   BB4869
PIC 0         REV 07   750-001900   AR8278       1x OC-48 SONET, SMSR

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FPC 2	REV 02	710-005197	BD9824	M40e-FPC Type 2
CPU	REV 01	710-004600	BD9531	
PIC 0	REV 03	750-003737	AY3986	4x G/E, 1000 BASE-SX
FPC 4	REV 02	710-005078	BE0664	M40e-FPC Type 1
CPU	REV 01	710-004600	BD9559	
PIC 0	REV 03	750-001894	AG7963	1x G/E, 1000 BASE-SX
PIC 2	REV 01	750-002575	AF2472	4x OC-3 SONET, SMIR
FPC 6	REV 02	710-005078	BE0652	M40e-FPC Type 1
CPU	REV 01	710-004600	BD9607	
PIC 0	REV 02	750-002911	AN2286	4x F/E, 100 BASE-TX
PIC 2	REV 01	750-002577	AP6345	4x OC-3 SONET, MM

show chassis hardware (M120 Router)

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user@host> show chassis hardware
Hardware inventory:
Item                Version  Part number  Serial number  Description
Chassis                                     JN000054AC     M120
Midplane            REV 01    710-013667    RB4170         M120 Midplane
FPM Board           REV 02    710-011407    CJ9186         M120 FPM Board
FPM Display         REV 02    710-011405    CJ9173         M120 FPM Display
FPM CIP             REV 02    710-011410    CJ9221         M120 FPM CIP
PEM 0               Rev 05    740-011936    RM28320        AC Power Entry Module
PEM 1               Rev 05    740-011936    RM28321        AC Power Entry Module
Routing Engine 0    REV 03    740-014080    1000642883     RE-A-1000
CB 0                REV 03    710-011403    CM8346         M120 Control Board
CB 1                REV 06    710-011403    CP6728         M120 Control Board
FPC 1               REV 02    710-015908    CP6925         M120 CFPC 10GE
    PIC 0            BUILTIN    BUILTIN        1x 10GE(LAN/WAN) XFP
        Xcvr 0        REV 01    740-014279    62E204N00007   XFP-10G-LR
FPC 3               REV 03    710-011393    CJ9234         M120 FPC Type 2
    PIC 0            REV 16    750-008155    NB5229         2x G/E IQ, 1000 BASE
        Xcvr 0        REV 01    740-011613    P9F15JB        SFP-SX
        Xcvr 1        REV 01    740-007326    P4Q0R9G        SFP-SX
    PIC 1            REV 09    750-007745    CG4360         4x OC-3 SONET, SMIR
    PIC 2            REV 16    750-008155    ND7787         2x G/E IQ, 1000 BASE
        Xcvr 0        REV 01    740-011613    P9F12AS        SFP-SX
        Xcvr 1        REV 01    740-011613    P9F1ALU        SFP-SX
    PIC 3            REV 07    750-011800    JW1284         8x 1GE(LAN), IQ2
        Xcvr 0        REV 01    740-011613    P9F1AM6        SFP-SX
        Xcvr 6        REV 01    740-011613    P9F16NN        SFP-SX
        Xcvr 7        REV 01    740-011782    P8C29Y7        SFP-SX
    Board B          REV 02    710-011395    CN3754         M120 FPC Mezz
FPC 4               REV 02    710-011398    CP6741         M120 FPC Type 3
    PIC 0            REV 16    750-007141    NB2855         10x 1GE(LAN), 1000 BASE

        Xcvr 0        REV 01    740-011782    P922A1F        SFP-SX
        Xcvr 1        REV 01    740-011782    P922A16        SFP-SX
        Xcvr 2        REV 01    740-011782    P922A0U        SFP-SX
        Xcvr 3        REV 01    740-011782    P9229UZ        SFP-SX
        Xcvr 4        REV 01    740-009029    P11JXWP        SFP-LX
        Xcvr 6        REV 01    740-011613    P9F1ALW        SFP-SX
FPC 5               REV 01    710-011388    CJ9088         M120 FPC Type 1
    PIC 0            *** Hardware Not Supported ***
    PIC 1            REV 05    750-012052    NB0410         1x CHOC3 IQ SONET, SMLR

    PIC 2            REV 01    750-013167    CM3824         4x CHDS3 IQ
    PIC 3            REV 01    750-010240    CB5366         1x G/E SFP, 1000 BASE
    Board B          REV 01    710-011390    CJ9103         M120 FPC Mezz Board
FEB 3               REV 04    710-011663    CP6673         M120 FEB
FEB 4               REV 04    710-011663    CJ9368         M120 FEB

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FEB 5	REV 04	710-011663	CJ9386	M120 FEB
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Top Fan Tray
Fan Tray 3				Rear Bottom Fan Tray

show chassis hardware detail (M120 Router)

```
user@host> show chassis hardware detail
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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis			JN000054AC	M120
Midplane	REV 01	710-013667	RB4170	M120 Midplane
FPM Board	REV 02	710-011407	CJ9186	M120 FPM Board
FPM Display	REV 02	710-011405	CJ9173	M120 FPM Display
FPM CIP	REV 02	710-011410	CJ9221	M120 FPM CIP
PEM 0	Rev 05	740-011936	RM28320	AC Power Entry Module
PEM 1	Rev 05	740-011936	RM28321	AC Power Entry Module
Routing Engine 0	REV 03	740-014080	1000642883	RE-A-1000
ad0	248 MB	SILICONSYSTEMS INC	256M 126CT505S0763SC00110	Compact Flash
ad2	38154 MB	HTE541040G9SA00	MPBBTOX2HS2E3M	Hard Disk
CB 0	REV 03	710-011403	CM8346	M120 Control Board
CB 1	REV 06	710-011403	CP6728	M120 Control Board
FPC 1	REV 02	710-015908	CP6925	M120 CFPC 10GE
PIC 0		BUILTIN	BUILTIN	1x 10GE(LAN/WAN) XFP
Xcvr 0	REV 01	740-014279	62E204N00007	XFP-10G-LR
FPC 3	REV 03	710-011393	CJ9234	M120 FPC Type 2
PIC 0	REV 16	750-008155	NB5229	2x G/E IQ, 1000 BASE
Xcvr 0	REV 01	740-011613	P9F15JB	SFP-SX
Xcvr 1	REV 01	740-007326	P4Q0R9G	SFP-SX
PIC 1	REV 09	750-007745	CG4360	4x OC-3 SONET, SMIR
PIC 2	REV 16	750-008155	ND7787	2x G/E IQ, 1000 BASE
Xcvr 0	REV 01	740-011613	P9F12AS	SFP-SX
Xcvr 1	REV 01	740-011613	P9F1ALU	SFP-SX
PIC 3	REV 07	750-011800	JW1284	8x 1GE(LAN), IQ2
Xcvr 0	REV 01	740-011613	P9F1AM6	SFP-SX
Xcvr 6	REV 01	740-011613	P9F16NN	SFP-SX
Xcvr 7	REV 01	740-011782	P8C29Y7	SFP-SX
Board B	REV 02	710-011395	CN3754	M120 FPC Mezz
FPC 4	REV 02	710-011398	CP6741	M120 FPC Type 3
PIC 0	REV 16	750-007141	NB2855	10x 1GE(LAN), 1000 BASE
Xcvr 0	REV 01	740-011782	P922A1F	SFP-SX
Xcvr 1	REV 01	740-011782	P922A16	SFP-SX
Xcvr 2	REV 01	740-011782	P922A0U	SFP-SX
Xcvr 3	REV 01	740-011782	P9229UZ	SFP-SX
Xcvr 4	REV 01	740-009029	P11JXWP	SFP-LX
Xcvr 6	REV 01	740-011613	P9F1ALW	SFP-SX
FPC 5	REV 01	710-011388	CJ9088	M120 FPC Type 1
PIC 0	*** Hardware Not Supported ***			
PIC 1	REV 05	750-012052	NB0410	1x CHOC3 IQ SONET, SMLR
PIC 2	REV 01	750-013167	CM3824	4x CHDS3 IQ
PIC 3	REV 01	750-010240	CB5366	1x G/E SFP, 1000 BASE
Board B	REV 01	710-011390	CJ9103	M120 FPC Mezz Board
FEB 3	REV 04	710-011663	CP6673	M120 FEB
FEB 4	REV 04	710-011663	CJ9368	M120 FEB
FEB 5	REV 04	710-011663	CJ9386	M120 FEB
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray

Fan Tray 2
Fan Tray 3

Rear Top Fan Tray
Rear Bottom Fan Tray

show chassis hardware models (M120 Router)

```
user@host> show chassis hardware models
Hardware inventory:
Item                Version  Part number  CLEI code  FRU model number
Midplane            REV 01    710-013667
FPM CIP             REV 02    710-011410
PEM 0               Rev 05    740-011936
PEM 1               Rev 05    740-011936
Routing Engine 0    REV 03    740-014080
CB 0                REV 03    710-011403
CB 1                REV 06    710-011403
FPC 1               REV 02    710-015908
FPC 3
  PIC 0             REV 16    750-008155
  PIC 1             REV 09    750-007745
  PIC 2             REV 16    750-008155
  PIC 3             REV 07    750-011800
FPC 4
  PIC 0             REV 16    750-007141
FPC 5
  PIC 1             REV 05    750-012052
  PIC 2             REV 01    750-013167
  PIC 3             REV 01    750-010240
Fan Tray 0
Fan Tray 1
Fan Tray 2
Fan Tray 3
```

CRAFT-M120-S
PWR-M120-AC-S
PWR-M120-AC-S
RE-A-1000-2048-S
CB-M120-S
CB-M120-S
M120-cFPC-1XGE-XFP
PB-2GE-SFP-QPP
PC-40C3-SON-SMIR
PB-2GE-SFP-QPP
PB-8GE-TYPE2-SFP-IQ2
PC-10GE-SFP
PB-1CHOC3-SMIR-QPP
PE-4CHDS3-QPP
PB-1GE-SFP
FFANTRAY-M120-S
FFANTRAY-M120-S
RFANTRAY-M120-S
RFANTRAY-M120-S

show chassis hardware (M160 Router)

```
user@host> show chassis hardware
Item                Version  Part number  Serial number  Description
Chassis
Midplane            REV 02    710-001245    S/N AB4107
FPM CMB             REV 01    710-001642    S/N AA2911
FPM Display         REV 01    710-001647    S/N AA2999
CIP                 REV 02    710-001593    S/N AA9563
PEM 0               Rev 01    740-001243    S/N KJ35769    DC
PEM 1               Rev 01    740-001243    S/N KJ35765    DC
PCG 0               REV 01    710-001568    S/N AA9794
PCG 1               REV 01    710-001568    S/N AA9804
Host 1
MCS 1               REV 03    710-001226    S/N AA9777
SFM 0 SPP           REV 04    710-001228    S/N AA2975
SFM 0 SPR           REV 02    710-001224    S/N AA9838      Internet Processor I
SFM 1 SPP           REV 04    710-001228    S/N AA2860
SFM 1 SPR           REV 01    710-001224    S/N AB0139      Internet Processor I
FPC 0               REV 03    710-001255    S/N AA9806      FPC Type 1
  CPU               REV 02    710-001217    S/N AA9590
  PIC 1             REV 05    750-000616    S/N AA1527      1x OC-12 ATM, MM
  PIC 2             REV 05    750-000616    S/N AA1535      1x OC-12 ATM, MM
  PIC 3             REV 01    750-000616    S/N AA1519      1x OC-12 ATM, MM
FPC 1               REV 02    710-001611    S/N AA9523      FPC Type 2
  CPU               REV 02    710-001217    S/N AA9571
  PIC 0             REV 03    750-001900    S/N AA9626      1x STM-16 SDH, SMIR
  PIC 1             REV 01    710-002381    S/N AD3633      2x G/E, 1000 BASE-SX
FPC 2
```

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M160
da000004f8d57001 teknor

CPU	REV 03	710-001217	S/N AB3329	
PIC 0	REV 01			1x OC-192 SM SR-2
Fan Tray 0				Rear Bottom Blower
Fan Tray 1				Rear Top Blower
Fan Tray 2				Front Top Blower
Fan Tray 3				Front Fan Tray

show chassis hardware models (M160 Router)

```
user@host> show chassis hardware models
Hardware inventory:
```

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 03	710-009120		CHAS-BP-M320-S
FPM Display	REV 02	710-009351		CRAFT-M320-S
CIP	REV 03	710-005926		CIP-M320-S
PEM 2	Rev X4	740-009148		PWR-M-DC-S
PEM 3	Rev X4	740-009148		PWR-M-DC-S
Routing Engine 0	REV 02	740-008883		RE-1600-2048-S
Routing Engine 1	REV 02	740-008883		RE-1600-2048-S
FPC 0	REV 02	710-010419		M320-FPC1
PIC 0	REV 01	750-001323		P-TUNNEL
PIC 1	REV 02	750-002987		PE-10C12-SON-SMIR
PIC 2	REV 04	750-001894		PB-1GE-SX
PIC 3	REV 04	750-001896		PB-10C12-SON-SMIR
FPC 1	REV 02	710-010419		M320-FPC1
PIC 0	REV 04	750-001894		PB-1GE-SX
PIC 1	REV 04	750-001894		PB-1GE-SX
PIC 3	REV 03	750-001894		PB-1GE-SX
FPC 2	REV 02	710-010419		M320-FPC1
PIC 0	REV 10	750-005634		PB-1CHOC12SMIR-QPP
PIC 1	REV 10	750-005634		PB-1CHOC12SMIR-QPP
PIC 2	REV 07	750-005634		PB-1CHOC12SMIR-QPP
PIC 3	REV 07	750-005634		PB-1CHOC12SMIR-QPP
PIC 1	REV 10	750-005634		PB-1CHOC12SMIR-QPP
PIC 2	REV 07	750-005634		PB-1CHOC12SMIR-QPP
PIC 3	REV 07	750-005634		PB-1CHOC12SMIR-QPP
FPC 3				
PIC 0	REV 03	750-001895		PB-10C12-SON-MM
PIC 1	REV 04	750-001894		PB-1GE-SX
PIC 3	REV 04	750-003141		PB-1GE-SX-B
FPC 4	REV 02	710-010419		M320-FPC1
FPC 5	REV 02	710-010419		M320-FPC1
FPC 6	REV 02	710-010419		M320-FPC1
FPC 7				
PIC 0	REV 15	750-001901		PB-40C12-SON-SMIR
PIC 1	REV 06	750-001900		PB-10C48-SON-SMSR
PIC 2	REV 07	750-001900		PB-10C48-SON-SMSR
PIC 3	REV 05	750-003737		PB-4GE-SX
SIB 0	REV 03	710-009184		SIB-M-S
SIB 1	REV 03	710-009184		SIB-M-S
SIB 2	REV 03	710-009184		SIB-M-S
SIB 3	REV 03	710-009184		SIB-M-S
Fan Tray 0				FFANTRAY-M320-S
Fan Tray 1				FFANTRAY-M320-S
Fan Tray 2				RFANTRAY-M320-S

show chassis hardware detail (M160 Router)

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user@host> show chassis hardware detail
Hardware inventory:
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Item	Version	Part number	Serial number	Description
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Chassis			101	M160
Midplane	REV 02	710-001245	S/N AB4107	
FPM CMB	REV 01	710-001642	S/N AA2911	
FPM Display	REV 01	710-001647	S/N AA2999	
CIP	REV 02	710-001593	S/N AA9563	
PEM 0	Rev 01	740-001243	S/N KJ35769	DC
PEM 1	Rev 01	740-001243	S/N KJ35765	DC
PCG 0	REV 01	710-001568	S/N AA9794	
PCG 1	REV 01	710-001568	S/N AA9804	
Host 1			da000004f8d57001	teknor
MCS 1	REV 03	710-001226	S/N AA9777	
SFM 0 SPP	REV 04	710-001228	S/N AA2975	
SFM 0 SPR	REV 02	710-001224	S/N AA9838	Internet Processor I
SSRAM bank 0	REV 01	710-000077	S/N 306456	1 MB
SSRAM bank 1	REV 01	710-000077	S/N 306474	1 MB
SSRAM bank 2	REV 01	710-000077	S/N 306388	1 MB
SSRAM bank 3	REV 01	710-000077	S/N 306392	1 MB
SFM 1 SPP	REV 04	710-001228	S/N AA2860	
SFM 1 SPR	REV 01	710-001224	S/N AB0139	Internet Processor I
SSRAM bank 0	REV 01	710-000077	S/N 302917	1 MB
SSRAM bank 1	REV 01	710-000077	S/N 302662	1 MB
SSRAM bank 2	REV 01	710-000077	S/N 302593	1 MB
SSRAM bank 3	REV 01	710-000077	S/N 100160	1 MB
FPC 0	REV 03	710-001255	S/N AA9806	FPC Type 1
CPU	REV 02	710-001217	S/N AA9590	
SSRAM	REV 01	710-000077	S/N 302836	1 MB
SDRAM 0	REV 01	710-001196	S00141	32 MB
SDRAM 1	REV 01	710-001196	S0010;	32 MB
SSRAM	REV 01	710-000077	S/N 302633	1 MB
SDRAM 0	REV 01	710-001196	S00143	32 MB
SDRAM 1	REV 01	710-001196	S00115	32 MB
SSRAM	REV 01	710-000077	S/N 302952	1 MB
SDRAM 0	REV 01	710-001196	S00135	32 MB
SDRAM 1	REV 01	710-001196	S001=3	32 MB
SSRAM	REV 01	710-000077	S/N 302892	1 MB
SDRAM 0	REV 01	710-001196	S000?6	32 MB
SDRAM 1	REV 01	710-001196	S001=5	32 MB
PIC 1	REV 05	750-000616	S/N AA1527	1x OC-12 ATM, MM
PIC 2	REV 05	750-000616	S/N AA1535	1x OC-12 ATM, MM
PIC 3	REV 01	750-000616	S/N AA1519	1x OC-12 ATM, MM
FPC 1	REV 02	710-001611	S/N AA9523	FPC Type 2
CPU	REV 02	710-001217	S/N AA9571	
SSRAM	REV 01	710-000077	S/N 306340	1 MB
SDRAM 0	REV 01	710-001196	S00012	32 MB
SDRAM 1	REV 01	710-001196	S0001?	32 MB
SSRAM	REV 01	710-000077	S/N 306454	1 MB
SDRAM 0	REV 01	710-001196	S00028	32 MB
SDRAM 1	REV 01	710-001196	S0002?	32 MB
SSRAM	REV 01	710-000077	S/N 306492	1 MB
SDRAM 0	REV 01	710-001196	S00015	32 MB
SDRAM 1	REV 01	710-001196	S00031	32 MB
SSRAM	REV 01	710-000077	S/N 306363	1 MB
SDRAM 0	REV 01	710-001196	S00013	32 MB
SDRAM 1	REV 01	710-001196	S00032	32 MB
PIC 0	REV 03	750-001900	S/N AA9626	1x STM-16 SDH, SMIR
PIC 1	REV 01	710-002381	S/N AD3633	2x G/E, 1000 BASE-SX
FPC 2				FPC Type OC192
... SSRAM	REV 01	710-000077	S/N 306466	1 MB

show chassis hardware (M320 Router)

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user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number  Description
Chassis          REV 05    710-009120   67245         M320
Midplane         REV 04    710-005928   RB1202        M320 Midplane
FPM GBUS         REV 05    710-009351   HZ5697        M320 Board
FPM Display      REV 04    710-005926   HT8672        M320 CIP
CIP              Rev 05    740-009148   QK34208       DC Power Entry Module
PEM 0            Rev 05    740-009148   QK34262       DC Power Entry Module
PEM 1            Rev 05    740-009148   QF10449       DC Power Entry Module
PEM 2            Rev 05    740-009148   QJ18257       DC Power Entry Module
PEM 3            Rev 06    740-008883   P11123901185 RE-4.0
Routing Engine 0 REV 07    710-009115   JB2382        M320 Control Board
CB 0             REV 02    710-005017   CD9926        M320 FPC Type 2
FPC 0            REV 01    710-011659   CJ6940        M320 PCA SCPU
CPU              REV 07    750-001900   AT1594        1x OC-48 SONET, SMSR
PIC 0            REV 03    750-001850   HS2746        1x Tunnel
PIC 1            REV 05    750-010618   JE7117        4x G/E SFP, 1000 BASE
PIC 2            REV 06    750-001900   HE6083        1x OC-48 SONET, SMSR
PIC 3            REV 02    710-005017   CH0319        M320 FPC Type 1
FPC 2            REV 01    710-011659   CJ6942        M320 PCA SCPU
CPU              REV 05    750-003034   BD8705        4x OC-3 SONET, SMIR
PIC 0            REV 02    710-005017   CD9938        M320 FPC Type 2
FPC 5            REV 02    710-005017   CD9934        M320 FPC Type 2
CPU
FPC 7            REV 02    710-005017   CD9934        M320 FPC Type 2
CPU
SIB 0            REV 09    710-009184   JA6540        M320 SIB
SIB 1            REV 09    710-009184   HV9511        M320 SIB
SIB 2            REV 09    710-009184   HW2057        M320 SIB
SIB 3            REV 09    710-009184   JA6687        M320 SIB
Fan Tray 0       Front Top Fan Tray
Fan Tray 1       Front Bottom Fan Tray
Fan Tray 2       Rear Fan Tray

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show chassis hardware models (M320 Router)

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user@host> show chassis hardware models
Hardware inventory:
Item             Version  Part number  CLEI code      FRU model number
Midplane         REV 03    710-009120   CHAS-BP-M320-S
FPM Display      REV 02    710-009351   CRAFT-M320-S
CIP              REV 03    710-005926   CIP-M320-S
PEM 2            Rev X4    740-009148   PWR-M-DC-S
PEM 3            Rev X4    740-009148   PWR-M-DC-S
Routing Engine 0 REV 02    740-008883   RE-1600-2048-S
Routing Engine 1 REV 02    740-008883   RE-1600-2048-S
FPC 0            REV 02    710-010419   M320-FPC1
PIC 0            REV 01    750-001323   P-TUNNEL
PIC 1            REV 02    750-002987   PE-10C12-SON-SMIR
PIC 2            REV 04    750-001894   PB-1GE-SX
PIC 3            REV 04    750-001896   PB-10C12-SON-SMIR
FPC 1            REV 02    710-010419   M320-FPC1
PIC 0            REV 04    750-001894   PB-1GE-SX
PIC 1            REV 04    750-001894   PB-1GE-SX
PIC 3            REV 03    750-001894   PB-1GE-SX
FPC 2            REV 02    710-010419   M320-FPC1
PIC 0            REV 10    750-005634   PB-1CHOC12SMIR-QPP
PIC 1            REV 10    750-005634   PB-1CHOC12SMIR-QPP

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PIC 2	REV 07	750-005634	PB-1CHOC12SMIR-QPP
PIC 3	REV 07	750-005634	PB-1CHOC12SMIR-QPP
PIC 1	REV 10	750-005634	PB-1CHOC12SMIR-QPP
PIC 2	REV 07	750-005634	PB-1CHOC12SMIR-QPP
PIC 3	REV 07	750-005634	PB-1CHOC12SMIR-QPP
FPC 3			
PIC 0	REV 03	750-001895	PB-10C12-SON-MM
PIC 1	REV 04	750-001894	PB-1GE-SX
PIC 3	REV 04	750-003141	PB-1GE-SX-B
FPC 4	REV 02	710-010419	M320-FPC1
FPC 5	REV 02	710-010419	M320-FPC1
FPC 6	REV 02	710-010419	M320-FPC1
FPC 7			
PIC 0	REV 15	750-001901	PB-40C12-SON-SMIR
PIC 1	REV 06	750-001900	PB-10C48-SON-SMSR
PIC 2	REV 07	750-001900	PB-10C48-SON-SMSR
PIC 3	REV 05	750-003737	PB-4GE-SX
SIB 0	REV 03	710-009184	SIB-M-S
SIB 1	REV 03	710-009184	SIB-M-S
SIB 2	REV 03	710-009184	SIB-M-S
SIB 3	REV 03	710-009184	SIB-M-S
Fan Tray 0			FFANTRAY-M320-S
Fan Tray 1			FFANTRAY-M320-S
Fan Tray 2			RFANTRAY-M320-S

show chassis hardware (MX5 Router)

user@host> show chassis hardware

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			E1368	MX5-T
Midplane			YF5288	MX5-T
PEM 0	Rev 04	740-028288	VA01215	AC Power Entry Module
PEM 1	Rev 04	740-028288	VA01218	AC Power Entry Module
Routing Engine		BUILTIN	BUILTIN	Routing Engine
TFEB 0		BUILTIN	BUILTIN	Forwarding Engine
Processor				
QXM 0	REV 05	711-028408	ZA9136	MPC QXM
FPC 0		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0		BUILTIN	BUILTIN	4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	4x 10GE XFP
FPC 1		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0	REV 24	750-028392	YX9820	3D 20x 1GE(LAN) SFP
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-031851	AM1045SUAQ3	SFP-SX
Xcvr 1	REV 01	740-031851	AM1045SUAPA	SFP-SX
Xcvr 2	REV 01	740-031851	AM1045SUAN7	SFP-SX
Xcvr 3	REV 01	740-031851	AM1045SU91Q	SFP-SX
Xcvr 4	REV 01	740-031851	AM1045SUDDR	SFP-SX
Xcvr 9	REV 01	740-011613	AM0848SB6A1	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-031851	AM1045SUANO	SFP-SX
Xcvr 1	REV 01	740-011613	AS0812S0719	SFP-SX
Xcvr 2	REV 01	740-011613	AM0821SA121	SFP-SX
Xcvr 3	REV 01	740-011613	PF21K21	SFP-SX
Xcvr 4	REV 01	740-011613	AM0848SB69Z	SFP-SX
Xcvr 5	REV 01	740-011782	P9P0XV3	SFP-SX
Xcvr 6	REV 01	740-011613	AM0812S8WJN	SFP-SX
Xcvr 7	REV 01	740-011613	PAM3G9Q	SFP-SX
Xcvr 8	REV 01	740-011613	AM0848SB4A6	SFP-SX
Xcvr 9	REV 01	740-011782	P9M0U37	SFP-SX

MIC 1	REV 20	750-028380	ZG2657	3D 2x 10GE XFP
PIC 2		BUILTIN	BUILTIN	1x 10GE XFP
PIC 3		BUILTIN	BUILTIN	1x 10GE XFP
Fan Tray				Fan Tray

show chassis hardware (MX10 Router)

```
user@host> show chassis hardware
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			E1372	MX10-T
Midplane	REV 01	711-038211	YF5285	MX10-T
PEM 0	Rev 04	740-028288	VB01678	AC Power Entry Module
Routing Engine		BUILTIN	BUILTIN	Routing Engine
TFEB 0		BUILTIN	BUILTIN	Forwarding Engine
Processor				
QXM 0	REV 05	711-028408	ZA9053	MPC QXM
FPC 0		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0		BUILTIN	BUILTIN	4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	4x 10GE XFP
FPC 1		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0	REV 24	750-028392	YX9436	3D 20x 1GE(LAN) SFP
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-031851	AM1107SUFQW	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Fan Tray				Fan Tray

show chassis hardware (MX40 Router)

```
user@host> show chassis hardware
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			E1367	MX40-T
Midplane	REV 01	711-038211	YF5284	MX40-T
PEM 0	Rev 04	740-028288	VB01680	AC Power Entry Module
PEM 1	Rev 04	740-028288	VB01700	AC Power Entry Module
Routing Engine		BUILTIN	BUILTIN	Routing Engine
TFEB 0		BUILTIN	BUILTIN	Forwarding Engine
Processor				
QXM 0	REV 05	711-028408	ZA9048	MPC QXM
FPC 0		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0		BUILTIN	BUILTIN	4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	4x 10GE XFP
Xcvr 0	REV 01	740-014279	M7067UPP	XFP-10G-LR
Xcvr 1		NON-JNPR	K9J02UN	XFP-10G-LR
FPC 1		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0	REV 24	750-028392	YX3504	3D 20x 1GE(LAN) SFP
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-011613	AM0812S8WTE	SFP-SX
Xcvr 1	REV 01	740-011613	PFA6KV2	SFP-SX
Xcvr 2	REV 01	740-031851	AM1045SUDDM	SFP-SX
Xcvr 3	REV 01	740-011613	PD63C7M	SFP-SX
Xcvr 4	REV 01	740-011613	PD63DJY	SFP-SX
Xcvr 5	REV 02	740-011613	AA0950STLL9	SFP-SX
Xcvr 6	REV 01	740-011782	PAR1YHC	SFP-SX
Xcvr 7	REV 01	740-011782	P9P0XXL	SFP-SX
Xcvr 8	REV 01	740-011613	PD63D95	SFP-SX
Xcvr 9	REV 01	740-031851	AM1045SU9B8	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-011613	PF21L3Z	SFP-SX
Xcvr 1	REV 01	740-031851	AM1045SU7M9	SFP-SX

Xcvr 2	REV 01	740-031851	AM1045SUAPT	SFP-SX
Xcvr 3	REV 01	740-011613	PFF2BZH	SFP-SX
Xcvr 4	REV 01	740-031851	AM1045SUDDN	SFP-SX
Xcvr 5	REV 01	740-031851	AM1039S00ZR	SFP-SX
Xcvr 6	REV 01	740-031851	AM1045SUD6Y	SFP-SX
Xcvr 8	REV 01	740-011613	PFM1QBS	SFP-SX
Xcvr 9	REV 01	740-011613	PFF2E25	SFP-SX
MIC 1	REV 01	750-021130	KG4391	3D 2x 10GE XFP
PIC 2		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 01	740-011571	C645XJ04G	XFP-10G-SR
PIC 3		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0		NON-JNPR	CA49BK0AE	XFP-10G-SR
Fan Tray				Fan Tray

show chassis hardware (Fixed MX80 Router)

```
user@host> show chassis hardware
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis				MX80-48T
Midplane	REV 01	711-031603	KF9250	MX80-48T
Routing Engine		BUILTIN	BUILTIN	Routing Engine
FEB 0		BUILTIN	BUILTIN	Forwarding Engine Board
FPC 0		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0		BUILTIN	BUILTIN	4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	4x 10GE XFP
Xcvr 0		NON-JNPR	M6439D41	XFP-10G-LR
Xcvr 1	REV 01	740-014279	6XE931N00202	XFP-10G-LR
Xcvr 2	REV 01	740-014289	C715XU05F	XFP-10G-SR
Xcvr 3	REV 01	740-014289	C650XU0EP	XFP-10G-SR
FPC 1		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0	REV 01	711-029399	JR6981	12x 1GE(LAN) RJ45
PIC 0		BUILTIN	BUILTIN	12x 1GE(LAN) RJ45
PIC 1		BUILTIN	BUILTIN	12x 1GE(LAN) RJ45
MIC 1	REV 01	BUILTIN	BUILTIN	12x 1GE(LAN) RJ45
PIC 2		BUILTIN	BUILTIN	12x 1GE(LAN) RJ45
PIC 3		BUILTIN	BUILTIN	12x 1GE(LAN) RJ45
Fan Tray				Fan Tray

show chassis hardware (Modular MX80 Router)

```
user@host> show chassis hardware
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis				MX80
Midplane	REV 02	711-031594	JR7084	MX80
PEM 0	Rev 01	740-028288	000018	AC Power Entry Module
Routing Engine		BUILTIN	BUILTIN	Routing Engine
FEB 0		BUILTIN	BUILTIN	Forwarding Engine Board
QXM 0	REV 05	711-028408	JR7041	MPC QXM
FPC 0		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0		BUILTIN	BUILTIN	4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	4x 10GE XFP
FPC 1		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0	REV 02	750-028380	JR6598	3D 2x 10GE XFP
PIC 0		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 01	740-014289	T07M86365	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 01	740-014289	T07M71094	XFP-10G-SR

MIC 1	REV 02	750-028380	JG8548	3D 2x 10GE XFP
PIC 2		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 02	740-014289	T08L86302	XFP-10G-SR
PIC 3		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 02	740-014289	C810XU0BA	XFP-10G-SR
Fan Tray				Fan Tray

show chassis hardware (MX104 Router)

```
user@host> show chassis hardware
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			G3503	MX104
Midplane	REV 28	750-044219	CAAX5741	MX104
PEM 0	REV 03	740-045933	1H072500016	AC Power Entry Module
PEM 1	REV 03	740-045932	1H073050017	DC Power Entry Module
Routing Engine 0	REV 20	750-044228	CAAY7935	RE-MX-104
Routing Engine 1	REV 13	750-044228	CAAM6380	RE-MX-104
AFEB 0		BUILTIN	BUILTIN	Forwarding Engine
Processor				
FPC 0		BUILTIN	BUILTIN	MPC BUILTIN
FPC 1		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0	REV 15	750-036132	CAAF7948	2x0C12/8x0C3 CC-CE
PIC 0		BUILTIN	BUILTIN	2x0C12/8x0C3 CC-CE
Xcvr 0	REV 01	740-011615	PCQ0U2J	SFP-IR
Xcvr 1	REV 01	740-016068	PJL7A6G	SFP-SR
Xcvr 2	REV 01	740-016068	PJL7A5J	SFP-SR
Xcvr 3	REV 01	740-016065	PJN5HPZ	SFP-SR
Xcvr 4	REV 01	740-029122	PKB38TL	SFP-LR
Xcvr 5	REV 01	740-011787	P6A107G	SFP-LR
Xcvr 6	REV 01	740-029122	PKB38TR	SFP-LR
Xcvr 7	REV 01	740-011787	PBKONK3	SFP-LR
MIC 1				
FPC 2		BUILTIN	BUILTIN	MPC BUILTIN
MIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B10F00465	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B10F00461	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B10G01545	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B10G01385	SFP+-10G-SR
Fan Tray 0	REV 02	711-049570	CAAX6538	Fan Tray

show chassis hardware detail (MX104 Router)

```
user@host> show chassis hardware detail
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			G3503	MX104
Midplane	REV 28	750-044219	CAAX5741	MX104
PEM 0	REV 03	740-045933	1H072500016	AC Power Entry Module
PEM 1	REV 03	740-045932	1H073050017	DC Power Entry Module
Routing Engine 0	REV 20	750-044228	CAAY7935	RE-MX-104
da0	7836 MB	ATP IG eUSB SSD		Nand Flash 0
usb0 (addr 1)	EHCI root hub 0		Freescall	uhub0
usb0 (addr 2)	USB2513Bi 9491		SMSC	uhub1
usb0 (addr 3)	ATP IG eUSB SSD 44801		ATP Electronics	umass0
Routing Engine 1	REV 13	750-044228	CAAM6380	RE-MX-104
da0	7836 MB	ATP IG eUSB SSD		Nand Flash 0
AFEB 0		BUILTIN	BUILTIN	Forwarding Engine
Processor				
FPC 0		BUILTIN	BUILTIN	MPC BUILTIN

FPC 1			BUILTIN	BUILTIN	MPC BUILTIN
MIC 0	REV 15	750-036132	CAAF7948		2xOC12/8xOC3 CC-CE
PIC 0		BUILTIN	BUILTIN		2xOC12/8xOC3 CC-CE
Xcvr 0	REV 01	740-011615	PCQOU2J		SFP-IR
Xcvr 1	REV 01	740-016068	PJL7A6G		SFP-SR
Xcvr 2	REV 01	740-016068	PJL7A5J		SFP-SR
Xcvr 3	REV 01	740-016065	PJN5HPZ		SFP-SR
Xcvr 4	REV 01	740-029122	PKB38TL		SFP-LR
Xcvr 5	REV 01	740-011787	P6A107G		SFP-LR
Xcvr 6	REV 01	740-029122	PKB38TR		SFP-LR
Xcvr 7	REV 01	740-011787	PBKONK3		SFP-LR
MIC 1					
FPC 2		BUILTIN	BUILTIN		MPC BUILTIN
MIC 0		BUILTIN	BUILTIN		4x 10GE(LAN) SFP+
PIC 0		BUILTIN	BUILTIN		4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B10F00465		SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B10F00461		SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B10G01545		SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B10G01385		SFP+-10G-SR
Fan Tray 0	REV 02	711-049570	CAAX6538		Fan Tray

show chassis hardware extensive (MX104 Router)

```

user@host> show chassis hardware extensive
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Jedec Code:   0x7fb0          EEPROM Version: 0x02
S/N:          G3503
Assembly ID:  0x0560          Assembly Version: 00.00
Date:         00-00-0000      Assembly Flags:  0x00
ID: MX104
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 05 60 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x20: 47 33 35 30 33 00 00 00 00 00 00 00 00 00 00 00
Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane      REV 28      750-044219  CAAX5741      MX104
Jedec Code:   0x7fb0          EEPROM Version: 0x02
P/N:          750-044219      S/N:          CAAX5741
Assembly ID:  0x0560          Assembly Version: 01.28
Date:         03-27-2013      Assembly Flags: 0x00
Version:      REV 28          CLEI Code:    PROTOXCLEI
ID: MX104      FRU Model Number:  PROTO-ASSEMBLY
Board Information Record:
Address 0x00: ad 01 08 00 b0 a8 6e a7 f8 00 ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 05 60 01 1c 52 45 56 20 32 38 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 32 31 39 00 00
Address 0x20: 53 2f 4e 20 43 41 41 58 35 37 34 31 00 1b 03 07
Address 0x30: dd ff ff ff ad 01 08 00 b0 a8 6e a7 f8 00 ff ff
Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff c2 47 33 35 30 33 00 00 00 00 00 00 00

```



```

PEM 0          REV 03  740-045933  1H072500016  AC Power Entry Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:          740-045933      S/N:          1H072500016
Assembly ID:   0x0475          Assembly Version: 00.03
Date:          12-14-2012      Assembly Flags: 0x00
Version:       REV 03          CLEI Code:     IPUPAJ9KAA
ID: AC Power Entry Module      FRU Model Number: PWR-AMX1100-AC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff 02 02 00 ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 75 00 03 52 45 56 20 30 33 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 34 35 39 33 33 00 00
Address 0x20: 31 48 30 37 32 35 30 30 30 31 36 00 00 0e 0c 07
Address 0x30: dc 30 43 ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: 02 02 00 ff 01 49 50 55 50 41 4a 39 4b 41 41 50
Address 0x50: 57 52 2d 41 4d 58 31 31 30 30 2d 41 43 2d 53 00
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 70 ff ff ff ff ff ff ff ff ff ff ff ff

PEM 1          REV 03  740-045932  1H073050017  DC Power Entry Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:          740-045932      S/N:          1H073050017
Assembly ID:   0x0476          Assembly Version: 00.03
Date:          01-30-2013      Assembly Flags: 0x00
Version:       REV 03          CLEI Code:     IPUPAJ8KAA
ID: DC Power Entry Module      FRU Model Number: PWR-AMX1100-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff 02 02 00 ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 76 00 03 52 45 56 20 30 33 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 34 35 39 33 32 00 00
Address 0x20: 31 48 30 37 33 30 35 30 30 31 37 00 00 1e 01 07
Address 0x30: dd 30 44 ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: 02 02 00 ff 01 49 50 55 50 41 4a 38 4b 41 41 50
Address 0x50: 57 52 2d 41 4d 58 31 31 30 30 2d 44 43 2d 53 00
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 72 ff ff ff ff ff ff ff ff ff ff ff ff

Routing Engine 0 REV 20  750-044228  CAAY7935  RE-MX-104
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:          750-044228      S/N:          CAAY7935
Assembly ID:   0x0b81          Assembly Version: 01.20
Date:          03-18-2013      Assembly Flags: 0x00
Version:       REV 20          CLEI Code:     PROTOXCLEI
ID: RE-MX-104      FRU Model Number: PROTO-ASSEMBLY
Board Information Record:
Address 0x00: ad 01 00 08 b0 a8 6e a6 fc 10 ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 fe 0b 81 01 14 52 45 56 20 32 30 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 32 32 38 00 00
Address 0x20: 53 2f 4e 20 43 41 41 59 37 39 33 35 00 12 03 07
Address 0x30: dd ff ff ff ad 01 00 08 b0 a8 6e a6 fc 10 ff ff
Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
da0  7836 MB  ATP IG eUSB SSD  Nand Flash 0
usb0 (addr 1) EHCI root hub 0  Freescale  uhub0
usb0 (addr 2) USB2513Bi 9491  SMSC  uhub1
usb0 (addr 3) ATP IG eUSB SSD 44801 ATP Electronics  umass0
Routing Engine 1 REV 13  750-044228  CAAM6380  RE-MX-104
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:          750-044228      S/N:          CAAM6380

```

```

Assembly ID: 0x0b81      Assembly Version: 01.13
Date:          09-17-2012    Assembly Flags: 0x00
Version:       REV 13       CLEI Code:      PROTOXCLEI
ID: RE-MX-104          FRU Model Number:  PROTO-ASSEMBLY

Board Information Record:
Address 0x00: ad 01 00 08 64 87 88 27 08 18 ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 fe 0b 81 01 0d 52 45 56 20 31 33 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 32 32 38 00 00
Address 0x20: 53 2f 4e 20 43 41 41 4d 36 33 38 30 00 11 09 07
Address 0x30: dc ff ff ff ad 01 00 08 64 87 88 27 08 18 ff ff
Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
da0      7836 MB  ATP IG eUSB SSD      Nand Flash 0
AFEB 0          BUILTIN      BUILTIN      Forwarding Engine
Processor
FPC 0          BUILTIN      BUILTIN      MPC BUILTIN
FPC 1          BUILTIN      BUILTIN      MPC BUILTIN
MIC 0          REV 15      750-036132  CAAF7948      2x0C12/8x0C3 CC-CE
Jedec Code:    0x7fb0      EEPROM Version: 0x02
P/N:           750-036132  S/N:          CAAF7948
Assembly ID:   0x0a1a      Assembly Version: 01.15
Date:          07-03-2012  Assembly Flags: 0x00
Version:       REV 15      CLEI Code:     IP9IAM2DAA
ID: 2x0C12/8x0C3 CC-CE    FRU Model Number: MIC-3D-80C3-20C12-ATM

Board Information Record:
Address 0x00: 12 01 05 03 05 ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 0a 1a 01 0f 52 45 56 20 31 35 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 33 36 31 33 32 00 00
Address 0x20: 53 2f 4e 20 43 41 41 46 37 39 34 38 00 03 07 07
Address 0x30: dc ff ff ff 12 01 05 03 05 ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 39 49 41 4d 32 44 41 41 4d
Address 0x50: 49 43 2d 33 44 2d 38 4f 43 33 2d 32 4f 43 31 32
Address 0x60: 2d 41 54 4d 00 00 41 00 00 ff ff ff ff ff ff ff
Address 0x70: ff ff ff e3 c0 02 a3 9c 00 00 00 00 0a 60 00 00
PIC 0          BUILTIN      BUILTIN      2x0C12/8x0C3 CC-CE
Xcvr 0        REV 01      740-011615  PCQ0U2J      SFP-IR
Xcvr 1        REV 01      740-016068  P3L7A6G      SFP-SR
Xcvr 2        REV 01      740-016068  P3L7A5J      SFP-SR
Xcvr 3        REV 01      740-016065  PJN5HPZ      SFP-SR
Xcvr 4        REV 01      740-029122  PKB38TL      SFP-LR
Xcvr 5        REV 01      740-011787  P6A107G      SFP-LR
Xcvr 6        REV 01      740-029122  PKB38TR      SFP-LR
Xcvr 7        REV 01      740-011787  PBK0NK3      SFP-LR
MIC 1
FPC 2          BUILTIN      BUILTIN      MPC BUILTIN
MIC 0          BUILTIN      BUILTIN      4x 10GE(LAN) SFP+
Jedec Code:    0x0000      EEPROM Version: 0x00
P/N:           BUILTIN      S/N:          BUILTIN
Assembly ID:   0x0a60      Assembly Version: 00.00
Date:          00-00-0000   Assembly Flags: 0x00
ID: 4x 10GE(LAN) SFP+

Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 00 00 00 00 0a 60 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 4d 58 43 00
Address 0x20: 42 55 49 4c 54 49 4e 00 4d 58 43 00 00 00 00 00

```

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Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 c0 02 a5 04 7f b0 02 ff 0a 1a 01 0f
PIC 0
  Xcvr 0      REV 01    740-031980    B10F00465    4x 10GE(LAN) SFP+
  Xcvr 1      REV 01    740-031980    B10F00461    SFP+-10G-SR
  Xcvr 2      REV 01    740-031980    B10G01545    SFP+-10G-SR
  Xcvr 3      REV 01    740-031980    B10G01385    SFP+-10G-SR
Fan Tray 0    REV 02    711-049570    CAAX6538     Fan Tray
Jedec Code:   0x7fb0    EEPROM Version: 0x02
P/N:          711-049570 S/N:          CAAX6538
Assembly ID:  0x0b82    Assembly Version: 01.02
Date:         03-01-2013 Assembly Flags:  0x00
Version:      REV 02    CLEI Code:     PROTOXCLEI
ID: Fan Tray    FRU Model Number: PROTO-ASSEMBLY

Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 0b 82 01 02 52 45 56 20 30 32 00 00
Address 0x10: 00 00 00 00 37 31 31 2d 30 34 39 35 37 30 00 00
Address 0x20: 53 2f 4e 20 43 41 41 58 36 35 33 38 00 01 03 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff

```

show chassis hardware models (MX104 Router)

```

user@host> show chassis hardware models
Hardware inventory:
Item          Version  Part number  Serial number  FRU model number
Midplane      REV 20    750-044219   CAAS5849       PROTO-ASSEMBLY
PEM 0         REV 01    740-045932   1H072400065
Routing Engine 0 REV 16    750-044228   CAAR5915       PROTO-ASSEMBLY
AFEB 0
FPC 0         BUILTIN   BUILTIN
FPC 1         BUILTIN   BUILTIN
MIC 0         REV 01    750-046905   CAAK7103       MIC-3D-20GE-SFP-EH
FPC 2         BUILTIN   BUILTIN
Fan Tray      REV 02    711-049570   CAAX6538       PROTO-ASSEMBLY

```

show chassis hardware clei-models (MX104 Router)

```

user@host> show chassis hardware clei-models
Hardware inventory:
Item          Version  Part number  CLEI code      FRU model number
Midplane      REV 20    750-044219   PROTOXCLEI     PROTO-ASSEMBLY
PEM 0         REV 01    740-045932
Routing Engine 0 REV 16    750-044228   PROTOXCLEI     PROTO-ASSEMBLY
AFEB 0
FPC 0         BUILTIN   BUILTIN
FPC 1         BUILTIN   BUILTIN
MIC 0         REV 01    750-046905   PROTOXCLEI     MIC-3D-20GE-SFP-EH
FPC 2         BUILTIN   BUILTIN
Fan Tray      REV 02    711-049570   CAAX6538       PROTO-ASSEMBLY

```

show chassis hardware (MX240 Router)

```

user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number  Description
Chassis                               JN10C7F7EAFc  MX240
Midplane         REV 01   710-021041   TR1502         MX240 Backplane
FPM Board        REV 01   710-017254   KD4017         Front Panel Display
PEM 0            Rev 02   740-017330   000332         PS 1.2-1.7kW; 100-240V
AC in
PEM 1            Rev 02   740-017330   000226         PS 1.2-1.7kW; 100-240V
AC in
Routing Engine 0 REV 06   740-013063   1000703522     RE-S-2000
Routing Engine 1 REV 06   740-015113   1000687625     RE-S-1300
CB 0             REV 07   710-013385   KC9057         MX SCB
CB 1             REV 05   710-013385   JY4760         MX SCB
FPC 1            REV 01   750-021679   KC7340         DPCE 40x 1GE R
CPU              REV 06   710-013713   KD4078         DPC PMB
PIC 0            BUILTIN BUILTIN       10x 1GE(LAN)
Xcvr 0           REV 01   740-011613   P9F18ME        SFP-SX
PIC 1            BUILTIN BUILTIN       10x 1GE(LAN)
PIC 2            BUILTIN BUILTIN       10x 1GE(LAN)
PIC 3            BUILTIN BUILTIN       10x 1GE(LAN)
FPC 2            REV 04   710-016669   JS4529         DPCE 40x 1GE R EQ
CPU              REV 06   710-013713   KB3969         DPC PMB
PIC 0            BUILTIN BUILTIN       10x 1GE(LAN) EQ
Xcvr 0           REV 01   740-011613   PBG3Y79        SFP-SX
Xcvr 1           REV 01   740-011613   PBG3XU8        SFP-SX
Xcvr 2           REV 01   740-011613   PBG3YG6        SFP-SX
Xcvr 3           REV 01   740-011613   PBG3XUG        SFP-SX
Xcvr 4           REV 01   740-011613   PBG3XTJ        SFP-SX
PIC 1            BUILTIN BUILTIN       10x 1GE(LAN) EQ
Xcvr 0           REV 01   740-011613   PBG3ZUM        SFP-SX
Xcvr 1           REV 01   740-011613   PBG3Y5H        SFP-SX
Xcvr 2           REV 01   740-011613   PBG3UZT        SFP-SX
Xcvr 3           REV 01   740-011613   PBG3US1        SFP-SX
PIC 2            BUILTIN BUILTIN       10x 1GE(LAN) EQ
Xcvr 0           REV 01   740-011613   PBG3YG7        SFP-SX
Xcvr 1           REV 01   740-011613   PBG3XZ9        SFP-SX
Xcvr 2           REV 01   740-011613   PBG3XTY        SFP-SX
Xcvr 3           REV 01   740-011613   PBG3UZG        SFP-SX
PIC 3            BUILTIN BUILTIN       10x 1GE(LAN) EQ
Xcvr 0           REV 01   740-011613   PBG3Y8W        SFP-SX
Xcvr 1           REV 01   740-011613   PBG3YVX        SFP-SX
Xcvr 2           REV 01   740-011613   PBG3YB3        SFP-SX
Xcvr 3           REV 01   740-011613   PBG43VQ        SFP-SX
Fan Tray 0       REV 01   710-021113   JS4642         MX240 Fan Tray

```

show chassis hardware detail (MX 240 Router with Routing Engine Displaying DIMM information)

```

user@host> show chassis hardware detail

Item             Version  Part number  Serial number  Description
Chassis                               JN11279B4AFC  MX240 Backplane
Midplane         REV 07   760-021404   TS2474         MX240 Backplane
FPM Board        REV 03   760-021392   XC2643         Front Panel Display
PEM 0            Rev 03   740-017343   QCS0908A068    DC Power Entry Module
Routing Engine 0 REV 01   740-031117   AARCH00        RE-S-1800x4
ad0  3764 MB  STEC M2+ CF 9.0.2  STIM2Q3209239145303 Removable Compact Flash
ad1  28626 MB WDC SSD-F0030S-5000  C933Z036237215548S00 Compact Flash

```

```

usb0 (addr 1) EHCI root hub 0      Intel      uhub0
usb0 (addr 2) product 0x0020 32    vendor 0x8087 uhub1
DIMM 0        VL31B5263E-F8S DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 1        VL31B5263E-F8S DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 2        VL31B5263E-F8S DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 3        SL31B5263E-F8S DIE REV-0 PCB REV-0 MFR ID-ce80
CB 0          REV 03 710-021523    XD7225    MX SCB
Fan Tray 0    REV 01 710-021113    WZ4986    MX240 Fan Tray

```

show chassis hardware (MX240 Router with Enhanced MX SCB)

```

user@host> show chassis hardware
Hardware inventory:
Item              Version  Part number  Serial number  Description
Chassis                               JN10C7F7EAFc  MX240
Midplane          REV 01   710-021041   TR1502        MX240 Backplane
FPM Board         REV 01   710-017254   KD4017        Front Panel Display
PEM 0             Rev 02   740-017330   000332        PS 1.2-1.7kW; 100-240V
AC in
PEM 1             Rev 02   740-017330   000226        PS 1.2-1.7kW; 100-240V
AC in
Routing Engine 0  REV 06   740-013063   1000703522    RE-S-2000
Routing Engine 1  REV 06   740-015113   1000687625    RE-S-1300
CB 0              REV 02   710-031391   YE8494        Enhanced MX SCB
CB 1              REV 05   710-031391   YOP5764       Enhanced MX SCB
FPC 1             REV 01   750-021679   KC7340        DPCE 40x 1GE R
CPU               REV 06   710-013713   KD4078        DPC PMB
PIC 0             BUILTIN BUILTIN      10x 1GE(LAN)
Xcvr 0            REV 01   740-011613   P9F18ME       SFP-SX
PIC 1             BUILTIN BUILTIN      10x 1GE(LAN)
PIC 2             BUILTIN BUILTIN      10x 1GE(LAN)
PIC 3             BUILTIN BUILTIN      10x 1GE(LAN)
FPC 2             REV 04   710-016669   JS4529        DPCE 40x 1GE R EQ
CPU               REV 06   710-013713   KB3969        DPC PMB
PIC 0             BUILTIN BUILTIN      10x 1GE(LAN) EQ
Xcvr 0            REV 01   740-011613   PBG3Y79       SFP-SX
Xcvr 1            REV 01   740-011613   PBG3XU8       SFP-SX
Xcvr 2            REV 01   740-011613   PBG3YG6       SFP-SX
Xcvr 3            REV 01   740-011613   PBG3XUG       SFP-SX
Xcvr 4            REV 01   740-011613   PBG3XTJ       SFP-SX
PIC 1             BUILTIN BUILTIN      10x 1GE(LAN) EQ
Xcvr 0            REV 01   740-011613   PBG3ZUM       SFP-SX
Xcvr 1            REV 01   740-011613   PBG3Y5H       SFP-SX
Xcvr 2            REV 01   740-011613   PBG3UZT       SFP-SX
Xcvr 3            REV 01   740-011613   PBG3US1       SFP-SX
PIC 2             BUILTIN BUILTIN      10x 1GE(LAN) EQ
Xcvr 0            REV 01   740-011613   PBG3YG7       SFP-SX
Xcvr 1            REV 01   740-011613   PBG3XZ9       SFP-SX
Xcvr 2            REV 01   740-011613   PBG3XTY       SFP-SX
Xcvr 3            REV 01   740-011613   PBG3UZG       SFP-SX
PIC 3             BUILTIN BUILTIN      10x 1GE(LAN) EQ
Xcvr 0            REV 01   740-011613   PBG3Y8W       SFP-SX
Xcvr 1            REV 01   740-011613   PBG3YVX       SFP-SX
Xcvr 2            REV 01   740-011613   PBG3YB3       SFP-SX
Xcvr 3            REV 01   740-011613   PBG43VQ       SFP-SX
Fan Tray 0        REV 01   710-021113   JS4642        MX240 Fan Tray

```

show chassis hardware (MX480 Router)

```

user@host> show chassis hardware

```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN10C7F7FAFB	MX480
Midplane	REV 04	710-017414	TR2071	MX480 Midplane
FPM Board	REV 02	710-017254	KB8459	Front Panel Display
PEM 0	Rev 02	740-017330	QCS07519029	PS 1.2-1.7kW; 100-240V
AC in				
PEM 1	Rev 02	740-017330	QCS07519041	PS 1.2-1.7kW; 100-240V
AC in				
PEM 2	Rev 02	740-017330	QCS07519097	PS 1.2-1.7kW; 100-240V
AC in				
Routing Engine 0	REV 07	740-013063	1000733381	RE-S-2000
Routing Engine 1	REV 07	740-013063	1000733540	RE-S-2000
CB 0	REV 07	710-013385	KA8022	MX SCB
CB 1	REV 07	710-013385	KA8303	MX SCB
FPC 0	REV 09	750-020452	KA8660	DPCE 40x 1GE X EQ
CPU	REV 06	710-013713	KA8185	DPC PMB
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
PIC 2		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
PIC 3		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
Fan Tray				Left Fan Tray

show chassis hardware (MX480 Router with Enhanced MX SCB)

user@host> show chassis hardware

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN10C7F7FAFB	MX480
Midplane	REV 04	710-017414	TR2071	MX480 Midplane
FPM Board	REV 02	710-017254	KB8459	Front Panel Display
PEM 0	Rev 02	740-017330	QCS07519029	PS 1.2-1.7kW; 100-240V
AC in				
PEM 1	Rev 02	740-017330	QCS07519041	PS 1.2-1.7kW; 100-240V
AC in				
PEM 2	Rev 02	740-017330	QCS07519097	PS 1.2-1.7kW; 100-240V
AC in				
Routing Engine 0	REV 07	740-013063	1000733381	RE-S-2000
Routing Engine 1	REV 07	740-013063	1000733540	RE-S-2000
CB 0	REV 07	710-013385	KA8022	Enhanced MX SCB
CB 1	REV 07	710-013385	KA8303	Enhanced MX SCB
FPC 0	REV 09	750-020452	KA8660	DPCE 40x 1GE X EQ
CPU	REV 06	710-013713	KA8185	DPC PMB
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
PIC 2		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
PIC 3		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
Fan Tray				Left Fan Tray

show chassis hardware (MX480 Routers with MPC5E and built-in OTN PIC)

user@host> show chassis hardware

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11C0338AFB	MX480
Midplane	REV 05	710-017414	ABAB8430	MX480 Midplane
FPM Board	REV 02	710-017254	ZS8005	Front Panel Display
PEM 0	Rev 05	740-029970	QCS1024U089	PS 1.4-2.52kW; 90-264V
AC in				
PEM 1	Rev 10	740-029970	QCS1314U0FJ	PS 1.4-2.52kW; 90-264V
AC in				

PEM 2	Rev 07	740-029970	QCS1121U076	PS 1.4-2.52kW; 90-264V
AC in				
Routing Engine 0	REV 05	740-031116	9009092471	RE-S-1800x4
Routing Engine 1	REV 05	740-031116	9009097958	RE-S-1800x4
CB 0	REV 16	750-031391	CAAX0789	Enhanced MX SCB
CB 1	REV 16	750-031391	CAAX0856	Enhanced MX SCB
FPC 0	REV 32	750-028467	ABBP1782	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBP5410	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	983152A00038	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11F00211	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AQ72LPB	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AHNOWR5	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11J03627	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11F00300	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ42WSS	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ43HGC	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	ANAOND0	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	ANAONGF	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	ANAONG9	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	ANAOMP9	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQA06CG	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	19T511100493	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	APR040J	SFP+-10G-SR
FPC 1	REV 26	750-046005	CACN1894	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACN8698	RMPC PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	163363A03046	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ40JS8	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	153363A00593	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ40JUJ	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	UQC0B53	CFP2-100G-LR4-D
FPC 2	REV 26	750-046005	CACN1891	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACN8694	RMPC PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0		NON-JNPR	URA012A	SFP+-10G-LR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	J13F47042	CFP2-100G-LR4-D
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	AJC0BM3	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	11T511100917	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	UQK07SU	CFP2-100G-LR4-D
FPC 3	REV 03	750-045372	CAAD9425	MPCE Type 3 3D
CPU	REV 08	711-035209	CAAD9094	HMPC PMB 2G
MIC 0	REV 14	750-033196	CAAW9204	1X100GE CXP
PIC 0		BUILTIN	BUILTIN	1X100GE CXP
Xcvr 0	REV 01	740-046563	XD16FC034	CFP2-100G-SR10
MIC 1	REV 19	750-033199	CAAJ1814	1X100GE CFP
PIC 2		BUILTIN	BUILTIN	1X100GE CFP
FPC 4	REV 21.0.11	750-045715	CAAY3568	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 07	711-045719	CAAW7430	RMPC PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	AP406NG	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AR41NLP	SFP+-10G-SR

Xcvr 2	REV 01	740-031980	B11D05630	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 2		BUILTIN	BUILTIN	3X40GE QSFP
PIC 3		BUILTIN	BUILTIN	3X40GE QSFP
WAN MEZZ	REV 12	750-049136	CACM6678	MPC5E 24XGE OTN Mezz
FPC 5	REV 11	750-045372	CABK7539	MPCE Type 3 3D
CPU	REV 08	711-035209	CABJ2466	HMPC PMB 2G
MIC 0	REV 19	750-033199	CAAJ9719	1X100GE CFP
PIC 0		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	UP1020P	CFP-100G-SR10
MIC 1	REV 07	750-033196	YZ0797	1X100GE CXF
PIC 2		BUILTIN	BUILTIN	1X100GE CXF
Xcvr 0	REV 01	740-046563	XC42FC022	CFP2-100G-SR10
Fan Tray				Enhanced Left Fan Tray

show chassis hardware detail (MX480 Routers with MPC5E and built-in OTN PIC)

```

user@host> show chassis hardware detail
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               JN11C0338AFB  MX480
Midplane      REV 05   710-017414  ABAB8430      MX480 Midplane
FPM Board     REV 02   710-017254  ZS8005        Front Panel Display
PEM 0         Rev 05   740-029970  QCS1024U089   PS 1.4-2.52kW; 90-264V
AC in
PEM 1         Rev 10   740-029970  QCS1314U0FJ   PS 1.4-2.52kW; 90-264V
AC in
PEM 2         Rev 07   740-029970  QCS1121U076   PS 1.4-2.52kW; 90-264V
AC in
Routing Engine 0 REV 05   740-031116  9009092471    RE-S-1800x4
  ad0  3896 MB VRFCF14096DIHK1 VM4096MB 6862 Compact Flash
  ad1  30533 MB UGB94ARF32H0S3-KC UNIGEN-478612-001127 Disk 1
  usb0 (addr 1) EHCI root hub 0 Intel uhub0
  usb0 (addr 2) product 0x0020 32 vendor 0x8087 uhub1
  DIMM 0 SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 1 SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 2 SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 3 SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 05   740-031116  9009097958    RE-S-1800x4
  ad0  3896 MB VRFCF14096DIHK1 VM4096MB 6145 Compact Flash
  ad1  30533 MB UGB94ARF32H0S3-KC UNIGEN-499551-000273 Disk 1
CB 0          REV 16   750-031391  CAAX0789      Enhanced MX SCB
CB 1          REV 16   750-031391  CAAX0856      Enhanced MX SCB
FPC 0         REV 32   750-028467  ABBP1782      MPC 3D 16x 10GE
CPU           REV 10   711-029089  ABBP5410      AMPC PMB
PIC 0         BUILTIN  BUILTIN      4x 10GE(LAN) SFP+
  Xcvr 0      REV 01   740-021308  983152A00038 SFP+-10G-SR
  Xcvr 1      REV 01   740-031980  B11F00211    SFP+-10G-SR
  Xcvr 2      REV 01   740-031980  AQ72LPB      SFP+-10G-SR
  Xcvr 3      REV 01   740-031980  AHNOWR5      SFP+-10G-SR
PIC 1         BUILTIN  BUILTIN      4x 10GE(LAN) SFP+
  Xcvr 0      REV 01   740-031980  B11J03627    SFP+-10G-SR
  Xcvr 1      REV 01   740-031980  B11F00300    SFP+-10G-SR
  Xcvr 2      REV 01   740-021308  AQ42WSS      SFP+-10G-SR
  Xcvr 3      REV 01   740-021308  AQ43HGC      SFP+-10G-SR
PIC 2         BUILTIN  BUILTIN      4x 10GE(LAN) SFP+
  Xcvr 0      REV 01   740-021308  ANAONDO      SFP+-10G-SR
  Xcvr 1      REV 01   740-021308  ANAONGF      SFP+-10G-SR
  Xcvr 2      REV 01   740-021308  ANAONG9      SFP+-10G-SR
  Xcvr 3      REV 01   740-021308  ANAOMP9      SFP+-10G-SR
PIC 3         BUILTIN  BUILTIN      4x 10GE(LAN) SFP+

```


Xcvr 0	REV 01	740-021308	AQA06CG	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	19T511100493	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	APR040J	SFP+-10G-SR
FPC 1	REV 26	750-046005	CACN1894	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACN8698	RMP C PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	163363A03046	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ40JS8	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	153363A00593	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ40JUJ	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	UQC0B53	CFP2-100G-LR4-D
FPC 2	REV 26	750-046005	CACN1891	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACN8694	RMP C PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0		NON-JNPR	URA012A	SFP+-10G-LR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	J13F47042	CFP2-100G-LR4-D
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	AJC0BM3	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	11T511100917	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	UQK07SU	CFP2-100G-LR4-D
FPC 3	REV 03	750-045372	CAAD9425	MPCE Type 3 3D
CPU	REV 08	711-035209	CAAD9094	HMP C PMB 2G
MIC 0	REV 14	750-033196	CAAW9204	1X100GE CXP
PIC 0		BUILTIN	BUILTIN	1X100GE CXP
Xcvr 0	REV 01	740-046563	XD16FC034	CFP2-100G-SR10
MIC 1	REV 19	750-033199	CAAJ1814	1X100GE CFP
PIC 2		BUILTIN	BUILTIN	1X100GE CFP
FPC 4	REV 21.0.11	750-045715	CAAY3568	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 07	711-045719	CAAW7430	RMP C PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	AP406NG	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AR41NLP	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11D05630	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 2		BUILTIN	BUILTIN	3X40GE QSFPP
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
WAN MEZZ	REV 12	750-049136	CACM6678	MPC5E 24XGE OTN Mezz
FPC 5	REV 11	750-045372	CABK7539	MPCE Type 3 3D
CPU	REV 08	711-035209	CABJ2466	HMP C PMB 2G
MIC 0	REV 19	750-033199	CAAJ9719	1X100GE CFP
PIC 0		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	UP1020P	CFP-100G-SR10
MIC 1	REV 07	750-033196	YZ0797	1X100GE CXP
PIC 2		BUILTIN	BUILTIN	1X100GE CXP
Xcvr 0	REV 01	740-046563	XC42FC022	CFP2-100G-SR10
Fan Tray				Enhanced Left Fan Tray

show chassis hardware extensive (MX480 Routers with MPC5E and built-in OTN PIC)

```
user@host> show chassis hardware extensive
```

```
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			JN11C0338AFB	MX480
Jedec Code:	0x7fb0		EEPROM Version:	0x02
			S/N:	JN11C0338AFB

```

Assembly ID: 0x01fe          Assembly Version: 00.00
Date:          00-00-0000      Assembly Flags: 0x02
ID: MX480
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 01 fe 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x20: 4a 4e 31 31 43 30 33 33 38 41 46 42 02 00 00 00
Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane          REV 05    710-017414    ABAB8430          MX480 Midplane
Jedec Code: 0x7fb0          EEPROM Version: 0x01
P/N: 710-017414            S/N: ABAB8430
Assembly ID: 0x01fe        Assembly Version: 01.05
Date: 12-13-2011          Assembly Flags: 0x00
Version: REV 05
ID: MX480 Midplane        FRU Model Number: CHAS-BP-MX480-S
Board Information Record:
Address 0x00: ad 01 08 00 00 23 9c fc 98 00 ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 01 fe 01 05 52 45 56 20 30 35 00 00
Address 0x10: 00 00 00 00 37 31 30 2d 30 31 37 34 31 34 00 00
Address 0x20: 53 2f 4e 20 41 42 41 42 38 34 33 30 00 0d 0c 07
Address 0x30: db ff ff ff ad 01 08 00 00 23 9c fc 98 00 ff ff
Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 43
Address 0x50: 48 41 53 2d 42 50 2d 4d 58 34 38 30 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
FPM Board          REV 02    710-017254    ZS8005          Front Panel Display
Jedec Code: 0x7fb0          EEPROM Version: 0x01
P/N: 710-017254            S/N: ZS8005
Assembly ID: 0x01ff        Assembly Version: 01.02
Date: 11-21-2011          Assembly Flags: 0x00
Version: REV 02
ID: Front Panel Display    FRU Model Number: CRAFT-MX480-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 01 ff 01 02 52 45 56 20 30 32 00 00
Address 0x10: 00 00 00 00 37 31 30 2d 30 31 37 32 35 34 00 00
Address 0x20: 53 2f 4e 20 5a 53 38 30 30 35 00 00 00 15 0b 07
Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 43
Address 0x50: 52 41 46 54 2d 4d 58 34 38 30 2d 53 00 00 00 00
Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
PEM 0              Rev 05    740-029970    QCS1024U089      PS 1.4-2.52kW; 90-264V
AC in
Jedec Code: 0x7fb0          EEPROM Version: 0x01
P/N: 740-029970            S/N: QCS1024U089
Assembly ID: 0x0432        Assembly Version: 01.05
Date: 06-17-2010          Assembly Flags: 0x00
Version: Rev 05
ID: PS 1.4-2.52kW; 90-264V AC in FRU Model Number: PWR-MX480-2520-AC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
I2C Hex Data:

```

```

Address 0x00: 7f b0 01 ff 04 32 01 05 52 65 76 20 30 35 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 32 39 39 37 30 00 00
Address 0x20: 51 43 53 31 30 32 34 55 30 38 39 00 00 11 06 07
Address 0x30: da ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
Address 0x50: 57 52 2d 4d 58 34 38 30 2d 32 35 32 30 2d 41 43
Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PEM 1          Rev 10    740-029970    QCS1314U0FJ    PS 1.4-2.52kW; 90-264V
AC in
Jedec Code:    0x7fb0          EEPROM Version: 0x01
P/N:           740-029970      S/N:           QCS1314U0FJ
Assembly ID:   0x0432          Assembly Version: 01.10
Date:          04-04-2013      Assembly Flags: 0x00
Version:       Rev 10
ID: PS 1.4-2.52kW; 90-264V AC in FRU Model Number: PWR-MX480-2520-AC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 04 32 01 0a 52 65 76 20 31 30 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 32 39 39 37 30 00 00
Address 0x20: 51 43 53 31 33 31 34 55 30 46 4a 00 00 04 04 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
Address 0x50: 57 52 2d 4d 58 34 38 30 2d 32 35 32 30 2d 41 43
Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PEM 2          Rev 07    740-029970    QCS1121U076    PS 1.4-2.52kW; 90-264V
AC in
Jedec Code:    0x7fb0          EEPROM Version: 0x01
P/N:           740-029970      S/N:           QCS1121U076
Assembly ID:   0x0432          Assembly Version: 01.07
Date:          05-23-2011      Assembly Flags: 0x00
Version:       Rev 07
ID: PS 1.4-2.52kW; 90-264V AC in FRU Model Number: PWR-MX480-2520-AC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 04 32 01 07 52 65 76 20 30 37 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 32 39 39 37 30 00 00
Address 0x20: 51 43 53 31 31 32 31 55 30 37 36 00 00 17 05 07
Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
Address 0x50: 57 52 2d 4d 58 34 38 30 2d 32 35 32 30 2d 41 43
Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Routing Engine 0 REV 05    740-031116    9009092471    RE-S-1800x4
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:           740-031116      S/N:           9009092471
Assembly ID:   0x09c0          Assembly Version: 01.05
Date:          11-01-2011      Assembly Flags: 0x00
Version:       REV 05          CLEI Code:     COUCALDBAA
ID: RE-S-1800x4          FRU Model Number: RE-S-1800X4-16G-S
Board Information Record:
Address 0x00: 54 32 30 32 37 43 41 2d 34 32 46 42 23 23 23 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 09 c0 01 05 52 45 56 20 30 35 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 33 31 31 31 36 00 00
Address 0x20: 39 30 30 39 30 39 32 34 37 31 00 00 00 01 0b 07
Address 0x30: db ff ff ff 54 32 30 32 37 43 41 2d 34 32 46 42
Address 0x40: 23 23 23 00 01 43 4f 55 43 41 4c 44 42 41 41 52

```

```

Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 4b ff ff ff ff ff ff ff ff ff ff ff ff
ad0    3896 MB VRFCF14096DIHK1 VM4096MB 6862 Compact Flash
ad1    30533 MB UGB94ARF32H0S3-KC UNIGEN-478612-001127 Disk 1
usb0 (addr 1) EHCI root hub 0 Intel uhub0
usb0 (addr 2) product 0x0020 32 vendor 0x8087 uhub1
DIMM 0 SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
DIMM 1 SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
DIMM 2 SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
DIMM 3 SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 05 740-031116 9009097958 RE-S-1800x4
Jedec Code: 0x7fb0 EEPROM Version: 0x02
P/N: 740-031116 S/N: 9009097958
Assembly ID: 0x09c0 Assembly Version: 01.05
Date: 02-06-2012 Assembly Flags: 0x00
Version: REV 05 CLEI Code: COUCALDBAA
ID: RE-S-1800x4 FRU Model Number: RE-S-1800X4-16G-S
Board Information Record:
Address 0x00: 54 32 30 32 37 43 41 2d 34 32 46 42 23 23 23 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 09 c0 01 05 52 45 56 20 30 35 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 33 31 31 31 36 00 00
Address 0x20: 39 30 30 39 30 39 37 39 35 38 00 00 00 06 02 07
Address 0x30: dc ff ff ff 54 32 30 32 37 43 41 2d 34 32 46 42
Address 0x40: 23 23 23 00 01 43 4f 55 43 41 4c 44 42 41 41 52
Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 4b ff ff ff ff ff ff ff ff ff ff ff ff
ad0    3896 MB VRFCF14096DIHK1 VM4096MB 6145 Compact Flash
ad1    30533 MB UGB94ARF32H0S3-KC UNIGEN-499551-000273 Disk 1

```

...

show chassis hardware (MX960 Router)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Midplane      REV 01    710-013698   AA6082         MX960
PIM           Rev 01    740-013110   000008         MX960 Midplane
Power Inlet Module
PEM 2
PEM 3         Rev 01    740-013682   000038         PS 1.7kW; 200-240VAC in
Routing Engine 0 REV 00    740-015113   1000617944     RE-S-1300
CB 0          REV 05    710-013725   JK6947         MX960 Test SCB
FPC 4         REV 01    710-013305   JM7617         MX960 Test DPC
CPU
PIC 0         BUILTIN   BUILTIN      1x 10GE(LAN/WAN)
PIC 1         BUILTIN   BUILTIN      10x 1GE
FPC 7         REV 01    710-013305   JL9634         MX960 Test DPC
CPU
PIC 0         BUILTIN   BUILTIN      1x 10GE(LAN/WAN)
Xcvr 0        NON-JNPR   MYBG65I82C    XFP-10G-SR
PIC 1         BUILTIN   BUILTIN      10x 1GE
Xcvr 1        REV 01    740-011782   P7N0368        SFP-SX
Xcvr 4        REV 01    740-011782   P8J1W27        SFP-SX
Xcvr 6        REV 01    740-011782   P8J1VSD        SFP-SX
Xcvr 9        REV 01    740-011782   P8J1W25        SFP-SX
Fan Tray 0
Fan Tray 1

```

show chassis hardware (MX960 Router with Bidirectional Optics)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               JN10BA5B9AFA  MX960
Midplane      REV 03   710-013698   TR0234        MX960 Backplane
FPM Board     REV 03   710-014974   JA0878        Front Panel Display
PDM           Rev 03   740-013110   QCS11135028   Power Distribution Module
PEM 0         Rev 03   740-013682   QCS11154036   PS 1.7kW; 200-240VAC in
PEM 1         Rev 03   740-013682   QCS11154010   PS 1.7kW; 200-240VAC in
PEM 2         Rev 03   740-013682   QCS11154022   PS 1.7kW; 200-240VAC in
Routing Engine 0 REV 06   740-013063   1000691458    RE-S-2000
CB 0          REV 07   710-013385   KA2190        MX SCB
CB 1          REV 07   710-013385   KA0837        MX SCB
FPC 3         REV 02   750-018122   KB3890        DPCE 40x 1GE R
CPU
FPC 4         REV 01   750-018122   KB3889        DPCE 40x 1GE R
CPU           REV 06   710-013713   KB3976        DPC PMB
PIC 0         BUILTIN BUILTIN      10x 1GE(LAN)
  Xcvr 1      REV 01   740-020426   4910549       SFP-1000BASE-BX40-D
  Xcvr 2      REV 01   740-020426   4910551       SFP-1000BASE-BX40-D
  Xcvr 5      REV 01   740-021340   77E245N00006  SFP-1000BASE-BX10-U
  Xcvr 6      REV 01   740-020425   4882821       SFP-1000BASE-BX40-U
  Xcvr 8      REV 01   740-020425   4882820       SFP-1000BASE-BX40-U
PIC 1         BUILTIN BUILTIN      10x 1GE(LAN)
  Xcvr 0      REV 01   740-020465   77E555N00894  SFP-1000BASE-BX10-D
  Xcvr 1      REV 01   740-020465   75E467X00818  SFP-1000BASE-BX10-D
  Xcvr 2      REV 01   740-020465   75E467X00573  SFP-1000BASE-BX10-D
  Xcvr 3      REV 01   740-020465   4888227       SFP-1000BASE-BX10-D
  Xcvr 4      REV 01   740-020465   4888241       SFP-1000BASE-BX10-D
  Xcvr 5      REV 01   740-021340   77E245N00005  SFP-1000BASE-BX10-U
  Xcvr 6      REV 01   740-021340   76E245X00487  SFP-1000BASE-BX10-U
  Xcvr 7      REV 01   740-021341   5255889       SFP-1000BASE-BX10-U
  Xcvr 8      REV 01   740-021341   5255887       SFP-1000BASE-BX10-U
  Xcvr 9      REV 01   740-021340   77E245N00004  SFP-1000BASE-BX10-U
PIC 2         BUILTIN BUILTIN      10x 1GE(LAN)
  Xcvr 0      REV 01   740-020424   5007582       SFP-1000BASE-BX10-D
  Xcvr 1      REV 01   740-020424   4888187       SFP-1000BASE-BX10-D
  Xcvr 2      REV 01   740-020424   4656500       SFP-1000BASE-BX10-D
  Xcvr 5      REV 01   740-021341   5255886       SFP-1000BASE-BX10-U
  Xcvr 7      REV 01   740-021340   77E245N00003  SFP-1000BASE-BX10-U
  Xcvr 8      REV 01   740-021341   5255888       SFP-1000BASE-BX10-U
PIC 3         BUILTIN BUILTIN      10x 1GE(LAN)
  Xcvr 0      REV 01   740-017726   74S184H30341  SFP-EX
  Xcvr 1      REV 01   740-017726   4814061       SFP-EX
  Xcvr 5      REV 01   740-017726   6ZS184H31108  SFP-EX
  Xcvr 9      REV 01   740-021340   76E245X00486  SFP-1000BASE-BX10-U
Fan Tray 0
Fan Tray 1    REV 03   740-014971   TP0850        Fan Tray

```

show chassis hardware (MX960 Router with Enhanced MX SCB)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               JN1096805AFA  MX960
Midplane      REV 03   710-013698   TR0183        MX960 Backplane
Fan Extender  REV 02   710-018051   JY5227        Extended Cable Manager
FPM Board     REV 03   710-014974   JZ6876        Front Panel Display
PDM           Rev 03   740-013110   QCS11035023   Power Distribution Module

```

PEM 1	Rev 03	740-013682	QCS1109400L	PS 1.7kW; 200-240VAC in
PEM 2	Rev 03	740-013682	QCS11094015	PS 1.7kW; 200-240VAC in
PEM 3	Rev 03	740-013682	QCS11094012	PS 1.7kW; 200-240VAC in
Routing Engine 0	REV 06	740-013063	1000687969	RE-S-2000
Routing Engine 1	REV 06	740-013063	1000687955	RE-S-2000
CB 0	REV 11	750-031391	YZ6072	Enhanced MX SCB
CB 1	REV 11	750-031391	YZ6068	Enhanced MX SCB
CB 2	REV 11	750-031391	YZ6081	Enhanced MX SCB
FPC 0	REV 01	750-018122	KA5576	DPCE 40x 1GE R
CPU	REV 06	710-013713	KB3961	DPC PMB
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN)
Xcvr 0	REV 01	740-011613	P9F18GF	SFP-SX
Xcvr 2	REV 01	740-011782	P9M0TL9	SFP-SX
Xcvr 7	REV 01	740-011782	P9P0XXH	SFP-SX
Xcvr 9	REV 01	740-011782	P9M0TN1	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN)
Xcvr 0	REV 01	740-011613	PAJ4UHC	SFP-SX
PIC 2		BUILTIN	BUILTIN	10x 1GE(LAN)
Xcvr 0	REV 01	740-011613	PFF2CD0	SFP-SX
Xcvr 1	REV 01	740-011613	PBG3ZUT	SFP-SX
Xcvr 2	REV 01	740-011613	PFF2DDV	SFP-SX
Xcvr 5	REV 01	740-011613	P8E2SST	SFP-SX
Xcvr 9	REV 01	740-011782	PB8329N	SFP-SX
PIC 3		BUILTIN	BUILTIN	10x 1GE(LAN)
Xcvr 0	REV 01	740-026192	1U0201084503342	SFP-100BASE-BX10-U
Xcvr 1	REV 01	740-026193	1U1201084503313	SFP-100BASE-BX10-D
Xcvr 2	REV 01	740-011613	PAJ4Y5B	SFP-SX
Xcvr 6	REV 01	740-011782	P9M0U3M	SFP-SX
Xcvr 7	REV 01	740-011782	P9M0TLA	SFP-SX
FPC 1	REV 16	750-031089	YL0719	MPC Type 2 3D
CPU	REV 06	711-030884	YL1463	MPC PMB 2G
MIC 0	REV 07	750-028387	JR6500	3D 4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0	REV 01	740-014279	733019A00154	XFP-10G-LR
Xcvr 1	REV 02	740-014289	T09F55034	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0	REV 01	740-014279	913019B00791	XFP-10G-LR
Xcvr 1	REV 01	740-014289	98S803A90384	XFP-10G-SR
MIC 1	REV 24	750-028387	YJ3950	3D 4x 10GE XFP
PIC 2		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0	REV 02	740-014279	T10B36134	XFP-10G-LR
Xcvr 1	REV 01	740-014289	T07M86354	XFP-10G-SR
PIC 3		BUILTIN	BUILTIN	2x 10GE XFP
FPC 2	REV 08	710-014219	JY9654	DPCE 4x 10GE R
CPU	REV 06	710-013713	JZ6549	DPC PMB
PIC 0		BUILTIN	BUILTIN	1x 10GE(LAN/WAN)
PIC 1		BUILTIN	BUILTIN	1x 10GE(LAN/WAN)
PIC 2		BUILTIN	BUILTIN	1x 10GE(LAN/WAN)
Xcvr 0	REV 03	740-011571	C931BK028	XFP-10G-SR
PIC 3		BUILTIN	BUILTIN	1x 10GE(LAN/WAN)
FPC 3	REV 10	750-024199	XJ6692	MX FPC Type 3
CPU	REV 03	710-022351	XF5182	DPC PMB
PIC 0	REV 17	750-009553	RJ2945	4x OC-48 SONET
Xcvr 1	REV 01	740-011785	PCP3YLL	SFP-SR
Xcvr 3	REV 01	740-011785	PDSOMRY	SFP-SR
PIC 1	REV 32	750-003700	DP2113	1x OC-192 12xMM VSR
FPC 5	REV 25	750-028467	YM8256	MPC 3D 16x 10GE
CPU	REV 10	711-029089	YL3029	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 1	REV 01	740-031980	AHNOX1Z	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+

PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
FPC 7	REV 02	750-031092	JR6658	MPC Type 1 3D Q
CPU	REV 01	711-030884	JZ9038	MPC PMB 2G
MIC 0	REV 08	750-028392	JZ8737	3D 20x 1GE(LAN) SFP
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-011782	PBE2C6Y	SFP-SX
Xcvr 2		NON-JNPR	U8105N8	SFP-SX
Xcvr 4	REV 01	740-011613	PFM18EF	SFP-SX
Xcvr 7	REV 01	740-011613	PFF2AM8	SFP-SX
Xcvr 8	REV 01	740-011613	PFF2CT6	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-011782	PB82VHH	SFP-SX
Xcvr 1	REV 01	740-011613	PFF2CSW	SFP-SX
Xcvr 9	REV 01	740-011613	PFF2BY0	SFP-SX
QXM 0	REV 04	711-028408	JR6372	MPC QXM
FPC 8	REV 05	750-024387	JW9754	MX FPC Type 2
CPU	REV 03	710-022351	KF1651	DPC PMB
PIC 0	REV 08	750-014730	DM3664	4x OC-3 1x OC-12 SFP
Xcvr 0	REV 01	740-016065	81S290N00077	SFP-SR
Xcvr 1		NON-JNPR	2191844	SFP-SR
Xcvr 2	REV 01	740-011618	PD81EE5	SFP-IR
PIC 1	REV 08	750-014637	DM3671	4x OC-12-3 SFP
Xcvr 0	REV 01	740-011785	PCK3UNK	SFP-SR
Xcvr 3	REV 01	740-011785	PDSOMPZ	SFP-SR
FPC 10	REV 04	710-013699	JY4654	DPCE 40x 1GE R
CPU	REV 05	710-013713	JS9717	DPC PMB
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN)
Xcvr 5	REV 01	740-011782	PAR1L72	SFP-SX
Xcvr 6	REV 01	740-011782	P8N1YQ4	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN)
PIC 2		BUILTIN	BUILTIN	10x 1GE(LAN)
Xcvr 0	REV 01	740-011782	P8Q2AVL	SFP-SX
Xcvr 5	REV 01	740-011782	PAR1L7B	SFP-SX
Xcvr 6	REV 01	740-011782	PAR1L2J	SFP-SX
Xcvr 8	REV 01	740-011782	P8N1YMY	SFP-SX
PIC 3		BUILTIN	BUILTIN	10x 1GE(LAN)
Fan Tray 0	REV 03	740-014971	TP0567	Fan Tray
Fan Tray 1	REV 03	740-014971	TP0702	Fan Tray

show chassis hardware models (MX960 Router with Enhanced MX SCB)

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user@host> show chassis hardware models
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Hardware inventory:				
Item	Version	Part number	Serial number	FRU model number
Midplane	REV 03	710-013698	TR0183	CHAS-BP-MX960-S
Fan Extender	REV 02	710-018051	JY5227	ECM-MX960
FPM Board	REV 03	710-014974	JZ6876	CRAFT-MX960-S
Routing Engine 0	REV 06	740-013063	1000687969	RE-S-2000-4096-S
Routing Engine 1	REV 06	740-013063	1000687955	RE-S-2000-4096-S
CB 0	REV 11	750-031391	YZ6072	SCBE-MX-S
CB 1	REV 11	750-031391	YZ6068	SCBE-MX-S
CB 2	REV 11	750-031391	YZ6081	SCBE-MX-S
FPC 0	REV 01	750-018122	KA5576	DPCE-R-40GE-SFP
FPC 1	REV 16	750-031089	YL0719	MX-MPC2-3D
MIC 0	REV 07	750-028387	JR6500	MIC-3D-4XGE-XFP
MIC 1	REV 24	750-028387	YJ3950	MIC-3D-4XGE-XFP
FPC 2	REV 08	710-014219	JY9654	DPC-R-4XGE-XFP
FPC 3	REV 10	750-024199	XJ6692	MX-FPC3
PIC 0	REV 17	750-009553	RJ2945	PC-40C48-SON-SFP
PIC 1	REV 32	750-003700	DP2113	PC-10C192-SON-VSR

FPC 5	REV 25	750-028467	YM8256	MPC-3D-16XGE-SFP
FPC 7	REV 02	750-031092	JR6658	MX-MPC1-3D-Q
MIC 0	REV 08	750-028392	JZ8737	MIC-3D-20GE-SFP
FPC 8	REV 05	750-024387	JW9754	MX-FPC2
PIC 0	REV 08	750-014730	DM3664	PB-40C3-10C12-SON2-SFP
PIC 1	REV 08	750-014637	DM3671	PB-40C3-40C12-SON-SFP
FPC 10	REV 04	710-013699	JY4654	DPC-R-40GE-SFP
Fan Tray 0	REV 03	740-014971	TP0567	FFANTRAY-MX960-S
Fan Tray 1	REV 03	740-014971	TP0702	FFANTRAY-MX960-S

show chassis hardware (MX960 Router with MPC5EQ)

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user@host> show chassis hardware
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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis			JN1214852AFA	MX960
Midplane	REV 01	710-030012	ACAX3674	MX960 Backplane
FPM Board	REV 03	710-014974	CAAZ9326	Front Panel Display
PDM	Rev 03	740-013110	QCS17025017	Power Distribution Module
PEM 0 in	Rev 10	740-027760	QCS1702N062	PS 4.1kW; 200-240V AC
PEM 1 in	Rev 04	740-027760	QCS1422N02C	PS 4.1kW; 200-240V AC
PEM 2 in	Rev 09	740-027760	QCS1614N01X	PS 4.1kW; 200-240V AC
Routing Engine 0	REV 08	740-031116	9009131803	RE-S-1800x4
Routing Engine 1	REV 08	740-031116	9009124913	RE-S-1800x4
CB 0	REV 18	750-031391	CABF0579	Enhanced MX SCB
CB 1	REV 16	750-031391	CAAZ2471	Enhanced MX SCB
CB 2	REV 16	750-031391	CAAW9595	Enhanced MX SCB
FPC 0	REV 18	750-046005	CACE6574	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACG8908	RMPM PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQA0DYT	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOMS7	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0	REV 01	740-046563	XD16FC03Z	CFP2-100G-SR10
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	ANAONAJ	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOMRQ	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0	REV 01	740-049775	J13K72993	CFP2-100G-LR4
FPC 1	REV 11	750-045372	CABK8154	MPCE Type 3 3D
CPU	REV 08	711-035209	CABE7370	HMPM PMB 2G
MIC 0	REV 07	750-033307	CABD5255	10X10GE SFPP
PIC 0		BUILTIN	BUILTIN	10X10GE SFPP
Xcvr 0	REV 01	740-021308	AQ50319	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ5035V	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ502XJ	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ43HHR	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	AQ502YA	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	AQ502EU	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQ502HR	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQ502A6	SFP+-10G-SR
Xcvr 8	REV 01	740-021308	AQ43H8M	SFP+-10G-SR
MIC 1	REV 14	750-033196	CAAP1398	1X100GE CXP
PIC 2		BUILTIN	BUILTIN	1X100GE CXP
Xcvr 0	REV 01	740-046563	XD16FC064	CFP-100G-SR10
FPC 3	REV 35	750-028467	CAAT9156	MPC 3D 16x 10GE
CPU	REV 11	711-029089	CAAV4645	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+

Xcvr 0	REV 01	740-021308	AQ43HZ1	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ43HZC	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ43HD2	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ502HN	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ43HGF	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ501RZ	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ5029V	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ501X9	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ502ZN	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ43H86	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ502ZY	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ502PZ	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ503E6	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ502XN	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11F00213	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ50336	SFP+-10G-SR
FPC 4	REV 18	750-046005	CACE6568	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACG8900	RMPG PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQA095A	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOM1E	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	FE13F000F	CFP2-100G-SR10
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQGOLYC	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOLYB	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0	REV 01	740-048813	XD32FE00Z	CFP2-100G-SR10
FPC 5	REV 18	750-046005	CACE6577	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACG8902	RMPG PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQGOMXE	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOLVY	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0	REV 01	740-046563	XD16FC03T	CFP2-100G-SR10
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQGOLW1	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOLW3	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	FE13F000J	CFP2-100G-SR10
FPC 7	REV 09	750-037355	CAAF0937	MPC4E 3D 2CGE+8XGE
CPU	REV 08	711-035209	CAAD8004	HMPG PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	ANAOMM3	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	X000C163	CFP-100G-SR10
PIC 2		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	AQGOMS6	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOMRX	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQGOM6Y	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQGOLZM	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	X12J00499	CFP-100G-SR10
FPC 8	REV 39	750-045715	CACD1903	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 09	711-045719	CACD1815	RMPG PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 2		BUILTIN	BUILTIN	3X40GE QSFPP

Xcvr 0	REV 01	740-046565	QC480289	QSFP+-40G-SR4
Xcvr 1	REV 01	740-046565	QC480274	QSFP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130190	QSFP+-40G-SR4
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
Xcvr 0	REV 01	740-046565	QD130197	QSFP+-40G-SR4
Xcvr 1	REV 01	740-046565	QD130180	QSFP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130199	QSFP+-40G-SR4
WAN MEZZ	REV 09	750-049136	CABN0415	MPC5E 24XGE OTN Mezz
FPC 9	REV 05	750-044444	CAAY9801	MPCE Type 2 3D P
CPU	REV 04	711-038484	CAAW3673	MPCE PMB 2G
MIC 0	REV 28	750-028387	CAAX1071	3D 4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0		NON-JNPR	T12L92342	XFP-10G-SR
Xcvr 1		NON-JNPR	T12L92303	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0		NON-JNPR	CC07BK02X	XFP-10G-SR
QXM 0	REV 06	711-028408	CAAW4883	MPC QXM
QXM 1	REV 06	711-028408	CAAW4603	MPC QXM
FPC 10	REV 21.0.11	750-045715	CAAY3541	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 07	711-045719	CAAW7426	RMPC PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP
Xcvr 0	REV 01	740-031980	AHK01AP	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ502ZU	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AP41BLS	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQA08YA	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	AQA0K26	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQA06S3	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQA06AS	SFP+-10G-SR
Xcvr 8	REV 01	740-021308	AQA053N	SFP+-10G-SR
Xcvr 9	REV 01	740-021308	AQA0E97	SFP+-10G-SR
Xcvr 10	REV 01	740-021308	AQA0GS4	SFP+-10G-SR
Xcvr 11	REV 01	740-021308	AQA0JVA	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP
Xcvr 0	REV 01	740-021308	AQA057A	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	ANA0MLS	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQA093A	SFP+-10G-SR
Xcvr 3	REV 01	740-021309	943153A00075	SFP+-10G-LR
Xcvr 4	REV 01	740-021308	AQA077B	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	AQA0JSC	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQA0735	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQ5028N	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	AP40VN5	SFP+-10G-SR
Xcvr 9	REV 01	740-021308	AQA0K0J	SFP+-10G-SR
Xcvr 10	REV 01	740-021308	AQA07AP	SFP+-10G-SR
Xcvr 11	REV 01	740-021308	AQA08YB	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	3X40GE QSFPP
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
WAN MEZZ	REV 07	750-045717	CAAX3123	MPC5E 24XGE Mezz
FPC 11	REV 17	750-037355	CAAT3986	MPC4E 3D 2CGE+8XGE
CPU	REV 08	711-035209	CAAR3972	HMPC PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	AQA0DSE	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ501Y3	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ501XU	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ5036Y	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0		NON-JNPR	X12J00247	CFP-100G-SR10
PIC 2		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-031980	ALQ1DKF	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ403YA	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AP40TY0	SFP+-10G-SR

Xcvr 3	REV 01	740-031980	ALQ14G0	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	X12J00095	CFP-100G-SR10
Fan Tray 0	REV 08	740-031521	ACAF4219	Enhanced Fan Tray
Fan Tray 1	REV 08	740-031521	ACAF4225	Enhanced Fan Tray

show chassis hardware detail (MX960 Router)

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user@host> show chassis hardware detail
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Midplane      REV 01    710-013698   AA6082         MX960 Midplane
PIM           Rev 01    740-013110   000008         Power Inlet Module
PEM 2
PEM 3
Routing Engine 0 REV 00    740-015113   1000617944     RE-S-1300
  ad0      245 MB  SanDisk  SDCFB-256      111419E1805T1141 Compact Flash
  ad2      38154 MB FUJITSU MHT2040BH NR0WT5925N77    Hard Disk
CB 0          REV 05    710-013725   JK6947         MX960 Test SCB
FPC 4         REV 01    710-013305   JM7617         MX960 Test DPC
CPU
PIC 0
PIC 1
FPC 7         REV 01    710-013305   JL9634         MX960 Test DPC
CPU
PIC 0
Xcvr 0
PIC 1
Xcvr 1        REV 01    740-011782   P7N0368        SFP-SX
Xcvr 4        REV 01    740-011782   P8J1W27        SFP-SX
Xcvr 6        REV 01    740-011782   P8J1VSD        SFP-SX
Xcvr 9        REV 01    740-011782   P8J1W25        SFP-SX
Fan Tray 0
Fan Tray 1

```

show chassis hardware detail (MX960 Router with MPC5EQ)

```

user@host> show chassis hardware detail
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Midplane      REV 01    710-030012   ACAX3674       MX960 Backplane
FPM Board     REV 03    710-014974   CAAZ9326       Front Panel Display
PDM           Rev 03    740-013110   QCS17025017    Power Distribution Module
PEM 0         Rev 10    740-027760   QCS1702N062    PS 4.1kW; 200-240V AC
in
PEM 1         Rev 04    740-027760   QCS1422N02C    PS 4.1kW; 200-240V AC
in
PEM 2         Rev 09    740-027760   QCS1614N01X    PS 4.1kW; 200-240V AC
in
Routing Engine 0 REV 08    740-031116   9009131803     RE-S-1800x4
  ad0      3831 MB  UGB30SFA4000T1 SFA4000T1 000016CD Compact Flash
  ad1      30533 MB UGB94BPH32H0S1-KCI 11000061346    Disk 1
  usb0 (addr 1) EHCI root hub 0 Intel      uhub0
  usb0 (addr 2) product 0x0020 32 vendor 0x8087 uhub1
DIMM 0        VL31B5263F-F8SD DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 1        VL31B5263F-F8SD DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 2        VL31B5263F-F8SD DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 3        VL31B5263F-F8SD DIE REV-0 PCB REV-0 MFR ID-ce80
Routing Engine 1 REV 08    740-031116   9009124913     RE-S-1800x4

```

ad0	3831 MB	UGB30SFA4000T1	SFA4000T1 0000106D Compact Flash
ad1	30533 MB	UGB94BPH32H0S1-KCI	11000052402 Disk 1
CB 0	REV 18	750-031391	CABF0579 Enhanced MX SCB
CB 1	REV 16	750-031391	CAAZ2471 Enhanced MX SCB
CB 2	REV 16	750-031391	CAAW9595 Enhanced MX SCB
FPC 0	REV 18	750-046005	CACE6574 MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACG8908 RMPC PMB
PIC 0		BUILTIN	BUILTIN 2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQA0DYT SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOMS7 SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN 1X100GE CFP2 OTN
Xcvr 0	REV 01	740-046563	XD16FC03Z CFP2-100G-SR10
PIC 2		BUILTIN	BUILTIN 2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	ANA0NAJ SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOMRQ SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN 1X100GE CFP2 OTN
Xcvr 0	REV 01	740-049775	J13K72993 CFP2-100G-LR4
FPC 1	REV 11	750-045372	CABK8154 MPC Type 3 3D
CPU	REV 08	711-035209	CABE7370 HMPC PMB 2G
MIC 0	REV 07	750-033307	CABD5255 10X10GE SFPP
PIC 0		BUILTIN	BUILTIN 10X10GE SFPP
Xcvr 0	REV 01	740-021308	AQ50319 SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ5035V SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ502XJ SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ43HHR SFP+-10G-SR
Xcvr 4	REV 01	740-021308	AQ502YA SFP+-10G-SR
Xcvr 5	REV 01	740-021308	AQ502EU SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQ502HR SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQ502A6 SFP+-10G-SR
Xcvr 8	REV 01	740-021308	AQ43H8M SFP+-10G-SR
MIC 1	REV 14	750-033196	CAAP1398 1X100GE CXP
PIC 2		BUILTIN	BUILTIN 1X100GE CXP
Xcvr 0	REV 01	740-046563	XD16FC064 CFP2-100G-SR10
FPC 3	REV 35	750-028467	CAAT9156 MPC 3D 16x 10GE
CPU	REV 11	711-029089	CAAV4645 AMPC PMB
PIC 0		BUILTIN	BUILTIN 4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ43HZ1 SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ43HZC SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ43HD2 SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ502HN SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN 4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ43HGF SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ501RZ SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ5029V SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ501X9 SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN 4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ502ZN SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ43H86 SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ502ZY SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ502PZ SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN 4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ503E6 SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ502XN SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11F00213 SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ50336 SFP+-10G-SR
FPC 4	REV 18	750-046005	CACE6568 MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACG8900 RMPC PMB
PIC 0		BUILTIN	BUILTIN 2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQA095A SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOM1E SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN 1X100GE CFP2 OTN

Xcvr 0		NON-JNPR	FE13F000F	CFP2-100G-SR10
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQGOLYC	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOLYB	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0	REV 01	740-048813	XD32FE00Z	CFP2-100G-SR10
FPC 5	REV 18	750-046005	CACE6577	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACG8902	RMPD PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQGOMXE	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOLVY	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0	REV 01	740-046563	XD16FC03T	CFP2-100G-SR10
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQGOLW1	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOLW3	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0		NON-JNPR	FE13F000J	CFP2-100G-SR10
FPC 7	REV 09	750-037355	CAAF0937	MPC4E 3D 2CGE+8XGE
CPU	REV 08	711-035209	CAAD8004	HMPD PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	ANAOMM3	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	X000C163	CFP-100G-SR10
PIC 2		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	AQGOMS6	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOMRX	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQGOM6Y	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQGOLZM	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	X12J00499	CFP-100G-SR10
FPC 8	REV 39	750-045715	CACD1903	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 09	711-045719	CACD1815	RMPD PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 2		BUILTIN	BUILTIN	3X40GE QSFPP
Xcvr 0	REV 01	740-046565	QC480289	QSFP+-40G-SR4
Xcvr 1	REV 01	740-046565	QC480274	QSFP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130190	QSFP+-40G-SR4
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
Xcvr 0	REV 01	740-046565	QD130197	QSFP+-40G-SR4
Xcvr 1	REV 01	740-046565	QD130180	QSFP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130199	QSFP+-40G-SR4
WAN MEZZ	REV 09	750-049136	CABN0415	MPC5E 24XGE OTN Mezz
FPC 9	REV 05	750-044444	CAAY9801	MPCE Type 2 3D P
CPU	REV 04	711-038484	CAAW3673	MPCE PMB 2G
MIC 0	REV 28	750-028387	CAAX1071	3D 4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0		NON-JNPR	T12L92342	XFP-10G-SR
Xcvr 1		NON-JNPR	T12L92303	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0		NON-JNPR	CC07BK02X	XFP-10G-SR
QXM 0	REV 06	711-028408	CAAW4883	MPC QXM
QXM 1	REV 06	711-028408	CAAW4603	MPC QXM
FPC 10	REV 21.0.11	750-045715	CAAY3541	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 07	711-045719	CAAW7426	RMPD PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP
Xcvr 0	REV 01	740-031980	AHK01AP	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ502ZU	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AP41BLS	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQA08YA	SFP+-10G-SR

Xcvr 4	REV 01	740-021308	AQA0K26	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQA06S3	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQA06AS	SFP+-10G-SR
Xcvr 8	REV 01	740-021308	AQA053N	SFP+-10G-SR
Xcvr 9	REV 01	740-021308	AQA0E97	SFP+-10G-SR
Xcvr 10	REV 01	740-021308	AQA0GS4	SFP+-10G-SR
Xcvr 11	REV 01	740-021308	AQA0JVA	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP
Xcvr 0	REV 01	740-021308	AQA057A	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	ANAOMLS	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQA093A	SFP+-10G-SR
Xcvr 3	REV 01	740-021309	943153A00075	SFP+-10G-LR
Xcvr 4	REV 01	740-021308	AQA077B	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	AQA0JSC	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQA0735	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQ5028N	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	AP40VN5	SFP+-10G-SR
Xcvr 9	REV 01	740-021308	AQA0K0J	SFP+-10G-SR
Xcvr 10	REV 01	740-021308	AQA07AP	SFP+-10G-SR
Xcvr 11	REV 01	740-021308	AQA08YB	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	3X40GE QSFPP
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
WAN MEZZ	REV 07	750-045717	CAAX3123	MPC5E 24XGE Mezz
FPC 11	REV 17	750-037355	CAAT3986	MPC4E 3D 2CGE+8XGE
CPU	REV 08	711-035209	CAAR3972	HMPC PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	AQA0DSE	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ501Y3	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ501XU	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ5036Y	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0		NON-JNPR	X12J00247	CFP-100G-SR10
PIC 2		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-031980	ALQ1DKF	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ403YA	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AP40TY0	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	ALQ14G0	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	X12J00095	CFP-100G-SR10
Fan Tray 0	REV 08	740-031521	ACAF4219	Enhanced Fan Tray
Fan Tray 1	REV 08	740-031521	ACAF4225	Enhanced Fan Tray

show chassis hardware extensive (MX960 Router with MPC5EQ)

```

user@host> show chassis hardware extensive
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               JN1214852AFA  MX960
Jedec Code:   0x7fb0                  EEPROM Version: 0x02
                                           S/N:           JN1214852AFA
Assembly ID:  0x0512                  Assembly Version: 00.00
Date:         00-00-0000              Assembly Flags:  0x00
ID: MX960
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 05 12 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x20: 4a 4e 31 32 31 34 38 35 32 41 46 41 00 00 00 00
Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

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Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane      REV 01   710-030012   ACAX3674           MX960 Backplane
Jedec Code:   0x7fb0           EEPROM Version:    0x02
P/N:          710-030012       S/N:              ACAX3674
Assembly ID:  0x01df           Assembly Version:  01.01
Date:         01-19-2013       Assembly Flags:    0x00
Version:      REV 01           CLEI Code:         COM8T00CRB
ID: MX960 Backplane           FRU Model Number:  CHAS-BP-MX960-S
Board Information Record:
Address 0x00: ad 01 08 00 54 e0 32 bc 68 00 ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 01 df 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 31 30 2d 30 33 30 30 31 32 00 00
Address 0x20: 53 2f 4e 20 41 43 41 58 33 36 37 34 00 13 01 07
Address 0x30: dd ff ff ff ad 01 08 00 54 e0 32 bc 68 00 ff ff
Address 0x40: ff ff ff ff 01 43 4f 4d 38 54 30 30 43 52 42 43
Address 0x50: 48 41 53 2d 42 50 2d 4d 58 39 36 30 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 42 00 00 ff ff ff ff ff ff ff
Address 0x70: ff ff ff aa ff ff ff ff ff ff ff ff ff ff ff ff
FPM Board      REV 03   710-014974   CAAZ9326           Front Panel Display
Jedec Code:   0x7fb0           EEPROM Version:    0x01
P/N:          710-014974       S/N:              CAAZ9326
Assembly ID:  0x01e6           Assembly Version:  01.03
Date:         12-31-2012       Assembly Flags:    0x00
Version:      REV 03
ID: Front Panel Display       FRU Model Number:  CRAFT-MX960-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 01 e6 01 03 52 45 56 20 30 33 00 00
Address 0x10: 00 00 00 00 37 31 30 2d 30 31 34 39 37 34 00 00
Address 0x20: 53 2f 4e 20 43 41 41 5a 39 33 32 36 00 1f 0c 07
Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 43
Address 0x50: 52 41 46 54 2d 4d 58 39 36 30 2d 53 00 00 00 00
Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
PDM            Rev 03   740-013110   QCS17025017       Power Distribution Module
Jedec Code:   0x7fb0           EEPROM Version:    0x01
P/N:          740-013110       S/N:              QCS17025017
Assembly ID:  0x0416           Assembly Version:  01.03
Date:         01-10-2013       Assembly Flags:    0x00
Version:      Rev 03
ID: Power Distribution Module
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00
I2C Hex Data:
Address 0x00: 7f b0 01 ff 04 16 01 03 52 65 76 20 30 33 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 31 33 31 31 30 00 00
Address 0x20: 51 43 53 31 37 30 32 35 30 31 37 00 00 0a 01 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PEM 0          Rev 10   740-027760   QCS1702N062       PS 4.1kW; 200-240V AC
in
Jedec Code:   0x7fb0           EEPROM Version:    0x01
P/N:          740-027760       S/N:              QCS1702N062

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Assembly ID: 0x0430          Assembly Version: 01.10
Date:          01-15-2013      Assembly Flags: 0x00
Version:       Rev 10
ID: PS 4.1kW; 200-240V AC in  FRU Model Number: PWR-MX960-4100-AC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
I2C Hex Data:
  Address 0x00: 7f b0 01 ff 04 30 01 0a 52 65 76 20 31 30 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 32 37 37 36 30 00 00
  Address 0x20: 51 43 53 31 37 30 32 4e 30 36 32 00 00 0f 01 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
  Address 0x50: 57 52 2d 4d 58 39 36 30 2d 34 31 30 30 2d 41 43
  Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PEM 1          Rev 04      740-027760    QCS1422N02C      PS 4.1kW; 200-240V AC
in
Jedec Code: 0x7fb0          EEPROM Version: 0x01
P/N:          740-027760      S/N:          QCS1422N02C
Assembly ID: 0x0430          Assembly Version: 01.04
Date:          06-04-2010      Assembly Flags: 0x00
Version:       Rev 04
ID: PS 4.1kW; 200-240V AC in  FRU Model Number: PWR-MX960-4100-AC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
I2C Hex Data:
  Address 0x00: 7f b0 01 ff 04 30 01 04 52 65 76 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 32 37 37 36 30 00 00
  Address 0x20: 51 43 53 31 34 32 32 4e 30 32 43 00 00 04 06 07
  Address 0x30: da ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
  Address 0x50: 57 52 2d 4d 58 39 36 30 2d 34 31 30 30 2d 41 43
  Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PEM 2          Rev 09      740-027760    QCS1614N01X      PS 4.1kW; 200-240V AC
in
Jedec Code: 0x7fb0          EEPROM Version: 0x01
P/N:          740-027760      S/N:          QCS1614N01X
Assembly ID: 0x0430          Assembly Version: 01.09
Date:          04-07-2012      Assembly Flags: 0x00
Version:       Rev 09
ID: PS 4.1kW; 200-240V AC in  FRU Model Number: PWR-MX960-4100-AC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
I2C Hex Data:
  Address 0x00: 7f b0 01 ff 04 30 01 09 52 65 76 20 30 39 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 32 37 37 36 30 00 00
  Address 0x20: 51 43 53 31 36 31 34 4e 30 31 58 00 00 07 04 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
  Address 0x50: 57 52 2d 4d 58 39 36 30 2d 34 31 30 30 2d 41 43
  Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Routing Engine 0 REV 08      740-031116    9009131803      RE-S-1800x4
Jedec Code: 0x7fb0          EEPROM Version: 0x02
P/N:          740-031116      S/N:          9009131803
Assembly ID: 0x09c0          Assembly Version: 01.08
Date:          03-04-2013      Assembly Flags: 0x00
Version:       REV 08          CLEI Code:     COUCASKBAA
ID: RE-S-1800x4              FRU Model Number: RE-S-1800X4-16G-S
Board Information Record:

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```

Address 0x00: 54 32 30 32 37 44 42 2d 34 34 47 42 23 42 23 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 09 c0 01 08 52 45 56 20 30 38 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 33 31 31 31 36 00 00
Address 0x20: 39 30 30 39 31 33 31 38 30 33 00 00 00 04 03 07
Address 0x30: dd ff ff ff 54 32 30 32 37 44 42 2d 34 34 47 42
Address 0x40: 23 42 23 00 01 43 4f 55 43 41 53 4b 42 41 41 52
Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 59 ff ff ff ff ff ff ff ff ff ff ff ff
ad0 3831 MB UGB30SFA4000T1 SFA4000T1 000016CD Compact Flash
ad1 30533 MB UGB94BPH32H0S1-KCI 11000061346 Disk 1
usb0 (addr 1) EHCI root hub 0 Intel uhub0
usb0 (addr 2) product 0x0020 32 vendor 0x8087 uhub1
DIMM 0 VL31B5263F-F8SD DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 1 VL31B5263F-F8SD DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 2 VL31B5263F-F8SD DIE REV-0 PCB REV-0 MFR ID-ce80
DIMM 3 VL31B5263F-F8SD DIE REV-0 PCB REV-0 MFR ID-ce80
Routing Engine 1 REV 08 740-031116 9009124913 RE-S-1800x4
Jedec Code: 0x7fb0 EEPROM Version: 0x02
P/N: 740-031116 S/N: 9009124913
Assembly ID: 0x09c0 Assembly Version: 01.08
Date: 01-09-2013 Assembly Flags: 0x00
Version: REV 08 CLEI Code: COUCASKBAA
ID: RE-S-1800x4 FRU Model Number: RE-S-1800X4-16G-S
Board Information Record:
Address 0x00: 54 32 30 32 37 44 42 2d 34 34 47 42 23 42 23 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 09 c0 01 08 52 45 56 20 30 38 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 33 31 31 31 36 00 00
Address 0x20: 39 30 30 39 31 32 34 39 31 33 00 00 00 09 01 07
Address 0x30: dd ff ff ff 54 32 30 32 37 44 42 2d 34 34 47 42
Address 0x40: 23 42 23 00 01 43 4f 55 43 41 53 4b 42 41 41 52
Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 59 ff ff ff ff ff ff ff ff ff ff ff ff
ad0 3831 MB UGB30SFA4000T1 SFA4000T1 0000106D Compact Flash
ad1 30533 MB UGB94BPH32H0S1-KCI 11000052402 Disk 1
CB 0 REV 18 750-031391 CABF0579 Enhanced MX SCB
Jedec Code: 0x7fb0 EEPROM Version: 0x02
P/N: 750-031391 S/N: CABF0579
Assembly ID: 0x09b0 Assembly Version: 01.18
Date: 04-15-2013 Assembly Flags: 0x00
Version: REV 18 CLEI Code: COUCASRBAA
ID: Enhanced MX SCB FRU Model Number: SCBE-MX-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 09 b0 01 12 52 45 56 20 31 38 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 33 31 33 39 31 00 00
Address 0x20: 53 2f 4e 20 43 41 42 46 30 35 37 39 00 0f 04 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 43 4f 55 43 41 53 52 42 41 41 53
Address 0x50: 43 42 45 2d 4d 58 2d 53 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 43 00 00 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 7d ff ff ff ff ff ff ff ff ff ff ff ff
CB 1 REV 16 750-031391 CAAZ2471 Enhanced MX SCB
Jedec Code: 0x7fb0 EEPROM Version: 0x02
P/N: 750-031391 S/N: CAAZ2471
Assembly ID: 0x09b0 Assembly Version: 01.16
Date: 03-09-2013 Assembly Flags: 0x00

```

```

Version:      REV 16          CLEI Code:      COUCARCBAB
ID: Enhanced MX SCB          FRU Model Number: SCBE-MX-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 b0 01 10 52 45 56 20 31 36 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 31 33 39 31 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 5a 32 34 37 31 00 09 03 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 43 4f 55 43 41 52 43 42 41 42 53
  Address 0x50: 43 42 45 2d 4d 58 2d 53 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 42 00 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 6d ff ff ff ff ff ff ff ff ff ff ff ff

CB 2          REV 16      750-031391    CAAW9595          Enhanced MX SCB
Jedec Code:   0x7fb0      EEPROM Version: 0x02
P/N:          750-031391  S/N:          CAAW9595
Assembly ID:  0x09b0      Assembly Version: 01.16
Date:         02-01-2013  Assembly Flags:  0x00
Version:      REV 16      CLEI Code:      COUCARCBAB
ID: Enhanced MX SCB          FRU Model Number: SCBE-MX-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 b0 01 10 52 45 56 20 31 36 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 31 33 39 31 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 57 39 35 39 35 00 01 02 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 43 4f 55 43 41 52 43 42 41 42 53
  Address 0x50: 43 42 45 2d 4d 58 2d 53 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 42 00 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 6d ff ff ff ff ff ff ff ff ff ff ff ff

FPC 0          REV 18      750-046005    CACE6574          MPC5E 3D Q 2CGE+4XGE
Jedec Code:   0x7fb0      EEPROM Version: 0x02
P/N:          750-046005  S/N:          CACE6574
Assembly ID:  0x0b8c      Assembly Version: 01.18
Date:         11-20-2013  Assembly Flags:  0x00
Version:      REV 18      CLEI Code:      PROTOXCLEI
ID: MPC5E 3D Q 2CGE+4XGE  FRU Model Number: PROTO-ASSEMBLY
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 8c 01 12 52 45 56 20 31 38 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 36 30 30 35 00 00
  Address 0x20: 53 2f 4e 20 43 41 43 45 36 35 37 34 00 14 0b 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
  Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff

CPU          REV 09      711-045719    CACG8908          RMPC PMB
Jedec Code:   0x7fb0      EEPROM Version: 0x02
P/N:          711-045719  S/N:          CACG8908
Assembly ID:  0x0b85      Assembly Version: 01.09
Date:         11-13-2013  Assembly Flags:  0x00
Version:      REV 09
ID: RMPC PMB
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 85 01 09 52 45 56 20 30 39 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 34 35 37 31 39 00 00

```

```

Address 0x20: 53 2f 4e 20 43 41 43 47 38 39 30 38 00 0d 0b 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 00 50 52 4f 54 4f 58 43 4c 45 49 50
Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff
Address 0x70: ff ff ff c2 00 00 00 00 00 00 00 00 00 00 00
PIC 0          BUILTIN          BUILTIN          2X10GE SFPP OTN
Jedec Code:    0x0000          EEPROM Version: 0x00
P/N:          BUILTIN          S/N:          BUILTIN
Assembly ID:   0x0a90          Assembly Version: 00.00
Date:          00-00-0000      Assembly Flags: 0x00
ID: 2X10GE SFPP OTN
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 00 00 00 00 0a 90 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 25 73 3a 20
Address 0x20: 42 55 49 4c 54 49 4e 00 25 73 3a 20 00 00 00 00
Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 c0 02 ae dc 00 00 00 00 00 0a 6e 00 00
Xcvr 0        REV 01 740-021308 AQA0DYT          SFP+-10G-SR
Xcvr 1        REV 01 740-021308 AQGOMS7          SFP+-10G-SR
PIC 1          BUILTIN          BUILTIN          1X100GE CFP2 OTN
Jedec Code:    0x0000          EEPROM Version: 0x00
P/N:          BUILTIN          S/N:          BUILTIN
Assembly ID:   0x0a6e          Assembly Version: 00.00
Date:          00-00-0000      Assembly Flags: 0x00
ID: 1X100GE CFP2 OTN
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 00 00 00 00 0a 6e 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 25 73 3a 20
Address 0x20: 42 55 49 4c 54 49 4e 00 25 73 3a 20 00 00 00 00
Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 c0 03 f3 8c 31 5c e7 80 00 00 00 02
Xcvr 0        REV 01 740-046563 XD16FC03Z        CFP2-100G-SR10
PIC 2          BUILTIN          BUILTIN          2X10GE SFPP OTN
Jedec Code:    0x0000          EEPROM Version: 0x00
P/N:          BUILTIN          S/N:          BUILTIN
Assembly ID:   0x0a90          Assembly Version: 00.00
Date:          00-00-0000      Assembly Flags: 0x00
ID: 2X10GE SFPP OTN
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 00 00 00 00 0a 90 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 25 73 3a 20
Address 0x20: 42 55 49 4c 54 49 4e 00 25 73 3a 20 00 00 00 00
Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 c0 03 f5 6c 31 5c db 40 00 00 00 02
Xcvr 0        REV 01 740-021308 ANAONAJ          SFP+-10G-SR

```

```

Xcvr 1      REV 01  740-021308  AQGOMRQ      SFP+-10G-SR
PIC 3              BUILTIN      BUILTIN      1X100GE CFP2 OTN
Jedec Code: 0x0000      EEPROM Version: 0x00
P/N:         BUILTIN      S/N:         BUILTIN
Assembly ID: 0x0a6e      Assembly Version: 00.00
Date:        00-00-0000   Assembly Flags: 0x00
ID: 1X100GE CFP2 OTN
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 00 00 00 00 0a 6e 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 25 73 3a 20
Address 0x20: 42 55 49 4c 54 49 4e 00 25 73 3a 20 00 00 00 00
Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 c0 03 ed ec 31 5c e2 e8 00 00 00 02
Xcvr 0      REV 01  740-049775  J13K72993      CFP2-100G-LR4
FPC 1      REV 11  750-045372  CABK8154      MPCE Type 3 3D
Jedec Code: 0x7fb0      EEPROM Version: 0x02
P/N:         750-045372  S/N:         CABK8154
Assembly ID: 0x09db      Assembly Version: 04.11
Date:        05-18-2013  Assembly Flags: 0x00
Version:     REV 11      CLEI Code:    COUIBBNBAA
ID: MPCE Type 3 3D      FRU Model Number: MX-MPC3E-3D
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 09 db 04 0b 52 45 56 20 31 31 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 34 35 33 37 32 00 00
Address 0x20: 53 2f 4e 20 43 41 42 4b 38 31 35 34 00 12 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 43 4f 55 49 42 42 4e 42 41 41 4d
Address 0x50: 58 2d 4d 50 43 33 45 2d 33 44 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 44 00 00 ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff cf ff ff ff ff ff ff ff ff ff ff ff ff ff
CPU      REV 08  711-035209  CABE7370      HMPC PMB 2G
Jedec Code: 0x7fb0      EEPROM Version: 0x01
P/N:         711-035209  S/N:         CABE7370
Assembly ID: 0x0b04      Assembly Version: 01.08
Date:        05-08-2013  Assembly Flags: 0x00
Version:     REV 08
ID: HMPC PMB 2G
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 0b 04 01 08 52 45 56 20 30 38 00 00
Address 0x10: 00 00 00 00 37 31 31 2d 30 33 35 32 30 39 00 00
Address 0x20: 53 2f 4e 20 43 41 42 45 37 33 37 30 00 08 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff 00 00 00 00 00 00 00 00 00 00 00 00
MIC 0      REV 07  750-033307  CABD5255      10X10GE SFPP
Jedec Code: 0x7fb0      EEPROM Version: 0x02
P/N:         750-033307  S/N:         CABD5255
Assembly ID: 0x0a2a      Assembly Version: 02.07
Date:        04-25-2013  Assembly Flags: 0x00
Version:     REV 07      CLEI Code:    COUIBBJBAA

```

ID: 10X10GE SFPP FRU Model Number: MIC3-3D-10XGE-SFPP

Board Information Record:

Address 0x00: 34 01 03 03 05 ff ff ff ff ff ff ff ff ff ff

I2C Hex Data:

Address 0x00: 7f b0 02 fe 0a 2a 02 07 52 45 56 20 30 37 00 00
 Address 0x10: 00 00 00 00 37 35 30 2d 30 33 33 33 30 37 00 00
 Address 0x20: 53 2f 4e 20 43 41 42 44 35 32 35 35 00 19 04 07
 Address 0x30: dd ff ff ff 34 01 03 03 05 ff ff ff ff ff ff ff
 Address 0x40: ff ff ff ff 01 43 4f 55 49 42 42 4a 42 41 41 4d
 Address 0x50: 49 43 33 2d 33 44 2d 31 30 58 47 45 2d 53 46 50
 Address 0x60: 50 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
 Address 0x70: ff ff ff 82 c0 03 f0 bc 57 79 83 80 00 00 00 02

PIC 0		BUILTIN	BUILTIN	10X10GE SFPP
Xcvr 0	REV 01	740-021308	AQ50319	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ5035V	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ502XJ	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ43HHR	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	AQ502YA	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	AQ502EU	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQ502HR	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQ502A6	SFP+-10G-SR
Xcvr 8	REV 01	740-021308	AQ43H8M	SFP+-10G-SR
MIC 1	REV 14	750-033196	CAAP1398	1X100GE CXP

Jedec Code: 0x7fb0 EEPROM Version: 0x02

P/N: 750-033196 S/N: CAAP1398

Assembly ID: 0x0a29 Assembly Version: 03.14

Date: 10-27-2012 Assembly Flags: 0x00

Version: REV 14 CLEI Code: COUIBBKBAA

ID: 1X100GE CXP FRU Model Number: MIC3-3D-1X100GE-CXP

Board Information Record:

Address 0x00: 34 01 07 07 08 ff ff ff ff ff ff ff ff ff ff

I2C Hex Data:

Address 0x00: 7f b0 02 fe 0a 29 03 0e 52 45 56 20 31 34 00 00
 Address 0x10: 00 00 00 00 37 35 30 2d 30 33 33 31 39 36 00 00
 Address 0x20: 53 2f 4e 20 43 41 41 50 31 33 39 38 00 1b 0a 07
 Address 0x30: dc ff ff ff 34 01 07 07 08 ff ff ff ff ff ff ff
 Address 0x40: ff ff ff ff 01 43 4f 55 49 42 42 4b 42 41 41 4d
 Address 0x50: 49 43 33 2d 33 44 2d 31 58 31 30 30 47 45 2d 43
 Address 0x60: 58 50 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
 Address 0x70: ff ff ff 96 c0 03 ef cc 57 79 85 08 00 00 00 02

PIC 2		BUILTIN	BUILTIN	1X100GE CXP
Xcvr 0	REV 01	740-046563	XD16FC064	CFP2-100G-SR10
FPC 3	REV 35	750-028467	CAAT9156	MPC 3D 16x 10GE

Jedec Code: 0x7fb0 EEPROM Version: 0x01

P/N: 750-028467 S/N: CAAT9156

Assembly ID: 0x0997 Assembly Version: 01.35

Date: 12-17-2012 Assembly Flags: 0x00

Version: REV 35

ID: MPC 3D 16x 10GE FRU Model Number: MPC-3D-16XGE-SFPP

Board Information Record:

Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

I2C Hex Data:

Address 0x00: 7f b0 01 ff 09 97 01 23 52 45 56 20 33 35 00 00
 Address 0x10: 00 00 00 00 37 35 30 2d 30 32 38 34 36 37 00 00
 Address 0x20: 53 2f 4e 20 43 41 41 54 39 31 35 36 00 11 0c 07
 Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 4d
 Address 0x50: 50 43 2d 33 44 2d 31 36 58 47 45 2d 53 46 50 50
 Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff
 Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

CPU	REV 11	711-029089	CAAV4645	AMPC PMB
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Jedec Code: 0x7fb0      EEPROM Version: 0x01
P/N: 711-029089        S/N: CAAV4645
Assembly ID: 0x0998     Assembly Version: 01.11
Date: 12-13-2012       Assembly Flags: 0x00
Version: REV 11
ID: AMPC PMB
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 01 ff 09 98 01 0b 52 45 56 20 31 31 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 32 39 30 38 39 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 56 34 36 34 35 00 0d 0c 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff
  Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff 00 00 00 00 00 00 00 00 00 00 00 00
PIC 0      BUILTIN      BUILTIN      4x 10GE(LAN) SFP+
Jedec Code: 0x0000      EEPROM Version: 0x00
P/N: BUILTIN           S/N: BUILTIN
Assembly ID: 0x02fe     Assembly Version: 00.00
Date: 00-00-0000       Assembly Flags: 0x00
ID: 4x 10GE(LAN) SFP+
Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
  Address 0x00: 00 00 00 00 02 fe 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 25 73 3a 20
  Address 0x20: 42 55 49 4c 54 49 4e 00 25 73 3a 20 00 00 00 00
  Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 c0 02 6b 94 00 00 00 00 02 fe 00 00
  Xcvr 0      REV 01    740-021308  AQ43HZ1      SFP+-10G-SR
  Xcvr 1      REV 01    740-021308  AQ43HZC      SFP+-10G-SR
  Xcvr 2      REV 01    740-021308  AQ43HD2      SFP+-10G-SR
  Xcvr 3      REV 01    740-021308  AQ502HN      SFP+-10G-SR
PIC 1      BUILTIN      BUILTIN      4x 10GE(LAN) SFP+
Jedec Code: 0x0000      EEPROM Version: 0x00
P/N: BUILTIN           S/N: BUILTIN
Assembly ID: 0x02fe     Assembly Version: 00.00
Date: 00-00-0000       Assembly Flags: 0x00
ID: 4x 10GE(LAN) SFP+
Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
  Address 0x00: 00 00 00 00 02 fe 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 25 73 3a 20
  Address 0x20: 42 55 49 4c 54 49 4e 00 25 73 3a 20 00 00 00 00
  Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 c0 02 ac 0c 00 00 00 00 02 fe 00 00
  Xcvr 0      REV 01    740-021308  AQ43HGF      SFP+-10G-SR
  Xcvr 1      REV 01    740-021308  AQ501RZ      SFP+-10G-SR
  Xcvr 2      REV 01    740-021308  AQ5029V      SFP+-10G-SR
  Xcvr 3      REV 01    740-021308  AQ501X9      SFP+-10G-SR
PIC 2      BUILTIN      BUILTIN      4x 10GE(LAN) SFP+
Jedec Code: 0x0000      EEPROM Version: 0x00

```

```

P/N:          BUILTIN          S/N:          BUILTIN
Assembly ID:  0x02fe          Assembly Version: 00.00
Date:         00-00-0000      Assembly Flags:  0x00
.....

```

show chassis hardware models (MX960 Router with MPC5EQ)

```
user@host> show chassis hardware models
```

```
Hardware inventory:
```

Item	Version	Part number	Serial number	FRU model number
Midplane	REV 01	710-030012	ACAX3674	CHAS-BP-MX960-S
FPM Board	REV 03	710-014974	CAAZ9326	CRAFT-MX960-S
PEM 0	Rev 10	740-027760	QCS1702N062	PWR-MX960-4100-AC-S
PEM 1	Rev 04	740-027760	QCS1422N02C	PWR-MX960-4100-AC-S
PEM 2	Rev 09	740-027760	QCS1614N01X	PWR-MX960-4100-AC-S
Routing Engine 0	REV 08	740-031116	9009131803	RE-S-1800X4-16G-S
Routing Engine 1	REV 08	740-031116	9009124913	RE-S-1800X4-16G-S
CB 0	REV 18	750-031391	CABF0579	SCBE-MX-S
CB 1	REV 16	750-031391	CAAZ2471	SCBE-MX-S
CB 2	REV 16	750-031391	CAAW9595	SCBE-MX-S
FPC 0	REV 18	750-046005	CACE6574	PROTO-ASSEMBLY
FPC 1	REV 11	750-045372	CABK8154	MX-MPC3E-3D
MIC 0	REV 07	750-033307	CABD5255	MIC3-3D-10XGE-SFPP
MIC 1	REV 14	750-033196	CAAP1398	MIC3-3D-1X100GE-CXP
FPC 3	REV 35	750-028467	CAAT9156	MPC-3D-16XGE-SFPP
FPC 4	REV 18	750-046005	CACE6568	PROTO-ASSEMBLY
FPC 5	REV 18	750-046005	CACE6577	PROTO-ASSEMBLY
FPC 7	REV 09	750-037355	CAAF0937	MPC4E-2CGE-8XGE
FPC 8	REV 39	750-045715	CACD1903	PROTO-ASSEMBLY
FPC 9	REV 05	750-044444	CAAY9801	MX-MPC2E-3D-P
MIC 0	REV 28	750-028387	CAAX1071	MIC-3D-4XGE-XFP
FPC 10	REV 21.0.11	750-045715	CAAY3541	PROTO-ASSEMBLY
FPC 11	REV 17	750-037355	CAAT3986	MPC4E-3D-2CGE-8XGE
Fan Tray 0	REV 08	740-031521	ACAF4219	FFANTRAY-MX960-HC-S
Fan Tray 1	REV 08	740-031521	ACAF4225	FFANTRAY-MX960-HC-S

show chassis hardware clei-models (MX960 Router with MPC5EQ)

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user@host> show chassis hardware clei-models
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Hardware inventory:
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Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 01	710-030012	COM8T00CRB	CHAS-BP-MX960-S
FPM Board	REV 03	710-014974		CRAFT-MX960-S
PEM 0	Rev 10	740-027760		PWR-MX960-4100-AC-S
PEM 1	Rev 04	740-027760		PWR-MX960-4100-AC-S
PEM 2	Rev 09	740-027760		PWR-MX960-4100-AC-S
Routing Engine 0	REV 08	740-031116	COUCASKBAA	RE-S-1800X4-16G-S
Routing Engine 1	REV 08	740-031116	COUCASKBAA	RE-S-1800X4-16G-S
CB 0	REV 18	750-031391	COUCASRBAA	SCBE-MX-S
CB 1	REV 16	750-031391	COUCARCBAB	SCBE-MX-S
CB 2	REV 16	750-031391	COUCARCBAB	SCBE-MX-S
FPC 0	REV 18	750-046005	PROTOXCLEI	PROTO-ASSEMBLY
FPC 1	REV 11	750-045372	COUIBBNBAA	MX-MPC3E-3D
MIC 0	REV 07	750-033307	COUIBBJBAA	MIC3-3D-10XGE-SFPP
MIC 1	REV 14	750-033196	COUIBBKBAA	MIC3-3D-1X100GE-CXP
FPC 3	REV 35	750-028467		MPC-3D-16XGE-SFPP
FPC 4	REV 18	750-046005	PROTOXCLEI	PROTO-ASSEMBLY
FPC 5	REV 18	750-046005	PROTOXCLEI	PROTO-ASSEMBLY
FPC 7	REV 09	750-037355	PROTOXCLEI	MPC4E-2CGE-8XGE
FPC 8	REV 39	750-045715	PROTOXCLEI	PROTO-ASSEMBLY
FPC 9	REV 05	750-044444	COUIBBGBAA	MX-MPC2E-3D-P

MIC 0	REV 28	750-028387	COUIA16BAA	MIC-3D-4XGE-XFP
FPC 10	REV 21.0.11	750-045715	PROTOXCLEI	PROTO-ASSEMBLY
FPC 11	REV 17	750-037355	IPU3A4DHAA	MPC4E-3D-2CGE-8XGE
Fan Tray 0	REV 08	740-031521		FFANTRAY-MX960-HC-S
Fan Tray 1	REV 08	740-031521		FFANTRAY-MX960-HC-S

show chassis hardware (MX2010 Router)

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user@host > show chassis hardware
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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis			JN11E3217AFK	MX2010
Midplane				Lower Backplane
Midplane 1	REV 01	711-044557	ZY8296	Upper Backplane
PMP	REV 03	711-032426	ACA11388	Power Midplane
FPM Board	REV 06	711-032349	ZX8744	Front Panel Display
PSM 4	REV 0C	740-033727	VK00254	DC 52V Power Supply
Module				
PSM 5	REV 0B	740-033727	VG00015	DC 52V Power Supply
Module				
PSM 6	REV 0B	740-033727	VH00097	DC 52V Power Supply
Module				
PSM 7	REV 0C	740-033727	VJ00151	DC 52V Power Supply
Module				
PSM 8	REV 0C	740-033727	VJ00149	DC 52V Power Supply
Module				
PDM 0	REV 0B	740-038109	WA00008	DC Power Dist Module
PDM 1	REV 0B	740-038109	WA00014	DC Power Dist Module
Routing Engine 0	REV 02	740-041821	9009094134	RE-S-1800x4
Routing Engine 1	REV 02	740-041821	9009094141	RE-S-1800x4
CB 0	REV 08	750-040257	CAAB3491	Control Board
CB 1	REV 08	750-040257	CAAB3489	Control Board
SPMB 0	REV 02	711-041855	CAA6135	PMB Board
SPMB 1	REV 02	711-041855	CAA6137	PMB Board
SFB 0	REV 06	711-032385	ZV1828	Switch Fabric Board
SFB 1	REV 07	711-032385	ZZ2568	Switch Fabric Board
SFB 2	REV 07	711-032385	ZZ2563	Switch Fabric Board
SFB 3	REV 07	711-032385	ZZ2564	Switch Fabric Board
SFB 4	REV 07	711-032385	ZZ2580	Switch Fabric Board
SFB 5	REV 07	711-032385	ZZ2579	Switch Fabric Board
SFB 6	REV 07	711-032385	CAAB4882	Switch Fabric Board
SFB 7	REV 07	711-032385	CAAB4898	Switch Fabric Board
FPC 0	REV 33	750-028467	CAAB1919	MPC 3D 16x 10GE
CPU	REV 11	711-029089	CAAB7174	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AMH02RE	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AMH038C	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AMH0390	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AMG0SUA	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AMH0579	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AMG0SGP	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AMH04SV	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AMH04X3	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AMH0135	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AMH02NC	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AMH02XB	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AMH02PN	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AMH057Y	SFP+-10G-SR

Xcvr 1	REV 01	740-021308	AMG0JHE	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AMH02HT	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AMH04V4	SFP+-10G-SR
FPC 1	REV 21	750-033205	ZG5027	MPC Type 3
CPU	REV 04	711-035209	YT4780	HMPC PMB 2G
MIC 0	REV 03	750-033307	ZV6299	10X10GE SFPP
PIC 0		BUILTIN	BUILTIN	10X10GE SFPP
Xcvr 0	REV 01	740-031980	083363A00410	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	083363A00334	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	113363A00125	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	083363A00953	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	AHR013D	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	AJ40JUR	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	AJ40JKL	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	AJ30ECK	SFP+-10G-SR
Xcvr 8	REV 01	740-021308	19T511100864	SFP+-10G-SR
Xcvr 9	REV 01	740-021308	19T511100868	SFP+-10G-SR
MIC 1	REV 03	750-033307	ZV6268	10X10GE SFPP
PIC 2		BUILTIN	BUILTIN	10X10GE SFPP
Xcvr 0	REV 01	740-031980	AJC0JML	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ403PC	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AJ10N25	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AJ40JF4	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	AJ40JSJ	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	AJ403V7	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	AJ40JN3	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	AJ40JSU	SFP+-10G-SR
Xcvr 8	REV 01	740-021308	19T511100468	SFP+-10G-SR
Xcvr 9	REV 01	740-021308	19T511101363	SFP+-10G-SR
FPC 8	REV 22	750-031089	ZT9746	MPC Type 2 3D
CPU	REV 06	711-030884	ZS1271	MPC PMB 2G
MIC 0	REV 26	750-028392	ABBS1150	3D 20x 1GE(LAN) SFP
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-031851	PLG023C	SFP-SX
Xcvr 1	REV 01	740-031851	PLG09C6	SFP-SX
Xcvr 2	REV 02	740-011613	AM0950SF9L7	SFP-SX
Xcvr 3	REV 02	740-011613	AM1001SFN1H	SFP-SX
Xcvr 4	REV 02	740-011613	AM1001SFM9D	SFP-SX
Xcvr 5	REV 02	740-011613	AM1001SFLTJ	SFP-SX
Xcvr 6	REV 01	740-031851	AC1108S03L9	SFP-SX
Xcvr 7	REV 01	740-031851	AC1102S00NC	SFP-SX
Xcvr 8	REV 01	740-031851	AC1102S00MX	SFP-SX
Xcvr 9	REV 01	740-031851	AC1102S0085	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-031851	AC1102S00KU	SFP-SX
Xcvr 1	REV 01	740-031851	AC1102S00NG	SFP-SX
Xcvr 2	REV 01	740-031851	AC1102S00K3	SFP-SX
Xcvr 3	REV 01	740-031851	AC1102S008R	SFP-SX
Xcvr 4	REV 01	740-031851	AM1107SUFVJ	SFP-SX
Xcvr 5	REV 01	740-031851	AC1108S03LG	SFP-SX
MIC 1	REV 26	750-028387	ABBR9582	3D 4x 10GE XFP
PIC 2		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0		NON-JNPR	T10A91703	XFP-10G-SR
Xcvr 1		NON-JNPR	T09L42604	XFP-10G-SR
PIC 3		BUILTIN	BUILTIN	2x 10GE XFP
FPC 9	REV 11	750-036284	ZL3591	MPC 3D 16x 10GE EM
CPU	REV 10	711-029089	ZL0513	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	1YT517101825	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	1YT517101821	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	1YT517101682	SFP+-10G-SR

Xcvr 3	REV 01	740-031980	ALQ13R6	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	1YT517101828	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	1YT517101716	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	1YT517101732	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	ALP0TR1	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	1YT517101741	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	1YT517101829	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	1YT517101669	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	ALQ14E3	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	1YT517101826	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	1YT517101817	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	1YT517101735	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	ALQ159A	SFP+-10G-SR
ADC 0	REV 05	750-043596	CAAC2073	Adapter Card
ADC 1	REV 01	750-043596	ZV4117	Adapter Card
ADC 8	REV 01	750-043596	ZV4107	Adapter Card
ADC 9	REV 02	750-043596	ZW1555	Adapter Card
Fan Tray 0	REV 2A	760-046960	ACAY0015	172mm FanTray - 6 Fans
Fan Tray 1	REV 2A	760-046960	ACAY0019	172mm FanTray - 6 Fans
Fan Tray 2	REV 2A	760-046960	ACAY0020	172mm FanTray - 6 Fans
Fan Tray 3	REV 2A	760-046960	ACAY0021	172mm FanTray - 6 Fans

show chassis hardware detail (MX2010 Router)

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user@host > show chassis hardware detail
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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis			JN11E233DAFK	MX2010
Midplane	REV 26	750-044636	ABAB9357	Lower Backplane
Midplane 1	REV 01	711-044557	ABAB8643	Upper Backplane
PMP	REV 04	711-032426	ACAJ1677	Power Midplane
FPM Board	REV 08	760-044634	ABBV9726	Front Panel Display
PSM 0	REV 01	740-045050	1E02224000P	DC 52V Power Supply
Module				
PSM 1	REV 01	740-045050	1E02224000M	DC 52V Power Supply
Module				
PSM 2	REV 01	740-045050	1E022240010	DC 52V Power Supply
Module				
PSM 3	REV 01	740-045050	1E02224000G	DC 52V Power Supply
Module				
PSM 4	REV 01	740-045050	1E022240013	DC 52V Power Supply
Module				
PSM 5	REV 01	740-045050	1E022240007	DC 52V Power Supply
Module				
PSM 6	REV 01	740-045050	1E02224001C	DC 52V Power Supply
Module				
PSM 7	REV 01	740-045050	1E02224001D	DC 52V Power Supply
Module				
PSM 8	REV 01	740-045050	1E02224001B	DC 52V Power Supply
Module				
PDM 0	REV 01	740-045234	1E262250067	DC Power Dist Module
Routing Engine 0	REV 02	740-041821	9009099704	RE-S-1800x4
ad0 3831 MB	UGB30SFA4000T1		SFA4000T1 00000651	Compact Flash
ad1 30533 MB	UGB94BPH32H0S1-KCI		11000019592	Disk 1
usb0 (addr 1)	EHCI root hub 0		Intel	uhub0
usb0 (addr 2)	product 0x0020 32		vendor 0x8087	uhub1
DIMM 0	SGU04G72H1BD2SA-BB DIE	REV-52 PCB	REV-54 MFR	ID-ce80
DIMM 1	SGU04G72H1BD2SA-BB DIE	REV-52 PCB	REV-54 MFR	ID-ce80

DIMM 2		SGU04G72H1BD2SA-BB	DIE REV-52	PCB REV-54	MFR ID-ce80
DIMM 3		SGU04G72H1BD2SA-BB	DIE REV-52	PCB REV-54	MFR ID-ce80
Routing Engine 1		REV 02	740-041821	9009099706	RE-S-1800x4
ad0	3998 MB	Virtium - TuffDrive	VCF P1T0200262860208	114	Compact Flash
ad1	30533 MB	UGB94ARF32H0S3-KC	UNIGEN-499551-000404		Disk 1
CB 0		REV 13	750-040257	CAAF8436	Control Board
CB 1		REV 13	750-040257	CAAF8434	Control Board
SPMB 0		REV 02	711-041855	ABBV3825	PMB Board
SPMB 1		REV 02	711-041855	ABBV3833	PMB Board
SFB 0		REV 05	711-044466	ABBX5682	Switch Fabric Board
SFB 1		REV 05	711-044466	ABBX5676	Switch Fabric Board
SFB 2		REV 05	711-044466	ABBX5665	Switch Fabric Board
SFB 3		REV 05	711-044466	ABBX5699	Switch Fabric Board
SFB 4		REV 05	711-044466	ABBX5603	Switch Fabric Board
SFB 5		REV 05	711-044466	ABBX5587	Switch Fabric Board
SFB 6		REV 05	711-044466	ABBX5607	Switch Fabric Board
SFB 7		REV 05	711-044466	ABBX5669	Switch Fabric Board
FPC 0		REV 09	750-037355	CAAF0924	MPC Type 4-2
CPU		REV 08	711-035209	CAAB9842	HMPC PMB 2G
PIC 0			BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0		REV 01	740-021308	19T511101656	SFP+-10G-SR
Xcvr 1		REV 01	740-031980	AMA04RU	SFP+-10G-SR
Xcvr 2		REV 01	740-031980	193363A00558	SFP+-10G-SR
Xcvr 3		REV 01	740-031980	B10M00202	SFP+-10G-SR
PIC 1			BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0			NON-JNPR	X12J00328	CFP-100G-SR10
PIC 2			BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0		REV 01	740-031980	AMA088W	SFP+-10G-SR
Xcvr 1		REV 01	740-031980	B10L04211	SFP+-10G-SR
Xcvr 2		REV 01	740-021308	19T511101602	SFP+-10G-SR
Xcvr 3		REV 01	740-031980	B10L04151	SFP+-10G-SR
PIC 3			BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0			NON-JNPR	X12J00332	CFP-100G-SR10
FPC 1		REV 18	750-033205	ZE0128	MPC Type 3
CPU		REV 06	711-035209	ZG5431	HMPC PMB 2G
MIC 0		REV 15	750-033199	ZP6435	1X100GE CFP
PIC 0			BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0		REV 01	740-032210	J11E46118	CFP-100G-LR4
MIC 1		REV 15	750-033199	ZP6442	1X100GE CFP
PIC 2			BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0		REV 01	740-032210	UMN03T4	CFP-100G-LR4
FPC 2		REV 16	750-037358	CAAL1001	MPC Type 4-1
CPU		REV 08	711-035209	CAAK7927	HMPC PMB 2G
PIC 0			BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0		REV 01	740-031980	193363A00589	SFP+-10G-SR
Xcvr 1		REV 01	740-021308	973152A00028	SFP+-10G-SR
Xcvr 2		REV 01	740-031980	193363A00376	SFP+-10G-SR
Xcvr 3		REV 01	740-021308	973152A00016	SFP+-10G-SR
Xcvr 4		REV 01	740-031980	193363A00499	SFP+-10G-SR
Xcvr 5		REV 01	740-021308	973152A00039	SFP+-10G-SR
Xcvr 6		REV 01	740-031980	B11E01239	SFP+-10G-SR
Xcvr 7		REV 01	740-021308	973152A00058	SFP+-10G-SR
PIC 1			BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0		REV 01	740-031980	B10M00075	SFP+-10G-SR
Xcvr 1		REV 01	740-021308	973152A00014	SFP+-10G-SR
Xcvr 2		REV 01	740-031980	AMA0638	SFP+-10G-SR
Xcvr 3		REV 01	740-021308	973152A00063	SFP+-10G-SR
Xcvr 4		REV 01	740-031980	AMA0629	SFP+-10G-SR
Xcvr 5		REV 01	740-021308	973152A00053	SFP+-10G-SR
Xcvr 6		REV 01	740-031980	193363A00344	SFP+-10G-SR
Xcvr 7		REV 01	740-021308	973152A00046	SFP+-10G-SR

PIC 2		BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-031980	AMA062M	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	973152A00080	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	193363A00580	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	973152A00064	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	093363A01494	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	973152A00020	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	123363A00047	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	973152A00072	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-021308	03D206A01033	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	973152A00022	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	03D206A01026	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	973152A00013	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	03D206A01028	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	973152A00079	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	03D206A01018	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	973152A00025	SFP+-10G-SR
FPC 3	REV 33	750-028467	CAAF5400	MPC 3D 16x 10GE
CPU	REV 11	711-029089	CAAH7626	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	973152A00066	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	973152A00021	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	973152A00062	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	973152A00027	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	973152A00065	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	973152A00069	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	973152A00026	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	973152A00003	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	973152A00035	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	973152A00004	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	973152A00049	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	973152A00055	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	973152A00010	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	973152A00001	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	973152A00073	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	973152A00012	SFP+-10G-SR
FPC 4	REV 21	750-033205	ZG5028	MPC Type 3
CPU	REV 05	711-035209	YX3911	HMPC PMB 2G
MIC 0	REV 03	750-036233	ZL2036	2X40GE QSFP
PIC 0		BUILTIN	BUILTIN	2X40GE QSFP
Xcvr 0	REV 01	740-032986	QB220708	QSFP+-40G-SR4
Xcvr 1	REV 01	740-032986	QB220735	QSFP+-40G-SR4
MIC 1	REV 03	750-036233	ZL2028	2X40GE QSFP
PIC 2		BUILTIN	BUILTIN	2X40GE QSFP
Xcvr 0	REV 01	740-032986	QB220727	QSFP+-40G-SR4
Xcvr 1	REV 01	740-032986	QB220715	QSFP+-40G-SR4
FPC 5	REV 11	750-037358	CAAE2196	MPC Type 4-1
CPU	REV 08	711-035209	CAAD9074	HMPC PMB 2G
PIC 0		BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-031980	AMA062S	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AMA062P	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AMA052R	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AMA0632	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	193363A00564	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	193363A00229	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	193363A00363	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	193363A00278	SFP+-10G-SR

PIC 1			BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-031980	AMA04CC	SFP+-10G-SR	
Xcvr 1	REV 01	740-021308	AD0927A001W	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	AMA04N2	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	AMA062U	SFP+-10G-SR	
Xcvr 4	REV 01	740-031980	193363A00491	SFP+-10G-SR	
Xcvr 5	REV 01	740-031980	183363A01511	SFP+-10G-SR	
Xcvr 6	REV 01	740-031980	193363A00565	SFP+-10G-SR	
Xcvr 7	REV 01	740-031980	193363A00405	SFP+-10G-SR	
PIC 2			BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-031980	AMA07QX	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	AMA06MS	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	193363A00318	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	193363A00402	SFP+-10G-SR	
Xcvr 4	REV 01	740-031980	193363A00174	SFP+-10G-SR	
Xcvr 5	REV 01	740-031980	193363A00388	SFP+-10G-SR	
Xcvr 6	REV 01	740-031980	193363A00377	SFP+-10G-SR	
Xcvr 7	REV 01	740-031980	193363A00234	SFP+-10G-SR	
PIC 3			BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-031980	AMA062T	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	193363A00550	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	193363A00364	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	AMA0630	SFP+-10G-SR	
Xcvr 4	REV 01	740-031980	193363A00509	SFP+-10G-SR	
Xcvr 5	REV 01	740-031980	193363A00459	SFP+-10G-SR	
Xcvr 6	REV 01	740-031980	113363A00191	SFP+-10G-SR	
Xcvr 7	REV 01	740-031980	193363A00352	SFP+-10G-SR	
FPC 6	REV 33	750-028467	CAAF5552	MPC 3D 16x 10GE	
CPU	REV 11	711-029089	CAAH7601	AMPC PMB	
PIC 0			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AD0927A0036	SFP+-10G-SR	
Xcvr 1	REV 01	740-021308	AD0927A003M	SFP+-10G-SR	
Xcvr 2	REV 01	740-021308	AD0927A003G	SFP+-10G-SR	
Xcvr 3	REV 01	740-021308	AD0927A0031	SFP+-10G-SR	
PIC 1			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	193363A00331	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	193363A00325	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	193363A00417	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	183363A02509	SFP+-10G-SR	
PIC 2			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	T09K75140	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	B11A04356	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	B11K01952	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	B11K01914	SFP+-10G-SR	
PIC 3			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	T09K75157	SFP+-10G-SR	
Xcvr 1	REV 01	740-021308	T09K75194	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	B11K01926	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	B11K01936	SFP+-10G-SR	
FPC 7	REV 16	750-037358	CAAL1012	MPC Type 4-1	
CPU	REV 08	711-035209	CAAJ3851	HMPC PMB 2G	
PIC 0			BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-031980	AMA04NK	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	B11F00260	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	B11E02192	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	AMA04CP	SFP+-10G-SR	
Xcvr 4	REV 01	740-031980	AJ40JJK	SFP+-10G-SR	
Xcvr 5	REV 01	740-031980	B11F00238	SFP+-10G-SR	
Xcvr 6	REV 01	740-031980	B10M00275	SFP+-10G-SR	
Xcvr 7	REV 01	740-031980	193363A00211	SFP+-10G-SR	
PIC 1			BUILTIN	BUILTIN	8X10GE SFPP

Xcvr 0	REV 01	740-031980	B11D05577	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11G00586	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AMA08B7	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AMA04Q0	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	B11D05840	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	B11E00467	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	B11E00029	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	19T511101712	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-031980	193363A00568	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B10M00166	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B10M00212	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11D05823	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	03DZ06A01005	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	03DZ06A01003	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	03DZ06A01009	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	03DZ06A01004	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	8X10GE SFPP
Xcvr 0	REV 01	740-021308	03DZ06A01017	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	03DZ06A01016	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	03DZ06A01024	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	03DZ06A01008	SFP+-10G-SR
Xcvr 4	REV 01	740-030658	AD0946A02UH	SFP+-10G-USR
Xcvr 5	REV 01	740-021308	T09J67913	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AD0837ES09G	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	03DZ06A01015	SFP+-10G-SR
FPC 8	REV 03	750-045372	CAAD3111	MPC Type 3
CPU	REV 08	711-035209	CAAD8033	HMPC PMB 2G
MIC 0	REV 03	750-036233	ZL2032	2X40GE QSFP
PIC 0		BUILTIN	BUILTIN	2X40GE QSFP
Xcvr 0	REV 01	740-032986	QB230273	QSFP+-40G-SR4
Xcvr 1	REV 01	740-032986	QB230254	QSFP+-40G-SR4
MIC 1	REV 03	750-036233	ZL2021	2X40GE QSFP
PIC 2		BUILTIN	BUILTIN	2X40GE QSFP
Xcvr 0	REV 01	740-032986	QB390962	QSFP+-40G-SR4
Xcvr 1	REV 01	740-032986	QB390960	QSFP+-40G-SR4
FPC 9	REV 09	750-037355	CAAF1531	MPC Type 4-2
CPU	REV 08	711-035209	CAAB9927	HMPC PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-031980	193363A00525	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	193363A00504	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	193363A00368	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AJ40JSS	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP
PIC 2		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-031980	123363A00042	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B10M00023	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AJ802EM	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11E02348	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP
ADC 0	REV 13	750-043596	ABBX5532	Adapter Card
ADC 1	REV 13	750-043596	ABBX5550	Adapter Card
ADC 2	REV 13	750-043596	ABBX5571	Adapter Card
ADC 3	REV 13	750-043596	ABBX5568	Adapter Card
ADC 4	REV 13	750-043596	ABBX5556	Adapter Card
ADC 5	REV 13	750-043596	ABBX5553	Adapter Card
ADC 6	REV 13	750-043596	ABBX5541	Adapter Card
ADC 7	REV 13	750-043596	ABBX5578	Adapter Card
ADC 8	REV 13	750-043596	ABBX5560	Adapter Card
ADC 9	REV 07	750-043596	ABBV7188	Adapter Card
Fan Tray 0	REV 03	760-046960	ACAY0127	172mm FanTray - 6 Fans

Fan Tray 1	REV 2A	760-046960	ACAY0068	172mm FanTray - 6 Fans
Fan Tray 2	REV 2A	760-046960	ACAY0072	172mm FanTray - 6 Fans
Fan Tray 3	REV 2A	760-046960	ACAY0070	172mm FanTray - 6 Fans

show chassis hardware extensive (MX2010 Router)

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user@host > show chassis hardware extensive
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Jedec Code:   0x7fb0          EEPROM Version: 0x02
S/N:          JN11E233DAFK
Assembly ID:  0x0557          Assembly Version: 00.00
Date:         00-00-0000      Assembly Flags:  0x00
ID: MX2010
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 05 57 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x20: 4a 4e 31 31 45 32 33 33 44 41 46 4b 00 00 00 00
Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane      REV 26      750-044636  ABAB9357      Lower Backplane
Jedec Code:   0x7fb0          EEPROM Version: 0x02
P/N:         750-044636      S/N:          ABAB9357
Assembly ID:  0x0b66          Assembly Version: 01.26
Date:         08-28-2012      Assembly Flags:  0x00
Version:      REV 26          CLEI Code:     PROTOXCLEI
ID: Lower Backplane          FRU Model Number: PROTO-ASSEMBLY
Board Information Record:
Address 0x00: ad 01 08 00 2c 21 72 70 a0 00 ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 0b 66 01 1a 52 45 56 20 32 36 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 36 33 36 00 00
Address 0x20: 53 2f 4e 20 41 42 41 42 39 33 35 37 00 1c 08 07
Address 0x30: dc ff ff ff ad 01 08 00 2c 21 72 70 a0 00 ff ff
Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
Midplane 1    REV 01      711-044557  ABAB8643      Upper Backplane
Jedec Code:   0x7fb0          EEPROM Version: 0x01
P/N:         711-044557      S/N:          ABAB8643
Assembly ID:  0x0b65          Assembly Version: 01.01
Date:         07-27-2012      Assembly Flags:  0x00
Version:      REV 01
ID: Upper Backplane
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 0b 65 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 31 31 2d 30 34 34 35 35 37 00 00
Address 0x20: 53 2f 4e 20 41 42 41 42 38 36 34 33 00 1b 07 07
Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

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    Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
PMP          REV 04   711-032426   ACAJ1677          Power Midplane
Jedec Code:   0x7fb0          EEPROM Version:   0x01
P/N:         711-032426      S/N:         ACAJ1677
Assembly ID: 0x045d          Assembly Version: 01.04
Date:        07-20-2012      Assembly Flags: 0x00
Version:     REV 04
ID: Power Midplane
Board Information Record:
    Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
    Address 0x00: 7f b0 01 ff 04 5d 01 04 52 45 56 20 30 34 00 00
    Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 34 32 36 00 00
    Address 0x20: 53 2f 4e 20 41 43 41 4a 31 36 37 37 00 14 07 07
    Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff
    Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff
    Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
    Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
    Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
FPM Board    REV 08   760-044634   ABBV9726          Front Panel Display
Jedec Code:   0x7fb0          EEPROM Version:   0x02
P/N:         760-044634      S/N:         ABBV9726
Assembly ID: 0x0b64          Assembly Version: 01.08
Date:        09-10-2012      Assembly Flags: 0x00
Version:     REV 08          CLEI Code:      IPMYA4EJRA
ID: Front Panel Display      FRU Model Number: MX2010-CRAFT-S
Board Information Record:
    Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
    Address 0x00: 7f b0 02 ff 0b 64 01 08 52 45 56 20 30 38 00 00
    Address 0x10: 00 00 00 00 37 36 30 2d 30 34 34 36 33 34 00 00
    Address 0x20: 53 2f 4e 20 41 42 42 56 39 37 32 36 00 0a 09 07
    Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff
    Address 0x40: ff ff ff ff 01 49 50 4d 59 41 34 45 4a 52 41 4d
    Address 0x50: 58 32 30 31 30 2d 43 52 41 46 54 2d 53 00 00 00
    Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
    Address 0x70: ff ff ff 93 ff ff ff ff ff ff ff ff ff ff ff ff
PSM 0        REV 01   740-045050   1E02224000P      DC 52V Power Supply
Module
Jedec Code:   0x7fb0          EEPROM Version:   0x02
P/N:         740-045050      S/N:         1E02224000P
Assembly ID: 0x0478          Assembly Version: 01.01
Date:        12-06-2012      Assembly Flags: 0x00
Version:     REV 01          CLEI Code:      XXXXXXXXXX
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-HC-DC-S-A
Board Information Record:
    Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
    Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
    Address 0x10: 00 00 00 00 37 34 30 2d 30 34 35 30 35 30 00 00
    Address 0x20: 31 45 30 32 32 32 34 30 30 30 50 00 00 06 0c 07
    Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff
    Address 0x40: ff ff ff ff 01 58 58 58 58 58 58 58 58 58 58 4d
    Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 48 43 2d 44 43 2d
    Address 0x60: 53 2d 41 00 00 00 31 30 31 ff ff ff ff ff ff ff
    Address 0x70: ff ff ff 4a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 1        REV 01   740-045050   1E02224000M      DC 52V Power Supply
Module
Jedec Code:   0x7fb0          EEPROM Version:   0x02
P/N:         740-045050      S/N:         1E02224000M
Assembly ID: 0x0478          Assembly Version: 01.01

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Date:          12-06-2012      Assembly Flags:    0x00
Version:       REV 01         CLEI Code:        XXXXXXXXXX
ID: DC 52V Power Supply Module FRU Model Number:  MX2000-PSM-HC-DC-S-A
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 34 35 30 35 30 00 00
Address 0x20: 31 45 30 32 32 32 34 30 30 30 4d 00 00 06 0c 07
Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 58 58 58 58 58 58 58 58 58 58 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 48 43 2d 44 43 2d
Address 0x60: 53 2d 41 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 4a 00 00 00 00 00 00 00 00 00 00 00 00
...
PDM 0          REV 01   740-045234   1E262250067      DC Power Dist Module
Jedec Code:    0x7fb0      EEPROM Version:    0x02
P/N:          740-045234   S/N:             1E262250067
Assembly ID:   0x047b     Assembly Version: 01.01
Date:         06-28-2012   Assembly Flags:   0x00
Version:      REV 01      CLEI Code:       IPUPAJSKAA
ID: DC Power Dist Module   FRU Model Number:  MX2000-PDM-DC-S-A
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 7b 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 34 35 32 33 34 00 00
Address 0x20: 31 45 32 36 32 32 35 30 30 36 37 00 00 1c 06 07
Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4a 53 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 44 4d 2d 44 43 2d 53 2d 41
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 89 00 00 00 00 00 00 00 00 00 00 00 00
Routing Engine 0 REV 02   740-041821   9009099704      RE-S-1800x4
Jedec Code:    0x7fb0      EEPROM Version:    0x02
P/N:          740-041821   S/N:             9009099704
Assembly ID:   0x09c0     Assembly Version: 01.02
Date:         03-15-2012   Assembly Flags:   0x00
Version:      REV 02
ID: RE-S-1800x4          FRU Model Number:  RE-S-1800X4-16G-S
Board Information Record:
Address 0x00: 54 32 30 32 37 44 41 2d 34 34 47 42 23 41 23 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 09 c0 01 02 52 45 56 20 30 32 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 34 31 38 32 31 00 00
Address 0x20: 39 30 30 39 30 39 39 37 30 34 00 00 00 0f 03 07
Address 0x30: dc ff ff ff 54 32 30 32 37 44 41 2d 34 34 47 42
Address 0x40: 23 41 23 00 01 00 00 00 00 00 00 00 00 00 00 52
Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 8c ff ff ff ff ff ff ff ff ff ff ff ff
ad0   3831 MB   UGB30SFA4000T1      SFA4000T1 00000651 Compact Flash
ad1   30533 MB  UGB94BPH32H0S1-KCI    11000019592      Disk 1
usb0 (addr 1)  EHCI root hub 0      Intel      uhub0
usb0 (addr 2)  product 0x0020 32     vendor 0x8087    uhub1
DIMM 0         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
DIMM 1         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
DIMM 2         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
DIMM 3         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 02   740-041821   9009099706      RE-S-1800x4
Jedec Code:    0x7fb0      EEPROM Version:    0x02

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P/N:          740-041821          S/N:          9009099706
Assembly ID:  0x09c0              Assembly Version: 01.02
Date:         02-23-2012          Assembly Flags:  0x00
Version:      REV 02
ID: RE-S-1800x4                    FRU Model Number: RE-S-1800X4-16G-S
Board Information Record:
  Address 0x00: 54 32 30 32 37 44 41 2d 34 34 47 42 23 41 23 00
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 c0 01 02 52 45 56 20 30 32 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 34 31 38 32 31 00 00
  Address 0x20: 39 30 30 39 30 39 39 37 30 36 00 00 00 17 02 07
  Address 0x30: dc ff ff ff 54 32 30 32 37 44 41 2d 34 34 47 42
  Address 0x40: 23 41 23 00 01 00 00 00 00 00 00 00 00 00 00 52
  Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 8c ff ff ff ff ff ff ff ff ff ff ff ff
ad0    3998 MB  Virtium - TuffDrive VCF P1T0200262860208 114 Compact Flash
ad1    30533 MB UGB94ARF32H0S3-KC UNIGEN-499551-000404 Disk 1
CB 0    REV 13    750-040257    CAAF8436    Control Board
Jedec Code:  0x7fb0              EEPROM Version:  0x02
P/N:         750-040257          S/N:         CAAF8436
Assembly ID:  0x0b26              Assembly Version: 01.13
Date:         08-29-2012          Assembly Flags:  0x00
Version:      REV 13              CLEI Code:     PROTOXCLEI
ID: Control Board                  FRU Model Number: PROTO-ASSEMBLY
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 26 01 0d 52 45 56 20 31 33 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 30 32 35 37 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 46 38 34 33 36 00 1d 08 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
  Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
...
SPMB 0    REV 02    711-041855    ABBV3825    PMB Board
Jedec Code:  0x7fb0              EEPROM Version:  0x01
P/N:         711-041855          S/N:         ABBV3825
Assembly ID:  0x0b29              Assembly Version: 01.02
Date:         08-14-2012          Assembly Flags:  0x00
Version:      REV 02
ID: PMB Board
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 01 ff 0b 29 01 02 52 45 56 20 30 32 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 34 31 38 35 35 00 00
  Address 0x20: 53 2f 4e 20 41 42 42 56 33 38 32 35 00 0e 08 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
  Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff 00 00 00 00 00 00 00 00 00 00 00 00
...
SFB 0    REV 05    711-044466    ABBX5682    Switch Fabric Board
Jedec Code:  0x7fb0              EEPROM Version:  0x02
P/N:         711-044466          S/N:         ABBX5682
Assembly ID:  0x0b25              Assembly Version: 01.05
Date:         09-07-2012          Assembly Flags:  0x00

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Version:      REV 05          CLEI Code:      PROTOXCLEI
ID: Switch Fabric Board      FRU Model Number:  PROTO-ASSEMBLY
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 25 01 05 52 45 56 20 30 35 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 34 34 34 36 36 00 00
  Address 0x20: 53 2f 4e 20 41 42 42 58 35 36 38 32 00 07 09 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
  Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c2 00 00 00 01 00 00 00 00 00 00 48 00
...
FPC 0          REV 09      750-037355    CAAF0924          MPC Type 4-2
Jedec Code:    0x7fb0      EEPROM Version:  0x02
P/N:           750-037355   S/N:           CAAF0924
Assembly ID:   0x0b4e      Assembly Version: 01.09
Date:          05-21-2012  Assembly Flags:  0x00
Version:       REV 09      CLEI Code:      PROTOXCLEI
ID: MPC Type 4-2          FRU Model Number:  MPC4E-2CGE-8XGE
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 4e 01 09 52 45 56 20 30 39 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 33 35 35 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 46 30 39 32 34 00 15 05 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 4d
  Address 0x50: 50 43 34 45 2d 32 43 47 45 2d 38 58 47 45 00 00
  Address 0x60: 00 00 00 00 00 00 30 39 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c6 ff ff ff ff ff ff ff ff ff ff ff ff
CPU          REV 08      711-035209    CAAB9842          H MPC PMB 2G
Jedec Code:    0x7fb0      EEPROM Version:  0x01
P/N:           711-035209   S/N:           CAAB9842
Assembly ID:   0x0b04      Assembly Version: 01.08
Date:          05-17-2012  Assembly Flags:  0x00
Version:       REV 08
ID: H MPC PMB 2G
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 01 ff 0b 04 01 08 52 45 56 20 30 38 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 33 35 32 30 39 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 42 39 38 34 32 00 11 05 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
  Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff 00 00 00 00 00 00 00 00 00 00 00 00
PIC 0          BUILTIN      BUILTIN          4x10GE SFPP
Jedec Code:    0x0000      EEPROM Version:  0x00
P/N:           BUILTIN      S/N:           BUILTIN
Assembly ID:   0x0a53      Assembly Version: 00.00
Date:          00-00-0000   Assembly Flags:  0x00
ID: 4x10GE SFPP
Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
  Address 0x00: 00 00 00 00 0a 53 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 4d 58 43 00

```

```

Address 0x20: 42 55 49 4c 54 49 4e 00 4d 58 43 00 00 00 00 00
Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 c0 02 ae 64 00 00 00 00 0a 52 00 00
  Xcvr 0      REV 01   740-021308   19T511101656   SFP+-10G-SR
  Xcvr 1      REV 01   740-031980   AMA04RU        SFP+-10G-SR
  Xcvr 2      REV 01   740-031980   193363A00558   SFP+-10G-SR
  Xcvr 3      REV 01   740-031980   B10M00202      SFP+-10G-SR
...
ADC 0          REV 13   750-043596   ABBX5532      Adapter Card
Jedec Code:    0x7fb0      EEPROM Version: 0x02
P/N:           750-043596   S/N:          ABBX5532
Assembly ID:   0x0b3d      Assembly Version: 01.13
Date:          09-12-2012   Assembly Flags: 0x00
Version:       REV 13      CLEI Code:     IPUCBA8CAA
ID: Adapter Card          FRU Model Number: MX2000-LC-ADAPTER
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 3d 01 0d 52 45 56 20 31 33 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 33 35 39 36 00 00
  Address 0x20: 53 2f 4e 20 41 42 42 58 35 35 33 32 00 0c 09 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 43 42 41 38 43 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 4c 43 2d 41 44 41 50 54 45 52
  Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 3a 00 00 00 00 00 00 00 00 00 00 00 00
...

```

show chassis hardware models (MX2010 Router)

```
user@host > show chassis hardware models
```

```
Hardware inventory:
```

Item	Version	Part number	Serial number	FRU model number
FPM Board	REV 06	711-032349	ZX8744	711-032349
PSM 4	REV 0C	740-033727	VK00254	000000000000000000000000
PSM 5	REV 0B	740-033727	VG00015	000000000000000000000000
PSM 6	REV 0B	740-033727	VH00097	000000000000000000000000
PSM 7	REV 0C	740-033727	VJ00151	000000000000000000000000
PSM 8	REV 0C	740-033727	VJ00149	000000000000000000000000
PDM 0	REV 0B	740-038109	WA00008	
PDM 1	REV 0B	740-038109	WA00014	
Routing Engine 0	REV 02	740-041821	9009094134	RE-S-1800X4-16G-S
Routing Engine 1	REV 02	740-041821	9009094141	RE-S-1800X4-16G-S
CB 0	REV 08	750-040257	CAAB3491	750-040257
CB 1	REV 08	750-040257	CAAB3489	750-040257
SFB 0	REV 06	711-032385	ZV1828	711-032385
SFB 1	REV 07	711-032385	ZZ2568	711-032385
SFB 2	REV 07	711-032385	ZZ2563	711-032385
SFB 3	REV 07	711-032385	ZZ2564	711-032385
SFB 4	REV 07	711-032385	ZZ2580	711-032385
SFB 5	REV 07	711-032385	ZZ2579	711-0323856
SFB 6	REV 07	711-032385	CAAB4882	711-044170
SFB 7	REV 07	711-032385	CAAB4898	711-044170
FPC 0	REV 33	750-028467	CAAB1919	MPC-3D-16XGE-SFPP
FPC 1	REV 21	750-033205	ZG5027	MX-MPC3-3D
MIC 0	REV 03	750-033307	ZV6299	MIC3-3D-10XGE-SFPP
MIC 1	REV 03	750-033307	ZV6268	MIC3-3D-10XGE-SFPP
FPC 8	REV 22	750-031089	ZT9746	MX-MPC2-3D

MIC 0	REV 26	750-028392	ABBS1150	MIC-3D-20GE-SFP
MIC 1	REV 26	750-028387	ABBR9582	MIC-3D-4XGE-XFP
FPC 9	REV 11	750-036284	ZL3591	MPCE-3D-16XGE-SFPP
ADC 0	REV 05	750-043596	CAAC2073	750-043596
ADC 1	REV 01	750-043596	ZV4117	750-043596
ADC 8	REV 01	750-043596	ZV4107	750-043596
ADC 9	REV 02	750-043596	ZW1555	750-043596
Fan Tray 0	REV 2A	760-046960	ACAY0015	
Fan Tray 1	REV 2A	760-046960	ACAY0019	
Fan Tray 2	REV 2A	760-046960	ACAY0020	
Fan Tray 3	REV 2A	760-046960	ACAY0021	

show chassis hardware clei-models (MX2010 Routers)

```
user@host > show chassis hardware clei-models
```

Hardware inventory:

Item	Version	Part number	CLEI code	FRU model number
FPM Board	REV 06	711-032349	PROTOXCLEI	711-032349
PSM 4	REV 0C	740-033727	0000000000	000000000000000000000000
PSM 5	REV 0B	740-033727	0000000000	000000000000000000000000
PSM 6	REV 0B	740-033727	0000000000	000000000000000000000000
PSM 7	REV 0C	740-033727	0000000000	000000000000000000000000
PSM 8	REV 0C	740-033727	0000000000	000000000000000000000000
PDM 0	REV 0B	740-038109		
PDM 1	REV 0B	740-038109		
Routing Engine 0	REV 02	740-041821		RE-S-1800X4-16G-S
Routing Engine 1	REV 02	740-041821		RE-S-1800X4-16G-S
CB 0	REV 08	750-040257	PROTOXCLEI	750-040257
CB 1	REV 08	750-040257	PROTOXCLEI	750-040257
SFB 0	REV 06	711-032385	PROTOXCLEI	711-032385
SFB 1	REV 07	711-032385	PROTOXCLEI	711-032385
SFB 2	REV 07	711-032385	PROTOXCLEI	711-032385
SFB 3	REV 07	711-032385	PROTOXCLEI	711-032385
SFB 4	REV 07	711-032385	PROTOXCLEI	711-032385
SFB 5	REV 07	711-032385	PROTOXCLEI	711-0323856
SFB 6	REV 07	711-032385	PROTOXCLEI	711-044170
SFB 7	REV 07	711-032385	PROTOXCLEI	711-044170
FPC 0	REV 33	750-028467		MPC-3D-16XGE-SFPP
FPC 1	REV 21	750-033205		MX-MPC3-3D
MIC 0	REV 03	750-033307	PROTOXCLEI	MIC3-3D-10XGE-SFPP
MIC 1	REV 03	750-033307	PROTOXCLEI	MIC3-3D-10XGE-SFPP
FPC 8	REV 22	750-031089	COUIBAYBAA	MX-MPC2-3D
MIC 0	REV 26	750-028392	COUIA15BAA	MIC-3D-20GE-SFP
MIC 1	REV 26	750-028387	COUIA16BAA	MIC-3D-4XGE-XFP
FPC 9	REV 11	750-036284	CMUIACGBAA	MPCE-3D-16XGE-SFPP
ADC 0	REV 05	750-043596	PROTOXCLEI	750-043596
ADC 1	REV 01	750-043596	PROTOXCLEI	750-043596
ADC 8	REV 01	750-043596	PROTOXCLEI	750-043596
ADC 9	REV 02	750-043596	PROTOXCLEI	750-043596
Fan Tray 0	REV 2A	760-046960		
Fan Tray 1	REV 2A	760-046960		
Fan Tray 2	REV 2A	760-046960		
Fan Tray 3	REV 2A	760-046960		

show chassis hardware (MX2010 Routers with MPC6E and OTN MIC)

```
user@host> show chassis hardware
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11C9AFEAFK	MX2010
Midplane	REV 35	750-044636	ABAB9188	Lower Backplane

Midplane 1	REV 02	711-044557	ABAB8729	Upper Backplane
PMP	REV 04	711-032426	ACAJ2432	Power Midplane
FPM Board	REV 09	760-044634	ABCA4314	Front Panel Display
PSM 0	REV 01	740-050037	1EDB321015C	DC 52V Power Supply
Module				
PSM 1	REV 01	740-050037	1EDB321015J	DC 52V Power Supply
Module				
PSM 2	REV 01	740-050037	1EDB32000K8	DC 52V Power Supply
Module				
PSM 3	REV 01	740-050037	1EDB32101JW	DC 52V Power Supply
Module				
PSM 4	REV 01	740-050037	1EDB321015G	DC 52V Power Supply
Module				
PSM 5	REV 01	740-050037	1EDB32101HH	DC 52V Power Supply
Module				
PSM 6	REV 01	740-050037	1EDB32101HD	DC 52V Power Supply
Module				
PSM 7	REV 01	740-050037	1EDB321015F	DC 52V Power Supply
Module				
PSM 8	REV 01	740-050037	1EDB321015B	DC 52V Power Supply
Module				
PDM 0	REV 03	740-045234	1EFA3220433	DC Power Dist Module
PDM 1	REV 03	740-045234	1EFA3220425	DC Power Dist Module
Routing Engine 0	REV 02	740-041821	9009115685	RE-S-1800x4
Routing Engine 1	REV 02	740-041821	9009099711	RE-S-1800x4
CB 0	REV 23	750-040257	CABE8395	Control Board
CB 1	REV 12	750-040257	CAAD9499	Control Board
SPMB 0	REV 02	711-041855	ABCG8426	PMB Board
SPMB 1	REV 02	711-041855	ABBS1481	PMB Board
SFB 0	REV 06	711-044466	ABCD5013	Switch Fabric Board
SFB 1	REV 06	711-044466	ABCD5160	Switch Fabric Board
SFB 2	REV 06	711-044466	ABCD5175	Switch Fabric Board
SFB 3	REV 06	711-044466	ABCD4938	Switch Fabric Board
SFB 4	REV 06	711-044466	ABCD4944	Switch Fabric Board
SFB 5	REV 06	711-044466	ABCD4968	Switch Fabric Board
SFB 6	REV 06	711-044466	ABCD5267	Switch Fabric Board
SFB 7	REV 06	711-044466	ABCD4997	Switch Fabric Board
FPC 0	REV 59	750-044130	ABCT7676	MPC6E 3D
CPU	REV 10	711-045719	ABCK8527	RMPD PMB
XLM 0	REV 13	711-046638	ABCT7810	MPC6E XL
XLM 1	REV 13	711-046638	ABCT7811	MPC6E XL
FPC 2	REV 27	750-033205	ZL6014	MPCE Type 3 3D
CPU	REV 07	711-035209	ZK9068	HMPD PMB 2G
MIC 0	REV 14	750-033196	CAAW9214	1X100GE CXP
PIC 0		BUILTIN	BUILTIN	1X100GE CXP
Xcvr 0	REV 01	740-046563	XC49FC030	CFP2-100G-SR10
MIC 1	REV 18	750-033199	CAAC3231	1X100GE CFP
PIC 2		BUILTIN	BUILTIN	1X100GE CFP
FPC 3	REV 59	750-044130	ABCT7682	MPC6E 3D
CPU	REV 10	711-045719	ABCK8531	RMPD PMB
XLM 0	REV 13	711-046638	ABCT7818	MPC6E XL
XLM 1	REV 13	711-046638	ABCT7819	MPC6E XL
FPC 4	REV 33	750-044130	ABBY9278	MPC6E 3D
CPU	REV 09	711-045719	ABBY8677	RMPD PMB
XLM 0	REV 06.2.00	711-046638	ABBY8844	MPC6E XL
XLM 1	REV 06.2.00	711-046638	ABBY8830	MPC6E XL
FPC 5	REV 59	750-044130	ABCT7675	MPC6E 3D
CPU	REV 10	711-045719	ABCK8526	RMPD PMB
XLM 0	REV 13	711-046638	ABCT7808	MPC6E XL
XLM 1	REV 13	711-046638	ABCT7809	MPC6E XL
FPC 6	REV 30	750-028467	ZM4986	MPC 3D 16x 10GE

CPU	REV 10	711-029089	ZP6541	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ43GAC	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	ALM0A6D	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AQFORB3	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	153363A00333	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AN10KYE	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	APK04YM	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AQFOH44	SFP+-10G-SR
FPC 8	REV 38	750-031090	CABF7313	MPC Type 2 3D EQ
CPU	REV 08	711-030884	CABE6727	MPC PMB 2G
MIC 0	REV 18	750-028380	YK8253	3D 2x 10GE XFP
PIC 0		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 03	740-014289	AD1148M00TP	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	1x 10GE XFP
QXM 0	REV 06	711-028408	CABC5614	MPC QXM
QXM 1	REV 06	711-028408	CABC5550	MPC QXM
FPC 9	REV 39	750-044130	ABCK1652	MPC6E 3D
CPU	REV 09	711-045719	ABCK1655	RMPC PMB
MIC 0	REV 09	750-049457	ABCP1230	2X100GE CFP2 OTN
PIC 0		BUILTIN	BUILTIN	2X100GE CFP2 OTN
Xcvr 0		NON-JNPR	37300222WP0002	CFP2-100G-LR4-D
Xcvr 1		NON-JNPR	FD46F001Y	CFP2-100G-SR10
MIC 1	REV 07	750-049457	ABCV6662	2X100GE CFP2 OTN
PIC 1		BUILTIN	BUILTIN	2X100GE CFP2 OTN
Xcvr 0		NON-JNPR	UQD0014	CFP2-100G-LR4-D
Xcvr 1		NON-JNPR	J13J68335	CFP2-100G-LR4-D
XLM 0	REV 07.2.00	711-046638	ABCK5491	MPC6E XL
XLM 1	REV 07.2.00	711-046638	ABCK5475	MPC6E XL
ADC 1	REV 17	750-043596	ABCG9023	Adapter Card
ADC 2	REV 01	750-043596	ZV4079	Adapter Card
ADC 6	REV 17	750-043596	ABCG8866	Adapter Card
ADC 8	REV 17	750-043596	ABCA8993	Adapter Card
Fan Tray 0	REV 06	760-046960	ACAY0354	172mm FanTray - 6 Fans
Fan Tray 1	REV 06	760-046960	ACAY0831	172mm FanTray - 6 Fans
Fan Tray 2	REV 06	760-046960	ACAY0892	172mm FanTray - 6 Fans
Fan Tray 3	REV 06	760-046960	ACAY0839	172mm FanTray - 6 Fans

show chassis hardware detail (MX2010 Routers with MPC6E and OTN MIC)

```
user@host> show chassis hardware detail
```

Hardware inventory:				
Item	Version	Part number	Serial number	Description
Chassis			JN11C9AFEAFK	MX2010
Midplane	REV 35	750-044636	ABAB9188	Lower Backplane
Midplane 1	REV 02	711-044557	ABAB8729	Upper Backplane
PMP	REV 04	711-032426	ACAJ2432	Power Midplane
FPM Board	REV 09	760-044634	ABCA4314	Front Panel Display
PSM 0	REV 01	740-050037	1EDB321015C	DC 52V Power Supply
Module				
PSM 1	REV 01	740-050037	1EDB321015J	DC 52V Power Supply
Module				
PSM 2	REV 01	740-050037	1EDB32000K8	DC 52V Power Supply
Module				
PSM 3	REV 01	740-050037	1EDB32101JW	DC 52V Power Supply
Module				
PSM 4	REV 01	740-050037	1EDB321015G	DC 52V Power Supply
Module				

PSM 5 Module	REV 01	740-050037	1EDB32101HH	DC 52V Power Supply
PSM 6 Module	REV 01	740-050037	1EDB32101HD	DC 52V Power Supply
PSM 7 Module	REV 01	740-050037	1EDB321015F	DC 52V Power Supply
PSM 8 Module	REV 01	740-050037	1EDB321015B	DC 52V Power Supply
PDM 0	REV 03	740-045234	1EFA3220433	DC Power Dist Module
PDM 1	REV 03	740-045234	1EFA3220425	DC Power Dist Module
Routing Engine 0	REV 02	740-041821	9009115685	RE-S-1800x4
ad0 3998 MB		Virtium - TuffDrive	VCF P1T0200274310822	191 Compact Flash
ad1 30533 MB		UGB94BPH32H0S1-KCI	11000043190	Disk 1
usb0 (addr 1)		EHCI root hub 0	Intel	uhub0
usb0 (addr 2)		product 0x0020 32	vendor 0x8087	uhub1
DIMM 0		VL31B5263F-F8SD DIE	REV-0 PCB REV-0	MFR ID-ce80
DIMM 1		VL31B5263F-F8SD DIE	REV-0 PCB REV-0	MFR ID-ce80
DIMM 2		VL31B5263F-F8SD DIE	REV-0 PCB REV-0	MFR ID-ce80
DIMM 3		VL31B5263F-F8SD DIE	REV-0 PCB REV-0	MFR ID-ce80
Routing Engine 1	REV 02	740-041821	9009099711	RE-S-1800x4
ad0 3998 MB		Virtium - TuffDrive	VCF P1T0200262860208	30 Compact Flash
ad1 30533 MB		UGB94ARF32H0S3-KC	UNIGEN-499551-000146	Disk 1
CB 0	REV 23	750-040257	CABE8395	Control Board
CB 1	REV 12	750-040257	CAAD9499	Control Board
SPMB 0	REV 02	711-041855	ABCG8426	PMB Board
SPMB 1	REV 02	711-041855	ABBS1481	PMB Board
SFB 0	REV 06	711-044466	ABCD5013	Switch Fabric Board
SFB 1	REV 06	711-044466	ABCD5160	Switch Fabric Board
SFB 2	REV 06	711-044466	ABCD5175	Switch Fabric Board
SFB 3	REV 06	711-044466	ABCD4938	Switch Fabric Board
SFB 4	REV 06	711-044466	ABCD4944	Switch Fabric Board
SFB 5	REV 06	711-044466	ABCD4968	Switch Fabric Board
SFB 6	REV 06	711-044466	ABCD5267	Switch Fabric Board
SFB 7	REV 06	711-044466	ABCD4997	Switch Fabric Board
FPC 0	REV 59	750-044130	ABCT7676	MPC6E 3D
CPU	REV 10	711-045719	ABCK8527	RMPK PMB
XLM 0	REV 13	711-046638	ABCT7810	MPC6E XL
XLM 1	REV 13	711-046638	ABCT7811	MPC6E XL
FPC 2	REV 27	750-033205	ZL6014	MPCE Type 3 3D
CPU	REV 07	711-035209	ZK9068	HMPK PMB 2G
MIC 0	REV 14	750-033196	CAAW9214	1X100GE CXP
PIC 0		BUILTIN	BUILTIN	1X100GE CXP
Xcvr 0	REV 01	740-046563	XC49FC030	CFP2-100G-SR10
MIC 1	REV 18	750-033199	CAAC3231	1X100GE CFP
PIC 2		BUILTIN	BUILTIN	1X100GE CFP
FPC 3	REV 59	750-044130	ABCT7682	MPC6E 3D
CPU	REV 10	711-045719	ABCK8531	RMPK PMB
XLM 0	REV 13	711-046638	ABCT7818	MPC6E XL
XLM 1	REV 13	711-046638	ABCT7819	MPC6E XL
FPC 4	REV 33	750-044130	ABBY9278	MPC6E 3D
CPU	REV 09	711-045719	ABBY8677	RMPK PMB
XLM 0	REV 06.2.00	711-046638	ABBY8844	MPC6E XL
XLM 1	REV 06.2.00	711-046638	ABBY8830	MPC6E XL
FPC 5	REV 59	750-044130	ABCT7675	MPC6E 3D
CPU	REV 10	711-045719	ABCK8526	RMPK PMB
XLM 0	REV 13	711-046638	ABCT7808	MPC6E XL
XLM 1	REV 13	711-046638	ABCT7809	MPC6E XL
FPC 6	REV 30	750-028467	ZM4986	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ZP6541	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ43GAC	SFP+-10G-SR

PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	ALM0A6D	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AQFORB3	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	153363A00333	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AN10KYE	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	APK04YM	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AQFOH44	SFP+-10G-SR
FPC 8	REV 38	750-031090	CABF7313	MPC Type 2 3D EQ
CPU	REV 08	711-030884	CABE6727	MPC PMB 2G
MIC 0	REV 18	750-028380	YK8253	3D 2x 10GE XFP
PIC 0		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 03	740-014289	AD1148M00TP	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	1x 10GE XFP
QXM 0	REV 06	711-028408	CABC5614	MPC QXM
QXM 1	REV 06	711-028408	CABC5550	MPC QXM
FPC 9	REV 39	750-044130	ABCK1652	MPC6E 3D
CPU	REV 09	711-045719	ABCK1655	RMPC PMB
MIC 0	REV 09	750-049457	ABCP1230	2X100GE CFP2 OTN
PIC 0		BUILTIN	BUILTIN	2X100GE CFP2 OTN
Xcvr 0		NON-JNPR	37300222WP0002	CFP2-100G-LR4-D
Xcvr 1		NON-JNPR	FD46F001Y	CFP2-100G-SR10
MIC 1	REV 07	750-049457	ABCV6662	2X100GE CFP2 OTN
PIC 1		BUILTIN	BUILTIN	2X100GE CFP2 OTN
Xcvr 0		NON-JNPR	UQD0014	CFP2-100G-LR4-D
Xcvr 1		NON-JNPR	J13J68335	CFP2-100G-LR4-D
XLM 0	REV 07.2.00	711-046638	ABCK5491	MPC6E XL
XLM 1	REV 07.2.00	711-046638	ABCK5475	MPC6E XL
ADC 1	REV 17	750-043596	ABCG9023	Adapter Card
ADC 2	REV 01	750-043596	ZV4079	Adapter Card
ADC 6	REV 17	750-043596	ABCG8866	Adapter Card
ADC 8	REV 17	750-043596	ABCA8993	Adapter Card
Fan Tray 0	REV 06	760-046960	ACAY0354	172mm FanTray - 6 Fans
Fan Tray 1	REV 06	760-046960	ACAY0831	172mm FanTray - 6 Fans
Fan Tray 2	REV 06	760-046960	ACAY0892	172mm FanTray - 6 Fans
Fan Tray 3	REV 06	760-046960	ACAY0839	172mm FanTray - 6 Fans

show chassis hardware extensive (MX2010 Routers with MPC6E and OTN MIC)

```

user@host> show chassis hardware extensive
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Jedec Code:   0x7fb0          EEPROM Version: 0x02
S/N:          JN11C9AFEAFK
Assembly ID:  0x0557          Assembly Version: 00.00
Date:         00-00-0000      Assembly Flags:  0x00
ID: MX2010
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 05 57 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x20: 4a 4e 31 31 43 39 41 46 45 41 46 4b 00 00 00 00
Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane     REV 35      750-044636  ABAB9188      Lower Backplane

```

```

Jedec Code: 0x7fb0      EEPROM Version: 0x02
P/N: 750-044636        S/N: ABAB9188
Assembly ID: 0x0b66     Assembly Version: 01.35
Date: 06-21-2013       Assembly Flags: 0x00
Version: REV 35         CLEI Code: IPMU810ARA
ID: Lower Backplane     FRU Model Number: CHAS-BP-MX2010-S

Board Information Record:
  Address 0x00: ad 01 08 00 3c 8a b0 38 68 00 ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 66 01 23 52 45 56 20 33 35 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 36 33 36 00 00
  Address 0x20: 53 2f 4e 20 41 42 41 42 39 31 38 38 00 15 06 07
  Address 0x30: dd ff ff ff ad 01 08 00 3c 8a b0 38 68 00 ff ff
  Address 0x40: ff ff ff ff 01 49 50 4d 55 38 31 30 41 52 41 43
  Address 0x50: 48 41 53 2d 42 50 2d 4d 58 32 30 31 30 2d 53 00
  Address 0x60: 00 00 00 00 00 00 30 36 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff f8 ff ff ff ff ff ff ff ff ff ff ff ff

Midplane 1      REV 02      711-044557      ABAB8729      Upper Backplane
Jedec Code: 0x7fb0      EEPROM Version: 0x01
P/N: 711-044557        S/N: ABAB8729
Assembly ID: 0x0b65     Assembly Version: 01.02
Date: 03-21-2013       Assembly Flags: 0x00
Version: REV 02
ID: Upper Backplane
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 01 ff 0b 65 01 02 52 45 56 20 30 32 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 34 34 35 35 37 00 00
  Address 0x20: 53 2f 4e 20 41 42 41 42 38 37 32 39 00 15 03 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

PMP             REV 04      711-032426      ACAJ2432      Power Midplane
Jedec Code: 0x7fb0      EEPROM Version: 0x01
P/N: 711-032426        S/N: ACAJ2432
Assembly ID: 0x045d     Assembly Version: 01.04
Date: 03-28-2013       Assembly Flags: 0x00
Version: REV 04
ID: Power Midplane
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 01 ff 04 5d 01 04 52 45 56 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 34 32 36 00 00
  Address 0x20: 53 2f 4e 20 41 43 41 4a 32 34 33 32 00 1c 03 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

FPM Board      REV 09      760-044634      ABCA4314      Front Panel Display
Jedec Code: 0x7fb0      EEPROM Version: 0x02
P/N: 760-044634        S/N: ABCA4314
Assembly ID: 0x0b64     Assembly Version: 01.09
Date: 03-28-2013       Assembly Flags: 0x00
Version: REV 09         CLEI Code: IPMYA4EJRA
ID: Front Panel Display FRU Model Number: MX2010-CRAFT-S
Board Information Record:

```

```

Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 0b 64 01 09 52 45 56 20 30 39 00 00
Address 0x10: 00 00 00 00 37 36 30 2d 30 34 34 36 33 34 00 00
Address 0x20: 53 2f 4e 20 41 42 43 41 34 33 31 34 00 1c 03 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 4d 59 41 34 45 4a 52 41 4d
Address 0x50: 58 32 30 31 30 2d 43 52 41 46 54 2d 53 00 00 00
Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 93 ff ff ff ff ff ff ff ff ff ff ff ff
PSM 0          REV 01   740-050037   1EDB321015C   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:  0x02
P/N:          740-050037      S/N:            1EDB321015C
Assembly ID:   0x0478         Assembly Version: 01.01
Date:         05-28-2013      Assembly Flags:  0x00
Version:      REV 01         CLEI Code:      IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 31 30 31 35 43 00 00 1c 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 1          REV 01   740-050037   1EDB321015J   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:  0x02
P/N:          740-050037      S/N:            1EDB321015J
Assembly ID:   0x0478         Assembly Version: 01.01
Date:         05-28-2013      Assembly Flags:  0x00
Version:      REV 01         CLEI Code:      IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 31 30 31 35 4a 00 00 1c 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 2          REV 01   740-050037   1EDB32000K8   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:  0x02
P/N:          740-050037      S/N:            1EDB32000K8
Assembly ID:   0x0478         Assembly Version: 01.01
Date:         05-23-2013      Assembly Flags:  0x00
Version:      REV 01         CLEI Code:      IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00

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```

Address 0x20: 31 45 44 42 33 32 30 30 30 4b 38 00 00 17 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00
PSM 3          REV 01  740-050037  1EDB32101JW      DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:  0x02
P/N:           740-050037      S/N:             1EDB32101JW
Assembly ID:   0x0478          Assembly Version: 01.01
Date:          05-30-2013      Assembly Flags:   0x00
Version:       REV 01          CLEI Code:        IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 31 30 31 4a 57 00 00 1e 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00
PSM 4          REV 01  740-050037  1EDB321015G      DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:  0x02
P/N:           740-050037      S/N:             1EDB321015G
Assembly ID:   0x0478          Assembly Version: 01.01
Date:          05-28-2013      Assembly Flags:   0x00
Version:       REV 01          CLEI Code:        IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 31 30 31 35 47 00 00 1c 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00
PSM 5          REV 01  740-050037  1EDB32101HH      DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:  0x02
P/N:           740-050037      S/N:             1EDB32101HH
Assembly ID:   0x0478          Assembly Version: 01.01
Date:          05-30-2013      Assembly Flags:   0x00
Version:       REV 01          CLEI Code:        IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 31 30 31 48 48 00 00 1e 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00

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Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 6          REV 01   740-050037   1EDB32101HD   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:           740-050037      S/N:           1EDB32101HD
Assembly ID:   0x0478          Assembly Version: 01.01
Date:          05-30-2013      Assembly Flags: 0x00
Version:       REV 01          CLEI Code:     IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 31 30 31 48 44 00 00 1e 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 7          REV 01   740-050037   1EDB321015F   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:           740-050037      S/N:           1EDB321015F
Assembly ID:   0x0478          Assembly Version: 01.01
Date:          05-28-2013      Assembly Flags: 0x00
Version:       REV 01          CLEI Code:     IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 31 30 31 35 46 00 00 1c 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 8          REV 01   740-050037   1EDB321015B   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:           740-050037      S/N:           1EDB321015B
Assembly ID:   0x0478          Assembly Version: 01.01
Date:          05-28-2013      Assembly Flags: 0x00
Version:       REV 01          CLEI Code:     IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 31 30 31 35 42 00 00 1c 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PDM 0          REV 03   740-045234   1EFA3220433   DC Power Dist Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02

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```

P/N:          740-045234      S/N:          1EFA3220433
Assembly ID:  0x047b         Assembly Version: 01.03
Date:         05-30-2013     Assembly Flags:  0x00
Version:      REV 03         CLEI Code:       IPUPAJSKAA
ID: DC Power Dist Module     FRU Model Number: MX2000-PDM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 7b 01 03 52 45 56 20 30 33 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 34 35 32 33 34 00 00
Address 0x20: 31 45 46 41 33 32 32 30 34 33 33 00 00 1e 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4a 53 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 44 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 33 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 1d 00 00 00 00 00 00 00 00 00 00 00 00
PDM 1          REV 03      740-045234      1EFA3220425      DC Power Dist Module
Jedec Code:    0x7fb0      EEPROM Version: 0x02
P/N:          740-045234      S/N:          1EFA3220425
Assembly ID:  0x047b         Assembly Version: 01.03
Date:         05-30-2013     Assembly Flags:  0x00
Version:      REV 03         CLEI Code:       IPUPAJSKAA
ID: DC Power Dist Module     FRU Model Number: MX2000-PDM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
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show chassis hardware (MX2020 Router)

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user@host > show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               JN11E2227AFJ  MX2020
Midplane      REV 27   750-040240  ABAB9384      Lower Power Midplane
Midplane 1    REV 04   711-032386  ABAB9386      Upper Backplane
PMP 1         REV 05   711-032428  ACAJ1579      Upper Power Midplane
PMP 0         REV 04   711-032426  ACAJ1524      Lower Power Midplane
FPM Board     REV 06   760-040242  ABBT8837      Front Panel Display
PSM 0         REV 01   740-045050  1E022240056   DC 52V Power Supply
Module
PSM 1         REV 01   740-045050  1E022240054   DC 52V Power Supply
Module
PSM 2         REV 01   740-045050  1E02224005H   DC 52V Power Supply
Module
PSM 3         REV 01   740-045050  1E022240053   DC 52V Power Supply
Module
PSM 4         REV 01   740-045050  1E02224004K   DC 52V Power Supply
Module
PSM 7         REV 01   740-045050  1E02224006W   DC 52V Power Supply
Module
PSM 8         REV 01   740-045050  1E022240062   DC 52V Power Supply
Module
PSM 9         REV 01   740-045050  1E02224005B   DC 52V Power Supply
Module
PSM 10        REV 01   740-045050  1E02224005A   DC 52V Power Supply
Module
PSM 11        REV 01   740-045050  1E022240052   DC 52V Power Supply
Module
PSM 12        REV 01   740-045050  1E022240051   DC 52V Power Supply
Module
PSM 13        REV 01   740-045050  1E022240058   DC 52V Power Supply

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Module				
PSM 14	REV 01	740-045050	1E02224004L	DC 52V Power Supply
Module				
PSM 15	REV 01	740-045050	1E02224005M	DC 52V Power Supply
Module				
PSM 16	REV 01	740-045050	1E02224006S	DC 52V Power Supply
Module				
PSM 17	REV 01	740-045050	1E02224005Z	DC 52V Power Supply
Module				
PDM 0	REV 01	740-045234	1E012150033	DC Power Dist Module
PDM 1	REV 01	740-045234	1E012150027	DC Power Dist Module
PDM 2	REV 01	740-045234	1E012150028	DC Power Dist Module
PDM 3	REV 01	740-045234	1E012150045	DC Power Dist Module
Routing Engine 0	REV 02	740-041821	9009089704	RE-S-1800x4
Routing Engine 1	REV 02	740-041821	9009094138	RE-S-1800x4
CB 0	REV 14	750-040257	CAAF8430	Control Board
CB 1	REV 08	750-040257	CAAB3482	Control Board
SPMB 0	REV 01	711-041855	ZS2290	PMB Board
SPMB 1	REV 02	711-041855	CAAA6141	PMB Board
SFB 0	REV 03	711-044466	ABBV6789	Switch Fabric Board
SFB 1	REV 05	711-044466	ABBX5666	Switch Fabric Board
SFB 2	REV 05	711-044466	ABBX5678	Switch Fabric Board
SFB 3	REV 05	711-044466	ABBX5687	Switch Fabric Board
SFB 4	REV 05	711-044466	ABBX5609	Switch Fabric Board
SFB 5	REV 05	711-044466	ABBX5675	Switch Fabric Board
SFB 6	REV 03	711-044466	ABBV6805	Switch Fabric Board
SFB 7	REV 05	711-044466	ABBX5701	Switch Fabric Board
FPC 0	REV 30	750-028467	ABBN0284	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0507	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E00990	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E04357	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01327	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E04375	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02760	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02904	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E03963	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E00756	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04418	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01077	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01128	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01253	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E01140	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11F01626	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01075	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E01177	SFP+-10G-USR
FPC 1	REV 30	750-028467	ABBN0208	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBJ1084	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04745	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11F01570	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E04388	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01439	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04739	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11F01869	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01675	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01901	SFP+-10G-USR

PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01346	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11F01288	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01824	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E04312	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02811	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E03847	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01495	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01265	SFP+-10G-USR
FPC 2	REV 30	750-028467	ZM5111	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ZP6607	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LJA	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MFZ	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NKL	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80KF4	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80FBJ	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MM2	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LJV	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NXV	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80N1H	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NLS	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80FL5	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NL9	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NG2	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80KDU	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80MG1	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80MM0	SFP+-10G-SR
FPC 3	REV 30	750-028467	ABBNO302	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBNO495	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01581	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01176	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01251	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E02752	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E00786	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01020	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01023	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E02819	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02812	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11D04437	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01279	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01333	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E00978	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01018	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01784	SFP+-10G-USR
Xcvr 3	REV 01	740-031980	AK80NKP	SFP+-10G-SR
FPC 4	REV 30	750-028467	ABBNO308	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBJ1095	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04305	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01147	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01195	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01743	SFP+-10G-USR

PIC 1			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01892	SFP+-10G-USR	
Xcvr 1	REV 01	740-030658	B11E02880	SFP+-10G-USR	
Xcvr 2	REV 01	740-030658	B11E00725	SFP+-10G-USR	
Xcvr 3	REV 01	740-030658	B11E01057	SFP+-10G-USR	
PIC 2			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02816	SFP+-10G-USR	
Xcvr 1	REV 01	740-030658	B11C04501	SFP+-10G-USR	
Xcvr 2	REV 01	740-030658	B11E02764	SFP+-10G-USR	
Xcvr 3	REV 01	740-030658	B11E00789	SFP+-10G-USR	
PIC 3			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01250	SFP+-10G-USR	
Xcvr 1	REV 01	740-030658	B11E02847	SFP+-10G-USR	
Xcvr 2	REV 01	740-030658	B11E00787	SFP+-10G-USR	
Xcvr 3	REV 01	740-030658	B11E03803	SFP+-10G-USR	
FPC 5	REV 30	750-028467	ABBN0316	MPC 3D 16x 10GE	
CPU	REV 10	711-029089	ABBJ1082	AMPC PMB	
PIC 0			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00523	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	B11K01848	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	B11K01865	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	B11K00540	SFP+-10G-SR	
PIC 1			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00422	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	B11K00428	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	B11K00423	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	B11K01855	SFP+-10G-SR	
PIC 2			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K01847	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	B11K00526	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	B11K00529	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	B11K00525	SFP+-10G-SR	
PIC 3			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00425	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	B11K00530	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	B11K01851	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	B11K00528	SFP+-10G-SR	
FPC 6	REV 32	750-028467	ABBN6832	MPC 3D 16x 10GE	
CPU	REV 10	711-029089	ABBK6534	AMPC PMB	
PIC 0			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80MB4	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	AK80FQ6	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	AK80N1F	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	AK80NLQ	SFP+-10G-SR	
PIC 1			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80KDR	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	AK80FGJ	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	AK80N5G	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	AK80KD8	SFP+-10G-SR	
PIC 2			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LET	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	AK80N1X	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	AK80NRF	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	AK80NL2	SFP+-10G-SR	
PIC 3			BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80N3D	SFP+-10G-SR	
Xcvr 1	REV 01	740-031980	AK80MRB	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	AK80LEQ	SFP+-10G-SR	
Xcvr 3	REV 01	740-031980	AK80LER	SFP+-10G-SR	
FPC 7	REV 32	750-028467	ABBN6811	MPC 3D 16x 10GE	
CPU	REV 10	711-029089	ABBN7288	AMPC PMB	

PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NK8	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80LJG	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LBU	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80N21	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LEU	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NLM	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NL6	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LES	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LEN	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80ME0	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LMG	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80MM1	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80MG7	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80KF9	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NRQ	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NLE	SFP+-10G-SR
FPC 8	REV 23	750-028467	YN2977	MPC 3D 16x 10GE
CPU	REV 10	711-029089	YP1856	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	183363A00875	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00851	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	183363A00772	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	183363A00882	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	183363A00735	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00169	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	183363A00726	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	183363A00077	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	183363A00168	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00676	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	183363A00732	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	183363A00091	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	183363A00725	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00642	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	183363A00871	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	183363A00853	SFP+-10G-SR
FPC 9	REV 32	750-028467	ABBN6798	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6556	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	9ZDZ06A00055	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00239	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AD0915E003K	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AD0915E003A	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80MRC	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NL5	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NKN	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80N3U	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80N1T	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ808DJ	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NG4	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80FND	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80FKQ	SFP+-10G-SR

Xcvr 1	REV 01	740-031980	AK80NLT	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NKR	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LKM	SFP+-10G-SR
FPC 10	REV 32	750-028467	ABBN6813	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6542	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NA3	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NLF	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80MRH	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80KE4	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	973152A00030	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80L9H	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80ME8	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NLR	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NG1	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MCA	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LFC	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LEM	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80N9X	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80LAC	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LF2	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80N8T	SFP+-10G-SR
FPC 11	REV 30	750-028467	ABBN0281	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0526	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01326	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E03973	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E00950	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E00674	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E00775	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E04461	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01074	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E02821	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04501	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E00757	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01623	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E01022	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04359	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02751	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E02736	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E01178	SFP+-10G-USR
FPC 12	REV 32	750-028467	ABBN6796	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN7259	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K01856	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K01853	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01863	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02863	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02668	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02881	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A01671	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02627	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02725	SFP+-10G-SR

Xcvr 1	REV 01	740-031980	163363A02692	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02730	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03081	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02736	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02568	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02747	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02579	SFP+-10G-SR
FPC 13	REV 30	750-028467	ABBN0270	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBJ0966	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NL1	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NXW	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80KD2	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80FMD	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NKQ	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MGH	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80N38	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NL7	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LEL	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NKD	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80KCY	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LHK	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80M5J	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MBE	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NLG	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LFH	SFP+-10G-SR
FPC 14	REV 32	750-028467	ABBN6790	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6515	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LZM	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MCC	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80KCM	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80KE0	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021310	C10F99155	SFP+-10G-LRM
Xcvr 1	REV 01	740-021310	C10F99049	SFP+-10G-LRM
Xcvr 2	REV 01	740-021310	C10F99128	SFP+-10G-LRM
Xcvr 3	REV 01	740-021310	C10F99169	SFP+-10G-LRM
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LF3	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02597	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A03060	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03057	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LEX	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80FEU	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80FNM	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AJQQQ5G	SFP+-10G-SR
FPC 15	REV 32	750-028467	ABBN6791	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN7289	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00424	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K01849	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01862	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K01852	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00427	SFP+-10G-SR

Xcvr 1	REV 01	740-031980	B11K00430	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01854	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K00426	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00429	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K01864	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01850	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K00522	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E01144	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E00985	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E00796	SFP+-10G-USR
Xcvr 3	REV 01	740-031980	B11K01866	SFP+-10G-SR
FPC 16	REV 30	750-028467	ABBM4592	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0465	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01435	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01052	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01328	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01254	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02738	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02881	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01624	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E00889	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02883	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E00681	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E04306	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E02813	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01801	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02753	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01156	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E04324	SFP+-10G-USR
FPC 17	REV 32	750-028467	ABBN6810	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN7237	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02638	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02082	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A01674	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03058	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A03048	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02729	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02566	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02567	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02878	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02739	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A01959	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02660	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02731	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02588	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02673	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02654	SFP+-10G-SR
FPC 18	REV 30	750-028467	ABBM4739	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0487	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02569	SFP+-10G-SR

Xcvr 1	REV 01	740-031980	163363A02886	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A03082	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	133363A00297	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02726	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A03050	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02884	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03076	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02581	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02873	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02582	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03083	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031981	UL70BU6	SFP+-10G-LR
Xcvr 1	REV 01	740-031981	UL50QC6	SFP+-10G-LR
Xcvr 2	REV 01	740-031981	UL708N6	SFP+-10G-LR
Xcvr 3	REV 01	740-031981	UL603KK	SFP+-10G-LR
FPC 19	REV 32	750-028467	ABBN6827	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6508	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A01688	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A01724	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A01773	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02593	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A03061	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A03056	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02669	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03070	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02572	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02697	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02585	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03052	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02591	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02649	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02577	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02698	SFP+-10G-SR
ADC 0	REV 13	750-043596	ABBX5561	Adapter Card
ADC 1	REV 13	750-043596	ABBX5546	Adapter Card
ADC 2	REV 13	750-043596	ABBX5535	Adapter Card
ADC 3	REV 13	750-043596	ABBX5552	Adapter Card
ADC 4	REV 13	750-043596	ABBX5581	Adapter Card
ADC 5	REV 13	750-043596	ABBX5545	Adapter Card
ADC 6	REV 13	750-043596	ABBX5554	Adapter Card
ADC 7	REV 07	750-043596	ABBV7194	Adapter Card
ADC 8	REV 07	750-043596	ABBV7251	Adapter Card
ADC 9	REV 07	750-043596	ABBV7202	Adapter Card
ADC 10	REV 13	750-043596	ABBX5538	Adapter Card
ADC 11	REV 13	750-043596	ABBX5566	Adapter Card
ADC 12	REV 13	750-043596	ABBX5542	Adapter Card
ADC 13	REV 13	750-043596	ABBX5539	Adapter Card
ADC 14	REV 13	750-043596	ABBX5555	Adapter Card
ADC 15	REV 13	750-043596	ABBX5557	Adapter Card
ADC 16	REV 13	750-043596	ABBX5536	Adapter Card
ADC 17	REV 13	750-043596	ABBX5559	Adapter Card
ADC 18	REV 13	750-043596	ABBX5537	Adapter Card
ADC 19	REV 11	750-043596	ABBW5685	Adapter Card
Fan Tray 0	REV 2A	760-046960	ACAY0030	172mm FanTray - 6 Fans

Fan Tray 1	REV 2A	760-046960	ACAY0039	172mm FanTray - 6 Fans
Fan Tray 2	REV 2A	760-046960	ACAY0033	172mm FanTray - 6 Fans
Fan Tray 3	REV 2A	760-046960	ACAY0062	172mm FanTray - 6 Fans

show chassis hardware detail (MX2020 Router)

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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis			JN11E2227AFJ	MX2020
Midplane	REV 27	750-040240	ABAB9384	Lower Power Midplane
Midplane 1	REV 04	711-032386	ABAB9386	Upper Backplane
PMP 1	REV 05	711-032428	ACAJ1821	Upper Power Midplane
PMP 0	REV 04	711-032426	ACAJ1524	Lower Power Midplane
FPM Board	REV 06	760-040242	ABBT8837	Front Panel Display
PSM 0	REV 01	740-045050	1E02224006G	DC 52V Power Supply
Module				
PSM 1	REV 01	740-045050	1E022240053	DC 52V Power Supply
Module				
PSM 2	REV 01	740-045050	1E02224004K	DC 52V Power Supply
Module				
PSM 3	REV 01	740-045050	1E022240056	DC 52V Power Supply
Module				
PSM 4	REV 01	740-045050	1E022240054	DC 52V Power Supply
Module				
PSM 5	REV 01	740-045050	1E02224005H	DC 52V Power Supply
Module				
PSM 6	REV 01	740-045050	1E02224006S	DC 52V Power Supply
Module				
PSM 7	REV 01	740-045050	1E02224005M	DC 52V Power Supply
Module				
PSM 8	REV 01	740-045050	1E022240062	DC 52V Power Supply
Module				
PSM 9	REV 03	740-045050	1EDB2350095	DC 52V Power Supply
Module				
PSM 10	REV 03	740-045050	1EDB235009L	DC 52V Power Supply
Module				
PSM 11	REV 03	740-045050	1EDB2350092	DC 52V Power Supply
Module				
PSM 12	REV 03	740-045050	1EDB23500AT	DC 52V Power Supply
Module				
PSM 13	REV 03	740-045050	1EDB2350094	DC 52V Power Supply
Module				
PSM 15	REV 03	740-045050	1EDB235008X	DC 52V Power Supply
Module				
PDM 0	REV 01	740-045234	1E012150033	DC Power Dist Module
PDM 1	REV 01	740-045234	1E012150027	DC Power Dist Module
PDM 2	REV 01	740-045234	1E262250072	DC Power Dist Module
Routing Engine 0	REV 02	740-041821	9009094138	RE-S-1800x4
ad0 3998 MB		Virtium - TuffDisk	VCF3 20110825A021D0000064	Compact Flash
ad1 30533 MB		UGB94ARF32H0S3-KC	UNIGEN-499551-000347	Disk 1
usb0 (addr 1)		EHCI root hub 0	Intel	uhub0
usb0 (addr 2)		product 0x0020 32	vendor 0x8087	uhub1
DIMM 0		SGU04G72H1BD2SA-BB DIE	REV-52 PCB REV-54 MFR ID-ce80	
DIMM 1		SGU04G72H1BD2SA-BB DIE	REV-52 PCB REV-54 MFR ID-ce80	
DIMM 2		SGU04G72H1BD2SA-BB DIE	REV-52 PCB REV-54 MFR ID-ce80	
DIMM 3		SGU04G72H1BD2SA-BB DIE	REV-52 PCB REV-54 MFR ID-ce80	
Routing Engine 1	REV 02	740-041821	9009089709	RE-S-1800x4
ad0 3831 MB		UGB30SFA4000T1	SFA4000T1 00000113	Compact Flash
ad1 30533 MB		UGB94ARF32H0S3-KC	UNIGEN-478612-001044	Disk 1
CB 0	REV 08	750-040257	CAAB3482	Control Board

CB 1	REV 04	750-040257	ZT2864	Control Board
SPMB 0	REV 02	711-041855	CAA6141	PMB Board
SPMB 1	REV 01	711-041855	ZS2275	PMB Board
SFB 0	REV 05	711-044466	ABBT2161	Switch Fabric Board
SFB 1	REV 05	711-044466	ABBT2159	Switch Fabric Board
SFB 2	REV 05	711-044466	ABBX3718	Switch Fabric Board
SFB 3	REV 05	711-044466	ABBT2152	Switch Fabric Board
SFB 4	REV 05	711-044466	ABBT2160	Switch Fabric Board
SFB 5	REV 05	711-044466	ABBT2145	Switch Fabric Board
SFB 6	REV 05	711-044466	ABBT2150	Switch Fabric Board
SFB 7	REV 05	711-044466	ABBT2163	Switch Fabric Board
FPC 0	REV 30	750-028467	ABBN0284	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0507	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E00990	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E04357	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01327	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E04375	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02760	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02904	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E03963	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E00756	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04418	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01077	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01128	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01253	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E01140	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11F01626	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01075	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E01177	SFP+-10G-USR
FPC 1	REV 30	750-028467	ABBN0308	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBJ1095	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04305	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01147	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01195	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01743	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01892	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02880	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E00725	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E01057	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02816	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11C04501	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E02764	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E00789	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01250	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02847	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E00787	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E03803	SFP+-10G-USR
FPC 2	REV 30	750-028467	ABBN0316	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBJ1082	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00523	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K01848	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01865	SFP+-10G-SR

Xcvr 3	REV 01	740-031980	B11K00540	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00422	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K00428	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K00423	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K01855	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K01847	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K00526	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K00529	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K00525	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00425	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K00530	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01851	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K00528	SFP+-10G-SR
FPC 3	REV 32	750-028467	ABBN6832	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6534	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80MB4	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80FQ6	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80N1F	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NLQ	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80KDR	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80FGJ	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80N5G	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80KD8	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LET	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80N1X	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NRF	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NL2	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80N3D	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MRB	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LEQ	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LER	SFP+-10G-SR
FPC 4	REV 32	750-028467	ABBN6811	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN7288	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NK8	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80LJG	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LBU	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80N21	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LEU	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NLM	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NL6	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LES	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LEN	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80ME0	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LMG	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80MM1	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80MG7	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80KF9	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NRQ	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NLE	SFP+-10G-SR
FPC 5	REV 32	750-028467	ABBN6791	MPC 3D 16x 10GE

CPU	REV 10	711-029089	ABBN7289	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00424	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K01849	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01862	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K01852	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP
Xcvr 0	REV 01	740-031980	B11K00427	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K00430	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01854	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K00426	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K00429	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K01864	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01850	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11K00522	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E01144	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E00985	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E00796	SFP+-10G-USR
Xcvr 3	REV 01	740-031980	B11K01866	SFP+-10G-SR
FPC 6	REV 30	750-028467	ABBM4592	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0465	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01435	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01052	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01328	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01254	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02738	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02881	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01624	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E00889	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02883	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E00681	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E04306	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E02813	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01801	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02753	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01156	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E04324	SFP+-10G-USR
FPC 7	REV 32	750-028467	ABBN6810	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN7237	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A03058	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02082	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A01674	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02638	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A03048	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02729	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02566	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02567	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02878	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02739	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A01959	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02660	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+

Xcvr 0	REV 01	740-031980	163363A02731	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02588	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02673	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02654	SFP+-10G-SR
FPC 8	REV 30	750-028467	ABBM4739	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0487	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02569	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02886	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A03082	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	133363A00297	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02726	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A03050	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02884	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03076	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02581	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02873	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02582	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03083	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031981	UL70BU6	SFP+-10G-LR
Xcvr 1	REV 01	740-031981	UL50QC6	SFP+-10G-LR
Xcvr 2	REV 01	740-031981	UL708N6	SFP+-10G-LR
Xcvr 3	REV 01	740-031981	UL603KK	SFP+-10G-LR
FPC 9	REV 32	750-028467	ABBN6827	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6508	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A01688	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A01724	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A01773	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02593	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A03061	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A03056	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02669	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03070	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02572	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02697	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02585	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03052	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02591	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02649	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02577	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02698	SFP+-10G-SR
FPC 10	REV 30	750-028467	ABBN0302	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0495	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01581	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01176	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01251	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E02752	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E00786	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01020	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01023	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E02819	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+

Xcvr 0	REV 01	740-030658	B11E02812	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11D04437	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01279	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01333	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E00978	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E01018	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01784	SFP+-10G-USR
Xcvr 3	REV 01	740-031980	AK80NKP	SFP+-10G-SR
FPC 11	REV 32	750-028467	ABBN6790	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6515	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LZM	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MCC	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80KCM	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80KE0	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021310	C10F99155	SFP+-10G-LRM
Xcvr 1	REV 01	740-021310	C10F99049	SFP+-10G-LRM
Xcvr 2	REV 01	740-021310	C10F99128	SFP+-10G-LRM
Xcvr 3	REV 01	740-021310	C10F99169	SFP+-10G-LRM
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LF3	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02597	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A03060	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03057	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LEX	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80FEU	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80FNM	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AJQQQ5G	SFP+-10G-SR
FPC 12	REV 30	750-028467	ZM5111	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ZP6607	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LJA	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MFZ	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NKL	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80KF4	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80FBJ	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MM2	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LJV	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NXV	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80N1H	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NLS	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80FL5	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NL9	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NG2	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80KDU	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80MG1	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80MM0	SFP+-10G-SR
FPC 13	REV 30	750-028467	ABBN0208	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABB11084	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04745	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11F01570	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E04388	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01439	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+

Xcvr 0	REV 01	740-030658	B11E04739	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11F01869	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01675	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01901	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01346	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11F01288	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01824	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E04312	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E02811	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E03847	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01495	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11F01265	SFP+-10G-USR
FPC 14	REV 23	750-028467	YN2977	MPC 3D 16x 10GE
CPU	REV 10	711-029089	YP1856	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	183363A00875	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00851	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	183363A00772	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	183363A00882	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	183363A00735	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00169	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	183363A00726	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	183363A00077	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	183363A00168	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00676	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	183363A00732	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	183363A00091	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	183363A00725	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00642	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	183363A00871	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	183363A00853	SFP+-10G-SR
FPC 15	REV 32	750-028467	ABBN6798	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6556	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	9ZDZ06A00055	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	183363A00239	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AD0915E003K	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AD0915E003A	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80MRC	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NL5	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NKN	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80N3U	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80N1T	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJ808DJ	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NG4	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80FND	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80FKQ	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NLT	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NKR	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LKM	SFP+-10G-SR
FPC 16	REV 30	750-028467	ABBN0270	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBJ0966	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+

Xcvr 0	REV 01	740-031980	AK80NL1	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NXW	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80KD2	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80FMD	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NKQ	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MGH	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80N38	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NL7	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80M5J	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NKD	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80KCY	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LHK	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LEL	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MBE	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80NLG	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LFH	SFP+-10G-SR
FPC 17	REV 32	750-028467	ABBN6796	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN7259	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	B11K01856	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11K01853	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11K01863	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02863	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02668	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02881	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A01671	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02627	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02725	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02692	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02730	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A03081	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	163363A02736	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	163363A02568	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	163363A02747	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	163363A02579	SFP+-10G-SR
FPC 18	REV 30	750-028467	ABBN0281	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBN0526	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11F01326	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E03973	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E00950	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E00674	SFP+-10G-USR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E00775	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E04461	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11E01074	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E02821	SFP+-10G-USR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04501	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E00757	SFP+-10G-USR
Xcvr 2	REV 01	740-030658	B11F01623	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E01022	SFP+-10G-USR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-030658	B11E04359	SFP+-10G-USR
Xcvr 1	REV 01	740-030658	B11E02751	SFP+-10G-USR

Xcvr 2	REV 01	740-030658	B11E02736	SFP+-10G-USR
Xcvr 3	REV 01	740-030658	B11E01178	SFP+-10G-USR
FPC 19	REV 32	750-028467	ABBN6813	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ABBK6542	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NA3	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80NLF	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80MRH	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80KE4	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	973152A00030	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80L9H	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80ME8	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80NLR	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80NG1	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80MCA	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LFC	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80LEM	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80N9X	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AK80LAC	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80LF2	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AK80N8T	SFP+-10G-SR
ADC 0	REV 13	750-043596	ABBX5561	Adapter Card
ADC 1	REV 13	750-043596	ABBX5546	Adapter Card
ADC 2	REV 13	750-043596	ABBX5535	Adapter Card
ADC 3	REV 13	750-043596	ABBX5552	Adapter Card
ADC 4	REV 13	750-043596	ABBX5581	Adapter Card
ADC 5	REV 13	750-043596	ABBX5545	Adapter Card
ADC 6	REV 13	750-043596	ABBX5554	Adapter Card
ADC 7	REV 07	750-043596	ABBV7194	Adapter Card
ADC 8	REV 07	750-043596	ABBV7251	Adapter Card
ADC 9	REV 07	750-043596	ABBV7202	Adapter Card
ADC 10	REV 13	750-043596	ABBX5579	Adapter Card
ADC 11	REV 13	750-043596	ABBX5548	Adapter Card
ADC 12	REV 13	750-043596	ABBX5575	Adapter Card
ADC 13	REV 13	750-043596	ABBX5539	Adapter Card
ADC 14	REV 13	750-043596	ABBX5555	Adapter Card
ADC 15	REV 13	750-043596	ABBX5557	Adapter Card
ADC 16	REV 13	750-043596	ABBX5536	Adapter Card
ADC 17	REV 13	750-043596	ABBX5559	Adapter Card
ADC 18	REV 13	750-043596	ABBX5537	Adapter Card
ADC 19	REV 11	750-043596	ABBW5685	Adapter Card
Fan Tray 0	REV 04	760-046960	ACAY0090	172mm FanTray - 6 Fans
Fan Tray 1	REV 04	760-046960	ACAY0088	172mm FanTray - 6 Fans
Fan Tray 2	REV 04	760-046960	ACAY0089	172mm FanTray - 6 Fans
Fan Tray 3	REV 04	760-046960	ACAY0108	172mm FanTray - 6 Fans

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Hardware inventory:
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Item	Version	Part number	Serial number	FRU model number
Midplane	REV 27	750-040240	ABAB9384	750-040240
FPM Board	REV 06	760-040242	ABBT8837	760-040242
PSM 0	REV 01	740-045050	1E02224006G	MX2000-PSM-HC-DC-S-A
PSM 1	REV 01	740-045050	1E022240053	MX2000-PSM-HC-DC-S-A
PSM 2	REV 01	740-045050	1E02224004K	MX2000-PSM-HC-DC-S-A
PSM 3	REV 01	740-045050	1E022240056	MX2000-PSM-HC-DC-S-A
PSM 4	REV 01	740-045050	1E022240054	MX2000-PSM-HC-DC-S-A

PSM 5	REV 01	740-045050	1E02224005H	MX2000-PSM-HC-DC-S-A
PSM 6	REV 01	740-045050	1E02224006S	MX2000-PSM-HC-DC-S-A
PSM 7	REV 01	740-045050	1E02224005M	MX2000-PSM-HC-DC-S-A
PSM 8	REV 01	740-045050	1E022240062	MX2000-PSM-HC-DC-S-A
PSM 9	REV 03	740-045050	1EDB2350095	MX2000-PSM-DC-S-A
PSM 10	REV 03	740-045050	1EDB235009L	MX2000-PSM-DC-S-A
PSM 11	REV 03	740-045050	1EDB2350092	MX2000-PSM-DC-S-A
PSM 12	REV 03	740-045050	1EDB23500AT	MX2000-PSM-DC-S-A
PSM 13	REV 03	740-045050	1EDB2350094	MX2000-PSM-DC-S-A
PSM 15	REV 03	740-045050	1EDB235008X	MX2000-PSM-DC-S-A
PDM 0	REV 01	740-045234	1E012150033	
PDM 1	REV 01	740-045234	1E012150027	
PDM 2	REV 01	740-045234	1E262250072	MX2000-PDM-DC-S-A
Routing Engine 0	REV 02	740-041821	9009094138	RE-S-1800X4-16G-S
Routing Engine 1	REV 02	740-041821	9009089709	RE-S-1800X4-16G-S
CB 0	REV 08	750-040257	CAAB3482	750-040257
CB 1	REV 04	750-040257	ZT2864	750-040257
SFB 0	REV 05	711-044466	ABBT2161	MX2000-SFB-S
SFB 1	REV 05	711-044466	ABBT2159	MX2000-SFB-S
SFB 2	REV 05	711-044466	ABBX3718	MX2000-SFB-S
SFB 4	REV 05	711-044466	ABBT2160	MX2000-SFB-S
SFB 5	REV 05	711-044466	ABBT2145	MX2000-SFB-S
SFB 7	REV 05	711-044466	ABBT2163	MX2000-SFB-S
FPC 0	REV 30	750-028467	ABBN0284	MPC-3D-16XGE-SFPP
FPC 1	REV 30	750-028467	ABBN0308	MPC-3D-16XGE-SFPP
FPC 2	REV 30	750-028467	ABBN0316	MPC-3D-16XGE-SFPP
FPC 3	REV 32	750-028467	ABBN6832	MPC-3D-16XGE-SFPP
FPC 4	REV 32	750-028467	ABBN6811	MPC-3D-16XGE-SFPP
FPC 5	REV 32	750-028467	ABBN6791	MPC-3D-16XGE-SFPP
FPC 6	REV 30	750-028467	ABBM4592	MPC-3D-16XGE-SFPP
FPC 7	REV 32	750-028467	ABBN6810	MPC-3D-16XGE-SFPP
FPC 8	REV 30	750-028467	ABBM4739	MPC-3D-16XGE-SFPP
FPC 9	REV 32	750-028467	ABBN6827	MPC-3D-16XGE-SFPP
FPC 10	REV 30	750-028467	ABBN0302	MPC-3D-16XGE-SFPP
FPC 11	REV 32	750-028467	ABBN6790	MPC-3D-16XGE-SFPP
FPC 12	REV 30	750-028467	ZM5111	MPC-3D-16XGE-SFPP
FPC 13	REV 30	750-028467	ABBN0208	MPC-3D-16XGE-SFPP
FPC 14	REV 23	750-028467	YN2977	MPC-3D-16XGE-SFPP
FPC 15	REV 32	750-028467	ABBN6798	MPC-3D-16XGE-SFPP
FPC 16	REV 30	750-028467	ABBN0270	MPC-3D-16XGE-SFPP
FPC 17	REV 32	750-028467	ABBN6796	MPC-3D-16XGE-SFPP
FPC 18	REV 30	750-028467	ABBN0281	MPC-3D-16XGE-SFPP
FPC 19	REV 32	750-028467	ABBN6813	MPC-3D-16XGE-SFPP
ADC 0	REV 13	750-043596	ABBX5561	PROTO-ASSEMBLY
ADC 1	REV 13	750-043596	ABBX5546	PROTO-ASSEMBLY
ADC 2	REV 13	750-043596	ABBX5535	MX2000-LC-ADAPTER
ADC 3	REV 13	750-043596	ABBX5552	MX2000-LC-ADAPTER
ADC 4	REV 13	750-043596	ABBX5581	MX2000-LC-ADAPTER
ADC 5	REV 13	750-043596	ABBX5545	PROTO-ASSEMBLY
ADC 6	REV 13	750-043596	ABBX5554	PROTO-ASSEMBLY
ADC 7	REV 07	750-043596	ABBV7194	MX2000-LC-ADAPTER
ADC 8	REV 07	750-043596	ABBV7251	MX2000-LC-ADAPTER
ADC 9	REV 07	750-043596	ABBV7202	MX2000-LC-ADAPTER
ADC 10	REV 13	750-043596	ABBX5579	MX2000-LC-ADAPTER
ADC 12	REV 13	750-043596	ABBX5575	MX2000-LC-ADAPTER
ADC 13	REV 13	750-043596	ABBX5539	PROTO-ASSEMBLY
ADC 14	REV 13	750-043596	ABBX5555	PROTO-ASSEMBLY
ADC 15	REV 13	750-043596	ABBX5557	MX2000-LC-ADAPTER
ADC 16	REV 13	750-043596	ABBX5536	PROTO-ASSEMBLY
ADC 17	REV 13	750-043596	ABBX5559	PROTO-ASSEMBLY
ADC 18	REV 13	750-043596	ABBX5537	PROTO-ASSEMBLY

ADC 19	REV 11	750-043596	ABBW5685	PROTO-ASSEMBLY
Fan Tray 0	REV 04	760-046960	ACAY0090	
Fan Tray 1	REV 04	760-046960	ACAY0088	
Fan Tray 2	REV 04	760-046960	ACAY0089	
Fan Tray 3	REV 04	760-046960	ACAY0108	

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Hardware inventory:

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 27	750-040240	PROTOXCLEI	750-040240
FPM Board	REV 06	760-040242	PROTOXCLEI	760-040242
PSM 0	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 1	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 2	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 3	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 4	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 5	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 6	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 7	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 8	REV 01	740-045050	IPUPAJMKAA	MX2000-PSM-HC-DC-S-A
PSM 9	REV 03	740-045050	IPUPAJMKAA	MX2000-PSM-DC-S-A
PSM 10	REV 03	740-045050	IPUPAJMKAA	MX2000-PSM-DC-S-A
PSM 11	REV 03	740-045050	IPUPAJMKAA	MX2000-PSM-DC-S-A
PSM 12	REV 03	740-045050	IPUPAJMKAA	MX2000-PSM-DC-S-A
PSM 13	REV 03	740-045050	IPUPAJMKAA	MX2000-PSM-DC-S-A
PSM 15	REV 03	740-045050	IPUPAJMKAA	MX2000-PSM-DC-S-A
PDM 0	REV 01	740-045234		
PDM 1	REV 01	740-045234		
PDM 2	REV 01	740-045234	IPUPAJSKAA	MX2000-PDM-DC-S-A
Routing Engine 0	REV 02	740-041821		RE-S-1800X4-16G-S
Routing Engine 1	REV 02	740-041821		RE-S-1800X4-16G-S
CB 0	REV 08	750-040257	PROTOXCLEI	750-040257
CB 1	REV 04	750-040257	PROTOXCLEI	750-040257
SFB 0	REV 05	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 1	REV 05	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 2	REV 05	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 4	REV 05	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 5	REV 05	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 7	REV 05	711-044466	IPUCBA6CAA	MX2000-SFB-S
FPC 0	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 1	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 2	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 3	REV 32	750-028467		MPC-3D-16XGE-SFPP
FPC 4	REV 32	750-028467		MPC-3D-16XGE-SFPP
FPC 5	REV 32	750-028467		MPC-3D-16XGE-SFPP
FPC 6	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 7	REV 32	750-028467		MPC-3D-16XGE-SFPP
FPC 8	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 9	REV 32	750-028467		MPC-3D-16XGE-SFPP
FPC 10	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 11	REV 32	750-028467		MPC-3D-16XGE-SFPP
FPC 12	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 13	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 14	REV 23	750-028467		MPC-3D-16XGE-SFPP
FPC 15	REV 32	750-028467		MPC-3D-16XGE-SFPP
FPC 16	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 17	REV 32	750-028467		MPC-3D-16XGE-SFPP
FPC 18	REV 30	750-028467		MPC-3D-16XGE-SFPP
FPC 19	REV 32	750-028467		MPC-3D-16XGE-SFPP

ADC 0	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 1	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 2	REV 13	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 3	REV 13	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 4	REV 13	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 5	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 6	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 7	REV 07	750-043596	PROTOXCLEI	MX2000-LC-ADAPTER
ADC 8	REV 07	750-043596	PROTOXCLEI	MX2000-LC-ADAPTER
ADC 9	REV 07	750-043596	PROTOXCLEI	MX2000-LC-ADAPTER
ADC 10	REV 13	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 12	REV 13	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 13	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 14	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 15	REV 13	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 16	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 17	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 18	REV 13	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
ADC 19	REV 11	750-043596	PROTOXCLEI	PROTO-ASSEMBLY
Fan Tray 0	REV 04	760-046960		
Fan Tray 1	REV 04	760-046960		
Fan Tray 2	REV 04	760-046960		
Fan Tray 3	REV 04	760-046960		

show chassis hardware (MX2020 Router with MPC5EQ and MPC6E)

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user@host> show chassis hardware
Hardware inventory:

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Item	Version	Part number	Serial number	Description
Chassis			JN120BADBAFJ	MX2020
Midplane			ABAB9243	Lower Backplane
Midplane 1	REV 04	711-032386	ABAB9399	Upper Backplane
PMP 1	REV 05	711-032428	ACAJ2541	Upper Power Midplane
PMP 0	REV 04	711-032426	ACAJ2194	Lower Power Midplane
FPM Board	REV 13	760-040242	ABCA8835	Front Panel Display
PSM 0	REV 01	740-050037	1EDB32403L5	DC 52V Power Supply
Module				
PSM 1	REV 01	740-050037	1EDB32403L3	DC 52V Power Supply
Module				
PSM 2	REV 01	740-050037	1EDB32403KM	DC 52V Power Supply
Module				
PSM 3	REV 01	740-050037	1EDB3130079	DC 52V Power Supply
Module				
PSM 4	REV 01	740-050037	1EDB3130077	DC 52V Power Supply
Module				
PSM 5	REV 01	740-050037	1EDB3130020	DC 52V Power Supply
Module				
PSM 6	REV 01	740-050037	1EDB313009S	DC 52V Power Supply
Module				
PSM 7	REV 01	740-050037	1EDB313008E	DC 52V Power Supply
Module				
PSM 8	REV 01	740-050037	1EDB3130063	DC 52V Power Supply
Module				
PSM 12	REV 01	740-050037	1EDB3130026	DC 52V Power Supply
Module				
PSM 13	REV 01	740-050037	1EDB3130074	DC 52V Power Supply
Module				
PSM 14	REV 01	740-050037	1EDB313009D	DC 52V Power Supply
Module				
PSM 15	REV 01	740-050037	1EDB3130024	DC 52V Power Supply
Module				

PSM 16 Module	REV 01	740-050037	1EDB3130054	DC 52V Power Supply
PSM 17 Module	REV 01	740-050037	1EDB3130080	DC 52V Power Supply
PDM 0	REV 03	740-045234	1EGA3170144	DC Power Dist Module
PDM 1	REV 03	740-045234	1EGA3170158	DC Power Dist Module
PDM 2	REV 03	740-045234	1EGA3170182	DC Power Dist Module
PDM 3	REV 03	740-045234	1EGA3170207	DC Power Dist Module
Routing Engine 0	REV 02	740-041821	9009112112	RE-S-1800x4
Routing Engine 1	REV 02	740-041821	9009112087	RE-S-1800x4
CB 0	REV 23	750-040257	CABA2295	Control Board
CB 1	REV 23	750-040257	CABE8379	Control Board
SPMB 0	REV 02	711-041855	ABCE8851	PMB Board
SPMB 1	REV 02	711-041855	ABCE8839	PMB Board
SFB 0	REV 06	711-044466	ABCD5001	Switch Fabric Board
SFB 1	REV 06	711-044466	ABCD5034	Switch Fabric Board
SFB 2	REV 06	711-044466	ABCH3899	Switch Fabric Board
SFB 3	REV 06	711-044466	ABCD5020	Switch Fabric Board
SFB 4	REV 06	711-044466	ABCD4975	Switch Fabric Board
SFB 5	REV 06	711-044466	ABCH3881	Switch Fabric Board
SFB 6	REV 06	711-044466	ABCD5026	Switch Fabric Board
SFB 7	REV 06	711-044466	ABCD5032	Switch Fabric Board
FPC 0	REV 39	750-045715	CACD1902	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 09	711-045719	CACB1933	RMPD PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	B11F00361	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	19T511101854	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	19T511100377	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	ANT0878	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	19T511100398	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQ4363J	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	19T511101377	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	ANT072M	SFP+-10G-SR
Xcvr 9	REV 01	740-021308	AG90C7N	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	AM30M09	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	B10E01016	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP OTN
Xcvr 0	REV 01	740-031980	B10L04151	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	19T511101379	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ5036J	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AG90C4M	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	19T511101104	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	AQ502ZM	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AN10KY2	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQ43G41	SFP+-10G-SR
Xcvr 8	REV 01	740-021308	AQ41F04	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	AMS16N3	SFP+-10G-SR
Xcvr 10	REV 01	740-021308	AMH04Y3	SFP+-10G-SR
Xcvr 11	REV 01	740-021308	ANA093E	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	3X40GE QSFPP
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
WAN MEZZ	REV 09	750-049136	CABN0410	MPC5E 24XGE OTN Mezz
FPC 1	REV 11	750-045372	CABK8112	MPCE Type 3 3D
CPU	REV 08	711-035209	CABJ6621	HMPD PMB 2G
MIC 0	REV 07	750-033307	CAAZ2897	10X10GE SFPP
PIC 0		BUILTIN	BUILTIN	10X10GE SFPP
Xcvr 0	REV 01	740-021308	AQ501VK	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ501YC	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ43HJF	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ43H8D	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	19T511100370	SFP+-10G-SR

Xcvr 5	REV 01	740-031980	153363A00763	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	APH2LXB	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	AMCOLVV	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	B11F00230	SFP+-10G-SR
MIC 1	REV 14	750-033196	CAAP1390	1X100GE CXF
PIC 2		BUILTIN	BUILTIN	1X100GE CXF
Xcvr 0	REV 01	740-032166	XB11F000M	CFP2-100G-SR10
FPC 2	REV 17	750-037355	CAAS5826	MPC4E 3D 2CGE+8XGE
CPU	REV 08	711-035209	CAAR3986	HMPC PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	T09F43722	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	ALP0KXF	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ502FG	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ502T7	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	X12J00571	CFP-100G-SR10
PIC 2		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-031980	AJ71KEH	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11E01355	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11F00249	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP
FPC 3	REV 05	750-044444	CAAY9920	MPCE Type 2 3D P
CPU	REV 04	711-038484	CAAW3639	MPCE PMB 2G
MIC 0	REV 28	750-028387	CAAX1083	3D 4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0		NON-JNPR	CC07BK05B	XFP-10G-SR
Xcvr 1	REV 01	740-011571	C728XJ00U	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0		NON-JNPR	T12L92339	XFP-10G-SR
QXM 0	REV 06	711-028408	CAAW4915	MPC QXM
QXM 1	REV 06	711-028408	CAAW4894	MPC QXM
FPC 4	REV 18	750-046005	CACH5661	MPC5E 3D Q 2CGE+4XGE
CPU	REV 09	711-045719	CACF2880	RMPC PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
PIC 1		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0	REV 01	740-046563	XD16FC03Y	CFP2-100G-SR10
PIC 2		BUILTIN	BUILTIN	2X10GE SFPP OTN
PIC 3		BUILTIN	BUILTIN	1X100GE CFP2 OTN
Xcvr 0	REV 01	740-049775	J13K72997	CFP2-100G-LR4-D
FPC 5	REV 35	750-028467	CAAR2623	MPC 3D 16x 10GE
CPU	REV 11	711-029089	CAAR0491	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ5027T	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ502J0	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ5027S	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ501Y7	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ501YB	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ503EB	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ43HJH	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ43J0Y	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ50352	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ501X6	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQ502NV	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQ502ZJ	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AQ502H4	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQ43HJK	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AJ30CU7	SFP+-10G-SR
FPC 9	REV 30	750-044130	ABCF5773	MPC6E 3D

CPU	REV 09	711-045719	ABCF1270	RMP	PMB
MIC 0	REV 05	750-049457	ABCD7829	2X100GE	CFP2 OTN
PIC 0		BUILTIN	BUILTIN	2X100GE	CFP2 OTN
Xcvr 0		NON-JNPR	FE13F000K	CFP2-100G-SR10	
Xcvr 1	REV 01	740-048813	XD32FE017	CFP2-100G-LR-D	
MIC 1	REV 07	750-049457	ABCK2812	2X100GE	CFP2 OTN
PIC 1		BUILTIN	BUILTIN	2X100GE	CFP2 OTN
Xcvr 0	REV 01	740-048813	XD32FE018	CFP2-100G-SR10	
Xcvr 1		NON-JNPR	FE13F000E	CFP2-100G-LR4-D	
XLM 0	REV 05.2.00	711-046638	ABCF5915	MPC6E	XL
XLM 1	REV 05.2.00	711-046638	ABCF5916	MPC6E	XL
FPC 10	REV 36	750-044130	ABCS8602	MPC6E	3D
CPU	REV 09	711-045719	ABCS8779	RMP	PMB
MIC 0	REV 06	750-049979	ABCK2656	24X10GE	SFPP OTN
PIC 0		BUILTIN	BUILTIN	24X10GE	SFPP OTN
Xcvr 0	REV 01	740-021308	AQ43J08	SFP+-10G-SR	
Xcvr 1	REV 01	740-021308	AQE1Y2E	SFP+-10G-SR	
Xcvr 2	REV 01	740-021308	AQE1UW4	SFP+-10G-SR	
Xcvr 3	REV 01	740-021308	AQE1MQF	SFP+-10G-SR	
Xcvr 4	REV 01	740-021308	AQGOMN1	SFP+-10G-SR	
Xcvr 5	REV 01	740-021308	AQE1L9M	SFP+-10G-SR	
Xcvr 6	REV 01	740-021308	AQGOMPD	SFP+-10G-SR	
Xcvr 7	REV 01	740-021308	AQE1Y2B	SFP+-10G-SR	
Xcvr 8	REV 01	740-021308	AQGOLT5	SFP+-10G-SR	
Xcvr 9	REV 01	740-021308	AQD2ET4	SFP+-10G-SR	
Xcvr 10	REV 01	740-021308	AQGOMPC	SFP+-10G-SR	
Xcvr 11	REV 01	740-021308	AQGOM63	SFP+-10G-SR	
Xcvr 12	REV 01	740-021308	AQGOLT1	SFP+-10G-SR	
Xcvr 13	REV 01	740-021308	AQGOM4L	SFP+-10G-SR	
Xcvr 14	REV 01	740-021308	AQGOLS7	SFP+-10G-SR	
Xcvr 15	REV 01	740-021308	AQE1MQB	SFP+-10G-SR	
Xcvr 16	REV 01	740-021308	AQGOLZP	SFP+-10G-SR	
Xcvr 17	REV 01	740-021308	AQE1LU9	SFP+-10G-SR	
Xcvr 18	REV 01	740-021308	AQGOMRZ	SFP+-10G-SR	
Xcvr 19	REV 01	740-021308	AQE1MQ9	SFP+-10G-SR	
Xcvr 20	REV 01	740-021308	AQGOLRX	SFP+-10G-SR	
Xcvr 21	REV 01	740-021308	AQE1UWD	SFP+-10G-SR	
Xcvr 22	REV 01	740-021308	AQGOLT4	SFP+-10G-SR	
Xcvr 23	REV 01	740-021308	AQE1MQL	SFP+-10G-SR	
MIC 1	REV 12	750-050008	ABCK5372	4X100GE	CXP
PIC 1		BUILTIN	BUILTIN	4X100GE	CXP
Xcvr 3	REV 01	740-046563	XD16FC02Z	CFP2-100G-SR10	
XLM 0	REV 07.2.00	711-046638	ABCK3481	MPC6E	XL
XLM 1	REV 07.2.00	711-046638	ABCK4725	MPC6E	XL
FPC 17	REV 28	750-044130	ABBZ3873	MPC6E	3D
CPU	REV 08	711-045719	ABBZ3770	RMP	PMB
MIC 0	REV 11	750-046535	ABCC7731	24X10GE	SFPP
PIC 0		BUILTIN	BUILTIN	24X10GE	SFPP
Xcvr 1	REV 01	740-021308	APK0543	SFP+-10G-SR	
Xcvr 2	REV 01	740-031980	B10G01119	SFP+-10G-SR	
Xcvr 3	REV 01	740-021308	AQ502SX	SFP+-10G-SR	
Xcvr 4	REV 01	740-021308	AQ43H84	SFP+-10G-SR	
Xcvr 5	REV 01	740-021308	AQ501TB	SFP+-10G-SR	
Xcvr 6	REV 01	740-021308	AQ502JZ	SFP+-10G-SR	
Xcvr 7	REV 01	740-021308	AQ502SC	SFP+-10G-SR	
Xcvr 8	REV 01	740-021308	AQ502JW	SFP+-10G-SR	
Xcvr 9	REV 01	740-021308	AQ502RM	SFP+-10G-SR	
Xcvr 10	REV 01	740-031980	AHK013B	SFP+-10G-SR	
Xcvr 11	REV 01	740-021308	AQGOMRT	SFP+-10G-SR	
Xcvr 13	REV 01	740-031980	AMC0JTC	SFP+-10G-SR	
Xcvr 14	REV 01	740-021308	ANAGOMQ0	SFP+-10G-SR	

Xcvr 15	REV 01	740-021308	AQ502GS	SFP+-10G-SR
Xcvr 16	REV 01	740-021308	AQGOM0J	SFP+-10G-SR
Xcvr 17	REV 01	740-021308	AQGOMUR	SFP+-10G-SR
Xcvr 18	REV 01	740-021308	AQGOMRR	SFP+-10G-SR
Xcvr 19	REV 01	740-021308	AQGOM0F	SFP+-10G-SR
Xcvr 20	REV 01	740-021308	AQ50312	SFP+-10G-SR
Xcvr 21	REV 01	740-021308	AQ5032U	SFP+-10G-SR
Xcvr 22	REV 01	740-021308	APE17B5	SFP+-10G-SR
Xcvr 23	REV 01	740-021309	91D104A00011	SFP+-10G-LR
MIC 1	REV 03	750-050008	ABCC4522	4X100GE CXP
PIC 1		BUILTIN	BUILTIN	4X100GE CXP
Xcvr 0	REV 01	740-046563	XD16FC02U	CFP2-100G-SR10
Xcvr 1	REV 01	740-046563	XC42FC03K	CFP2-100G-SR10
Xcvr 2	REV 01	740-046563	XC42FC01Z	CFP2-100G-SR10
Xcvr 3	REV 01	740-046563	XC42FC02U	CFP2-100G-SR10
XLM 0	REV 04.2.00	711-046638	ABBZ3779	MPC6E XL
XLM 1	REV 04.2.00	711-046638	ABBZ3780	MPC6E XL
FPC 18	REV 39	750-045715	CACD1910	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 09	711-045719	CACD1817	RMPD PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 2		BUILTIN	BUILTIN	3X40GE QSFPP
Xcvr 0	REV 01	740-046565	QD130194	QSFP+-40G-SR4
Xcvr 1	REV 01	740-046565	QD130193	QSFP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130196	QSFP+-40G-SR4
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
Xcvr 0	REV 01	740-046565	QD130191	QSFP+-40G-SR4
Xcvr 1	REV 01	740-046565	QD130198	QSFP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130192	QSFP+-40G-SR4
WAN MEZZ	REV 09	750-049136	CABN0411	MPC5E 24XGE OTN Mezz
FPC 19	REV 39	750-045715	CACD1908	MPC5E 3D Q 24XGE+6XLGE
CPU	REV 09	711-045719	CACD1820	RMPD PMB
PIC 0		BUILTIN	BUILTIN	12X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQA0EXJ	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQGOM6D	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	AQGOLW7	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQA0JKB	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	AQGOMTM	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	AQA07NE	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	AQGOM41	SFP+-10G-SR
Xcvr 7	REV 01	740-021308	AQGOMU7	SFP+-10G-SR
Xcvr 8	REV 01	740-021308	AQGOMUG	SFP+-10G-SR
Xcvr 9	REV 01	740-021308	AQGOMMX	SFP+-10G-SR
Xcvr 10	REV 01	740-021308	AQGOM5K	SFP+-10G-SR
Xcvr 11	REV 01	740-021308	AQGOLVZ	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 2		BUILTIN	BUILTIN	3X40GE QSFPP
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
Xcvr 0	REV 01	740-046565	QD130242	QSFP+-40G-SR4
Xcvr 1	REV 01	740-046565	QD130245	QSFP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130613	QSFP+-40G-SR4
WAN MEZZ	REV 09	750-049136	CABN0418	MPC5E 24XGE OTN Mezz
ADC 0	REV 17	750-043596	ABCD5378	Adapter Card
ADC 1	REV 17	750-043596	ABCD5465	Adapter Card
ADC 2	REV 17	750-043596	ABCD5431	Adapter Card
ADC 3	REV 17	750-043596	ABCD5356	Adapter Card
ADC 4	REV 02	750-043596	ZW1545	Adapter Card
ADC 5	REV 17	750-043596	ABCD5517	Adapter Card
ADC 18	REV 17	750-043596	ABCD5535	Adapter Card
ADC 19	REV 01	750-043596	ZV4127	Adapter Card
Fan Tray 0	REV 06	760-046960	ACAY0791	172mm FanTray - 6 Fans

Fan Tray 1	REV 06	760-046960	ACAY0788	172mm FanTray - 6 Fans
Fan Tray 2	REV 06	760-046960	ACAY0755	172mm FanTray - 6 Fans
Fan Tray 3	REV 06	760-046960	ACAY0441	172mm FanTray - 6 Fans

show chassis hardware detail (MX2020 Router with MPC5EQ and MPC6E)

```

user@host>show chassis hardware detail
Hardware inventory:
Item              Version  Part number  Serial number  Description
Chassis                               JN120BADBAFJ  MX2020
Midplane          REV 51   750-040240   ABAB9243      Lower Backplane
Midplane 1        REV 04   711-032386   ABAB9399      Upper Backplane
PMP 1             REV 05   711-032428   ACAJ2541      Upper Power Midplane
PMP 0             REV 04   711-032426   ACAJ2194      Lower Power Midplane
FPM Board         REV 13   760-040242   ABCA8835      Front Panel Display
PSM 0             REV 01   740-050037   1EDB32403L5   DC 52V Power Supply
Module
PSM 1             REV 01   740-050037   1EDB32403L3   DC 52V Power Supply
Module
PSM 2             REV 01   740-050037   1EDB32403KM   DC 52V Power Supply
Module
PSM 3             REV 01   740-050037   1EDB3130079   DC 52V Power Supply
Module
PSM 4             REV 01   740-050037   1EDB3130077   DC 52V Power Supply
Module
PSM 5             REV 01   740-050037   1EDB3130020   DC 52V Power Supply
Module
PSM 6             REV 01   740-050037   1EDB313009S   DC 52V Power Supply
Module
PSM 7             REV 01   740-050037   1EDB313008E   DC 52V Power Supply
Module
PSM 8             REV 01   740-050037   1EDB3130063   DC 52V Power Supply
Module
PSM 12            REV 01   740-050037   1EDB3130026   DC 52V Power Supply
Module
PSM 13            REV 01   740-050037   1EDB3130074   DC 52V Power Supply
Module
PSM 14            REV 01   740-050037   1EDB313009D   DC 52V Power Supply
Module
PSM 15            REV 01   740-050037   1EDB3130024   DC 52V Power Supply
Module
PSM 16            REV 01   740-050037   1EDB3130054   DC 52V Power Supply
Module
PSM 17            REV 01   740-050037   1EDB3130080   DC 52V Power Supply
Module
PDM 0             REV 03   740-045234   1EGA3170144   DC Power Dist Module
PDM 1             REV 03   740-045234   1EGA3170158   DC Power Dist Module
PDM 2             REV 03   740-045234   1EGA3170182   DC Power Dist Module
PDM 3             REV 03   740-045234   1EGA3170207   DC Power Dist Module
Routing Engine 0  REV 02   740-041821   9009112112    RE-S-1800x4
  ad0    3998 MB  Virtium - TuffDrive VCF P1T0200274310822 113 Compact Flash
  ad1    30533 MB UGB94BPH32H0S1-KCI 11000031656      Disk 1
  usb0 (addr 1)  EHCI root hub 0      Intel          uhub0
  usb0 (addr 2)  product 0x0020 32    vendor 0x8087   uhub1
  DIMM 0        SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 1        SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 2        SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 3        SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1  REV 02   740-041821   9009112087    RE-S-1800x4
  ad0    3998 MB  Virtium - TuffDrive VCF P1T0200274310822 366 Compact Flash
  ad1    30533 MB UGB94BPH32H0S1-KCI 11000039979      Disk 1

```

CB 0	REV 23	750-040257	CABA2295	Control Board
CB 1	REV 23	750-040257	CABE8379	Control Board
SPMB 0				
SPMB 1				
FPC 0 CPU	REV 39	750-045715	CACD1902	MPC5E 3D Q 24XGE+6XLGE
FPC 1 CPU	REV 11	750-045372	CABK8112	MPCE Type 3 3D
FPC 2 CPU	REV 17	750-037355	CAAS5826	MPC4E 3D 2CGE+8XGE
FPC 3 CPU	REV 05	750-044444	CAAY9920	MPCE Type 2 3D P
FPC 4 CPU	REV 18	750-046005	CACH5661	MPC5E 3D Q 2CGE+4XGE
FPC 5 CPU	REV 35	750-028467	CAAR2623	MPC 3D 16x 10GE
FPC 9 CPU	REV 30	750-044130	ABCF5773	MPC6E 3D
FPC 10 CPU	REV 36	750-044130	ABCS8602	MPC6E 3D
FPC 17 CPU	REV 28	750-044130	ABBZ3873	MPC6E 3D
FPC 18 CPU	REV 39	750-045715	CACD1910	MPC5E 3D Q 24XGE+6XLGE
FPC 19 CPU	REV 39	750-045715	CACD1908	MPC5E 3D Q 24XGE+6XLGE
Fan Tray 0	REV 06	760-046960	ACAY0791	172mm FanTray - 6 Fans
Fan Tray 1	REV 06	760-046960	ACAY0788	172mm FanTray - 6 Fans
Fan Tray 2	REV 06	760-046960	ACAY0755	172mm FanTray - 6 Fans
Fan Tray 3	REV 06	760-046960	ACAY0441	172mm FanTray - 6 Fans

show chassis hardware extensive (MX2020 Router with MPC5EQ and MPC6E)

```

Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Jedec Code:   0x7fb0          EEPROM Version: 0x02
S/N:          JN120BADBAFJ
Assembly ID:  0x0557          Assembly Version: 00.00
Date:         00-00-0000      Assembly Flags:  0x00
ID: MX2020
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 7f b0 02 ff 05 57 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x20: 4a 4e 31 32 30 42 41 44 42 41 46 4a 00 00 00 00
Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane     REV 51  750-040240  ABAB9243      Lower Backplane
Jedec Code:   0x7fb0          EEPROM Version: 0x02
P/N:         750-040240      S/N:          ABAB9243
Assembly ID:  0x0b22          Assembly Version: 01.51
Date:         05-30-2013      Assembly Flags: 0x00
Version:      REV 51          CLEI Code:    IPMU710ARA
ID: Lower Backplane          FRU Model Number: CHAS-BP-MX2020-S
Board Information Record:
Address 0x00: ad 01 10 00 4c 96 14 72 30 08 ff ff ff ff ff ff

```


I2C Hex Data:

```

Address 0x00: 7f b0 02 ff 0b 22 01 33 52 45 56 20 35 31 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 34 30 32 34 30 00 00
Address 0x20: 53 2f 4e 20 41 42 41 42 39 32 34 33 00 1e 05 07
Address 0x30: dd ff ff ff ad 01 10 00 4c 96 14 72 30 08 ff ff
Address 0x40: ff ff ff ff 01 49 50 4d 55 37 31 30 41 52 41 43
Address 0x50: 48 41 53 2d 42 50 2d 4d 58 32 30 32 30 2d 53 00
Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
Address 0x70: ff ff ff d3 ff ff ff ff ff ff ff ff ff ff ff ff

```

Midplane 1 REV 04 711-032386 ABAB9399 Upper Backplane

```

Jedec Code: 0x7fb0      EEPROM Version: 0x01
P/N: 711-032386      S/N: ABAB9399
Assembly ID: 0x0b23      Assembly Version: 01.04
Date: 10-22-2012      Assembly Flags: 0x00
Version: REV 04

```

ID: Upper Backplane

Board Information Record:

```
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
```

I2C Hex Data:

```

Address 0x00: 7f b0 01 fe 0b 23 01 04 52 45 56 20 30 34 00 00
Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 33 38 36 00 00
Address 0x20: 53 2f 4e 20 41 42 41 42 39 33 39 39 00 16 0a 07
Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

```

PMP 1 REV 05 711-032428 ACAJ2541 Upper Power Midplane

```

Jedec Code: 0x7fb0      EEPROM Version: 0x01
P/N: 711-032428      S/N: ACAJ2541
Assembly ID: 0x045c      Assembly Version: 01.05
Date: 04-26-2013      Assembly Flags: 0x00
Version: REV 05

```

ID: Upper Power Midplane

Board Information Record:

```
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
```

I2C Hex Data:

```

Address 0x00: 7f b0 01 ff 04 5c 01 05 52 45 56 20 30 35 00 00
Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 34 32 38 00 00
Address 0x20: 53 2f 4e 20 41 43 41 4a 32 35 34 31 00 1a 04 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

```

PMP 0 REV 04 711-032426 ACAJ2194 Lower Power Midplane

```

Jedec Code: 0x7fb0      EEPROM Version: 0x01
P/N: 711-032426      S/N: ACAJ2194
Assembly ID: 0x045d      Assembly Version: 01.04
Date: 01-29-2013      Assembly Flags: 0x00
Version: REV 04

```

ID: Lower Power Midplane

Board Information Record:

```
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
```

I2C Hex Data:

```

Address 0x00: 7f b0 01 ff 04 5d 01 04 52 45 56 20 30 34 00 00
Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 34 32 36 00 00
Address 0x20: 53 2f 4e 20 41 43 41 4a 32 31 39 34 00 1d 01 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

```

```

Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
FPM Board      REV 13    760-040242    ABCA8835      Front Panel Display
Jedec Code:    0x7fb0      EEPROM Version: 0x02
P/N:           760-040242    S/N:           ABCA8835
Assembly ID:   0x0b24      Assembly Version: 01.13
Date:          04-13-2013    Assembly Flags: 0x00
Version:       REV 13      CLEI Code:     IPMYAESJRA
ID: Front Panel Display    FRU Model Number: MX2020-CRAFT-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 0b 24 01 0d 52 45 56 20 31 33 00 00
Address 0x10: 00 00 00 00 37 36 30 2d 30 34 30 32 34 32 00 00
Address 0x20: 53 2f 4e 20 41 42 43 41 38 38 33 35 00 0d 04 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 4d 59 41 45 35 4a 52 41 4d
Address 0x50: 58 32 30 32 30 2d 43 52 41 46 54 2d 53 00 00 00
Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 95 ff ff ff ff ff ff ff ff ff ff ff ff
PSM 0          REV 01    740-050037    1EDB32403L5    DC 52V Power Supply
Module
Jedec Code:    0x7fb0      EEPROM Version: 0x02
P/N:           740-050037    S/N:           1EDB32403L5
Assembly ID:   0x0478      Assembly Version: 01.01
Date:          06-21-2013    Assembly Flags: 0x00
Version:       REV 01      CLEI Code:     IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 34 30 33 4c 35 00 00 15 06 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 1          REV 01    740-050037    1EDB32403L3    DC 52V Power Supply
Module
Jedec Code:    0x7fb0      EEPROM Version: 0x02
P/N:           740-050037    S/N:           1EDB32403L3
Assembly ID:   0x0478      Assembly Version: 01.01
Date:          06-21-2013    Assembly Flags: 0x00
Version:       REV 01      CLEI Code:     IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 32 34 30 33 4c 33 00 00 15 06 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 2          REV 01    740-050037    1EDB32403KM    DC 52V Power Supply
Module
Jedec Code:    0x7fb0      EEPROM Version: 0x02

```

```

P/N:          740-050037          S/N:          1EDB32403KM
Assembly ID:  0x0478             Assembly Version: 01.01
Date:         06-21-2013         Assembly Flags:  0x00
Version:      REV 01             CLEI Code:       IPUPAKRKAA
ID: DC 52V Power Supply Module   FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 32 34 30 33 4b 4d 00 00 15 06 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 3          REV 01    740-050037    1EDB3130079    DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:          740-050037          S/N:          1EDB3130079
Assembly ID:  0x0478             Assembly Version: 01.01
Date:         05-16-2013         Assembly Flags:  0x00
Version:      REV 01             CLEI Code:       IPUPAKRKAA
ID: DC 52V Power Supply Module   FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 31 33 30 30 37 39 00 00 10 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 4          REV 01    740-050037    1EDB3130077    DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:          740-050037          S/N:          1EDB3130077
Assembly ID:  0x0478             Assembly Version: 01.01
Date:         05-17-2013         Assembly Flags:  0x00
Version:      REV 01             CLEI Code:       IPUPAKRKAA
ID: DC 52V Power Supply Module   FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 31 33 30 30 37 37 00 00 11 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 5          REV 01    740-050037    1EDB3130020    DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version: 0x02
P/N:          740-050037          S/N:          1EDB3130020
Assembly ID:  0x0478             Assembly Version: 01.01
Date:         05-16-2013         Assembly Flags:  0x00
Version:      REV 01             CLEI Code:       IPUPAKRKAA

```

```
ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 31 33 30 30 32 30 00 00 10 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 6          REV 01   740-050037   1EDB313009S   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:    0x02
P/N:           740-050037      S/N:               1EDB313009S
Assembly ID:   0x0478          Assembly Version:  01.01
Date:          05-17-2013      Assembly Flags:    0x00
Version:       REV 01          CLEI Code:         IPUPAKRKAA
ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 31 33 30 30 39 53 00 00 11 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 7          REV 01   740-050037   1EDB313008E   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:    0x02
P/N:           740-050037      S/N:               1EDB313008E
Assembly ID:   0x0478          Assembly Version:  01.01
Date:          05-17-2013      Assembly Flags:    0x00
Version:       REV 01          CLEI Code:         IPUPAKRKAA
ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 31 33 30 30 38 45 00 00 11 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 8          REV 01   740-050037   1EDB3130063   DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:    0x02
P/N:           740-050037      S/N:               1EDB3130063
Assembly ID:   0x0478          Assembly Version:  01.01
Date:          05-17-2013      Assembly Flags:    0x00
Version:       REV 01          CLEI Code:         IPUPAKRKAA
ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
```

```

Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 31 33 30 30 36 33 00 00 11 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 00 00 31 30 31 ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 12          REV 01   740-050037   1EDB3130026   DC 52V Power Supply
Module

```

```

Jedec Code: 0x7fb0      EEPROM Version: 0x02
P/N:        740-050037  S/N:        1EDB3130026
Assembly ID: 0x0478     Assembly Version: 01.01
Date:       05-16-2013  Assembly Flags: 0x00
Version:    REV 01      CLEI Code:   IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S

```

Board Information Record:

```

Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:

```

```

Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 31 33 30 30 32 36 00 00 10 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 00 00 31 30 31 ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00

```

```

PSM 13          REV 01   740-050037   1EDB3130074   DC 52V Power Supply
Module

```

```

Jedec Code: 0x7fb0      EEPROM Version: 0x02
P/N:        740-050037  S/N:        1EDB3130074
Assembly ID: 0x0478     Assembly Version: 01.01
Date:       05-17-2013  Assembly Flags: 0x00
Version:    REV 01      CLEI Code:   IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S

```

Board Information Record:

```

Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:

```

```

Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 31 33 30 30 37 34 00 00 11 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 00 00 31 30 31 ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00

```

```

PSM 14          REV 01   740-050037   1EDB313009D   DC 52V Power Supply
Module

```

```

Jedec Code: 0x7fb0      EEPROM Version: 0x02
P/N:        740-050037  S/N:        1EDB313009D
Assembly ID: 0x0478     Assembly Version: 01.01
Date:       05-17-2013  Assembly Flags: 0x00
Version:    REV 01      CLEI Code:   IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S

```

Board Information Record:

```

Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:

```

```

Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
Address 0x20: 31 45 44 42 33 31 33 30 30 39 44 00 00 11 05 07
Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff

```

```

Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 15          REV 01    740-050037    1EDB3130024    DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:    0x02
P/N:           740-050037      S/N:              1EDB3130024
Assembly ID:   0x0478          Assembly Version:  01.01
Date:          05-16-2013      Assembly Flags:    0x00
Version:       REV 01          CLEI Code:         IPUPAKRKAA
ID: DC 52V Power Supply Module FRU Model Number: MX2000-PSM-DC-S
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
...

```

show chassis hardware models (MX2020 Routers with MPC5EQ and MPC6E)

```

user@host> show chassis hardware models
Hardware inventory:

```

Item	Version	Part number	Serial number	FRU model number
Midplane	REV 51	750-040240	ABAB9243	CHAS-BP-MX2020-S
FPM Board	REV 13	760-040242	ABCA8835	MX2020-CRAFT-S
PSM 0	REV 01	740-050037	1EDB32403L5	MX2000-PSM-DC-S
PSM 1	REV 01	740-050037	1EDB32403L3	MX2000-PSM-DC-S
PSM 2	REV 01	740-050037	1EDB32403KM	MX2000-PSM-DC-S
PSM 3	REV 01	740-050037	1EDB3130079	MX2000-PSM-DC-S
PSM 4	REV 01	740-050037	1EDB3130077	MX2000-PSM-DC-S
PSM 5	REV 01	740-050037	1EDB3130020	MX2000-PSM-DC-S
PSM 6	REV 01	740-050037	1EDB313009S	MX2000-PSM-DC-S
PSM 7	REV 01	740-050037	1EDB313008E	MX2000-PSM-DC-S
PSM 8	REV 01	740-050037	1EDB3130063	MX2000-PSM-DC-S
PSM 12	REV 01	740-050037	1EDB3130026	MX2000-PSM-DC-S
PSM 13	REV 01	740-050037	1EDB3130074	MX2000-PSM-DC-S
PSM 14	REV 01	740-050037	1EDB313009D	MX2000-PSM-DC-S
PSM 15	REV 01	740-050037	1EDB3130024	MX2000-PSM-DC-S
PSM 16	REV 01	740-050037	1EDB3130054	MX2000-PSM-DC-S
PSM 17	REV 01	740-050037	1EDB3130080	MX2000-PSM-DC-S
PDM 0	REV 03	740-045234	1EGA3170144	MX2000-PDM-DC-S
PDM 1	REV 03	740-045234	1EGA3170158	MX2000-PDM-DC-S
PDM 2	REV 03	740-045234	1EGA3170182	MX2000-PDM-DC-S
PDM 3	REV 03	740-045234	1EGA3170207	MX2000-PDM-DC-S
Routing Engine 0	REV 02	740-041821	9009112112	RE-MX2000-1800X4-S
Routing Engine 1	REV 02	740-041821	9009112087	RE-MX2000-1800X4-S
CB 0	REV 23	750-040257	CABA2295	RE-MX2000-1800X4-S
CB 1	REV 23	750-040257	CABE8379	RE-MX2000-1800X4-S
SFB 0	REV 06	711-044466	ABCD5001	MX2000-SFB-S
SFB 1	REV 06	711-044466	ABCD5034	MX2000-SFB-S
SFB 2	REV 06	711-044466	ABCH3899	MX2000-SFB-S
SFB 3	REV 06	711-044466	ABCD5020	MX2000-SFB-S
SFB 4	REV 06	711-044466	ABCD4975	MX2000-SFB-S
SFB 5	REV 06	711-044466	ABCH3881	MX2000-SFB-S
SFB 6	REV 06	711-044466	ABCD5026	MX2000-SFB-S
SFB 7	REV 06	711-044466	ABCD5032	MX2000-SFB-S
FPC 0	REV 39	750-045715	CACD1902	PROTO-ASSEMBLY
FPC 1	REV 11	750-045372	CABK8112	MX-MPC3E-3D
FPC 2	REV 17	750-037355	CAAS5826	MPC4E-3D-2CGE-8XGE
FPC 3	REV 05	750-044444	CAAY9920	MX-MPC2E-3D-P
FPC 4	REV 18	750-046005	CACH5661	PROTO-ASSEMBLY

FPC 5	REV 35	750-028467	CAAR2623	MPC-3D-16XGE-SFPP
FPC 9	REV 30	750-044130	ABCF5773	PROTO-ASSEMBLY
FPC 10	REV 36	750-044130	ABCS8602	PROTO-ASSEMBLY
FPC 17	REV 28	750-044130	ABBZ3873	PROTO-ASSEMBLY
FPC 18	REV 39	750-045715	CACD1910	PROTO-ASSEMBLY
FPC 19	REV 39	750-045715	CACD1908	PROTO-ASSEMBLY
ADC 0	REV 17	750-043596	ABCD5378	MX2000-LC-ADAPTER
ADC 1	REV 17	750-043596	ABCD5465	MX2000-LC-ADAPTER
ADC 2	REV 17	750-043596	ABCD5431	MX2000-LC-ADAPTER
ADC 3	REV 17	750-043596	ABCD5356	MX2000-LC-ADAPTER
ADC 4	REV 02	750-043596	ZW1545	750-043596
ADC 5	REV 17	750-043596	ABCD5517	MX2000-LC-ADAPTER
ADC 18	REV 17	750-043596	ABCD5535	MX2000-LC-ADAPTER
ADC 19	REV 01	750-043596	ZV4127	750-043596
Fan Tray 0	REV 06	760-046960	ACAY0791	MX2000-FANTRAY-S
Fan Tray 1	REV 06	760-046960	ACAY0788	MX2000-FANTRAY-S
Fan Tray 2	REV 06	760-046960	ACAY0755	MX2000-FANTRAY-S
Fan Tray 3	REV 06	760-046960	ACAY0441	MX2000-FANTRAY-S

show chassis hardware clei-models (MX2020 Router with MPC5EQ and MPC6E)

```

user@host> show chassis hardware clei-models
Hardware inventory:

```

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 51	750-040240	IPMU710ARA	CHAS-BP-MX2020-S
FPM Board	REV 13	760-040242	IPMYAE5JRA	MX2020-CRAFT-S
PSM 0	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 1	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 2	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 3	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 4	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 5	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 6	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 7	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 8	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 12	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 13	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 14	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 15	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 16	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PSM 17	REV 01	740-050037	IPUPAKRKAA	MX2000-PSM-DC-S
PDM 0	REV 03	740-045234	IPUPAJSKAA	MX2000-PDM-DC-S
PDM 1	REV 03	740-045234	IPUPAJSKAA	MX2000-PDM-DC-S
PDM 2	REV 03	740-045234	IPUPAJSKAA	MX2000-PDM-DC-S
PDM 3	REV 03	740-045234	IPUPAJSKAA	MX2000-PDM-DC-S
CB 0	REV 23	750-040257	IPUCBA7CTA	RE-MX2000-1800X4-S
CB 1	REV 23	750-040257	IPUCBA7CTA	RE-MX2000-1800X4-S
SFB 0	REV 06	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 1	REV 06	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 2	REV 06	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 3	REV 06	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 4	REV 06	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 5	REV 06	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 6	REV 06	711-044466	IPUCBA6CAA	MX2000-SFB-S
SFB 7	REV 06	711-044466	IPUCBA6CAA	MX2000-SFB-S
FPC 0	REV 39	750-045715	PROTOXCLEI	PROTO-ASSEMBLY
FPC 1	REV 11	750-045372	COUIBBNBAA	MX-MPC3E-3D
FPC 2	REV 17	750-037355	IPU3A4DHAA	MPC4E-3D-2CGE-8XGE
FPC 3	REV 05	750-044444	COUIBBGBAA	MX-MPC2E-3D-P
MIC 0	REV 28	750-028387	COUIA16BAA	MIC-3D-4XGE-XFP
FPC 4	REV 18	750-046005	PROTOXCLEI	PROTO-ASSEMBLY

FPC 5	REV 35	750-028467		MPC-3D-16XGE-SFPP
FPC 9	REV 30	750-044130	PROTOXCLEI	PROTO-ASSEMBLY
MIC 0	REV 05	750-049457	PROTOXCLEI	PROTO-ASSEMBLY
FPC 10	REV 36	750-044130	PROTOXCLEI	PROTO-ASSEMBLY
MIC 0	REV 06	750-049979	PROTOXCLEI	PROTO-ASSEMBLY
MIC 1	REV 12	750-050008	PROTOXCLEI	PROTO-ASSEMBLY
FPC 17	REV 28	750-044130	PROTOXCLEI	PROTO-ASSEMBLY
MIC 1	REV 03	750-050008	PROTOXCLEI	PROTO-ASSEMBLY
FPC 18	REV 39	750-045715	PROTOXCLEI	PROTO-ASSEMBLY
FPC 19	REV 39	750-045715	PROTOXCLEI	PROTO-ASSEMBLY
ADC 0	REV 17	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 1	REV 17	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 2	REV 17	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 3	REV 17	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 4	REV 02	750-043596	PROTOXCLEI	750-043596
ADC 5	REV 17	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 18	REV 17	750-043596	IPUCBA8CAA	MX2000-LC-ADAPTER
ADC 19	REV 01	750-043596	PROTOXCLEI	750-043596
Fan Tray 0	REV 06	760-046960	IPUCBA5CAA	MX2000-FANTRAY-S
Fan Tray 1	REV 06	760-046960	IPUCBA5CAA	MX2000-FANTRAY-S
Fan Tray 2	REV 06	760-046960	IPUCBA5CAA	MX2000-FANTRAY-S
Fan Tray 3	REV 06	760-046960	IPUCBA5CAA	MX2000-FANTRAY-S

show chassis hardware (MX Series routers with ATM MIC)

```
user@host> show chassis hardware
```

```
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			JN115736EAFc	MX240
Midplane	REV 07	760-021404	ABAA5038	MX240 Backplane
FPM Board	REV 03	760-021392	ABBA2758	Front Panel Display
PEM 0	Rev 01	740-022697	QCS0937C07K	PS 1.2-1.7kW; 100-240V
AC in				
PEM 1	Rev 01	740-022697	QCS0939C04X	PS 1.2-1.7kW; 100-240V
AC in				
PEM 2	Rev 01	740-022697	QCS0937C06B	PS 1.2-1.7kW; 100-240V
AC in				
PEM 3	Rev 01	740-022697	QCS0937C07U	PS 1.2-1.7kW; 100-240V
AC in				
Routing Engine 0	REV 12	740-013063	9009042291	RE-S-2000
Routing Engine 1	REV 12	740-013063	9009042266	RE-S-2000
CB 0	REV 06	710-021523	ABBC1435	MX SCB
CB 1	REV 06	710-021523	ABBC1497	MX SCB
FPC 2	REV 14	750-031088	YH8446	MPC Type 2 3D Q
CPU	REV 06	711-030884	YH9612	MPC PMB 2G
MIC 0				
MIC 1	REV 10	750-036132	ZP7062	2x0C12/8x0C3 CC-CE
PIC 2		BUILTIN	BUILTIN	2x0C12/8x0C3 CC-CE
Xcvr 0	NON-JNPR	23393-00492		UNKNOWN
Xcvr 1	NON-JNPR	23393-00500		UNKNOWN
Xcvr 2	NON-JNPR	23393-00912		UNKNOWN
Xcvr 3	REV 01	740-015638	22216-00575	Load SFP
Xcvr 4	REV 01	740-015638	24145-00110	Load SFP
Xcvr 5	REV 01	740-015638	24145-00016	Load SFP
Xcvr 6	REV 01	740-015638	24145-00175	Load SFP
Xcvr 7	NON-JNPR	23393-00627		UNKNOWN
QXM 0	REV 05	711-028408	YF4681	MPC QXM
QXM 1	REV 05	711-028408	YF4817	MPC QXM
Fan Tray 0	REV 01	710-021113	XL3645	MX240 Fan Tray

show chassis hardware (MX240, MX480, MX960 routers with Application Services Modular Line Card)

```
user@host>show chassis hardware
```

```
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			JN11D969BAFA	MX960
Midplane	REV 03	710-013698	ACAA2362	MX960 Backplane
FPM Board	REV 03	710-014974	ZR0639	Front Panel Display
PDM	Rev 03	740-013110	QCS152250SX	Power Distribution Module
PEM 0	Rev 10	740-013683	QCS1512718W	DC Power Entry Module
PEM 1	Rev 10	740-013683	QCS1512702Y	DC Power Entry Module
Routing Engine 0	REV 15	740-013063	9012024667	RE-S-2000
Routing Engine 1	REV 15	740-013063	9012024649	RE-S-2000
CB 0	REV 14	750-031391	ZJ7749	Enhanced MX SCB
CB 1	REV 14	750-031391	ZJ7750	Enhanced MX SCB
CB 2	REV 14	750-031391	ZY9233	Enhanced MX SCB
FPC 0	REV 17	750-031089	YR7434	MPC Type 2 3D
CPU				
FPC 1	REV 11	750-037207	ZW9727	AS-MCC
CPU	REV 04	711-038173	ZW4817	AS-MCC-PMB
MIC 0	REV 01	750-037214	ZH3764	AS-MSC
PIC 0		BUILTIN	BUILTIN	AS-MSC
MIC 1	REV 01	711-028408	JZ9200	AS-MXC
PIC 2		BUILTIN	BUILTIN	AS-MXC
FPC 4	REV 30	750-028467	ABBN0232	MPC 3D 16x 10GE
CPU				
FPC 5	REV 04	750-037207	ZK9074	AS-MCC
CPU				
Fan Tray 0	REV 05	740-014971	VT5683	Fan Tray
Fan Tray 1	REV 05	740-014971	VT5684	Fan Tray

show chassis hardware extensive (MX240, MX480, MX960 routers with Application Services Modular Line Card)

```
user@host> show chassis hardware extensive
```

```
ID: AS-MCC                      FRU Model Number: 750-037207
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff I2C Hex Data:
Address 0x00: 7f b0 02 ff 0b 37 01 0b 52 45 56 20 31 31 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 32 30 37 00 00
Address 0x20: 53 2f 4e 20 5a 57 39 37 32 37 00 00 00 11 02 07
Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 37
Address 0x50: 35 30 2d 30 33 37 32 30 37 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 31 31 00 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 5e ff ff ff ff ff ff ff ff ff ff ff ff
CPU          REV 04      711-038173    ZW4817          AS-MCC-PMB
Jedec Code:  0x7fb0      EEPROM Version: 0x02
P/N:         711-038173  S/N:           ZW4817
Assembly ID: 0x0b38      Assembly Version: 01.04
Date:        12-30-2011  Assembly Flags: 0x00
Version:     REV 04
ID: AS-MCC-PMB
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff I2C Hex Data:
Address 0x00: 7f b0 02 ff 0b 38 01 04 52 45 56 20 30 34 00 00
Address 0x10: 00 00 00 00 37 31 31 2d 30 33 38 31 37 33 00 00
Address 0x20: 53 2f 4e 20 5a 57 34 38 31 37 00 00 00 1e 0c 07
```

```

Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 00 50 52 4f 54 4f 58 43 4c 45 49 37
Address 0x50: 31 31 2d 30 33 38 31 37 33 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 30 34 00 ff ff ff ff ff ff ff
Address 0x70: ff ff ff 60 00 00 00 00 00 00 00 00 00 00 00 00
MIC 0          REV 01    750-037214    ZH3764          AS-MS
Jedec Code:    0x7fb0          EEPROM Version:    0x02
P/N:           750-037214      S/N:             ZH3764
Assembly ID:   0x0a44          Assembly Version: 01.01
Date:          07-04-2011      Assembly Flags:   0x00
Version:       REV 01
ID: AS-MS
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff I2C Hex Data:
Address 0x00: 7f b0 02 ff 0a 44 01 01 52 45 56 20 30 31 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 32 31 34 00 00
Address 0x20: 53 2f 4e 20 5a 48 33 37 36 34 00 00 00 04 07 07
Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff ff 00 00 00 00 00 00 00 00 00 00 00
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 ff ff ff ff ff ff
Address 0x70: ff ff ff f6 c0 03 e1 bc 00 00 00 00 00 00 00 00
PIC 0          BUILTIN      BUILTIN      AS-MS
FPC 4          REV 30    750-028467    ABBN0232    MPC 3D 16x 10GE
Jedec Code:    0x7fb0          EEPROM Version:    0x01

```

show chassis hardware (MX480 Router with MPC4E)

```

user@host> show chassis hardware
Hardware inventory:

```

Item	Version	Part number	Serial number	Description
Chassis			JN10FF57BAFB	MX480
Midplane	REV 05	750-047849	Good	MX480 Midplane
FPM Board	REV 02	710-017254	KG2066	Front Panel Display
PEM 0	Rev 03	740-017330	QCS081590BJ	PS 1.2-1.7kW; 100-240V
AC in				
PEM 1	Rev 03	740-017330	QCS0815908Z	PS 1.2-1.7kW; 100-240V
AC in				
PEM 2	Rev 03	740-029970	QCS1001U001	PS 1.4-2.52kW; 90-264V
AC in				
Routing Engine 0	REV 05	740-031116	9009089502	RE-S-1800x4
Routing Engine 1	REV 05	740-031116	9009089624	RE-S-1800x4
CB 0	REV 02	750-031391	YE8506	Enhanced MX SCB
CB 1	REV 14	750-031391	ZK8265	Enhanced MX SCB
FPC 2	REV 05	750-037358	ZT0638	MPC4E 3D 32XGE
CPU	REV 07	711-035209	ZK3187	HMPC PMB 2G
PIC 0		BUILTIN	BUILTIN	8X10GE SFPP
PIC 1		BUILTIN	BUILTIN	8X10GE SFPP
PIC 2		BUILTIN	BUILTIN	8X10GE SFPP
PIC 3		BUILTIN	BUILTIN	8X10GE SFPP
FPC 3	REV 06	750-037355	CAAB1144	MPC4E 3D 2CGE+8XGE
CPU	REV 08	711-035209	CAAB1278	HMPC PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-031980	B11E01439	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11D05809	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0		NON-JNPR	D5418	UNKNOWN
PIC 2		BUILTIN	BUILTIN	4x10GE SFPP
PIC 3		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0		NON-JNPR	X12J00362	CFP-100G-SR10
FPC 4	REV 12.3.10	750-033205	YR9445	MPCE Type 3 3D

CPU
Fan Tray

Enhanced Left Fan Tray

show chassis hardware (MX2020 Router with MPC4E)

user@host> show chassis hardware

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11E188CAFJ	MX2020
Midplane	REV 04	711-032387	ABAC7474	Lower Backplane
Midplane 1	REV 04	711-032386	ABAC7408	Upper Backplane
PMP 1	REV 03	711-032428	ACAJ1137	Upper Power Midplane
PMP 0	REV 03	711-032426	ACAJ1016	Lower Power Midplane
FPM Board	REV 06	760-040242	ABBT8832	Front Panel Display
PSM 3	REV 0C	740-033727	VK00255	DC 52V Power Supply
Module				
PSM 4	REV 0C	740-033727	VJ00148	DC 52V Power Supply
Module				
PSM 5	REV 0C	740-033727	VK00207	DC 52V Power Supply
Module				
PSM 6	REV 0C	740-033727	VK00319	DC 52V Power Supply
Module				
PSM 7	REV 0C	740-033727	VK00264	DC 52V Power Supply
Module				
PSM 8	REV 0B	740-033727	VG00025	DC 52V Power Supply
Module				
PSM 13	REV 0C	740-033727	VK00274	DC 52V Power Supply
Module				
PSM 14	REV 0C	740-033727	VJ00167	DC 52V Power Supply
Module				
PSM 15	REV 0C	740-033727	VK00299	DC 52V Power Supply
Module				
PSM 16	REV 0C	740-033727	VK00213	DC 52V Power Supply
Module				
PSM 17	REV 0C	740-033727	VK00253	DC 52V Power Supply
Module				
PDM 0	REV 0B	740-038109	VJ00040	DC Power Dist Module
PDM 2	REV 0B	740-038109	VJ00025	DC Power Dist Module
Routing Engine 0	REV 02	740-041821	9009089735	RE-S-1800x4
Routing Engine 1	REV 02	740-041821	9009089731	RE-S-1800x4
CB 0	REV 04	750-040257	ZT2846	Control Board
CB 1	REV 04	750-040257	ZT2877	Control Board
SPMB 0	REV 01	711-041855	ZS2282	PMB Board
SPMB 1	REV 01	711-041855	ZS2261	PMB Board
SFB 0	REV 07	711-032385	ZZ2582	Switch Fabric Board
SFB 1	REV 04	711-032385	ZV4229	Switch Fabric Board
SFB 2	REV 07	711-032385	CAAB4902	Switch Fabric Board
SFB 3	REV 07	711-032385	CAAB4891	Switch Fabric Board
SFB 4	REV 07	711-032385	CAAB4883	Switch Fabric Board
SFB 5	REV 07	711-032385	CAAB4889	Switch Fabric Board
SFB 6	REV 06	711-032385	ZV1818	Switch Fabric Board
SFB 7	REV 07	711-032385	CAAB4897	Switch Fabric Board
FPC 0	REV 34	750-031090	ZT9799	MPC Type 2 3D EQ
CPU	REV 06	711-030884	ZS1122	MPC PMB 2G
MIC 0	REV 11	750-033535	CAAD7674	MIC-3D-10C192-XFP
PIC 0		BUILTIN	BUILTIN	MIC-3D-10C192-XFP
Xcvr 0	REV 01	740-014279	753019A00404	XFP-0C192-SR
MIC 1	REV 14	750-031967	ZM6103	MIC-3D-80C30C12-40C48
PIC 2		BUILTIN	BUILTIN	MIC-3D-80C30C12-40C48
Xcvr 0	REV 01	740-011615	PEF1AZP	SFP-IR
Xcvr 1	REV 01	740-011615	PEF1AZN	SFP-IR

Xcvr 2	REV 01	740-021308	ANA0N8S	SFP+-10G-SR
QXM 0	REV 06	711-028408	ZT9339	MPC QXM
QXM 1	REV 06	711-028408	ZT9237	MPC QXM
FPC 9	REV 34	750-031090	ZT9770	MPC Type 2 3D EQ
CPU	REV 06	711-030884	ZS1302	MPC PMB 2G
MIC 0	REV 24	750-028387	YJ3950	3D 4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0		NON-JNPR	T09M52516	XFP-10G-SR
Xcvr 1		NON-JNPR	CA49BK095	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0	REV 02	740-014289	C834XU01T	XFP-10G-SR
Xcvr 1		NON-JNPR	T09M52515	XFP-10G-SR
MIC 1	REV 11	750-033535	CAAD7681	MIC-3D-10C192-XFP
PIC 2		BUILTIN	BUILTIN	MIC-3D-10C192-XFP
Xcvr 0	REV 01	740-014279	KBQ02BE	XFP-OC192-SR
QXM 0	REV 06	711-028408	ZT9151	MPC QXM
QXM 1	REV 06	711-028408	ZT9116	MPC QXM
FPC 10	REV 27	750-033205	ZL6215	MPCE Type 3 3D
CPU	REV 07	711-035209	ZK9038	HMPC PMB 2G
MIC 0	REV 18	750-028380	YG6885	3D 2x 10GE XFP
PIC 0		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 01	740-014289	C706XU0AG	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	1x 10GE XFP
Xcvr 0	REV 02	740-014289	T08L84366	XFP-10G-SR
FPC 14	REV 09	750-037355	CAAF1534	MPC4E 3D 2CGE+8XGE
CPU	REV 08	711-035209	CAAB9879	HMPC PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	21T511100436	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AHPOGPM	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	123363A00032	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	19T511100477	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0		NON-JNPR	X12J00260	CFP-100G-SR10
PIC 2		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	21T511104086	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	21T511104627	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	21T511104644	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	1X100GE CFP
FPC 19	REV 32	750-028467	ZR2008	MPC 3D 16x 10GE
CPU	REV 10	711-029089	ZT6933	AMPC PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	19T511100291	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AMH02VE	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	23T511102128	SFP+-10G-SR
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-021308	AMS15PP	SFP+-10G-SR
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	123363A00716	SFP+-10G-SR
ADC 0	REV 05	750-043596	CAAC2072	Adapter Card
ADC 9	REV 01	750-043596	ZV4111	Adapter Card
ADC 10	REV 05	750-043596	CAAC2058	Adapter Card
ADC 14	REV 02	750-043596	ZW1561	Adapter Card
ADC 19	REV 01	750-043596	ZV4127	Adapter Card
Fan Tray 0	REV 03	760-046960	ACAY0124	172mm FanTray - 6 Fans
Fan Tray 1	REV 2A	760-046960	ACAY0022	172mm FanTray - 6 Fans
Fan Tray 2	REV 2A	760-046960	ACAY0023	172mm FanTray - 6 Fans
Fan Tray 3	REV 2A	760-046960	ACAY0025	172mm FanTray - 6 Fans

show chassis hardware (MX5, MX10, MX40, MX80, MX240, MX480, and MX960 routers with Enhanced 20-port Gigabit Ethernet MIC)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               F3434         MX80-P
Midplane                               ZK2681       MX80-P
PEM 0         Rev 04   740-028288  VE05267       AC Power Entry Module
PEM 1         Rev 04   740-028288  VE05270       AC Power Entry Module
Routing Engine                               BUILTIN      BUILTIN      Routing Engine
TFEB 0                               BUILTIN      BUILTIN      Forwarding Engine
Processor
  QXM 0         REV 05   711-028408  ZK0952        MPC QXM
  FPC 0                               BUILTIN      BUILTIN      MPC BUILTIN
    MIC 0                               BUILTIN      BUILTIN      4x 10GE XFP
    PIC 0                               BUILTIN      BUILTIN      4x 10GE XFP
  FPC 1                               BUILTIN      BUILTIN      MPC BUILTIN
    MIC 0         REV 02   750-049846  CAAV2153      3D 20x 1GE(LAN)-E,SFP
    PIC 0                               BUILTIN      BUILTIN      10x 1GE(LAN) -E SFP
      Xcvr 0       REV 01   740-011613  AM0816S9B81   SFP-SX
      Xcvr 1       REV 02   740-011613  AM0925SBLK7   SFP-SX
      Xcvr 2       REV 01   740-011613  UAQ0005       SFP-SX
      Xcvr 3       REV 01   740-011613  UAQ000C       SFP-SX
      Xcvr 4       REV 01   740-011613  P9F195E       SFP-SX
      Xcvr 5       REV 01   740-011613  UAQ0003       SFP-SX
      Xcvr 6       REV 01   740-031851  AM1041SU1LD   SFP-SX
      Xcvr 8       REV 02   740-013111  B101501       SFP-T
    PIC 1                               BUILTIN      BUILTIN      10x 1GE(LAN) -E SFP
      Xcvr 0       REV 01   740-011613  PFM1ML7       SFP-SX
      Xcvr 4       REV 01   740-011613  PE729P6       SFP-SX
      Xcvr 6       REV 02   740-011613  AM1014SGC84   SFP-SX
      Xcvr 9       REV 01   740-011613  AM0812S8UK3   SFP-SX
    MIC 1         REV 26   750-028392  ZY0187        3D 20x 1GE(LAN) SFP
    PIC 2                               BUILTIN      BUILTIN      10x 1GE(LAN) SFP
      Xcvr 0       REV 01   740-011613  P9F1AN9       SFP-SX
      Xcvr 5       REV 02   740-011613  AM1003SFUF4   SFP-SX
      Xcvr 9       REV 01   740-031851  AM1041SU1LM   SFP-SX
    PIC 3                               BUILTIN      BUILTIN      10x 1GE(LAN) SFP
      Xcvr 4       REV 01   740-011613  PAJ4MYT       SFP-SX
      Xcvr 7       +       NON-JNPR     XG32A024      SFP-SX
      Xcvr 8                               NON-JNPR     PFROV6J       SFP-SX
      Xcvr 9       REV 01   740-031851  AM1041SU02U   SFP-SX
Fan Tray

```

show chassis hardware models (MX5, MX10, MX40, MX80, MX240, MX480, and MX960 routers with Enhanced 20-port Gigabit Ethernet MIC)

```

user@host> show chassis hardware models
Hardware inventory:
Item          Version  Part number  Serial number  FRU model number
PEM 0         Rev 04   740-028288  VE05267       PWR-MX80-AC-S
PEM 1         Rev 04   740-028288  VE05270       PWR-MX80-AC-S
Routing Engine                               BUILTIN      BUILTIN
TFEB 0                               BUILTIN      BUILTIN
FPC 0                               BUILTIN      BUILTIN
FPC 1                               BUILTIN      BUILTIN
  MIC 0         REV 02   750-049846  CAAV2153      MIC-3D-20GE-SFP-E
  MIC 1         REV 26   750-028392  ZY0187        MIC-3D-20GE-SFP
Fan Tray                               FANTRAY-MX80-S

```

show chassis hardware (T320 Router)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               19093          T320
Midplane      REV 04   710-004339   BC1436         T320 Backplane
FPM GBUS      REV 03   710-004461   BC1407         T320 FPM Board
FPM Display   REV 04   710-002897   BE0763         FPM Display
CIP           REV 05   710-002895   BB2311         T Series CIP
PEM 0        Rev 01   740-004359   NB12546        Power Entry Module
SCG 0        REV 06   710-004455   AY4522         T320 Sonet
Clock Gen.
Routing Engine 0
CB 0          REV 13   710-002728   BC1577         unknown
Control Board CB 1          REV 13   710-002728   BC1595         T Series
Control Board FPC 1          REV 09   710-007531   HS1572         FPC Type 2
CPU          REV 15   710-001726   HR8763         FPC CPU
PIC 0        REV 01   750-010618   CB5579         4x G/E SFP,
1000 BASE
SFP 0        REV 01   740-007326   P5809Z1        SFP-SX
SFP 1        REV 01   740-007326   P4Q10XU        SFP-SX
SFP 2        NON-JNPR RA45020031     SFP-SX
SFP 3        NON-JNPR RA45020032     SFP-SX
PIC 1        REV 01   750-010618   CD9587         4x G/E SFP,
1000 BASE
SFP 0        NON-JNPR P5A08QZ        SFP-T
SFP 1        REV 01   740-007326   P4Q133K        SFP-SX
SFP 2        REV 01   740-007326   P5809YY        SFP-SX
SFP 3        REV 01   740-007327   4C81704        SFP-LX
MMB 1        REV 03   710-005555   HR9401         MMB-288mbit
PPB 0        REV 04   710-003758   HR2886         PPB Type 2
FPC 2        REV 07   710-005860   HP2392         FPC Type 1
CPU          REV 14   710-001726   HP7797         FPC CPU
PIC 0        REV 02   750-007643   HM0853         1x G/E QPP,
1000 BASE
SFP 0        REV 01   740-007326   P11E9JJ        SFP-SX
MMB 1        REV 02   710-005555   HN2379         MMB-288mbit
PPB 0        REV 04   710-003758   HP8092         PPB Type 2
FPC 3        REV 07   710-005860   HP2393         FPC Type 1
CPU          REV 14   710-001726   HP0968         FPC CPU
PIC 0        REV 01   750-010240   CB5363         1x G/E SFP,
1000 BASE
SFP 0        REV 01   740-007326   P4R0PNH        SFP-SX
PIC 1        REV 03   750-003034   HD2832         4x OC-3 SONET,
SMIR
MMB 1        REV 02   710-005555   HN6307         MMB-288mbit
PPB 0        REV 04   710-003758   HP5051         PPB Type 2
FPC 4        REV 01   710-010845   JD3872         FPC Type 4
CPU          REV 02   710-011481   JB6042         FPC CPU
5           REV 01   710-005802   BC1566         FPC Type 2
CPU          REV 09   710-001726   AY4922         FPC CPU
PIC 0        REV 02   750-008155   BE2114         2x G/E QPP,
1000 BASE
SFP 0        REV 01   740-007326   P4R0PMQ        SFP-SX
SFP 1        REV 01   740-007326   P4R0PN9        SFP-SX
PIC 1        REV 01   750-008155   BE2116         2x G/E QPP,
1000 BASE
SFP 0        REV 01   740-007326   P4R0PNZ        SFP-SX

```

SFP 1		NON-JNPR	2908	SFP-T
MMB 1	REV 01	710-005555	AZ2246	MMB-288mbit
PPB 0	REV 03	710-003758	AY4839	PPB Type 2
FPC 7	REV 01	710-005803	AZ2123	FPC Type 3
...				

show chassis hardware (T640 Router)

```
user@host> show chassis hardware
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			19182	T640
Midplane	REV 04	710-002726	AX5608	T640 Backplane
FPM GBUS	REV 02	710-002901	HE3064	T640 FPM Board
FPM Display	REV 02	710-002897	HE7864	FPM Display
CIP	REV 05	710-002895	HA5024	T Series CIP
PEM 0	Rev 02	740-029522	VH26235	AC PEM 10kW US
PEM 1	Rev 02	740-029522	VH26230	AC PEM 10kW US
SCG 0	REV 03	710-003423	HA4508	T640 Sonet Clock Gen.
Routing Engine 0	REV 02	740-005022	210865700483	RE-3.0 (RE-600)
CB 0	REV 01	710-002728	HD3044	T Series Control Board
FPC 2	REV 04	710-001721	HD5572	FPC Type 3
CPU	REV 06	710-001726	HA4712	FPC CPU
PIC 1	REV 03	750-009567	HV2331	1x 10GE(LAN),XENPAK
SFP 0	REV 01	740-009898	USC202R103	XENPAK-SR
PIC 2	REV 03	750-009567	HV2332	1x 10GE(LAN),XENPAK
SFP 0	REV 01	740-011268	USC202R112	XENPAK-ZR
PIC 3	REV 03	750-009567	HX4416	1x 10GE(LAN),XENPAK
SFP 0	REV 01	740-012056	434TC004	XENPAK-CX4
PIC 4	REV 03	750-009567	HX4420	1x 10GE(LAN),XENPAK
SFP 0	REV 01	740-012058	434TC124	XENPAK-LX4
FPC 5	REV 01	710-013553	JE4839	E2-FPC Type 1
CPU	REV 01	710-013569	JW9163	FPC CPU
PIC 0	REV 01	750-009567	HX4419	1x 10GE(LAN),XENPAK
SFP 0	REV 01	740-009898	USC202RT05	XENPAK-LR
PIC 1	REV 03	750-009567	HN7426	1x 10GE(LAN),XENPAK
SFP 0	REV 01	740-009550	03L90051	XENPAK-ER
PIC 2	REV 03	750-009467	HT7423	1x 10GE(LAN),XENPAK
SFP 0		NON-JNPR		UNKNOWN
PIC 3	REV 04	750-005100	AY4850	1x 10GE(LAN),DWDM
FPC 4	REV 01	710-010845	JD3872	FPC Type 4
CPU	REV 02	710-011481	JB6042	FPC CPU
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Fan Tray

show chassis hardware models (T640 Router)

```
user@host> show chassis hardware models
Hardware inventory:
```

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 04	710-002726		CHAS-BP-T640-S
FPM Display	REV 02	710-002897		CRAFT-T640-S
CIP	REV 05	710-002895		CIP-L-T640-S
PEM 0	Rev 01	740-002595		PWR-T-DC-S
SCG 0	REV 04	710-003423		SCG-T-S
SCG 1	REV 04	710-003423		SCG-T-S
Routing Engine 0	REV 01	740-005022		RE-600-2048-S
Routing Engine 1	REV 07	740-005022		RE-600-2048-S
CB 0	REV 06	710-002726		CHAS-BP-T640-S
CB 1	REV 06	710-002728		CB-L-T-S

FPC 5	REV 05	710-007527	T640-FPC2
PIC 0	REV 05	750-002510	PB-2GE-SX
PIC 1	REV 05	750-001901	PB-40C12-SON-SMIR
FPC 6	REV 03	710-001721	T640-FPC3
PIC 1	REV 01	750-009553	PC-40C48-SON-SFP
SIB 4	REV 02	750-005486	SIB-I-T640-S
Fan Tray 0			FANTRAY-T-S
Fan Tray 1			FANTRAY-T-S
Fan Tray 2			FAN-REAR-TX-T640-S

show chassis hardware extensive (T640 Router)

```

user@host> show chassis hardware extensive
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Jedec Code:   0x7fb0          EEPROM Version: 0x01
P/N:          .....          S/N:           .....
Assembly ID:  0x0507          Assembly Version: 00.00
Date:         00-00-0000      Assembly Flags:  0x00
Version:      .....
ID: Gibson LCC Chassis
Board Information Record:
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
I2C Hex Data:
Address 0x00: 7f b0 01 ff 05 07 00 00 00 00 00 00 00 00 00 00
Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x20: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane      REV 04      710-002726  AX5633
Jedec Code:   0x7fb0          EEPROM Version: 0x01
P/N:          710-002726.      S/N:           AX5633.
Assembly ID:  0x0127          Assembly Version: 01.04
Date:         06-27-2001      Assembly Flags:  0x00
Version:      REV 04.....
ID: Gibson Backplane
Board Information Record:
Address 0x00: ad 01 08 00 00 90 69 0e f8 00 ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 01 27 01 04 52 45 56 20 30 34 00 00
Address 0x10: 00 00 00 00 37 31 30 2d 30 30 32 37 32 36 00 00
Address 0x20: 53 2f 4e 20 41 58 35 36 33 33 00 00 00 1b 06 07
Address 0x30: d1 ff ff ff ad 01 08 00 00 90 69 0e f8 00 ff ff
Address 0x40: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
FPM GBUS      REV 02      710-002901  HE3245
...
FPM Display   REV 02      710-002897  HA4873
...
CIP           REV 05      710-002895  HA4729
...
PEM 1         RevX02     740-002595  MD21815      Power Entry Module
...
SCG 0         REV 04      710-003423  HF6023
...
SCG 1         REV 04      710-003423  HF6061
...
Routing Engine 0 REV 01     740-005022  210865700292 RE-3.0
...
CB 0          REV 06      710-002728  HE3614
...

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FPC 1	REV 01	710-002385	HE3009	FPC Type 1
...	REV 06	710-001726	HC0010	

show chassis hardware (T4000 Router)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               JN1172F25AHA  T4000
Midplane      REV 01   710-027486   RC8355         T-series Backplane
FPM GBUS      REV 13   710-002901   BBAE0927       T640 FPM Board
FPM Display   REV 01   710-021387   EF6764         T1600 FPM Display
CIP           REV 06   710-002895   BBAD9210       T-series CIP
PEM 0         REV 01   740-036442   VA00016        Power Entry Module 6x60
SCG 0         REV 18   710-003423   BBAD7248       T640 Sonet Clock Gen.
SCG 1         REV 18   710-003423   BBAE3874       T640 Sonet Clock Gen.
Routing Engine 0 REV 05   740-026941   P737F-002248   RE-DUO-1800
Routing Engine 1 REV 06   740-026941   P737F-002653   RE-DUO-1800
CB 0          REV 09   710-022597   ED0295         LCC Control Board
CB 1          REV 09   710-022597   EA6050         LCC Control Board
FPC 0         REV 26   750-032819   EK1173         FPC Type 5-3D
  CPU         REV 12   711-030686   EJ8584         SNG PMB
  PIC 0       REV 07   750-034624   EF6837         12x10GE (LAN/WAN) SFPP
    Xcvr 0    REV 01   740-031980   123363A01145   SFP+-10G-SR
    Xcvr 1    REV 01   740-031980   123363A01147   SFP+-10G-SR
    Xcvr 2    REV 01   740-031980   AJJ01P3        SFP+-10G-SR
    Xcvr 3    REV 01   740-031980   B10M03256      SFP+-10G-SR
    Xcvr 4    REV 01   740-031980   AJJ01M2        SFP+-10G-SR
    Xcvr 5    REV 01   740-031980   123363A01137   SFP+-10G-SR
    Xcvr 6    REV 01   740-031980   AJJ01PN        SFP+-10G-SR
    Xcvr 7    REV 01   740-031980   AJJ01NW        SFP+-10G-SR
    Xcvr 8    REV 01   740-031980   123363A01139   SFP+-10G-SR
    Xcvr 9    REV 01   740-031980   AJJ01KE        SFP+-10G-SR
    Xcvr 10   REV 01   740-031980   123363A01336   SFP+-10G-SR
    Xcvr 11   REV 01   740-031980   B10M01325      SFP+-10G-SR
  PIC 1       REV 07   750-034624   EF6800         12x10GE (LAN/WAN) SFPP
    Xcvr 0    REV 01   740-031980   AJJ01SA        SFP+-10G-SR
    Xcvr 1    REV 01   740-031980   AJJ01QZ        SFP+-10G-SR
    Xcvr 2    REV 01   740-031980   AJH0217        SFP+-10G-SR
    Xcvr 3    REV 01   740-031980   AJJ01TE        SFP+-10G-SR
    Xcvr 4    REV 01   740-031980   AJJ01KV        SFP+-10G-SR
    Xcvr 5    REV 01   740-031980   AJJ01MU        SFP+-10G-SR
    Xcvr 6    REV 01   740-031980   AJJ01R0        SFP+-10G-SR
    Xcvr 7    REV 01   740-031980   AJJ01TC        SFP+-10G-SR
    Xcvr 8    REV 01   740-031980   AJJ0364        SFP+-10G-SR
    Xcvr 9    REV 01   740-031980   AJD0GV3        SFP+-10G-SR
    Xcvr 10   REV 01   740-031980   B10M03343      SFP+-10G-SR
    Xcvr 11   REV 01   740-031980   AJJ01QJ        SFP+-10G-SR
  LMB 0       REV 05   711-034381   EJ8490         Type-0 LMB
  LMB 1       REV 04   711-035774   EJ8517         Type-1 LMB
  LMB 2       REV 05   711-034381   EJ8489         Type-0 LMB
FPC 3         REV 07   750-032819   EG3637         FPC Type 5-3D
  CPU         REV 09   711-030686   EG0150         SNG PMB
  PIC 0       REV 08   750-035293   EF3657         1x100GE
    Xcvr 0    REV 01   740-032210   C22CQNJ        CFP-100G-LR4
  PIC 1       REV 10   750-034624   BBAN4098       12x10GE (LAN/WAN) SFPP
    Xcvr 0    REV 01   740-031980   B11J04902      SFP+-10G-SR
    Xcvr 1    REV 01   740-031980   B11J04891      SFP+-10G-SR
    Xcvr 2    REV 01   740-031980   AJJ01MX        SFP+-10G-SR
    Xcvr 3    REV 01   740-031980   B11J04183      SFP+-10G-SR
    Xcvr 4    REV 01   740-031980   B11J04894      SFP+-10G-SR

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Xcvr 5	REV 01	740-031980	B11J04184	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	B11J04897	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	B11J04899	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	AJJ01TV	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	B11J04057	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	AJJ01M4	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	B11J04905	SFP+-10G-SR
LMB 0	REV 04	711-034381	EG1524	Type-0 LMB
LMB 1	REV 03	711-035774	EG0345	Type-1 LMB
LMB 2	REV 04	711-034381	EG1522	Type-0 LMB
FPC 5	REV 03	710-033871	BBAJ0768	FPC Type 4-ES
CPU	REV 11	710-016744	BBAH9342	ST-PMB2
PIC 0	REV 09	750-029262	EE6789	100GE
PIC 1	REV 03	750-034781	EE6655	100GE CFP
Xcvr 0	REV 01	740-032210	J11A22334	CFP-100G-LR4
BRIDGE 0	REV 03	711-029995	EE6572	100GE Bridge Board
MMB 0	REV 07	710-025563	BBAJ4657	ST-MMB2
MMB 1	REV 07	710-025563	BBAJ3073	ST-MMB2
FPC 6	REV 05	750-010153	EF4936	FPC Type 5-3D
CPU	REV 06	711-030686	EF4189	SNG PMB
PIC 0	REV 10	750-034624	BBAN4109	12x10GE (LAN/WAN) SFPP
Xcvr 0	REV 01	740-031980	B11J04895	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11J04898	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11J04021	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11J04903	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	B11J04311	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	B11J04059	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	B11J04016	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	B11J04017	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	B11J04887	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	B11J04297	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	B11J04893	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	B11J04022	SFP+-10G-SR
PIC 1	REV 02	750-034624	EE3711	12x10GE (LAN/WAN) SFPP
Xcvr 0	REV 01	740-031980	AJH033X	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJJ01N0	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AJJ01SV	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AJJ032L	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	B10M01593	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	AJD0FF1	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	AJJ01NU	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	123363A01305	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	B10M00361	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	AJJ01M7	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	AJJ032X	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	AJJ01PG	SFP+-10G-SR
LMB 0	REV 04	711-034381	EF3838	Type-0 LMB
LMB 1	REV 03	711-035774	EF3821	Type-1 LMB
LMB 2	REV 04	711-034381	EF3834	Type-0 LMB
SPMB 0	REV 05	710-023321	ED1990	LCC Switch CPU
SPMB 1	REV 05	710-023321	EA2768	LCC Switch CPU
SIB 0	REV 02	711-036340	EF8802	SIB-HC-3D
SIB 1	REV 07	711-036340	EG2286	SIB-HC-3D
SIB 2	REV 07	711-036340	EG2252	SIB-HC-3D
SIB 3	REV 02	711-036340	EF1358	SIB-HC-3D
SIB 4	REV 02	711-036340	EF8806	SIB-HC-3D
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
-- Rev 2				
Fan Tray 2				Rear Fan Tray -- Rev 3

show chassis hardware (T4000 Router with 16 GB line card chassis (LCC) Routing Engine)

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user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis              JN11BDF2CAHA  T1600
Midplane            REV 01   710-027486   ACAJ0774      T640 Backplane
FPM GBUS             REV 13   710-002901   BBAL6812      T640 FPM Board
FPM Display          REV 04   710-021387   BBAP2679      T1600 FPM Display
CIP                  REV 06   710-002895   BBAP4758      T-series CIP
PEM 0                Rev 03   740-026384   XF86421       Power Entry Module 3x80
PEM 1                Rev 03   740-026384   XF86429       Power Entry Module 3x80
SCG 0                REV 18   710-003423   BBAP1896      T640 Sonet Clock Gen.
SCG 1                REV 18   710-003423   BBAN8659      T640 Sonet Clock Gen.
Routing Engine 0     REV 01   740-042243   737F-002238   RE-DUO-1800-16G
Routing Engine 1     REV 01   740-042243   737F-002403   RE-DUO-1800-16G
CB 1                 REV 11   710-022597   EK4526        LCC Control Board
CB 1                 REV 11   710-022597   EK4527        LCC Control Board
FPC 0                REV 05   710-033871   EK5644        FPC Type 4-ES
CPU                  REV 11   710-016744   EK3428        ST-PMB2
PIC 0                REV 20   750-017405   EJ3041        4x 10GE (LAN/WAN) XFP
PIC 1                REV 17   750-026962   EH7536        10x10GE(LAN/WAN) SFPP
MMB 0                REV 07   710-025563   EK6039        ST-MMB2
MMB 1                REV 07   710-025563   EK6086        ST-MMB2
FPC 1                REV 05   710-033871   EK6583        FPC Type 4-ES
CPU                  REV 11   710-016744   EK3401        ST-PMB2
PIC 0                REV 17   750-026962   EJ8948        10x10GE(LAN/WAN) SFPP
MMB 0                REV 07   710-025563   EK6202        ST-MMB2
MMB 1                REV 07   710-025563   EK6112        ST-MMB2
SPMB 1              REV 05   710-023321   EK4900        LCC Switch CPU
SIB 0                REV 11   710-013074   EK5958        SIB-I8-SF
SIB 1                REV 11   710-013074   EK4606        SIB-I8-SF
SIB 2                REV 11   710-013074   EK5971        SIB-I8-SF
SIB 3                REV 11   710-013074   EK4609        SIB-I8-SF
SIB 4                REV 11   710-013074   EK4602        SIB-I8-SF
Fan Tray 0           Front Top Fan Tray
Fan Tray 1           Front Bottom Fan Tray
Fan Tray 2           Rear Fan Tray -- Rev 2

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show chassis hardware (T4000 Router with LSR FPC)

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user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis              JN1173A24AHA  T4000
FPC 3              REV      750-048373   AN7797        FPC Type 5-LSR
CPU                REV 10   711-030686   AN6649        SNG PMB
PIC 0              REV 07   750-034624   EF6830        12x10GE (LAN/WAN) SFPP

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show chassis hardware clei-models (T4000 Router)

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user@host> show chassis hardware clei-models
Hardware inventory:
Item          Version  Part number  CLEI code      FRU model number
Midplane            REV 01   710-027486   IPMJ700DRD     CHAS-BP-T1600-S
FPM Display          REV 01   710-021387                   CRAFT-T1600-S
CIP                  REV 06   710-002895                   CIP-L-T640-S
PEM 0                REV 01   740-036442   IPUPAG6KAA     PWR-T-6-60-DC
SCG 0                REV 18   710-003423                   SCG-T-S
SCG 1                REV 18   710-003423                   SCG-T-S
Routing Engine 0     REV 05   740-026941                   RE-DUO-C1800-8G-S

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Routing Engine 1	REV 06	740-026941		RE-DUO-C1800-8G-S
CB 0	REV 09	710-022597		CB-LCC-S
CB 1	REV 09	710-022597		CB-LCC-S
FPC 3				
PIC 0	REV 08	750-035293	XXXXXXXXBB	PF-1CGE-CFP
PIC 1	REV 10	750-034624	XXXXXXXXCC	PF-12XGE-SFPP
FPC 5	REV 03	710-033871	IPUCAMBCTD	T1600-FPC4-ES
PIC 1	REV 03	750-034781	IPUIBKLMMA	PD-1CE-CFP-FPC4
FPC 6				
PIC 0	REV 10	750-034624	XXXXXXXXCC	PF-12XGE-SFPP
Fan Tray 0				FANTRAY-T-S
Fan Tray 1				FANTRAY-T4000-S
Fan Tray 2				FANTRAY-TXP-R-S

show chassis hardware detail (T4000 Router)

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user@host> show chassis hardware detail
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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis			JN1172F25AHA	T4000
Midplane	REV 01	710-027486	RC8355	T-series Backplane
FPM GBUS	REV 13	710-002901	BBAE0927	T640 FPM Board
FPM Display	REV 01	710-021387	EF6764	T1600 FPM Display
CIP	REV 06	710-002895	BBAD9210	T-series CIP
PEM 0	REV 01	740-036442	VA00016	Power Entry Module 6x60
SCG 0	REV 18	710-003423	BBAD7248	T640 Sonet Clock Gen.
SCG 1	REV 18	710-003423	BBAE3874	T640 Sonet Clock Gen.
Routing Engine 0	REV 05	740-026941	P737F-002248	RE-DUO-1800
ad0 3823 MB SMART CF			2009121602A661576157	Compact Flash
ad1 59690 MB STEC MACH-8 SSD			STM000103FDB	Disk 1
Routing Engine 1	REV 06	740-026941	P737F-002653	RE-DUO-1800
ad0 3823 MB SMART CF			201011150153F52CF52C	Compact Flash
ad1 62720 MB SMART Lite SATA Drive			2010110900150A880A88	Disk 1
CB 0	REV 09	710-022597	ED0295	LCC Control Board
CB 1	REV 09	710-022597	EA6050	LCC Control Board
FPC 0	REV 26	750-032819	EK1173	FPC Type 5-3D
CPU	REV 12	711-030686	EJ8584	SNG PMB
PIC 0	REV 07	750-034624	EF6837	12x10GE (LAN/WAN) SFPP
Xcvr 0	REV 01	740-031980	123363A01145	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	123363A01147	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AJJ01P3	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B10M03256	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	AJJ01M2	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	123363A01137	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	AJJ01PN	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	AJJ01NW	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	123363A01139	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	AJJ01KE	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	123363A01336	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	B10M01325	SFP+-10G-SR
PIC 1	REV 07	750-034624	EF6800	12x10GE (LAN/WAN) SFPP
Xcvr 0	REV 01	740-031980	AJJ01SA	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJJ01QZ	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AJH0217	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AJJ01TE	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	AJJ01KV	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	AJJ01MU	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	AJJ01R0	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	AJJ01TC	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	AJJ0364	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	AJD0GV3	SFP+-10G-SR

Xcvr 10	REV 01	740-031980	B10M03343	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	AJJ01QJ	SFP+-10G-SR
LMB 0	REV 05	711-034381	EJ8490	Type-0 LMB
LMB 1	REV 04	711-035774	EJ8517	Type-1 LMB
LMB 2	REV 05	711-034381	EJ8489	Type-0 LMB
FPC 3	REV 07	750-032819	EG3637	FPC Type 5-3D
CPU	REV 09	711-030686	EG0150	SNG PMB
PIC 0	REV 08	750-035293	EF3657	1x100GE
Xcvr 0	REV 01	740-032210	C22CQNJ	CFP-100G-LR4
PIC 1	REV 10	750-034624	BBAN4098	12x10GE (LAN/WAN) SFPP
Xcvr 0	REV 01	740-031980	B11J04902	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11J04891	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AJJ01MX	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11J04183	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	B11J04894	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	B11J04184	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	B11J04897	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	B11J04899	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	AJJ01TV	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	B11J04057	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	AJJ01M4	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	B11J04905	SFP+-10G-SR
LMB 0	REV 04	711-034381	EG1524	Type-0 LMB
LMB 1	REV 03	711-035774	EG0345	Type-1 LMB
LMB 2	REV 04	711-034381	EG1522	Type-0 LMB
FPC 5	REV 03	710-033871	BBAJ0768	FPC Type 4-ES
CPU	REV 11	710-016744	BBAH9342	ST-PMB2
PIC 0	REV 09	750-029262	EE6789	100GE
PIC 1	REV 03	750-034781	EE6655	100GE CFP
Xcvr 0	REV 01	740-032210	J11A22334	CFP-100G-LR4
BRIDGE 0	REV 03	711-029995	EE6572	100GE Bridge Board
MMB 0	REV 07	710-025563	BBAJ4657	ST-MMB2
MMB 1	REV 07	710-025563	BBAJ3073	ST-MMB2
FPC 6	REV 05	750-010153	EF4936	FPC Type 5-3D
CPU	REV 06	711-030686	EF4189	SNG PMB
PIC 0	REV 10	750-034624	BBAN4109	12x10GE (LAN/WAN) SFPP
Xcvr 0	REV 01	740-031980	B11J04895	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11J04898	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	B11J04021	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	B11J04903	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	B11J04311	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	B11J04059	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	B11J04016	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	B11J04017	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	B11J04887	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	B11J04297	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	B11J04893	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	B11J04022	SFP+-10G-SR
PIC 1	REV 02	750-034624	EE3711	12x10GE (LAN/WAN) SFPP
Xcvr 0	REV 01	740-031980	AJH033X	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	AJJ01N0	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AJJ01SV	SFP+-10G-SR
Xcvr 3	REV 01	740-031980	AJJ032L	SFP+-10G-SR
Xcvr 4	REV 01	740-031980	B10M01593	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	AJD0FF1	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	AJJ01NU	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	123363A01305	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	B10M00361	SFP+-10G-SR
Xcvr 9	REV 01	740-031980	AJJ01M7	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	AJJ032X	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	AJJ01PG	SFP+-10G-SR

LMB 0	REV 04	711-034381	EF3838	Type-0 LMB
LMB 1	REV 03	711-035774	EF3821	Type-1 LMB
LMB 2	REV 04	711-034381	EF3834	Type-0 LMB
SPMB 0	REV 05	710-023321	ED1990	LCC Switch CPU
SPMB 1	REV 05	710-023321	EA2768	LCC Switch CPU
SIB 0	REV 02	711-036340	EF8802	SIB-HC-3D
SIB 1	REV 07	711-036340	EG2286	SIB-HC-3D
SIB 2	REV 07	711-036340	EG2252	SIB-HC-3D
SIB 3	REV 02	711-036340	EF1358	SIB-HC-3D
SIB 4	REV 02	711-036340	EF8806	SIB-HC-3D
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
-- Rev 2				
Fan Tray 2				Rear Fan Tray -- Rev 3

show chassis hardware models (T4000 Router)

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user@host> show chassis hardware models
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Hardware inventory:				
Item	Version	Part number	Serial number	FRU model number
Midplane	REV 01	710-027486	RC8355	CHAS-BP-T1600-S
FPM Display	REV 01	710-021387	EF6764	CRAFT-T1600-S
CIP	REV 06	710-002895	BBAD9210	CIP-L-T640-S
PEM 0	REV 01	740-036442	VA00016	PWR-T-6-60-DC
SCG 0	REV 18	710-003423	BBAD7248	SCG-T-S
SCG 1	REV 18	710-003423	BBAE3874	SCG-T-S
Routing Engine 0	REV 05	740-026941	P737F-002248	RE-DUO-C1800-8G-S
Routing Engine 1	REV 06	740-026941	P737F-002653	RE-DUO-C1800-8G-S
CB 0	REV 09	710-022597	ED0295	CB-LCC-S
CB 1	REV 09	710-022597	EA6050	CB-LCC-S
FPC 3				
PIC 0	REV 08	750-035293	EF3657	PF-1CGE-CFP
PIC 1	REV 10	750-034624	BBAN4098	PF-12XGE-SFPP
FPC 5	REV 03	710-033871	BBAJ0768	T1600-FPC4-ES
PIC 1	REV 03	750-034781	EE6655	PD-1CE-CFP-FPC4
FPC 6				
PIC 0	REV 10	750-034624	BBAN4109	PF-12XGE-SFPP
Fan Tray 0				FANTRAY-T-S
Fan Tray 1				FANTRAY-T4000-S
Fan Tray 2				FAN-REAR-TXP-LCC

show chassis hardware lcc (TX Matrix Router)

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user@host> show chassis hardware lcc 0
lcc0-re0:
```

Hardware inventory:				
Item	Version	Part number	Serial number	Description
Chassis			65751	T640
Midplane	REV 03	710-005608	RA1408	T640 Backplane
FPM GBUS	REV 09	710-002901	RA2784	T640 FPM Board
FPM Display	REV 05	710-002897	RA2825	FPM Display
CIP	REV 06	710-002895	HT0684	T Series CIP
PEM 0	Rev 11	740-002595	PM18483	Power Entry Module
PEM 1	Rev 11	740-002595	qb13984	Power Entry Module
SCG 0	REV 11	710-003423	HT0022	T640 Sonet Clock Gen.
Routing Engine 0	REV 13	740-005022	210865700363	RE-3.0 (RE-600)
CB 0	REV 03	710-007655	HW1195	Control Board (CB-T)
FPC 1	REV 05	710-007527	HM3245	FPC Type 2
CPU	REV 14	710-001726	HM1084	FPC CPU

PIC 0	REV 02	750-007218	AZ1112	2x OC-12 ATM2 IQ, SMIR
PIC 1	REV 02	750-007745	HG3462	4x OC-3 SONET, SMIR
PIC 2	REV 14	750-001901	BA5390	4x OC-12 SONET, SMIR
PIC 3	REV 09	750-008155	HS3012	2x G/E IQ, 1000 BASE
SFP 0		NON-JNPR	P1186TY	SFP-S
SFP 1	REV 01	740-007326	P11WLTF	SFP-SX
MMB 1	REV 02	710-005555	HL7514	MMB-288mbit
PPB 0	REV 04	710-003758	HM4405	PPB Type 2
PPB 1	REV 04	710-003758	AV1960	PPB Type 2
FPC 2	REV 08	710-010154	HZ3578	E-FPC Type 3
CPU	REV 05	710-010169	HZ3219	FPC CPU-Enhanced
PIC 0	REV 02	750-009567	HX2882	1x 10GE(LAN), XENPAK
SFP 0	REV 01	740-009898	USC202U709	XENPAK-LR
PIC 1	REV 03	750-003336	HJ9954	4x OC-48 SONET, SMSR
PIC 2	REV 01	750-004535	HC0235	1x OC-192 SM SR1
PIC 3	REV 07	750-007141	HX1699	10x 1GE(LAN), 1000 BASE
SFP 0	REV 01	740-007326	2441042	SFP-SX
SFP 1	REV 01	740-007326	2441027	SFP-SX
MMB 0	REV 03	710-010171	HV2365	MMB-5M3-288mbit
MMB 1	REV 03	710-010171	HZ3888	MMB-5M3-288mbit
SPMB 0	REV 09	710-003229	HW5245	T Series Switch CPU
SIB 3	REV 07	710-005781	HR5927	SIB-L8-F16
B Board	REV 06	710-005782	HR5971	SIB-L8-F16 (B)
SIB 4	REV 07	710-005781	HR5903	SIB-L8-F16
B Board	REV 06	710-005782	HZ5275	SIB-L8-F16 (B)

show chassis hardware scc (TX Matrix Router)

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user@host> show chassis hardware scc
scc-re0:
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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis				TX Matrix
Midplane	REV 04	710-004396	RB0014	SCC Midplane
FPM GBUS	REV 04	710-004617	HW9141	SCC FPM Board
FPM Display	REV 04	710-004619	HS5950	SCC FPM
CIP 0	REV 01	710-010218	HV9151	SCC CIP
CIP 1	REV 01	710-010218	HV9152	SCC CIP
PEM 1	Rev 11	740-002595	QB13977	Power Entry Module
Routing Engine 0	REV 05	740-008883	P11123900153	RE-4.0 (RE-1600)
CB 0	REV 01	710-011709	HR5964	Control Board (CB-TX)
SPMB 0	REV 09	710-003229	HW5293	T Series Switch CPU
SIB 3				
SIB 4	REV 01	710-005839	HW1177	SIB-S8-F16
B Board	REV 01	710-005840	HW1202	SIB-S8-F16 (B)

show chassis hardware (T1600 Router)

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user@host> show chassis hardware
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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis			B2703	T1600
Midplane	REV 03	710-005608	RC4137	T640 Backplane
FPM GBUS	REV 10	710-002901	DT7062	T640 FPM Board
FPM Display	REV 05	710-002897	DS3067	FPM Display
CIP	REV 06	710-002895	DT3386	T-series CIP
PEM 0	Rev 07	740-017906	UA26344	Power Entry Module 3x80
PEM 1	Rev 18	740-002595	UF38441	Power Entry Module
SCG 0	REV 15	710-003423	DV0941	T640 Sonet Clock Gen.

Routing Engine 0	REV 08	740-014082	9009014502	RE-A-2000
Routing Engine 1	REV 07	740-014082	9009009591	RE-A-2000
CB 0	REV 05	710-007655	JA9360	Control Board (CB-T)
CB 1	REV 03	710-017707	DT3251	Control Board (CB-T)
FPC 0	REV 07	710-013558	DR4253	E2-FPC Type 2
CPU	REV 05	710-013563	DS3902	FPC CPU-Enhanced
PIC 0	REV 01	750-010618	CB5446	4x G/E SFP, 1000 BASE
Xcvr 0	REV 01	740-011613	P9F11CW	SFP-SX
Xcvr 1	REV 01	740-011613	P9F15C2	SFP-SX
Xcvr 2	REV 01	740-011782	PB94K0L	SFP-SX
PIC 1	REV 06	750-001900	HB6399	1x OC-48 SONET, SMSR
PIC 2	REV 14	750-001901	AP1092	4x OC-12 SONET, SMIR
PIC 3	REV 07	750-001900	AR8275	1x OC-48 SONET, SMSR
MMB 1	REV 07	710-010171	DS1524	MMB-5M3-288mbit
FPC 1	REV 06	710-013553	DL9067	E2-FPC Type 1
CPU	REV 04	710-013563	DM1685	FPC CPU-Enhanced
PIC 0	REV 08	750-001072	AB1688	1x G/E, 1000 BASE-SX
PIC 1	REV 10	750-012266	JX5519	4x 1GE(LAN), IQ2
Xcvr 0	REV 01	740-011613	AM0812S8UK6	SFP-SX
Xcvr 2	REV 01	740-011613	AM0812S8UK1	SFP-SX
Xcvr 3	REV 01	740-011782	P8N1YHG	SFP-SX
PIC 2	REV 22	750-005634	DP0083	1x CHOC12 IQ SONET, SMIR
MMB 1	REV 07	710-008923	DN1862	MMB 3M 288-bit
FPC 2	REV 01	710-005548	HJ9899	FPC Type 3
CPU	REV 06	710-001726	HC0586	FPC CPU
PIC 0	REV 16	750-007141	NC9660	10x 1GE(LAN), 1000 BASE
Xcvr 0	REV 01	740-011613	AM0812S8XAR	SFP-SX
Xcvr 1	REV 01	740-011782	P920E7B	SFP-SX
Xcvr 2	REV 01	740-011613	AM0812S8XAU	SFP-SX
Xcvr 4	REV 01	740-011613	AM0812S8XAK	SFP-SX
Xcvr 5	REV 01	740-011613	AM0812S8XAA	SFP-SX
Xcvr 6	REV 01	740-011613	PAJ4NKY	SFP-SX
Xcvr 7	REV 01	740-011613	AM0812S8UJW	SFP-SX
Xcvr 8	REV 01	740-011782	PB81X89	SFP-SX
Xcvr 9	REV 01	740-011613	AM0812S8UJX	SFP-SX
PIC 1	REV 06	750-015217	DK3280	8x 1GE(TYPE3), IQ2
Xcvr 0	REV 01	740-011782	P8P0A3T	SFP-SX
Xcvr 1	REV 01	740-013111	5090002	SFP-T
Xcvr 2	REV 01	740-011613	AM0814S93BQ	SFP-SX
Xcvr 4		NON-JNPR	PDE0FAN	SFP-SX
Xcvr 5	REV 01	740-011782	P8Q20XY	SFP-SX
Xcvr 6	REV 01	740-011613	AM0812S8UJV	SFP-SX
Xcvr 7	REV 01	740-011613	AM0812S8UP7	SFP-SX
PIC 2	REV 05	750-004695	HT4383	1x Tunnel
PIC 3	REV 17	750-009553	RL0204	4x OC-48 SONET
Xcvr 0	REV 01	740-011785	PDS3T23	SFP-SR
Xcvr 1	REV 01	740-011785	P6Q0F3E	SFP-SR
MMB 0	REV 03	710-004047	HD5843	MMB-288mbit
MMB 1	REV 03	710-004047	HE3208	MMB-288mbit
PPB 0	REV 02	710-002845	HA4524	PPB Type 3
PPB 1	REV 02	710-002845	HA4766	PPB Type 3
FPC 3	REV 01	710-010154	HR0863	E-FPC Type 3
CPU	REV 01	710-010169	HN3422	FPC CPU-Enhanced
PIC 0	REV 07	750-012793	WF5096	1x 10GE(LAN/WAN) IQ2
Xcvr 0		NON-JNPR	M64294TP	XFP-10G-LR
PIC 1	REV 25	750-007141	DV2127	10x 1GE(LAN), 1000 BASE
Xcvr 0	REV 01	740-011613	PFA6LTJ	SFP-SX
Xcvr 1	REV 01	740-011782	P9P0XV4	SFP-SX

Xcvr 2	REV 01	740-011782	P9M0TNX	SFP-SX
Xcvr 4	REV 01	740-011782	P9B0TTP	SFP-SX
Xcvr 5		NON-JNPR	PBS4LED	SFP-SX
PIC 2	REV 17	750-009553	RL0212	4x OC-48 SONET
Xcvr 0	REV 01	740-011785	PDS3T8G	SFP-SR
PIC 3	REV 32	750-003700	DL1279	1x OC-192 12xMM VSR
MMB 0	REV 01	710-010171	HR0821	MMB-288mbit
MMB 1	REV 01	710-010171	HR0818	MMB-288mbit
FPC 4	REV 16	710-013037	EB4919	FPC Type 4-ES
CPU	REV 09	710-016744	BBAA4382	ST-PMB2
PIC 0	REV 03	711-029996	EB1569	100GE
PIC 1	REV 05	711-029999	EB9983	100GE CFP
Xcvr 0	REV 0	740-032210	J10G80746	CFP-100G-LR4
BRIDGE 0	REV 02	711-029995	EB2235	100GE Bridge Board
MMB 0	REV 04	710-025563	BBAA7112	ST-MMB2
MMB 1	REV 04	710-025563	BBAA7149	ST-MMB2
FPC 5	REV 02	710-013037	DE3407	FPC Type 4-ES
CPU	REV 04	710-016744	DA2124	ST-PMB2
PIC 0	REV 16	750-012518	DF2554	4x OC-192 SONET XFP
Xcvr 0	REV 01	740-014279	AA0745N1FX8	XFP-OC192-SR
Xcvr 1	REV 01	740-014279	AA0748N1HN5	XFP-OC192-SR
Xcvr 2	REV 01	740-014279	AA0748N1HT6	XFP-OC192-SR
Xcvr 3	REV 01	740-014279	AA0744N1EC9	XFP-OC192-SR
PIC 1	REV 01	750-010850	JA0329	1x OC-768 SONET SR
MMB 0	REV 04	710-016036	DE9577	ST-MMB2
MMB 1	REV 04	710-016036	DK4060	ST-MMB2
FPC 6	REV 14	710-013037	DV1431	FPC Type 4-ES
CPU	REV 09	710-016744	DT9020	ST-PMB2
PIC 0	REV 11	750-017405	DM6261	4x 10GE (LAN/WAN) XFP
Xcvr 0	REV 01	740-014289	C701XU05Q	XFP-10G-SR
Xcvr 1	REV 01	740-014279	AA0748N1HPT	XFP-10G-LR
Xcvr 2	REV 01	740-014289	T08E19189	XFP-10G-SR
Xcvr 3	REV 01	740-014289	C715XU058	XFP-10G-SR
PIC 1	REV 13	750-017405	DP8772	4x 10GE (LAN/WAN) XFP
Xcvr 0	REV 02	740-011571	C850XJ037	XFP-10G-SR
Xcvr 1	REV 02	740-014289	C839XU0L9	XFP-10G-SR
Xcvr 2	REV 02	740-014289	C834XU05A	XFP-10G-SR
Xcvr 3	REV 02	740-014289	C810XU0CE	XFP-10G-SR
MMB 0	REV 01	710-025563	DT8454	ST-MMB2
MMB 1	REV 01	710-025563	DT8366	ST-MMB2
FPC 7	REV 09	710-007529	HZ7624	FPC Type 3
CPU	REV 15	710-001726	HZ1413	FPC CPU
PIC 0	REV 10	750-012793	DM5627	1x 10GE(LAN/WAN) IQ2
Xcvr 0	REV 02	740-011571	C831XJ062	XFP-10G-SR
PIC 1	REV 01	750-015217	JT6762	8x 1GE(TYPE3), IQ2
Xcvr 0	REV 01	740-011782	P8Q25JU	SFP-SX
Xcvr 1	REV 01	740-011782	P9B0U0K	SFP-SX
PIC 2	REV 01	750-015217	JS4268	8x 1GE(TYPE3), IQ2
Xcvr 0	REV 01	740-011613	AM0812S8XBZ	SFP-SX
Xcvr 1	REV 01	740-011613	AM0812S8XAP	SFP-SX
Xcvr 2	REV 01	740-011613	AM0812S8XBY	SFP-SX
Xcvr 3	REV 01	740-011613	AM0812S8XBX	SFP-SX
Xcvr 4	REV 01	740-011613	P9F1652	SFP-SX
Xcvr 5	REV 01	740-011782	P8Q21YC	SFP-SX
Xcvr 6	REV 01	740-011782	P8Q27HQ	SFP-SX
Xcvr 7	REV 01	740-011613	P8E2SSU	SFP-SX
PIC 3	REV 15	750-009450	NB6790	1x OC-192 SM SR2
MMB 0	REV 03	710-005555	HZ3450	MMB-288mbit
MMB 1	REV 03	710-005555	HZ3415	MMB-288mbit
PPB 0	REV 04	710-002845	HP0887	PPB Type 3
PPB 1	REV 04	710-002845	HW5255	PPB Type 3

SPMB 0	REV 10	710-003229	HX3699	T-series Switch CPU
SPMB 1	REV 12	710-003229	DT3091	T-series Switch CPU
SIB 0	REV 07	710-013074	DS4747	SIB-I8-SF
SIB 1	REV 07	710-013074	DS4942	SIB-I8-SF
SIB 2	REV 07	710-013074	DS4965	SIB-I8-SF
SIB 3	REV 07	710-013074	DS4990	SIB-I8-SF
SIB 4	REV 07	710-013074	DS4944	SIB-I8-SF
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Fan Tray -- Rev 2

show chassis hardware (TX Matrix Plus Router)

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user@host> show chassis hardware
sfc0-re0:
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Hardware inventory:				
Item	Version	Part number	Serial number	Description
Chassis			JN113186EAHB	TXP
Midplane	REV 05	710-022574	TS3822	SFC Midplane
FPM Display	REV 03	710-024027	DW4701	TXP FPM Display
CIP 0	REV 05	710-023792	DW7998	TXP CIP
CIP 1	REV 05	710-023792	DW7999	TXP CIP
PEM 0	Rev 04	740-027463	UM26367	Power Entry Module
PEM 1	Rev 04	740-027463	UM26346	Power Entry Module
Routing Engine 0	REV 06	740-026942	737A-1081	RE-DUO-2600
Routing Engine 1	REV 06	740-026942	737A-1043	RE-DUO-2600
CB 0	REV 05	710-022606	DW4435	SFC Control Board
CB 1	REV 09	710-022606	DW6100	SFC Control Board
SPMB 0		BUILTIN		SFC Switch CPU
SPMB 1		BUILTIN		SFC Switch CPU
SIB F13 0	REV 04	750-024564	DW5764	F13 SIB
B Board	REV 03	710-023431	DW9053	F13 SIB Mezz
SIB F13 3	REV 04	750-024564	DW5785	F13 SIB
B Board	REV 03	710-023431	DW9030	F13 SIB Mezz
SIB F13 6				
SIB F13 8	REV 04	750-024564	DW5752	F13 SIB
B Board	REV 03	710-023431	DW9051	F13 SIB Mezz
SIB F13 11	REV 04	750-024564	DW5782	F13 SIB
B Board	REV 03	710-023431	DW9058	F13 SIB Mezz
SIB F13 12	REV 03	750-024564	DT9466	F13 SIB
B Board	REV 02	710-023431	DT6556	F13 SIB Mezz
SIB F2S 0/0	REV 05	710-022603	DW7898	F2S SIB
B Board	REV 05	710-023787	DW7625	F2S SIB Mezz
SIB F2S 0/2	REV 05	710-022603	DW7811	F2S SIB
B Board	REV 05	710-023787	DW7550	F2S SIB Mezz
SIB F2S 0/4	REV 04	710-022603	DW4873	F2S SIB
B Board	REV 05	710-023787	DW8509	F2S SIB Mezz
SIB F2S 0/6	REV 04	710-022603	DW4867	F2S SIB
B Board	REV 05	710-023787	DW8472	F2S SIB Mezz
SIB F2S 1/0	REV 04	710-022603	DW4871	F2S SIB
B Board	REV 05	710-023787	DW8497	F2S SIB Mezz
SIB F2S 1/2	REV 05	710-022603	DW7868	F2S SIB
B Board	REV 05	710-023787	DW7551	F2S SIB Mezz
SIB F2S 1/4	REV 04	710-022603	DW4854	F2S SIB
B Board	REV 05	710-023787	DW8496	F2S SIB Mezz
SIB F2S 1/6	REV 05	710-022603	DW7889	F2S SIB
B Board	REV 05	710-023787	DW7496	F2S SIB Mezz
SIB F2S 2/0	REV 04	710-022603	DW4852	F2S SIB
B Board	REV 05	710-023787	DW8498	F2S SIB Mezz
SIB F2S 2/2	REV 04	710-022603	DW4845	F2S SIB

B Board	REV 05	710-023787	DW8457	F2S SIB Mezz
SIB F2S 2/4	REV 05	710-022603	DW7802	F2S SIB
B Board	REV 05	710-023787	DW7562	F2S SIB Mezz
SIB F2S 2/6	REV 04	710-022603	DW4822	F2S SIB
B Board	REV 05	710-023787	DW8467	F2S SIB Mezz
SIB F2S 3/0	REV 05	710-022603	DW7815	F2S SIB
B Board	REV 05	710-023787	DW7518	F2S SIB Mezz
SIB F2S 3/2	REV 03	710-022603	DV0068	F2S SIB
B Board	REV 03	710-023787	DT9974	F2S SIB Mezz
SIB F2S 3/4	REV 05	710-022603	DW7874	F2S SIB
B Board	REV 05	710-023787	DW7601	F2S SIB Mezz
SIB F2S 3/6	REV 03	710-022603	DV0033	F2S SIB
B Board	REV 03	710-023787	DT9969	F2S SIB Mezz
SIB F2S 4/0	REV 03	710-022603	DV0043	F2S SIB
B Board	REV 03	710-023787	DT9948	F2S SIB Mezz
SIB F2S 4/2	REV 05	710-022603	DW5446	F2S SIB
B Board	REV 05	710-023787	DW7611	F2S SIB Mezz
SIB F2S 4/4	REV 04	710-022603	DW4826	F2S SIB
B Board	REV 05	710-023787	DW8458	F2S SIB Mezz
SIB F2S 4/6	REV 03	710-022603	DV0026	F2S SIB
B Board	REV 03	710-023787	DT9963	F2S SIB Mezz
Fan Tray 0	REV 02	760-024497	DR8290	Front Fan Tray
Fan Tray 1	REV 02	760-024497	DR8293	Front Fan Tray
Fan Tray 2	REV 05	760-024502	DR8280	Rear Fan Tray
Fan Tray 3				
Fan Tray 4	REV 05	760-024502	DR8276	Rear Fan Tray
Fan Tray 5	REV 02	760-024502	DP5643	Rear Fan Tray

1cc0-re0:

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11036F8AHA	T1600
Midplane	REV 03	710-017247	RC3799	T-series Backplane
FPM GBUS	REV 10	710-002901	DP7009	T640 FPM Board
FPM Display	REV 01	710-021387	DN7026	T1600 FPM Display
CIP	REV 06	710-002895	DP6024	T-series CIP
PEM 1	Rev 02	740-023211	WA50019	Power Entry Module 4x60A
SCG 0	REV 15	710-003423	DR6757	T640 Sonet Clock Gen.
SCG 1	REV 15	710-003423	DS2225	T640 Sonet Clock Gen.
Routing Engine 0	REV 01	740-026941	737F-1040	RE-DUO-1800
Routing Engine 1	REV 01	740-026941	737F-1016	RE-DUO-1800
CB 0	REV 06	710-022597	DX4011	LCC Control Board
CB 1	REV 06	710-022597	DX4017	LCC Control Board
FPC 1	REV 07	710-013035	DN5847	FPC Type 3-ES
CPU	REV 08	710-016744	DP2570	ST-PMB2
PIC 0	REV 05	750-015217	DB0418	8x 1GE(TYPE3), IQ2
Xcvr 0	REV 01	740-011782	P8Q27ZG	SFP-SX
Xcvr 1		NON-JNPR	PDA1U0D	SFP-SX
Xcvr 2	REV 01	740-011613	P9F1ALW	SFP-SX
Xcvr 3	REV 01	740-011782	PBA403V	SFP-SX
Xcvr 4		NON-JNPR	PDE09DP	SFP-SX
Xcvr 5	REV 01	740-011782	PCH2P4K	SFP-SX
Xcvr 6	REV 01	740-011782	PB94K0F	SFP-SX
Xcvr 7	REV 01	740-011782	PBA2R2A	SFP-SX
PIC 1	REV 03	750-004424	HJ4020	1x 10GE(LAN), DWDM
PIC 2	REV 01	750-003336	HG6073	4x OC-48 SONET, SMSR
MMB 0	REV 04	710-016036	DP3401	ST-MMB2
FPC 3	REV 12	710-013037	DR1169	FPC Type 4-ES
CPU	REV 08	710-016744	DP9429	ST-PMB2
PIC 0	REV 02	750-010850	JA0332	1x OC-768 SONET SR

MMB 0	REV 04	710-016036	DR0628	ST-MMB2
MMB 1	REV 04	710-016036	DR0592	ST-MMB2
FPC 4	REV 05	710-021534	DR7350	FPC Type 1-ES
CPU	REV 08	710-016744	DP8096	ST-PMB2
PIC 0	REV 04	750-014627	DP9171	4x OC-3 1x OC-12 SFP
Xcvr 0	REV 02	740-011615	PDE2RVR	SFP-SR
PIC 1	REV 22	750-005634	DS5815	1x CHOC12 IQ SONET, SMIR
PIC 2	REV 09	750-002911	CF4539	4x F/E, 100 BASE-TX
PIC 3	REV 08	750-021652	DR2827	1x CHOC12 IQE SONET
Xcvr 0		NON-JNPR	8	UNKNOWN
MMB 0	REV 04	710-016036	DR0809	ST-MMB2
FPC 5	REV 07	710-007529	HS5608	FPC Type 3
CPU	REV 15	710-001726	HX4351	FPC CPU
PIC 0	REV 14	750-009567	WJ8961	1x 10GE(LAN), XENPAK
Xcvr 0	REV 01	740-013170	J05K05961	XENPAK-LR
PIC 1	REV 16	750-007141	JJ8146	10x 1GE(LAN), 1000 BASE
Xcvr 1	REV 01	740-011613	P9F117T	SFP-SX
Xcvr 2	REV 01	740-011782	PBA2VCL	SFP-SX
Xcvr 3	REV 01	740-011782	PB83DRB	SFP-SX
Xcvr 4	REV 01	740-011613	AM0812S8UP8	SFP-SX
PIC 2	REV 12	750-009567	WF3566	1x 10GE(LAN), XENPAK
Xcvr 0	REV 02	740-013170	T07C94489	XENPAK-LR
MMB 0	REV 03	710-005555	HZ1907	MMB-288mbit
MMB 1	REV 03	710-005555	HW5283	MMB-288mbit
PPB 0	REV 04	710-002845	HZ7717	PPB Type 3
PPB 1	REV 04	710-002845	HS0110	PPB Type 3
FPC 6	REV 07	710-013035	DP7486	FPC Type 3-ES
CPU	REV 08	710-016744	DP2545	ST-PMB2
PIC 0	REV 09	750-009567	NE6323	1x 10GE(LAN), XENPAK
Xcvr 0	REV 02	740-013170	T09C71959	XENPAK-LR
PIC 1	REV 06	750-015217	DN4775	8x 1GE(TYPE3), IQ2
Xcvr 0	REV 01	740-011782	P7E0T6M	SFP-SX
Xcvr 1	REV 01	740-011613	AM0812S8XAY	SFP-SX
Xcvr 2	REV 01	740-011782	P7E0T6J	SFP-SX
Xcvr 3	REV 01	740-011782	PCH2P7D	SFP-SX
Xcvr 4	REV 01	740-011782	P9B0QYT	SFP-SX
Xcvr 5	REV 01	740-011613	AM0812S8WQJ	SFP-SX
Xcvr 6	REV 02	740-013111	9301220	SFP-T
Xcvr 7	REV 01	740-011782	P9B0TZ5	SFP-SX
PIC 2	REV 06	750-015217	DM6747	8x 1GE(TYPE3), IQ2
Xcvr 0	REV 01	740-011613	PAP0ZB2	SFP-SX
Xcvr 1	REV 01	740-013111	70191002	SFP-T
Xcvr 6	REV 01	740-011782	PBA29H8	SFP-SX
Xcvr 7	REV 01	740-011613	AM0812S8WQG	SFP-SX
MMB 0	REV 04	710-016036	DP3238	ST-MMB2
FPC 7	REV 03	710-021540	DV3154	FPC Type 2-ES
CPU	REV 09	710-016744	DT9053	ST-PMB2
PIC 0	REV 13	750-001901	HB4225	4x OC-12 SONET, SMIR
PIC 1	REV 05	750-001900	AD3644	1x OC-48 SONET, SMSR
PIC 2	REV 10	750-008155	HV0335	2x G/E IQ, 1000 BASE
Xcvr 0	REV 01	740-011782	PCH2UKF	SFP-SX
Xcvr 1	REV 01	740-011782	PCH2V19	SFP-SX
PIC 3	REV 03	750-014638	JS9493	1x OC-48-12-3 SFP
Xcvr 0	REV 01	740-011785	P6Q0ENK	SFP-SR
MMB 0	REV 05	710-016036	DP3323	ST-MMB2
SPMB 0	REV 04	710-023321	DX3004	LCC Switch CPU
SPMB 1	REV 04	710-023321	DX3009	LCC Switch CPU
SIB 0	REV 07	710-022594	DW4195	LCC SIB
B Board	REV 07	710-023185	DW3930	LCC SIB Mezz

SIB 1	REV 07	710-022594	DW4179	LCC SIB
B Board	REV 07	710-023185	DW3919	LCC SIB Mezz
SIB 2				
SIB 3	REV 06	710-022594	DT8251	LCC SIB
B Board	REV 06	710-023185	DT5792	LCC SIB Mezz
SIB 4	REV 08	710-022594	DW8014	LCC SIB
B Board	REV 07	710-023185	DW3917	LCC SIB Mezz
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Fan Tray -- Rev 3

lcc1-re0:

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN1102270AHA	T1600
Midplane	REV 04	710-017247	RC5358	T-series Backplane
FPM GBUS	REV 10	710-002901	DS3443	T640 FPM Board
FPM Display	REV 01	710-021387	DS6411	T1600 FPM Display
CIP	REV 06	710-002895	DS4235	T-series CIP
PEM 0	Rev 02	740-023211	VM82438	Power Entry Module 4x60A
SCG 0	REV 15	710-003423	DS6649	T640 Sonet Clock Gen.
SCG 1	REV 15	710-003423	DR6775	T640 Sonet Clock Gen.
Routing Engine 0	REV 01	740-026941	737F-1083	RE-DUO-1800
Routing Engine 1	REV 01	740-026941	737F-1104	RE-DUO-1800
CB 0	REV 06	710-022597	DW8542	LCC Control Board
CB 1	REV 06	710-022597	DW8530	LCC Control Board
FPC 0	REV 02	710-010845	JE2392	FPC Type 4
CPU	REV 02	710-011481	JF6820	FPC CPU-Enhanced
PIC 0	REV 11	750-017405	DP7259	4x 10GE (LAN/WAN) XFP
Xcvr 0	REV 01	740-014279	AA0741N1C8T	XFP-10G-LR
Xcvr 1	REV 01	740-014279	AA0746N1GAM	XFP-10G-LR
Xcvr 2	REV 01	740-014279	AA0747N1H0B	XFP-10G-LR
Xcvr 3	REV 01	740-014279	AA0748N1HZ5	XFP-10G-LR
MMB 0	REV 03	710-010842	HY7601	ST-MMB
FPC 1	REV 16	710-013037	BBAA7398	FPC Type 4-ES
CPU	REV 09	710-016744	BBAA2329	ST-PMB2
PIC 0	REV 03	711-029996	EB1575	100GE
PIC 1	REV 06	750-034781	EB9980	100GE CFP
MMB 0	REV 04	710-025563	BBAA5325	ST-MMB2
MMB 1	REV 04	710-025563	BBAA5444	ST-MMB2
FPC 2	REV 16	710-013037	BBAA7185	FPC Type 4-ES
CPU	REV 09	710-016744	BBAA3522	ST-PMB2
PIC 0	REV 03	711-029996	EB1557	100GE
PIC 1	REV 05	750-034781	EB4660	100GE CFP
Xcvr 0	REV 0	740-032210	J10F73666	CFP-100G-LR4
BRIDGE 0	REV 02	711-029995	EB2237	100GE Bridge Board
MMB 0	REV 04	710-025563	BBAA5347	ST-MMB2
MMB 1	REV 04	710-025563	BBAA5401	ST-MMB2
FPC 3	REV 10	710-021534	DZ0941	FPC Type 1-ES
CPU	REV 09	710-016744	DY6364	ST-PMB2
PIC 0	REV 13	750-012266	DK9192	4x 1GE(LAN), IQ2
Xcvr 0	REV 01	740-011613	AM0812S8WVD	SFP-SX
Xcvr 1		NON-JNPR	PDD63Q4	SFP-SX
Xcvr 2		NON-JNPR	PDE4G54	SFP-SX
Xcvr 3		NON-JNPR	PD40MAG	SFP-SX
PIC 1	REV 01	750-007641	HJ2003	1x G/E IQ, 1000 BASE
Xcvr 0	REV 01	740-011613	AM0812S8WVG	SFP-SX
PIC 3	REV 17	750-007444	JB6873	1x CHSTM1 IQ SDH, SMIR
MMB 0	REV 04	710-025563	DZ0281	ST-MMB2
FPC 4	REV 06	710-013035	DK0614	FPC Type 3-ES

CPU	REV 07	710-016744	DK1616	ST-PMB2
PIC 0	REV 22	750-007141	DM1870	10x 1GE(LAN), 1000 BASE
Xcvr 0	REV 01	740-011782	PCL3UKW	SFP-SX
Xcvr 1	REV 01	740-011782	P7E0T73	SFP-SX
Xcvr 2	REV 01	740-007326	P4TOWLR	SFP-SX
Xcvr 3	REV 01	740-011782	PAR1LLRL	SFP-SX
Xcvr 4	REV 01	740-011782	P9M0U3Z	SFP-SX
Xcvr 5	REV 01	740-011782	P9M0U0C	SFP-SX
Xcvr 6	REV 01	740-011782	P9M0TLG	SFP-SX
Xcvr 7	REV 01	740-011782	P9M0U0F	SFP-SX
Xcvr 8	REV 01	740-011613	PFA6LAP	SFP-SX
Xcvr 9	REV 01	740-011782	PCH2P0U	SFP-SX
PIC 1	REV 16	750-009450	CV2565	1x OC-192 SM SR2
PIC 2	REV 05	750-004424	HH3057	1x 10GE(LAN), 10GBASE-LR
PIC 3	REV 12	750-013423	DP0403	MultiServices 500
MMB 0	REV 04	710-016036	DK1988	ST-MMB2
FPC 5	REV 07	710-013560	DR0004	E2-FPC Type 3
CPU	REV 05	710-013563	DR0089	FPC CPU-Enhanced
PIC 0	REV 11	750-012793	DR6107	1x 10GE(LAN/WAN) IQ2
Xcvr 0	REV 01	740-014289	C743XU074	XFP-10G-SR
PIC 1	REV 01	750-004695	HD5980	1x Tunnel
PIC 2	REV 32	750-003700	DL3770	1x OC-192 12xMM VSR
PIC 3	REV 12	750-009553	WB8901	4x OC-48 SONET
Xcvr 0	REV 01	740-011785	P9D1GTQ	SFP-SR
Xcvr 1	REV 01	740-011785	PDSOMMB	SFP-SR
Xcvr 3	REV 01	740-011785	PDE1KXP	SFP-SR
MMB 0	REV 07	710-010171	DP7374	MMB-5M3-288mbit
MMB 1	REV 07	710-010171	DP7404	MMB-5M3-288mbit
FPC 6	REV 07	710-013035	DM0994	FPC Type 3-ES
CPU	REV 07	710-016744	DM3651	ST-PMB2
PIC 0	REV 07	750-015217	DN4743	8x 1GE(TYPE3), IQ2
Xcvr 3	REV 01	740-011613	AM0812S8XB0	SFP-SX
Xcvr 4	REV 01	740-011782	PB829RB	SFP-SX
Xcvr 5	REV 01	740-011782	P8J1SYX	SFP-SX
PIC 1	REV 03	750-003336	HJ9954	4x OC-48 SONET, SMSR
PIC 3	REV 02	750-012793	JM7665	1x 10GE(LAN/WAN) IQ2
MMB 0	REV 04	710-016036	DN6913	ST-MMB2
FPC 7	REV 08	710-010845	JM3958	FPC Type 4
CPU	REV 04	710-011481	JK3669	FPC CPU-Enhanced
PIC 0	REV 11	750-017405	DP8837	4x 10GE (LAN/WAN) XFP
Xcvr 1	REV 01	740-014279	753019A00277	XFP-10G-LR
Xcvr 2	REV 02	740-011571	C850XJ00P	XFP-10G-SR
Xcvr 3	REV 01	740-014279	AA0813N1RTG	XFP-10G-LR
MMB 0	REV 04	710-010842	JN1971	ST-MMB
SPMB 0	REV 04	710-023321	DW3629	LCC Switch CPU
SPMB 1	REV 04	710-023321	DW3621	LCC Switch CPU
SIB 0	REV 07	710-022594	DW4200	LCC SIB
B Board	REV 07	710-023185	DW3932	LCC SIB Mezz
SIB 1	REV 07	710-022594	DW4193	LCC SIB
B Board	REV 07	710-023185	DW3904	LCC SIB Mezz
SIB 2				
SIB 3	REV 07	710-022594	DW4210	LCC SIB
B Board	REV 06	710-023185	DT5780	LCC SIB Mezz
SIB 4	REV 08	710-022594	DW8019	LCC SIB
B Board	REV 06	710-023185	DT5795	LCC SIB Mezz
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Fan Tray -- Rev 3

show chassis hardware sfc (TX Matrix Plus Router)

```
user@host> show chassis hardware sfc 0
sfc0-re0:
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN112F007AHB	TXP
Midplane	REV 05	710-022574	TS4027	SFC Midplane
FPM Display	REV 03	710-024027	DX0282	TXP FPM Display
CIP 0	REV 04	710-023792	DW4889	TXP CIP
CIP 1	REV 04	710-023792	DW4887	TXP CIP
PEM 0	Rev 07	740-027463	UM26368	Power Entry Module
Routing Engine 0	REV 01	740-026942	737A-1064	SFC RE
Routing Engine 1	REV 01	740-026942	737A-1082	SFC RE
CB 0	REV 09	710-022606	DW6099	SFC Control Board
CB 1	REV 09	710-022606	DW6096	SFC Control Board
SPMB 0		BUILTIN		SFC Switch CPU
SPMB 1		BUILTIN		SFC Switch CPU
SIB F13 0	REV 04	710-022600	DX0841	F13 SIB
B Board	REV 03	710-023431	DX0966	F13 SIB Mezz
SIB F13 1	REV 04	750-024564	DW5776	F13 SIB
B Board	REV 03	710-023431	DW9028	F13 SIB
SIB F13 3	REV 04	750-024564	DW5762	F13 SIB
B Board	REV 03	710-023431	DW9059	F13 SIB
SIB F13 4	REV 04	750-024564	DW5797	F13 SIB
B Board	REV 03	710-023431	DW9041	F13 SIB
SIB F13 6	REV 04	750-024564	DW5770	F13 SIB
B Board	REV 03	710-023431	DW9079	F13 SIB Mezz
SIB F13 7	REV 04	750-024564	DW5758	F13 SIB
B Board	REV 03	710-023431	DW9047	F13 SIB
SIB F13 8	REV 04	750-024564	DW5761	F13 SIB
B Board	REV 03	710-023431	DW9043	F13 SIB Mezz
SIB F13 9	REV 04	750-024564	DW5754	F13 SIB
B Board	REV 03	710-023431	DW9078	F13 SIB Mezz
SIB F13 11	REV 04	710-022600	DX0826	F13 SIB
B Board	REV 03	710-023431	DX0967	F13 SIB Mezz
SIB F13 12	REV 04	750-024564	DW5794	F13 SIB
B Board	REV 03	710-023431	DW9044	F13 SIB Mezz
SIB F2S 0/0	REV 05	710-022603	DW7897	F2S SIB
B Board	REV 05	710-023787	DW7657	NEO PMB
SIB F2S 0/2	REV 05	710-022603	DW7833	F2S SIB
B Board	REV 05	710-023787	DW7526	NEO PMB
SIB F2S 0/4	REV 05	710-022603	DW7875	F2S SIB
B Board	REV 05	710-023787	DW7588	NEO PMB
SIB F2S 0/6	REV 05	710-022603	DW7860	F2S SIB
B Board	REV 05	710-023787	DW7589	NEO PMB
SIB F2S 1/0	REV 04	710-022603	DW4820	F2S SIB
B Board	REV 05	710-023787	DW8510	NEO PMB
SIB F2S 1/2	REV 05	710-022603	DW7849	F2S SIB
B Board	REV 05	710-023787	DW7525	NEO PMB
SIB F2S 1/4	REV 05	710-022603	DW7927	F2S SIB
B Board	REV 05	710-023787	DW7556	F2S SIB Mezz
SIB F2S 1/6	REV 05	710-022603	DW7866	F2S SIB
B Board	REV 05	710-023787	DW7651	NEO PMB
SIB F2S 2/0	REV 05	710-022603	DW7880	F2S SIB
B Board	REV 05	710-023787	DW7523	NEO PMB
SIB F2S 2/2	REV 05	710-022603	DW7895	F2S SIB
B Board	REV 05	710-023787	DW7591	NEO PMB
SIB F2S 2/4	REV 05	710-022603	DW7907	F2S SIB
B Board	REV 05	710-023787	DW7590	NEO PMB

SIB F2S 2/6	REV 05	710-022603	DW7785	F2S SIB
B Board	REV 05	710-023787	DW7524	NEO PMB
SIB F2S 3/0	REV 05	710-022603	DW7782	F2S SIB
B Board	REV 05	710-023787	DW7634	NEO PMB
SIB F2S 3/2	REV 05	710-022603	DW7793	F2S SIB
B Board	REV 05	710-023787	DW7548	NEO PMB
SIB F2S 3/4	REV 05	710-022603	DW7779	F2S SIB
B Board	REV 05	710-023787	DW7587	NEO PMB
SIB F2S 3/6	REV 05	710-022603	DW7930	F2S SIB
B Board	REV 05	710-023787	DW7505	NEO PMB
SIB F2S 4/0	REV 05	710-022603	DW7867	F2S SIB
B Board	REV 05	710-023787	DW7656	NEO PMB
SIB F2S 4/2	REV 05	710-022603	DW7917	F2S SIB
B Board	REV 05	710-023787	DW7640	NEO PMB
SIB F2S 4/4	REV 05	710-022603	DW7929	F2S SIB
B Board	REV 05	710-023787	DW7643	NEO PMB
SIB F2S 4/6	REV 05	710-022603	DW7870	F2S SIB
B Board	REV 05	710-023787	DW7635	NEO PMB
Fan Tray 0	REV 06	760-024497	DV7831	Front Fan Tray
Fan Tray 1	REV 06	760-024497	DV9614	Front Fan Tray
Fan Tray 2	REV 06	760-024502	DV9618	Rear Fan Tray
Fan Tray 3	REV 06	760-024502	DV9616	Rear Fan Tray
Fan Tray 4	REV 06	760-024502	DV7807	Rear Fan Tray
Fan Tray 5	REV 06	760-024502	DV7828	Rear Fan Tray

show chassis hardware extensive (TX Matrix Plus Router)

```
user@host> show chassis hardware extensive
```

```
sfc0-re0:
```

```
-----
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			JN112F007AHB	TXP

Jedec Code:	0x7fb0	EEPROM Version:	0x02
		S/N:	JN112F007AHB

Assembly ID:	0x052c	Assembly Version:	00.00
Date:	00-00-0000	Assembly Flags:	0x00

```
ID: TXP
```

```
Board Information Record:
```

```
Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
I2C Hex Data:
```

```
Address 0x00: 7f b0 02 ff 05 2c 00 00 00 00 00 00 00 00 00 00
```

```
Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
Address 0x20: 4a 4e 31 31 32 46 30 30 37 41 48 42 00 00 00 00
```

```
Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

Midplane	REV 05	710-022574	TS4027	SFC Midplane
----------	--------	------------	--------	--------------

Jedec Code:	0x7fb0	EEPROM Version:	0x01
P/N:	710-022574	S/N:	TS4027

Assembly ID:	0x0962	Assembly Version:	01.05
Date:	03-23-2009	Assembly Flags:	0x00

```
Version: REV 05
```

```
ID: SFC Midplane
```

```
Board Information Record:
```

```
Address 0x00: ad 01 ff ff 00 1d b5 14 00 00 ff ff ff ff ff ff
```

```
I2C Hex Data:
```

```
Address 0x00: 7f b0 01 ff 09 62 01 05 52 45 56 20 30 35 00 00
```

```
Address 0x10: 00 00 00 00 37 31 30 2d 30 32 32 35 37 34 00 00
```



```

Address 0x20: 53 2f 4e 20 54 53 34 30 32 37 00 00 00 17 03 07
Address 0x30: d9 ff ff ff ad 01 ff ff 00 1d b5 14 00 00 ff ff
Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff
Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
FPM Display      REV 03      710-024027      DX0282      TXP FPM Display
Jedec Code:      0x7fb0      EEPROM Version: 0x01
P/N:             710-024027      S/N:           DX0282
Assembly ID:     0x096c      Assembly Version: 01.03
Date:           02-10-2009      Assembly Flags: 0x00
Version:        REV 03
ID: TXP FPM Display      FRU Model Number: CRAFT-TXP
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 09 6c 01 03 52 45 56 20 30 33 00 00
Address 0x10: 00 00 00 00 37 31 30 2d 30 32 34 30 32 37 00 00
Address 0x20: 53 2f 4e 20 44 58 30 32 38 32 00 00 00 0a 02 07
Address 0x30: d9 ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 43
Address 0x50: 52 41 46 54 2d 54 58 50 00 00 00 00 00 00 00
Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
CIP 0            REV 04      710-023792      DW4889      TXP CIP
Jedec Code:      0x7fb0      EEPROM Version: 0x01
P/N:             710-023792      S/N:           DW4889
Assembly ID:     0x0969      Assembly Version: 01.04
Date:           01-26-2009      Assembly Flags: 0x00
Version:        REV 04
ID: TXP CIP      FRU Model Number: CIP-TXP
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

```

show chassis hardware clei-models (TX Matrix Plus Router)

```

user@host> show chassis hardware clei-models
sfc0-re0:
-----
Hardware inventory:

```

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 05	710-022574		CHAS-BP-TXP-S
FPM Display	REV 03	710-024027		CRAFT-TXP-S
CIP 0	REV 05	710-023792		CIP-TXP-S
CIP 1	REV 05	710-023792		CIP-TXP-S
PEM 0	Rev 04	740-027463	IPUPAFGKTA	PWR-TXP-7-60-DC
PEM 1	Rev 04	740-027463	IPUPAFGKTA	PWR-TXP-7-60-DC
Routing Engine 0	REV 06	740-026942		RE-DUO-C2600-16G-S
Routing Engine 1	REV 06	740-026942		RE-DUO-C2600-16G-S
CB 0	REV 05	710-022606		CB-TXP-S
CB 1	REV 09	710-022606		CB-TXP-S
SIB F13 0	REV 04	750-024564		SIB-TXP-F13
SIB F13 3	REV 04	750-024564		SIB-TXP-F13
SIB F13 8	REV 04	750-024564		SIB-TXP-F13
SIB F13 11	REV 04	750-024564		SIB-TXP-F13
SIB F13 12	REV 03	750-024564		SIB-TXP-F13
SIB F2S 0/0	REV 05	710-022603		SIB-TXP-F2S-S
SIB F2S 0/2	REV 05	710-022603		SIB-TXP-F2S-S
SIB F2S 0/4	REV 04	710-022603		SIB-TXP-F2S-S
SIB F2S 0/6	REV 04	710-022603		SIB-TXP-F2S-S
SIB F2S 1/0	REV 04	710-022603		SIB-TXP-F2S-S

SIB F2S 1/2	REV 05	710-022603	SIB-TXP-F2S-S
SIB F2S 1/4	REV 04	710-022603	SIB-TXP-F2S-S
SIB F2S 1/6	REV 05	710-022603	SIB-TXP-F2S-S
SIB F2S 2/0	REV 04	710-022603	SIB-TXP-F2S-S
SIB F2S 2/2	REV 04	710-022603	SIB-TXP-F2S-S
SIB F2S 2/4	REV 05	710-022603	SIB-TXP-F2S-S
SIB F2S 2/6	REV 04	710-022603	SIB-TXP-F2S-S
SIB F2S 3/0	REV 05	710-022603	SIB-TXP-F2S-S
SIB F2S 3/2	REV 03	710-022603	SIB-TXP-F2S-S
SIB F2S 3/4	REV 05	710-022603	SIB-TXP-F2S-S
SIB F2S 3/6	REV 03	710-022603	SIB-TXP-F2S-S
SIB F2S 4/0	REV 03	710-022603	SIB-TXP-F2S-S
SIB F2S 4/2	REV 05	710-022603	SIB-TXP-F2S-S
SIB F2S 4/4	REV 04	710-022603	SIB-TXP-F2S-S
SIB F2S 4/6	REV 03	710-022603	SIB-TXP-F2S-S
Fan Tray 0	REV 02	760-024497	FANTRAY-TXP-H-S
Fan Tray 1	REV 02	760-024497	FANTRAY-TXP-H-S
Fan Tray 2	REV 05	760-024502	FANTRAY-TXP-V-S
Fan Tray 3			
Fan Tray 4	REV 05	760-024502	FANTRAY-TXP-V-S
Fan Tray 5	REV 02	760-024502	FANTRAY-TXP-V-S

1cc0-re0:

Hardware inventory:

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 03	710-017247		CHAS-BP-T1600-S
FPM Display	REV 01	710-021387		CRAFT-T1600-S
CIP	REV 06	710-002895		CIP-L-T640-S
PEM 1	Rev 02	740-023211	IPUPAC8KTA	PWR-T1600-4-60-DC-S
SCG 0	REV 15	710-003423		SCG-T-S
SCG 1	REV 15	710-003423		SCG-T-S
Routing Engine 0	REV 01	740-026941		RE-DUO-C1800-8G-S
Routing Engine 1	REV 01	740-026941		RE-DUO-C1800-8G-S
CB 0	REV 06	710-022597		CB-LCC-S
CB 1	REV 06	710-022597		CB-LCC-S
FPC 1	REV 07	710-013035		T640-FPC3-ES
PIC 0	REV 05	750-015217		PC-8GE-TYPE3-SFP-IQ2
PIC 1	REV 03	750-004424		PC-1XGE-LR
PIC 2	REV 01	750-003336		PC-40C48-SON-SMSR
FPC 3	REV 12	710-013037		T1600-FPC4-ES
PIC 0	REV 02	750-010850		PD-10C768-SON-SR
FPC 4	REV 05	710-021534		T640-FPC1-ES
PIC 0	REV 04	750-014627		PB-40C3-10C12-SON-SFP
PIC 1	REV 22	750-005634		PB-1CHOC12SMIR-QPP
PIC 2	REV 09	750-002911		PB-4FE-TX
PIC 3	REV 08	750-021652		PB-1CHOC12-STM4-IQE-SFP
FPC 5	REV 07	710-007529		T640-FPC3
PIC 0	REV 14	750-009567		PC-1XGE-XENPAK
PIC 1	REV 16	750-007141		PC-10GE-SFP
PIC 2	REV 12	750-009567		PC-1XGE-XENPAK
FPC 6	REV 07	710-013035		T640-FPC3-ES
PIC 0	REV 09	750-009567		PC-1XGE-XENPAK
PIC 1	REV 06	750-015217		PC-8GE-TYPE3-SFP-IQ2
PIC 2	REV 06	750-015217		PC-8GE-TYPE3-SFP-IQ2
FPC 7	REV 03	710-021540		T640-FPC2-ES
PIC 0	REV 13	750-001901		PB-40C12-SON-SMIR
PIC 1	REV 05	750-001900		PB-10C48-SON-SMSR
PIC 2	REV 10	750-008155		PB-2GE-SFP-QPP
PIC 3	REV 03	750-014638		PB-10C48-SON-B-SFP
SIB 0	REV 07	710-022594		SIB-TXP-T1600-S

SIB 1	REV 07	710-022594	SIB-TXP-T1600-S
SIB 3	REV 06	710-022594	SIB-TXP-T1600-S
SIB 4	REV 08	710-022594	SIB-TXP-T1600-S
Fan Tray 0			FANTRAY-T-S
Fan Tray 1			FANTRAY-T-S
Fan Tray 2			FANTRAY-TXP-R-S

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Hardware inventory:
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Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 04	710-017247		CHAS-BP-T1600-S
FPM Display	REV 01	710-021387		CRAFT-T1600-S
CIP	REV 06	710-002895		CIP-L-T640-S
PEM 0	Rev 02	740-023211	IPUPAC8KTA	PWR-T1600-4-60-DC-S
SCG 0	REV 15	710-003423		SCG-T-S
SCG 1	REV 15	710-003423		SCG-T-S
Routing Engine 0	REV 01	740-026941		RE-DUO-C1800-8G-S
Routing Engine 1	REV 01	740-026941		RE-DUO-C1800-8G-S
CB 0	REV 06	710-022597		CB-LCC-S
CB 1	REV 06	710-022597		CB-LCC-S
FPC 0	REV 02	710-010845		T640-FPC4-ES
PIC 0	REV 11	750-017405		PD-4XGE-XFP
FPC 1	REV 16	710-013037		T1600-FPC4-ES
PIC 1	REV 06	750-034781		PD-1CE-CFP
FPC 2	REV 16	710-013037		T1600-FPC4-ES
PIC 1	REV 05	750-034781		PD-1CE-CFP
FPC 3	REV 10	710-021534		T640-FPC1-ES
PIC 0	REV 13	750-012266		PB-4GE-TYPE1-SFP-IQ2
PIC 1	REV 01	750-007641		PE-1GE-SFP-QPP
PIC 3	REV 17	750-007444		PB-1CHSTM1-SMIR-QPP
FPC 4	REV 06	710-013035		T640-FPC3-ES
PIC 0	REV 22	750-007141		PC-10GE-SFP
PIC 1	REV 16	750-009450		PC-10C192-SON-SR2
PIC 2	REV 05	750-004424		PC-1XGE-LR
PIC 3	REV 12	750-013423		PC-MS-500-3
FPC 5	REV 07	710-013560		T640-FPC3-E2
PIC 0	REV 11	750-012793		PC-1XGE-TYPE3-XFP-IQ2
PIC 1	REV 01	750-004695		PC-TUNNEL
PIC 2	REV 32	750-003700		PC-10C192-SON-VSR
PIC 3	REV 12	750-009553		PC-40C48-SON-SFP
FPC 6	REV 07	710-013035		T640-FPC3-ES
PIC 0	REV 07	750-015217		PC-8GE-TYPE3-SFP-IQ2
PIC 1	REV 03	750-003336		PC-40C48-SON-SMSR
PIC 3	REV 02	750-012793		PC-1XGE-TYPE3-XFP-IQ2
FPC 7	REV 08	710-010845		T640-FPC4-ES
PIC 0	REV 11	750-017405		PD-4XGE-XFP
SIB 0	REV 07	710-022594		SIB-TXP-T1600-S
SIB 1	REV 07	710-022594		SIB-TXP-T1600-S
SIB 3	REV 07	710-022594		SIB-TXP-T1600-S
SIB 4	REV 08	710-022594		SIB-TXP-T1600-S
Fan Tray 0				FANTRAY-T-S
Fan Tray 1				FANTRAY-T-S
Fan Tray 2				FANTRAY-TXP-R-S

show chassis hardware detail (TX Matrix Plus Router)

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user@host> show chassis hardware detail
sfc0-re0:
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Hardware inventory:
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Item	Version	Part number	Serial number	Description
Chassis			JN111B023AHB	TXP
Midplane	REV 01	710-022574	TR7990	SFC Midplane
FPM Display	REV 03	710-024027	DW4699	TXP FPM Display
CIP 0	REV 01	710-023792	DR1437	TXP CIP
CIP 1	REV 02	710-023792	DS4564	TXP CIP
PEM 0	Rev 07	740-027463	UM26360	Power Entry Module
Routing Engine 0	REV 01	740-026942	737A-1024	SFC RE
ad0 3887 MB	SMART CF		200811050193CEB1CEB1	Compact Flash
ad1 30533 MB	SAMSUNG	MCBQE32G8MPP-0V	SY814A0762	Disk 1
Routing Engine 1	REV 01	740-026942	737A-1024	SFC RE
ad0 3887 MB	SMART CF		20081105004C19A019A0	Compact Flash
ad1 30533 MB	SAMSUNG	MCBQE32G8MPP-0V	SY814A0794	Disk 1
CB 0	REV 03	710-022606	DR7134	SFC Control Board
CB 1	REV 01	710-022606	DP8890	SFC Control Board
SPMB 0		BUILTIN		SFC Switch CPU
SPMB 1		BUILTIN		SFC Switch CPU
SIB F13 0	REV 03	750-024564	DT9478	F13 SIB
B Board	REV 02	710-023431	DT6554	F13 SIB
SIB F13 1	REV 03	750-024564	DT9454	F13 SIB
B Board	REV 02	710-023431	DT6551	F13 SIB
SIB F2S 0/0	REV 02	710-022603	DT2838	F2S SIB
B Board	REV 02	710-023787	DT1725	NEO PMB
SIB F2S 0/2	REV 02	710-022603	DT2824	F2S SIB
B Board	REV 02	710-023787	DT1706	NEO PMB
SIB F2S 0/4	REV 02	710-022603	DT2822	F2S SIB
B Board	REV 02	710-023787	DT1696	NEO PMB
SIB F2S 0/6	REV 02	710-022603	DT2823	F2S SIB
B Board	REV 02	710-023787	DT1717	NEO PMB
SIB F2S 1/0	REV 03	710-022603	DV0059	F2S SIB
B Board	REV 03	710-023787	DT9942	NEO PMB
SIB F2S 1/2	REV 02	710-022603	DT2826	F2S SIB
B Board	REV 02	710-023787	DT1713	NEO PMB
SIB F2S 1/4	REV 03	710-022603	DV0092	F2S SIB
B Board	REV 03	710-023787	DV0000	NEO PMB
SIB F2S 1/6	REV 03	710-022603	DV0079	F2S SIB
B Board	REV 03	710-023787	DT9972	NEO PMB
SIB F2S 2/0	REV 03	710-022603	DV0100	F2S SIB
B Board	REV 03	710-023787	DT9925	NEO PMB
SIB F2S 2/2	REV 03	710-022603	DV0050	F2S SIB
B Board	REV 03	710-023787	DV0005	NEO PMB
SIB F2S 2/4	REV 03	710-022603	DV0097	F2S SIB
B Board	REV 03	710-023787	DT9936	NEO PMB
Fan Tray 0	REV 02	760-024497	DR8286	Front Fan Tray
Fan Tray 1	REV 06	760-024497	DV9624	Front Fan Tray
Fan Tray 2	REV 02	760-024502	DR8259	Rear Fan Tray
Fan Tray 3	REV 02	760-024502	DR8270	Rear Fan Tray
Fan Tray 4	REV 02	760-024502	DR8284	Rear Fan Tray
Fan Tray 5	REV 06	760-024502	DV7813	Rear Fan Tray

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Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN1101F27AHA	T1600
Midplane	REV 04	710-017247	RC5317	T Series Backplane
FPM GBUS	REV 10	710-002901	DS8197	T640 FPM Board
FPM Display	REV 01	710-021387	DS6433	T1600 FPM Display
CIP	REV 06	710-002895	DS1493	T Series CIP
PEM 0	Rev 08	740-017906	UD26601	Power Entry Module 3x80
SCG 0	REV 15	710-003423	DP5847	T640 Sonet Clock Gen.

SCG 1	REV 15	710-003423	DR0924	T640 Sonet Clock Gen.
Routing Engine 0	REV 01	740-026942	737F-1024	LCC RE
ad0	3887 MB	SMART CF	2008110502B63E513E51	Compact Flash
ad1	30533 MB	SAMSUNG	MCBQE32G8MPP-0V SY814A1208	Disk 1
Routing Engine 1	REV 01	740-026942	737F-1024	LCC RE
ad0	3887 MB	SMART CF	2008110500F9A8A8A8A8	Compact Flash
ad1	30533 MB	SAMSUNG	MCBQE32G8MPP-0V SY814A1076	Disk 1
CB 0	REV 05	710-022597	DV4264	LCC Control Board
CB 1	REV 03	710-022597	DP8558	LCC Control Board
FPC 0	REV 14	710-013037	DS9967	FPC Type 4-ES
CPU	REV 08	710-016744	DS3989	ST-PMB2
PIC 0	REV 12	750-013198	DL7506	1x Tunnel
PIC 1	REV 12	750-013198	DL7505	1x Tunnel
MMB 0	REV 01	710-025563	DS8524	ST-MMB2
MMB 1	REV 01	710-025563	DS8373	ST-MMB2
FPC 1	REV 14	710-013037	DT0027	FPC Type 4-ES
CPU	REV 09	710-016744	DS7684	ST-PMB2
PIC 0	REV 12	750-013198	DL7512	1x Tunnel
PIC 1	REV 12	750-013198	DL7498	1x Tunnel
MMB 0	REV 01	710-025563	DS8494	ST-MMB2
MMB 1	REV 01	710-025563	DS8436	ST-MMB2
SPMB 0	REV 04	710-023321	DV3867	LCC Switch CPU
SPMB 1	REV 02	710-023321	DP0238	LCC Switch CPU
SIB 0	REV 06	710-022594	DT8268	LCC SIB
B Board	REV 06	710-023185	DT5791	LCC SIB Mezz
SIB 1	REV 06	710-022594	DT8261	LCC SIB
B Board	REV 06	710-023185	DT5769	LCC SIB Mezz
SIB 2	REV 04	710-022594	DS2315	LCC SIB
B Board	REV 06	710-023185	DT5788	LCC SIB Mezz
SIB 3	REV 06	710-022594	DT8253	LCC SIB
B Board	REV 06	710-023185	DT5811	LCC SIB Mezz
SIB 4	REV 06	710-022594	DT8248	LCC SIB
B Board	REV 06	710-023185	DT5812	LCC SIB Mezz
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Fan Tray

show chassis hardware models (TX Matrix Plus Router)

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Hardware inventory:

Item	Version	Part number	Serial number	FRU model number
FPM Display	REV 03	710-024027	DX0282	CRAFT-TXP
CIP 0	REV 04	710-023792	DW4889	CIP-TXP
CIP 1	REV 04	710-023792	DW4887	CIP-TXP
PEM 0	Rev 07	740-027463	UM26368	yyyyyyyyyyyyyyyyyyyyyyyyyyyyyy
Routing Engine 0	REV 01	740-026942	737A-1064	RE-TXP-SFC-DUO-2600-16G
Routing Engine 1	REV 01	740-026942	737A-1082	RE-TXP-SFC-DUO-2600-16G
CB 0	REV 09	710-022606	DW6099	CB-TXP
CB 1	REV 09	710-022606	DW6096	CB-TXP
SIB F13 1	REV 04	750-024564	DW5776	SIB-TXP-F13
SIB F13 3	REV 04	750-024564	DW5762	SIB-TXP-F13
SIB F13 4	REV 04	750-024564	DW5797	SIB-TXP-F13
SIB F13 6	REV 04	750-024564	DW5770	SIB-TXP-F13
SIB F13 7	REV 04	750-024564	DW5758	SIB-TXP-F13
SIB F13 8	REV 04	750-024564	DW5761	SIB-TXP-F13
SIB F13 9	REV 04	750-024564	DW5754	SIB-TXP-F13
SIB F13 12	REV 04	750-024564	DW5794	SIB-TXP-F13
SIB F2S 0/0	REV 05	710-022603	DW7897	

SIB F2S 0/2	REV 05	710-022603	DW7833	
SIB F2S 0/4	REV 05	710-022603	DW7875	
SIB F2S 0/6	REV 05	710-022603	DW7860	
SIB F2S 1/0	REV 04	710-022603	DW4820	
SIB F2S 1/2	REV 05	710-022603	DW7849	
SIB F2S 1/4	REV 05	710-022603	DW7927	SIB-TXP-F2S
SIB F2S 1/6	REV 05	710-022603	DW7866	
SIB F2S 2/0	REV 05	710-022603	DW7880	
SIB F2S 2/2	REV 05	710-022603	DW7895	
SIB F2S 2/4	REV 05	710-022603	DW7907	
SIB F2S 2/6	REV 05	710-022603	DW7785	
SIB F2S 3/0	REV 05	710-022603	DW7782	
SIB F2S 3/2	REV 05	710-022603	DW7793	
SIB F2S 3/4	REV 05	710-022603	DW7779	
SIB F2S 3/6	REV 05	710-022603	DW7930	
SIB F2S 4/0	REV 05	710-022603	DW7867	
SIB F2S 4/2	REV 05	710-022603	DW7917	
SIB F2S 4/4	REV 05	710-022603	DW7929	
SIB F2S 4/6	REV 05	710-022603	DW7870	
Fan Tray 0	REV 06	760-024497	DV7831	FANTRAY-TXP-F
Fan Tray 1	REV 06	760-024497	DV9614	FANTRAY-TXP-F
Fan Tray 2	REV 06	760-024502	DV9618	FANTRAY-TXP-R
Fan Tray 3	REV 06	760-024502	DV9616	FANTRAY-TXP-R
Fan Tray 4	REV 06	760-024502	DV7807	FANTRAY-TXP-R
Fan Tray 5	REV 06	760-024502	DV7828	FANTRAY-TXP-R

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Hardware inventory:

Item	Version	Part number	Serial number	FRU model number
Midplane	REV 03	710-017247	RC3765	CHAS-BP-T1600-S
FPM Display	REV 01	710-021387	DN5441	CRAFT-T1600-S
CIP	REV 06	710-002895	DP6021	CIP-L-T640-S
PEM 0	Rev 07	740-017906	UA26384	PWR-T1600-3-80-DC-S
PEM 1	Rev 07	740-017906	UA26296	PWR-T1600-3-80-DC-S
SCG 0	REV 15	710-003423	DR0875	SCG-T-S
CB 0	REV 06	710-022597	DW8534	CB-LCC
CB 1	REV 06	710-022597	DW8527	CB-LCC
FPC 4	REV 12	710-013037	DJ8717	T1600-FPC4-ES
PIC 0	REV 11	750-017405	DP8795	PD-4XGE-XFP
PIC 1	REV 11	750-017405	DP8794	PD-4XGE-XFP
FPC 6	REV 14	710-013037	DS5335	T1600-FPC4-ES
PIC 0	REV 13	750-017405	DS7634	PD-4XGE-XFP
PIC 1	REV 13	750-017405	DS7637	PD-4XGE-XFP
FPC 7	REV 07	710-013035	DM0990	T1600-FPC3-ES
PIC 0	REV 16	750-007141	JJ8067	PC-10GE-SFP
PIC 1	REV 08	750-015749	WE9598	PC-10C192-SON-XFP
PIC 2	REV 10	750-009450	HX6466	PC-10C192-SON-SR2
SIB 0	REV 08	710-022594	DW8033	SIB-TXP-T1600-S
SIB 1	REV 08	710-022594	DW8044	SIB-TXP-T1600-S
SIB 2	REV 08	710-022594	DW8020	SIB-TXP-T1600-S
SIB 3	REV 08	710-022594	DW8063	SIB-TXP-T1600-S
SIB 4	REV 08	710-022594	DW8064	SIB-TXP-T1600-S
Fan Tray 0				FANTRAY-T-S
Fan Tray 1				FANTRAY-T-S
Fan Tray 2				FANTRAY-TXP-R-S

lcc1-re0:

Hardware inventory:

Item	Version	Part number	Serial number	FRU model number
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Midplane	REV 04	710-017247	RC5361	CHAS-BP-T1600-S
FPM Display	REV 01	710-021387	DS6430	CRAFT-T1600-S
CIP	REV 06	710-002895	DS4239	CIP-L-T640-S
PEM 0	Rev 08	740-017906	UD26649	PWR-T1600-3-80-DC-S
SCG 0	REV 15	710-003423	DP5820	SCG-T-S
CB 0	REV 06	710-022597	DW8523	CB-LCC
CB 1	REV 06	710-022597	DW8528	CB-LCC
FPC 4	REV 12	710-013037	DP8509	T1600-FPC4-ES
PIC 0	REV 11	750-017405	DP8808	PD-4XGE-XFP
PIC 1	REV 11	750-017405	DP7263	PD-4XGE-XFP
FPC 6	REV 14	710-013037	DS9961	T1600-FPC4-ES
PIC 0	REV 13	750-017405	DS5532	PD-4XGE-XFP
PIC 1	REV 13	750-017405	DS7639	PD-4XGE-XFP
FPC 7	REV 03	710-013035	DF5564	T1600-FPC3-ES
PIC 0	REV 16	750-007141	JJ8063	PC-10GE-SFP
SIB 0	REV 08	710-022594	DW8035	SIB-TXP-T1600-S
SIB 1	REV 10	710-022594	DX7672	SIB-TXP-T1600-S
SIB 2	REV 08	710-022594	DW8060	SIB-TXP-T1600-S
SIB 3	REV 08	710-022594	DW8072	SIB-TXP-T1600-S
SIB 4	REV 08	710-022594	DW8043	SIB-TXP-T1600-S
Fan Tray 0				FANTRAY-T-S
Fan Tray 1				FANTRAY-T-S
Fan Tray 2				FANTRAY-TXP-R-S

lcc2-re0:

Hardware inventory:

Item	Version	Part number	Serial number	FRU model number
Midplane	REV 03	710-017247	RC3956	CHAS-BP-T1600-S
FPM Display	REV 01	710-021387	DN7030	CRAFT-T1600-S
CIP	REV 06	710-002895	DM3962	CIP-L-T640-S
PEM 0	Rev 08	740-017906	UD26519	PWR-T1600-3-80-DC-S
PEM 1	Rev 07	740-017906	UC26601	PWR-T1600-3-80-DC-S
SCG 0	REV 15	710-003423	DP0277	SCG-T-S
CB 0	REV 06	710-022597	DW8524	CB-LCC
CB 1	REV 06	710-022597	DW8536	CB-LCC
FPC 4	REV 12	710-013037	DR1194	T1600-FPC4-ES
PIC 0	REV 11	750-017405	DP8811	PD-4XGE-XFP
PIC 1	REV 11	750-017405	DP8823	PD-4XGE-XFP
FPC 5	REV 12	710-013037	DR1184	T1600-FPC4-ES
PIC 1	REV 11	750-017405	DP4744	PD-4XGE-XFP
FPC 6	REV 12	710-013037	DN8622	T1600-FPC4-ES
PIC 0	REV 14	750-012518	JY9924	PD-40C192-SON-XFP
PIC 1	REV 11	750-017405	DP8776	PD-4XGE-XFP
FPC 7	REV 04	710-013560	JR3968	T640-FPC3-E2
PIC 0	REV 16	750-007141	NC9330	PC-10GE-SFP
SIB 0	REV 07	710-022594	DW4217	SIB-TXP-T1600-S
SIB 1	REV 07	710-022594	DW4213	SIB-TXP-T1600-S
SIB 2	REV 07	710-022594	DW4189	SIB-TXP-T1600-S
SIB 3	REV 07	710-022594	DW4173	SIB-TXP-T1600-S
SIB 4	REV 07	710-022594	DW4201	SIB-TXP-T1600-S
Fan Tray 0				FANTRAY-T-S
Fan Tray 1				FANTRAY-T-S
Fan Tray 2				FANTRAY-TXP-R-S

lcc3-re0:

Hardware inventory:

Item	Version	Part number	Serial number	FRU model number
Midplane	REV 04	710-017247	RC5319	CHAS-BP-T1600-S
FPM Display	REV 01	710-021387	DS6402	CRAFT-T1600-S

CIP	REV 06	710-002895	DR9973	CIP-L-T640-S
PEM 0	Rev 07	740-017906	UC26496	PWR-T1600-3-80-DC-S
PEM 1	Rev 07	740-017906	UC26599	PWR-T1600-3-80-DC-S
SCG 0	REV 15	710-003423	DP5831	SCG-T-S
CB 0	REV 06	710-022597	DW8533	CB-LCC
CB 1	REV 06	710-022597	DW8538	CB-LCC
FPC 0	REV 14	710-013037	DS5345	T1600-FPC4-ES
PIC 0	REV 13	750-017405	DS7641	PD-4XGE-XFP
PIC 1	REV 13	750-017405	DS5479	PD-4XGE-XFP
FPC 1	REV 14	710-013037	DS7338	T1600-FPC4-ES
PIC 0	REV 13	750-017405	DS7631	PD-4XGE-XFP
PIC 1	REV 13	750-017405	DS7632	PD-4XGE-XFP
FPC 2	REV 14	710-013037	DS9962	T1600-FPC4-ES
PIC 0	REV 13	750-017405	DS7581	PD-4XGE-XFP
PIC 1	REV 13	750-017405	DS7627	PD-4XGE-XFP
FPC 4	REV 10	710-010845	JZ6573	T640-FPC4-ES
PIC 0	REV 14	750-012518	JT5124	PD-40C192-SON-XFP
FPC 5	REV 14	710-013037	DT0016	T1600-FPC4-ES
PIC 0	REV 14	750-012518	JY9918	PD-40C192-SON-XFP
FPC 7	REV 07	710-013035	DM0967	T1600-FPC3-ES
PIC 0	REV 16	750-007141	JJ8059	PC-10GE-SFP
PIC 1	REV 13	750-004695	DM5712	PC-TUNNEL
SIB 0	REV 07	710-022594	DW4174	SIB-TXP-T1600-S
SIB 1	REV 07	710-022594	DW4207	SIB-TXP-T1600-S
SIB 2	REV 06	710-022594	DT8231	SIB-TXP-T1600-S
SIB 3	REV 07	710-022594	DW4175	SIB-TXP-T1600-S
SIB 4	REV 07	710-022594	DW4209	SIB-TXP-T1600-S
Fan Tray 0				FANTRAY-T-S
Fan Tray 1				FANTRAY-T-S
Fan Tray 2				FANTRAY-TXP-R-S

show chassis hardware (TX Matrix Plus router with 3D SIBs)

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user@host> show chassis hardware
sfc0-re0:
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Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11CAAA4AHB	TXP
Midplane	REV 05	710-022574	ABAC4696	SFC Midplane
FPM Display	REV 09	710-024027	EH3138	TXP FPM Display
CIP 0	REV 12	710-023792	EF6349	TXP CIP
CIP 1	REV 12	710-023792	EG5294	TXP CIP
PEM 0	Rev 06	740-027463	XH04595	Power Entry Module
PEM 1	Rev 06	740-027463	XH04592	Power Entry Module
Routing Engine 0	REV 07	740-026942	P737A-002541	RE-DUO-2600
Routing Engine 1	REV 07	740-026942	P737A-002602	RE-DUO-2600
CB 0	REV 15	710-022606	EH4376	SFC Control Board
CB 1	REV 15	710-022606	EH4379	SFC Control Board
SPMB 0		BUILTIN		SFC Switch CPU
SPMB 1		BUILTIN		SFC Switch CPU
SIB F13 0	REV 10	750-035002	EM9305	F13 SIB 3D
B Board	REV 06	711-035082	EM9667	F13 SIB 3D Mezz
P Board	REV 05	711-043544	EM9708	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB34FB00S	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB01H	CXP Module
Xcvr 4	REV 01	740-047547	XB34FB02W	CXP Module
Xcvr 6	REV 01	740-047547	XB34FB01T	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB00W	CXP Module
Xcvr 10	REV 01	740-047547	XB34FB01S	CXP Module
Xcvr 12	REV 01	740-047547	XB34FB03H	CXP Module

Xcvr 14	REV 01	740-047547	XB34FB023	CXP Module
SIB F13 3	REV 01	710-035001	EJ2612	F13 SIB 3D
B Board	REV 01	711-035082	EJ3815	F13 SIB 3D Mezz
P Board	REV 01	711-043544	EJ2678	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB48FB04C	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB00Z	CXP Module
Xcvr 4	REV 01	740-047547	XB47FB036	CXP Module
Xcvr 6	REV 01	740-047547	XB47FB029	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB02N	CXP Module
Xcvr 10	REV 01	740-047547	XB42FB0CS	CXP Module
Xcvr 12	REV 01	740-047547	XB47FB01X	CXP Module
Xcvr 14	REV 01	740-047547	XB48FB02F	CXP Module
SIB F13 6	REV 05	750-035002	EK2675	F13 SIB 3D
B Board	REV 03	711-035082	EK2612	F13 SIB 3D Mezz
P Board	REV 04	711-043544	EK1179	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB48FB01T	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB02M	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB031	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB04P	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB02T	CXP Module
Xcvr 10	REV 01	740-047547	XB34FB01V	CXP Module
Xcvr 12	REV 01	740-047547	XB48FB02C	CXP Module
Xcvr 14		NON-JNPR		No Module
SIB F13 12	REV 01	710-035001	EJ2631	F13 SIB 3D
B Board	REV 01	711-035082	EJ3808	F13 SIB 3D Mezz
P Board	REV 01	711-043544	EJ2676	F13 SIB 3D Power
SIB F2S 0/0	REV 01	711-034977	EH9829	F2S SIB 3D
B Board	REV 01	711-034979	EH9927	F2S SIB 3D Mezz
SIB F2S 0/2	REV 01	711-034977	EH9791	F2S SIB 3D
B Board	REV 01	711-034979	EH9852	F2S SIB 3D Mezz
SIB F2S 0/4	REV 01	711-034977	EH9803	F2S SIB 3D
B Board	REV 01	711-034979	EH9915	F2S SIB 3D Mezz
SIB F2S 0/6	REV 01	711-034977	EH9763	F2S SIB 3D
B Board	REV 01	711-034979	EH9880	F2S SIB 3D Mezz
SIB F2S 1/0	REV 01	711-034977	EH9757	F2S SIB 3D
B Board	REV 01	711-034979	EH9889	F2S SIB 3D Mezz
SIB F2S 1/2	REV 01	711-034977	EH9815	F2S SIB 3D
B Board	REV 01	711-034979	EH9890	F2S SIB 3D Mezz
SIB F2S 1/4	REV 08	750-034978	EN1954	F2S SIB 3D
B Board	REV 02	711-034979	EN1436	F2S SIB 3D Mezz
SIB F2S 1/6	REV 01	711-034977	EJ7054	F2S SIB 3D
B Board	REV 01	711-034979	EJ8238	F2S SIB 3D Mezz
SIB F2S 2/0	REV 01	711-034977	EH9830	F2S SIB 3D
B Board	REV 01	711-034979	EH9844	F2S SIB 3D Mezz
SIB F2S 2/2	REV 01	711-034977	EH9818	F2S SIB 3D
B Board	REV 01	711-034979	EH9888	F2S SIB 3D Mezz
SIB F2S 2/4	REV 01	711-034977	EH9795	F2S SIB 3D
B Board	REV 01	711-034979	EH9869	F2S SIB 3D Mezz
SIB F2S 2/6	REV 01	711-034977	EJ7026	F2S SIB 3D
B Board	REV 01	711-034979	EJ8273	F2S SIB 3D Mezz
SIB F2S 3/0	REV 01	711-034977	EH9811	F2S SIB 3D
B Board	REV 01	711-034979	EH9892	F2S SIB 3D Mezz
SIB F2S 3/2	REV 01	711-034977	EH9812	F2S SIB 3D
B Board	REV 01	711-034979	EH9877	F2S SIB 3D Mezz
SIB F2S 3/4	REV 08	750-034978	EN1947	F2S SIB 3D
B Board	REV 02	711-034979	EN1471	F2S SIB 3D Mezz
Fan Tray 0	REV 10	760-024497	EH3313	Front Fan Tray
Fan Tray 1	REV 10	760-024497	EH3290	Front Fan Tray
Fan Tray 2	REV 10	760-024502	EH3292	Rear Fan Tray
Fan Tray 3	REV 10	760-024502	EH3287	Rear Fan Tray
Fan Tray 4	REV 10	760-024502	EH3286	Rear Fan Tray

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Fan Tray 5      REV 10  760-024502  EH3285      Rear Fan Tray

lcc0-re0:
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Hardware inventory:
Item            Version  Part number  Serial number  Description
Chassis                               JN11B23FEAHA  T1600
Midplane        REV 01   710-027486  RC9787         T-series Backplane
FPM GBUS        REV 13   710-002901  BBAG5132       T640 FPM Board
FPM Display     REV 04   710-021387  BBAL9612       T1600 FPM Display
CIP             REV 06   710-002895  BBAN0605       T-series CIP
PEM 0           REV 05   740-036442  1G022060143   Power Entry Module 6x60
PEM 1           REV 05   740-036442  1G022060011   Power Entry Module 6x60
SCG 0           REV 18   710-003423  BBAL7318       T640 Sonet Clock Gen.
SCG 1           REV 18   710-003423  BBAL7255       T640 Sonet Clock Gen.
Routing Engine 0 REV 07   740-026941  P737F-002933  RE-DUO-1800
Routing Engine 1 REV 06   740-026941  P737F-002749  RE-DUO-1800
CB 0            REV 11   710-022597  EH3611         LCC Control Board
CB 1            REV 11   710-022597  EH4798         LCC Control Board
FPC 5           REV 17   710-013037  BBAC5333       FPC Type 4-ES
  CPU           REV 10   710-016744  BBAB7619       ST-PMB2
  PIC 0         REV 18   750-017405  BBAB3420       4x 10GE (LAN/WAN) XFP
  Xcvr 0        REV 03   740-014289  T10C90659     XFP-10G-SR
  MMB 0         REV 05   710-025563  BBAB9538       ST-MMB2
  MMB 1         REV 05   710-025563  BBAB9502       ST-MMB2
FPC 7           REV 01   750-045173  BBAV0032       FPC Type 5-3D
  CPU
SPMB 0          REV 05   710-023321  EG9434         LCC Switch CPU
SPMB 1          REV 05   710-023321  EH3878         LCC Switch CPU
SIB 0           REV 01   750-041657  EH7997         LCC SIB 3D
  B Board      REV 01   711-042424  EH7674         LCC SIB 3D Mezz
  Xcvr 0        REV 01   740-047547  XB48FB014     CXP Module
  Xcvr 2        REV 01   740-047547  XB48FB05A     CXP Module
  Xcvr 4        REV 01   740-047547  XB48FB052     CXP Module
  Xcvr 6        REV 01   740-047547  XB48FB01B     CXP Module
SIB 1           REV 01   750-041657  EH8023         LCC SIB 3D
  B Board      REV 01   711-042424  EH7659         LCC SIB 3D Mezz
  Xcvr 0        REV 01   740-047547  XB48FB05J     CXP Module
  Xcvr 2        REV 01   740-047547  XB48FB01E     CXP Module
  Xcvr 4        REV 01   740-047547  XB48FB01J     CXP Module
  Xcvr 6        REV 01   740-047547  XB48FB02S     CXP Module
SIB 2           REV 03   750-041657  EJ6554         LCC SIB 3D
  B Board      REV 02   711-042424  EJ5756         LCC SIB 3D Mezz
  Xcvr 0        REV 01   740-047547  XB34FB01Z     CXP Module
  Xcvr 2        REV 01   740-047547  XB34FB013     CXP Module
  Xcvr 4        REV 01   740-047547  XB48FB04Z     CXP Module
  Xcvr 6        REV 01   740-047547  XB48FB05N     CXP Module
Fan Tray 0      Front Top Fan Tray
Fan Tray 1      Front Bottom Fan Tray
Fan Tray 2      Rear Fan Tray -- Rev 4

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lcc2-re0:
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Hardware inventory:
Item            Version  Part number  Serial number  Description
Chassis                               JN11B3975AHA  T1600
Midplane        REV 01   710-027486  RC9826         T-series Backplane
FPM GBUS        REV 13   710-002901  BBAG5124       T640 FPM Board
FPM Display     REV 03   710-021387  BBAJ1112       T1600 FPM Display
CIP             REV 06   710-002895  BBAL3744       T-series CIP
PEM 0           REV 05   740-036442  1G022060081   Power Entry Module 6x60

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PEM 1	REV 05	740-036442	1G022060188	Power Entry Module 6x60
SCG 0	REV 18	710-003423	BBAH8775	T640 Sonet Clock Gen.
SCG 1	REV 18	710-003423	BBAL7272	T640 Sonet Clock Gen.
Routing Engine 0	REV 07	740-026941	P737F-002992	RE-DUO-1800
Routing Engine 1	REV 07	740-026941	P737F-002938	RE-DUO-1800
CB 0	REV 11	710-022597	EH4805	LCC Control Board
CB 1	REV 11	710-022597	EH4786	LCC Control Board
FPC 1	REV 01	710-033873	BBAH0320	FPC Type 3-ES
CPU	REV 11	710-016744	BBAF3281	ST-PMB2
MMB 0	REV 06	710-025563	BBAF5061	ST-MMB2
FPC 5	REV 04	710-033871	BBAM5070	FPC Type 4-ES
CPU	REV 11	710-016744	BBAM6653	ST-PMB2
PIC 1	REV 20	750-017405	BBAM1296	4x 10GE (LAN/WAN) XFP
Xcvr 0	REV 03	740-014289	T10B42981	XFP-10G-SR
MMB 0	REV 07	710-025563	BBAN2631	ST-MMB2
MMB 1	REV 07	710-025563	BBAN2538	ST-MMB2
SPMB 0	REV 05	710-023321	EH3903	LCC Switch CPU
SPMB 1	REV 05	710-023321	EH3902	LCC Switch CPU
SIB 0	REV 01	750-041657	EH8019	LCC SIB 3D
B Board	REV 01	711-042424	EH7680	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB04F	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB04S	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB04B	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB043	CXP Module
SIB 1	REV 01	750-041657	EH8012	LCC SIB 3D
B Board	REV 01	711-042424	EH7658	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB05E	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB01Z	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB018	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB054	CXP Module
SIB 2	REV 01	750-041657	EH7993	LCC SIB 3D
B Board	REV 01	711-042424	EH7678	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB05C	CXP Module
Xcvr 2	REV 01	740-047547	XB47FB00N	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB05U	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB05L	CXP Module
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Fan Tray -- Rev 4

show chassis hardware clei-models (TX Matrix Plus router with 3D SIBs)

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user@host> show chassis hardware clei-models
sfc0-re0:
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Hardware inventory:				
Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 05	710-022574		CHAS-BP-TXP-S
FPM Display	REV 09	710-024027		CRAFT-TXP-S
CIP 0	REV 12	710-023792		CIP-TXP-S
CIP 1	REV 12	710-023792		CIP-TXP-S
PEM 0	Rev 06	740-027463	IPUPAFGKTA	PWR-TXP-7-60-DC-S
Routing Engine 0	REV 07	740-026942		RE-DUO-C2600-16G-S
Routing Engine 1	REV 07	740-026942		RE-DUO-C2600-16G-S
CB 0	REV 13	710-022606		CB-TXP-S
CB 1	REV 14	710-022606		CB-TXP-S
SIB F13 0	REV 10	750-035002	PROTOXCLEI	SIB-TXP-3D-F13-S
Xcvr 0	REV 01	740-048813		
Xcvr 1	REV 01	740-048813		
Xcvr 2	REV 01	740-048813		
Xcvr 3	REV 01	740-048813		

Xcvr 4	REV 01	740-048813		
Xcvr 5	REV 01	740-048813		
Xcvr 6	REV 01	740-048813		
Xcvr 7	REV 01	740-048813		
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 10	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
SIB F13 1	REV 10	750-035002	PROTOXCLEI	SIB-TXP-3D-F13-S
Xcvr 0	REV 01	740-047547		CXP-TXP-3D
Xcvr 1	REV 01	740-047547		CXP-TXP-3D
Xcvr 2	REV 01	740-047547		CXP-TXP-3D
Xcvr 3	REV 01	740-047547		CXP-TXP-3D
Xcvr 4	REV 01	740-047547		CXP-TXP-3D
Xcvr 5	REV 01	740-047547		CXP-TXP-3D
Xcvr 6	REV 01	740-047547		CXP-TXP-3D
Xcvr 7	REV 01	740-047547		CXP-TXP-3D
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 10	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
Xcvr 0	REV 01	740-048813		
Xcvr 1	REV 01	740-048813		
Xcvr 2	REV 01	740-048813		
Xcvr 3	REV 01	740-048813		
Xcvr 4	REV 01	740-048813		
Xcvr 5	REV 01	740-048813		
Xcvr 6	REV 01	740-048813		
Xcvr 7	REV 01	740-048813		
Xcvr 8	REV 01	740-048813		
Xcvr 10	REV 01	740-048813		
Xcvr 12	REV 01	740-048813		
Xcvr 14	REV 01	740-048813		
Xcvr 0	REV 01	740-047547		CXP-TXP-3D
Xcvr 1	REV 01	740-047547		CXP-TXP-3D
Xcvr 2	REV 01	740-047547		CXP-TXP-3D
Xcvr 3	REV 01	740-047547		CXP-TXP-3D
Xcvr 4	REV 01	740-047547		CXP-TXP-3D
Xcvr 5	REV 01	740-047547		CXP-TXP-3D
Xcvr 6	REV 01	740-047547		CXP-TXP-3D
Xcvr 7	REV 01	740-047547		CXP-TXP-3D
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 10	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
SIB F13 6	REV 16	750-035002	PROTOXCLEI	SIB-TXP-3D-F13
Xcvr 0	REV 01	740-048813		
Xcvr 1	REV 01	740-048813		
Xcvr 2	REV 01	740-048813		
Xcvr 3	REV 01	740-048813		
Xcvr 4	REV 01	740-048813		
Xcvr 5	REV 01	740-048813		
Xcvr 6	REV 01	740-048813		
Xcvr 7	REV 01	740-048813		
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 10	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
SIB F13 7	REV 10	750-035002	PROTOXCLEI	SIB-TXP-3D-F13-S
Xcvr 0	REV 01	740-047547		CXP-TXP-3D
Xcvr 1	REV 01	740-047547		CXP-TXP-3D

Xcvr 2	REV 01	740-047547		CXP-TXP-3D
Xcvr 3	REV 01	740-047547		CXP-TXP-3D
Xcvr 4	REV 01	740-047547		CXP-TXP-3D
Xcvr 5	REV 01	740-047547		CXP-TXP-3D
Xcvr 6	REV 01	740-047547		CXP-TXP-3D
Xcvr 7	REV 01	740-047547		CXP-TXP-3D
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 10	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
Xcvr 0	REV 01	740-048813		
Xcvr 1	REV 01	740-048813		
Xcvr 2	REV 01	740-048813		
Xcvr 3	REV 01	740-048813		
Xcvr 4	REV 01	740-048813		
Xcvr 5	REV 01	740-047547		CXP-TXP-3D
Xcvr 6	REV 01	740-047547		CXP-TXP-3D
Xcvr 7	REV 01	740-047547		CXP-TXP-3D
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 10	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
SIB F13 9	REV 16	750-035002	PROTOXCLEI	SIB-TXP-3D-F13
Xcvr 0	REV 01	740-047547		CXP-TXP-3D
Xcvr 1	REV 01	740-047547		CXP-TXP-3D
Xcvr 2	REV 01	740-047547		CXP-TXP-3D
Xcvr 3	REV 01	740-047547		CXP-TXP-3D
Xcvr 4	REV 01	740-047547		CXP-TXP-3D
Xcvr 5	REV 01	740-047547		CXP-TXP-3D
Xcvr 6	REV 01	740-047547		CXP-TXP-3D
Xcvr 7	REV 01	740-047547		CXP-TXP-3D
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 10	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
SIB F13 11	REV 10	750-035002	PROTOXCLEI	750-035002
Xcvr 0	REV 01	740-048813		
Xcvr 1	REV 01	740-048813		
Xcvr 2	REV 01	740-048813		
Xcvr 3	REV 01	740-048813		
Xcvr 4	REV 01	740-048813		
Xcvr 5	REV 01	740-048813		
Xcvr 6	REV 01	740-047547		CXP-TXP-3D
Xcvr 7	REV 01	740-048813		
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
SIB F13 12	REV 16	750-035002	PROTOXCLEI	SIB-TXP-3D-F13
Xcvr 0	REV 01	740-047547		CXP-TXP-3D
Xcvr 1	REV 01	740-047547		CXP-TXP-3D
Xcvr 2	REV 01	740-047547		CXP-TXP-3D
Xcvr 3	REV 01	740-047547		CXP-TXP-3D
Xcvr 4	REV 01	740-047547		CXP-TXP-3D
Xcvr 5	REV 01	740-047547		CXP-TXP-3D
Xcvr 6	REV 01	740-047547		CXP-TXP-3D
Xcvr 7	REV 01	740-047547		CXP-TXP-3D
Xcvr 8	REV 01	740-047547		CXP-TXP-3D
Xcvr 10	REV 01	740-047547		CXP-TXP-3D
Xcvr 12	REV 01	740-047547		CXP-TXP-3D
Xcvr 14	REV 01	740-047547		CXP-TXP-3D
SIB F2S 0/0	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S

SIB F2S 0/2	REV 07	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 0/4	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 0/6	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 1/0	REV 07	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 1/2	REV 07	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 1/4	REV 07	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 1/6	REV 08	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 2/0	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 2/2	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 2/4	REV 07	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 2/6	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 3/0	REV 07	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 3/2	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 3/4	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 3/6	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 4/0	REV 07	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 4/2	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 4/4	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
SIB F2S 4/6	REV 06	750-034978	PROTOXCLEI	SIB-TXP-3D-F2S
Fan Tray 0	REV 10	760-024497		FANTRAY-TXP-H-S
Fan Tray 1	REV 10	760-024497		FANTRAY-TXP-H-S
Fan Tray 2	REV 10	760-024502		FANTRAY-TXP-V-S
Fan Tray 3	REV 10	760-024502		FANTRAY-TXP-V-S
Fan Tray 4	REV 10	760-024502		FANTRAY-TXP-V-S
Fan Tray 5	REV 10	760-024502		FANTRAY-TXP-V-S

lcc0-re0:

Hardware inventory:

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 01	710-027486	IPMJ700DRD	CHAS-BP-T1600-S
FPM Display	REV 04	710-021387		CRAFT-T1600-S
CIP	REV 06	710-002895		CIP-L-T640-S
PEM 0	REV 05	740-036442	IPUPAG6KAA	PWR-T-6-60-DC-S
PEM 1	REV 05	740-036442	IPUPAG6KAA	PWR-T-6-60-DC-S
SCG 0	REV 18	710-003423		SCG-T-S
SCG 1	REV 18	710-003423		SCG-T-S
Routing Engine 0	REV 10	740-026941		RE-DUO-C1800-8G-S
Routing Engine 1	REV 07	740-026941		RE-DUO-C1800-8G-S
CB 0	REV 11	710-022597		CB-LCC-S
CB 1	REV 11	710-022597		CB-LCC-S
FPC 0	REV 01	750-045173	IP9IAL4DAB	T4000-FPC5-3D
PIC 0	REV 17	750-034624	IP9IAL2DAA	PF-12XGE-SFPP
PIC 1	REV 17	750-034624	IP9IAL2DAA	PF-12XGE-SFPP
FPC 3	REV 01	750-045173	IP9IAL4DAB	T4000-FPC5-3D
PIC 0	REV 13	750-033423	XXXXXXXXDD	PF-12-24XGE-SFPP
FPC 4	REV 02	750-045173	IP9IAL4DAC	T4000-FPC5-3D
PIC 0	REV 17	750-034624	IP9IAL2DAA	PF-12XGE-SFPP
PIC 1	REV 17	750-034624	IP9IAL2DAA	PF-12XGE-SFPP
FPC 5	REV 01	750-045173	IP9IAL4DAB	T4000-FPC5-3D
PIC 0	REV 17	750-034624	IP9IAL2DAA	PF-12XGE-SFPP
PIC 1	REV 17	750-034624	IP9IAL2DAA	PF-12XGE-SFPP
FPC 6	REV 01	750-045173	IP9IAL4DAB	T4000-FPC5-3D
PIC 0	REV 17	750-034624	IP9IAL2DAA	PF-12XGE-SFPP
PIC 1	REV 10	750-035293	IP9IAL3DAA	PF-1CGE-CFP
SIB 0	REV 06	750-041657	PROTOXCLEI	SIB-TXP-3D-LCC
Xcvr 0	REV 01	740-048813		
Xcvr 1	REV 01	740-048813		
Xcvr 2	REV 01	740-048813		
Xcvr 3	REV 01	740-048813		
Xcvr 4	REV 01	740-048813		

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Xcvr 5      REV 01  740-048813
Xcvr 6      REV 01  740-048813
Xcvr 7      REV 01  740-048813
SIB 1       REV 06  750-041657  PROTOXCLEI  SIB-TXP-3D-LCC
Xcvr 0      REV 01  740-048813
Xcvr 1      REV 01  740-048813
Xcvr 2      REV 01  740-048813
Xcvr 3      REV 01  740-048813
Xcvr 4      REV 01  740-048813
Xcvr 5      REV 01  740-048813
Xcvr 6      REV 01  740-048813
Xcvr 7      REV 01  740-048813
SIB 2       REV 06  750-041657  PROTOXCLEI  SIB-TXP-3D-LCC
Xcvr 0      REV 01  740-048813
Xcvr 1      REV 01  740-048813
Xcvr 2      REV 01  740-048813
Xcvr 3      REV 01  740-048813
Xcvr 4      REV 01  740-048813
Xcvr 5      REV 01  740-048813
Xcvr 6      REV 01  740-048813
Xcvr 7      REV 01  740-048813
SIB 3       REV 07  750-041657  PROTOXCLEI  SIB-TXP-3D-LCC
Xcvr 0      REV 01  740-048813
Xcvr 1      REV 01  740-048813
Xcvr 2      REV 01  740-048813
Xcvr 3      REV 01  740-048813
Xcvr 4      REV 01  740-048813
Xcvr 5      REV 01  740-048813
Xcvr 6      REV 01  740-048813
Xcvr 7      REV 01  740-048813
SIB 4       REV 06  750-041657  PROTOXCLEI  SIB-TXP-3D-LCC
Xcvr 0      REV 01  740-048813
Xcvr 1      REV 01  740-048813
Xcvr 2      REV 01  740-048813
Xcvr 3      REV 01  740-048813
Xcvr 4      REV 01  740-048813
Xcvr 5      REV 01  740-048813
Xcvr 6      REV 01  740-048813
Xcvr 7      REV 01  740-048813
Fan Tray 0
Fan Tray 1
Fan Tray 2
[Output Truncated]
FANTRAY-T-S
FANTRAY-T-S
FANTRAY-TXP3D-LCC-R-S

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show chassis hardware detail (TX Matrix Plus router with 3D SIBs)

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user@host> show chassis hardware detail
sfc0-re0:

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Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               JN11CAAA4AHB  TXP
Midplane      REV 05   710-022574   ABAC4696      SFC Midplane
FPM Display   REV 09   710-024027   EH3138      TXP FPM Display
CIP 0         REV 12   710-023792   EF6349      TXP CIP
CIP 1         REV 12   710-023792   EG5294      TXP CIP
PEM 0         Rev 06   740-027463   XH04595      Power Entry Module
PEM 1         Rev 06   740-027463   XH04592      Power Entry Module
Routing Engine 0 REV 07   740-026942   P737A-002541 RE-DUO-2600
  ad0      3823 MB  SMART CF      2011030400062C132C13 Compact Flash
  ad1      62720 MB SMART Lite SATA Drive 201105100009A452A452 Disk 1

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Routing Engine 1	REV 07	740-026942	P737A-002602	RE-DUO-2600
ad0 3823 MB	SMART CF		20110508085EE471E471	Compact Flash
ad1 62720 MB	SMART	Lite SATA Drive	201110210089DF39DF39	Disk 1
CB 0	REV 15	710-022606	EH4376	SFC Control Board
CB 1	REV 15	710-022606	EH4379	SFC Control Board
SPMB 0		BUILTIN		SFC Switch CPU
SPMB 1		BUILTIN		SFC Switch CPU
SIB F13 0	REV 10	750-035002	EM9305	F13 SIB 3D
B Board	REV 06	711-035082	EM9667	F13 SIB 3D Mezz
P Board	REV 05	711-043544	EM9708	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB34FB00S	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB01H	CXP Module
Xcvr 4	REV 01	740-047547	XB34FB02W	CXP Module
Xcvr 6	REV 01	740-047547	XB34FB01T	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB00W	CXP Module
Xcvr 10	REV 01	740-047547	XB34FB01S	CXP Module
Xcvr 12	REV 01	740-047547	XB34FB03H	CXP Module
Xcvr 14	REV 01	740-047547	XB34FB023	CXP Module
SIB F13 3	REV 01	710-035001	EJ2612	F13 SIB 3D
B Board	REV 01	711-035082	EJ3815	F13 SIB 3D Mezz
P Board	REV 01	711-043544	EJ2678	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB48FB04C	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB00Z	CXP Module
Xcvr 4	REV 01	740-047547	XB47FB036	CXP Module
Xcvr 6	REV 01	740-047547	XB47FB029	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB02N	CXP Module
Xcvr 10	REV 01	740-047547	XB42FB0CS	CXP Module
Xcvr 12	REV 01	740-047547	XB47FB01X	CXP Module
Xcvr 14	REV 01	740-047547	XB48FB02F	CXP Module
SIB F13 6	REV 05	750-035002	EK2675	F13 SIB 3D
B Board	REV 03	711-035082	EK2612	F13 SIB 3D Mezz
P Board	REV 04	711-043544	EK1179	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB48FB01T	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB02M	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB031	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB04P	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB02T	CXP Module
Xcvr 10	REV 01	740-047547	XB34FB01V	CXP Module
Xcvr 12	REV 01	740-047547	XB48FB02C	CXP Module
Xcvr 14		NON-JNPR		No Module
SIB F13 12	REV 01	710-035001	EJ2631	F13 SIB 3D
B Board	REV 01	711-035082	EJ3808	F13 SIB 3D Mezz
P Board	REV 01	711-043544	EJ2676	F13 SIB 3D Power
SIB F2S 0/0	REV 01	711-034977	EH9829	F2S SIB 3D
B Board	REV 01	711-034979	EH9927	F2S SIB 3D Mezz
SIB F2S 0/2	REV 01	711-034977	EH9791	F2S SIB 3D
B Board	REV 01	711-034979	EH9852	F2S SIB 3D Mezz
SIB F2S 0/4	REV 01	711-034977	EH9803	F2S SIB 3D
B Board	REV 01	711-034979	EH9915	F2S SIB 3D Mezz
SIB F2S 0/6	REV 01	711-034977	EH9763	F2S SIB 3D
B Board	REV 01	711-034979	EH9880	F2S SIB 3D Mezz
SIB F2S 1/0	REV 01	711-034977	EH9757	F2S SIB 3D
B Board	REV 01	711-034979	EH9889	F2S SIB 3D Mezz
SIB F2S 1/2	REV 01	711-034977	EH9815	F2S SIB 3D
B Board	REV 01	711-034979	EH9890	F2S SIB 3D Mezz
SIB F2S 1/4	REV 08	750-034978	EN1954	F2S SIB 3D
B Board	REV 02	711-034979	EN1436	F2S SIB 3D Mezz
SIB F2S 1/6	REV 01	711-034977	EJ7054	F2S SIB 3D
B Board	REV 01	711-034979	EJ8238	F2S SIB 3D Mezz
SIB F2S 2/0	REV 01	711-034977	EH9830	F2S SIB 3D
B Board	REV 01	711-034979	EH9844	F2S SIB 3D Mezz

SIB F2S 2/2	REV 01	711-034977	EH9818	F2S SIB 3D
B Board	REV 01	711-034979	EH9888	F2S SIB 3D Mezz
SIB F2S 2/4	REV 01	711-034977	EH9795	F2S SIB 3D
B Board	REV 01	711-034979	EH9869	F2S SIB 3D Mezz
SIB F2S 2/6	REV 01	711-034977	EJ7026	F2S SIB 3D
B Board	REV 01	711-034979	EJ8273	F2S SIB 3D Mezz
SIB F2S 3/0	REV 01	711-034977	EH9811	F2S SIB 3D
B Board	REV 01	711-034979	EH9892	F2S SIB 3D Mezz
SIB F2S 3/2	REV 01	711-034977	EH9812	F2S SIB 3D
B Board	REV 01	711-034979	EH9877	F2S SIB 3D Mezz
SIB F2S 3/4	REV 08	750-034978	EN1947	F2S SIB 3D
B Board	REV 02	711-034979	EN1471	F2S SIB 3D Mezz
Fan Tray 0	REV 10	760-024497	EH3313	Front Fan Tray
Fan Tray 1	REV 10	760-024497	EH3290	Front Fan Tray
Fan Tray 2	REV 10	760-024502	EH3292	Rear Fan Tray
Fan Tray 3	REV 10	760-024502	EH3287	Rear Fan Tray
Fan Tray 4	REV 10	760-024502	EH3286	Rear Fan Tray
Fan Tray 5	REV 10	760-024502	EH3285	Rear Fan Tray

lcc0-re0:

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11B23FEAHA	T1600
Midplane	REV 01	710-027486	RC9787	T-series Backplane
FPM GBUS	REV 13	710-002901	BBAG5132	T640 FPM Board
FPM Display	REV 04	710-021387	BBAL9612	T1600 FPM Display
CIP	REV 06	710-002895	BBAN0605	T-series CIP
PEM 0	REV 05	740-036442	1G022060143	Power Entry Module 6x60
PEM 1	REV 05	740-036442	1G022060011	Power Entry Module 6x60
SCG 0	REV 18	710-003423	BBAL7318	T640 Sonet Clock Gen.
SCG 1	REV 18	710-003423	BBAL7255	T640 Sonet Clock Gen.
Routing Engine 0	REV 07	740-026941	P737F-002933	RE-DUO-1800
ad0	3823 MB	SMART CF	201103030490604E604E	Compact Flash
ad1	62720 MB	SMART Lite SATA Drive	20110729028B11D411D4	Disk 1
Routing Engine 1	REV 06	740-026941	P737F-002749	RE-DUO-1800
ad0	3823 MB	SMART CF	2011010504EB99649964	Compact Flash
ad1	62720 MB	SMART Lite SATA Drive	201102140058934A934A	Disk 1
CB 0	REV 11	710-022597	EH3611	LCC Control Board
CB 1	REV 11	710-022597	EH4798	LCC Control Board
FPC 5	REV 17	710-013037	BBAC5333	FPC Type 4-ES
CPU	REV 10	710-016744	BBAB7619	ST-PMB2
PIC 0	REV 18	750-017405	BBAE3420	4x 10GE (LAN/WAN) XFP
Xcvr 0	REV 03	740-014289	T10C90659	XFP-10G-SR
MMB 0	REV 05	710-025563	BBAB9538	ST-MMB2
MMB 1	REV 05	710-025563	BBAB9502	ST-MMB2
FPC 7	REV 01	750-045173	BBAV0032	FPC Type 5-3D
CPU				
SPMB 0	REV 05	710-023321	EG9434	LCC Switch CPU
SPMB 1	REV 05	710-023321	EH3878	LCC Switch CPU
SIB 0	REV 01	750-041657	EH7997	LCC SIB 3D
B Board	REV 01	711-042424	EH7674	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB014	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB05A	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB052	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB01B	CXP Module
SIB 1	REV 01	750-041657	EH8023	LCC SIB 3D
B Board	REV 01	711-042424	EH7659	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB05J	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB01E	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB01J	CXP Module

Xcvr 6	REV 01	740-047547	XB48FB02S	CXP Module
SIB 2	REV 03	750-041657	EJ6554	LCC SIB 3D
B Board	REV 02	711-042424	EJ5756	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB34FB01Z	CXP Module
Xcvr 2	REV 01	740-047547	XB34FB013	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB04Z	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB05N	CXP Module
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Fan Tray -- Rev 4

lcc2-re0:

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11B3975AHA	T1600
Midplane	REV 01	710-027486	RC9826	T-series Backplane
FPM GBUS	REV 13	710-002901	BBAG5124	T640 FPM Board
FPM Display	REV 03	710-021387	BBAJ1112	T1600 FPM Display
CIP	REV 06	710-002895	BBAL3744	T-series CIP
PEM 0	REV 05	740-036442	1G022060081	Power Entry Module 6x60
PEM 1	REV 05	740-036442	1G022060188	Power Entry Module 6x60
SCG 0	REV 18	710-003423	BBAH8775	T640 Sonet Clock Gen.
SCG 1	REV 18	710-003423	BBAL7272	T640 Sonet Clock Gen.
Routing Engine 0	REV 07	740-026941	P737F-002992	RE-DUO-1800
ad0 3823 MB	SMART CF		201103030356329E329E	Compact Flash
ad1 62720 MB	SMART Lite SATA Drive		2011051000488D8B8D8B	Disk 1
Routing Engine 1	REV 07	740-026941	P737F-002938	RE-DUO-1800
ad0 3823 MB	SMART CF		20110304000F02680268	Compact Flash
ad1 62720 MB	SMART Lite SATA Drive		201105300A70F325F325	Disk 1
CB 0	REV 11	710-022597	EH4805	LCC Control Board
CB 1	REV 11	710-022597	EH4786	LCC Control Board
FPC 1	REV 01	710-033873	BBAH0320	FPC Type 3-ES
CPU	REV 11	710-016744	BBAF3281	ST-PMB2
MMB 0	REV 06	710-025563	BBAF5061	ST-MMB2
FPC 5	REV 04	710-033871	BBAM5070	FPC Type 4-ES
CPU	REV 11	710-016744	BBAM6653	ST-PMB2
PIC 1	REV 20	750-017405	BBAM1296	4x 10GE (LAN/WAN) XFP
Xcvr 0	REV 03	740-014289	T10B42981	XFP-10G-SR
MMB 0	REV 07	710-025563	BBAN2631	ST-MMB2
MMB 1	REV 07	710-025563	BBAN2538	ST-MMB2
SPMB 0	REV 05	710-023321	EH3903	LCC Switch CPU
SPMB 1	REV 05	710-023321	EH3902	LCC Switch CPU
SIB 0	REV 01	750-041657	EH8019	LCC SIB 3D
B Board	REV 01	711-042424	EH7680	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB04F	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB04S	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB04B	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB043	CXP Module
SIB 1	REV 01	750-041657	EH8012	LCC SIB 3D
B Board	REV 01	711-042424	EH7658	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB05E	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB01Z	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB018	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB054	CXP Module
SIB 2	REV 01	750-041657	EH7993	LCC SIB 3D
B Board	REV 01	711-042424	EH7678	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB05C	CXP Module
Xcvr 2	REV 01	740-047547	XB47FB00N	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB05U	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB05L	CXP Module

Fan Tray 0
Fan Tray 1
Fan Tray 2

Front Top Fan Tray
Front Bottom Fan Tray
Rear Fan Tray -- Rev 4

show chassis hardware lcc (TX Matrix Plus router with 3D SIBs)

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user@host> show chassis hardware lcc 0
lcc0-re0:
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Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11B23FEAHA	T1600
Midplane	REV 01	710-027486	RC9787	T-series Backplane
FPM GBUS	REV 13	710-002901	BBAG5132	T640 FPM Board
FPM Display	REV 04	710-021387	BBAL9612	T1600 FPM Display
CIP	REV 06	710-002895	BBAN0605	T-series CIP
PEM 0	REV 05	740-036442	1G022060143	Power Entry Module 6x60
PEM 1	REV 05	740-036442	1G022060011	Power Entry Module 6x60
SCG 0	REV 18	710-003423	BBAL7318	T640 Sonet Clock Gen.
SCG 1	REV 18	710-003423	BBAL7255	T640 Sonet Clock Gen.
Routing Engine 0	REV 07	740-026941	P737F-002933	RE-DUO-1800
Routing Engine 1	REV 06	740-026941	P737F-002749	RE-DUO-1800
CB 0	REV 11	710-022597	EH3611	LCC Control Board
CB 1	REV 11	710-022597	EH4798	LCC Control Board
FPC 5	REV 17	710-013037	BBAC5333	FPC Type 4-ES
CPU	REV 10	710-016744	BBAB7619	ST-PMB2
PIC 0	REV 18	750-017405	BBAE3420	4x 10GE (LAN/WAN) XFP
Xcvr 0	REV 03	740-014289	T10C90659	XFP-10G-SR
MMB 0	REV 05	710-025563	BBAB9538	ST-MMB2
MMB 1	REV 05	710-025563	BBAB9502	ST-MMB2
FPC 7	REV 01	750-045173	BBAV0032	FPC Type 5-3D
CPU				
SPMB 0	REV 05	710-023321	EG9434	LCC Switch CPU
SPMB 1	REV 05	710-023321	EH3878	LCC Switch CPU
SIB 0	REV 01	750-041657	EH7997	LCC SIB 3D
B Board	REV 01	711-042424	EH7674	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB014	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB05A	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB052	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB01B	CXP Module
SIB 1	REV 01	750-041657	EH8023	LCC SIB 3D
B Board	REV 01	711-042424	EH7659	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB48FB05J	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB01E	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB01J	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB02S	CXP Module
SIB 2	REV 03	750-041657	EJ6554	LCC SIB 3D
B Board	REV 02	711-042424	EJ5756	LCC SIB 3D Mezz
Xcvr 0	REV 01	740-047547	XB34FB01Z	CXP Module
Xcvr 2	REV 01	740-047547	XB34FB013	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB04Z	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB05N	CXP Module
Fan Tray 0				Front Top Fan Tray
Fan Tray 1				Front Bottom Fan Tray
Fan Tray 2				Rear Fan Tray -- Rev 4

show chassis hardware sfc (TX Matrix Plus router with 3D SIBs)

```
user@host> show chassis hardware sfc 0
sfc0-re0:
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11CAAA4AHB	TXP
Midplane	REV 05	710-022574	ABAC4696	SFC Midplane
FPM Display	REV 09	710-024027	EH3138	TXP FPM Display
CIP 0	REV 12	710-023792	EF6349	TXP CIP
CIP 1	REV 12	710-023792	EG5294	TXP CIP
PEM 0	Rev 06	740-027463	XH04595	Power Entry Module
PEM 1	Rev 06	740-027463	XH04592	Power Entry Module
Routing Engine 0	REV 07	740-026942	P737A-002541	RE-DUO-2600
Routing Engine 1	REV 07	740-026942	P737A-002602	RE-DUO-2600
CB 0	REV 15	710-022606	EH4376	SFC Control Board
CB 1	REV 15	710-022606	EH4379	SFC Control Board
SPMB 0		BUILTIN		SFC Switch CPU
SPMB 1		BUILTIN		SFC Switch CPU
SIB F13 0	REV 10	750-035002	EM9305	F13 SIB 3D
B Board	REV 06	711-035082	EM9667	F13 SIB 3D Mezz
P Board	REV 05	711-043544	EM9708	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB34FB00S	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB01H	CXP Module
Xcvr 4	REV 01	740-047547	XB34FB02W	CXP Module
Xcvr 6	REV 01	740-047547	XB34FB01T	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB00W	CXP Module
Xcvr 10	REV 01	740-047547	XB34FB01S	CXP Module
Xcvr 12	REV 01	740-047547	XB34FB03H	CXP Module
Xcvr 14	REV 01	740-047547	XB34FB023	CXP Module
SIB F13 3	REV 01	710-035001	EJ2612	F13 SIB 3D
B Board	REV 01	711-035082	EJ3815	F13 SIB 3D Mezz
P Board	REV 01	711-043544	EJ2678	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB48FB04C	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB00Z	CXP Module
Xcvr 4	REV 01	740-047547	XB47FB036	CXP Module
Xcvr 6	REV 01	740-047547	XB47FB029	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB02N	CXP Module
Xcvr 10	REV 01	740-047547	XB42FB0CS	CXP Module
Xcvr 12	REV 01	740-047547	XB47FB01X	CXP Module
Xcvr 14	REV 01	740-047547	XB48FB02F	CXP Module
SIB F13 6	REV 05	750-035002	EK2675	F13 SIB 3D
B Board	REV 03	711-035082	EK2612	F13 SIB 3D Mezz
P Board	REV 04	711-043544	EK1179	F13 SIB 3D Power
Xcvr 0	REV 01	740-047547	XB48FB01T	CXP Module
Xcvr 2	REV 01	740-047547	XB48FB02M	CXP Module
Xcvr 4	REV 01	740-047547	XB48FB031	CXP Module
Xcvr 6	REV 01	740-047547	XB48FB04P	CXP Module
Xcvr 8	REV 01	740-047547	XB48FB02T	CXP Module
Xcvr 10	REV 01	740-047547	XB34FB01V	CXP Module
Xcvr 12	REV 01	740-047547	XB48FB02C	CXP Module
Xcvr 14		NON-JNPR		No Module
SIB F13 12	REV 01	710-035001	EJ2631	F13 SIB 3D
B Board	REV 01	711-035082	EJ3808	F13 SIB 3D Mezz
P Board	REV 01	711-043544	EJ2676	F13 SIB 3D Power
SIB F2S 0/0	REV 01	711-034977	EH9829	F2S SIB 3D
B Board	REV 01	711-034979	EH9927	F2S SIB 3D Mezz
SIB F2S 0/2	REV 01	711-034977	EH9791	F2S SIB 3D
B Board	REV 01	711-034979	EH9852	F2S SIB 3D Mezz
SIB F2S 0/4	REV 01	711-034977	EH9803	F2S SIB 3D
B Board	REV 01	711-034979	EH9915	F2S SIB 3D Mezz
SIB F2S 0/6	REV 01	711-034977	EH9763	F2S SIB 3D
B Board	REV 01	711-034979	EH9880	F2S SIB 3D Mezz
SIB F2S 1/0	REV 01	711-034977	EH9757	F2S SIB 3D
B Board	REV 01	711-034979	EH9889	F2S SIB 3D Mezz

SIB F2S 1/2	REV 01	711-034977	EH9815	F2S SIB 3D
B Board	REV 01	711-034979	EH9890	F2S SIB 3D Mezz
SIB F2S 1/4	REV 08	750-034978	EN1954	F2S SIB 3D
B Board	REV 02	711-034979	EN1436	F2S SIB 3D Mezz
SIB F2S 1/6	REV 01	711-034977	EJ7054	F2S SIB 3D
B Board	REV 01	711-034979	EJ8238	F2S SIB 3D Mezz
SIB F2S 2/0	REV 01	711-034977	EH9830	F2S SIB 3D
B Board	REV 01	711-034979	EH9844	F2S SIB 3D Mezz
SIB F2S 2/2	REV 01	711-034977	EH9818	F2S SIB 3D
B Board	REV 01	711-034979	EH9888	F2S SIB 3D Mezz
SIB F2S 2/4	REV 01	711-034977	EH9795	F2S SIB 3D
B Board	REV 01	711-034979	EH9869	F2S SIB 3D Mezz
SIB F2S 2/6	REV 01	711-034977	EJ7026	F2S SIB 3D
B Board	REV 01	711-034979	EJ8273	F2S SIB 3D Mezz
SIB F2S 3/0	REV 01	711-034977	EH9811	F2S SIB 3D
B Board	REV 01	711-034979	EH9892	F2S SIB 3D Mezz
SIB F2S 3/2	REV 01	711-034977	EH9812	F2S SIB 3D
B Board	REV 01	711-034979	EH9877	F2S SIB 3D Mezz
SIB F2S 3/4	REV 08	750-034978	EN1947	F2S SIB 3D
B Board	REV 02	711-034979	EN1471	F2S SIB 3D Mezz
Fan Tray 0	REV 10	760-024497	EH3313	Front Fan Tray
Fan Tray 1	REV 10	760-024497	EH3290	Front Fan Tray
Fan Tray 2	REV 10	760-024502	EH3292	Rear Fan Tray
Fan Tray 3	REV 10	760-024502	EH3287	Rear Fan Tray
Fan Tray 4	REV 10	760-024502	EH3286	Rear Fan Tray
Fan Tray 5	REV 10	760-024502	EH3285	Rear Fan Tray

show chassis hardware (16-Port 10-Gigabit Ethernet MPC with SFP+ Optics [MX Series Routers])

```
user@host> show chassis hardware
```

```
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			JN112D865AFA	MX960
Midplane	REV 03	710-013698	TS3339	MX960 Backplane
FPM Board	REV 03	710-014974	WW6267	Front Panel Display
PDM	Rev 03	740-013110	QCS12485026	Power Distribution
Module				
PEM 0	Rev 04	740-013682	QCS12434086	PS 1.7kW; 200-240VAC
in				
PEM 1	Rev 04	740-013682	QCS1243408Z	PS 1.7kW; 200-240VAC
in				
PEM 2	Rev 04	740-013682	QCS1243407X	PS 1.7kW; 200-240VAC
in				
Routing Engine 0	REV 07	740-015113	9009009677	RE-S-1300
Routing Engine 1	REV 07	740-015113	9009011510	RE-S-1300
CB 0	REV 03	710-021523	XF0394	MX SCB
CB 1	REV 03	710-021523	XF0550	MX SCB
CB 2	REV 03	710-021523	XD7455	MX SCB
FPC 4	REV 02	750-028467	JR6127	MPC M 16x 10GE
CPU	REV 02	711-029089	JX0129	AS PMB
PIC 0		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
PIC 1		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
PIC 2		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
PIC 3		BUILTIN	BUILTIN	4x 10GE(LAN) SFP+
Fan Tray 0	REV 05	740-014971	TP9990	Fan Tray
Fan Tray 1	REV 05	740-014971	VS1709	Fan Tray

show chassis hardware (MPC3E [MX Series Routers])

```
user@host> show chassis hardware
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN1101AFEAFB	MX480
Midplane	REV 05	710-017414	TR4444	MX480 Midplane
FPM Board	REV 02	710-017254	KG6056	Front Panel Display
PEM 0	Rev 03	740-017330	QCS082090FC	PS 1.2-1.7kW; 100-240V
PEM 1	Rev 03	740-017330	QCS082090FD	PS 1.2-1.7kW; 100-240V
Routing Engine 0	REV 07	740-013063	9009004124	RE-S-2000
Routing Engine 1	REV 07	740-013063	9009005569	RE-S-2000
CB 0	REV 07	710-021523	XZ3587	MX SCB
CB 1	REV 03	710-021523	KH8306	MX SCB
FPC 1	REV 04.1.07	750-033205	P1240	MPC Type 3
CPU	REV 01	711-035209	YL0504	HMPC PMB 2G
MIC 1	REV 10	750-033199	YX4495	1X100GE CFP
PIC 2		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-032210	C22CQNE	CFP-100G-LR4
FPC 2	REV 26	750-016670	KH0045	DPCE 40x 1GE R EQ
CPU	REV 07	710-013713	KF5448	DPC PMB
PIC 0		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
Xcvr 0	REV 01	740-011613	PF21JHU	SFP-SX
PIC 1		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
Xcvr 9	REV 01	740-011613	AM0813S8ZL6	SFP-SX
PIC 2		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
Xcvr 0	REV 02	740-011613	PGL2KYF	SFP-SX
Xcvr 2	REV 01	740-011613	AM0806S8N4P	SFP-SX
PIC 3		BUILTIN	BUILTIN	10x 1GE(LAN) EQ
Xcvr 5	REV 01	740-011613	AM0815S967N	SFP-SX
Xcvr 7	REV 01	740-011613	AM0806S8N1X	SFP-SX
Xcvr 8	REV 01	740-011613	AM0815S967J	SFP-SX
Xcvr 9	REV 01	740-011613	AM0815S967M	SFP-SX
FPC 3	REV 12.2.09	750-033205	YR9443	MPC Type 3
CPU	REV 03	711-035209	YL6931	HMPC PMB 2G
MIC 0	REV 05	750-033199	YR3269	1X100GE CFP
PIC 0		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-032210	ULH0KG3	CFP-100G-LR4
MIC 1	REV 02	750-033199	YG3245	1X100GE CFP
PIC 2		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-032210	ULH0KGF	CFP-100G-LR4
FPC 4	REV 12.3.09	750-033205	YR9437	MPC Type 3
CPU	REV 03	711-035209	YT5857	HMPC PMB 2G
MIC 0	REV 05	750-033199	YR3295	1X100GE CFP
PIC 0		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0		NON-JNPR	X12000187	CFP-100G-SR10
MIC 1	REV 10	750-033199	YX4518	1X100GE CFP
PIC 2		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-035329	X12J00008	CFP-100G-SR10
FPC 5	REV 06	750-024884	JW9769	MPC Type 2 3D EQ
CPU	REV 02	711-028401	JR6158	MPC PMB 2G Proto
MIC 0	REV 05	750-028387	JR6197	3D 4x 10GE XFP
PIC 0		BUILTIN	BUILTIN	2x 10GE XFP
Xcvr 0	REV 01	740-014289	T07M71112	XFP-10G-SR
Xcvr 1	REV 02	740-014289	T08L85610	XFP-10G-SR
PIC 1		BUILTIN	BUILTIN	2x 10GE XFP
MIC 1	REV 22	750-028392	YM0053	3D 20x 1GE(LAN) SFP
PIC 2		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 0	REV 01	740-011613	AM0703S005B	SFP-SX
Xcvr 1	REV 01	740-011613	E07L01352	SFP-SX

PIC 3		BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Xcvr 5	REV 01	740-013111	6500217	SFP-T
Xcvr 9	REV 02	740-013111	8499527	SFP-T
Fan Tray				Left Fan Tray

The PIC number for MIC 1 always starts from 2 (even if the first MIC is a 1X100GE CFP or a legacy MIC).

show chassis hardware (QFX3500 Switches)

```
user@switch> show chassis hardware
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis				QFX3500
Routing Engine 0		BUILTIN	BUILTIN	QFX Routing Engine
FPC 0	REV 04	750-044071	BBAR3902	QFX3500-48S4Q-AFI
CPU		BUILTIN	BUILTIN	FPC CPU
PIC 0		BUILTIN	BUILTIN	48x 10G-SFP+
PIC 1		BUILTIN	BUILTIN	15x 10G-SFP+
MGMT BRD	REV 02	750-044063	BBAR0398	QFX3500-MGMT-SFP-AFO
Xcvr 0	REV 01	740-011614	AC0946S0BD1	SFP-LX10
Xcvr 1	REV 02	740-013111	A281922	SFP-T
Power Supply 0	Rev 04	740-032091	UI00677	JPSU-650W-AC-AFI
Power Supply 1	REV 00	740-041741	VJ00162	JPSU-650W-AC-AFO
Fan Tray 0				QFX Fan Tray, Back to
Front Airflow				
Fan Tray 1				QFX Fan Tray, Back to
Front Airflow				
Fan Tray 2				QFX Fan Tray, Back to
Front Airflow				

show chassis hardware detail (QFX3500 Switches)

```
user@switch> show chassis hardware detail
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN000TEST5	QFX3500
Routing Engine 0		BUILTIN	BUILTIN	QFX Routing Engine
FPC 0	REV 05	750-036931	EE0823	QFX3500-48S4Q-AFI
CPU		BUILTIN	BUILTIN	FPC CPU
PIC 0		BUILTIN	BUILTIN	48x 10G-SFP+
Xcvr 0	REV 01	740-030589	S99E270079	SFP+-10G-LPBK
Xcvr 1	REV 01	740-030589	S9AK450099	SFP+-10G-LPBK
Xcvr 2	REV 01	740-030589	S99E270078	SFP+-10G-LPBK
Xcvr 3	REV 01	740-030589	S9AK450098	SFP+-10G-LPBK
Xcvr 4	REV 01	740-030589	S99E270075	SFP+-10G-LPBK
Xcvr 5	REV 01	740-030589	S9AK450093	SFP+-10G-LPBK
Xcvr 6	REV 01	740-030589	S9AK450097	SFP+-10G-LPBK
Xcvr 7	REV 01	740-030589	S9AK450095	SFP+-10G-LPBK
Xcvr 8	REV 01	740-030589	S99E270072	SFP+-10G-LPBK
Xcvr 9	REV 01	740-030589	S99E270073	SFP+-10G-LPBK
Xcvr 10	REV 01	740-030589	S99E270080	SFP+-10G-LPBK
Xcvr 11	REV 01	740-030589	S9AK450169	SFP+-10G-LPBK
Xcvr 12	REV 01	740-030589	S99E270076	SFP+-10G-LPBK
Xcvr 13	REV 01	740-030589	S9AK450167	SFP+-10G-LPBK
Xcvr 14	REV 01	740-030589	S9AK450170	SFP+-10G-LPBK
Xcvr 15	REV 01	740-030589	S9AK450166	SFP+-10G-LPBK
Xcvr 16	REV 01	740-030589	S9AK450092	SFP+-10G-LPBK
Xcvr 17	REV 01	740-030589	S9AK450163	SFP+-10G-LPBK

Xcvr 18	REV 01	740-030589	S9AK450094	SFP+-10G-LPBK
Xcvr 19	REV 01	740-030589	S9AK450100	SFP+-10G-LPBK
Xcvr 20	REV 01	740-030589	S9AK450168	SFP+-10G-LPBK
Xcvr 21	REV 01	740-030589	S9AK450165	SFP+-10G-LPBK
Xcvr 22	REV 01	740-030589	S9AK450073	SFP+-10G-LPBK
Xcvr 23	REV 01	740-030589	S9AK450164	SFP+-10G-LPBK
Xcvr 24	REV 01	740-030589	S9AK450074	SFP+-10G-LPBK
Xcvr 25	REV 01	740-030589	SA62270195	SFP+-10G-LPBK
Xcvr 26	REV 01	740-030589	S9AK450078	SFP+-10G-LPBK
Xcvr 27	REV 01	740-030589	S9AK450024	SFP+-10G-LPBK
Xcvr 28	REV 01	740-030589	S9AK450027	SFP+-10G-LPBK
Xcvr 29	REV 01	740-030589	S9AK450080	SFP+-10G-LPBK
Xcvr 30	REV 01	740-030589	S9AK450030	SFP+-10G-LPBK
Xcvr 31	REV 01	740-030589	S9AK450025	SFP+-10G-LPBK
Xcvr 32	REV 01	740-030589	S9AK450023	SFP+-10G-LPBK
Xcvr 33	REV 01	740-030589	S9AK450075	SFP+-10G-LPBK
Xcvr 34	REV 01	740-030589	S9AK450161	SFP+-10G-LPBK
Xcvr 35	REV 01	740-030589	S9AK450071	SFP+-10G-LPBK
Xcvr 36	REV 01	740-030589	S9AK450072	SFP+-10G-LPBK
Xcvr 37	REV 01	740-030589	S9AK450022	SFP+-10G-LPBK
Xcvr 38	REV 01	740-030589	S9AK450021	SFP+-10G-LPBK
Xcvr 39	REV 01	740-030589	S9AK450175	SFP+-10G-LPBK
Xcvr 40	REV 01	740-030589	S9AK450162	SFP+-10G-LPBK
Xcvr 41	REV 01	740-030589	S99E270074	SFP+-10G-LPBK
Xcvr 42	REV 01	740-030589	S9AK450174	SFP+-10G-LPBK
Xcvr 43	REV 01	740-030589	S9AK450077	SFP+-10G-LPBK
Xcvr 44	REV 01	740-030589	S9AK450076	SFP+-10G-LPBK
Xcvr 45	REV 01	740-030589	S9AK450026	SFP+-10G-LPBK
Xcvr 46	REV 01	740-030589	S9AK450079	SFP+-10G-LPBK
Xcvr 47	REV 01	740-030589	S9AK450029	SFP+-10G-LPBK
PIC 1		BUILTIN	BUILTIN	15x 10G-SFP+
Xcvr 1	REV 01	740-032986	QA170087	QSFP+-40G-SR4
Xcvr 4	REV 01	740-032986	QA360442	QSFP+-40G-SR4
Xcvr 8	REV 01	740-032986	QA170091	QSFP+-40G-SR4
Xcvr 12	REV 01	740-032986	QA170042	QSFP+-40G-SR4
MGMT BRD	REV 08	750-036946	EE0731	QFX3500-MB
Power Supply 0	Rev 04	740-032091	UI00690	QFX PS 650W AC
Power Supply 1	Rev 04	740-032091	UI00679	QFX PS 650W AC
Fan Tray 0				QFX Fan Tray
Fan Tray 1				QFX Fan Tray

show chassis hardware models (QFX3500 Switches)

```

user@switch> show chassis hardware models
Hardware inventory:
Item          Version  Part number  Serial number  FRU model number
Routing Engine 0      BUILTIN    BUILTIN
FPC 0         REV 02    711-032234  EC4074
Power Supply 0  PSMI 2C  11-d65800  --

```

show chassis hardware clei-models (QFX3500 Switches)

```

user@switch> show chassis hardware clei-models
Hardware inventory:
Item          Version  Part number  CLEI code  FRU model number
Routing Engine 0      BUILTIN
FPC 0         REV 02    711-032234
Power Supply 0  PSMI 2C  11-d65800

```


show chassis hardware clei-models (QFX5100 Switches)

```

user@switch> show chassis hardware clei-models
Hardware inventory:
Item          Version  Part number  CLEI code      FRU model number
Routing Engine 0          BUILTIN    CMMNV10BRA
FPC 0          REV 01    611-053010  CMMNV10BRA
  PIC 0          BUILTIN    CMMNV10BRA
Power Supply 0  REV 03    740-053352  MUPABHBAA      JPSU-850W-AC-AFO
Power Supply 1  REV 03    740-053352  MUPABHBAA      JPSU-850W-AC-AFO
Fan Tray 0                      QFX5100-96S-FANAF0
Fan Tray 1                      QFX5100-96S-FANAF0
Fan Tray 2                      QFX5100-96S-FANAF0

```

show chassis hardware interconnect-device (QFabric Systems)

```

user@switch> show chassis hardware interconnect-device interconnect1
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis        REV 07          BUILTIN          BUILTIN          QFX_olive
Midplane       REV 07    750-021261  BH0208188289  QFX Midplane
CB 0           REV 07    750-021261  BH0208188289  QFXIC08-CB4S

```

show chassis hardware node-device (QFabric Systems)

```

user@switch> show chassis hardware node-device node1
Routing Engine 0  BUILTIN    BUILTIN          QFX Routing Engine
node1            REV 05    711-032234  ED3694          QFX3500-48S4Q-AFI

CPU              BUILTIN    BUILTIN          FPC CPU
PIC 0            BUILTIN    BUILTIN          48x 10G-SFP+
  Xcvr 8         REV 01    740-030658  AD0946A028B    SFP+-10G-USR
...

```

show chassis hardware (PTX5000 Packet Transport Router)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis        REV 03    711-031896  JN11D1FD7AJA  PTX5000
Midplane       REV 08    760-030647  EG1679        Front Panel Display
FPM            Rev 05    740-032019  ZE00006       DC Power Dist Unit
  PSM 0         Rev 05    740-032022  ZJ00018       DC 12V Power Supply
  PSM 1         Rev 04    740-032022  ZC00052       DC 12V Power Supply
  PSM 2         Rev 04    740-032022  ZD00051       DC 12V Power Supply
  PSM 3         Rev 05    740-032022  ZJ00060       DC 12V Power Supply
CCG 0          REV 04    750-030653  EG3703        Clock Generator
CCG 1          REV 04    750-030653  EG3698        Clock Generator
Routing Engine 0 REV 05    740-026942  P737A-002231  RE-DUO-2600
Routing Engine 1 REV 06    740-026942  P737A-002438  RE-DUO-2600
CB 0           REV 08    750-030625  EG5519        Control Board
CB 1           REV 08    750-030625  EG5516        Control Board
FPC 0          REV 18    750-036844  EJ3080        FPC
  CPU          REV 12    711-030686  EJ3260        SNG PMB
FPC 2          REV 13    750-036844  EG5065        FPC
  CPU          REV 09    711-030686  EG4082        SNG PMB
  PIC 0         REV 14    750-031913  EG5127        24x 10GE(LAN) SFP+
  Xcvr 0        REV 01    740-031980  143363A00240  SFP+-10G-SR

```

Xcvr 1	REV 01	740-031981	UK90PZ1	SFP+-10G-LR
Xcvr 2	REV 01	740-031980	AD1141A04XH	SFP+-10G-SR
Xcvr 3	REV 01	740-031981	UK90Q46	SFP+-10G-LR
Xcvr 4	REV 01	740-031980	AD1141A04X4	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	B11H02560	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	B11C01589	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	AD1141A04XF	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	123363A01094	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	AK80LKF	SFP+-10G-SR
Xcvr 12	REV 01	740-031980	183363A01528	SFP+-10G-SR
Xcvr 14	REV 01	740-031980	193363A01079	SFP+-10G-SR
Xcvr 15	REV 01	740-031980	AK80MC8	SFP+-10G-SR
Xcvr 16	REV 01	740-031980	AJCOBHC	SFP+-10G-SR
Xcvr 19	REV 01	740-021309	J08D26856	SFP+-10G-LR
Xcvr 21	REV 01	740-031980	AK80KCT	SFP+-10G-SR
Xcvr 22	REV 01	740-031981	UK90PZL	SFP+-10G-LR
Xcvr 23	REV 01	740-031980	AK80N1V	SFP+-10G-SR
FPC 3	REV 13	750-036844	EG5074	FPC
CPU	REV 09	711-030686	EG4064	SNG PMB
PIC 1	REV 10	750-031903	EG0325	SNG Load
FPC 5	REV 06	750-036844	EH3198	FPC
CPU				
PIC 0	REV 14	750-031913	EG5134	24x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LBH	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11B03724	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80FMH	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	B11J00818	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	193363A00743	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	B11B06125	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	B11H02529	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	AK80LFB	SFP+-10G-SR
Xcvr 12	REV 01	740-031980	193363A01061	SFP+-10G-SR
Xcvr 15	REV 01	740-031980	B11J00687	SFP+-10G-SR
Xcvr 16	REV 01	740-031980	193363A00738	SFP+-10G-SR
Xcvr 18	REV 01	740-031980	AK80MQX	SFP+-10G-SR
Xcvr 19	REV 01	740-021309	J08C17257	SFP+-10G-LR
Xcvr 22	REV 01	740-031980	B11J00730	SFP+-10G-SR
Xcvr 23	REV 01	740-031980	AK80KEE	SFP+-10G-SR
PIC 1	REV 08	750-036710	EG3105	2x 40GE CFP
Xcvr 0	REV 01	740-034554	B260HLT	CFP-40G-LR4
Xcvr 1	REV 01	740-034554	B11C02847	CFP-40G-LR4
FPC 6	REV 18	750-036844	EJ4391	FPC
CPU	REV 12	711-030686	EJ3257	SNG PMB
FPC 7	REV 18	750-036844	EJ4382	FPC
CPU	REV 12	711-030686	EJ3238	SNG PMB
SPMB 0	REV 10	711-030686	EG5418	SNG PMB
SPMB 1	REV 09	711-030686	EG5373	SNG PMB
SIB 0	REV 07	750-030631	EG4858	SIB-I-8S
SIB 1	REV 07	750-030631	EG4872	SIB-I-8S
SIB 2	REV 07	750-030631	EG4866	SIB-I-8S
SIB 3	REV 07	750-030631	EG6011	SIB-I-8S
SIB 4	REV 07	750-030631	EG4907	SIB-I-8S
SIB 5	REV 07	750-030631	EG4879	SIB-I-8S
SIB 6	REV 07	750-030631	EG4864	SIB-I-8S
SIB 7	REV 07	750-030631	EG4899	SIB-I-8S
SIB 8	REV 07	750-030631	EG4880	SIB-I-8S
Fan Tray 0	REV 04	760-032784	EG1496	Vertical Fan Tray
Fan Tray 1	REV 04	760-030642	EG1335	Horizontal Fan Tray
Fan Tray 2	REV 02	760-030642	ED4952	Horizontal Fan Tray

show chassis hardware (PTX5000 Packet Transport Router with AC PSM and PDU)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis              REV 16    750-035893  JN12223A6AJA  PTX5000
Midplane            REV 12    760-030647  BBBD5625      Midplane-8S
FPM                  Rev 01    740-048338  1GB83360005   Front Panel Display
PDU 0                Rev 01    740-048338  1GB83360005   High Capacity AC WYE PDU

    PSM 0            Rev 01    740-048334  1GB43360074   High Capacity AC PSM
    PSM 1            Rev 01    740-048334  1GB43360001   High Capacity AC PSM
    PSM 2            Rev 01    740-048334  1GB43360104   High Capacity AC PSM
    PSM 3            Rev 01    740-048334  1GB43360042   High Capacity AC PSM
    PSM 4            Rev 01    740-048334  1GB43360068   High Capacity AC PSM
    PSM 5            Rev 01    740-048334  1GB43360080   High Capacity AC PSM
    PSM 6            Rev 01    740-048334  1GB43360046   High Capacity AC PSM
    PSM 7            Rev 01    740-048334  1GB43360100   High Capacity AC PSM
PDU 1                Rev 01    740-048338  1GB83360006   High Capacity AC WYE PDU

    PSM 0            Rev 01    740-048334  1GB43360069   High Capacity AC PSM
    PSM 1            Rev 01    740-048334  1GB43360099   High Capacity AC PSM
    PSM 2            Rev 01    740-048334  1GB43360050   High Capacity AC PSM
    PSM 3            Rev 01    740-048334  1GB43360095   High Capacity AC PSM
    PSM 4            Rev 01    740-048334  1GB43360101   High Capacity AC PSM
    PSM 5            Rev 01    740-048334  1GB43360075   High Capacity AC PSM
    PSM 6            Rev 01    740-048334  1GB43360047   High Capacity AC PSM
    PSM 7            Rev 01    740-048334  1GB43360019   High Capacity AC PSM
CCG 0                REV 09    750-030653  BBAZ5345      Clock Generator
...

```

show chassis hardware (PTX5000 Packet Transport Router with FPC2-PTX-PIA)

```

user@host> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis              REV 11    750-035893  JN1204FC0AJA  PTX5000
Midplane            REV 12    760-030647  BBBD5619      Midplane-8S
FPM                  Rev 04    740-048336  1GB93470043   Front Panel
Display
PDU 0                Rev 04    740-046988  1GB63500184   High Capacity DC PDU
    PSM 0            Rev 04    740-046988  1GB63500169   High Capacity DC PSM
    PSM 2            Rev 04    740-046988  1GB63500306   High Capacity DC PSM
    PSM 4            Rev 04    740-046988  1GB63500074   High Capacity DC PSM
    PSM 6            Rev 04    740-046988  1GB63500074   High Capacity DC PSM
PDU 1                Rev 04    740-048336  1GB93470045   High Capacity DC PDU
    PSM 1            Rev 04    740-046988  1GB63500193   High Capacity DC PSM
    PSM 3            Rev 04    740-046988  1GB63500143   High Capacity DC PSM
    PSM 5            Rev 04    740-046988  1GB63500146   High Capacity DC PSM
    PSM 7            Rev 04    740-046988  1GB63500192   High Capacity DC PSM
CCG 0                REV 09    750-030653  BBBC1909      Clock Generator
CCG 1                REV 09    750-030653  BBBD2970      Clock Generator
...

```

show chassis hardware clei-models (PTX5000 Packet Transport Router)

```

user@host> show chassis hardware clei-models
Hardware inventory:
Item          Version  Part number  CLEI code      FRU model number
FPM            REV 08    760-030647  PROTOXCLEI     CRAFT-PTX5000-S
PDU 0          Rev 05    740-032019  IPUPAHLKAA     PWR-SAN-PDU-DC

```

PSM 0	Rev 05	740-032022	IPUPAHNKAA	PSM-PTX-DC-120-S
PSM 1	Rev 04	740-032022	032022XXXX	PWR-SAN-12-DC
PSM 2	Rev 04	740-032022	032022XXXX	PWR-SAN-12-DC
PSM 3	Rev 05	740-032022	IPUPAHNKAA	PSM-PTX-DC-120-S
CCG 0	REV 04	750-030653	PROTOXCLEI	CCG-PTX-S
CCG 1	REV 04	750-030653	PROTOXCLEI	CCG-PTX-S
Routing Engine 0	REV 05	740-026942		RE-DUO-C2600-16G-S
Routing Engine 1	REV 06	740-026942		RE-DUO-C2600-16G-S
CB 0	REV 08	750-030625	PROTOXCLEI	CB-PTX-S
CB 1	REV 08	750-030625	PROTOXCLEI	CB-PTX-S
FPC 0	REV 18	750-036844	PROTOXCLEI	FPC-PTX-P1-A
FPC 2	REV 13	750-036844	PROTOXCLEI	FPC-PTX-P1-A
PIC 0	REV 14	750-031913	PROTOXCLEI	P1-PTX-24-10GE-SFPP
FPC 3	REV 13	750-036844	PROTOXCLEI	FPC-PTX-P1-A
FPC 5				
PIC 0	REV 14	750-031913	PROTOXCLEI	P1-PTX-24-10GE-SFPP
FPC 6	REV 18	750-036844	PROTOXCLEI	FPC-PTX-P1-A
FPC 7	REV 18	750-036844	PROTOXCLEI	FPC-PTX-P1-A
SIB 0	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
SIB 1	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
SIB 2	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
SIB 3	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
SIB 4	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
SIB 5	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
SIB 6	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
SIB 7	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
SIB 8	REV 07	750-030631	PROTOXCLEI	SIB-I-PTX5008
Fan Tray 1	REV 04	760-030642	PROTOXCLEI	FAN-PTX-H-S

show chassis hardware clei-models (PTX5000 Packet Transport Router with AC PSM and PDU)

```

user@host> show chassis hardware clei-models
Hardware inventory:
Item          Version  Part number  CLEI code      FRU model number
Midplane     REV 16   750-035893   IPMUN00ARA     CHAS-MP-PTX5000-S
FPM          REV 12   760-030647   IPUCA7SCAA     CRAFT-PTX5000-S
PDU 0        Rev 01   740-048338   PROTOACPDU     PDU2-PTX-AC-W
  PSM 0       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 1       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 2       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 3       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 4       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 5       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 6       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 7       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
PDU 1        Rev 01   740-048338   PROTOACPDU     PDU2-PTX-AC-W
  PSM 0       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 1       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 2       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 3       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 4       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 5       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 6       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
  PSM 7       Rev 01   740-048334   PROTOACPSM     PSM2-PTX-AC
CCG 0        REV 09   750-030653   IPUCA7DCAA     CCG-PTX-S
...

```

show chassis hardware clei-models (PTX5000 Packet Transport Router with FPC2-PTX-P1A)

```

user@host> show chassis hardware clei-models

```

Hardware inventory:

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 11	750-035893	IPMUN00ARA	CHAS-MP-PTX5000-S
FPM	REV 12	760-030647	IPUCA7SCAA	CRAFT-PTX5000-S
PDU 0	Rev 04	740-048336	IPUPAL7KAA	PDU2-PTX-DC-S
PSM 0	Rev 04	740-046988	IPUPAL8KAA	PSM2-PTX-DC-S
PSM 2	Rev 04	740-046988	IPUPAL8KAA	PSM2-PTX-DC-S
PSM 4	Rev 04	740-046988	IPUPAL8KAA	PSM2-PTX-DC-S
PSM 6	Rev 04	740-046988	IPUPAL8KAA	PSM2-PTX-DC-S
PDU 1	Rev 04	740-048336	IPUPAL7KAA	PDU2-PTX-DC-S
PSM 1	Rev 04	740-046988	IPUPAL8KAA	PSM2-PTX-DC-S
PSM 3	Rev 04	740-046988	IPUPAL8KAA	PSM2-PTX-DC-S
PSM 5	Rev 04	740-046988	IPUPAL8KAA	PSM2-PTX-DC-S
PSM 7	Rev 04	740-046988	IPUPAL8KAA	PSM2-PTX-DC-S
CCG 0	REV 09	750-030653	IPUCA7DCAA	CCG-PTX-S
CCG 1	REV 09	750-030653	IPUCA7DCAA	CCG-PTX-S
...				

show chassis hardware detail (PTX5000 Packet Transport Router)

user@host> show chassis hardware detail

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN11D1FD7AJA	PTX5000
Midplane	REV 03	711-031896	ABAC5589	Midplane-8S
FPM	REV 08	760-030647	EG1679	Front Panel Display
PDU 0	Rev 05	740-032019	ZE00006	DC Power Dist Unit
PSM 0	Rev 05	740-032022	ZJ00018	DC 12V Power Supply
PSM 1	Rev 04	740-032022	ZC00052	DC 12V Power Supply
PSM 2	Rev 04	740-032022	ZD00051	DC 12V Power Supply
PSM 3	Rev 05	740-032022	ZJ00060	DC 12V Power Supply
CCG 0	REV 04	750-030653	EG3703	Clock Generator
CCG 1	REV 04	750-030653	EG3698	Clock Generator
Routing Engine 0	REV 05	740-026942	P737A-002231	RE-DUO-2600
ad0	3823 MB	SMART CF	201006190039C02DC02D	Compact Flash
ad1	62720 MB	SMART Lite SATA Drive	2011042300CF4C6B4C6B	Disk 1
Routing Engine 1	REV 06	740-026942	P737A-002438	RE-DUO-2600
ad0	3823 MB	SMART CF	20100619053455F055F0	Compact Flash
ad1	62720 MB	SMART Lite SATA Drive	20110423000AE8E7E8E7	Disk 1
CB 0	REV 08	750-030625	EG5519	Control Board
CB 1	REV 08	750-030625	EG5516	Control Board
FPC 0	REV 18	750-036844	EJ3080	FPC
CPU	REV 12	711-030686	EJ3260	SNG PMB
FPC 2	REV 13	750-036844	EG5065	FPC
CPU	REV 09	711-030686	EG4082	SNG PMB
PIC 0	REV 14	750-031913	EG5127	24x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	143363A00240	SFP+-10G-SR
Xcvr 1	REV 01	740-031981	UK90PZ1	SFP+-10G-LR
Xcvr 2	REV 01	740-031980	AD1141A04XH	SFP+-10G-SR
Xcvr 3	REV 01	740-031981	UK90Q46	SFP+-10G-LR
Xcvr 4	REV 01	740-031980	AD1141A04X4	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	B11H02560	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	B11C01589	SFP+-10G-SR
Xcvr 8	REV 01	740-031980	AD1141A04XF	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	123363A01094	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	AK80LKF	SFP+-10G-SR
Xcvr 12	REV 01	740-031980	183363A01528	SFP+-10G-SR
Xcvr 14	REV 01	740-031980	193363A01079	SFP+-10G-SR
Xcvr 15	REV 01	740-031980	AK80MC8	SFP+-10G-SR
Xcvr 16	REV 01	740-031980	AJC08HC	SFP+-10G-SR
Xcvr 19	REV 01	740-021309	J08D26856	SFP+-10G-LR

Xcvr 21	REV 01	740-031980	AK80KCT	SFP+-10G-SR
Xcvr 22	REV 01	740-031981	UK90PZL	SFP+-10G-LR
Xcvr 23	REV 01	740-031980	AK80N1V	SFP+-10G-SR
FPC 3	REV 13	750-036844	EG5074	FPC
CPU	REV 09	711-030686	EG4064	SNG PMB
PIC 1	REV 10	750-031903	EG0325	SNG Load
FPC 5	REV 06	750-036844	EH3198	FPC
CPU				
PIC 0	REV 14	750-031913	EG5134	24x 10GE(LAN) SFP+
Xcvr 0	REV 01	740-031980	AK80LBH	SFP+-10G-SR
Xcvr 1	REV 01	740-031980	B11B03724	SFP+-10G-SR
Xcvr 2	REV 01	740-031980	AK80FMH	SFP+-10G-SR
Xcvr 5	REV 01	740-031980	B11J00818	SFP+-10G-SR
Xcvr 6	REV 01	740-031980	193363A00743	SFP+-10G-SR
Xcvr 7	REV 01	740-031980	B11B06125	SFP+-10G-SR
Xcvr 10	REV 01	740-031980	B11H02529	SFP+-10G-SR
Xcvr 11	REV 01	740-031980	AK80LFB	SFP+-10G-SR
Xcvr 12	REV 01	740-031980	193363A01061	SFP+-10G-SR
Xcvr 15	REV 01	740-031980	B11J00687	SFP+-10G-SR
Xcvr 16	REV 01	740-031980	193363A00738	SFP+-10G-SR
Xcvr 18	REV 01	740-031980	AK80MQX	SFP+-10G-SR
Xcvr 19	REV 01	740-021309	J08C17257	SFP+-10G-LR
Xcvr 22	REV 01	740-031980	B11J00730	SFP+-10G-SR
Xcvr 23	REV 01	740-031980	AK80KEE	SFP+-10G-SR
PIC 1	REV 08	750-036710	EG3105	2x 40GE CFP
Xcvr 0	REV 01	740-034554	B260HLT	CFP-40G-LR4
Xcvr 1	REV 01	740-034554	B11C02847	CFP-40G-LR4
FPC 6	REV 18	750-036844	EJ4391	FPC
CPU	REV 12	711-030686	EJ3257	SNG PMB
FPC 7	REV 18	750-036844	EJ4382	FPC
CPU	REV 12	711-030686	EJ3238	SNG PMB
SPMB 0	REV 10	711-030686	EG5418	SNG PMB
SPMB 1	REV 09	711-030686	EG5373	SNG PMB
SIB 0	REV 07	750-030631	EG4858	SIB-I-8S
SIB 1	REV 07	750-030631	EG4872	SIB-I-8S
SIB 2	REV 07	750-030631	EG4866	SIB-I-8S
SIB 3	REV 07	750-030631	EG6011	SIB-I-8S
SIB 4	REV 07	750-030631	EG4907	SIB-I-8S
SIB 5	REV 07	750-030631	EG4879	SIB-I-8S
SIB 6	REV 07	750-030631	EG4864	SIB-I-8S
SIB 7	REV 07	750-030631	EG4899	SIB-I-8S
SIB 8	REV 07	750-030631	EG4880	SIB-I-8S
Fan Tray 0	REV 04	760-032784	EG1496	Vertical Fan Tray
Fan Tray 1	REV 04	760-030642	EG1335	Horizontal Fan Tray
Fan Tray 2	REV 02	760-030642	ED4952	Horizontal Fan Tray

show chassis hardware detail (PTX5000 Packet Transport Router with AC PSM and PDU)

```
user@host> show chassis hardware detail
```

Hardware inventory:				
Item	Version	Part number	Serial number	Description
Chassis			JN12223A6AJA	PTX5000
Midplane	REV 16	750-035893	ACRA1350	Midplane-8S
FPM	REV 12	760-030647	BBBD5625	Front Panel Display
PDU 0	Rev 01	740-048338	1GB83360005	High Capacity AC WYE PDU
PSM 0	Rev 01	740-048334	1GB43360074	High Capacity AC PSM
PSM 1	Rev 01	740-048334	1GB43360001	High Capacity AC PSM
PSM 2	Rev 01	740-048334	1GB43360104	High Capacity AC PSM
PSM 3	Rev 01	740-048334	1GB43360042	High Capacity AC PSM
PSM 4	Rev 01	740-048334	1GB43360068	High Capacity AC PSM

PSM 5	Rev 01	740-048334	1GB43360080	High Capacity AC PSM
PSM 6	Rev 01	740-048334	1GB43360046	High Capacity AC PSM
PSM 7	Rev 01	740-048334	1GB43360100	High Capacity AC PSM
PDU 1	Rev 01	740-048338	1GB83360006	High Capacity AC WYE PDU
PSM 0	Rev 01	740-048334	1GB43360069	High Capacity AC PSM
PSM 1	Rev 01	740-048334	1GB43360099	High Capacity AC PSM
PSM 2	Rev 01	740-048334	1GB43360050	High Capacity AC PSM
PSM 3	Rev 01	740-048334	1GB43360095	High Capacity AC PSM
PSM 4	Rev 01	740-048334	1GB43360101	High Capacity AC PSM
PSM 5	Rev 01	740-048334	1GB43360075	High Capacity AC PSM
PSM 6	Rev 01	740-048334	1GB43360047	High Capacity AC PSM
PSM 7	Rev 01	740-048334	1GB43360019	High Capacity AC PSM
CCG 0	REV 09	750-030653	BBAZ5345	Clock Generator

show chassis hardware detail (PTX5000 Packet Transport Router with FPC2-PTX-P1A)

```

user@host> show chassis hardware detail
Hardware inventory:
Item                Version  Part number  Serial number  Description
Chassis              JN1204FC0AJA PTX5000
Midplane             REV 11    750-035893  ACAB8038      Midplane-8S
FPM                  REV 12    760-030647  BBBD5619      Front Panel
Display
PDU 0                Rev 04    740-048336  1GB93470043   High Capacity DC PDU
  PSM 0              Rev 04    740-046988  1GB63500184   High Capacity DC PSM
  PSM 2              Rev 04    740-046988  1GB63500169   High Capacity DC PSM
  PSM 4              Rev 04    740-046988  1GB63500306   High Capacity DC PSM
  PSM 6              Rev 04    740-046988  1GB63500074   High Capacity DC PSM
PDU 1                Rev 04    740-048336  1GB93470045   High Capacity DC PDU
  PSM 1              Rev 04    740-046988  1GB63500193   High Capacity DC PSM
  PSM 3              Rev 04    740-046988  1GB63500143   High Capacity DC PSM
  PSM 5              Rev 04    740-046988  1GB63500146   High Capacity DC PSM
  PSM 7              Rev 04    740-046988  1GB63500192   High Capacity DC PSM
CCG 0                REV 09    750-030653  BBBC1909      Clock Generator
CCG 1                REV 09    750-030653  BBBD2970      Clock Generator
...

```

show chassis hardware models (PTX5000 Packet Transport Router)

```

user@host> show chassis hardware models
Hardware inventory:
Item                Version  Part number  Serial number  FRU model number
FPM                 REV 08    760-030647  EG1679         CRAFT-PTX5000-S
PDU 0               Rev 05    740-032019  ZE00006        PWR-SAN-PDU-DC
  PSM 0             Rev 05    740-032022  ZJ00018        PSM-PTX-DC-120-S
  PSM 1             Rev 04    740-032022  ZC00052        PWR-SAN-12-DC
  PSM 2             Rev 04    740-032022  ZD00051        PWR-SAN-12-DC
  PSM 3             Rev 05    740-032022  ZJ00060        PSM-PTX-DC-120-S
CCG 0               REV 04    750-030653  EG3703         CCG-PTX-S
CCG 1               REV 04    750-030653  EG3698         CCG-PTX-S
Routing Engine 0    REV 05    740-026942  P737A-002231   RE-DUO-C2600-16G-S
Routing Engine 1    REV 06    740-026942  P737A-002438   RE-DUO-C2600-16G-S
CB 0                REV 08    750-030625  EG5519         CB-PTX-S
CB 1                REV 08    750-030625  EG5516         CB-PTX-S
FPC 0               REV 18    750-036844  EJ3080         FPC-PTX-P1-A
FPC 2               REV 13    750-036844  EG5065         FPC-PTX-P1-A
  PIC 0             REV 14    750-031913  EG5127         P1-PTX-24-10GE-SFPP
FPC 3               REV 13    750-036844  EG5074         FPC-PTX-P1-A
FPC 5
  PIC 0             REV 14    750-031913  EG5134         P1-PTX-24-10GE-SFPP

```

FPC 6	REV 18	750-036844	EJ4391	FPC-PTX-P1-A
FPC 7	REV 18	750-036844	EJ4382	FPC-PTX-P1-A
SIB 0	REV 07	750-030631	EG4858	SIB-I-PTX5008
SIB 1	REV 07	750-030631	EG4872	SIB-I-PTX5008
SIB 2	REV 07	750-030631	EG4866	SIB-I-PTX5008
SIB 3	REV 07	750-030631	EG6011	SIB-I-PTX5008
SIB 4	REV 07	750-030631	EG4907	SIB-I-PTX5008
SIB 5	REV 07	750-030631	EG4879	SIB-I-PTX5008
SIB 6	REV 07	750-030631	EG4864	SIB-I-PTX5008
SIB 7	REV 07	750-030631	EG4899	SIB-I-PTX5008
SIB 8	REV 07	750-030631	EG4880	SIB-I-PTX5008
Fan Tray 1	REV 04	760-030642	EG1335	FAN-PTX-H-S

show chassis hardware models (PTX5000 Packet Transport Router with AC PSM and PDU)

```

user@host> show chassis hardware models
Hardware inventory:

```

Item	Version	Part number	Serial number	FRU model number
Midplane	REV 16	750-035893	ACRA1350	CHAS-MP-PTX5000-S
FPM	REV 12	760-030647	BBBD5625	CRAFT-PTX5000-S
PDU 0	Rev 01	740-048338	1GB83360005	PDU2-PTX-AC-W
PSM 0	Rev 01	740-048334	1GB43360074	PSM2-PTX-AC
PSM 1	Rev 01	740-048334	1GB43360001	PSM2-PTX-AC
PSM 2	Rev 01	740-048334	1GB43360104	PSM2-PTX-AC
PSM 3	Rev 01	740-048334	1GB43360042	PSM2-PTX-AC
PSM 4	Rev 01	740-048334	1GB43360068	PSM2-PTX-AC
PSM 5	Rev 01	740-048334	1GB43360080	PSM2-PTX-AC
PSM 6	Rev 01	740-048334	1GB43360046	PSM2-PTX-AC
PSM 7	Rev 01	740-048334	1GB43360100	PSM2-PTX-AC
PDU 1	Rev 01	740-048338	1GB83360006	PDU2-PTX-AC-W
PSM 0	Rev 01	740-048334	1GB43360069	PSM2-PTX-AC
PSM 1	Rev 01	740-048334	1GB43360099	PSM2-PTX-AC
PSM 2	Rev 01	740-048334	1GB43360050	PSM2-PTX-AC
PSM 3	Rev 01	740-048334	1GB43360095	PSM2-PTX-AC
PSM 4	Rev 01	740-048334	1GB43360101	PSM2-PTX-AC
PSM 5	Rev 01	740-048334	1GB43360075	PSM2-PTX-AC
PSM 6	Rev 01	740-048334	1GB43360047	PSM2-PTX-AC
PSM 7	Rev 01	740-048334	1GB43360019	PSM2-PTX-AC
CCG 0	REV 09	750-030653	BBAZ5345	CCG-PTX-S
...				

show chassis hardware models (PTX5000 Packet Transport Router with FPC2-PTX-P1A)

```

user@host> show chassis hardware models
Hardware inventory:

```

Item	Version	Part number	Serial number	FRU model number
Midplane	REV 11	750-035893	ACAB8038	CHAS-MP-PTX5000-S
FPM	REV 12	760-030647	BBBD5619	CRAFT-PTX5000-S
PDU 0	Rev 04	740-048336	1GB93470043	PDU2-PTX-DC-S
PSM 0	Rev 04	740-046988	1GB63500184	PSM2-PTX-DC-S
PSM 2	Rev 04	740-046988	1GB63500169	PSM2-PTX-DC-S
PSM 4	Rev 04	740-046988	1GB63500306	PSM2-PTX-DC-S
PSM 6	Rev 04	740-046988	1GB63500074	PSM2-PTX-DC-S
PDU 1	Rev 04	740-048336	1GB93470045	PDU2-PTX-DC-S
PSM 1	Rev 04	740-046988	1GB63500193	PSM2-PTX-DC-S
PSM 3	Rev 04	740-046988	1GB63500143	PSM2-PTX-DC-S
PSM 5	Rev 04	740-046988	1GB63500146	PSM2-PTX-DC-S
PSM 7	Rev 04	740-046988	1GB63500192	PSM2-PTX-DC-S
CCG 0	REV 09	750-030653	BBBC1909	CCG-PTX-S
CCG 1	REV 09	750-030653	BBBD2970	CCG-PTX-S
...				

show chassis hardware extensive (PTX5000 Packet Transport Router)

```

user@host> show chassis hardware extensive
Hardware inventory:
Item              Version  Part number  Serial number  Description
.....
PDU 0             Rev 04   740-032019   UE0003         DC Power Dist Unit
Jedec Code:      0x7fb0           EEPROM Version: 0x02
P/N:             740-032019        S/N:           UE0003
Assembly ID:     0x043d        Assembly Version: 04.00
Date:           11-29-2010    Assembly Flags: 0x00
Version:         Rev 04       CLEI Code:     032022XXXX
ID: DC Power Dist Unit      FRU Model Number: PWR-SAN-PDU-DC
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 3d 04 00 52 65 76 20 30 34 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 33 32 30 31 39 00 00
Address 0x20: 53 2f 4e 20 55 45 30 30 30 33 00 00 00 1d 0b 07
Address 0x30: da ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 30 33 32 30 32 32 58 58 58 58 50
Address 0x50: 57 52 2d 53 41 4e 2d 50 44 55 2d 44 43 00 00 00
Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Address 0x70: 00 00 00 a3 ff ff ff ff ff ff ff ff ff ff ff ff
PSM 0             Rev 04   740-032022   YG00065        DC 12V Power Supply
Module
Jedec Code:      0x7fb0           EEPROM Version: 0x02
P/N:             740-032022        S/N:           YG00065
Assembly ID:     0x0440        Assembly Version: 04.00
Date:           07-30-2010    Assembly Flags: 0x00
Version:         Rev 04       CLEI Code:     032022XXXX
ID: DC 12V Power Supply Module  FRU Model Number: PWR-SAN-12-DC
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 02 ff 04 40 04 00 52 65 76 20 30 34 00 00
Address 0x10: 00 00 00 00 37 34 30 2d 30 33 32 30 32 32 00 00
Address 0x20: 53 2f 4e 20 59 47 30 30 30 36 35 00 00 1e 07 07
Address 0x30: da ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 01 30 33 32 30 32 32 58 58 58 58 50
Address 0x50: 57 52 2d 53 41 4e 2d 31 32 2d 44 43 20 20 20 20
Address 0x60: 20 20 20 20 20 20 01 00 ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff 0c ff ff ff ff ff ff ff ff ff ff ff ff

```

show chassis hardware (MX Routers with Media Services Blade [MSB])

```

user@switch> show chassis hardware
Hardware inventory:
Item              Version  Part number  Serial number  Description
Chassis           JN1100FB1AFB  MX480
Midplane          REV 05   710-017414   TR3310        MX480 Midplane
FPM Board         REV 02   710-017254   KG1872        Front Panel Display
PEM 2             Rev 02   740-017343   QCS0812A00N   DC Power Entry Module
PEM 3             Rev 02   740-017343   QCS0812A00U   DC Power Entry Module
Routing Engine 0  REV 07   740-015113   1000740938    RE-S-1300
CB 0              REV 03   710-021523   KF4630        MX SCB
FPC 1             REV 11   750-037207   ZW9726        AS-MCC
  CPU             REV 04   711-038173   ZW4819        AS-MCC PMB
  MIC 0           REV 06   750-037214   ZW3574        AS-MSC
    PIC 0         BUILTIN  BUILTIN       AS-MSC
  MIC 1           REV 00   750-037211           AS-MXC

```

PIC 2 BUILTIN BUILTIN AS-MXC

show chassis hardware extensive (MX Routers with Media Services Blade [MSB])

```

user@switch> show chassis hardware extensive
FPC 1                      REV 11      750-037207      ZW9726                      AS-MCC
Jedec Code:    0x7fb0                      EEPROM Version:    0x02
P/N:            750-037207                      S/N:                ZW9726
Assembly ID:   0x0b37                      Assembly Version:   01.11
Date:           02-17-2012                      Assembly Flags:     0x00
Version:        REV 11                      CLEI Code:          PROTOXCLEI
ID: AS-MCC                      FRU Model Number:   750-037207
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 37 01 0b 52 45 56 20 31 31 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 32 30 37 00 00
  Address 0x20: 53 2f 4e 20 5a 57 39 37 32 36 00 00 00 11 02 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 37
  Address 0x50: 35 30 2d 30 33 37 32 30 37 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 31 31 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 5e ff ff ff ff ff ff ff ff ff ff ff ff
CPU                        REV 04      711-038173      ZW4819                      AS-MCC-PMB
Jedec Code:    0x7fb0                      EEPROM Version:    0x02
P/N:            711-038173                      S/N:                ZW4819
Assembly ID:   0x0b38                      Assembly Version:   01.04
Date:           12-30-2011                      Assembly Flags:     0x00
Version:        REV 04
ID: AS-MCC PMB
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 38 01 04 52 45 56 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 33 38 31 37 33 00 00
  Address 0x20: 53 2f 4e 20 5a 57 34 38 31 39 00 00 00 1e 0c 07
  Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 50 52 4f 54 4f 58 43 4c 45 49 37
  Address 0x50: 31 31 2d 30 33 38 31 37 33 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 30 34 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 60 00 00 00 00 00 00 00 00 00 00 00 00
MIC 0                      REV 06      750-037214      ZW3574                      AS-MS
Jedec Code:    0x7fb0                      EEPROM Version:    0x02
P/N:            750-037214                      S/N:                ZW3574
Assembly ID:   0x0a44                      Assembly Version:   01.06
Date:           02-19-2012                      Assembly Flags:     0x00
Version:        REV 06                      CLEI Code:          PROTOXCLEI
ID: AS-MS                        FRU Model Number:   750-037214
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0a 44 01 06 52 45 56 20 30 36 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 32 31 34 00 00
  Address 0x20: 53 2f 4e 20 5a 57 33 35 37 34 00 00 00 13 02 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 37
  Address 0x50: 35 30 2d 30 33 37 32 31 34 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 30 36 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 60 c0 03 e5 f4 00 00 00 00 00 00 00 00
PIC 0                        BUILTIN              BUILTIN                      AS-MS

```

```

MIC 1          REV 00    750-037211          AS-MXC
Jedec Code:    0x7fb0          EEPROM Version:    0x01
P/N:           750-037211
Assembly ID:   0x0a43          Assembly Version: 01.00
Date:          255-255-65535   Assembly Flags: 0x00
Version:       REV 00
ID: AS-MXC
Board Information Record:
Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
I2C Hex Data:
Address 0x00: 7f b0 01 ff 0a 43 01 00 52 45 56 20 30 30 00 00
Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 32 31 31 00 00
Address 0x20: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 ff ff
Address 0x30: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff
Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
Address 0x70: ff ff ff ff c0 02 e6 6c 7f b0 02 ff 0a 44 01 06
PIC 2          BUILTIN      BUILTIN      AS-MXC

```

show chassis hardware (QFX3500 Switch running Enhanced Layer 2 Software)

```

user@switch> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               P3566         QFX3500
Pseudo CB 0
Routing Engine 0
FPC 0          REV 16    750-036931   BUILTIN        QFX Routing Engine
CPU            BUILTIN   BUILTIN      QFX3500-48S4Q
PIC 0          BUILTIN   BUILTIN      FPC CPU
Xcvr 12        REV 01    740-030658   AD1125A0438    48x 10G-SFP+
Xcvr 13        REV 01    740-030658   AD1125A02GN    SFP+-10G-USR
PIC 1          BUILTIN   BUILTIN      4x 40G-QSFP+
PIC 2
MGMT BRD       REV 10    750-036946   BBAW0328       QFX3500-MGMT-RJ45-AFI
Power Supply 0 Rev 05    740-032091   WA13035        JPSU-650W-AC-AFI
Power Supply 1
Fan Tray 0                               QFX3500 Fan Tray, Front
to Back Airflow
Fan Tray 1                               QFX3500 Fan Tray, Front
to Back Airflow
Fan Tray 2                               QFX3500 Fan Tray, Front
to Back Airflow

```

show chassis hardware (QFX5100 Switch running Enhanced Layer 2 Software)

```

user@switch> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               TB3113280048  QFX5100-24Q-2P
Pseudo CB 0
Routing Engine 0
FPC 0          REV 02    650-049942   TB3113280048   QFX Routing Engine
CPU            BUILTIN   BUILTIN      QFX5100-24Q-2P
PIC 0          BUILTIN   BUILTIN      FPC CPU
Xcvr 8         REV 01    740-032986   QA470143       24x 40G-QSFP
Xcvr 14        REV 01    740-032986   QB500525       QSFP+-40G-SR4
PIC 1          REV 02    611-049555   RR3113310169   QSFP+-40G-SR4
Xcvr 0         REV 01    740-032986   QC440904       QFX-EM-4Q
QSFP+-40G-SR4

```

Xcvr 1	REV 01	740-032986	QB240154	QSFP+-40G-SR4
Xcvr 2	REV 01	740-035085	018110105	QSFP+-40G-LPBK
PIC 2	REV 02	611-049555	RR3113310209	QFX-EM-4Q
Xcvr 0	REV 01	740-032986	QB190270	QSFP+-40G-SR4
Xcvr 1	REV 01	740-035085	018110063	QSFP+-40G-LPBK
Xcvr 2	REV 01	740-032986	QB210034	QSFP+-40G-SR4
Power Supply 0	REV 03	740-041741	1GA23110973	JPSU-650W-AC-AFO
Power Supply 1	REV 03	740-041741	1GA23090878	JPSU-650W-AC-AFO
Fan Tray 0				QFX5100 Fan Tray 0, Front
to Back Airflow - AFO				
Fan Tray 1				QFX5100 Fan Tray 1, Front
to Back Airflow - AFO				
Fan Tray 2				QFX5100 Fan Tray 2, Front
to Back Airflow - AFO				
Fan Tray 3				QFX5100 Fan Tray 3, Front
to Back Airflow - AFO				
Fan Tray 4				QFX5100 Fan Tray 4, Front
to Back Airflow - AFO				

show chassis location

List of Syntax	Syntax on page 559 Syntax (TX Matrix Router) on page 559 Syntax (TX Matrix Plus Router) on page 559 Syntax (MX Series Router) on page 559 Syntax (QFX Series) on page 559 Syntax (OCX Series) on page 559
Syntax	show chassis location
Syntax (TX Matrix Router)	show chassis location <fpc interface (by-name <i>name</i> by-slot fpc number lcc number) lcc number scc>
Syntax (TX Matrix Plus Router)	show chassis location <fpc interface (by-name <i>name</i> by-slot fpc number lcc number) lcc number sfc number>
Syntax (MX Series Router)	show chassis location <all-members> <local> <member <i>member-id</i> >
Syntax (QFX Series)	show chassis location <interconnect-device <i>name</i> > <node-device <i>name</i> >
Syntax (OCX Series)	show chassis location
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. sfc option introduced for the TX Matrix Plus router in Junos OS Release 9.6. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display the physical location of the chassis. This command can only be used on the master Routing Engine.
Options	<p>none—Display all information about the physical location of the chassis. On a TX Matrix router, display all information about the physical location of the TX Matrix router and its attached T640 routers. On a TX Matrix Plus router, display all information about the physical location of the TX Matrix Plus router and its attached routers.</p> <p>all-members—(MX Series routers only) (Optional) Display the physical location of the chassis for all the member routers in the Virtual Chassis configuration.</p> <p>fpc—(TX Matrix router and TX Matrix Plus router only) (Optional) Display the physical location of all Flexible PIC Concentrators (FPCs).</p> <p>interconnect-device <i>name</i>—(QFabric systems only) (Optional) Display the physical location of the Interconnect device.</p>

interface by-name *name*—(TX Matrix and TX Matrix Plus routers only) (Optional) Display the physical location of a specified interface name. On a TX Matrix router, this option displays the FPC number and T640 router (line-card chassis) number associated with the specified interface. On a TX Matrix Plus router, this option displays the FPC number and router (line-card chassis) number associated with the specified interface.

interface by-slot *fpc number lcc number*—(TX Matrix and TX Matrix Plus router only) (Optional) On a TX Matrix router, display the global FPC number of an interface by specifying its local FPC number and T640 router (line-card chassis) number. On a TX Matrix Plus router, display the global FPC number of an interface by specifying its local FPC number and router (line-card chassis) number.

- The global FPC number is the FPC slot number when all the FPC slots in the routing matrix are considered: **0** through **31**. On TX Matrix Plus router with 3D SIBs, the value is **0** through **63**. The local FPC number is the FPC slot number on a particular T640 router.
- For **fpc**, replace *number* with a value from **0** through **7**.
- For **lcc**, replace *number* with a value from **0** through **7**.

lcc *number*—(TX Matrix and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display the physical location of a specified T640 router (line-card chassis) that is connected to a TX Matrix router. On a TX Matrix Plus router, display the physical location of a specified router (line-card chassis) that is connected to a TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers only) (Optional) Display the physical location of the chassis for the local Virtual Chassis member.

member *member-id*—(MX Series routers only) (Optional) Display the physical location of the chassis for the specified member of the Virtual Chassis configuration. Replace *member-id* with a value of 0 or 1.

node-device *name*—(QFabric systems only) (Optional) Display the physical location of the Node device.

scc—(TX Matrix routers only) (Optional) Display the physical location of the TX Matrix router (switch-card chassis).

sfc—(TX Matrix Plus routers only) (Optional) Display the physical location of the TX Matrix Plus router (or switch-fabric chassis).

Required Privilege Level view

Related Documentation • *Displaying Chassis Physical Locations for a Routing Matrix with a TX Matrix Plus Router*

List of Sample Output [show chassis location on page 561](#)
[show chassis location fpc \(TX Matrix Router\) on page 562](#)
[show chassis location interface by-slot \(TX Matrix Router\) on page 562](#)
[show chassis location fpc \(TX Matrix Plus Router\) on page 562](#)
[show chassis location interface by-slot \(TX Matrix Plus Router\) on page 562](#)
[show chassis location \(QFX Series and OCX Series\) on page 562](#)
[show chassis location \(QFabric Systems\) on page 562](#)

Output Fields Table 25 on page 561 lists the output fields for the **show chassis location** command. Output fields are listed in the approximate order in which they appear.

Table 25: show chassis location Output Fields

Field Name	Field Description
country-code	Country code information.
postal-code	Postal code information.
Building	Building information.
Floor	Floor information.
Global FPC	Global FPC number. The FPC slot number, when all FPC slots in the routing matrix are considered. The range of values is 0 through 31. On TX Matrix Plus router with 3D SIBs the value is 0 through 63.
LATA	Local access transport area information.
LCC	Line-card chassis number. On a TX Matrix router, the number of a particular T640 router connected to the TX Matrix router. On a TX Matrix Plus router, the number of a particular router connected to the TX Matrix Plus router.
Local FPC	Local FPC number. On a TX Matrix router, the FPC slot number on a particular T640 router. On a TX Matrix Plus router, the FPC slot number on a particular router.

Sample Output

show chassis location

```
user@host> show chassis location
```

```
country-code: US
postal-code: 94404
Building: Building 2, Floor: 2
```

show chassis location fpc (TX Matrix Router)

```
user@host> show chassis location fpc
Global FPC    LCC    Local FPC
      17         2        1
      21         2        5
```

show chassis location interface by-slot (TX Matrix Router)

```
user@host> show chassis location interface by-slot fpc 1 lcc 1
Global FPC: 9
```

show chassis location fpc (TX Matrix Plus Router)

```
user@host> show chassis location fpc
Global FPC    LCC    Local FPC
      0         0        0
      1         0        1
```

show chassis location interface by-slot (TX Matrix Plus Router)

```
user@host> show chassis location interface by-slot fpc 2 lcc 1
Global FPC: 10
```

show chassis location (QFX Series and OCX Series)

```
user@switch> show chassis location
country-code: US
postal-code: 94404
Building: Building 2, Floor: 2
```

show chassis location (QFabric Systems)

```
user@switch> show chassis location interconnect-device interconnect1
country-code: US
postal-code: 94404
Building: Building 2, Floor: 2
```


show chassis pic

List of Syntax	Syntax on page 563 Syntax (TX Matrix and TX Matrix Plus Routers) on page 563 Syntax (MX Series Routers) on page 563 Syntax (MX104, MX2010 and MX2020 3D Universal Edge Routers) on page 563 Syntax (PTX Series Packet Transport Router) on page 563 Syntax (QFX Series) on page 563 Syntax (OCX Series) on page 563 Syntax (ACX Series Universal Access Routers) on page 563
Syntax	<code>show chassis pic fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i></code>
Syntax (TX Matrix and TX Matrix Plus Routers)	<code>show chassis pic fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i> <fcc <i>number</i>></code>
Syntax (MX Series Routers)	<code>show chassis pic fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i> <all-members> <local> <member <i>member-id</i>></code>
Syntax (MX104, MX2010 and MX2020 3D Universal Edge Routers)	<code>show chassis pic fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i></code>
Syntax (PTX Series Packet Transport Router)	<code>show chassis pic transport fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i></code>
Syntax (QFX Series)	<code>show chassis pic fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i> <interconnect-device <i>name</i> (fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i>)> <node-device <i>name</i> pic-slot <i>slot-number</i>></code>
Syntax (OCX Series)	<code>show chassis pic fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i></code>
Syntax (ACX Series Universal Access Routers)	<code>show chassis pic fpc-slot <i>slot-number</i> pic-slot <i>slot-number</i></code>
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Command introduced in Junos OS Release 11.1 for QFX Series.</p> <p>Command introduced in Junos OS Release 12.2 for ACX Series Universal Access Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 13.2 for PTX Series Packet Transport Routers.</p> <p>Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>

Description Display status information about the PIC installed in the specified Flexible PIC Concentrator (FPC) and PIC slot.

Options **fpc-slot slot-number**—Display information about the PIC in this particular FPC slot:

- On a TX Matrix router, if you specify the number of the T640 router by using the **lcc number** option (the recommended method), replace **slot-number** with a value from 0 through 7. Otherwise, replace **slot-number** with a value from 0 through 31.

Likewise, on a TX Matrix Plus router, if you specify the number of the T1600 router by using the **lcc number** option (the recommended method), replace **slot-number** with a value from 0 through 7. Otherwise, replace **slot-number** with a value from 0 through 31. For example, the following commands have the same result:

```
user@host> show chassis pic fpc-slot 1 lcc 1 pic-slot 1
user@host> show chassis pic fpc-slot 9 pic-slot 1
```

- M120 routers only—Replace **slot-number** with a value from 0 through 5.
- MX80 routers only—Replace **slot-number** with a value from 0 through 1.
- MX104 routers only—Replace **slot-number** with a value from 0 through 2.
- MX240 routers only—Replace **slot-number** with a value from 0 through 2.
- MX480 routers only—Replace **slot-number** with a value from 0 through 5.
- MX960 routers only—Replace **slot-number** with a value from 0 through 11.
- MX2010 routers only—Replace **slot-number** with a value from 0 through 9.
- MX2020 routers only—Replace **slot-number** with a value from 0 through 19.
- Other routers—Replace **slot-number** with a value from 0 through 7.
- EX Series switches:
 - EX3200 switches and EX4200 standalone switches—Replace **slot-number** with 0.
 - EX4200 switches in a Virtual Chassis configuration—Replace **slot-number** with a value from 0 through 9 (switch's member ID).
 - EX8208 switches—Replace **slot-number** with a value from 0 through 7 (line card).
 - EX8216 switches—Replace **slot-number** with a value from 0 through 15 (line card).
- QFX Series:
 - QFX3500, QFX3600, QFX5100, and OCX Series standalone switches—Replace **slot-number** with 0. In the command output, FPC refers to a line card. The FPC number equals the slot number for the line card.
 - QFabric systems—Replace **slot-number** with any number between 0 and 15. In the command output, FPC refers to a line card. The FPC number equals the slot number for the line card.

all-members—(MX Series routers and EX Series switches only) (Optional) Display PIC information for all member routers in the Virtual Chassis configuration.

interconnect-device *name*—(QFabric systems only) (Optional) Display PIC information for a specified Interconnect device.

lcc *number*—(TX Matrix and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display PIC information for a specified T640 router (line-card chassis) that is connected to the TX Matrix router. On a TX Matrix Plus router, display PIC information for a specified router (line-card chassis) that is connected to the TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers and EX Series switches only) (Optional) Display PIC information for the local Virtual Chassis member.

member *member-id*—(MX Series routers and EX Series switches only) (Optional) Display PIC information for the specified member of the Virtual Chassis configuration. Replace *member-id* with a value of 0 or 1.

node-device *name*—(QFabric systems only) (Optional) Display PIC information for a specified Node device.

pic-slot *slot-number*—Display information about the PIC in this particular PIC slot. For routers, replace *slot-number* with a value from 0 through 3. For EX3200 and EX4200 switches, replace *slot-number* with 0 for built-in network interfaces and 1 for interfaces on uplink modules. For EX8208 and EX8216 switches, replace *slot-number* with 0. For the QFX3500, QFX3600, QFX5100, and OCX Series standalone switches, replace *slot-number* with 0.

transport—Display PIC information for optical transport network.

Required Privilege Level view

Related Documentation

- *request chassis pic*
- [show chassis hardware on page 383](#)
- *Configuring the 12-Port Channelized T1/E1 Circuit Emulation PIC*

- *100-Gigabit Ethernet Type 4 PIC with CFP Overview*

List of Sample Output

[show chassis pic fpc-slot pic-slot on page 568](#)
[show chassis pic fpc-slot pic-slot \(PIC Offline\) on page 569](#)
[show chassis pic fpc-slot pic-slot \(FPC Offline\) on page 569](#)
[show chassis pic fpc-slot pic-slot \(FPC Not Present\) on page 569](#)
[show chassis pic fpc-slot pic-slot \(PIC Not Present\) on page 569](#)
[show chassis pic fpc-slot pic-slot \(M120 Router\) on page 569](#)
[show chassis pic fpc-slot pic-slot \(MX104 Router\) on page 569](#)
[show chassis pic fpc-slot pic-slot \(MX960 Router with Bidirectional Optics\) on page 570](#)
[show chassis pic fpc-slot pic-slot \(MX480 Router with 100-Gigabit Ethernet MIC\) on page 570](#)
[show chassis pic fpc-slot pic-slot \(MX240, MX480, MX960 Routers with Application Services Modular Line Card\) on page 570](#)
[show chassis pic fpc-slot pic-slot \(MX960 Router with MPC5EQ\) on page 571](#)
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[show chassis pic fpc-slot pic-slot \(MX480 router with OTN Interface\) on page 571](#)
[show chassis pic fpc-slot pic-slot \(MX2010 Router with OTN Interfaces\) on page 571](#)
[show chassis pic fpc-slot pic-slot \(MX2010 Router\) on page 572](#)
[show chassis pic fpc-slot pic-slot \(MX2020 Router\) on page 572](#)
[show chassis pic fpc-slot pic-slot \(MX2020 Router with MPC5EQ and MPC6E\) on page 572](#)
[show chassis pic fpc-slot pic-slot \(MX2020 Router with MPC6E and OTN MIC\) on page 573](#)
[show chassis pic fpc-slot pic-slot \(MX2020 Router with MPC4E\) on page 573](#)
[show chassis pic fpc-slot pic-slot \(T1600 Router with 100-Gigabit Ethernet PIC\) on page 573](#)
[show chassis pic fpc-slot pic-slot lcc \(TX Matrix Router\) on page 574](#)
[show chassis pic fpc-slot pic-slot lcc \(TX Matrix Plus Router\) on page 574](#)
[show chassis pic fpc-slot pic-slot \(Next-Generation SONET/SDH SFP\) on page 574](#)
[show chassis pic fpc-slot pic-slot \(12-Port T1/E1\) on page 574](#)
[show chassis pic fpc-slot pic-slot \(4x CHOC3 SONET CE SFP\) on page 575](#)
[show chassis pic fpc-slot pic-slot \(SONET/SDH OC3/STM1 \[Multi-Rate\] MIC with SFP\) on page 575](#)
[show chassis pic fpc-slot pic-slot \(8-Port Channelized SONET/SDH OC3/STM1 \[Multi-Rate\] MIC with SFP\) on page 575](#)
[show chassis pic fpc-slot pic-slot \(4-Port Channelized SONET/SDH OC3/STM1 \[Multi-Rate\] MIC with SFP\) on page 576](#)
[show chassis pic fpc-slot pic-slot \(1-Port OC192/STM64 MIC with XFP\) on page 576](#)
[show chassis pic fpc-slot 1 pic-slot 2 \(8-Port DS3/E3 MIC\) on page 576](#)
[show chassis pic fpc-slot pic-slot \(OTN\) on page 576](#)
[show chassis pic fpc-slot pic-slot \(QFX3500 Switch\) on page 576](#)
[show chassis pic fpc-slot pic-slot \(QFX5100 Switches and OCX Series \) on page 577](#)
[show chassis pic interconnect-device fpc-slot pic-slot \(QFabric Systems\) on page 577](#)
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[show chassis pic fpc-slot pic-slot \(ACX2000 Universal Access Router\) on page 578](#)
[show chassis pic fpc-slot pic-slot \(MX Series Routers with Media Services Blade \[MSB\]\) on page 578](#)

[show chassis pic fpc slot PIC slot \(MX Series Routers with Media Services Blade \[MSB\]\) on page 578](#)

[show chassis pic transport fpc-slot pic-slot \(PTX Series Packet Transport Routers\) on page 578](#)

Output Fields Table 26 on page 567 lists the output fields for the **show chassis pic** command. Output fields are listed in the approximate order in which they appear.

Table 26: show chassis pic Output Fields

Field Name	Field Description
Type	<p>PIC type.</p> <p>NOTE: On the 1-port OC192/STM64 MICs with the SDH framing mode, the type is displayed as MIC-3D-1STM64-XFP and with the SONET framing mode, the type is displayed as MIC-3D-1OC192-XFP. By default, the 1-port OC192/STM64 MICs displays the type as MIC-3D-1OC192-XFP.</p>
Account Layer2 Overhead	(MX Series routers) Indicates whether functionality to count the Layer 2 overhead bytes in the interface statistics at the PIC level is enabled or disabled.
ASIC type	Type of ASIC on the PIC.
State	<p>Status of the PIC. State is displayed only when a PIC is in the slot.</p> <ul style="list-style-type: none"> • Online— PIC is online and running. • Offline—PIC is powered down.
PIC version	PIC hardware version.
Uptime	How long the PIC has been online.
Package	(Multiservices PICs only) Services package supported: Layer-2 or Layer-3 .
Port Number	Port number for the PIC.
Cable Type	Type of cable connected to the port: LH , LX , or SX .
PIC Port Information (MX480 Router 100-Gigabit Ethernet CFP)	<p>Port-level information for the PIC.</p> <ul style="list-style-type: none"> • Port—Port number • Cable type—Type of optical transceiver installed. • Fiber type—Type of fiber. SM is single-mode. • Xcvr vendor—Transceiver vendor name. • Xcvr vendor part number—Transceiver vendor part number. • Wavelength—Wavelength of the transmitted signal. Uplinks and downlinks are always 1550 nm. There is a separate fiber for each direction

Table 26: show chassis pic Output Fields (*continued*)

Field Name	Field Description
PIC Port Information (MX960 Router Bidirectional Optics)	<p>Port-level information for the PIC.</p> <ul style="list-style-type: none"> Port—Port number Cable type—Type of small form-factor pluggable (SFP) optical transceiver installed. Uplink interfaces display -U. Down link interfaces display -D. Fiber type—Type of fiber. SM is single-mode. Xcvr vendor—Transceiver vendor name. Xcvr vendor part number—Transceiver vendor part number. <ul style="list-style-type: none"> BX10-10-km bidirectional optics. BX40-40-km bidirectional optics. SFP-LX-40-km SFP optics. Wavelength—Wavelength of the transmitted signal. Uplinks are always 1310 nm. Downlinks are either 1490 nm or 1550 nm.
PIC Port Information (Next-Generation SONET/SDH SFP)	<p>Port-level information for the next-generation SONET/SDH SFP PIC.</p> <ul style="list-style-type: none"> Port—Port number. Cable type—Type of small form-factor pluggable (SFP) optical transceiver installed. Fiber type—Type of fiber: SM (single-mode) or MM (multimode). Xcvr vendor—Transceiver vendor name. Xcvr vendor part number—Transceiver vendor part number. Wavelength—Wavelength of the transmitted signal. Next-generation SONET/SDH SFPs use 1310 nm.
Pic port information (MX104 router)	<p>Port-level information for the PIC.</p> <ul style="list-style-type: none"> Port—Port number Cable type—Type of optical transceiver installed. Fiber type—Type of fiber. SM is single-mode. Xcvr vendor—Transceiver vendor name. Xcvr vendor part number—Transceiver vendor part number. Wavelength—Wavelength of the transmitted signal. Xcvr Firmware—Firmware version of the transceiver.
Multirate Mode	Rate-selectability status for the MIC: Enabled or Disabled .
Channelization	Indicates whether channelization is enabled or disabled on the DS3/E3 MIC.

Sample Output

show chassis pic fpc-slot pic-slot

```

user@host> show chassis pic fpc-slot 2 pic-slot 0
PIC fpc slot 2 pic slot 0 information:
Type                               10x 1GE(LAN), 1000 BASE

```

```

ASIC type          H chip
State              Online
PIC version        1.1
Uptime             1 day, 50 minutes, 58 seconds
PIC Port Information:
Port      Cable      Xcvr      Xcvr Vendor
Number    Type        Vendor Name Part Number
0         GIGE 1000EX  FINISAR CORP.  FTRJ8519P1BNL-J3
1         GIGE 1000EX  FINISAR CORP.  FTRJ-8519-7D-JUN

```

show chassis pic fpc-slot pic-slot (PIC Offline)

```

user@host> show chassis pic fpc-slot 1 pic-slot 0
PIC fpc slot 1 pic slot 0 information:
State              Offline

```

show chassis pic fpc-slot pic-slot (FPC Offline)

```

user@host> show chassis pic fpc-slot 1 pic-slot 0
FPC 1 is not online

```

show chassis pic fpc-slot pic-slot (FPC Not Present)

```

user@host> show chassis pic fpc-slot 4 pic-slot 0
FPC slot 4 is empty

```

show chassis pic fpc-slot pic-slot (PIC Not Present)

```

user@host> show chassis pic fpc-slot 5 pic-slot 2
FPC 5, PIC 2 is empty

```

show chassis pic fpc-slot pic-slot (M120 Router)

```

user@host> show chassis pic fpc-slot 3 pic-slot 0
PC slot 3, PIC slot 0 information:
Type          2x G/E IQ, 1000 BASE
ASIC type     IQ GE 2 VLAN-TAG FPGA
State         Online
PIC version   1.16
Uptime        3 hours, 3 minutes

PIC Port Information:
Port      Cable      Xcvr      Xcvr Vendor
Number    Type        Vendor Name Part Number
0         GIGE 1000SX  FINISAR CORP.  FTRJ8519P1BNL-J3
1         GIGE 1000SX  FINISAR CORP.  FTRJ-8519-7D-JUN

```

show chassis pic fpc-slot pic-slot (MX104 Router)

```

user@host> show chassis pic fpc-slot 1 pic-slot 1
FPC slot 1, PIC slot 1 information:
Type          10x 1GE(LAN) -E SFP
State         Online
PIC version   1.1
Uptime        1 hour, 30 minutes, 59 seconds

PIC port information:
Fiber      Xcvr vendor      Wave-      Xcvr
Port Cable type      type Xcvr vendor      part number      length
Firmware
3 GIGE 1000T      n/a  Methode Elec.      SP7041-M1-JN      n/a      0.0

```

6	GIGE 1000LX10	SM	FINISAR CORP.	FTLF1318P2BTL-J1	1310 nm	0.0
8	GIGE 1000T	n/a	Methode Elec.	SP7041-M1-JN	n/a	0.0
9	GIGE 1000T	n/a	Methode Elec.	SP7041-M1-JN	n/a	0.0

show chassis pic fpc-slot pic-slot (MX960 Router with Bidirectional Optics)

```

user@host> show chassis pic fpc-slot 4 pic-slot 1
FPC slot 4, PIC slot 1 information:
  Type                10x 1GE(LAN)
  Account Layer2 Overhead  Enabled
  State                Online
  PIC version          0.0
  Uptime               18 days, 5 hours, 41 minutes, 54 seconds

PIC port information:

```

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
0	SFP-1000BASE-BX10-D	SM	SumitomoElectric	SBP6H44-J3-BW-49	1490 nm
1	SFP-1000BASE-BX10-D	SM	SumitomoElectric	SBP6H44-J3-BW-49	1490 nm
2	SFP-1000BASE-BX10-D	SM	SumitomoElectric	SBP6H44-J3-BW-49	1490 nm
3	SFP-1000BASE-BX10-D	SM	OCF	TRXBG1LXDBVM2-JW	1490 nm
4	SFP-1000BASE-BX10-D	SM	OCF	TRXBG1LXDBVM2-JW	1490 nm
5	SFP-1000BASE-BX10-U	SM	SumitomoElectric	SBP6H44-J3-BW-31	1310 nm
6	SFP-1000BASE-BX10-U	SM	SumitomoElectric	SBP6H44-J3-BW-31	1310 nm
7	SFP-1000BASE-BX10-U	SM	OCF	TRXBG1LXDBBMH-J1	1310 nm
8	SFP-1000BASE-BX10-U	SM	OCF	TRXBG1LXDBBMH-J1	1310 nm
9	SFP-1000BASE-BX10-U	SM	SumitomoElectric	SBP6H44-J3-BW-31	1310 nm

show chassis pic fpc-slot pic-slot (MX480 Router with 100-Gigabit Ethernet MIC)

```

user@host> show chassis pic fpc-slot 1 pic-slot 2
FPC slot 1, PIC slot 2 information:
  Type                1X100GE CFP
  State                Online
  PIC version          2.10
  Uptime               4 minutes, 48 seconds

PIC port information:
  Fiber

```

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
0	100GBASE LR4	SM	FINISAR CORP.	FTLC1181RDN3-J3	1310 nm

```

  Xcvr vendor
  firmware version
  1.8

```

show chassis pic fpc-slot pic-slot (MX240, MX480, MX960 Routers with Application Services Modular Line Card)

```

user@host> show chassis pic fpc-slot 1 pic-slot 2
FPC slot 1, PIC slot 2 information:
  Type                AS-MXC
  State                Online
  PIC version          1.0
  Uptime               11 hours, 18 minutes, 3 seconds

```


show chassis pic fpc-slot pic-slot (MX960 Router with MPC5EQ)

```

user@host> show chassis pic fpc-slot 0 pic-slot 3
FPC slot 0, PIC slot 3 information:
  Type                1X100GE CFP2 OTN
  State                Online
  PIC version          0.0
  Uptime               1 hour, 22 minutes, 42 seconds

PIC port information:

```

		Fiber	Xcvr vendor	Wave-	Xcvr
Port	Cable type	type	Xcvr vendor	part number	length
Firmware					
0	10GBASE LR4	n/a	Oclaro Inc.	TRB5E20FNF-LF150	1309 nm 1.0

show chassis pic fpc-slot pic-slot (MX480 Router with MPC4E)

```

user@host> show chassis pic fpc-slot 3 pic-slot 0
FPC slot 3, PIC slot 0 information:
  Type                4x10GE SFPP
  State                Online
  PIC version          0.0
  Uptime               41 seconds

PIC port information:

```

		Fiber	Xcvr vendor	Wave-	Xcvr
Port	Cable type	type	Xcvr vendor	part number	length
Firmware					
0	10GBASE SR	MM	OPNEXT, INC.	TRS2001EM-0014	850 nm 0.0
1	10GBASE SR	MM	OPNEXT, INC.	TRS2001EM-0014	850 nm 0.0

show chassis pic fpc-slot pic-slot (MX480 router with OTN Interface)

```

user@host> show chassis pci fpc-slot 4 pic-slot 0
FPC slot 4, PIC slot 0 information:
  Type                12X10GE SFPP OTN
  State                Online
  PIC version          0.0
  Uptime               5 hours, 28 minutes, 23 seconds

PIC port information:

```

		Fiber	Xcvr vendor	Wave-	Xcvr
Port	Cable type	type	Xcvr vendor	part number	length
Firmware					
0	10GBASE SR	MM	FINISAR CORP.	FTLX8571D3BNL-J1	850 nm 0.0
1	10GBASE SR	MM	FINISAR CORP.	FTLX8571D3BCL-J1	850 nm 0.0
2	10GBASE SR	MM	OPNEXT, INC.	TRS2001EM-0014	850 nm 0.0

show chassis pic fpc-slot pic-slot (MX2010 Router with OTN Interfaces)

```

user@host> show chassis pic fpc-slot 9 pic-slot 0

```

FPC slot 9, PIC slot 0 information:

```
Type                2X100GE CFP2 OTN
State                Online
PIC version          1.9
Uptime               3 hours, 56 minutes, 16 seconds
```

PIC port information:

		Fiber	Xcvr vendor		Wave-	Xcvr
Port	Cable type	type	Xcvr vendor	part number	length	
Firmware						
0	100GBASE LR4-D	SM	FUJITSU	FIM37300/222	1310 nm	1.3
1	100GBASE SR10	MM	AVAGO	AFBR-8420Z	n/a	1.0

show chassis pic fpc-slot pic-slot (MX2010 Router)

```
user@host> show chassis pic fpc-slot 9 pic-slot 3
```

FPC slot 9, PIC slot 3 information:

```
Type                1X100GE CFP
Account Layer2 Overhead Enabled
State                Online
PIC version          0.0
Uptime               14 hours, 51 seconds
```

show chassis pic fpc-slot pic-slot (MX2020 Router)

```
user@host> show chassis pic fpc-slot 19 pic-slot 3
```

FPC slot 19, PIC slot 3 information:

```
Type                4x 10GE(LAN) SFP+
Account Layer2 Overhead Enabled
State                Online
PIC version          0.0
Uptime               1 day, 11 hours, 26 minutes, 36 seconds
```

PIC port information:

		Fiber	Xcvr vendor		Wave-	Xcvr
Port	Cable type	type	Xcvr vendor	part number	length	
Firmware						
0	10GBASE SR	MM	SumitomoElectric	SPP5200SR-J6-M	850 nm	0.0
1	10GBASE SR	MM	SumitomoElectric	SPP5200SR-J6-M	850 nm	0.0
2	10GBASE SR	MM	SumitomoElectric	SPP5200SR-J6-M	850 nm	0.0
3	10GBASE SR	MM	SumitomoElectric	SPP5200SR-J6-M	850 nm	0.0

show chassis pic fpc-slot pic-slot (MX2020 Router with MPC5EQ and MPC6E)

```
user@host> show chassis pic fpc-slot 18 pic-slot 2
```

FPC slot 18, PIC slot 2 information:

```
Type                3X40GE QSFP
State                Online
PIC version          0.0
Uptime               6 minutes, 31 seconds
```

PIC port information:

		Fiber	Xcvr vendor		Wave-	Xcvr
Port	Cable type	type	Xcvr vendor	part number	length	

```

Firmware
 0  40GBASE SR4      MM  AVAGO          AFBR-79E4Z-D-JU2  850 nm  0.0
 1  40GBASE SR4      MM  AVAGO          AFBR-79E4Z-D-JU2  850 nm  0.0
 2  40GBASE SR4      MM  AVAGO          AFBR-79E4Z-D-JU2  850 nm  0.0

```

show chassis pic fpc-slot pic-slot (MX2020 Router with MPC6E and OTN MIC)

```

user@host> show chassis pic fpc-slot 3 pic-slot 0
FPC slot 0, PIC slot 1 information:
  Type                24X10GE SFPP OTN
  State                Online
  PIC version          1.1
  Uptime               1 hour, 33 minutes, 59 seconds

PIC port information:

  Port Cable type      Fiber                Xcvr vendor      Wave-   Xcvr
  type                type Xcvr vendor      part number      length
Firmware
 7  10GBASE SR         MM  SumitomoElectric SPP5200SR-J6-M   850 nm  0.0
 9  10GBASE SR         MM  FINISAR CORP.    FTLX8571D3BNL-J1 850 nm  0.0
12  10GBASE LR         SM  FINISAR CORP.    FTLX1472M3BNL-J3 1310 nm 0.0
20  10GBASE ZR         SM  FINISAR CORP.    FTLX1871M3BNL-J3 1550 nm 0.0
21  10GBASE ER         SM  FINISAR CORP.    FTLX1671D3BTL-J4 1550 nm 0.0
22  10GBASE LR         SM  SOURCEPHOTONICS SPP10SLREDFCJNP  1310 nm 0.0
23  10GBASE LR         SM  FINISAR CORP.    FTLX1471D3BNL-J1 1310 nm 0.0

```

show chassis pic fpc-slot pic-slot (MX2020 Router with MPC4E)

```

user@host> show chassis pic fpc-slot 14 pic-slot 0
FPC slot 14, PIC slot 2 information:
  Type                4x10GE SFPP
  State                Online
  PIC version          0.0
  Uptime               1 day, 14 hours, 49 minutes, 9 seconds

PIC port information:

  Port Cable type      Fiber                Xcvr vendor      Wave-   Xcvr
  type                type Xcvr vendor      part number      length
Firmware
 0  10GBASE SR         MM  SumitomoElectric SPP5100SR-J3     850 nm  0.0
 1  10GBASE SR         MM  SumitomoElectric SPP5100SR-J3     850 nm  0.0
 3  10GBASE SR         MM  SumitomoElectric SPP5100SR-J3     850 nm  0.0

```

show chassis pic fpc-slot pic-slot (T1600 Router with 100-Gigabit Ethernet PIC)

```

user@host> run show chassis pic fpc-slot 3 pic-slot 1
FPC slot 3, PIC slot 1 information:
  Type                100GE SLOT1

```

```

ASIC type           Brooklyn 100GE FPGA
State               Online
PIC version         1.3
Uptime              10 minutes, 44 seconds

```

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
0	100GBASE LR4	SM	Opnext Inc.	TRC5E20ENFSF000F	1310 nm

show chassis pic fpc-slot pic-slot lcc (TX Matrix Router)

```

user@host> show chassis pic fpc-slot 1 pic-slot 1 lcc 0
lcc0-re0:

```

PIC fpc slot 1 pic slot 1 information:

```

Type               4x OC-3 SONET, SMIR
ASIC type          D chip
State              Online
PIC version         1.2
Uptime              5 days, 2 hours, 12 minutes, 8 seconds

```

show chassis pic fpc-slot pic-slot lcc (TX Matrix Plus Router)

```

user@host> show chassis pic pic-slot 0 fpc-slot 8
lcc0-re0:

```

FPC slot 8, PIC slot 0 information:

```

Type               1x 10GE(LAN/WAN)
State              Online
Uptime              2 hours, 46 minutes, 23 seconds

```

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	part number	Wavelength
0	10GBASE ZR	SM	Opnext Inc.	TRF7061BN-LF150	1550 nm
0	10GBASE ZR	SM	FINISAR CORP.	FTRX-1811-3-J2	1550 nm

show chassis pic fpc-slot pic-slot (Next-Generation SONET/SDH SFP)

```

user@host> show chassis pic fpc-slot 4 pic-slot 0

```

FPC slot 4, PIC slot 0 information:

```

Type               4x OC-3 1x OC-12 SFP
ASIC type          D FPGA
State              Online
PIC version         1.3
Uptime              1 day, 50 minutes, 4 seconds

```

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
0	OC48 short reach	SM	FINISAR CORP.	FTRJ1321P1BTL-J2	1310 nm
1	OC3 short reach	MM	QCP	TRPA03MM3BAS-JE	1310 nm
2	OC3 short reach	MM	QCP	TRXA03MM3BAS-JW	1310 nm
3	OC12 inter reach	SM	FINISAR CORP.	FTLF1322P1BTR	1310 nm

show chassis pic fpc-slot pic-slot (12-Port T1/E1)

```

user@host> show chassis pic fpc-slot 0 pic-slot 3

```

FPC slot 0, PIC slot 3 information:

```

Type                12x T1/E1 CE
State               Online
PIC version         1.1
CPU load average    1 percent
Interrupt load average 0 percent
Total DRAM size     128 MB
Memory buffer utilization 100 percent
Memory heap utilization 4 percent
Uptime              1 day, 22 hours, 28 minutes, 12 seconds
Internal Clock Synchronization Normal

```

show chassis pic fpc-slot pic-slot (4x CHOC3 SONET CE SFP)

user@host> show chassis pic fpc-slot 0 pic-slot 1

FPC slot 0, PIC slot 1 information:

```

Type                4x CHOC3 SONET CE SFP
State               Online
PIC version         1.3
CPU load average    1 percent
Interrupt load average 0 percent
Total DRAM size     128 MB
Memory buffer utilization 99 percent
Memory heap utilization 4 percent
Uptime              1 day, 22 hours, 55 minutes, 37 seconds
Internal Clock Synchronization Normal

```

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
0	OC3 short reach	MM	AVAGO	HFBR-57E0P-JU2	n/a
1	OC3 short reach	MM	AVAGO	HFBR-57E0P-JU2	n/a
3	OC3 long reach	SM	OPNEXT INC	TRF5456AVLB314	1310 nm

show chassis pic fpc-slot pic-slot (SONET/SDH OC3/STM1 [Multi-Rate] MIC with SFP)

user@host> show chassis pic fpc-slot 0 pic-slot 0

FPC slot 0, PIC slot 0 information:

```

Type                MIC-3D-80C30C12-40C48
State               Online
PIC version         1.8
Uptime              3 days, 22 hours, 3 minutes, 50 seconds

```

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
1	OC12 inter reach	SM	FINISAR CORP	FTRJ1322P1BTR-J3	1310 nm
7	OC12 inter reach	SM	FINISAR CORP	FTRJ1322P1BTR-J3	1310 nm

Multirate Mode Enabled

show chassis pic fpc-slot pic-slot (8-Port Channelized SONET/SDH OC3/STM1 [Multi-Rate] MIC with SFP)

user@host> show chassis pic fpc-slot 3 pic-slot 0

FPC slot 3, PIC slot 0 information:

```

Type                MIC-3D-8CHOC3-4CHOC12
State               Online
PIC version         1.9
Uptime              1 hour, 21 minutes, 24 seconds

```

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
------	------------	------------	-------------	-------------------------	------------

0	OC12 short reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm
1	OC12 short reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm
2	OC12 inter reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J2	1310 nm
4	OC12 short reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm
5	OC12 short reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm
6	OC12 short reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm
7	OC12 short reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm

show chassis pic fpc-slot pic-slot (4-Port Channelized SONET/SDH OC3/STM1 [Multi-Rate] MIC with SFP)

```
user@host> show chassis pic fpc-slot 5 pic-slot 0
```

FPC slot 5, PIC slot 0 information:

Type	MIC-3D-4CHOC3-2CHOC12
State	Online
PIC version	1.9
Uptime	1 hour, 21 minutes

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
1	OC12 inter reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm
2	OC12 inter reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm
3	OC12 short reach	SM	FINISAR CORP.	FTRJ1322P1BTR-J3	1310 nm

show chassis pic fpc-slot pic-slot (1-Port OC192/STM64 MIC with XFP)

```
user@host> show chassis pic fpc-slot 1 pic-slot 0
```

FPC slot 1, PIC slot 0 information:

Type	MIC-3D-10C192-XFP
State	Online
PIC version	1.2
Uptime	1 day, 11 hours, 4 minutes, 6 seconds

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
0	OC192 short reach	n/a	FINISAR CORP.	FTLX1412M3BCL-J3	1310 nm

show chassis pic fpc-slot 1 pic-slot 2 (8-Port DS3/E3 MIC)

```
user@host> show chassis pic fpc-slot 1 pic-slot 2
```

FPC slot 1, PIC slot 2 information:

Type	MIC-3D-8DS3-E3
State	Online
PIC version	1.10
Uptime	4 days, 1 hour, 29 minutes, 19 seconds
Channelization Mode	Disabled

show chassis pic fpc-slot pic-slot (OTN)

```
user@host> show chassis pic fpc-slot 5 pic-slot 0
```

PIC fpc slot 5 pic slot 0 information:

Type	1x10GE(LAN),OTN
ASIC type	H chip
State	Online
PIC version	1.0
Uptime	5 minutes, 50 seconds

show chassis pic fpc-slot pic-slot (QFX3500 Switch)

```
user@switch> show chassis pic fpc-slot 0 pic-slot 0
```

```
FPC slot 0, PIC slot 0 information:
Type 48x 10G-SFP+ Builtin
State Online
Uptime 3 days, 3 hours, 5 minutes, 20 seconds
```

show chassis pic fpc-slot pic-slot (QFX5100 Switches and OCX Series)

```
user@switch> show chassis pic fpc-slot 0 pic-slot 0
FPC slot 0, PIC slot 0 information:
Type                               Unknown Builtin
State                              Online
Uptime                             1 day, 17 hours, 5 minutes, 9 seconds
```

show chassis pic interconnect-device fpc-slot pic-slot (QFabric Systems)

```
user@switch> show chassis pic interconnect-device interconnect1 fpc-slot 9 pic-slot 0
FPC slot 9, PIC slot 0 information:
Type                               16x 40G-GE Builtin
State                              Online
Uptime                             2 hours, 47 minutes, 40 seconds
```

show chassis pic node-device fpc-slot pic-slot (QFabric Systems)

```
user@switch> show chassis pic node-device node1 pic-slot 0
FPC slot node1, PIC slot 0 information:
Type                               48x 10G-SFP+ Builtin
State                              Online
Uptime                             2 hours, 52 minutes, 37 seconds
```

PIC port information:

Port	Cable type	Fiber type	Xcvr vendor	Xcvr vendor part number	Wavelength
0	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
1	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
2	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
3	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
4	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
5	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
6	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
7	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
8	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
9	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
10	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
11	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
12	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
13	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
14	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
15	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
16	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
17	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
18	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
19	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
20	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
21	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
22	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
23	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
24	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
25	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
26	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
27	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
28	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
29	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm

30	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
31	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
32	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
33	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
34	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
35	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
36	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
37	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
38	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
39	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
40	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
41	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
42	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
43	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
44	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
45	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
46	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm
47	10GBASE SR	MM	SumitomoElectric	SPP5101SR-J3	850 nm

show chassis pic fpc-slot pic-slot (ACX2000 Universal Access Router)

```

user@host> show chassis pic fpc-slot 0 pic-slot 1
FPC slot 0, PIC slot 1 information:
  Type                8x 1GE(LAN) RJ45 Built-in
  State                Online
  Uptime               6 days, 2 hours, 51 minutes, 11 seconds

```

show chassis pic fpc-slot pic-slot (MX Series Routers with Media Services Blade [MSB])

```

user@switch> show chassis pic fpc-slot 1 pic-slot 0
FPC slot 1, PIC slot 0 information:
  Type                AS-MSC
  State                Online
  PIC version          1.6
  Uptime               11 hours, 17 minutes, 56 seconds

```

show chassis pic FPC slot PIC slot (MX Series Routers with Media Services Blade [MSB])

```

user@switch> show chassis pic fpc-slot 1 pic-slot 2
  Type                AS-MXC
  State                Online
  PIC version          1.0
  Uptime               11 hours, 18 minutes, 3 seconds

```

show chassis pic transport fpc-slot pic-slot (PTX Series Packet Transport Routers)

```

user@host> show chassis pic transport fpc-slot 2 pic-slot 0
Administrative State: In Service
Operational State:   Normal

```


show chassis routing-engine

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 [Syntax \(ACX Series Universal Access Routers\) on page 579](#)
 [Syntax \(EX Series Switches\) on page 579](#)
 [Syntax \(QFX Series\) on page 579](#)
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 [Syntax \(MX2010 3D Universal Edge Routers\) on page 579](#)
 [Syntax \(MX2020 3D Universal Edge Routers\) on page 579](#)
 [Syntax \(MX104 3D Universal Edge Routers\) on page 579](#)
 [Syntax \(PTX Series Packet Transport Routers\) on page 579](#)
 [Syntax \(T Series Routers\) on page 580](#)
 [Syntax \(TX Matrix Routers\) on page 580](#)
 [Syntax \(TX Matrix Plus Routers\) on page 580](#)

Syntax show chassis routing-engine
 <bios | *slot*>

Syntax (ACX Series Universal Access Routers) show chassis routing-engine

Syntax (EX Series Switches) show chassis routing-engine
 <*slot*>

Syntax (QFX Series) show chassis routing-engine
 <interconnect-device *name*>
 <node-device *name*>

Syntax (MX Series Routers) show chassis routing-engine
 <all-members>
 <bios | *slot*>
 <local>
 <member *member-id*>

Syntax (MX2010 3D Universal Edge Routers) show chassis routing-engine
 <bios | *slot*>

Syntax (MX2020 3D Universal Edge Routers) show chassis routing-engine
 <bios | *slot*>

Syntax (MX104 3D Universal Edge Routers) show chassis routing-engine

Syntax (PTX Series Packet Transport Routers) show chassis routing-engine

Syntax (T Series Routers)	<code>show chassis routing-engine</code> <code><bios slot></code>
Syntax (TX Matrix Routers)	<code>show chassis routing-engine</code> <code><bios slot></code> <code><lcc number scc></code>
Syntax (TX Matrix Plus Routers)	<code>show chassis routing-engine</code> <code><bios slot></code> <code><lcc number sfc number></code>
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>sfc option introduced for the TX Matrix Plus router in Junos OS Release in 9.6.</p> <p>Command introduced in Junos OS Release 11.1 for QFX Series.</p> <p>Command introduced in Junos OS Release 12.2 for ACX Series Universal Access Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 13.2 for MX104 3D Univesral Edge Routers.</p>
Description	Display the status of the Routing Engine.
Options	<p>none—Display information about one or more Routing Engines. On a TX Matrix router, display information about all Routing Engines on the TX Matrix router and its attached T640 routers. On a TX Matrix Plus router, display information about all Routing Engines on the TX Matrix Plus router and its attached routers.</p> <p>all-members—(MX Series routers only) (Optional) Display Routing Engine information for all members of the Virtual Chassis configuration.</p> <p>bios—(Optional) Display the (BIOS) firmware version.</p> <p>interconnect-device number—(QFabric systems only) (Optional) Display Routing Engine information for a specified Interconnect device.</p> <p>lcc number—(TX Matrix and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display Routing Engine information for a specified T640 router (line-card chassis) that is connected to the TX Matrix router. On a TX Matrix Plus router, display Routing Engine information for a specified router (line-card chassis) that is connected to the TX Matrix Plus router.</p> <p>Replace <i>number</i> with the following values depending on the LCC configuration:</p> <ul style="list-style-type: none">• 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.• 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.• 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.• 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers only) (Optional) Display Routing Engine information for the local Virtual Chassis member.

member *member-id*—(MX Series routers only) (Optional) Display Routing Engine information for the specified member of the Virtual Chassis configuration. For an MX Series Virtual Chassis, replace *member-id* with a value of 0 or 1.

node-device *number*—(QFabric systems only) (Optional) Display Routing Engine information for a specified Node device.

scc—(TX Matrix routers only) (Optional) Display Routing Engine information for the TX Matrix router (switch-card chassis).

sfc *number*—(TX Matrix Plus routers only) (Optional) Display Routing Engine information for the TX Matrix Plus router (or switch-fabric chassis). Replace *number* with 0.

slot—(Systems with multiple Routing Engines) (Optional) Display information for an individual Routing Engine. Replace *slot* with 0 or 1. For QFX3500 switches, there is only one Routing Engine, so you do not need to specify the slot number.

Required Privilege Level

view

Related Documentation

- *request chassis routing-engine master*
- *Configuring Routing Engine Redundancy*
- *Switching the Global Master and Backup Roles in a Virtual Chassis Configuration*

List of Sample Output

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[show chassis routing-engine \(M10 Router\) on page 585](#)
[show chassis routing-engine \(M20 Router\) on page 585](#)
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[show chassis routing-engine \(M160 Router\) on page 587](#)
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[show chassis routing-engine \(MX240 Router\) on page 588](#)
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[show chassis routing-engine \(ACX2000 Universal Access Router\) on page 603](#)
[show chassis routing-engine \(ACX1000 Universal Access Router\) on page 603](#)

Output Fields Table 27 on page 582 lists the output fields for the **show chassis routing-engine** command. Output fields are listed in the approximate order in which they appear.

Table 27: show chassis routing-engine Output Fields

Field Name	Field Description
Slot	(Systems with single and multiple Routing Engines) Slot number.
Current state	(Systems with multiple Routing Engines) Current state of the Routing Engine: Master , Backup , or Disabled .
Election priority	(Systems with multiple Routing Engines) Election priority for the Routing Engine: Master or Backup .
Temperature	Temperature of the air flowing past the Routing Engine.
CPU Temperature	Temperature of the CPU.
DRAM	Total DRAM available to the Routing Engine's processor. Starting with Junos OS Release 12.3R1, the DRAM field displays both available memory and installed memory.
Memory utilization	Percentage of Routing Engine memory being used.
CPU utilization	Information about the Routing Engine's CPU utilization: <ul style="list-style-type: none"> • User—Percentage of CPU time being used by user processes. • Background—Percentage of CPU time being used by background processes. • Kernel—Percentage of CPU time being used by kernel processes. • Interrupt—Percentage of CPU time being used by interrupts. • Idle—Percentage of CPU time that is idle.
5 sec CPU Utilization	Information about the Routing Engine's CPU utilization in the past 5 seconds:
NOTE: Supported only on MX240, MX480, MX960, MX2010, and MX2020.	<ul style="list-style-type: none"> • User—Percentage of CPU time being used by user processes. • Background—Percentage of CPU time being used by background processes. • Kernel—Percentage of CPU time being used by kernel processes. • Interrupt—Percentage of CPU time being used by interrupts. • Idle—Percentage of CPU time that is idle.

Table 27: show chassis routing-engine Output Fields (*continued*)

Field Name	Field Description
1 min CPU Utilization NOTE: Supported only on MX240, MX480, MX960, MX2010, and MX2020.	Information about the Routing Engine's CPU utilization in the past 1 minute: <ul style="list-style-type: none"> • User—Percentage of CPU time being used by user processes. • Background—Percentage of CPU time being used by background processes. • Kernel—Percentage of CPU time being used by kernel processes. • Interrupt—Percentage of CPU time being used by interrupts. • Idle—Percentage of CPU time that is idle.
5 min CPU Utilization NOTE: Supported only on MX240, MX480, MX960, MX2010, and MX2020.	Information about the Routing Engine's CPU utilization in the past 5 minutes: <ul style="list-style-type: none"> • User—Percentage of CPU time being used by user processes. • Background—Percentage of CPU time being used by background processes. • Kernel—Percentage of CPU time being used by kernel processes. • Interrupt—Percentage of CPU time being used by interrupts. • Idle—Percentage of CPU time that is idle.
15 min CPU Utilization NOTE: Supported only on MX240, MX480, MX960, MX2010, and MX2020.	Information about the Routing Engine's CPU utilization in the past 15 minutes: <ul style="list-style-type: none"> • User—Percentage of CPU time being used by user processes. • Background—Percentage of CPU time being used by background processes. • Kernel—Percentage of CPU time being used by kernel processes. • Interrupt—Percentage of CPU time being used by interrupts. • Idle—Percentage of CPU time that is idle.
Model	Routing Engine model number.
Serial ID	(Systems with multiple Routing Engines) Identification number of the Routing Engine in this slot.
Start time	Time at which the Routing Engine started running.
Uptime	How long the Routing Engine has been running.
Routing Engine BIOS Version	BIOS version being run by the Routing Engine.

Table 27: show chassis routing-engine Output Fields (*continued*)

Field Name	Field Description
Last reboot reason	<p>Reason for last reboot, including:</p> <ul style="list-style-type: none"> power cycle/failure—Halt of the Routing Engine using the halt command, powering down using the power button on the chassis or any other method (such as removal of the control board or Routing Engine), and then powering back the Routing Engine. A halt of the operating system also occurs if you enter the request system halt command. You can enter this command to halt the system operations on the chassis or specific Routing Engines. To restart the software, press any key on the keyboard. watchdog—Reboot due to a hardware watchdog. A watchdog is a hardware monitoring process that examines the health and performance of the router to enable the device to recover from failures. A watchdog checks for problems at certain intervals, and reboots the routing engine if a problem is encountered. reset-button reset—(Not available on the EX Series switch) Reboot due to pressing of the reset button on the Routing Engine. power-button hard power off—Reboot due to pressing of the power button on the chassis. A powering down of the software also occurs if you enter the request system power-off command. You can enter this command to power down the chassis or specific Routing Engines; you can then restart the software. misc hardware reason—Reboot due to miscellaneous hardware reasons. thermal shutdown—Reboot due to the router or switch reaching a critical temperature at which point it is unsafe to continue operations. hard disk failure—Reboot due to a hard disk or solid-state drive (SSD) failure. reset from debugger—Reboot due to reset from the debugger. chassis control reset—Restart the chassis process that manages PICs, FPCs, and other hardware components. The chassis control module that runs the Routing Engine performs management and monitoring functions, and it provides a single access point for operational and maintenance functions. A reset of the chassis management process occurs when you enter the restart chassis-control command. bios auto recovery reset—Reboot due to a BIOS auto-recovery reset. could not be determined—Reboot due to an undetermined reason. Router rebooted after a normal shutdown—Reboot due to a normal shutdown. This reason is displayed if the Routing Engine is powered down by pushing and holding the online/offline button on the Routing Engine faceplate for 30 seconds, and then powered back. A reboot of the software also occurs if you enter the request system reboot command. You can enter this command to reboot the chassis or specific Routing Engines.
Load averages	Routing Engine load averages for the last 1, 5, and 15 minutes.

Sample Output

show chassis routing-engine (M5 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
  Temperature                25 degrees C / 77 degrees F
  DRAM                       768 MB
  Memory utilization         21 percent
  CPU utilization:
    User                     0 percent
    Background               0 percent
    Kernel                   0 percent
    Interrupt                 0 percent

```

```

Idle 100 percent
Model RE-2.0
Serial ID 31000007349bf701
Start time 2003-12-04 09:42:17 PST
Uptime 26 days, 1 hour, 12 minutes, 27 seconds
Last reboot reason Router rebooted after a normal shutdown
Load averages: 1 minute 5 minute 15 minute
                0.00 0.01 0.00

```

show chassis routing-engine (M10 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
  Temperature 25 degrees C / 77 degrees F
  DRAM 768 MB
  Memory utilization 21 percent
  CPU utilization:
    User 0 percent
    Background 0 percent
    Kernel 0 percent
    Interrupt 0 percent
    Idle 100 percent
  Model RE-2.0
  Serial ID 31000007349bf701
  Start time 2003-12-04 09:42:17 PST
  Uptime 26 days, 1 hour, 12 minutes, 27 seconds
  Last reboot reason Router rebooted after a normal shutdown
  Load averages: 1 minute 5 minute 15 minute
                  0.00 0.01 0.00

```

show chassis routing-engine (M20 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
  Slot 0:
    Current state Master
    Election priority Master (default)
    Temperature 29 degrees C / 84 degrees F
    DRAM 768 MB
    Memory utilization 20 percent
    CPU utilization:
      User 1 percent
      Background 0 percent
      Kernel 2 percent
      Interrupt 0 percent
      Idle 97 percent
    Model RE-2.0
    Serial ID 58000007348d9a01
    Start time 2003-12-30 07:05:47 PST
    Uptime 3 hours, 41 minutes, 14 seconds
    Last reboot reason Router rebooted after a normal shutdown
    Load averages: 1 minute 5 minute 15 minute
                    0.00 0.02 0.00

  Routing Engine status:
    Slot 1:
      Current state Backup
      Election priority Backup (default)
      Temperature 29 degrees C / 84 degrees F
      DRAM 768 MB
      Memory utilization 0 percent
      CPU utilization:

```

```

User                0 percent
Background          0 percent
Kernel              1 percent
Interrupt           0 percent
Idle                99 percent
Model               RE-2.0
Serial ID            d800000734745701
Start time          2003-06-17 16:37:33 PDT
Uptime              195 days, 18 hours, 47 minutes, 9 seconds
Last reboot reason   Router rebooted after a normal shutdown

```

show chassis routing-engine (M40 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
  Temperature        25 degrees C / 77 degrees F
  DRAM                768 MB
  Memory utilization  21 percent
  CPU utilization:
    User              0 percent
    Background        0 percent
    Kernel            0 percent
    Interrupt         0 percent
    Idle              100 percent
  Model              RE-2.0
  Serial ID           31000007349bf701
  Start time          2003-12-04 09:42:17 PST
  Uptime              26 days, 1 hour, 12 minutes, 27 seconds
  Last reboot reason   Router rebooted after a normal shutdown
  Load averages:      1 minute   5 minute  15 minute
                      0.00        0.01    0.00

```

show chassis routing-engine (M120 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state      Master
  Election priority   Master (default)
  Temperature        46 degrees C / 114 degrees F
  CPU temperature     44 degrees C / 111 degrees F
  DRAM                2048 MB
  Memory utilization  18 percent
  CPU utilization:
    User              0 percent
    Background        0 percent
    Kernel            5 percent
    Interrupt         0 percent
    Idle              95 percent
  Model              RE-A-1000
  Serial ID           1000621154
  Start time          2006-10-31 17:10:05 PST
  Uptime              14 minutes, 31 seconds
  Last reboot reason   Router rebooted after a normal shutdown
  Load averages:      1 minute   5 minute  15 minute
                      0.02        0.07    0.07

Routing Engine status:
Slot 1:
  Current state      Backup
  Election priority   Backup (default)
  Temperature        45 degrees C / 113 degrees F

```



```

CPU temperature      42 degrees C / 107 degrees F
DRAM                2048 MB
Memory utilization   15 percent
CPU utilization:
  User              0 percent
  Background        0 percent
  Kernel            0 percent
  Interrupt          0 percent
  Idle              100 percent
Model               RE-A-1000
Serial ID            1000621151
Start time           2006-10-31 17:10:04 PST
Uptime               14 minutes, 30 seconds
Last reboot reason   Router rebooted after a normal shutdown

```

show chassis routing-engine (M160 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state      Master
  Election priority   Master (default)
  Temperature         43 degrees C / 109 degrees F
  DRAM                2048 MB
  Memory utilization  11 percent
  CPU utilization:
    User              1 percent
    Background        0 percent
    Kernel            2 percent
    Interrupt         0 percent
    Idle              97 percent
  Model              RE-3.0
  Serial ID           210865700403
  Start time          2003-12-23 12:25:55 PST
  Uptime              6 days, 22 hours, 33 minutes, 24 seconds
  Last reboot reason  Router rebooted after a normal shutdown
  Load averages:      1 minute   5 minute   15 minute
                      0.24       0.13       0.04

Routing Engine status:
Slot 1:
  Current state      Backup
  Election priority   Backup (default)
  Temperature         40 degrees C / 104 degrees F
  DRAM                2048 MB
  Memory utilization  9 percent
  CPU utilization:
    User              0 percent
    Background        0 percent
    Kernel            0 percent
    Interrupt         0 percent
    Idle              100 percent
  Model              RE-3.0
  Serial ID           210865700332
  Start time          2003-12-23 12:25:55 PST
  Uptime              6 days, 22 hours, 33 minutes, 21 seconds
  Last reboot reason  Router rebooted after a normal shutdown

```

show chassis routing-engine (MX104 Router)

```

user@host> show chassis routing-engine

```

```

Routing Engine status:
Slot 0:
  Current state           Master
  Election priority       Master (default)
  Temperature             32 degrees C / 89 degrees F
  CPU temperature         42 degrees C / 107 degrees F
  DRAM                   3840 MB (3840 MB installed)
  Memory utilization      18 percent
  CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                3 percent
    Interrupt             2 percent
    Idle                  94 percent
  Model                   RE-MX-104
  Serial ID               CAAR5925
  Start time              2013-06-05 13:17:08 IST
  Uptime                  1 hour, 15 minutes, 8 seconds
  Last reboot reason      0x200:normal shutdown
  Load averages:         1 minute   5 minute   15 minute
                        0.87       0.90       0.41

Routing Engine status:
Slot 1:
  Current state           Backup
  Election priority       Backup (default)
  Temperature             32 degrees C / 89 degrees F
  CPU temperature         38 degrees C / 100 degrees F
  DRAM                   3840 MB (3840 MB installed)
  Memory utilization      13 percent
  CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                1 percent
    Interrupt             2 percent
    Idle                  97 percent
  Model                   RE-MX-104
  Serial ID               CAAM6369
  Start time              2013-06-05 13:07:37 IST
  Uptime                  1 hour, 24 minutes, 34 seconds
  Last reboot reason      0x200:normal shutdown
  Load averages:         1 minute   5 minute   15 minute
                        0.19       0.15       0.06

```

show chassis routing-engine (MX240 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state           Master
  Election priority       Master (default)
  Temperature             36 degrees C / 96 degrees F
  CPU temperature         35 degrees C / 95 degrees F
  DRAM                   3314 MB (8192 MB installed)
  Memory utilization      37 percent
  5 sec CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                1 percent
    Interrupt             0 percent
    Idle                  99 percent
  1 min CPU utilization:

```

```

User                0 percent
Background          0 percent
Kernel              1 percent
Interrupt            0 percent
Idle                99 percent
5 min CPU utilization:
User                0 percent
Background          0 percent
Kernel              1 percent
Interrupt            0 percent
Idle                99 percent
15 min CPU utilization:
User                0 percent
Background          0 percent
Kernel              1 percent
Interrupt            0 percent
Idle                99 percent
Model               RE-S-1800x4
Serial ID            9009074155
Start time           2014-10-13 00:35:41 PDT
Uptime               98 days, 2 hours, 6 minutes, 35 seconds
Last reboot reason   Router rebooted after a normal shutdown.
Load averages:       1 minute   5 minute   15 minute
                     0.12       0.12       0.13

Routing Engine status:
Slot 1:
  Current state      Present

```

show chassis routing-engine (MX480 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state      Backup
  Election priority   Master (default)
  Temperature         30 degrees C / 86 degrees F
  CPU temperature     32 degrees C / 89 degrees F
  DRAM                3314 MB (8192 MB installed)
  Memory utilization  51 percent
  5 sec CPU utilization:
    User              0 percent
    Background        0 percent
    Kernel             0 percent
    Interrupt          0 percent
    Idle              100 percent
  1 min CPU utilization:
    User              0 percent
    Background        0 percent
    Kernel             0 percent
    Interrupt          0 percent
    Idle              0 percent
  5 min CPU utilization:
    User              0 percent
    Background        0 percent
    Kernel             0 percent
    Interrupt          0 percent
    Idle              0 percent
  15 min CPU utilization:
    User              0 percent
    Background        0 percent
    Kernel             0 percent

```

```

        Interrupt          0 percent
        Idle               0 percent
        Model              RE-S-1800x4
        Serial ID          9009079817
        Start time         2015-01-19 01:45:58 PST
        Uptime             7 minutes, 23 seconds
        Last reboot reason  Router rebooted after a normal shutdown.
        Load averages:     1 minute   5 minute   15 minute
                           0.16       0.16       0.09

Routing Engine status:
Slot 1:
  Current state           Master
  Election priority       Backup (default)
  Temperature             31 degrees C / 87 degrees F
  CPU temperature         32 degrees C / 89 degrees F
  DRAM                    8144 MB (8192 MB installed)
  Memory utilization      23 percent
  5 sec CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                1 percent
    Interrupt             0 percent
    Idle                  99 percent
  1 min CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                1 percent
    Interrupt             0 percent
    Idle                  98 percent
  5 min CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                1 percent
    Interrupt             0 percent
    Idle                  98 percent
  15 min CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                1 percent
    Interrupt             0 percent
    Idle                  98 percent
  Model                  RE-S-1800x4
  Serial ID              9009079838
  Start time             2015-01-09 10:52:20 PST
  Uptime                 9 days, 15 hours, 1 minute, 4 seconds
  Last reboot reason     Router rebooted after a normal shutdown.
  Load averages:        1 minute   5 minute   15 minute
                           0.10       0.16       0.16

```

show chassis routing-engine (MX960 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state           Master
  Election priority       Master (default)
  Temperature             37 degrees C / 98 degrees F
  CPU temperature         34 degrees C / 93 degrees F
  DRAM                    3313 MB (16384 MB installed)
  Memory utilization      31 percent
  5 sec CPU utilization:

```

```

User                0 percent
Background          0 percent
Kernel              3 percent
Interrupt            1 percent
Idle                96 percent
1 min CPU utilization:
User                0 percent
Background          0 percent
Kernel              4 percent
Interrupt            1 percent
Idle                96 percent
5 min CPU utilization:
User                0 percent
Background          0 percent
Kernel              4 percent
Interrupt            1 percent
Idle                95 percent
15 min CPU utilization:
User                0 percent
Background          0 percent
Kernel              4 percent
Interrupt            1 percent
Idle                95 percent
Model               RE-S-1800x4
Serial ID           9013043785
Start time          2015-01-12 23:37:53 PST
Uptime              6 days, 2 hours, 17 minutes, 3 seconds
Last reboot reason  Router rebooted after a normal shutdown.
Load averages:      1 minute   5 minute   15 minute
                    0.00       0.02       0.00

Routing Engine status:
Slot 1:
Current state       Backup
Election priority    Backup (default)
Temperature          37 degrees C / 98 degrees F
CPU temperature      34 degrees C / 93 degrees F
DRAM                3313 MB (16384 MB installed)
Memory utilization   26 percent
5 sec CPU utilization:
User                0 percent
Background          0 percent
Kernel              0 percent
Interrupt            0 percent
Idle                99 percent
1 min CPU utilization:
User                0 percent
Background          0 percent
Kernel              0 percent
Interrupt            0 percent
Idle                0 percent
5 min CPU utilization:
User                0 percent
Background          0 percent
Kernel              0 percent
Interrupt            0 percent
Idle                0 percent
15 min CPU utilization:
User                0 percent
Background          0 percent
Kernel              0 percent
Interrupt            0 percent

```

```

Idle 0 percent
Model RE-S-1800x4
Serial ID 9013037303
Start time 2015-01-12 23:25:29 PST
Uptime 6 days, 2 hours, 29 minutes, 21 seconds
Last reboot reason Router rebooted after a normal shutdown.
Load averages: 1 minute 5 minute 15 minute
                0.00 0.00 0.00

```

show chassis routing-engine (MX2010 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state Master
  Election priority Master (default)
  Temperature 41 degrees C / 105 degrees F
  CPU temperature 38 degrees C / 100 degrees F
  DRAM 3313 MB (16384 MB installed)
  Memory utilization 37 percent
  5 sec CPU utilization:
    User 0 percent
    Background 0 percent
    Kernel 2 percent
    Interrupt 2 percent
    Idle 96 percent
  1 min CPU utilization:
    User 0 percent
    Background 0 percent
    Kernel 2 percent
    Interrupt 2 percent
    Idle 97 percent
  5 min CPU utilization:
    User 0 percent
    Background 0 percent
    Kernel 2 percent
    Interrupt 2 percent
    Idle 97 percent
  15 min CPU utilization:
    User 0 percent
    Background 0 percent
    Kernel 2 percent
    Interrupt 2 percent
    Idle 97 percent
  Model RE-S-1800x4
  Serial ID 9009146890
  Start time 2015-01-18 21:35:12 PST
  Uptime 4 hours, 21 minutes, 34 seconds
  Last reboot reason Router rebooted after a normal shutdown.
  Load averages: 1 minute 5 minute 15 minute
                  0.11 0.14 0.14

```

show chassis routing-engine (MX2020 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state Master
  Election priority Master (default)
  Temperature 2 degrees C / 35 degrees F
  CPU temperature 32 degrees C / 89 degrees F

```

```

DRAM                               32735 MB (32768 MB installed)
Memory utilization                   10 percent
5 sec CPU utilization:
  User                              0 percent
  Background                        0 percent
  Kernel                            1 percent
  Interrupt                         1 percent
  Idle                              98 percent
1 min CPU utilization:
  User                              0 percent
  Background                        0 percent
  Kernel                            1 percent
  Interrupt                         1 percent
  Idle                              99 percent
5 min CPU utilization:
  User                              0 percent
  Background                        0 percent
  Kernel                            1 percent
  Interrupt                         1 percent
  Idle                              99 percent
15 min CPU utilization:
  User                              0 percent
  Background                        0 percent
  Kernel                            1 percent
  Interrupt                         1 percent
  Idle                              99 percent
Model                               RE-S-2X00x8
Serial ID                           CADN0309
Start time                          2015-01-08 16:31:15 PST
Uptime                              4 days, 22 hours, 59 minutes, 3 seconds
Last reboot reason                  Router rebooted after a normal shutdown.
Load averages:                     1 minute   5 minute   15 minute
                                   0.39       0.41       0.34

```

show chassis routing-engine (T320 Router)

```

user@host> show chassis routing-engine
Slot 0:
  Current state                     Master
  Election priority                 Master (default)
  Temperature                       51 degrees C / 123 degrees F
  CPU temperature                   55 degrees C / 131 degrees F
  DRAM                             3584 MB
  Memory utilization                 11 percent
  CPU utilization:
    User                            0 percent
    Background                      0 percent
    Kernel                          2 percent
    Interrupt                       0 percent
    Idle                            97 percent
  Model                             RE-A-2000
  Serial ID                         9009010618
  Start time                        2012-10-10 01:24:05 PDT
  Uptime                            5 days, 10 hours, 49 minutes, 23 seconds
  Last reboot reason                0x1:power cycle/failure
  Load averages:                   1 minute   5 minute   15 minute
                                   0.00       0.05       0.04

Routing Engine status:
Slot 1:
  Current state                     Backup
  Election priority                 Backup (default)

```

```

Temperature          45 degrees C / 113 degrees F
CPU temperature       48 degrees C / 118 degrees F
DRAM                 3584 MB
Memory utilization    9 percent
CPU utilization:
  User                0 percent
  Background          0 percent
  Kernel              0 percent
  Interrupt            0 percent
  Idle                100 percent
Model                RE-A-2000
Serial ID             9009003642
Start time            2012-10-10 01:24:04 PDT
Uptime                5 days, 10 hours, 49 minutes, 28 seconds
Last reboot reason    0x1:power cycle/failure

```

show chassis routing-engine (T640 Router)

```
user@host> show chassis routing-engine
```

```
Routing Engine status:
```

```
Slot 0:
```

```

Current state          Master
Election priority       Master (default)
Temperature             50 degrees C / 122 degrees F
CPU temperature         58 degrees C / 136 degrees F
DRAM                   3584 MB
Memory utilization      14 percent
CPU utilization:
  User                  1 percent
  Background            0 percent
  Kernel                4 percent
  Interrupt              1 percent
  Idle                  95 percent
Model                  RE-A-2000
Serial ID               1000686556
Start time              2012-10-10 01:24:02 PDT
Uptime                  5 days, 10 hours, 50 minutes, 27 seconds
Last reboot reason      0x1:power cycle/failure
Load averages:          1 minute   5 minute   15 minute
                        1.24       0.33      0.12

```

```
Routing Engine status:
```

```
Slot 1:
```

```

Current state          Backup
Election priority       Backup (default)
Temperature             44 degrees C / 111 degrees F
CPU temperature         49 degrees C / 120 degrees F
DRAM                   3584 MB
Memory utilization      12 percent
CPU utilization:
  User                  0 percent
  Background            0 percent
  Kernel                0 percent
  Interrupt              1 percent
  Idle                  99 percent
Model                  RE-A-2000
Serial ID               1000702739
Start time              2012-10-10 01:24:02 PDT
Uptime                  5 days, 10 hours, 50 minutes, 26 seconds
Last reboot reason      0x1:power cycle/failure

```


show chassis routing-engine (T1600 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state           Master
  Election priority       Master (default)
  Temperature             48 degrees C / 118 degrees F
  CPU temperature         58 degrees C / 136 degrees F
  DRAM                   3584 MB
  Memory utilization      13 percent
  CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                3 percent
    Interrupt             1 percent
    Idle                  96 percent
  Model                   RE-A-2000
  Serial ID               1000704521
  Start time              2012-10-10 01:23:41 PDT
  Uptime                  5 days, 10 hours, 46 minutes, 56 seconds
  Last reboot reason      0x1:power cycle/failure
  Load averages:         1 minute   5 minute   15 minute
                        0.05       0.03       0.01

Routing Engine status:
Slot 1:
  Current state           Backup
  Election priority       Backup (default)
  Temperature             44 degrees C / 111 degrees F
  CPU temperature         48 degrees C / 118 degrees F
  DRAM                   3584 MB
  Memory utilization      12 percent
  CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                0 percent
    Interrupt             0 percent
    Idle                  100 percent
  Model                   RE-A-2000
  Serial ID               9009006579
  Start time              2012-10-10 01:23:42 PDT
  Uptime                  5 days, 10 hours, 46 minutes, 54 seconds
  Last reboot reason      0x1:power cycle/failure

```

show chassis routing-engine (T4000 Router)

```

user@host> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state           Master
  Election priority       Master (default)
  Temperature             33 degrees C / 91 degrees F
  CPU temperature         50 degrees C / 122 degrees F
  DRAM                   8960 MB
  Memory utilization      18 percent
  CPU utilization:
    User                  0 percent
    Background            0 percent
    Kernel                4 percent
    Interrupt             1 percent
    Idle                  95 percent

```

```

Model RE-DUO-1800
Serial ID P737F-002248
Start time 2012-02-09 22:49:53 PST
Uptime 2 hours, 21 minutes, 35 seconds
Last reboot reason Router rebooted after a normal shutdown.
Load averages: 1 minute 5 minute 15 minute
                0.00      0.04      0.00

Routing Engine status:
Slot 1:
  Current state Backup
  Election priority Backup (default)
  Temperature 32 degrees C / 89 degrees F
  CPU temperature 46 degrees C / 114 degrees F
  DRAM 8960 MB
  Memory utilization 24 percent
  CPU utilization:
    User 0 percent
    Background 0 percent
    Kernel 0 percent
    Interrupt 0 percent
    Idle 99 percent
  Model RE-DUO-1800
  Serial ID P737F-002653
  Start time 2012-02-08 20:12:51 PST
  Uptime 1 day, 4 hours, 58 minutes, 28 seconds
  Last reboot reason Router rebooted after a normal shutdown.

```

show chassis routing-engine (TX Matrix Router)

```

user@host> show chassis routing-engine
scc-re0:
-----
Routing Engine status:
Slot 0:
  Current state Master
  Election priority Master (default)
  Temperature 34 degrees C / 93 degrees F
  CPU temperature 33 degrees C / 91 degrees F
  DRAM 2048 MB
  Memory utilization 12 percent
  CPU utilization:
    User 0 percent
    Background 0 percent
    Kernel 2 percent
    Interrupt 0 percent
    Idle 98 percent
  Model RE-4.0
  Serial ID P11123900153
  Start time 2004-08-05 18:42:05 PDT
  Uptime 9 days, 22 hours, 49 minutes, 50 seconds
  Last reboot reason Router rebooted after a normal shutdown
  Load averages: 1 minute 5 minute 15 minute
                  0.00      0.08      0.07

lcc0-re0:
-----
Routing Engine status:
Slot 0:
  Current state Master
  Election priority Master (default)
  Temperature 33 degrees C / 91 degrees F

```

```

CPU temperature      30 degrees C / 86 degrees F
DRAM                2048 MB
Memory utilization   12 percent
CPU utilization:
  User               0 percent
  Background         0 percent
  Kernel             1 percent
  Interrupt          0 percent
  Idle              98 percent
Model               RE-3.0
Serial ID           210865700363
Start time          2004-08-05 18:42:05 PDT
Uptime              9 days, 22 hours, 48 minutes, 20 seconds
Last reboot reason   Router rebooted after a normal shutdown
Load averages:      1 minute   5 minute   15 minute
                    0.00      0.02      0.00

```

lcc2-re0:

Routing Engine status:

Slot 0:

```

Current state        Master
Election priority     Master (default)
Temperature           34 degrees C / 93 degrees F
CPU temperature       35 degrees C / 95 degrees F
DRAM                 2048 MB
Memory utilization    12 percent
CPU utilization:
  User               0 percent
  Background         0 percent
  Kernel             2 percent
  Interrupt          0 percent
  Idle              98 percent
Model               RE-4.0
Serial ID           P11123900126
Start time          2004-08-05 18:42:05 PDT
Uptime              9 days, 22 hours, 49 minutes, 4 seconds
Last reboot reason   Router rebooted after a normal shutdown
Load averages:      1 minute   5 minute   15 minute
                    0.01      0.01      0.0

```

show chassis routing-engine lcc (TX Matrix Router)

```

user@host> show chassis routing-engine 0 lcc 0

```

lcc0-re0:

Routing Engine status:

Slot 0:

```

Current state        Master
Election priority     Master (default)
Temperature           33 degrees C / 91 degrees F
CPU temperature       30 degrees C / 86 degrees F
DRAM                 2048 MB
Memory utilization    12 percent
CPU utilization:
  User               0 percent
  Background         0 percent
  Kernel             1 percent
  Interrupt          0 percent
  Idle              98 percent
Model               RE-3.0

```

```

Serial ID                210865700363
Start time               2004-08-05 18:42:05 PDT
Uptime                   7 days, 22 hours, 49 minutes, 6 seconds
Last reboot reason       Router rebooted after a normal shutdown
Load averages:           1 minute   5 minute   15 minute
                        0.00         0.00         0.00

```

show chassis routing-engine bios (TX Matrix Router)

```

user@host> show chassis routing-engine bios
scc-re0:

```

```

-----
Routing Engine BIOS Version: V1.0.0
lcc0-re0:

```

```

-----
Routing Engine BIOS Version: V1.0.17
lcc2-re0:

```

```

-----
Routing Engine BIOS Version: V1.0.0

```

show chassis routing-engine (TX Matrix Plus Router)

```

user@host> show chassis routing-engine
sfc0-re0:

```

```

-----
Routing Engine status:

```

Slot 0:

```

Current state             Master
Election priority         Master (default)
Temperature               27 degrees C / 80 degrees F
CPU temperature           42 degrees C / 107 degrees F
DRAM                     3327 MB
Memory utilization        12 percent
CPU utilization:
  User                    0 percent
  Background              0 percent
  Kernel                  2 percent
  Interrupt               0 percent
  Idle                    98 percent
Model                     RE-TXP-SFC
Serial ID                 737A-1024
Start time                2009-05-11 17:39:49 PDT
Uptime                    3 hours, 45 minutes, 25 seconds
Last reboot reason        Router rebooted after a normal shutdown.
Load averages:           1 minute   5 minute   15 minute
                        0.00         0.00         0.00

```

```

Routing Engine status:

```

Slot 1:

```

Current state             Backup
Election priority         Backup (default)
Temperature               29 degrees C / 84 degrees F
CPU temperature           43 degrees C / 109 degrees F
DRAM                     3327 MB
Memory utilization        11 percent
CPU utilization:
  User                    0 percent
  Background              0 percent
  Kernel                  0 percent
  Interrupt               0 percent
  Idle                   100 percent
Model                     RE-TXP-SFC

```

```

Serial ID          737A-1024
Start time         2009-05-11 17:08:54 PDT
Uptime             4 hours, 16 minutes, 52 seconds
Last reboot reason 0x1:power cycle/failure

```

```
lcc0-re0:
```

```
-----
Routing Engine status:
```

```
Slot 0:
```

```

Current state      Master
Election priority  Master (default)
Temperature        30 degrees C / 86 degrees F
CPU temperature    43 degrees C / 109 degrees F
DRAM              3327 MB
Memory utilization 9 percent
CPU utilization:
  User             0 percent
  Background       0 percent
  Kernel           2 percent
  Interrupt        0 percent
  Idle             98 percent
Model             RE-TXP-LCC
Serial ID         737F-1024
Start time        2009-05-11 17:40:32 PDT
Uptime            3 hours, 44 minutes, 51 seconds
Last reboot reason Router rebooted after a normal shutdown.
Load averages:    1 minute   5 minute  15 minute
                  0.00      0.00     0.00

```

```
Routing Engine status:
```

```
Slot 1:
```

```

Current state      Backup
Election priority  Backup (default)
Temperature        30 degrees C / 86 degrees F
CPU temperature    43 degrees C / 109 degrees F
DRAM              3327 MB
Memory utilization 9 percent
CPU utilization:
  User             0 percent
  Background       0 percent
  Kernel           0 percent
  Interrupt        0 percent
  Idle             100 percent
Model             RE-TXP-LCC
Serial ID         737F-1024
Start time        2009-05-06 17:31:32 PDT
Uptime            5 days, 3 hours, 54 minutes, 19 seconds
Last reboot reason Router rebooted after a normal shutdown.

```

show chassis routing-engine lcc (TX Matrix Plus Router)

```
user@host> show chassis routing-engine 0 lcc 0
```

```
lcc0-re0:
```

```
-----
Routing Engine status:
```

```
Slot 0:
```

```

Current state      Master
Election priority  Master (default)
Temperature        30 degrees C / 86 degrees F
CPU temperature    43 degrees C / 109 degrees F
DRAM              3327 MB
Memory utilization 9 percent

```

```

CPU utilization:
  User          0 percent
  Background    0 percent
  Kernel        2 percent
  Interrupt     0 percent
  Idle          98 percent
Model          RE-TXP-LCC
Serial ID      737F-1024
Start time     2009-05-11 17:40:32 PDT
Uptime         3 hours, 45 minutes, 26 seconds
Last reboot reason Router rebooted after a normal shutdown.
Load averages: 1 minute 5 minute 15 minute
                  0.00      0.00      0.00

Routing Engine status:
Slot 1:
  Current state Backup
  Election priority Backup (default)
  Temperature    30 degrees C / 86 degrees F
  CPU temperature 43 degrees C / 109 degrees F
  DRAM           3327 MB
  Memory utilization 9 percent
  CPU utilization:
    User          0 percent
    Background    0 percent
    Kernel        0 percent
    Interrupt     0 percent
    Idle          100 percent
  Model          RE-TXP-LCC
  Serial ID      737F-1024
  Start time     2009-05-06 17:31:32 PDT
  Uptime         5 days, 3 hours, 54 minutes, 59 seconds
  Last reboot reason Router rebooted after a normal shutdown.

```

show chassis routing-engine bios (TX Matrix Plus Router)

```

user@host> show chassis routing-engine bios
sfc0-re0:

```

```

-----
Routing Engine BIOS Version: V0.0.Z

```

```

lcc0-re0:

```

```

-----
Routing Engine BIOS Version: V0.0.N

```

show chassis routing-engine (QFX Series)

```

user@switch> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state Master
  Election priority Master (default)
  DRAM 2820 MB
  Memory utilization 49 percent
  CPU utilization:
    User 1 percent
    Background 0 percent
    Kernel 1 percent
    Interrupt 0 percent
    Idle 97 percent
  Model QFX3500-48S4Q
  Serial ID S/N ED3709

```

```

Uptime 3 days, 4 hours, 29 minutes, 42 seconds
Last reboot reason 0x200:chassis control reset
Load averages: 1 minute 5 minute 15 minute
0.37 0.26 0.19

```

show chassis routing engine interconnect-device (QFabric Systems)

```

user@switch> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state           Master
  Election priority       Master (default)
  Temperature             48 degrees C / 118 degrees F
  DRAM                   3312 MB
  Memory utilization      63 percent
  CPU utilization:
    User                  14 percent
    Background            0 percent
    Kernel                5 percent
    Interrupt             0 percent
    Idle                  81 percent
  Model                  RE-QFXC08-CB4S
  Serial ID              BUILTIN
  Start time             2011-07-06 13:26:15 UTC
  Uptime                 11 hours, 24 minutes, 57 seconds
  Last reboot reason      0x4:reset-button reset
  Load averages:         1 minute   5 minute   15 minute
                        2.62         2.31         2.28

Routing Engine status:
Slot 1:
  Current state           Backup
  Election priority       Backup (default)
  Temperature             39 degrees C / 102 degrees F
  DRAM                   3312 MB
  Memory utilization      59 percent
  CPU utilization:
    User                  9 percent
    Background            0 percent
    Kernel                1 percent
    Interrupt             0 percent
    Idle                  91 percent
  Model                  RE-QFXC08-CB4S
  Serial ID              BUILTIN
  Start time             2011-07-06 13:24:58 UTC
  Uptime                 11 hours, 26 minutes, 18 seconds
  Last reboot reason      0x4:reset-button reset

```

show chassis routing-engine (PTX Series Packet Transport Router)

```

user@switch> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state           Master
  Election priority       Master (default)
  Temperature             60 degrees C / 140 degrees F
  CPU temperature         76 degrees C / 168 degrees F
  DRAM                   17152 MB
  Memory utilization      11 percent
  CPU utilization:
    User                  0 percent

```

```

Background          0 percent
Kernel              4 percent
Interrupt            0 percent
Idle                95 percent
Model               RE-DUO-2600
Serial ID            P737A-002231
Start time           2011-12-21 16:54:37 PST
Uptime              25 minutes, 44 seconds
Last reboot reason   Router rebooted after a normal shutdown.
Load averages:       1 minute   5 minute   15 minute
                     0.01       0.02       0.06

Routing Engine status:
Slot 1:
  Current state      Backup
  Election priority   Backup (default)
  Temperature         50 degrees C / 122 degrees F
  CPU temperature     64 degrees C / 147 degrees F
  DRAM                17152 MB
  Memory utilization  10 percent
  CPU utilization:
    User              0 percent
    Background        0 percent
    Kernel             0 percent
    Interrupt          0 percent
    Idle              99 percent
  Model              RE-DUO-2600
  Serial ID           P737A-002438
  Start time          2011-12-21 16:52:26 PST
  Uptime              27 minutes, 49 seconds
  Last reboot reason   Router rebooted after a normal shutdown.

```

show chassis routing-engine (EX9200 Switch)

```

user@switch> show chassis routing-engine
Routing Engine status:
Slot 0:
  Current state      Master
  Election priority   Master (default)
  Temperature         35 degrees C / 95 degrees F
  CPU temperature     33 degrees C / 91 degrees F
  DRAM                8157 MB
  Installed Memory    8192 MB
  Memory utilization  18 percent
  CPU utilization:
    User              1 percent
    Background        0 percent
    Kernel             4 percent
    Interrupt          1 percent
    Idle              94 percent
  Model              RE-S-EX9200-1800X4
  Serial ID           9009119555
  Start time          2014-03-12 14:58:05 UTC
  Uptime              1 hour, 41 minutes, 51 seconds
  Last reboot reason   Router rebooted after a normal shutdown.
  Load averages:     1 minute   5 minute   15 minute
                     0.02       0.02       0.00

Routing Engine status:
Slot 1:
  Current state      Backup
  Election priority   Backup (default)

```


[...Output truncated...]

show chassis routing-engine (ACX2000 Universal Access Router)

```
user@host> show chassis routing-engine
Routing Engine status:
  Temperature           53 degrees C / 127 degrees F
  DRAM                  1536 MB
  Memory utilization    25 percent
  CPU utilization:
    User                0 percent
    Background          0 percent
    Kernel              0 percent
    Interrupt           1 percent
    Idle                99 percent
  Model                 RE-ACX-2000
  Start time            2012-05-09 00:57:07 PDT
  Uptime                5 days, 3 hours, 16 minutes, 15 seconds
  Last reboot reason    Router rebooted after a normal shutdown.
  Load averages:       1 minute   5 minute  15 minute
                        0.00       0.03    0.05
```

show chassis routing-engine (ACX1000 Universal Access Router)

```
user@host> show chassis routing-engine
Routing Engine status:
  Temperature           36 degrees C / 96 degrees F
  DRAM                  768 MB
  Memory utilization    50 percent
  CPU utilization:
    User                3 percent
    Background          0 percent
    Kernel              6 percent
    Interrupt           0 percent
    Idle                91 percent
  Model                 RE-ACX-1000
  Start time            2012-05-10 07:12:23 PDT
  Uptime                4 days, 10 hours, 46 minutes, 53 seconds
  Last reboot reason    Router rebooted after a normal shutdown.
  Load averages:       1 minute   5 minute  15 minute
                        0.00       0.00    0.00
```

show chassis temperature-thresholds

List of Syntax	Syntax on page 604 Syntax (TX Matrix Routers) on page 604 Syntax (TX Matrix Plus Routers) on page 604 Syntax (MX Series Routers) on page 604 Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers) on page 604 Syntax (QFX Series) on page 604 Syntax (PTX Series) on page 604
Syntax	show chassis temperature-thresholds
Syntax (TX Matrix Routers)	show chassis temperature-thresholds <fcc number scc>
Syntax (TX Matrix Plus Routers)	show chassis temperature-thresholds <fcc number sfc number>
Syntax (MX Series Routers)	show chassis temperature-thresholds <all-members> <local> <member member-id>
Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers)	show chassis temperature-thresholds
Syntax (QFX Series)	show chassis temperature-thresholds <interconnect-device name> <node-device name>
Syntax (PTX Series)	show chassis temperature-thresholds
Release Information	<p>Command introduced in Junos OS Release 8.0.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>sfc command introduced for the TX Matrix Plus router in Junos OS Release 9.6.</p> <p>Command introduced in Junos OS Release 11.1 for QFX Series.</p> <p>Command introduced in Junos OS Release 12.1 for T4000 Core Routers.</p> <p>Command introduced in Junos OS Release 12.1x48 for PTX Series Packet Transport Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.</p> <p>Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.</p>
Description	Display chassis temperature threshold settings, in degrees Celsius.
Options	<p>none—Display the temperature threshold details.</p> <p>all-members—(MX Series routers only) (Optional) Display the chassis temperature threshold settings of all member routers in the Virtual Chassis configuration.</p>

interconnect-device *name*—(QFabric systems only) (Optional) Display the chassis temperature threshold settings of the Interconnect device.

lcc *number*—(TX Matrix and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display the temperature threshold details of a specified T640 router (line-card chassis) that is connected to a TX Matrix router. On a TX Matrix Plus router, display the temperature threshold details of a specified router (line-card chassis) that is connected to a TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(MX Series routers only) (Optional) Display the chassis temperature threshold settings of the local Virtual Chassis member.

member *member-id*—(MX Series routers only) (Optional) Display the chassis temperature threshold settings of the specified member of the Virtual Chassis configuration. Replace *member-id* with a value of 0 or 1.

node-device *name*—(QFabric systems only) (Optional) Display the chassis temperature threshold settings of the Node device.

scc—(TX Matrix routers only) (Optional) Display the temperature threshold details of the TX Matrix router (switch-card chassis).

sfc *number*—(TX Matrix Plus routers only) (Optional) On TX Matrix Plus routers, display the temperature threshold details of the TX Matrix Plus router, which is the switch-fabric chassis. Replace *number* with 0.

Required Privilege Level view

Related Documentation • *Defining Alarm Thresholds for System Temperature Sensors*

List of Sample Output [show chassis temperature-thresholds on page 607](#)
[show chassis temperature-thresholds \(MX104 Router\) on page 607](#)
[show chassis temperature-thresholds \(MX240, MX480, MX960 Routers with Application Services Modular Line Card\) on page 607](#)
[show chassis temperature-thresholds \(MX480 Router with MPC4E\) on page 608](#)
[show chassis temperature-thresholds \(MX2010 Router\) on page 608](#)
[show chassis temperature-thresholds \(MX2020 Router\) on page 610](#)

[show chassis temperature-thresholds \(MX2020 Router with MPC4E\) on page 614](#)
[show chassis temperature-thresholds \(T4000 Core Routers\) on page 615](#)
[show chassis temperature-thresholds \(TX Matrix Plus Router\) on page 616](#)
[show chassis temperature-thresholds lcc \(TX Matrix Plus Router\) on page 617](#)
[show chassis temperature-thresholds sfc \(TX Matrix Plus Router\) on page 617](#)
[show chassis temperature-thresholds \(TX Matrix Plus routers with 3D SIBs\) on page 618](#)
[show chassis temperature-thresholds \(QFX3500 Switch and QFX3600\) on page 619](#)
[show chassis temperature-thresholds interconnect-device \(QFabric System\) on page 620](#)
[show chassis temperature-thresholds \(PTX5000 Packet Transport Router\) on page 620](#)
[show chassis temperature-thresholds \(MX Routers with Media Services Blade \[MSB\]\) on page 621](#)

Output Fields Table 28 on page 606 lists the output fields for the **show chassis temperature-thresholds** command. Output fields are listed in the approximate order in which they appear.

Table 28: show chassis temperature-thresholds Output Fields

Field name	Field Description
Item	Chassis component. If per FRU per slot thresholds are configured, the components about which information is displayed include the chassis, the Routing Engines, FPCs, and FEBs. If per FRU per slot thresholds are not configured, the components about which information is displayed include the chassis and the Routing Engines.
Fan speed	<p>NOTE: On the QFX3500 switch and QFX3600 switch, there are four fan speeds: low, medium-low, medium-high, and high. The fan speed changes at the threshold when going from a low speed to a higher speed. When the fan speed changes from a higher speed to a lower speed, the temperature changes two degrees below the threshold.</p> <p>Temperature threshold settings, in degrees Celsius, for the fans to operate at normal and high speeds.</p> <ul style="list-style-type: none"> • Normal—The fans operate at normal speed if the component is at or below this temperature and all the fans are present and functioning normally. <p>NOTE: On a TX Matrix Plus router with 3D SIBs, the threshold temperature at the XF junction is set to 70°C for Normal fan speed, which is less than or equal to 4800 RPM.</p> <ul style="list-style-type: none"> • High—The fans operate at high speed if the component has exceeded this temperature or a fan has failed or is missing. <p>NOTE: On a TX Matrix Plus router with 3D SIBs, the threshold temperature at the XF junction is set to 75°C for High fan speed, which is greater than or equal to 5000 RPM.</p> <p>NOTE: For MX480 Routers, there are three fan speeds: Low, Medium, and High.</p> <p>An alarm is not triggered until the temperature exceeds the threshold settings for a yellow alarm or a red alarm.</p>
Yellow alarm	<p>Temperature threshold settings, in degrees Celsius, that trigger a yellow alarm.</p> <ul style="list-style-type: none"> • Normal—The temperature that must be exceeded on the component to trigger a yellow alarm when the fans are running at full speed. • Bad fan—The temperature that must be exceeded on the component to trigger a yellow alarm when one or more fans have failed or are missing.

Table 28: show chassis temperature-thresholds Output Fields (*continued*)

Field name	Field Description
Red alarm	<p>Temperature threshold settings, in degrees Celsius, that trigger a red alarm.</p> <ul style="list-style-type: none"> Normal—The temperature that must be exceeded on the component to trigger a red alarm when the fans are running at full speed. Bad fan—The temperature that must be exceeded on the component to trigger a red alarm when one or more fans have failed or are missing.
Fire Shutdown	(T4000 routers, TX Matrix Plus router with 3D SIBs, and PTX Series Packet Transport Routers only)—Temperature threshold settings, in degrees Celsius, for the network device to shut down.

Sample Output

show chassis temperature-thresholds

```
user@host> show chassis temperature-thresholds
```

Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan
Chassis default	48	54	65	55	75	65
Routing Engine 0	70	80	95	95	110	110
Routing Engine 1	70	80	95	95	110	110
FPC 0	55	60	75	65	90	80
FPC 1	55	60	75	65	90	80
FPC 2	55	60	75	65	90	80
FPC 3	55	60	75	65	90	80
FPC 4	55	60	75	65	90	80
FPC 5	55	60	75	65	90	80
FPC 6	55	60	75	65	90	80
FPC 7	55	60	75	65	90	80
FPC 8	55	60	75	65	90	80
FPC 9	55	60	75	65	90	80
FPC 10	55	60	75	65	90	80
FPC 11	55	60	75	65	90	80

show chassis temperature-thresholds (MX104 Router)

```
user@host> show chassis temperature-thresholds
```

Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)		Fire Shutdown (degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan	Normal	Bad fan
Chassis default	48	54	65	55	75	65		
Routing Engine 0	55	80	95	95	105	100		

show chassis temperature-thresholds (MX240, MX480, MX960 Routers with Application Services Modular Line Card)

```
user@host> show chassis temperature-thresholds
```

Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)		Fire Shutdown (degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan	Normal	Bad fan

Item	Normal	High	Normal	Bad fan	Normal	Bad fan
Normal						
Chassis default	48	54	65	55	75	65
100						
Routing Engine 0	70	80	95	95	110	110
112						
Routing Engine 1	70	80	95	95	110	110
112						
FPC 0	55	60	75	65	90	80
95						
FPC 1	55	60	75	65	90	80
95						
FPC 2	55	60	75	65	90	80
95						
FPC 4	55	60	75	65	90	80
95						
FPC 5	55	60	75	65	90	80
95						

show chassis temperature-thresholds (MX480 Router with MPC4E)

```
user@ host> show chassis temperature-thresholds
```

	Fan speed	Yellow alarm		Red alarm		Fire Shutdown	
		(degrees C)		(degrees C)		(degrees C)	
(degrees C)							
Item	Normal	High	Normal	Bad fan	Normal	Bad fan	Normal
Normal							
Chassis default	48	54	65	55	75	65	
100							
Routing Engine 0	70	80	95	95	110	110	
112							
Routing Engine 1	70	80	95	95	110	110	
112							
FPC 2	55	60	75	65	95	80	
100							
FPC 3	55	60	75	65	95	80	
100							
FPC 4	55	60	75	65	90	80	
95							

show chassis temperature-thresholds (MX2010 Router)

```
user@host> show chassis temperature-thresholds
```

	Fan speed		Yellow alarm		Red alarm		Fire Shutdown	
	(degrees C)		(degrees C)		(degrees C)		(degrees C)	
Item	Normal	High	Normal	Bad fan	Normal	Bad fan	Normal	Bad fan
Routing Engine 0	70	80	95	95	110	110	112	
Routing Engine 1	70	80	95	95	110	110	112	
CB 0 IntakeA-Zone0	60	65	78	75	85	80	95	
CB 0 IntakeB-Zone1	60	65	78	75	85	80	95	
CB 0 IntakeC-Zone0	60	65	78	75	85	80	95	
CB 0 ExhaustA-Zone0	60	65	78	75	85	80	95	
CB 0 ExhaustB-Zone1	60	65	78	75	85	80	95	
CB 0 TCBC-Zone0	60	65	78	75	85	80	95	
CB 1 IntakeA-Zone0	60	65	78	75	85	80	95	
CB 1 IntakeB-Zone1	60	65	78	75	85	80	95	
CB 1 IntakeC-Zone0	60	65	78	75	85	80	95	
CB 1 ExhaustA-Zone0	60	65	78	75	85	80	95	
CB 1 ExhaustB-Zone1	60	65	78	75	85	80	95	
CB 1 TCBC-Zone0	60	65	78	75	85	80	95	
SPMB 0 Intake	56	62	75	63	83	76	95	

SPMB 1 Intake	56	62	75	63	83	76	95
SFB 0 Intake-Zone0	56	62	75	63	82	70	87
SFB 0 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 0 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 0 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 0 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 0 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 0 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 0 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 1 Intake-Zone0	56	62	75	63	82	70	87
SFB 1 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 1 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 1 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 1 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 1 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 1 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 1 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 2 Intake-Zone0	56	62	75	63	82	70	87
SFB 2 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 2 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 2 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 2 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 2 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 2 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 2 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 3 Intake-Zone0	56	62	75	63	82	70	87
SFB 3 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 3 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 3 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 3 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 3 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 3 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 3 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 4 Intake-Zone0	56	62	75	63	82	70	87
SFB 4 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 4 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 4 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 4 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 4 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 4 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 4 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 5 Intake-Zone0	56	62	75	63	82	70	87
SFB 5 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 5 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 5 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 5 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 5 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 5 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 5 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 6 Intake-Zone0	56	62	75	63	82	70	87
SFB 6 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 6 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 6 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 6 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 6 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 6 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 6 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 7 Intake-Zone0	56	62	75	63	82	70	87
SFB 7 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 7 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 7 IntakeB-Zone1	56	62	75	63	82	70	87

SFB 7 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 7 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 7 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 7 SFB-XF0-Zone0	70	80	90	90	107	107	115
FPC 0	55	60	75	65	95	80	100
FPC 1	55	60	75	65	90	80	95
FPC 2	55	60	75	65	95	80	100
FPC 3	55	60	75	65	90	80	95
FPC 4	55	60	75	65	90	80	95
FPC 5	55	60	75	65	95	80	100
FPC 6	55	60	75	65	90	80	95
FPC 7	55	60	75	65	95	80	100
FPC 8	55	60	75	65	90	80	95
FPC 9	55	60	75	65	95	80	100
ADC 0 Intake	56	62	75	63	83	76	95
ADC 0 Exhaust	56	62	75	63	83	76	95
ADC 0 ADC-XF1	70	80	90	90	107	107	115
ADC 0 ADC-XF0	70	80	90	90	107	107	115
ADC 1 Intake	56	62	75	63	83	76	95
ADC 1 Exhaust	56	62	75	63	83	76	95
ADC 1 ADC-XF1	70	80	90	90	107	107	115
ADC 1 ADC-XF0	70	80	90	90	107	107	115
ADC 2 Intake	56	62	75	63	83	76	95
ADC 2 Exhaust	56	62	75	63	83	76	95
ADC 2 ADC-XF1	70	80	90	90	107	107	115
ADC 2 ADC-XF0	70	80	90	90	107	107	115
ADC 3 Intake	56	62	75	63	83	76	95
ADC 3 Exhaust	56	62	75	63	83	76	95
ADC 3 ADC-XF1	70	80	90	90	107	107	115
ADC 3 ADC-XF0	70	80	90	90	107	107	115
ADC 4 Intake	56	62	75	63	83	76	95
ADC 4 Exhaust	56	62	75	63	83	76	95
ADC 4 ADC-XF1	70	80	90	90	107	107	115
ADC 4 ADC-XF0	70	80	90	90	107	107	115
ADC 5 Intake	56	62	75	63	83	76	95
ADC 5 Exhaust	56	62	75	63	83	76	95
ADC 5 ADC-XF1	70	80	90	90	107	107	115
ADC 5 ADC-XF0	70	80	90	90	107	107	115
ADC 6 Intake	56	62	75	63	83	76	95
ADC 6 Exhaust	56	62	75	63	83	76	95
ADC 6 ADC-XF1	70	80	90	90	107	107	115
ADC 6 ADC-XF0	70	80	90	90	107	107	115
ADC 7 Intake	56	62	75	63	83	76	95
ADC 7 Exhaust	56	62	75	63	83	76	95
ADC 7 ADC-XF1	70	80	90	90	107	107	115
ADC 7 ADC-XF0	70	80	90	90	107	107	115
ADC 8 Intake	56	62	75	63	83	76	95
ADC 8 Exhaust	56	62	75	63	83	76	95
ADC 8 ADC-XF1	70	80	90	90	107	107	115
ADC 8 ADC-XF0	70	80	90	90	107	107	115
ADC 9 Intake	56	62	75	63	83	76	95
ADC 9 Exhaust	56	62	75	63	83	76	95
ADC 9 ADC-XF1	70	80	90	90	107	107	115
ADC 9 ADC-XF0	70	80	90	90	107	107	115

show chassis temperature-thresholds (MX2020 Router)

```

user@host> show chassis temperature-thresholds
Fan speed      Yellow alarm    Red alarm      Fire Shutdown
(degrees C)    (degrees C)    (degrees C)    (degrees C)

```


Item	Normal	High	Normal	Bad fan	Normal	Bad fan	Normal
Routing Engine 0	70	80	95	95	110	110	112
Routing Engine 1	70	80	95	95	110	110	112
CB 0 IntakeA-Zone0	60	65	78	75	85	80	95
CB 0 IntakeB-Zone1	60	65	78	75	85	80	95
CB 0 IntakeC-Zone0	60	65	78	75	85	80	95
CB 0 ExhaustA-Zone0	60	65	78	75	85	80	95
CB 0 ExhaustB-Zone1	60	65	78	75	85	80	95
CB 0 TCBC-Zone0	60	65	78	75	85	80	95
CB 1 IntakeA-Zone0	60	65	78	75	85	80	95
CB 1 IntakeB-Zone1	60	65	78	75	85	80	95
CB 1 IntakeC-Zone0	60	65	78	75	85	80	95
CB 1 ExhaustA-Zone0	60	65	78	75	85	80	95
CB 1 ExhaustB-Zone1	60	65	78	75	85	80	95
CB 1 TCBC-Zone0	60	65	78	75	85	80	95
SPMB 0 Intake	56	62	75	63	83	76	95
SPMB 1 Intake	56	62	75	63	83	76	95
SFB 0 Intake-Zone0	56	62	75	63	82	70	87
SFB 0 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 0 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 0 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 0 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 0 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 0 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 0 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 1 Intake-Zone0	56	62	75	63	82	70	87
SFB 1 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 1 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 1 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 1 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 1 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 1 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 1 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 2 Intake-Zone0	56	62	75	63	82	70	87
SFB 2 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 2 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 2 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 2 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 2 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 2 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 2 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 3 Intake-Zone0	56	62	75	63	82	70	87
SFB 3 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 3 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 3 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 3 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 3 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 3 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 3 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 4 Intake-Zone0	56	62	75	63	82	70	87
SFB 4 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 4 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 4 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 4 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 4 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 4 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 4 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 5 Intake-Zone0	56	62	75	63	82	70	87
SFB 5 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 5 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 5 IntakeB-Zone1	56	62	75	63	82	70	87

SFB 5 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 5 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 5 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 5 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 6 Intake-Zone0	56	62	75	63	82	70	87
SFB 6 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 6 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 6 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 6 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 6 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 6 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 6 SFB-XF0-Zone0	70	80	90	90	107	107	115
SFB 7 Intake-Zone0	56	62	75	63	82	70	87
SFB 7 Exhaust-Zone1	56	62	75	63	82	70	87
SFB 7 IntakeA-Zone0	56	62	75	63	82	70	87
SFB 7 IntakeB-Zone1	56	62	75	63	82	70	87
SFB 7 Exhaust-Zone0	56	62	75	63	82	70	87
SFB 7 SFB-XF2-Zone1	70	80	90	90	107	107	115
SFB 7 SFB-XF1-Zone0	70	80	90	90	107	107	115
SFB 7 SFB-XF0-Zone0	70	80	90	90	107	107	115
FPC 0	55	60	75	65	90	80	95
FPC 1	55	60	75	65	90	80	95
FPC 2	55	60	75	65	90	80	95
FPC 3	55	60	75	65	90	80	95
FPC 4	55	60	75	65	90	80	95
FPC 5	55	60	75	65	90	80	95
FPC 6	55	60	75	65	90	80	95
FPC 7	55	60	75	65	90	80	95
FPC 8	55	60	75	65	90	80	95
FPC 9	55	60	75	65	90	80	95
FPC 10	55	60	75	65	90	80	95
FPC 11	55	60	75	65	90	80	95
FPC 12	55	60	75	65	90	80	95
FPC 13	55	60	75	65	90	80	95
FPC 14	55	60	75	65	90	80	95
FPC 15	55	60	75	65	90	80	95
FPC 16	55	60	75	65	90	80	95
FPC 17	55	60	75	65	90	80	95
FPC 18	55	60	75	65	90	80	95
FPC 19	55	60	75	65	90	80	95
ADC 0 Intake	56	62	75	63	83	76	95
ADC 0 Exhaust	56	62	75	63	83	76	95
ADC 0 ADC-XF1	70	80	90	90	107	107	115
ADC 0 ADC-XF0	70	80	90	90	107	107	115
ADC 1 Intake	56	62	75	63	83	76	95
ADC 1 Exhaust	56	62	75	63	83	76	95
ADC 1 ADC-XF1	70	80	90	90	107	107	115
ADC 1 ADC-XF0	70	80	90	90	107	107	115
ADC 2 Intake	56	62	75	63	83	76	95
ADC 2 Exhaust	56	62	75	63	83	76	95
ADC 2 ADC-XF1	70	80	90	90	107	107	115
ADC 2 ADC-XF0	70	80	90	90	107	107	115
ADC 3 Intake	56	62	75	63	83	76	95
ADC 3 Exhaust	56	62	75	63	83	76	95
ADC 3 ADC-XF1	70	80	90	90	107	107	115
ADC 3 ADC-XF0	70	80	90	90	107	107	115
ADC 4 Intake	56	62	75	63	83	76	95
ADC 4 Exhaust	56	62	75	63	83	76	95
ADC 4 ADC-XF1	70	80	90	90	107	107	115
ADC 4 ADC-XF0	70	80	90	90	107	107	115
ADC 5 Intake	56	62	75	63	83	76	95

ADC 5 Exhaust	56	62	75	63	83	76	95
ADC 5 ADC-XF1	70	80	90	90	107	107	115
ADC 5 ADC-XF0	70	80	90	90	107	107	115
ADC 6 Intake	56	62	75	63	83	76	95
ADC 6 Exhaust	56	62	75	63	83	76	95
ADC 6 ADC-XF1	70	80	90	90	107	107	115
ADC 6 ADC-XF0	70	80	90	90	107	107	115
ADC 7 Intake	56	62	75	63	83	76	95
ADC 7 Exhaust	56	62	75	63	83	76	95
ADC 7 ADC-XF1	70	80	90	90	107	107	115
ADC 7 ADC-XF0	70	80	90	90	107	107	115
ADC 8 Intake	56	62	75	63	83	76	95
ADC 8 Exhaust	56	62	75	63	83	76	95
ADC 8 ADC-XF1	70	80	90	90	107	107	115
ADC 8 ADC-XF0	70	80	90	90	107	107	115
ADC 9 Intake	56	62	75	63	83	76	95
ADC 9 Exhaust	56	62	75	63	83	76	95
ADC 9 ADC-XF1	70	80	90	90	107	107	115
ADC 9 ADC-XF0	70	80	90	90	107	107	115
ADC 10 Intake	56	62	75	63	83	76	95
ADC 10 Exhaust	56	62	75	63	83	76	95
ADC 10 ADC-XF1	70	80	90	90	107	107	115
ADC 10 ADC-XF0	70	80	90	90	107	107	115
ADC 11 Intake	56	62	75	63	83	76	95
ADC 11 Exhaust	56	62	75	63	83	76	95
ADC 11 ADC-XF1	70	80	90	90	107	107	115
ADC 11 ADC-XF0	70	80	90	90	107	107	115
ADC 12 Intake	56	62	75	63	83	76	95
ADC 12 Exhaust	56	62	75	63	83	76	95
ADC 12 ADC-XF1	70	80	90	90	107	107	115
ADC 12 ADC-XF0	70	80	90	90	107	107	115
ADC 13 Intake	56	62	75	63	83	76	95
ADC 13 Exhaust	56	62	75	63	83	76	95
ADC 13 ADC-XF1	70	80	90	90	107	107	115
ADC 13 ADC-XF0	70	80	90	90	107	107	115
ADC 14 Intake	56	62	75	63	83	76	95
ADC 14 Exhaust	56	62	75	63	83	76	95
ADC 14 ADC-XF1	70	80	90	90	107	107	115
ADC 14 ADC-XF0	70	80	90	90	107	107	115
ADC 15 Intake	56	62	75	63	83	76	95
ADC 15 Exhaust	56	62	75	63	83	76	95
ADC 15 ADC-XF1	70	80	90	90	107	107	115
ADC 15 ADC-XF0	70	80	90	90	107	107	115
ADC 16 Intake	56	62	75	63	83	76	95
ADC 16 Exhaust	56	62	75	63	83	76	95
ADC 16 ADC-XF1	70	80	90	90	107	107	115
ADC 16 ADC-XF0	70	80	90	90	107	107	115
ADC 17 Intake	56	62	75	63	83	76	95
ADC 17 Exhaust	56	62	75	63	83	76	95
ADC 17 ADC-XF1	70	80	90	90	107	107	115
ADC 17 ADC-XF0	70	80	90	90	107	107	115
ADC 18 Intake	56	62	75	63	83	76	95
ADC 18 Exhaust	56	62	75	63	83	76	95
ADC 18 ADC-XF1	70	80	90	90	107	107	115
ADC 18 ADC-XF0	70	80	90	90	107	107	115
ADC 19 Intake	56	62	75	63	83	76	95
ADC 19 Exhaust	56	62	75	63	83	76	95
ADC 19 ADC-XF1	70	80	90	90	107	107	115
ADC 19 ADC-XF0	70	80	90	90	107	107	115

show chassis temperature-thresholds (MX2020 Router with MPC4E)

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user@host> show chassis temperature-thresholds

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Item	Fan speed		Yellow alarm (degrees C)		Red alarm (degrees C)		Fire Shutdown (degrees C)		(degrees C)
	Normal	High	Normal	Bad fan	Normal	Bad fan	Normal	Bad fan	
Routing Engine 0	70	80	95	95	110	110	112		
Routing Engine 1	70	80	95	95	110	110	112		
CB 0 IntakeA-Zone0	60	65	78	75	85	80	95		
CB 0 IntakeB-Zone1	60	65	78	75	85	80	95		
CB 0 IntakeC-Zone0	60	65	78	75	85	80	95		
CB 0 ExhaustA-Zone0	60	65	78	75	85	80	95		
CB 0 ExhaustB-Zone1	60	65	78	75	85	80	95		
CB 0 TCBC-Zone0	60	65	78	75	85	80	95		
CB 1 IntakeA-Zone0	60	65	78	75	85	80	95		
CB 1 IntakeB-Zone1	60	65	78	75	85	80	95		
CB 1 IntakeC-Zone0	60	65	78	75	85	80	95		
CB 1 ExhaustA-Zone0	60	65	78	75	85	80	95		
CB 1 ExhaustB-Zone1	60	65	78	75	85	80	95		
CB 1 TCBC-Zone0	60	65	78	75	85	80	95		
SPMB 0 Intake	56	62	75	63	83	76	95		
SPMB 1 Intake	56	62	75	63	83	76	95		
SFB 0 Intake-Zone0	56	62	70	70	85	85	89		
SFB 0 Exhaust-Zone1	56	62	70	70	85	85	89		
SFB 0 IntakeA-Zone0	56	62	70	70	85	85	89		
SFB 0 IntakeB-Zone1	56	62	70	70	85	85	89		
SFB 0 Exhaust-Zone0	56	62	70	70	85	85	89		
SFB 0 SFB-XF2-Zone1	70	75	90	85	95	90	100		
SFB 0 SFB-XF1-Zone0	70	75	90	85	95	90	100		
SFB 0 SFB-XF0-Zone0	70	75	90	85	95	90	100		
SFB 1 Intake-Zone0	56	62	70	70	85	85	89		
SFB 1 Exhaust-Zone1	56	62	70	70	85	85	89		
SFB 1 IntakeA-Zone0	56	62	70	70	85	85	89		
SFB 1 IntakeB-Zone1	56	62	70	70	85	85	89		
SFB 1 Exhaust-Zone0	56	62	70	70	85	85	89		
SFB 1 SFB-XF2-Zone1	70	75	90	85	95	90	100		
SFB 1 SFB-XF1-Zone0	70	75	90	85	95	90	100		
SFB 1 SFB-XF0-Zone0	70	75	90	85	95	90	100		
SFB 2 Intake-Zone0	56	62	70	70	85	85	89		
SFB 2 Exhaust-Zone1	56	62	70	70	85	85	89		
SFB 2 IntakeA-Zone0	56	62	70	70	85	85	89		
SFB 2 IntakeB-Zone1	56	62	70	70	85	85	89		
SFB 2 Exhaust-Zone0	56	62	70	70	85	85	89		
SFB 2 SFB-XF2-Zone1	70	75	90	85	95	90	100		
SFB 2 SFB-XF1-Zone0	70	75	90	85	95	90	100		
SFB 2 SFB-XF0-Zone0	70	75	90	85	95	90	100		
SFB 3 Intake-Zone0	56	62	70	70	85	85	89		
SFB 3 Exhaust-Zone1	56	62	70	70	85	85	89		
SFB 3 IntakeA-Zone0	56	62	70	70	85	85	89		
SFB 3 IntakeB-Zone1	56	62	70	70	85	85	89		
SFB 3 Exhaust-Zone0	56	62	70	70	85	85	89		
SFB 3 SFB-XF2-Zone1	70	75	90	85	95	90	100		
SFB 3 SFB-XF1-Zone0	70	75	90	85	95	90	100		
SFB 3 SFB-XF0-Zone0	70	75	90	85	95	90	100		
SFB 4 Intake-Zone0	56	62	70	70	85	85	89		
SFB 4 Exhaust-Zone1	56	62	70	70	85	85	89		
SFB 4 IntakeA-Zone0	56	62	70	70	85	85	89		
SFB 4 IntakeB-Zone1	56	62	70	70	85	85	89		
SFB 4 Exhaust-Zone0	56	62	70	70	85	85	89		
SFB 4 SFB-XF2-Zone1	70	75	90	85	95	90	100		

SFB 4 SFB-XF1-Zone0	70	75	90	85	95	90	100
SFB 4 SFB-XF0-Zone0	70	75	90	85	95	90	100
SFB 5 Intake-Zone0	56	62	70	70	85	85	89
SFB 5 Exhaust-Zone1	56	62	70	70	85	85	89
SFB 5 IntakeA-Zone0	56	62	70	70	85	85	89
SFB 5 IntakeB-Zone1	56	62	70	70	85	85	89
SFB 5 Exhaust-Zone0	56	62	70	70	85	85	89
SFB 5 SFB-XF2-Zone1	70	75	90	85	95	90	100
SFB 5 SFB-XF1-Zone0	70	75	90	85	95	90	100
SFB 5 SFB-XF0-Zone0	70	75	90	85	95	90	100
SFB 6 Intake-Zone0	56	62	70	70	85	85	89
SFB 6 Exhaust-Zone1	56	62	70	70	85	85	89
SFB 6 IntakeA-Zone0	56	62	70	70	85	85	89
SFB 6 IntakeB-Zone1	56	62	70	70	85	85	89
SFB 6 Exhaust-Zone0	56	62	70	70	85	85	89
SFB 6 SFB-XF2-Zone1	70	75	90	85	95	90	100
SFB 6 SFB-XF1-Zone0	70	75	90	85	95	90	100
SFB 6 SFB-XF0-Zone0	70	75	90	85	95	90	100
SFB 7 Intake-Zone0	56	62	70	70	85	85	89
SFB 7 Exhaust-Zone1	56	62	70	70	85	85	89
SFB 7 IntakeA-Zone0	56	62	70	70	85	85	89
SFB 7 IntakeB-Zone1	56	62	70	70	85	85	89
SFB 7 Exhaust-Zone0	56	62	70	70	85	85	89
SFB 7 SFB-XF2-Zone1	70	75	90	85	95	90	100
SFB 7 SFB-XF1-Zone0	70	75	90	85	95	90	100
SFB 7 SFB-XF0-Zone0	70	75	90	85	95	90	100
FPC 0	55	60	75	65	90	80	95
FPC 9	55	60	75	65	90	80	95
FPC 10	55	60	75	65	90	80	95
FPC 14	55	60	75	65	95	80	100
FPC 19	55	60	75	65	90	80	95
ADC 0 Intake	50	55	60	60	65	65	80
ADC 0 Exhaust	50	55	60	60	65	65	80
ADC 0 ADC-XF1	70	75	90	85	95	90	100
ADC 0 ADC-XF0	70	75	90	85	95	90	100
ADC 9 Intake	50	55	60	60	65	65	80
ADC 9 Exhaust	50	55	60	60	65	65	80
ADC 9 ADC-XF1	70	75	90	85	95	90	100
ADC 9 ADC-XF0	70	75	90	85	95	90	100
ADC 10 Intake	50	55	60	60	65	65	80
ADC 10 Exhaust	50	55	60	60	65	65	80
ADC 10 ADC-XF1	70	75	90	85	95	90	100
ADC 10 ADC-XF0	70	75	90	85	95	90	100
ADC 14 Intake	50	55	60	60	65	65	80
ADC 14 Exhaust	50	55	60	60	65	65	80
ADC 14 ADC-XF1	70	75	90	85	95	90	100
ADC 14 ADC-XF0	70	75	90	85	95	90	100
ADC 19 Intake	50	55	60	60	65	65	80
ADC 19 Exhaust	50	55	60	60	65	65	80
ADC 19 ADC-XF1	70	75	90	85	95	90	100
ADC 19 ADC-XF0	70	75	90	85	95	90	100

show chassis temperature-thresholds (T4000 Core Routers)

```
user@host> show chassis temperature-thresholds
```

Item	Fan speed		Yellow alarm		Red alarm		Fire Shutdown
	(degrees C) Normal	High	(degrees C) Normal	Bad fan	(degrees C) Normal	Bad fan	(degrees C) Normal
Chassis default	48	54	65	55	75	65	100

Routing Engine 0	55	65	85	85	100	100	102
Routing Engine 1	55	65	85	85	100	100	102
FPC 0	63	68	75	70	90	83	95
FPC 3	63	68	75	70	90	83	95
FPC 5	56	62	75	63	83	76	95
FPC 6	63	68	75	70	90	83	95
SIB 0	64	70	76	72	87	84	95
SIB 1	64	70	76	72	87	84	95
SIB 2	64	70	76	72	87	84	95
SIB 3	64	70	76	72	87	84	95
SIB 4	64	70	76	72	87	84	95

show chassis temperature-thresholds (TX Matrix Plus Router)

```
user@host> show chassis temperature-thresholds
sfc0-re0:
```

Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan
Chassis default	48	54	65	55	75	65
Routing Engine 0	55	65	85	85	100	100
Routing Engine 1	55	65	85	85	100	100
SIB F13 0	64	70	76	72	90	84
SIB F13 3	64	70	76	72	90	84
SIB F13 6	64	70	76	72	90	84
SIB F13 8	64	70	76	72	90	84
SIB F13 11	64	70	76	72	90	84
SIB F13 12	64	70	76	72	90	84
SIB F2S 16	64	70	76	72	90	84
SIB F2S 17	64	70	76	72	90	84
SIB F2S 18	64	70	76	72	90	84
SIB F2S 19	64	70	76	72	90	84
SIB F2S 20	64	70	76	72	90	84
SIB F2S 21	64	70	76	72	90	84
SIB F2S 22	64	70	76	72	90	84
SIB F2S 23	64	70	76	72	90	84
SIB F2S 24	64	70	76	72	90	84
SIB F2S 25	64	70	76	72	90	84
SIB F2S 26	64	70	76	72	90	84
SIB F2S 27	64	70	76	72	90	84
SIB F2S 28	64	70	76	72	90	84
SIB F2S 29	64	70	76	72	90	84
SIB F2S 30	64	70	76	72	90	84
SIB F2S 31	64	70	76	72	90	84
SIB F2S 32	64	70	76	72	90	84
SIB F2S 33	64	70	76	72	90	84
SIB F2S 34	64	70	76	72	90	84
SIB F2S 35	64	70	76	72	90	84

```
lcc0-re0:
```

Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan
Chassis default	48	54	65	55	75	65
Routing Engine 0	55	65	85	85	100	100
Routing Engine 1	55	65	85	85	100	100
FPC 1	56	62	75	63	83	76
FPC 3	56	62	75	63	83	76
FPC 4	56	62	75	63	83	76

FPC 6	56	62	75	63	83	76
FPC 7	56	62	75	63	83	76
SIB 0	48	54	65	60	80	75
SIB 1	48	54	65	60	80	75
SIB 2	48	54	65	60	80	75
SIB 3	48	54	65	60	80	75
SIB 4	48	54	65	60	80	75

lcc1-re0:

Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan
Chassis default	48	54	65	55	75	65
Routing Engine 0	55	65	85	85	100	100
Routing Engine 1	55	65	85	85	100	100
FPC 1	56	62	75	63	83	76
FPC 3	56	62	75	63	83	76
FPC 4	56	62	75	63	83	76
FPC 6	56	62	75	63	83	76
...						

show chassis temperature-thresholds lcc (TX Matrix Plus Router)

user@host> show chassis temperature-thresholds lcc 1
lcc1-re0:

Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan
Chassis default	48	54	65	55	75	65
Routing Engine 0	55	65	85	85	100	100
Routing Engine 1	55	65	85	85	100	100
FPC 1	56	62	75	63	83	76
FPC 3	56	62	75	63	83	76
FPC 4	56	62	75	63	83	76
FPC 6	56	62	75	63	83	76
SIB 0	48	54	65	60	80	75
SIB 1	48	54	65	60	80	75
SIB 2	48	54	65	60	80	75
SIB 3	48	54	65	60	80	75
SIB 4	48	54	65	60	80	75

show chassis temperature-thresholds sfc (TX Matrix Plus Router)

user@host> show chassis temperature-thresholds sfc 0
sfc0-re0:

Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan
Chassis default	48	54	65	55	75	65
Routing Engine 0	55	65	85	85	100	100
Routing Engine 1	55	65	85	85	100	100
SIB F13 0	64	70	76	72	90	84
SIB F13 3	64	70	76	72	90	84
SIB F13 6	64	70	76	72	90	84
SIB F13 8	64	70	76	72	90	84
SIB F13 11	64	70	76	72	90	84
SIB F13 12	64	70	76	72	90	84
SIB F2S 16	64	70	76	72	90	84

SIB F2S 17	64	70	76	72	90	84
SIB F2S 18	64	70	76	72	90	84
SIB F2S 19	64	70	76	72	90	84
SIB F2S 20	64	70	76	72	90	84
SIB F2S 21	64	70	76	72	90	84
SIB F2S 22	64	70	76	72	90	84
SIB F2S 23	64	70	76	72	90	84
SIB F2S 24	64	70	76	72	90	84
SIB F2S 25	64	70	76	72	90	84
SIB F2S 26	64	70	76	72	90	84
SIB F2S 27	64	70	76	72	90	84
SIB F2S 28	64	70	76	72	90	84
SIB F2S 29	64	70	76	72	90	84
SIB F2S 30	64	70	76	72	90	84
SIB F2S 31	64	70	76	72	90	84
SIB F2S 32	64	70	76	72	90	84
SIB F2S 33	64	70	76	72	90	84
SIB F2S 34	64	70	76	72	90	84
SIB F2S 35	64	70	76	72	90	84

show chassis temperature-thresholds (TX Matrix Plus routers with 3D SIBs)

```
user@host> show chassis temperature-thresholds
sfc0-re0:
```

Shutdown	Fan speed		Yellow alarm		Red alarm		Fire
(degrees C)	(degrees C)		(degrees C)		(degrees C)		
Item	Normal	High	Normal	Bad fan	Normal	Bad fan	
Normal							
Chassis default	48	54	65	55	75	65	
100							
Routing Engine 0	70	75	90	87	102	97	
115							
Routing Engine 1	70	75	90	87	102	97	
115							
SIB F13 0 Board	60	65	78	75	85	80	
95							
SIB F13 0 XF Junction	70	75	82	74	105	100	
107							
SIB F13 4 Board	60	65	78	75	85	80	
95							
SIB F13 4 XF Junction	70	75	82	74	105	100	
107							
SIB F13 6 Board	60	65	78	75	85	80	
95							
SIB F13 6 XF Junction	70	75	82	74	105	100	
107							
SIB F2S 16 Board	60	65	78	75	85	80	
95							
SIB F2S 16 XF Junction	70	75	82	74	105	100	
107							
SIB F2S 17 Board	60	65	78	75	85	80	
95							
SIB F2S 17 XF Junction	70	75	82	74	105	100	
107							
SIB F2S 18 Board	60	65	78	75	85	80	
95							
SIB F2S 18 XF Junction	70	75	82	74	105	100	
107							

SIB F2S 19 Board 95	60	65	78	75	85	80
SIB F2S 19 XF Junction 107	70	75	82	74	105	100
SIB F2S 24 Board 95	60	65	78	75	85	80
SIB F2S 24 XF Junction 107	70	75	82	74	105	100
SIB F2S 25 Board 95	60	65	78	75	85	80
SIB F2S 25 XF Junction 107	70	75	82	74	105	100
SIB F2S 26 Board 95	60	65	78	75	85	80
SIB F2S 26 XF Junction 107	70	75	82	74	105	100
SIB F2S 27 Board 95	60	65	78	75	85	80
SIB F2S 27 XF Junction 107	70	75	82	74	105	100

lcc0-re0:

Shutdown	Fan speed		Yellow alarm		Red alarm		Fire
(degrees C)	(degrees C)		(degrees C)		(degrees C)		
Item	Normal	High	Normal	Bad fan	Normal	Bad fan	
Normal							
Chassis default	48	54	65	55	75	65	
100							
Routing Engine 0	55	65	85	85	100	100	
102							
FPC 0	63	68	75	70	90	83	
95							
FPC 1	56	62	75	63	83	76	
95							
FPC 7	56	62	75	63	83	76	
95							
SIB 0	64	70	76	72	87	84	
95							
SIB 0 ASIC Junction	63	68	75	70	105	100	
107							
SIB 2	64	70	76	72	87	84	
95							
SIB 2 ASIC Junction	63	68	75	70	105	100	
107							
SIB 3	64	70	76	72	87	84	
95							
SIB 3 ASIC Junction	63	68	75	70	105	100	
107							

show chassis temperature-thresholds (QFX3500 Switch and QFX3600)

user@switch> show chassis temperature-thresholds

Item	Fan speed		Yellow alarm		Red alarm	
	(degrees C)		(degrees C)		(degrees C)	
	Normal	High	Normal	Bad fan	Normal	Bad fan
Normal						
FPC Sensor TopLeft I	48	56	53	43	56	46
FPC Sensor TopRight I	46	54	51	41	54	44

FPC Sensor TopLeft E	58	65	62	52	65	55
FPC Sensor TopRight E	56	64	61	51	64	54
FPC Sensor TopMiddle I	58	64	61	51	64	54
FPC Sensor TopMiddle E	67	74	71	61	74	64
FPC Sensor Bottom I	59	67	64	54	67	57
FPC Sensor Bottom E	66	73	70	60	73	63
FPC Sensor Die Temp	69	75	72	62	75	65
FPC Sensor Mgmt Brd I	46	54	51	41	54	44
FPC Sensor Switch I	56	63	60	50	63	53

show chassis temperature-thresholds interconnect-device (QFabric System)

```

user@switch> show chassis temperature-thresholds interconnect-device interconnect1
temperature-thresholds interconnect-device interconnect1

```

Item	Fan speed		Yellow alarm		Red alarm	
	Normal	High	Normal	Bad fan	Normal	Bad fan
Chassis default	48	54	65	55	75	65

show chassis temperature-thresholds (PTX5000 Packet Transport Router)

```

user@switch> show chassis temperature-thresholds
user@switch> show chassis temperature-thresholds

```

Shutdown (degrees C) Item	Fan speed (degrees C)		Yellow alarm (degrees C)		Red alarm (degrees C)		Fire
	Normal	High	Normal	Bad fan	Normal	Bad fan	
Routing Engine 0	80	90	95	85	105	95	
115							
CB 0 Exhaust A	60	65	78	75	85	80	
95							
CB 0 Exhaust B	60	65	78	75	85	80	
95							
CB 1 Exhaust A	60	65	78	75	85	80	
95							
CB 1 Exhaust B	60	65	78	75	85	80	
95							
FPC 3 Exhaust A	80	90	95	85	105	95	
115							
FPC 3 Exhaust B	80	90	95	85	105	95	
115							
FPC 3 TL5	80	90	95	85	105	95	
115							
FPC 3 TQ5	80	90	95	85	105	95	
115							
FPC 3 TL6	80	90	95	85	105	95	
115							
FPC 3 TQ6	80	90	95	85	105	95	
115							
FPC 3 TL1	80	90	95	85	105	95	
115							
FPC 3 TQ1	80	90	95	85	105	95	
115							
FPC 3 TL2	80	90	95	85	105	95	
115							
FPC 3 TQ2	80	90	95	85	105	95	
115							
FPC 3 TL4	80	90	95	85	105	95	
115							

FPC 3 TQ4	80	90	95	85	105	95
115						
FPC 3 TL7	80	90	95	85	105	95
115						
FPC 3 TQ7	80	90	95	85	105	95
115						
FPC 3 TL0	80	90	95	85	105	95
115						
FPC 3 TQ0	80	90	95	85	105	95
115						
FPC 3 TL3	80	90	95	85	105	95
115						
FPC 3 TQ3	80	90	95	85	105	95
115						
SIB 0 Exhaust	60	65	78	75	85	80
95						
SIB 0 Junction	75	80	90	85	105	95
115						
SIB 1 Exhaust	60	65	78	75	85	80
95						
SIB 1 Junction	75	80	90	85	105	95
115						
SIB 2 Exhaust	60	65	78	75	85	80
95						
SIB 2 Junction	75	80	90	85	105	95
115						
SIB 3 Exhaust	60	65	78	75	85	80
95						
SIB 3 Junction	75	80	90	85	105	95
115						
SIB 4 Exhaust	60	65	78	75	85	80
95						
SIB 4 Junction	75	80	90	85	105	95
115						
SIB 5 Exhaust	60	65	78	75	85	80
95						
SIB 5 Junction	75	80	90	85	105	95
115						
SIB 6 Exhaust	60	65	78	75	85	80
95						
SIB 6 Junction	75	80	90	85	105	95
115						
SIB 7 Exhaust	60	65	78	75	85	80
95						
SIB 7 Junction	75	80	90	85	105	95
115						
SIB 8 Exhaust	60	65	78	75	85	80
95						
SIB 8 Junction	75	80	90	85	105	95
115						

show chassis temperature-thresholds (MX Routers with Media Services Blade [MSB])

```

user@switch> show chassis temperature-thresholds
Fan speed      Yellow alarm    Red alarm      Fire Shutdown
(degrees C)    (degrees C)    (degrees C)    (degrees C)
Item           Normal High   Normal Bad fan Normal Bad fan
Normal

```

Chassis default	48	54	65	55	75	65
100						
Routing Engine 0	70	80	95	95	110	110
112						
Routing Engine 1	70	80	95	95	110	110
112						
FPC 0	55	60	75	65	90	80
95						
FPC 1	55	60	75	65	90	80
95						
FPC 2	55	60	75	65	90	80
95						
FPC 4	55	60	75	65	90	80
95						
FPC 5	55	60	75	65	90	80
95						

show log

List of Syntax	Syntax on page 623 Syntax (QFX Series and OCX Series) on page 623 Syntax (TX Matrix Routers) on page 623
Syntax	<pre>show log <filename user <username>></pre>
Syntax (QFX Series and OCX Series)	<pre>show log filename <device-type (device-id device-alias)></pre>
Syntax (TX Matrix Routers)	<pre>show log <all-lcc lcc number scc> <filename user <username>></pre>
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p> <p>Option <i>device-type (device-id device-alias)</i> is introduced in Junos OS Release 13.1 for the QFX Series.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>
Description	List log files, display log file contents, or display information about users who have logged in to the router or switch.



NOTE: On MX Series routers, modifying a configuration to replace a service interface with another service interface is treated as a catastrophic event. When you modify a configuration, the entire configuration associated with the service interface—including NAT pools, rules, and service sets—is deleted and then re-created for the newly specified service interface. If there are active sessions associated with the service interface that is being replaced, these sessions are deleted and the NAT pools are then released, which leads to the generation of the NAT_POOL_RELEASE system log messages. However, because NAT pools are already deleted as a result of the catastrophic configuration change and no longer exist, the NAT_POOL_RELEASE system log messages are not generated for the changed configuration.

Options	<p>none—List all log files.</p> <p><all-lcc lcc number scc>—(TX Matrix routers only) (Optional) Display logging information about all T640 routers (or line-card chassis) or a specific T640 router (replace <i>number</i> with a value from 0 through 3) connected to a TX Matrix router. Or, display logging information about the TX Matrix router (or switch-card chassis).</p> <p>device-type—(QFabric system only) (Optional) Display log messages for only one of the following device types:</p>
----------------	---

- **director-device**—Display logs for Director devices.
- **infrastructure-device**—Display logs for the logical components of the QFabric system infrastructure, including the diagnostic Routing Engine, fabric control Routing Engine, fabric manager Routing Engine, and the default network Node group and its backup (NW-NG-0 and NW-NG-0-backup).
- **interconnect-device**—Display logs for Interconnect devices.
- **node-device**—Display logs for Node devices.



NOTE: If you specify the **device-type** optional parameter, you must also specify either the **device-id** or **device-alias** optional parameter.

(device-id | device-alias)—If a device type is specified, display logs for a device of that type. Specify either the device ID or the device alias (if configured).

filename—(Optional) Display the log messages in the specified log file. For the routing matrix, the filename must include the chassis information.



NOTE: The **filename** parameter is mandatory for the QFabric system. If you did not configure a syslog filename, specify the default filename of messages.

user <username>—(Optional) Display logging information about users who have recently logged in to the router or switch. If you include **username**, display logging information about the specified user.

Required Privilege Level trace

List of Sample Output [show log on page 624](#)
[show log filename on page 625](#)
[show log filename \(QFabric System\) on page 625](#)
[show log user on page 626](#)

Sample Output

[show log](#)

```
user@host> show log
total 57518
-rw-r--r-- 1 root bin      211663 Oct  1 19:44 dcd
-rw-r--r-- 1 root bin      999947 Oct  1 19:41 dcd.0
-rw-r--r-- 1 root bin      999994 Oct  1 17:48 dcd.1
-rw-r--r-- 1 root bin      238815 Oct  1 19:44 rpd
-rw-r--r-- 1 root bin     1049098 Oct  1 18:00 rpd.0
-rw-r--r-- 1 root bin     1061095 Oct  1 12:13 rpd.1
-rw-r--r-- 1 root bin     1052026 Oct  1 06:08 rpd.2
-rw-r--r-- 1 root bin     1056309 Sep 30 18:21 rpd.3
```

```

-rw-r--r-- 1 root bin      1056371 Sep 30 14:36 rpd.4
-rw-r--r-- 1 root bin      1056301 Sep 30 10:50 rpd.5
-rw-r--r-- 1 root bin      1056350 Sep 30 07:04 rpd.6
-rw-r--r-- 1 root bin      1048876 Sep 30 03:21 rpd.7
-rw-rw-r-- 1 root bin      19656 Oct  1 19:37 wtmp

```

show log filename

```

user@host> show log rpd
Oct  1 18:00:18 trace_on: Tracing to ?/var/log/rpd? started
Oct  1 18:00:18 EVENT <MTU> ds-5/2/0.0 index 24 <Broadcast PointToPoint Multicast
Oct  1 18:00:18
Oct  1 18:00:19 KRT recv len 56 V9 seq 148 op add Type route/if af 2 addr
13.13.13.21 nhop type local nhop 13.13.13.21
Oct  1 18:00:19 KRT recv len 56 V9 seq 149 op add Type route/if af 2 addr
13.13.13.22 nhop type unicast nhop 13.13.13.22
Oct  1 18:00:19 KRT recv len 48 V9 seq 150 op add Type ifaddr index 24 devindex
43
Oct  1 18:00:19 KRT recv len 144 V9 seq 151 op chnge Type ifdev devindex 44
Oct  1 18:00:19 KRT recv len 144 V9 seq 152 op chnge Type ifdev devindex 45
Oct  1 18:00:19 KRT recv len 144 V9 seq 153 op chnge Type ifdev devindex 46
Oct  1 18:00:19 KRT recv len 1272 V9 seq 154 op chnge Type ifdev devindex 47
...

```

show log filename (QFabric System)

```

user@qfabric> show log messages
Mar 28 18:00:06 qfabric chassisd: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:06 ED1486
chassisd: CHASSISD_SNMP_TRAP10: SNMP trap generated: FRU power on
(jnxFruContentsIndex 8, jnxFruL1Index 1, jnxFruL2Index 1, jnxFruL3Index 0,
jnxFruName PIC: 48x 10G-SFP+ @ 0/0/*, jnxFruType 11, jnxFruSlot 0,
jnxFruOfflineReason 2, jnxFruLastPowerOff 0, jnxFruLastPowerOn 2159)
Mar 28 18:00:07 qfabric chassisd: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:07 ED1486
chassisd: CHASSISD_SNMP_TRAP10: SNMP trap generated: FRU power on
(jnxFruContentsIndex 8, jnxFruL1Index 1, jnxFruL2Index 2, jnxFruL3Index 0,
jnxFruName PIC: @ 0/1/*, jnxFruType 11, jnxFruSlot 0, jnxFruOfflineReason 2,
jnxFruLastPowerOff 0, jnxFruLastPowerOn 2191)
Mar 28 18:00:07 qfabric chassisd: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:07 ED1492
chassisd: CHASSISD_SNMP_TRAP10: SNMP trap generated: FRU power on
(jnxFruContentsIndex 8, jnxFruL1Index 1, jnxFruL2Index 1, jnxFruL3Index 0,
jnxFruName PIC: 48x 10G-SFP+ @ 0/0/*, jnxFruType 11, jnxFruSlot 0,
jnxFruOfflineReason 2, jnxFruLastPowerOff 0, jnxFruLastPowerOn 242726)
Mar 28 18:00:07 qfabric chassisd: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:07 ED1492
chassisd: CHASSISD_SNMP_TRAP10: SNMP trap generated: FRU power on
(jnxFruContentsIndex 8, jnxFruL1Index 1, jnxFruL2Index 2, jnxFruL3Index 0,
jnxFruName PIC: @ 0/1/*, jnxFruType 11, jnxFruSlot 0, jnxFruOfflineReason 2,
jnxFruLastPowerOff 0, jnxFruLastPowerOn 242757)
Mar 28 18:00:16 qfabric file: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:16 ED1486
file: UI_COMMIT: User 'root' requested 'commit' operation (comment: none)
Mar 28 18:00:27 qfabric file: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:27 ED1486
file: UI_COMMIT: User 'root' requested 'commit' operation (comment: none)
Mar 28 18:00:50 qfabric file: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:50
_DCF_default__NW-INE-0_RE0_ file: UI_COMMIT: User 'root' requested 'commit'
operation (comment: none)
Mar 28 18:00:50 qfabric file: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:50
_DCF_default__NW-INE-0_RE0_ file: UI_COMMIT: User 'root' requested 'commit'
operation (comment: none)
Mar 28 18:00:55 qfabric file: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:00:55 ED1492
file: UI_COMMIT: User 'root' requested 'commit' operation (comment: none)
Mar 28 18:01:10 qfabric file: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:01:10 ED1492
file: UI_COMMIT: User 'root' requested 'commit' operation (comment: none)

```

```
Mar 28 18:02:37 qfabric chassisd: QFABRIC_INTERNAL_SYSLOG: Mar 28 18:02:37 ED1491
chassisd: CHASSISD_SNMP_TRAP10: SNMP trap generated: FRU power on
(jnxFruContentsIndex 8, jnxFruL1Index 1, jnxFruL2Index 1, jnxFruL3Index 0,
jnxFruName PIC: 48x 10G-SFP+ @ 0/0/*, jnxFruType 11, jnxFruSlot 0,
jnxFruOfflineReason 2, jnxFruLastPowerOff 0, jnxFruLastPowerOn 33809)
```

show log user

```
user@host> show log user
darius  mg2546                Thu Oct  1 19:37   still logged in
darius  mg2529                Thu Oct  1 19:08 - 19:36 (00:28)
darius  mg2518                Thu Oct  1 18:53 - 18:58 (00:04)
root    mg1575                Wed Sep 30 18:39 - 18:41 (00:02)
root    ttyp2      jun.site.per Wed Sep 30 18:39 - 18:41 (00:02)
alex    ttyp1      192.168.1.2   Wed Sep 30 01:03 - 01:22 (00:19)
```


show system alarms

Syntax	show system alarms
Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>
Description	Display active system alarms.
Options	This command has no options.
Additional Information	<p>System alarms are preset. They include a <i>configuration</i> alarm that appears when no rescue configuration alarm is set and a <i>license</i> alarm that appears when a software feature is configured and no valid license is configured for the feature. On EX6200 switches, an alarm can be triggered by an internal link error. For more information about system alarms, see the <i>Junos OS Administration Library for Routing Devices</i>.</p> <p>In Junos OS release 11.1 and later, alarms for fans also show the slot number of the malfunctioning fans in the CLI output.</p> <p>Starting with Junos OS Release 13.2, you can view degraded fabric alarms on a routing matrix based on TX Matrix Plus router with 3D SiBs. The alarm indicates that the source FPC is running with a degraded fabric condition. This alarm is an early warning of a possible fabric black-hole condition. When the degraded fabric alarm is raised on the source FPC, you can take remedial action to avoid a fabric black-hole condition. The degraded fabric alarm is raised on the source FPC if both the following conditions are met:</p> <ul style="list-style-type: none"> • The active Packet Forwarding Engine destinations are reachable on one or no active switching planes. • At least one of the inactive switching planes has a fault that causes the destination Packet Forwarding Engine to become unreachable.
Required Privilege Level	admin
List of Sample Output	<p>show system alarms on page 628</p> <p>show system alarms (Fan Tray) on page 628</p> <p>show system alarms (QFX Series and OCX Series) on page 628</p> <p>show system alarms (EX6200) on page 628</p> <p>show system alarms (TX Matrix Plus router with 3D SiBs) on page 628</p>
Output Fields	Table 29 on page 628 lists the output fields for the show system alarms command. Output fields are listed in the approximate order in which they appear.

Table 29: show system alarms Output Fields

Field Name	Field Description
Alarm time	Date and time the alarm was first recorded.
Class	Severity class for this alarm: Minor or Major .
Description	Information about the alarm.

Sample Output

show system alarms

```

user@host> show system alarms
2 alarms currently active
Alarm time          Class    Description
2005-02-24 17:29:34 UTC  Minor    IPsec VPN tunneling usage requires a
license
2005-02-24 17:29:34 UTC  Minor    Rescue configuration is not sent

```

show system alarms (Fan Tray)

```

user@host> show system alarms
4 alarms currently active
Alarm time          Class    Description
2010-11-11 20:27:38 UTC  Major    Side Fan Tray 7 Failure
2010-11-11 20:27:13 UTC  Minor    Side Fan Tray 7 Overspeed
2010-11-11 20:27:13 UTC  Major    Side Fan Tray 5 Failure
2010-11-11 20:27:13 UTC  Major    Side Fan Tray 0 Failure

```

show system alarms (QFX Series and OCX Series)

```

user@switch> show system alarms
2 alarms currently active
Alarm time Class Description
2005-02-24 17:29:34 UTC Minor Rescue configuration is not sent

```

show system alarms (EX6200)

```

user@switch> show system alarms
2 alarms currently active
Alarm time          Class    Description
2013-04-05 16:51:41 PDT  Major    FPC 8 internal link errors detected
2013-04-04 18:05:35 PDT  Minor    Rescue configuration is not set

```

show system alarms (TX Matrix Plus router with 3D SIBs)

```

user@router> show system alarms

sfc0-re0:
-----
2 alarms currently active
Alarm time          Class    Description
2013-05-08 18:13:58 UTC  Major    LCC 0 Major Errors
2013-05-08 17:48:46 UTC  Major    LCC 7 Major Errors

lcc0-re1:
-----

```

1 alarm currently active

Alarm time	Class	Description
2013-05-08 18:19:24 UTC	Major	FPC 1 degraded fabric condition detected

lcc7-re0:

1 alarm currently active

Alarm time	Class	Description
2013-05-08 18:19:24 UTC	Major	FPC 7 degraded fabric condition detected

show system processes

List of Syntax	Syntax on page 630 Syntax (EX Series and QFX Series Switches) on page 630 Syntax (MX Series Routers) on page 630 Syntax (OCX Series) on page 630 Syntax (TX Matrix Routers) on page 630 Syntax (TX Matrix Plus Router) on page 630
Syntax	<code>show system processes</code> <code><brief detail extensive summary></code> <code><health (pid <i>process-identifier</i> process-name <i>process-name</i>)></code> <code><providers></code> <code><resource-limits (brief detail) <i>process-name</i>></code> <code><wide></code>
Syntax (EX Series and QFX Series Switches)	<code>show system processes</code> <code><all-members></code> <code><brief detail extensive summary></code> <code><health (pid <i>process-identifier</i> process-name <i>process-name</i>)></code> <code><local></code> <code><member <i>member-id</i>></code> <code><providers></code> <code><resource-limits (brief detail) <i>process-name</i>></code> <code><wide></code>
Syntax (MX Series Routers)	<code>show system processes</code> <code><all-members></code> <code><brief detail extensive summary></code> <code><health (pid <i>process-identifier</i> process-name <i>process-name</i>)></code> <code><local></code> <code><member <i>member-id</i>></code> <code><providers></code> <code><resource-limits (brief detail) <i>process-name</i>></code> <code><wide></code>
Syntax (OCX Series)	<code>show system processes</code> <code><brief detail extensive summary ></code> <code><health (pid <i>process-identifier</i> process-name <i>process-name</i>)></code> <code>host-processes (brief detail)</code> <code><providers></code> <code><resource-limits></code> <code><wide></code>
Syntax (TX Matrix Routers)	<code>show system processes</code> <code><brief detail extensive summary></code> <code><all-chassis all-lcc lcc <i>number</i> scc></code> <code><wide></code>
Syntax (TX Matrix Plus Router)	<code>show system processes</code> <code><brief detail extensive summary></code> <code><all-chassis all-lcc lcc <i>number</i> sfc <i>number</i>></code> <code><wide></code>

Release Information	<p>Command introduced before Junos OS Release 7.4.</p> <p>Command introduced in Junos OS Release 9.0 for EX Series switches.</p> <p>Option sfc introduced for the TX Matrix Plus router in Junos OS Release 9.6.</p> <p>Command introduced in Junos OS Release 11.1 for the QFX Series.</p> <p>Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.</p>
Description	Display information about software processes that are running on the router or switch and that have controlling terminals.
Options	<p>none—Display standard information about system processes.</p> <p>brief detail extensive summary—(Optional) Display the specified level of detail.</p> <p>adaptive-services—(Optional) Display the configuration management process that manages the configuration for stateful firewall, Network Address Translation (NAT), intrusion detection services (IDS), and IP Security (IPsec) services on the Adaptive Services PIC.</p> <p>alarm-control—(Optional) Display the process to configure the system alarm.</p> <p>all-chassis—(TX Matrix routers and TX Matrix Plus routers only) (Optional) Display standard system process information about all the T640 routers (in a routing matrix based on the TX Matrix router) or all the T1600 or T4000 routers (in a routing matrix based on the TX Matrix Plus router) in the chassis.</p> <p>all-lcc—(TX Matrix routers and TX Matrix Plus router only) (Optional) Display standard system process information for all T640 routers (or line-card chassis) connected to the TX Matrix router. Display standard system process information for all connected T1600 or T4000 LCCs.</p> <p>all-members—(EX4200 switches, QFX Series Virtual Chassis, and MX Series routers) (Optional) Display standard system process information for all members of the Virtual Chassis configuration.</p> <p>ancpd-service—Display the Access Node Control Protocol (ANCP) process, which works with a special Internet Group Management Protocol (IGMP) session to collect outgoing interface mapping events in a scalable manner.</p> <p>application-identification —Display the process that identifies an application using intrusion detection and prevention (IDP) to allow or deny traffic based on applications running on standard or nonstandard ports.</p> <p>audit-process—(Optional) Display the RADIUS accounting process.</p> <p>auto-configuration—Display the Interface Auto-Configuration process.</p> <p>bootp—Display the process that enables a router, switch, or interface to act as a Dynamic Host Configuration Protocol (DHCP) or bootstrap protocol (BOOTP) relay agent. DHCP relaying is disabled.</p>

captive-portal-content-delivery—Display the HTTP redirect service by specifying the location to which a subscriber's initial Web browser session is redirected, enabling initial provisioning and service selection for the subscriber.

ce-l2tp-service—(Optional) (M10, M10i, M7i, and MX Series routers only) Display the Universal Edge Layer 2 Tunneling Protocol (L2TP) process, which establishes L2TP tunnels and Point-to-Point Protocol (PPP) sessions through L2TP tunnels.

cfm—Display Ethernet Operations, Administration, and Maintenance (OAM) connectivity fault management (CFM) process, which can be used to monitor the physical link between two switches.

chassis-control—(Optional) Display the chassis management process.

class-of-service—(Optional) Display the class-of-service (CoS) process, which controls the router's or switch's CoS configuration.

clksyncd-service—Display the external clock synchronization process, which uses synchronous Ethernet (SyncE).

craft-control—Display the process for the I/O of the craft interface.

database-replication—(EX Series switches and MX Series routers only) (Optional) Display the database replication process.

datapath-trace-service—Display the packet path tracing process.

dhcp-service—(EX Series switches and MX Series routers only) (Optional) Display the Dynamic Host Configuration Protocol process, which enables a DHCP server to allocate network IP addresses and deliver configuration settings to client hosts without user intervention.

diameter-service—(Optional) Display the diameter process.

disk-monitoring—(Optional) Display the disk monitoring process, which checks the health of the hard disk drive on the Routing Engine.

dynamic-flow-capture—(Optional) Display the dynamic flow capture (DFC) process, which controls DFC configurations on Monitoring Services III PICs.

ecc-error-logging—(Optional) Display the error checking and correction (ECC) process, which logs ECC parity errors in memory on the Routing Engine.

ethernet-connectivity-fault-management—Display the process that provides IEEE 802.1ag OAM connectivity fault management (CFM) database information for CFM maintenance association end points (MEPs) in a CFM session.

ethernet-link-fault-management—(EX Series switches and MX Series routers only) (Optional) Display the process that provides the OAM link fault management (LFM) information for Ethernet interfaces.

event-processing—(Optional) Display the event process (eventd).

firewall—(Optional) Display the firewall management process, which manages the firewall configuration and enables accepting or rejecting packets that are transiting an interface on a router or switch.

general-authentication-service—(EX Series switches and MX Series routers only)
(Optional) Display the general authentication process.

health (pid *process-identifier* | process-name *process-name*)—(Optional) Display process health information, either by process id (PID) or by process name.

host-processes—Display process information of processes running on the host system.
(On OCX Series only) The following options are available:

- **brief | detail**—(Optional) Display the specified level of detail.

iccp-service—Display the Inter-Chassis Communication Protocol (ICCP) process.

idp-policy—Display the intrusion detection and prevention (IDP) protocol process.

ilmi—Display the Integrated Local Management Interface (ILMI) protocol process, which provides bidirectional exchange of management information between two ATM interfaces across a physical connection.

inet-process—Display the IP multicast family process.

init—Display the process that initializes the USB modem.

interface-control—(Optional) Display the interface process, which controls the router's or switch's physical interface devices and logical interfaces.

kernel-replication—(Optional) Display the kernel replication process, which replicates the state of the backup Routing Engine when graceful Routing Engine switchover (GRES) is configured.

l2-learning—(Optional) Display the Layer 2 address flooding and learning process.

l2cpd-service—Display the Layer 2 Control Protocol process, which enables features such as Layer 2 protocol tunneling and nonstop bridging.

lACP—(Optional) Display the Link Aggregation Control Protocol (LACP) process. LACP provides a standardized means for exchanging information between partner systems on a link to allow their link aggregation control instances to reach agreement on the identity of the LAG to which the link belongs, and then to move the link to that LAG, and to enable the transmission and reception processes for the link to function in an orderly manner.

lcc number—(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display standard system process information for a specific T640 router that is connected to the TX Matrix router. On a TX Matrix Plus router, display standard system process information for a specific router that is connected to the TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(EX4200 switches, QFX Series Virtual Chassis, and MX Series routers) (Optional) Display standard system process information for the local Virtual Chassis member.

local-policy-decision-function—Display the process for the Local Policy Decision Function, which regulates collection of statistics related to applications and application groups and tracking of information about dynamic subscribers and static interfaces.

logical-system-mux—Display the logical router multiplexer process (lrmuxd), which manages the multiple instances of the routing protocols process (rpd) on a machine running logical routers.

mac-validation—Display the MAC validation process, which configures MAC address validation for subscriber interfaces created on demux interfaces in dynamic profiles on MX Series routers.

member *member-id*—(EX4200 switches, QFX Series Virtual Chassis, and MX Series routers) (Optional) Display standard system process information for the specified member of the Virtual Chassis configuration. For EX4200 switches, replace ***member-id*** with a value from 0 through 9. For an MX Series Virtual Chassis, replace ***member-id*** with a value of 0 or 1.

mib-process—(Optional) Display the MIB II process, which provides the router's MIB II agent.

mobile-ip—(Optional) Display the Mobile IP process, which configures Junos OS Mobile IP features.

moundd-service—(EX Series switches and MX Series routers only) (Optional) Display the service for NFS mounts requests.

mpls-traceroute—(Optional) Display the MPLS Periodic Traceroute process.

mspd—(Optional) Display the Multiservice process.

multicast-snooping—(EX Series switches and MX Series routers only) (Optional) Display the multicast snooping process, which makes Layer 2 devices such as VLAN switches aware of Layer 3 information, such as the media access control (MAC) addresses of members of a multicast group.

named-service—(Optional) Display the DNS Server process, which is used by a router or a switch to resolve hostnames into addresses.

neighbor-liveness—Display the process, which specifies the maximum length of time that the router waits for its neighbor to re-establish an LDP session.

nfsd-service—(Optional) Display the Remote NFS Server process, which provides remote file access for applications that need NFS-based transport.

ntp—Display the Network Time Protocol (NTP) process, which provides the mechanisms to synchronize time and coordinate time distribution in a large, diverse network.

packet-triggered-subscribers—Display the packet-triggered subscribers and policy control (PTSP) process, which allows the application of policies to dynamic subscribers that are controlled by a subscriber termination device.

peer-selection-service—(Optional) Display the Peer Selection Service process.

periodic-packet-services—Display the Periodic packet management process, which is responsible for processing a variety of time-sensitive periodic tasks so that other processes can more optimally direct their resources.

pfe—Display the Packet Forwarding Engine management process.

pgcp-service—(Optional) Display the pgcpd service process running on the Routing Engine.

pgm—Display the Pragmatic General Multicast (PGM) protocol process, which enables a reliable transport layer for multicast applications.

pic-services-logging—(Optional) Display the logging process for some PICs. With this process, also known as fsad (the file system access daemon), PICs send special logging information to the Routing Engine for archiving on the hard disk.

ppp—(Optional) Display the Point-to-Point Protocol (PPP) process, which is the encapsulation protocol process for transporting IP traffic across point-to-point links.

ppp-service—Display the Universal edge PPP process, which is the encapsulation protocol process for transporting IP traffic across universal edge routers.

pppoe—(Optional) Display the Point-to-Point Protocol over Ethernet (PPPoE) process, which combines PPP that typically runs over broadband connections with the Ethernet link-layer protocol that allows users to connect to a network of hosts over a bridge or access concentrator.

process-monitor—Display the process health monitor process (pmond).

providers—(Optional) Display provider processes.

redundancy-interface-process—(Optional) Display the ASP redundancy process.

remote-operations—(Optional) Display the remote operations process, which provides the ping and traceroute MIBs.

resource-cleanup—Display the resource cleanup process.

resource-limits (brief | detail) process-name—(Optional) Display process resource limits.

routing—(Optional) Display the routing protocol process.

sampling—(Optional) Display the sampling process, which performs packet sampling based on particular input interfaces and various fields in the packet header.

sbc-configuration-process—Display the session border controller (SBC) process of the border signaling gateway (BSG).

scc—(TX Matrix routers only) (Optional) Display standard system process information for the TX Matrix router (or switch-card chassis).

sdk-service—Display the SDK Service process, which runs on the Routing Engine and is responsible for communications between the SDK application and Junos OS. Although the SDK Service process is present on the router, it is turned off by default.

secure-neighbor-discovery—(EX Series switches and MX Series routers only) (Optional) Display the secure Neighbor Discovery Protocol (NDP) process, which provides support for protecting NDP messages.

send—(Optional) Display the Secure Neighbor Discovery Protocol (SEND) process, which provides support for protecting Neighbor Discovery Protocol (NDP) messages.

service-deployment—(Optional) Display the service deployment process, which enables Junos OS to work with the Session and Resource Control (SRC) software.

sfc number—(TX Matrix Plus routers only) (Optional) Display system process information for the TX Matrix Plus router. Replace **number** with 0.

snmp—Display the SNMP process, which enables the monitoring of network devices from a central location and provides the router's or switch's SNMP master agent.

sonet-aps—Display the SONET Automatic Protection Switching (APS) process, which monitors any SONET interface that participates in APS.

static-subscribers—(Optional) Display the Static subscribers process, which associates subscribers with statically configured interfaces and provides dynamic service activation and activation for these subscribers.

tunnel-oamd—(Optional) Display the Tunnel OAM process, which enables the Operations, Administration, and Maintenance of Layer 2 tunneled networks. Layer 2 protocol tunneling (L2PT) allows service providers to send Layer 2 protocol data units (PDUs) across the provider's cloud and deliver them to Juniper Networks EX Series Ethernet Switches that are not part of the local broadcast domain.

vrrp—(EX Series switches and MX Series routers only) (Optional) Display the Virtual Router Redundancy Protocol (VRRP) process, which enables hosts on a LAN to make use of redundant routing platforms on that LAN without requiring more than the static configuration of a single default route on the hosts.

watchdog—Display the watchdog timer process, which enables the watchdog timer when Junos OS encounters a problem.

wide—(Optional) Display process information that might be wider than 80 columns.

Additional Information By default, when you issue the **show system processes** command on the master Routing Engine of a TX Matrix router or a TX Matrix Plus router, the command is broadcast to all the master Routing Engines of the LCCs connected to it in the routing matrix. Likewise, if you issue the same command on the backup Routing Engine of a TX Matrix or a TX Matrix Plus router, the command is broadcast to all backup Routing Engines of the LCCs that are connected to it in the routing matrix.

Required Privilege Level view

Related Documentation

- [List of Junos OS Processes](#)
- [Routing Matrix with a TX Matrix Plus Router Solutions Page](#)

List of Sample Output

[show system processes on page 639](#)
[show system processes brief on page 640](#)
[show system processes detail on page 640](#)
[show system processes extensive on page 640](#)
[show system processes extensive \(EX9200 Switch\) on page 641](#)
[show system processes host processes \(OCX1100 Switch\) on page 641](#)
[show system processes lcc wide \(TX Matrix Routing Matrix\) on page 642](#)
[show system processes summary on page 642](#)
[show system processes \(TX Matrix Plus Router\) on page 643](#)
[show system processes sfc \(TX Matrix Plus Router\) on page 650](#)
[show system processes lcc wide \(TX Matrix Plus Routing Matrix\) on page 653](#)
[show system processes \(QFX Series and OCX Series\) on page 654](#)

Output Fields [Table 30 on page 637](#) describes the output fields for the **show system processes** command. Output fields are listed in the approximate order in which they appear.

Table 30: show system processes Output Fields

Field Name	Field Description	Level of Output
last pid	Last process identifier assigned to the process.	brief extensive summary
load averages	Three load averages followed by the current time.	brief extensive summary
processes	Number of existing processes and the number of processes in each state (sleeping, running, starting, zombies, and stopped).	brief extensive summary
Mem	Information about physical and virtual memory allocation.	brief extensive summary

Table 30: show system processes Output Fields (*continued*)

Field Name	Field Description	Level of Output
Swap	Information about physical and virtual memory allocation.	brief extensive summary
PID	Process identifier.	detail extensive summary
TT	Control terminal name.	none detail
STAT	<p>Symbolic process state. The state is given by a sequence of letters. The first letter indicates the run state of the process:</p> <ul style="list-style-type: none"> • D—In disk or other short-term, uninterruptible wait • I—Idle (sleeping longer than about 20 seconds) • R—Runnable • S—Sleeping for less than 20 seconds • T—Stopped • Z—Dead (zombie) • + —The process is in the foreground process group of its control terminal. • <—The process has raised CPU scheduling priority. • >—The process has specified a soft limit on memory requirements and is currently exceeding that limit; such a process is not swapped. • A—The process requested random page replacement. • E—The process is trying to exit. • L—The process has pages locked in core. • N—The process has reduced CPU scheduling priority. • S—The process requested first-in, first-out (FIFO) page replacement. • s—The process is a session leader. • V—The process is temporarily suspended. • W—The process is swapped out. • X—The process is being traced or debugged. 	none detail
UID	User identifier.	detail
USERNAME	Process owner.	extensive summary
PPID	Parent process identifier.	detail
CPU	<p>(D)—Short-term CPU usage.</p> <p>(E and S)—Raw (unweighted) CPU usage. The value of this field is used to sort the processes in the output.</p>	detail extensive summary
RSS	Resident set size.	detail
WCHAN	Symbolic name of the wait channel.	detail
STARTED	Local time when the process started running.	detail

Table 30: show system processes Output Fields (*continued*)

Field Name	Field Description	Level of Output
PRI	Current priority of the process. A lower number indicates a higher priority.	detail extensive summary
NI or NICE	UNIX "niceness" value. A lower number indicates a higher priority.	detail extensive summary
SIZE	Total size of the process (text, data, and stack), in kilobytes.	extensive summary
RES	Current amount of resident memory, in kilobytes.	extensive summary
STATE	Current state of the process (for example, sleep , wait , run , idle , zombie , or stop).	extensive summary
TIME	(S)—Number of system and user CPU seconds that the process has used. (None, D, and E)—Total amount of time that the command has been running.	detail extensive summary
WCPU	Weighted CPU usage.	extensive summary
COMMAND	Command that is currently running. (MX Series routers only) When you display the software processes for an MX Series Virtual Chassis, the show system processes command does not display information about the relayd process.	detail extensive summary
THR	Number of threads in the process	extensive

Sample Output

show system processes

```

user@host> show system processes
PID  TT  STAT  TIME COMMAND
  0  ??  DLs   0:00.70 (swapper)
  1  ??  Is    0:00.35 /sbin/init --
  2  ??  DL    0:00.00 (pagedaemon)
  3  ??  DL    0:00.00 (vmdaemon)
  4  ??  DL    0:42.37 (update)
  5  ??  DL    0:00.00 (if_jnx)
 80  ??  Ss    0:14.66 syslogd -s
 96  ??  Is    0:00.01 portmap
128  ??  Is    0:02.70 cron
173  ??  Is    0:02.24 /usr/local/sbin/sshd (sshd1)
189  ??  S     0:03.80 /sbin/watchdog -t180
190  ??  I     0:00.03 /usr/sbin/tmnetd -N
191  ??  S     2:24.76 /sbin/ifd -N
192  ??  S<    0:55.44 /usr/sbin/xntpd -N
195  ??  S     0:53.11 /usr/sbin/snmpd -N
196  ??  S     1:15.73 /usr/sbin/mib2d -N
198  ??  I     0:00.75 /usr/sbin/inetd -N
2677 ??  I     0:00.01 /usr/sbin/mgd -N
2712 ??  Ss    0:00.24 rlogind
2735 ??  R     0:00.00 /bin/ps -ax

```

```

1985 p0- S      0:07.41 ./rpd -N
2713 p0 Is      0:00.24 -tcsh (tcsh)
2726 p0 S+      0:00.07 cli

```

show system processes brief

```

user@host> show system processes brief
last pid: 543; load averages: 0.00, 0.00, 0.00 18:29:47
37 processes: 1 running, 36 sleeping

Mem: 25M Active, 3976K Inact, 19M Wired, 8346K Buf, 202M Free
Swap: 528M Total, 64K Used, 528M Free

```

show system processes detail

```

user@host> show system processes detail

```

PID	UID	PPID	CPU	PRI	NI	RSS	WCHAN	STARTED	TT	STAT	TIME	COMMAND
3151	1049	3129	2	28	0	672	-	1:13PM	p0	R+	0:00.00	ps -ax -r
1	0	0	0	10	0	376	wait	1:51PM	??	Is	0:00.29	/sbin/ini
2	0	0	0	-18	0	12	psleep	1:51PM	??	DL	0:00.00	(pagedae
3	0	0	0	28	0	12	psleep	1:51PM	??	DL	0:00.00	(vmdaemo
4	0	0	0	28	0	12	update	1:51PM	??	DL	0:07.15	(update)
5	0	0	0	2	0	12	pfesel	1:51PM	??	IL	0:02.90	(if_pfe)
27	0	1	0	10	0	17936	mfsidl	1:51PM	??	Is	0:00.46	mfs /dev/
81	0	1	0	2	0	496	select	1:52PM	??	Ss	0:31.21	syslogd -
119	1	1	0	2	0	492	select	1:52PM	??	Is	0:00.00	portmap
134	0	1	0	2	0	580	select	1:52PM	??	S	0:02.95	amd -p -a
151	0	1	0	18	0	532	pause	1:52PM	??	Is	0:00.34	cron
183	0	1	0	2	0	420	select	1:52PM	??	Ss	0:00.07	/usr/loca
206	0	1	0	18	0	72	pause	1:52PM	??	S	0:00.51	/sbin/wat
207	0	1	0	2	0	520	select	1:52PM	??	I	0:00.16	/usr/sbin
208	0	1	0	2	0	536	select	1:52PM	??	S	0:08.21	/sbin/dcd
210	0	1	255	2	-12	740	select	1:52PM	??	S<	0:05.83	/usr/sbin
211	0	1	0	2	0	376	select	1:52PM	??	S	0:00.03	/usr/sbin
215	0	1	0	2	0	548	select	1:52PM	??	I	0:00.50	/usr/sbin
219	0	1	0	3	0	540	ttyin	1:52PM	v0	Is+	0:00.02	/usr/libe
220	0	1	0	3	0	540	ttyin	1:52PM	v1	Is+	0:00.01	/usr/libe
221	0	1	0	3	0	540	ttyin	1:52PM	v2	Is+	0:00.01	/usr/libe
222	0	1	0	3	0	540	ttyin	1:52PM	v3	Is+	0:00.01	/usr/libe
735	0	1	0	2	0	468	select	2:47PM	??	S	0:19.14	/usr/sbin
736	0	1	0	2	0	212	select	2:47PM	??	S	0:14.13	/usr/sbin
1380	0	1	0	3	0	888	ttyin	7:32PM	d0	Is+	0:00.46	bash
3019	0	207	0	2	0	636	select	10:49AM	??	Ss	0:02.93	tnp.chass
3122	0	1380	0	2	0	1764	select	12:33PM	d0	S	0:00.77	./rpd -N
3128	0	215	0	2	0	580	select	12:45PM	??	Ss	0:00.12	rlogind
3129	1049	3128	0	18	0	944	pause	12:45PM	p0	Ss	0:00.14	-tcsh (tc
0	0	0	0	-18	0	0	sched	1:51PM	??	DLs	0:00.10	(swapper

show system processes extensive

```

user@host> show system processes extensive
Mem: 241M Active, 99M Inact, 78M Wired, 325M Cache, 69M Buf, 1251M Free
Swap: 2048M Total, 2048M Free

```

PID	USERNAME	THR	PRI	NICE	SIZE	RES	STATE	TIME	WCPU	COMMAND
11	root	1	171	52	OK	12K	RUN	807.5H	98.73%	idle
13	root	1	-20	-139	OK	12K	WAIT	36:17	0.00%	swi7: clock sio
1499	root	1	96	0	7212K	3040K	select	34:01	0.00%	license-check
1621	root	1	96	0	20968K	11216K	select	20:25	0.00%	mib2d
1465	root	2	8	-88	115M	11748K	nanslp	14:32	0.00%	chassisd
1478	root	1	96	0	6336K	3816K	select	11:28	0.00%	ppmd

```

20 root      1 -68 -187    OK    12K WAIT    10:28 0.00% irq10: em0 em1+++*
1490 root    1 96    0 11792K 4336K select 9:44 0.00% shm-rtssdbd
1618 root    1 96    0 39584K 7464K select 8:47 0.00% pfed
1622 root    1 96    0 15268K 10988K select 6:16 0.00% snmpd
1466 root    1 96    0 7408K 2896K select 5:44 0.00% alarmd
7 root      1 -16   0    OK    12K client 5:09 0.00% ifstate notify
1480 root    1 96    0 5388K 2660K select 4:29 0.00% ksyncd
12 root     1 -40 -159    OK    12K WAIT    4:15 0.00% swi2: netisr 0
1462 root    1 96    0 1836K 1240K select 3:57 0.00% bslockd
55 root     1 -16   0    OK    12K -      3:44 0.00% schedcpu
1392 root    1 16    0    OK    12K bcmsem 3:37 0.00% bcmLINK.0
47 root     1 -16   0    OK    12K psleep 3:25 0.00% vmkmemdaemon
36 root     1 20    0    OK    12K syncer 2:46 0.00% syncer
1484 root    1 96    0 7484K 3428K select 2:38 0.00% clksyncd
1616 root    1 96    0 4848K 2848K select 2:18 0.00% irsd
1487 root    1 96    0 32800K 6992K select 2:10 0.00% smid
1623 root    1 96    0 34616K 5464K select 2:01 0.00% dcd
15 root     1 -16   0    OK    12K -      1:59 0.00% yarrow
49 root     1 -16   0    OK    12K .      1:51 0.00% ddostasks

```

show system processes extensive (EX9200 Switch)

```

user@switch> show system processes extensive
last pid: 3372; load averages: 0.02, 0.02, 0.00 up 0+01:42:22 16:39:57
151 processes: 4 running, 131 sleeping, 1 zombie, 15 waiting

```

```

Mem: 935M Active, 122M Inact, 108M Wired, 838M Cache, 214M Buf, 5872M Free
Swap: 8192M Total, 8192M Free

```

PID	USERNAME	THR	PRI	NICE	SIZE	RES	STATE	TIME	WCPU	COMMAND
10	root	1	171	52	OK	16K	RUN	96:34	92.19%	idle
3317	root	1	97	0	40412K	30944K	select	0:00	5.13%	mgd
3316	root	1	96	0	26672K	20516K	select	0:00	3.08%	cli
1626	root	2	8	-88	124M	20332K	nanslp	3:19	2.39%	chassisd
260	root	1	-8	0	OK	16K	mdwait	0:16	0.00%	md16
19	root	1	-68	-187	OK	16K	WAIT	0:12	0.00%	irq11: em0 em1 em2*
1642	root	1	96	0	8052K	3936K	RUN	0:10	0.00%	clksyncd
11	root	1	-20	-139	OK	16K	WAIT	0:07	0.00%	swi7: clock sio
154	root	1	-8	0	OK	16K	mdwait	0:06	0.00%	md8
1784	root	1	96	0	98M	33720K	select	0:05	0.00%	authd
1646	root	1	96	0	7776K	2944K	select	0:03	0.00%	license-check
1807	root	1	96	0	41340K	9944K	select	0:02	0.00%	mib2d

[...Output truncated...]

show system processes host processes (OCX1100 Switch)

```

user@switch> show system processes host processes
fpc0:

```

```

-----
top - 14:14:32 up 2:05, 0 users, load average: 0.11, 0.39, 0.39
Tasks: 101 total, 1 running, 98 sleeping, 0 stopped, 2 zombie
Cpu(s): 3.1%us, 2.2%sy, 0.0%ni, 94.2%id, 0.4%wa, 0.0%hi, 0.0%si, 0.0%st
Mem: 3881300k total, 2667040k used, 1214260k free, 53232k buffers
Swap: 15620k total, 0k used, 15620k free, 808492k cached

```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2780	root	20	0	1860m	1.5g	3780	S	14	41.7	20:56.05	kvm
1482	bind	20	0	24676	5912	1944	S	2	0.2	0:00.07	named

```

4631 root      20    0  648m  94m  13m S    2  2.5   4:19.59 dcpfe
9230 root      20    0 15208 1092  832 R    2  0.0   0:00.01 top
   1 root      20    0  4216  660  576 S    0  0.0   2:09.61 init
   2 root      20    0    0    0    0 S    0  0.0   0:00.00 kthreadd
   3 root      20    0    0    0    0 S    0  0.0   0:00.21 ksoftirqd/0
   4 root      20    0    0    0    0 S    0  0.0   0:00.00 kworker/0:0
   5 root       0 -20    0    0    0 S    0  0.0   0:00.00 kworker/0:0H
   7 root      RT    0    0    0    0 S    0  0.0   0:00.52 migration/0
   8 root      20    0    0    0    0 S    0  0.0   0:04.36 rcu_preempt
   9 root      20    0    0    0    0 S    0  0.0   0:00.00 rcu_bh
  10 root      20    0    0    0    0 S    0  0.0   0:00.00 rcu_sched
  11 root      RT    0    0    0    0 S    0  0.0   0:00.53 migration/1

```

[...Output truncated...]

show system processes lcc wide (TX Matrix Routing Matrix)

```

user@host> show system processes lcc 2 wide
lcc2-re0:

```

```

-----
PID  TT  STAT    TIME COMMAND
  0  ??  DLs    0:00.00 (swapper)
  1  ??  ILs    0:00.10 /sbin/preinit -- (init)
  2  ??  DL     0:00.00 (pagedaemon)
  3  ??  DL     0:00.00 (vmdaemon)
  4  ??  DL     0:00.00 (bufdaemon)
  5  ??  DL     0:00.04 (syncer)
  6  ??  DL     0:00.00 (netdaemon)
  7  ??  IL     0:00.00 (if_pic_listen)
  8  ??  IL     0:00.00 (scs_housekeeping)
  9  ??  IL     0:00.00 (if_pfe_listen)
 10  ??  DL     0:00.00 (vmuncachedaemon)
 11  ??  SL     0:00.02 (cb_poll)
 172 ??  ILs    0:00.21 mfs -o noauto /dev/ad1s1b /tmp (newfs)
2909 ??  Is     0:00.00 pccardd
2932 ??  Ss     0:00.07 syslogd -r -s
3039 ??  Is     0:00.00 cron
3217 ??  I      0:00.00 /sbin/watchdog -d
3218 ??  I      0:00.02 /usr/sbin/tnetd -N
3221 ??  S      0:00.11 /usr/sbin/alarmd -N
3222 ??  S      0:00.85 /usr/sbin/craftd -N
3223 ??  S      0:00.05 /usr/sbin/mgd -N
3224 ??  I      0:00.02 /usr/sbin/inetd -N
3225 ??  I      0:00.00 /usr/sbin/tnp.sntpd -N
3226 ??  I      0:00.01 /usr/sbin/tnp.sntpc -N
3228 ??  I      0:00.01 /usr/sbin/smartd -N
3231 ??  I      0:00.01 /usr/sbin/eccd -N
3425 ??  S      0:00.09 /usr/sbin/dfwd -N
3426 ??  S      0:00.19 /sbin/dcd -N
3427 ??  I      0:00.04 /usr/sbin/pfed -N
3430 ??  S      0:00.10 /usr/sbin/ksyncd -N
3482 ??  S      1:53.63 /usr/sbin/chassisd -N
4285 ??  SL     0:00.01 (peer proxy)
4286 ??  SL     0:00.00 (peer proxy)
4303 ??  Ss     0:00.00 mgd: (mgd) (root) (mgd)
4304 ??  R      0:00.00 /bin/ps -ax -ww
3270 d0  Is+    0:00.00 /usr/libexec/getty std.9600 ttyd0

```

show system processes summary

```

user@host> show system processes summary

```



```
last pid: 543; load averages: 0.00, 0.00, 0.00 18:29:47
37 processes: 1 running, 36 sleeping
```

```
Mem: 25M Active, 3976K Inact, 19M Wired, 8346K Buf, 202M Free
Swap: 528M Total, 64K Used, 528M Free
```

PID	USERNAME	PRI	NICE	SIZE	RES	STATE	TIME	WCPU	CPU	COMMAND
527	root	2	0	176K	580K	select	0:00	0.04%	0.04%	rlogind
543	root	30	0	604K	768K	RUN	0:00	0.00%	0.00%	top

show system processes (TX Matrix Plus Router)

```
user@host> show system processes
sfc0-re0:
```

```
-----
PID  TT  STAT      TIME COMMAND
0   ??  WLS      0:00.00 [swapper]
1   ??  ILs      0:00.18 /packages/mnt/jbase/sbin/init --
2   ??  DL       0:00.20 [g_event]
3   ??  DL       0:00.39 [g_up]
4   ??  DL       0:00.32 [g_down]
5   ??  DL       0:00.00 [thread taskq]
6   ??  DL       0:00.09 [kqueue taskq]
7   ??  DL       0:00.01 [pagedaemon]
8   ??  DL       0:00.00 [vmdaemon]
9   ??  DL       0:06.63 [pagezero]
10  ??  DL       0:00.00 [ktrace]
11  ??  RL      310:52.98 [idle]
12  ??  WL       0:11.03 [swi2: net]
13  ??  WL       0:27.58 [swi7: clock sio]
14  ??  WL       0:00.00 [swi6: vm]
15  ??  DL       0:03.02 [yarrow]
16  ??  WL       0:00.00 [swi9: +]
17  ??  WL       0:00.00 [swi8: +]
18  ??  WL       0:00.00 [swi5: cambio]
19  ??  WL       0:00.00 [swi9: task queue]
20  ??  WL       0:11.41 [irq16: uhci0 uhci*]
21  ??  DL       0:00.00 [usb0]
22  ??  DL       0:00.00 [usbtask]
23  ??  WL       0:39.51 [irq17: uhci1 uhci*]
24  ??  DL       0:00.00 [usb1]
25  ??  WL       0:00.00 [irq18: uhci2 uhci*]
26  ??  DL       0:00.83 [usb2]
27  ??  DL       0:00.00 [usb3]
28  ??  DL       0:00.00 [usb4]
29  ??  DL       0:00.00 [usb5]
30  ??  DL       0:00.73 [usb6]
31  ??  DL       0:00.00 [usb7]
32  ??  WL       0:00.00 [irq14: ata0]
33  ??  WL       0:00.00 [irq15: ata1]
34  ??  WL       0:00.00 [irq1: atkbd0]
35  ??  WL       0:00.00 [swi0: sio]
36  ??  WL       0:00.00 [irq11: isab0]
37  ??  WL       0:00.00 [swi3: ip6opt ipopt]
38  ??  WL       0:00.00 [swi4: ip6mismatch+]
39  ??  WL       0:00.00 [swi1: ipfwd]
40  ??  DL       0:00.02 [bufdaemon]
41  ??  DL       0:00.02 [vnlr]
42  ??  DL       0:00.39 [syncer]
43  ??  DL       0:00.05 [softdepflush]
44  ??  DL       0:00.00 [netdaemon]
```

```

45 ?? DL 0:00.02 [vmuncachedaemon]
46 ?? DL 0:00.00 [if_pic_listen]
47 ?? DL 0:00.35 [vmkmemdaemon]
48 ?? DL 0:00.00 [cb_poll]
49 ?? DL 0:00.06 [if_pfe_listen]
50 ?? DL 0:00.00 [scs_housekeeping]
51 ?? IL 0:00.00 [kern_dump_proc]
52 ?? IL 0:00.00 [nfsiod 0]
53 ?? IL 0:00.00 [nfsiod 1]
54 ?? IL 0:00.00 [nfsiod 2]
55 ?? IL 0:00.00 [nfsiod 3]
56 ?? DL 0:00.37 [schedcpu]
57 ?? DL 0:00.56 [md0]
79 ?? DL 0:02.58 [md1]
100 ?? DL 0:00.03 [md2]
118 ?? DL 0:00.01 [md3]
139 ?? DL 0:00.95 [md4]
160 ?? DL 0:00.12 [md5]
181 ?? DL 0:00.00 [md6]
217 ?? DL 0:00.02 [md7]
227 ?? DL 0:00.05 [md8]
1341 ?? SL 0:01.34 [bcmTX]
1342 ?? SL 0:01.68 [bcmXGS3AsyncTX]
1343 ?? SL 0:41.40 [bcmLINK.0]
1345 ?? SL 0:33.83 [bcmLINK.1]
1350 ?? Is 0:00.01 /usr/sbin/cron
1502 ?? S 0:00.01 /sbin/watchdog -t-1
1503 ?? S 0:00.86 /usr/libexec/bslockd -mp -N
1504 ?? S 0:00.01 /usr/sbin/tnetd -N
1507 ?? S 0:01.32 /usr/sbin/alarmd -N
1508 ?? S 0:14.54 /usr/sbin/craftd -N
1509 ?? S 0:01.19 /usr/sbin/mgd -N
1512 ?? I 0:00.05 /usr/sbin/inetd -N
1513 ?? S 0:00.10 /usr/sbin/tnp.sntpd -N
1517 ?? S 0:00.11 /usr/sbin/smartd -N
1525 ?? S 0:01.10 /usr/sbin/idpd -N
1526 ?? S 0:01.43 /usr/sbin/license-check -U -M -p 10 -i 10
1527 ?? I 0:00.01 /usr/libexec/getty Pc ttyv0
1616 ?? DL 0:00.30 [peer proxy]
1617 ?? DL 0:00.32 [peer proxy]
1618 ?? DL 0:00.34 [peer proxy]
1619 ?? DL 0:00.30 [peer proxy]
2391 ?? Is 0:00.01 telnetd
7331 ?? Ss 0:00.03 telnetd
9538 ?? DL 0:01.16 [jsr_kkcm]
9613 ?? DL 0:00.18 [peer proxy]
23781 ?? Ss 0:00.01 telnetd
23926 ?? Ss 0:00.01 mgd: (mgd) (regress)/dev/tty2 (mgd)
36867 ?? S 0:03.14 /usr/sbin/rpd -N
36874 ?? S 0:00.08 /usr/sbin/lmpd
36876 ?? S 0:00.17 /usr/sbin/lacpd -N
36877 ?? S 0:00.15 /usr/sbin/bfdd -N
36878 ?? S 0:05.05 /usr/sbin/ppmd -N
36907 ?? S 0:25.07 /usr/sbin/chassisd -N
37775 ?? S 0:00.01 /usr/sbin/bdbrepd -N
45727 ?? S 0:00.02 /usr/sbin/xntpd -j -N -g (ntpd)
45729 ?? S 0:00.38 /usr/sbin/l2ald -N
45730 ?? S< 0:00.12 /usr/sbin/aptd -N
45731 ?? SN 0:00.10 /usr/sbin/sampled -N
45732 ?? S 0:00.03 /usr/sbin/ilmid -N
45733 ?? S 0:00.09 /usr/sbin/rmopd -N

```

```

45734 ?? S      0:00.30 /usr/sbin/cosd
45735 ?? I      0:00.00 /usr/sbin/rtspd -N
45736 ?? S      0:00.06 /usr/sbin/fsad -N
45737 ?? S      0:00.05 /usr/sbin/rdd -N
45738 ?? S      0:00.10 /usr/sbin/pppd -N
45739 ?? S      0:00.05 /usr/sbin/dfcd -N
45740 ?? S      0:00.07 /usr/sbin/lfmd -N
45741 ?? S      0:00.01 /usr/sbin/mplsoamd -N
45742 ?? I      0:00.01 /usr/sbin/sendd -N
45743 ?? S      0:00.08 /usr/sbin/appidd -N
45744 ?? S      0:00.05 /usr/sbin/mspd -N
45745 ?? S      0:00.25 /usr/sbin/jdiameterd -N
45746 ?? S      0:00.10 /usr/sbin/pfed -N
45747 ?? S      0:00.19 /usr/sbin/lpdfd -N
45748 ?? S      0:00.63 /sbin/dcd -N
45750 ?? S      0:00.45 /usr/sbin/mib2d -N
45751 ?? S      0:00.15 /usr/sbin/dfwd -N
45752 ?? S      0:00.15 /usr/sbin/irsd -N
45764 ?? S      0:20.59 /usr/sbin/snmpd -N
56479 ?? Ss     0:00.00 mgd: (mgd) (root) (mgd)
56480 ?? R      0:00.00 /bin/ps -ax
1142 d0- I      0:00.01 /usr/sbin/usbd -N
1160 d0- S      0:29.17 /usr/sbin/eventd -N -r -s -A
6527 d0 Is+    0:00.00 /usr/libexec/getty std.9600 ttyd0
2392 p1 Is     0:00.00 login [pam] (login)
2393 p1 I       0:00.00 -csh (csh)
2394 p1 I       0:00.00 su -
2395 p1 I+      0:00.01 -su (csh)
23782 p2 Is     0:00.00 login [pam] (login)
23881 p2 I       0:00.00 -csh (csh)
23925 p2 S+     0:00.03 cli
7332 p3 Is     0:00.00 login [pam] (login)
7333 p3 I       0:00.00 -csh (csh)
23780 p3 S+     0:00.02 telnet aj

```

```
lcc0-re0:
```

```

-----
PID TT  STAT    TIME COMMAND
  0 ??  WLS    0:00.00 [swapper]
  1 ??  ILs    0:00.16 /packages/mnt/jbase/sbin/init --
  2 ??  DL     0:00.01 [g_event]
  3 ??  DL     0:00.16 [g_up]
  4 ??  DL     0:00.11 [g_down]
  5 ??  DL     0:00.00 [thread taskq]
  6 ??  DL     0:00.00 [kqueue taskq]
  7 ??  DL     0:00.00 [pagedaemon]
  8 ??  DL     0:00.00 [vmdaemon]
  9 ??  DL     0:01.77 [pagezero]
 10 ??  DL     0:00.00 [ktrace]
 11 ??  RL    17:22.31 [idle]
 12 ??  WL     0:00.32 [swi2: net]
 13 ??  WL     0:01.21 [swi7: clock sio]
 14 ??  WL     0:00.00 [swi6: vm]
 15 ??  DL     0:00.10 [yarrow]
 16 ??  WL     0:00.00 [swi9: +]
 17 ??  WL     0:00.00 [swi8: +]
 18 ??  WL     0:00.00 [swi5: cambio]
 19 ??  WL     0:00.00 [swi9: task queue]
 20 ??  WL     0:02.73 [irq10: bcm0 uhci1*]
 21 ??  WL     0:00.02 [irq11: cb0 uhci0+*]
 22 ??  DL     0:00.00 [usb0]

```

```

23 ?? DL 0:00.00 [usbtask]
24 ?? DL 0:00.00 [usb1]
25 ?? DL 0:00.05 [usb2]
26 ?? DL 0:00.00 [usb3]
27 ?? DL 0:00.00 [usb4]
28 ?? DL 0:00.00 [usb5]
29 ?? DL 0:00.04 [usb6]
30 ?? DL 0:00.00 [usb7]
31 ?? WL 0:00.00 [irq14: ata0]
32 ?? WL 0:00.00 [irq15: ata1]
33 ?? WL 0:00.00 [irq1: atkbd0]
34 ?? WL 0:00.00 [swi0: sio]
35 ?? WL 0:00.00 [swi3: ip6opt ipopt]
36 ?? WL 0:00.00 [swi4: ip6mismatch+]
37 ?? WL 0:00.00 [swi1: ipfwd]
38 ?? DL 0:00.00 [bufdaemon]
39 ?? DL 0:00.00 [vn1ru]
40 ?? DL 0:00.01 [syncer]
41 ?? DL 0:00.00 [softdepflush]
42 ?? DL 0:00.00 [netdaemon]
43 ?? DL 0:00.00 [vmuncachedaemon]
44 ?? DL 0:00.00 [if_pic_listen]
45 ?? DL 0:00.02 [vmkmemdaemon]
46 ?? DL 0:00.01 [cb_poll]
47 ?? DL 0:00.00 [if_pfe_listen]
48 ?? DL 0:00.00 [scs_housekeeping]
49 ?? IL 0:00.00 [kern_dump_proc]
50 ?? IL 0:00.00 [nfsiod 0]
51 ?? IL 0:00.00 [nfsiod 1]
52 ?? IL 0:00.00 [nfsiod 2]
53 ?? IL 0:00.00 [nfsiod 3]
54 ?? DL 0:00.01 [schedcpu]
55 ?? DL 0:00.73 [md0]
77 ?? DL 0:03.54 [md1]
98 ?? DL 0:00.37 [md2]
116 ?? DL 0:00.02 [md3]
137 ?? DL 0:00.56 [md4]
158 ?? DL 0:00.15 [md5]
179 ?? DL 0:00.00 [md6]
215 ?? DL 0:00.03 [md7]
225 ?? DL 0:00.03 [md8]
1078 ?? DL 0:00.00 [jsr_kkcm]
1363 ?? SL 0:00.09 [bcmTX]
1364 ?? SL 0:00.10 [bcmXGS3AsyncTX]
1365 ?? SL 0:03.08 [bcmLINK.0]
1370 ?? Is 0:00.00 /usr/sbin/cron
1522 ?? S 0:00.00 /sbin/watchdog -t-1
1523 ?? S 0:00.05 /usr/libexec/bslockd -mp -N
1524 ?? I 0:00.01 /usr/sbin/tnetd -N
1526 ?? S 0:04.98 /usr/sbin/chassisd -N
1527 ?? S 0:00.04 /usr/sbin/alarmd -N
1528 ?? I 0:00.40 /usr/sbin/craftd -N
1529 ?? S 0:00.08 /usr/sbin/mgd -N
1532 ?? I 0:00.04 /usr/sbin/inetd -N
1533 ?? I 0:00.00 /usr/sbin/tnp.sntpd -N
1534 ?? I 0:00.00 /usr/sbin/tnp.sntpc -N
1536 ?? S 0:00.01 /usr/sbin/smartd -N
1540 ?? I 0:00.07 /usr/sbin/jcsd -N
1541 ?? S 0:00.11 /usr/sbin/idpd -N
1542 ?? I 0:00.00 /usr/libexec/getty Pc ttyv0
2089 ?? DL 0:00.01 [peer proxy]

```

```

2090 ?? DL 0:00.01 [peer proxy]
2091 ?? DL 0:00.01 [peer proxy]
2657 ?? S 0:00.02 /usr/sbin/dfwd -N
2658 ?? S 0:00.02 /sbin/dcd -N
2659 ?? S 0:00.05 /usr/sbin/snmpd -N
2660 ?? S 0:00.01 /usr/sbin/mib2d -N
2661 ?? S 0:00.01 /usr/sbin/pfed -N
2662 ?? S 0:00.01 /usr/sbin/irsd -N
2667 ?? S 0:00.13 /usr/sbin/ksyncd -N
2690 ?? Ss 0:00.00 mgd: (mgd) (root) (mgd)
2691 ?? R 0:00.00 /bin/ps -ax
1164 d0- S 0:00.00 /usr/sbin/usbd -N
1182 d0- S 0:00.34 /usr/sbin/eventd -N -r -s -A
1543 d0 Is+ 0:00.00 /usr/libexec/getty std.9600 ttyd0

```

```
lcc1-re0:
```

```

-----
PID TT STAT TIME COMMAND
  0 ?? Wls 0:00.00 [swapper]
  1 ?? ILs 0:00.17 /packages/mnt/jbase/sbin/init --
  2 ?? DL 0:00.01 [g_event]
  3 ?? DL 0:00.16 [g_up]
  4 ?? DL 0:00.11 [g_down]
  5 ?? DL 0:00.00 [thread taskq]
  6 ?? DL 0:00.00 [kqueue taskq]
  7 ?? DL 0:00.00 [pagedaemon]
  8 ?? DL 0:00.00 [vmdaemon]
  9 ?? DL 0:01.77 [pagezero]
 10 ?? DL 0:00.00 [ktrace]
 11 ?? RL 17:22.83 [idle]
 12 ?? WL 0:00.35 [swi2: net]
 13 ?? WL 0:01.20 [swi7: clock sio]
 14 ?? WL 0:00.00 [swi6: vm]
 15 ?? DL 0:00.10 [yarrow]
 16 ?? WL 0:00.00 [swi9: +]
 17 ?? WL 0:00.00 [swi8: +]
 18 ?? WL 0:00.00 [swi5: cambio]
 19 ?? WL 0:00.00 [swi9: task queue]
 20 ?? WL 0:02.87 [irq10: bcm0 uhci1*]
 21 ?? WL 0:00.02 [irq11: cb0 uhci0+*]
 22 ?? DL 0:00.00 [usb0]
 23 ?? DL 0:00.00 [usbtask]
 24 ?? DL 0:00.00 [usb1]
 25 ?? DL 0:00.05 [usb2]
 26 ?? DL 0:00.00 [usb3]
 27 ?? DL 0:00.00 [usb4]
 28 ?? DL 0:00.00 [usb5]
 29 ?? DL 0:00.04 [usb6]
 30 ?? DL 0:00.00 [usb7]
 31 ?? WL 0:00.00 [irq14: ata0]
 32 ?? WL 0:00.00 [irq15: ata1]
 33 ?? WL 0:00.00 [irq1: atkbd0]
 34 ?? WL 0:00.00 [swi0: sio]
 35 ?? WL 0:00.00 [swi3: ip6opt ipopt]
 36 ?? WL 0:00.00 [swi4: ip6mismatch+]
 37 ?? WL 0:00.00 [swi1: ipfwd]
 38 ?? DL 0:00.00 [bufdaemon]
 39 ?? DL 0:00.00 [vn1ru]
 40 ?? DL 0:00.01 [syncer]
 41 ?? DL 0:00.00 [softdepflush]
 42 ?? DL 0:00.00 [netdaemon]

```

```

43 ?? DL 0:00.00 [vmuncachedaemon]
44 ?? DL 0:00.00 [if_pic_listen]
45 ?? DL 0:00.02 [vmkmemdaemon]
46 ?? DL 0:00.01 [cb_poll]
47 ?? DL 0:00.00 [if_pfe_listen]
48 ?? DL 0:00.00 [scs_housekeeping]
49 ?? IL 0:00.00 [kern_dump_proc]
50 ?? IL 0:00.00 [nfsiod 0]
51 ?? IL 0:00.00 [nfsiod 1]
52 ?? IL 0:00.00 [nfsiod 2]
53 ?? IL 0:00.00 [nfsiod 3]
54 ?? DL 0:00.02 [schedcpu]
55 ?? DL 0:00.75 [md0]
77 ?? DL 0:03.40 [md1]
98 ?? DL 0:00.37 [md2]
116 ?? DL 0:00.02 [md3]
137 ?? DL 0:00.56 [md4]
158 ?? DL 0:00.15 [md5]
179 ?? DL 0:00.00 [md6]
215 ?? DL 0:00.03 [md7]
225 ?? DL 0:00.03 [md8]
1052 ?? DL 0:00.00 [jsr_kkcm]
1337 ?? SL 0:00.09 [bcmTX]
1338 ?? SL 0:00.10 [bcmXGS3AsyncTX]
1339 ?? SL 0:03.10 [bcmLINK.0]
1344 ?? Is 0:00.00 /usr/sbin/cron
1496 ?? S 0:00.00 /sbin/watchdog -t-1
1497 ?? S 0:00.05 /usr/libexec/bslockd -mp -N
1498 ?? I 0:00.01 /usr/sbin/tnetd -N
1500 ?? S 0:04.97 /usr/sbin/chassisd -N
1501 ?? S 0:00.04 /usr/sbin/alarmd -N
1502 ?? I 0:00.40 /usr/sbin/craftd -N
1503 ?? S 0:00.08 /usr/sbin/mgd -N
1506 ?? I 0:00.04 /usr/sbin/inetd -N
1507 ?? I 0:00.00 /usr/sbin/tnp.snmpd -N
1508 ?? I 0:00.00 /usr/sbin/tnp.sntpc -N
1510 ?? S 0:00.01 /usr/sbin/smartd -N
1514 ?? I 0:00.07 /usr/sbin/jcsd -N
1515 ?? S 0:00.18 /usr/sbin/idpd -N
1516 ?? I 0:00.00 /usr/libexec/getty Pc ttyv0
2068 ?? DL 0:00.01 [peer proxy]
2069 ?? DL 0:00.01 [peer proxy]
2070 ?? DL 0:00.01 [peer proxy]
2666 ?? S 0:00.02 /sbin/dcd -N
2667 ?? S 0:00.01 /usr/sbin/irsd -N
2668 ?? S 0:00.01 /usr/sbin/pfed -N
2669 ?? S 0:00.05 /usr/sbin/snmpd -N
2670 ?? S 0:00.01 /usr/sbin/mib2d -N
2671 ?? S 0:00.02 /usr/sbin/dfwd -N
2675 ?? S 0:00.13 /usr/sbin/ksyncd -N
2699 ?? Ss 0:00.00 mgd: (mgd) (root) (mgd)
2700 ?? R 0:00.00 /bin/ps -ax
1138 d0- S 0:00.00 /usr/sbin/usbd -N
1156 d0- S 0:00.37 /usr/sbin/eventd -N -r -s -A
1517 d0 Is+ 0:00.00 /usr/libexec/getty std.9600 ttyd0

```

```
lcc2-re0:
```

```

-----
PID TT STAT TIME COMMAND
0 ?? Wls 0:00.00 [swapper]
1 ?? ILs 0:00.18 /packages/mnt/jbase/sbin/init --

```

```

 2 ?? DL      0:00.01 [g_event]
 3 ?? DL      0:00.17 [g_up]
 4 ?? DL      0:00.12 [g_down]
 5 ?? DL      0:00.00 [thread taskq]
 6 ?? DL      0:00.00 [kqueue taskq]
 7 ?? DL      0:00.00 [pagedaemon]
 8 ?? DL      0:00.00 [vmdaemon]
 9 ?? DL      0:01.77 [pagezero]
10 ?? DL      0:00.00 [ktrace]
11 ?? RL      17:19.13 [idle]
12 ?? WL      0:00.36 [swi2: net]
13 ?? WL      0:01.20 [swi7: clock sio]
14 ?? WL      0:00.00 [swi6: vm]
15 ?? DL      0:00.13 [yarrow]
16 ?? WL      0:00.00 [swi9: +]
17 ?? WL      0:00.00 [swi8: +]
18 ?? WL      0:00.00 [swi5: cambio]
19 ?? WL      0:00.00 [swi9: task queue]
20 ?? WL      0:03.03 [irq10: bcm0 uhci1*]
21 ?? WL      0:00.02 [irq11: cb0 uhci0+*]
22 ?? DL      0:00.00 [usb0]
23 ?? DL      0:00.00 [usbtask]
24 ?? DL      0:00.00 [usb1]
25 ?? DL      0:00.05 [usb2]
26 ?? DL      0:00.00 [usb3]
27 ?? DL      0:00.00 [usb4]
28 ?? DL      0:00.00 [usb5]
29 ?? DL      0:00.04 [usb6]
30 ?? DL      0:00.00 [usb7]
31 ?? WL      0:00.00 [irq14: ata0]
32 ?? WL      0:00.00 [irq15: ata1]
33 ?? WL      0:00.00 [irq1: atkbd0]
34 ?? WL      0:00.00 [swi0: sio]
35 ?? WL      0:00.00 [swi3: ip6opt ipopt]
36 ?? WL      0:00.00 [swi4: ip6mismatch+]
37 ?? WL      0:00.00 [swi1: ipfwd]
38 ?? DL      0:00.00 [bufdaemon]
39 ?? DL      0:00.00 [vn1ru]
40 ?? DL      0:00.01 [syncer]
41 ?? DL      0:00.00 [softdepflush]
42 ?? DL      0:00.00 [netdaemon]
43 ?? DL      0:00.00 [vmuncachedaemon]
44 ?? DL      0:00.00 [if_pic_listen]
45 ?? DL      0:00.02 [vmkmemdaemon]
46 ?? DL      0:00.01 [cb_poll]
47 ?? DL      0:00.00 [if_pfe_listen]
48 ?? DL      0:00.00 [scs_housekeeping]
49 ?? IL      0:00.00 [kern_dump_proc]
50 ?? IL      0:00.00 [nfsiod 0]
51 ?? IL      0:00.00 [nfsiod 1]
52 ?? IL      0:00.00 [nfsiod 2]
53 ?? IL      0:00.00 [nfsiod 3]
54 ?? DL      0:00.02 [schedcpu]
55 ?? DL      0:00.75 [md0]
77 ?? DL      0:03.48 [md1]
98 ?? DL      0:00.59 [md2]
116 ?? DL     0:00.02 [md3]
137 ?? DL     0:00.56 [md4]
158 ?? DL     0:00.15 [md5]
179 ?? DL     0:00.00 [md6]
215 ?? DL     0:00.03 [md7]

```

```

225 ?? DL 0:00.03 [md8]
1052 ?? DL 0:00.00 [jsr_kkcm]
1337 ?? SL 0:00.09 [bcmTX]
1338 ?? SL 0:00.10 [bcmXGS3AsyncTX]
1339 ?? SL 0:03.22 [bcmLINK.0]
1344 ?? Is 0:00.00 /usr/sbin/cron
1496 ?? S 0:00.00 /sbin/watchdog -t-1
1497 ?? S 0:00.05 /usr/libexec/bslockd -mp -N
1498 ?? S 0:00.01 /usr/sbin/tnetd -N
1500 ?? R 0:05.17 /usr/sbin/chassisd -N
1501 ?? S 0:00.04 /usr/sbin/alarmd -N
1502 ?? I 0:00.39 /usr/sbin/craftd -N
1503 ?? S 0:00.08 /usr/sbin/mgd -N
1506 ?? I 0:00.05 /usr/sbin/inetd -N
1507 ?? I 0:00.00 /usr/sbin/tnp.sntpd -N
1508 ?? I 0:00.00 /usr/sbin/tnp.sntpc -N
1510 ?? S 0:00.01 /usr/sbin/smartd -N
1514 ?? I 0:00.07 /usr/sbin/jcsd -N
1515 ?? S 0:00.17 /usr/sbin/idpd -N
1516 ?? I 0:00.00 /usr/libexec/getty Pc ttyv0
2591 ?? DL 0:00.01 [peer proxy]
2592 ?? DL 0:00.01 [peer proxy]
2593 ?? DL 0:00.01 [peer proxy]
2597 ?? DL 0:00.00 [peer proxy]
3192 ?? S 0:00.01 /usr/sbin/irsd -N
3193 ?? S 0:00.05 /usr/sbin/snmpd -N
3194 ?? S 0:00.02 /sbin/dcd -N
3195 ?? S 0:00.01 /usr/sbin/pfed -N
3196 ?? S 0:00.01 /usr/sbin/mib2d -N
3197 ?? S 0:00.02 /usr/sbin/dfwd -N
3198 ?? S 0:00.13 /usr/sbin/ksyncd -N
3228 ?? Ss 0:00.00 mgd: (mgd) (root) (mgd)
3229 ?? R 0:00.00 /bin/ps -ax
1138 d0- S 0:00.00 /usr/sbin/usbd -N
1156 d0- S 0:00.42 /usr/sbin/eventd -N -r -s -A
1517 d0 Is+ 0:00.00 /usr/libexec/getty std.9600 ttyd0
...

```

show system processes sfc (TX Matrix Plus Router)

```

user@host> show system processes sfc 0
sfc0-re0:

```

```

-----
PID TT STAT TIME COMMAND
0 ?? WLS 0:00.00 [swapper]
1 ?? SLs 0:00.18 /packages/mnt/jbase/sbin/init --
2 ?? DL 0:00.20 [g_event]
3 ?? DL 0:00.39 [g_up]
4 ?? DL 0:00.32 [g_down]
5 ?? DL 0:00.00 [thread taskq]
6 ?? DL 0:00.09 [kqueue taskq]
7 ?? DL 0:00.01 [pagedaemon]
8 ?? DL 0:00.00 [vmdaemon]
9 ?? DL 0:06.63 [pagezero]
10 ?? DL 0:00.00 [ktrace]
11 ?? RL 312:09.00 [idle]
12 ?? WL 0:11.07 [swi2: net]
13 ?? WL 0:27.70 [swi7: clock sio]
14 ?? WL 0:00.00 [swi6: vm]
15 ?? DL 0:03.03 [yarrow]
16 ?? WL 0:00.00 [swi9: +]

```



```

17 ?? WL 0:00.00 [swi8: +]
18 ?? WL 0:00.00 [swi5: cambio]
19 ?? WL 0:00.00 [swi9: task queue]
20 ?? WL 0:11.46 [irq16: uhci0 uhci*]
21 ?? DL 0:00.00 [usb0]
22 ?? DL 0:00.00 [usbtask]
23 ?? WL 0:39.63 [irq17: uhci1 uhci*]
24 ?? DL 0:00.00 [usb1]
25 ?? WL 0:00.00 [irq18: uhci2 uhci*]
26 ?? DL 0:00.84 [usb2]
27 ?? DL 0:00.00 [usb3]
28 ?? DL 0:00.00 [usb4]
29 ?? DL 0:00.00 [usb5]
30 ?? DL 0:00.73 [usb6]
31 ?? DL 0:00.00 [usb7]
32 ?? WL 0:00.00 [irq14: ata0]
33 ?? WL 0:00.00 [irq15: ata1]
34 ?? WL 0:00.00 [irq1: atkbd0]
35 ?? WL 0:00.00 [swi0: sio]
36 ?? WL 0:00.00 [irq11: isab0]
37 ?? WL 0:00.00 [swi3: ip6opt ipopt]
38 ?? WL 0:00.00 [swi4: ip6mismatch+]
39 ?? WL 0:00.00 [swi1: ipfwd]
40 ?? DL 0:00.02 [bufdaemon]
41 ?? DL 0:00.02 [vn1ru]
42 ?? DL 0:00.39 [syncer]
43 ?? DL 0:00.05 [softdepflush]
44 ?? DL 0:00.00 [netdaemon]
45 ?? DL 0:00.02 [vmuncachedaemon]
46 ?? DL 0:00.00 [if_pic_listen]
47 ?? DL 0:00.35 [vmkmemdaemon]
48 ?? DL 0:00.00 [cb_poll]
49 ?? DL 0:00.06 [if_pfe_listen]
50 ?? DL 0:00.00 [scs_housekeeping]
51 ?? IL 0:00.00 [kern_dump_proc]
52 ?? IL 0:00.00 [nfsiod 0]
53 ?? IL 0:00.00 [nfsiod 1]
54 ?? IL 0:00.00 [nfsiod 2]
55 ?? IL 0:00.00 [nfsiod 3]
56 ?? DL 0:00.37 [schedcpu]
57 ?? DL 0:00.56 [md0]
79 ?? DL 0:02.58 [md1]
100 ?? DL 0:00.03 [md2]
118 ?? DL 0:00.01 [md3]
139 ?? DL 0:00.95 [md4]
160 ?? DL 0:00.12 [md5]
181 ?? DL 0:00.00 [md6]
217 ?? DL 0:00.02 [md7]
227 ?? DL 0:00.05 [md8]
1341 ?? SL 0:01.35 [bcmTX]
1342 ?? SL 0:01.69 [bcmXGS3AsyncTX]
1343 ?? SL 0:41.57 [bcmLINK.0]
1345 ?? SL 0:33.97 [bcmLINK.1]
1350 ?? Is 0:00.01 /usr/sbin/cron
1502 ?? S 0:00.01 /sbin/watchdog -t-1
1503 ?? S 0:00.86 /usr/libexec/bslockd -mp -N
1504 ?? I 0:00.01 /usr/sbin/tnetd -N
1507 ?? S 0:01.32 /usr/sbin/alarmd -N
1508 ?? S 0:14.54 /usr/sbin/craftd -N
1509 ?? S 0:01.20 /usr/sbin/mgd -N
1512 ?? S 0:00.05 /usr/sbin/inetd -N

```

```

1513 ?? S      0:00.10 /usr/sbin/tnp.sntpd -N
1517 ?? S      0:00.11 /usr/sbin/smartd -N
1525 ?? S      0:01.11 /usr/sbin/idpd -N
1526 ?? S      0:01.43 /usr/sbin/license-check -U -M -p 10 -i 10
1527 ?? I      0:00.01 /usr/libexec/getty Pc ttyv0
1616 ?? DL     0:00.30 [peer proxy]
1617 ?? DL     0:00.32 [peer proxy]
1618 ?? DL     0:00.34 [peer proxy]
1619 ?? DL     0:00.30 [peer proxy]
2391 ?? Is     0:00.01 telnetd
7331 ?? Ss     0:00.03 telnetd
9538 ?? DL     0:01.16 [jsr_kkcm]
9613 ?? DL     0:00.18 [peer proxy]
23781 ?? Ss    0:00.01 telnetd
23926 ?? Ss    0:00.03 mgd: (mgd) (regress)/dev/tty2 (mgd)
36867 ?? S      0:03.14 /usr/sbin/rpd -N
36874 ?? S      0:00.08 /usr/sbin/lmpd
36876 ?? S      0:00.17 /usr/sbin/lacpd -N
36877 ?? S      0:00.15 /usr/sbin/bfd -N
36878 ?? S      0:05.05 /usr/sbin/ppmd -N
36907 ?? S      0:26.63 /usr/sbin/chassisd -N
37775 ?? S      0:00.01 /usr/sbin/bdbrepd -N
45727 ?? S      0:00.02 /usr/sbin/xntpd -j -N -g (ntpd)
45729 ?? S      0:00.40 /usr/sbin/l2ald -N
45730 ?? S<    0:00.13 /usr/sbin/apspd -N
45731 ?? SN     0:00.10 /usr/sbin/sampled -N
45732 ?? S      0:00.03 /usr/sbin/ilmid -N
45733 ?? S      0:00.09 /usr/sbin/rmopd -N
45734 ?? S      0:00.31 /usr/sbin/cosd
45735 ?? I      0:00.00 /usr/sbin/rtspd -N
45736 ?? S      0:00.06 /usr/sbin/fsad -N
45737 ?? S      0:00.05 /usr/sbin/rdd -N
45738 ?? S      0:00.10 /usr/sbin/pppd -N
45739 ?? S      0:00.05 /usr/sbin/dfcd -N
45740 ?? S      0:00.08 /usr/sbin/lfmd -N
45741 ?? S      0:00.01 /usr/sbin/mplsoamd -N
45742 ?? I      0:00.01 /usr/sbin/sendd -N
45743 ?? S      0:00.08 /usr/sbin/appidd -N
45744 ?? S      0:00.05 /usr/sbin/mspd -N
45745 ?? S      0:00.27 /usr/sbin/jdiameterd -N
45746 ?? S      0:00.10 /usr/sbin/pfed -N
45747 ?? S      0:00.19 /usr/sbin/lpdfd -N
45748 ?? S      0:00.64 /sbin/dcd -N
45750 ?? S      0:00.46 /usr/sbin/mib2d -N
45751 ?? S      0:00.16 /usr/sbin/dfwd -N
45752 ?? S      0:00.15 /usr/sbin/irsd -N
45764 ?? S      0:20.60 /usr/sbin/snmpd -N
56481 ?? Ss    0:00.02 telnetd
56548 ?? Rs    0:00.19 mgd: (mgd) (regress)/dev/tty0 (mgd)
56577 ?? Ss    0:00.00 mgd: (mgd) (root) (mgd)
56578 ?? R      0:00.00 /bin/ps -ax
1142 d0- S      0:00.01 /usr/sbin/usbd -N
1160 d0- S      0:29.71 /usr/sbin/eventd -N -r -s -A
6527 d0 Is+    0:00.00 /usr/libexec/getty std.9600 ttyd0
56482 p0 Is     0:00.00 login [pam] (login)
56483 p0 S       0:00.01 -csh (csh)
56547 p0 S+     0:00.02 cli
2392 p1 Is     0:00.00 login [pam] (login)
2393 p1 I       0:00.00 -csh (csh)
2394 p1 I       0:00.00 su -
2395 p1 I+     0:00.01 -su (csh)

```

```

23782 p2 Is 0:00.00 login [pam] (login)
23881 p2 I 0:00.00 -csh (csh)
23925 p2 S+ 0:00.03 cli
7332 p3 Is 0:00.00 login [pam] (login)
7333 p3 I 0:00.00 -csh (csh)
23780 p3 S+ 0:00.02 telnet aj

```

show system processes lcc wide (TX Matrix Plus Routing Matrix)

```

user@host> show system processes lcc 2 wide
lcc2-re0:

```

PID	TT	STAT	TIME	PROVIDER	COMMAND
0	??	WLs	0:00.00	(null)	[swapper]
1	??	ILs	0:00.19		/packages/mnt/jbase/sbin/init --
2	??	DL	0:00.02		[g_event]
3	??	DL	0:00.19		[g_up]
4	??	DL	0:00.13		[g_down]
5	??	DL	0:00.00		[thread taskq]
6	??	DL	0:00.00		[kqueue taskq]
7	??	DL	0:00.00		[pagedaemon]
8	??	DL	0:00.00		[vmdaemon]
9	??	DL	0:01.77		[pagezero]
10	??	DL	0:00.00		[ktrace]
11	??	RL	20:33.81		[idle]
12	??	WL	0:00.38		[swi2: net]
13	??	WL	0:01.43		[swi7: clock sio]
14	??	WL	0:00.00		[swi6: vm]
15	??	DL	0:00.14		[yarrow]
16	??	WL	0:00.00		[swi9: +]
17	??	WL	0:00.00		[swi8: +]
18	??	WL	0:00.00		[swi5: cambio]
19	??	WL	0:00.00		[swi9: task queue]
20	??	WL	0:03.18		[irq10: bcm0 uhci1*]
21	??	WL	0:00.03		[irq11: cb0 uhci0+*]
22	??	DL	0:00.00		[usb0]
23	??	DL	0:00.00		[usbtask]
24	??	DL	0:00.00		[usb1]
25	??	DL	0:00.06		[usb2]
26	??	DL	0:00.00		[usb3]
27	??	DL	0:00.00		[usb4]
28	??	DL	0:00.00		[usb5]
29	??	DL	0:00.05		[usb6]
30	??	DL	0:00.00		[usb7]
31	??	WL	0:00.00		[irq14: ata0]
32	??	WL	0:00.00		[irq15: ata1]
33	??	WL	0:00.00		[irq1: atkbd0]
34	??	WL	0:00.00		[swi0: sio]
35	??	WL	0:00.00		[swi3: ip6opt ipopt]
36	??	WL	0:00.00		[swi4: ip6mismatch+]
37	??	WL	0:00.00		[swi1: ipfwd]
38	??	DL	0:00.00		[bufdaemon]
39	??	DL	0:00.00		[vn1ru]
40	??	DL	0:00.02		[syncer]
41	??	DL	0:00.01		[softdepflush]
42	??	DL	0:00.00		[netdaemon]
43	??	DL	0:00.00		[vmuncachedaemon]
44	??	DL	0:00.00		[if_pic_listen]
45	??	DL	0:00.03		[vmkmemdaemon]
46	??	DL	0:00.01		[cb_poll]
47	??	DL	0:00.00		[if_pfe_listen]

```

48 ?? DL 0:00.00 [scs_housekeeping]
49 ?? IL 0:00.00 [kern_dump_proc]
50 ?? IL 0:00.00 [nfsiod 0]
51 ?? IL 0:00.00 [nfsiod 1]
52 ?? IL 0:00.00 [nfsiod 2]
53 ?? IL 0:00.00 [nfsiod 3]
54 ?? DL 0:00.02 [schedcpu]
55 ?? DL 0:00.75 [md0]
77 ?? DL 0:03.84 [md1]
98 ?? DL 0:00.59 [md2]
116 ?? DL 0:00.02 [md3]
137 ?? DL 0:00.72 [md4]
158 ?? DL 0:00.15 [md5]
179 ?? DL 0:00.00 [md6]
215 ?? DL 0:00.03 [md7]
225 ?? DL 0:00.03 [md8]
1052 ?? DL 0:00.00 [jsr_kkcm]
1337 ?? SL 0:00.11 [bcmTX]
1338 ?? SL 0:00.12 [bcmXGS3AsyncTX]
1339 ?? SL 0:03.82 [bcmLINK.0]
1344 ?? Is 0:00.00 /usr/sbin/cron
1496 ?? I 0:00.00 /sbin/watchdog -t-1
1497 ?? S 0:00.06 /usr/libexec/bslockd -mp -N
1498 ?? I 0:00.01 /usr/sbin/tnetd -N
1500 ?? S 0:09.93 /usr/sbin/chassisd -N
1501 ?? S 0:00.05 /usr/sbin/alarmd -N
1502 ?? I 0:00.39 /usr/sbin/craftd -N
1503 ?? S 0:00.09 /usr/sbin/mgd -N
1506 ?? I 0:00.05 /usr/sbin/inetd -N
1507 ?? I 0:00.00 /usr/sbin/tnp.sntpd -N
1508 ?? I 0:00.00 /usr/sbin/tnp.sntpc -N
1510 ?? S 0:00.01 /usr/sbin/smartd -N
1514 ?? I 0:00.07 /usr/sbin/jcsd -N
1515 ?? S 0:00.17 /usr/sbin/idpd -N
1516 ?? I 0:00.00 /usr/libexec/getty Pc ttyv0
2591 ?? DL 0:00.01 [peer proxy]
2592 ?? DL 0:00.01 [peer proxy]
2593 ?? DL 0:00.01 [peer proxy]
2597 ?? DL 0:00.01 [peer proxy]
3192 ?? S 0:00.02 /usr/sbin/irsd -N
3193 ?? S 0:00.05 /usr/sbin/snmpd -N
3194 ?? S 0:00.04 /sbin/dcd -N
3195 ?? I 0:00.01 /usr/sbin/pfed -N
3196 ?? S 0:00.02 /usr/sbin/mib2d -N
3197 ?? I 0:00.03 /usr/sbin/dfwd -N
3198 ?? S 0:00.15 /usr/sbin/ksyncd -N
3559 ?? Ss 0:00.00 mgd: (mgd) (root) (mgd)
3560 ?? R 0:00.00 /bin/ps -ax -jppw
1138 d0- S 0:00.00 /usr/sbin/usbd -N
1156 d0- S 0:00.50 /usr/sbin/eventd -N -r -s -A
1517 d0 Is+ 0:00.00 /usr/libexec/getty std.9600 ttyd0

```

show system processes (QFX Series and OCX Series)

```

user@switch> show system processes
PID TT STAT TIME COMMAND
0 ?? Wls -2341043:-31.01 [swapper]
1 ?? SLs 0:01.34 /packages/mnt/jbase/sbin/init --
2 ?? DL 2:48.31 [g_event]
3 ?? DL 1:47.44 [g_up]
4 ?? DL 1:37.82 [g_down]

```

```

 5 ?? DL      0:00.00 [kdm_tcp_poller]
 6 ?? DL      0:00.00 [thread taskq]
 7 ?? DL      0:04.86 [kqueue taskq]
 9 ?? DL      0:03.94 [pagedaemon]
10 ?? DL      0:00.00 [ktrace]
11 ?? RL      0:00.00 [idle: cpu31]
12 ?? RL      0:00.00 [idle: cpu30]
13 ?? RL      0:00.00 [idle: cpu29]
14 ?? RL      0:00.00 [idle: cpu28]
15 ?? RL      0:00.00 [idle: cpu27]
16 ?? RL      0:00.00 [idle: cpu26]
17 ?? RL      0:00.00 [idle: cpu25]
18 ?? RL      0:00.00 [idle: cpu24]
19 ?? RL      0:00.00 [idle: cpu23]
20 ?? RL      0:00.00 [idle: cpu22]
21 ?? RL      0:00.00 [idle: cpu21]
22 ?? RL      0:00.00 [idle: cpu20]
23 ?? RL      0:00.00 [idle: cpu19]
24 ?? RL      0:00.00 [idle: cpu18]
25 ?? RL      0:00.00 [idle: cpu17]
26 ?? RL      0:00.00 [idle: cpu16]
27 ?? RL      0:00.00 [idle: cpu15]
28 ?? RL      0:00.00 [idle: cpu14]
29 ?? RL      0:00.00 [idle: cpu13]
30 ?? RL      0:00.00 [idle: cpu12]
31 ?? RL      0:00.00 [idle: cpu11]
32 ?? RL      0:00.00 [idle: cpu10]
33 ?? RL      0:00.00 [idle: cpu9]
34 ?? RL      18184:07.25 [idle: cpu8]
35 ?? RL      0:00.00 [idle: cpu7]
36 ?? RL      17862:11.31 [idle: cpu6]
37 ?? RL      19343:45.16 [idle: cpu5]
38 ?? RL      5192:38.30 [idle: cpu4]
39 ?? RL      0:00.00 [idle: cpu3]
40 ?? RL      19278:02.24 [idle: cpu2]
41 ?? RL      19291:00.72 [idle: cpu1]
42 ?? RL      18910:31.21 [idle: cpu0]
43 ?? WL      19:03.74 [swi2: net]
44 ?? WL      261:43.82 [swi7: clock sio]
45 ?? WL      0:00.00 [swi6: vm]
46 ?? DL      2:18.57 [yarrow]
47 ?? WL      0:00.00 [swi9: +]
48 ?? WL      0:00.00 [swi8: +]
49 ?? WL      0:12.36 [swi5: cambio]
50 ?? WL      0:00.00 [swi9: task queue]
51 ?? WL      0:00.00 [swi0: sio]
52 ?? WL      0:32.40 [irq39: ehci0]
53 ?? DL      0:00.21 [usb0]
54 ?? DL      0:00.00 [usbtask]
55 ?? WL      0:00.00 [irq22: xlr_lbus0]
56 ?? WL      0:00.00 [irq38: xlr_lbus0]
57 ?? WL      0:00.00 [swi3: ip6opt ipopt]
58 ?? WL      0:00.00 [swi4: ip6mismatch+]
59 ?? WL      0:00.00 [swi1: ipfwd]
60 ?? DL      0:18.65 [pagezero]
61 ?? DL      0:18.59 [bufdaemon]
62 ?? DL      1:10.44 [vnlr_u_mem]
63 ?? DL      1:51.66 [syncer]
64 ?? DL      0:20.22 [vnlr_u]
65 ?? DL      0:40.48 [softdepflush]
66 ?? DL      0:00.00 [netdaemon]

```

```

67 ?? DL 20:47.67 [vmkmemdaemon]
68 ?? DL 0:00.00 [if_pfe_listen]
69 ?? SL 0:02.80 [kdm_checkkcore]
70 ?? SL 0:03.34 [kdm_savekcore]
71 ?? SL 0:04.31 [kdm_livekcore]
72 ?? SL 0:06.14 [kdm_logger]
73 ?? SL 0:04.31 [kdm_kdb]
74 ?? SL 0:00.02 [devrt_kernel_thread]
75 ?? DL 0:21.54 [vmuncachedaemon]
76 ?? DL 0:00.00 [if_pic_listen0]
77 ?? SL 0:00.00 [nfsiod 0]
78 ?? SL 0:00.00 [nfsiod 1]
79 ?? SL 0:00.00 [nfsiod 2]
80 ?? SL 0:00.00 [nfsiod 3]
81 ?? WL 5:59.98 [irq13: +]
82 ?? RL 105:06.81 [pkt_sender: cpu0]
83 ?? DL 0:03.62 [md0]
95 ?? DL 0:37.04 [md1]
115 ?? DL 0:06.01 [md2]
135 ?? DL 0:00.75 [md3]
155 ?? DL 0:21.17 [md4]
175 ?? DL 0:01.90 [md5]
195 ?? DL 0:06.26 [md6]
231 ?? DL 0:00.01 [md7]
755 ?? Ss 0:04.17 /usr/sbin/cron
847 ?? S 0:00.10 /usr/sbin/tinetd -N
849 ?? S 0:06.82 /usr/sbin/mgd -N
850 ?? S 0:00.32 /usr/sbin/inetd -N
852 ?? S 1:05.34 /usr/sbin/dhcpd -N
853 ?? S 0:00.18 /usr/sbin/inetd -p /var/run/inetd_4.pid -N -JU __juni
855 ?? L 1181:02.21 /usr/sbin/dc-pfe -N (pafxpc)
857 ?? S 17:55.86 /usr/sbin/vccpd -N
896 ?? S 93:43.45 /usr/sbin/chassism -N
953 ?? S 0:02.89 /sbin/watchdog -t-1
954 ?? S 3:34.00 /sbin/dcd -N
955 ?? S 10:30.13 /usr/sbin/chassisd -N
956 ?? DL 0:00.21 [peer proxy]
957 ?? S 4:07.43 /usr/sbin/alarmd -N
958 ?? S 0:31.69 /usr/sbin/craftd -N
959 ?? S 0:55.16 /usr/sbin/mib2d -N
960 ?? S 3:40.64 /usr/sbin/rpd -N
961 ?? S 0:00.03 /usr/sbin/tnp.snmpd -N
962 ?? S 0:51.94 /usr/sbin/pfed -N
963 ?? S 0:47.31 /usr/sbin/rmopd -N
964 ?? S 0:33.65 /usr/sbin/cosd
965 ?? S 1:48.41 /usr/sbin/ppmd -N
966 ?? S 0:07.18 /usr/sbin/dfwd -N
967 ?? S 1:02.56 /usr/sbin/bfdd -N
968 ?? S 0:00.63 /usr/sbin/rdd -N
969 ?? S 0:40.61 /usr/sbin/dfcd -N
971 ?? S 0:07.81 /usr/sbin/bdbrepd -N
972 ?? S 0:00.28 /usr/sbin/sendd -N
973 ?? S 1:37.69 /usr/sbin/xntpd -j -N -g -JU __juniper_private4__ (nt
974 ?? S 5:56.28 /usr/sbin/snmpd -N -JU __juniper_private4__
975 ?? S 16:46.82 /usr/sbin/jdiameterd -N
976 ?? S 2:34.13 /usr/sbin/eswd -N
977 ?? S 1:03.05 /usr/sbin/sflowd -N
978 ?? S 0:22.30 /usr/sbin/fcd -N
979 ?? S 1:07.01 /usr/sbin/vccpdf -N
982 ?? S 0:25.25 /usr/sbin/mcsnoopd -N
983 ?? S 3:45.68 /usr/sbin/rpdf -N

```

```

1043 ?? S      0:37.87 /usr/sbin/lacpd -N
1048 ?? DL     0:01.29 [peer proxy]
1111 ?? WL     0:00.00 [swi2: FMNITHRD+]
1112 ?? DL     0:00.03 [peer proxy]
12816 ?? S     15:35.32 /usr/sbin/sfid -N
30893 ?? Ss    0:00.65 sshd: tlewis@tty0 (sshd)
30897 ?? Ss    0:00.15 mgd: (mgd) (tlewis)/dev/tty0 (mgd)
30905 ?? Ss    0:00.64 sshd: tlewis@tty1 (sshd)
30909 ?? Ss    0:00.15 mgd: (mgd) (tlewis)/dev/tty1 (mgd)
30910 ?? Ss    0:01.26 sshd: tcheng@tty2 (sshd)
30914 ?? Ss    0:00.80 mgd: (mgd) (tcheng)/dev/tty2 (mgd)
30937 ?? R     0:00.03 /bin/ps -ax
    661 d0- S   0:21.24 /usr/sbin/eventd -N -r -s -A
    860 d0 Ss+  0:00.07 /usr/libexec/getty std.9600 ttyd0
30896 p0 Ss+  0:00.55 -cli (cli)
30908 p1 Ss+  0:00.50 -cli (cli)
30913 p2 Ss+  0:00.85 -cli (cli)

```

show system statistics

List of Syntax	Syntax on page 658 Syntax (EX Series Switches) on page 658 Syntax (TX Matrix Router) on page 658 Syntax (TX Matrix Plus Router) on page 658 Syntax (MX Series Router) on page 658 Syntax (QFX Series) on page 658
Syntax	show system statistics
Syntax (EX Series Switches)	show system statistics <all-members> <local> <member <i>member-id</i> >
Syntax (TX Matrix Router)	show system statistics <all-chassis all-lcc lcc <i>number</i> scc>
Syntax (TX Matrix Plus Router)	show system statistics <all-chassis all-lcc lcc <i>number</i> sfc <i>number</i> >
Syntax (MX Series Router)	show system statistics <all-members> <local> <member <i>member-id</i> >
Syntax (QFX Series)	show system statistics
Release Information	Command introduced before JUNOS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. sfc option introduced for the TX Matrix Plus router in JUNOS Release 9.6. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display system-wide protocol-related statistics.
Options	none —Display system statistics for all the following protocols: <ul style="list-style-type: none">• arp—Address Resolution Protocol• bridge—IEEE 802.1 Bridging• clns—Connectionless Network Service• esis—End System-to-Intermediate System• ethoamcfm—Ethernet OAM protocol for connectivity fault management• ethoamlfm—Ethernet OAM protocol for link fault management• icmp—Internet Control Message Protocol• icmp6—Internet Control Message Protocol version 6

- **igmp**—Internet Group Management Protocol
- **ip**—Internet Protocol version 4
- **ip6**—Internet Protocol version 6
- **jsr**—Juniper Socket Replication
- **mpls**—Multiprotocol Label Switching
- **rdp**—Reliable Datagram Protocol
- **tcp**—Transmission Control Protocol
- **tnp**—Trivial Network Protocol
- **ttp**—TNP Tunneling Protocol
- **tudp**—Trivial User Datagram Protocol
- **udp**—User Datagram Protocol
- **vpls**—Virtual Private LAN Service

all-chassis—(TX Matrix and TX Matrix Plus routers only) (Optional) Display system statistics for a protocol for all the routers in the chassis.

all-lcc—(TX Matrix and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display system statistics for a protocol for all T640 routers (or line-card chassis) connected to the TX Matrix router. On a TX Matrix Plus router, display system statistics for a protocol for all routers (line-card chassis) connected to the TX Matrix Plus router

all-members—(EX4200 switches and MX Series routers only) (Optional) Display system statistics for a protocol for all members of the Virtual Chassis configuration.

lcc number—(TX Matrix and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display system statistics for a protocol for a specific T640 router that is connected to the TX Matrix router. On a TX Matrix Plus router, display system statistics for a protocol for a specific router that is connected to the TX Matrix Plus router. Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(EX4200 switches and MX Series routers only) (Optional) Display system statistics for a protocol for the local Virtual Chassis member.

member *member-id*—(EX4200 switches and MX Series routers only) (Optional) Display system statistics for a protocol for the specified member of the Virtual Chassis configuration. For EX4200 switches, replace ***member-id*** with a value from 0 through 9. For an MX Series Virtual Chassis, replace ***member-id*** with a value of 0 or 1.

scc—(TX Matrix routers only) (Optional) Display system statistics for a protocol for the TX Matrix router (or switch-card chassis).

sfc *number*—(TX Matrix Plus routers only) (Optional) Display system statistics for a protocol for the TX Matrix Plus router (or switch-fabric chassis). Replace ***number*** with 0.

Additional Information By default, when you issue the **show system statistics** command on a TX Matrix or TX Matrix Plus master Routing Engine, the command is broadcast to all the T640 (in a routing matrix based on the TX Matrix router) or T1600 (in a routing matrix based on the TX Matrix Plus router) master Routing Engines connected to it. Likewise, if you issue the same command on the TX Matrix or TX Matrix Plus backup Routing Engine, the command is broadcast to all the T640 (in a routing matrix based on the TX Matrix router) or T1600 (in a routing matrix based on the TX Matrix Plus router) backup Routing Engines that are connected to it.

Required Privilege Level view

List of Sample Output [show system statistics on page 660](#)
[show system statistics \(EX Series Switches\) on page 670](#)
[show system statistics \(TX Matrix Router\) on page 679](#)
[show system statistics \(QFX Series\) on page 685](#)

Sample Output

show system statistics

```
user@host> show system statistics
ip:
    3682087 total packets received
    0 bad header checksums
    0 with size smaller than minimum
    0 with data size < data length
    0 with header length < data size
    0 with data length < header length
    0 with incorrect version number
    0 packets destined to dead next hop
    0 fragments received
    0 fragments dropped (dup or out of space)
    0 fragments dropped (queue overflow)
    0 fragments dropped after timeout
    0 fragments dropped due to over limit
    0 packets reassembled ok
    3664774 packets for this host
    17316 packets for unknown/unsupported protocol
    0 packets forwarded
    0 packets not forwardable
    0 redirects sent
    6528 packets sent from this host
```

```

0 packets sent with fabricated ip header
0 output packets dropped due to no bufs
0 output packets discarded due to no route
0 output datagrams fragmented
0 fragments created
0 datagrams that can't be fragmented
0 packets with bad options
1123 packets with options handled without error
0 strict source and record route options
0 loose source and record route options
0 record route options
0 timestamp options
0 timestamp and address options
0 timestamp and prespecified address options
0 option packets dropped due to rate limit
1123 router alert options
0 multicast packets dropped (no iflist)
0 packets dropped (src and int don't match)
icmp:
0 drops due to rate limit
0 calls to icmp_error
0 errors not generated because old message was icmp
Output histogram:
    echo reply: 75
0 messages with bad code fields
0 messages less than the minimum length
0 messages with bad checksum
0 messages with bad source address
0 messages with bad length
0 echo drops with broadcast or multicast destination address
0 timestamp drops with broadcast or multicast destination address
Input histogram:
    echo: 75
    router advertisement: 130
75 message responses generated
tcp:
3844 packets sent
    3618 data packets (1055596 bytes)
    0 data packets (0 bytes) retransmitted
    0 resends initiated by MTU discovery
    205 ack-only packets (148 packets delayed)
    0 URG only packets
    0 window probe packets
    0 window update packets
    1079 control packets
5815 packets received
    3377 acks (for 1055657 bytes)
    24 duplicate acks
    0 acks for unsent data
    2655 packets (15004 bytes) received in-sequence
    1 completely duplicate packet (0 bytes)
    0 old duplicate packets
    0 packets with some dup. data (0 bytes duped)
    0 out-of-order packets (0 bytes)
    0 packets (0 bytes) of data after window
    0 window probes
    7 window update packets
    0 packets received after close
    0 discarded for bad checksums
    0 discarded for bad header offset fields
    0 discarded because packet too short

```

```
1 connection request
32 connection accepts
0 bad connection attempts
0 listen queue overflows
33 connections established (including accepts)
30 connections closed (including 0 drops)
    27 connections updated cached RTT on close
    27 connections updated cached RTT variance on close
    0 connections updated cached ssthresh on close
0 embryonic connections dropped
3374 segments updated rtt (of 3220 attempts)
0 retransmit timeouts
    0 connections dropped by rexmit timeout
0 persist timeouts
    0 connections dropped by persist timeout
344 keepalive timeouts
    0 keepalive probes sent
    0 connections dropped by keepalive
1096 correct ACK header predictions
1314 correct data packet header predictions
32 syncache entries added
    0 retransmitted
    0 dupsyn
    0 dropped
    32 completed
    0 bucket overflow
    0 cache overflow
    0 reset
    0 stale
    0 aborted
    0 badack
    0 unreach
    0 zone failures
0 cookies sent
0 cookies received
0 ACKs sent in response to in-window but not exact RSTs
0 ACKs sent in response to in-window SYNs on established connections
0 rcv packets dropped by TCP due to bad address
0 out-of-sequence segment drops due to insufficient memory
1058 RST packets
0 ICMP packets ignored by TCP
0 send packets dropped by TCP due to auth errors
0 rcv packets dropped by TCP due to auth errors

udp:
3658884 datagrams received
0 with incomplete header
0 with bad data length field
0 with bad checksum
3657342 dropped due to no socket
3657342 broadcast/multicast datagrams dropped due to no socket
0 dropped due to full socket buffers
0 not for hashed pcb
4291311496 delivered
1551 datagrams output

ipsec:
0 inbound packets processed successfully
0 inbound packets violated process security policy
0 inbound packets with no SA available
0 invalid inbound packets
0 inbound packets failed due to insufficient memory
0 inbound packets failed getting SPI
```

```

0 inbound packets failed on AH replay check
0 inbound packets failed on ESP replay check
0 inbound AH packets considered authentic
0 inbound AH packets failed on authentication
0 inbound ESP packets considered authentic
0 inbound ESP packets failed on authentication
0 outbound packets processed successfully
0 outbound packets violated process security policy
0 outbound packets with no SA available
0 invalid outbound packets
0 outbound packets failed due to insufficient memory
0 outbound packets with no route

igmp:
17186 messages received
0 messages received with too few bytes
0 messages received with bad checksum
0 membership queries received
0 membership queries received with invalid field(s)
0 membership reports received
0 membership reports received with invalid field(s)
0 membership reports received for groups to which we belong
0 membership reports sent

arp:
44181302 datagrams received
2 ARP requests received
2028 ARP replies received
3156 resolution requests received
0 unrestricted proxy requests
0 received proxy requests
0 proxy requests not proxied
0 with bogus interface
787 with incorrect length
712 for non-IP protocol
0 with unsupported op code
0 with bad protocol address length
0 with bad hardware address length
0 with multicast source address
7611 with multicast target address
0 with my own hardware address
14241699 for an address not on the interface
0 with a broadcast source address
0 with source address duplicate to mine
29929250 which were not for me
0 packets discarded waiting for resolution
6 packets sent after waiting for resolution
17812 ARP requests sent
2 ARP replies sent
0 requests for memory denied
0 requests dropped on entry
0 requests dropped during retry

ip6:
0 total packets received
0 with size smaller than minimum
0 with data size < data length
0 with bad options
0 with incorrect version number
0 fragments received
0 fragments dropped (dup or out of space)
0 fragments dropped after timeout
0 fragments that exceeded limit
0 packets reassembled ok

```

```
0 packets for this host
0 packets forwarded
0 packets not forwardable
0 redirects sent
0 packets sent from this host
0 packets sent with fabricated ip header
0 output packets dropped due to no bufs, etc.
0 output packets discarded due to no route
0 output datagrams fragmented
0 fragments created
0 datagrams that can't be fragmented
0 packets that violated scope rules
0 multicast packets which we don't join
Mbuf statistics:
0 packets whose headers are not continuous
0 tunneling packets that can't find gif
0 packets discarded due to too many headers
0 failures of source address selection
0 forward cache hit
0 forward cache miss
0 packets destined to dead next hop
0 option packets dropped due to rate limit
0 packets dropped (src and int don't match)
0 packets dropped due to bad protocol

icmp6:
0 calls to icmp_error
0 errors not generated because old message was icmp error or so
0 errors not generated because rate limitation
0 messages with bad code fields
0 messages < minimum length
0 bad checksums
0 messages with bad length
Histogram of error messages to be generated:
    0 no route
    0 administratively prohibited
    0 beyond scope
    0 address unreachable
    0 port unreachable
    0 packet too big
    0 time exceed transit
    0 time exceed reassembly
    0 erroneous header field
    0 unrecognized next header
    0 unrecognized option
    0 redirect
    0 unknown
0 message responses generated
0 messages with too many ND options

ipsec6:
0 inbound packets processed successfully
0 inbound packets violated process security policy
0 inbound packets with no SA available
0 invalid inbound packets
0 inbound packets failed due to insufficient memory
0 inbound packets failed getting SPI
0 inbound packets failed on AH replay check
0 inbound packets failed on ESP replay check
0 inbound AH packets considered authentic
0 inbound AH packets failed on authentication
0 inbound ESP packets considered authentic
0 inbound ESP packets failed on authentication
```

```

0 outbound packets processed successfully
0 outbound packets violated process security policy
0 outbound packets with no SA available
0 invalid outbound packets
0 outbound packets failed due to insufficient memory
0 outbound packets with no route
c1nl:
0 total packets received
0 packets delivered
0 too small
0 bad header length
0 bad checksum
0 bad version
0 unknown or unsupported protocol
0 bogus sdl size
0 no free memory in socket buffer
0 send packets discarded
0 sbappend failure
0 mcopy failure
0 address fields were not reasonable
0 segment information forgotten
0 forwarded packets
0 total packets sent
0 output packets discarded
0 non-forwarded packets
0 packets fragmented
0 fragments sent
0 fragments discarded
0 fragments timed out
0 fragmentation prohibited
0 packets reconstructed
0 packets destined to dead nexthop
0 packets discarded due to no route
0 Error pdu rate drops
0 ER pdu generation failure
esis:
0 total pkts received
0 total packets consumed by protocol
0 pdus received with bad checksum
0 pdus received with bad version number
0 pdus received with bad type field
0 short pdus received
0 bogus sdl size
0 bad header length
0 unknown or unsupported protocol
0 no free memory in socket buffer
0 send packets discarded
0 sbappend failure
0 mcopy failure
0 ISO family not configured
tnp:
146776365 unicast packets received
0 broadcast packets received
0 fragmented packets received
0 hello packets dropped
0 fragments dropped
0 fragment reassembly queue flushes
0 hello packets received
0 control packets received
49681642 rdp packets received
337175 udp packets received

```

```
96757548 tunnel packets received
0 input packets discarded with no protocol
98397591 unicast packets sent
0 broadcast packets sent
0 fragmented packets sent
0 hello packets dropped
0 fragments dropped
0 hello packets sent
0 control packets sent
49681642 rdp packets sent
337175 udp packets sent
48378774 tunnel packets sent
0 packets sent with unknown protocol

rdp:
49681642 input packets
0 discards for bad checksum
0 discards bad sequence number
0 refused connections
2031964 acks received
0 dropped due to full socket buffers
49692 retransmits
49681642 output packets
24815968 acks sent
28 connects
0 closes
22783990 keepalives received
22783990 keepalives sent

tudp:
337175 datagrams received
0 with incomplete header
0 with bad data length field
0 with bad checksum
0 dropped due to no socket
0 broadcast/multicast datagrams dropped due to no socket
0 dropped due to full socket buffers
337175 delivered
337175 datagrams output

ttp:
398749 packets sent
0 packets sent while unconnected
0 packets sent while interface down
0 packets sent couldn't get buffer
0 packets sent couldn't find neighbor
44696687 L2 packets received
0 unknown L3 packets received
3682087 IPv4 L3 packets received
0 MPLS L3 packets received
0 MPLS->IPv4 L3 packets received
0 IPv4->MPLS L3 packets received
0 IPv6 L3 packets received
0 ARP L3 packets received
0 CLNP L3 packets received
0 TNP L3 packets received
0 NULL L3 packets received
0 cyclotron cycle L3 packets received
0 cyclotron send L3 packets received
0 packets received while unconnected
0 packets received from unknown ifl
0 input packets couldn't get buffer
0 input packets with bad type
0 input packets with discard type
```



```

0 Input packets with too many tlvs
0 Input packets with bad tlv header
70633 Input packets with bad tlv type
68877 Input packets dropped based on tlv result
0 input packets for which rt lookup is bypassed

mpls:
0 total mpls packets received
0 packets forwarded
0 packets dropped
0 with header too small
0 after tagging, can't fit link MTU
0 with IPv4 explicit NULL tag
0 with IPv4 explicit NULL cksum errors
0 with router alert tag
0 lsp ping packets (ttl-expired/router alert)
0 with ttl expired
0 with tag encoding error
0 packets discarded, no route

jsr:
Handle-inf:o
0 Handles in use
0 Handles allocated so far
0 Handles freed so far
0 Handles in delayed free state

IHA:
0 IHA invalid subtype messages
0 IHA invalid length messages
0 IHA invalid version messages
0 IHA too short messages
0 IHA invalid dst handle messages
0 IHA invalid src handle messages
0 IHA unmatched src handle messages
0 IHA invalid messages for primary
0 IHA invalid messages for secondary
0 IHA invalid messages for current state
0 IHA messages sent for subtype init
0 IHA messages rcvd for subytp e init
0 IHA messages sent for subtype init
0 IHA messages rcvd for subytp e init
0 IHA messages sent for subtype init
0 IHA messages rcvd for subytp e init
0 IHA messages sent for subtype init
0 IHA messages rcvd for subytp e init
0 IHA messages sent for subtype init
0 IHA messages rcvd for subytp e init
0 IHA message timeouts
0 IHA socket unreplicate messages

SDRL:
0 SDRL socket teardowns
0 SDRL socket teardown failures
0 SDRL socket unreplicates
0 SDRL socket unreplicate failures
0 SDRL external timeouts
0 SDRL internal timeouts
0 SDRL ipc messages sent
0 SDRL ipc send failures
0 SDRL ipc messages rcvd
0 SDRL ipc messages rcvd
0 SDRL primary replication messages sent
0 SDRL primary replication message send failures
0 SDRL primary ack messages received

```

```
0 SDRL primary ack message receive failures
0 SDRL primary sock replication inits
0 SDRL primary sock replication init failures
0 SDRL primary throttle remove messages
0 SDRL primary throttle remove failures
0 SDRL primary init handshake messages
0 SDRL primary init handshake failures
0 SDRL secondary replication messages received
0 SDRL secondary replication message receive failures
0 SDRL secondary replication acks sent
0 SDRL secondary replication ack send failures
0 SDRL secondary sock splits
0 SDRL secondary sock split failures
0 SDRL secondary sock merges
0 SDRL secondary sock merge failures
0 SDRL secondary sockets closed
0 SDRL secondary rcv snoop fd close failures
0 SDRL secondary snd snoop fd close failures
0 SDRL secondary init handshake messages
0 SDRL secondary init handshake failures
PRL:
0 PRL packets enqueued
0 PRL packets failed to enqueue
0 PRL packets dequeued
0 PRL packets failed to dequeue
0 PRL queue entry allocations
0 PRL queue entry frees
0 calls to layer 4 input handlers
0 failed calls to layer 4 input handlers
0 PRL queue drains
0 PRL replication timeouts
0 PRL replication messages sent
0 PRL replication message send failures
0 PRL acknowledgment messages sent
0 PRL acknowledgement message send failures
0 PRL replication messages received
0 PRL replication message receive failures
0 PRL acknowledgement messages received
0 PRL acknowledgement receive failures
0 PRL messages with bad IPC type
0 PRL messages with no handler
2 PRL global state initializations
1 PRL global state cleanups
0 PRL per-socket state creations
0 PRL per-socket state creation failures
0 PRL per-socket state cleanups
0 PRL socket closes
0 PRL socket merges
0 PRL socket unreplicates
0 PRL primary socket replication initializations
0 PRL secondary socket replication initializations
0 PRL primary socket replication activations
0 PRL secondary socket replication activations
0 packets received from peers
0 PRL packets receive operations from peer failed
0 PRL buffer pullup failures
0 new pkts dropped on secondary socket
PSRM:
0 PSRM replication timeouts
0 PSRM replication messages sent
0 PSRM replication message send failures
```

```

0 PSRM acknowledgment messages sent
0 PSRM acknowledgement message send failures
0 PSRM flow control messages sent
0 PSRM flow control message send failures
0 PSRM replication messages received
0 PSRM replication message receive failures
0 PSRM acknowledgment messages received
0 PSRM acknowledgment message receive failures
0 PSRM flow control messages received
0 PSRM flow control message receive failures
0 SRM messages with bad IPC type
0 PSRM messages with no handler
2 PSRM global state initializations
1 PSRM global state cleanups
0 PSRM per-socket state creations
0 PSRM per-socket state creation failures
0 PSRM per-socket state cleanups
0 PSRM socket closes
0 PSRM socket merges
0 PSRM socket unreplicates
0 PSRM primary socket replication initializations
0 psrm-secondary-socket-replication-initializations
0 PSRM primary socket replication activations
0 secondary socket replication activations
0 PSRM tcpcb updates
0 PSRM buffer pullup failures
73 PSRM tcp timestamp msg rcv counters
0 PSRM tcp timestamp msg rcv failures
0 PSRM tcp timestamp msg send counters
0 PSRM tcp timestamp msg send failures

```

TCP:

```
0 TCP out-of-order packets on JSR sockets
```

vpls:

```

0 total packets received
0 with size smaller than minimum
0 with incorrect version number
0 packets for this host
0 packets with no logical interface
0 packets with no family
0 packets with no route table
0 packets with no auxiliary table
0 packets with no corefacing entry
0 packets with no CE-facing entry
0 mac route learning requests
0 mac routes learnt
0 requests to learn an existing route
0 learning requests while learning disabled on interface
0 learning requests over capacity
0 mac routes moved
0 requests to move static route
0 mac route aging requests
0 mac routes aged
0 bogus address in aging requests
0 requests to age static route
0 requests to re-ageout aged route
0 requests involving multiple peer FEs
0 aging acks from PFE
0 aging non-acks from PFE
0 aging requests timed out waiting on FEs
0 aging requests over max-rate
0 errors finding peer FEs

```

show system statistics (EX Series Switches)

```
user@host> show system statistics
```

```
Tcp:
```

```
571779 packets sent
  21517 data packets (1797102 bytes)
  2 data packets retransmitted (20 bytes)
  0 resends initiated by MTU discovery
  3708 ack only packets (531 packets delayed)
  0 URG only packets
  1 window probe packets
  1 window update packets
  1093063 control packets
1132541 packets received
  20961 acks(for 1796102 bytes)
  5861 duplicate acks
  0 acks for unsent data
  19556 packets received in-sequence(232079 bytes)
  3018 completely duplicate packets(0 bytes)
  0 old duplicate packets
  4 packets with some duplicate data(4 bytes duped)
  2 out-of-order packets(2 bytes)
  0 packets of data after window(0 bytes)
  0 window probes
  39 window update packets
  0 packets received after close
  0 discarded for bad checksums
  0 discarded for bad header offset fields
  0 discarded because packet too short
546519 connection requests
78 connection accepts
0 bad connection attempts
0 listen queue overflows
100 connections established (including accepts)
546596 connections closed (including 6 drops)
  47 connections updated cached RTT on close
  47 connections updated cached RTT variance on close
  0 connections updated cached ssthresh on close
546497 embryonic connections dropped
20453 segments updated rtt(of 566914 attempts)
2 retransmit timeouts
  0 connections dropped by retransmit timeout
0 persist timeouts
  0 connections dropped by persist timeout
3028 keepalive timeouts
  3027 keepalive probes sent
  1 connections dropped by keepalive
7515 correct ACK header predictions
12258 correct data packet header predictions
78 syncache entries added
  0 retransmitted
  0 dupsyn
  4 dropped
  78 completed
  0 bucket overflow
  0 cache overflow
  0 reset
  0 stale
  0 aborted
  0 badack
  0 unreachable
```

```

    0 zone failures
    0 cookies sent
    0 cookies received
    1 SACK recovery episodes
    1 segment retransmits in SACK recovery episodes
    1 byte retransmits in SACK recovery episodes
    71 SACK options (SACK blocks) received
    1 SACK options (SACK blocks) sent
    0 SACK scoreboard overflow
    0 ACKs sent in response to in-window but not exact RSTs
    0 ACKs sent in response to in-window SYNs on established connections
    0 rcv packets dropped by TCP due to bad address
    0 out-of-sequence segment drops due to insufficient memory
    546544 RST packets
    0 ICMP packets ignored by TCP
    0 send packets dropped by TCP due to auth errors
    0 rcv packets dropped by TCP due to auth errors
    0 outgoing segments dropped due to policing
udp:
    147 datagrams received
    0 with incomplete header
    0 with bad data length field
    0 with bad checksum
    9 dropped due to no socket
    0 broadcast/multicast datagrams dropped due to no socket
    0 dropped due to full socket buffers
    0 not for hashed pcb
    138 delivered
    0 datagrams output
ip:
    73704 total packets received
    0 bad header checksums
    0 with size smaller than minimum
    0 with data size < data length
    0 with header length < data size
    0 with data length < header length
    0 with incorrect version number
    0 packets destined to dead next hop
    0 fragments received
    0 fragments dropped (dup or out of space)
    0 fragments dropped (queue overflow)
    0 fragments dropped after timeout
    0 fragments dropped due to over limit
    0 packets reassembled ok
    1133057 packets for this host
    0 packets for unknown/unsupported protocol
    40146 packets forwarded
    0 packets not forwardable
    40146 redirects sent
    1121700 packets sent from this host
    0 packets sent with fabricated ip header
    0 output packets dropped due to no bufs
    0 output packets discarded due to no route
    0 output datagrams fragmented
    0 fragments created
    0 datagrams that can't be fragmented
    0 packets with bad options
    0 packets with options handled without error
    0 strict source and record route options
    0 loose source and record route options
    0 record route options

```

```
0 timestamp options
0 timestamp and address options
0 timestamp and prespecified address options
0 option packets dropped due to rate limit
0 router alert options
0 multicast packets dropped (no iflist)
0 packets dropped (src and int don't match)
0 transit re packets dropped on mgmt i/f
0 packets used first nexthop in ecmp unilist
0 incoming ttpoip packets received
0 incoming ttpoip packets dropped
0 outgoing TTPoIP packets sent
0 outgoing TTPoIP packets dropped

icmp:
0 drops due to rate limit
9 calls to icmp_error
0 errors not generated because old message was icmp
Output histogram:
    295 echo reply
    9 destination unreachable
0 messages with bad code fields
0 messages less than the minimum length
0 messages with bad checksum
0 messages with bad source address
0 messages with bad length
0 echo drops with broadcast or multicast destination address
0 timestamp drops with broadcast or multicast destination address
Input histogram:
    295 echo
295 message responses generated

igmp:
0 messages received
0 messages received with too few bytes
0 messages received with bad checksum
0 membership queries received
0 membership queries received with invalid fields
0 membership reports received
0 membership reports received with invalid fields
0 membership reports received for groups to which we belong
0 Membership reports sent

raw_if:
0 RAW packets transmitted
0 PPPOE packets transmitted
0 ISDN packets transmitted
0 DIALER packets transmitted
0 PPP packets transmitted to pppd
0 PPP packets transmitted to jppd
0 IGMPv2 packets transmitted
13 output drops due to tx error
0 MPU packets transmitted
0 PPPOE packets received
0 ISDN packets received
0 DIALER packets received
0 PPP packets received from pppd
0 MPU packets received
0 PPP packets received from jppd
0 IGMPv2 packets received
0 Input drops due to bogus protocol
0 input drops due to no mbufs available
0 input drops due to no space in socket
0 input drops due to no socket
```

```
arp:
186413 datagrams received
88 ARP requests received
88 ARP replies received
0 resolution request received
0 unrestricted proxy requests
0 restricted proxy requests
0 received proxy requests
0 proxy requests not proxied
0 restricted proxy requests not proxied
0 datagrams with bogus interface
0 datagrams with incorrect length
0 datagrams for non-IP protocol
0 datagrams with unsupported op code
0 datagrams with bad protocol address length
0 datagrams with bad hardware address length
0 datagrams with multicast source address
0 datagrams with multicast source address
0 datagrams with my own hardware address
164 datagrams for an address not on the interface
0 datagrams with a broadcast source address
0 datagrams with source address duplicate to mine
186065 datagrams which were not for me
0 packets discarded waiting for resolution
0 packets sent after waiting for resolution
50 ARP requests sent
88 ARP replies sent
0 requests for memory denied
0 requests dropped on entry
0 requests dropped during retry
0 requests dropped due to interface deletion
0 requests on unnumbered interfaces
0 new requests on unnumbered interfaces
0 replies for from unnumbered interfaces
0 requests on unnumbered interface with non-subnetted donor
0 replies from unnumbered interface with non-subnetted donor

ip6:
0 total packets received
0 packets with size smaller than minimum
0 packets with data size < data length
0 packets with bad options
0 packets with incorrect version number
0 fragments received
0 fragments dropped (dup or out of space)
0 fragments dropped after timeout
0 fragments that exceeded limit
0 packets reassembled ok
0 packets for this host
0 packets forwarded
0 packets not forwardable
0 redirects sent
0 packets sent from this host
0 packets sent with fabricated ip header
0 output packets dropped due to no bufs, etc.
0 output datagrams fragmented
0 fragments created
0 datagrams that can't be fragmented
0 packets that violated scope rules
0 multicast packets which we don't join
0 packets whose headers are not continuous
0 tunneling packets that can't find gif
```

```
0 packets discarded due to too may headers
0 failures of source address selection
0 forward cache hit
0 forward cache miss
0 Packets destined to dead next hop
0 option packets dropped due to rate limit
0 Packets dropped (src and int don't match)
0 packets dropped due to bad protocol
0 transit re packet(null) dropped on mgmt i/f

icmp6:
0 Calls to icmp_error
0 Errors not generated because old message was icmp error
0 Errors not generated because rate limitation
0 Messages with bad code fields
0 Messages < minimum length
0 Bad checksums
0 Messages with bad length
    0 No route
    0 Administratively prohibited
    0 Beyond scope
    0 Address unreachable
    0 Port unreachable
    0 packet too big
    0 Time exceed transit
    0 Time exceed reassembly
    0 Erroneous header field
    0 Unrecognized next header
    0 Unrecognized option
    0 redirect
    0 Unknown
0 Message responses generated
0 Messages with too many ND options

pfkey:
0 Requests sent from userland
0 Bytes sent from userland
histogram by message type:
    0 reserved
    0 dump
0 Messages with invalid length field
0 Messages with invalid version field
0 Messages with invalid message type field
0 Messages too short
0 Messages with memory allocation failure
0 Messages with duplicate extension
0 Messages with invalid extension type
0 Messages with invalid sa type
0 Messages with invalid address extension
0 Requests sent to userland
0 Bytes sent to userland
histogram by message type:
    0 reserved
    0 dump
0 Messages toward single socket
0 Messages toward all sockets
0 Messages toward registered sockets
0 Messages with memory allocation failure

c1n1:
0 Total packets received
0 Packets delivered
0 Too small packets
0 Packets with bad header length
```



```

0 Packets with bad checksum
0 Bad version packets
0 Unknown or unsupported protocol packets
0 Packets with bogus sdl size
0 No free memory in socket buffer
0 Send packets discarded
0 Sbappend failure
0 Mcopy failure
0 Address fields were not reasonable
0 Segment information forgotten
0 Forwarded packets
0 Total packets sent
0 Output packets discarded
0 Non-forwarded packets
0 Packets fragmented
0 Fragments sent
0 Fragments discarded
0 Fragments timed out
0 Fragmentation prohibited
0 Packets reconstructed
0 Packets destined to dead nexthop
0 Packets discarded due to no route
0 Error pdu rate drops
  0 ER pdu generation failure
esis:
0 Total pkts received
0 Total packets consumed by protocol
0 Pdus received with bad checksum
0 Pdus received with bad version number
0 Pdus received with bad type field
0 Short pdus received
0 Pdus with bogus sdl size
0 Pdus with bad header length
0 Pdus with unknown or unsupported protocol
0 No free memory in socket buffer
0 Send packets discarded
0 Sbappend failure
0 Mcopy failure
0 ISO family not configured
tnp:
0 Unicast packets received
0 Broadcast packets received
0 Fragmented packets received
0 Hello packets dropped
0 Fragments dropped
0 Fragment reassembly queue flushes
0 Packets with tnp src address collision received
0 Hello packets received
0 Control packets received
0 Rdp packets received
0 Udp packets received
0 Tunnel packets received
0 Input packets discarded with no protocol
0 Packets of version unspecified received
0 Packets of version 1 received
0 Packets of version 2 received
0 Packets of version 3 received
0 Unicast packets sent
0 Broadcast packets sent
0 Fragmented packets sent
0 Hello packets dropped

```

```
0 Fragments dropped
0 Hello packets sent
0 Control packets sent
0 Rdp packets sent
0 Udp packets sent
0 Tunnel packets sent
0 Packets sent with unknown protocol
0 Packets of version unspecified sent
0 Packets of version 1 sent
0 Packets of version 2 sent
0 Packets of version 3 sent
rdp:
0 Input packets
0 Packets discarded for bad checksum
0 Packets discarded due to bad sequence number
0 Refused connections
0 Acks received
0 Packets dropped due to full socket buffers
0 Retransmits
0 Output packets
0 Acks sent
0 Connects
0 Closes
0 Keepalives received
0 Keepalives sent
tudp:
67 Datagrams received
0 Datagrams with incomplete header
0 Datagrams with bad data length field
0 Datagrams with bad checksum
0 Datagrams dropped due to no socket
0 Broadcast/multicast datagrams dropped due to no socket
0 Datagrams dropped due to full socket buffers
67 Delivered
68 Datagrams output
ttp:
0 Packets sent
0 Packets sent while unconnected
0 Packets sent while interface down
0 Packets sent couldn't get buffer
0 Packets sent couldn't find neighbor
0 L2 packets received
0 Unknown L3 packets received
0 IPv4 L3 packets received
0 MPLS L3 packets received
0 MPLS->IPv4 L3 packets received
0 IPv4->MPLS L3 packets received
0 IPv6 L3 packets received
0 ARP L3 packets received
0 CLNP L3 packets received
0 TNP L3 packets received
0 NULL L3 packets received
0 Cyclotron cycle L3 packets received
0 Cyclotron send L3 packets received
0 Packets received while unconnected
0 Packets received from unknown ifl
0 Input packets couldn't get buffer
0 Input packets with bad type
0 Input packets with discard type
0 Input packets with too many tlvs
0 Input packets with bad tlv header
```

```

70633 Input packets with bad tlv type
68877 Input packets dropped based on tlv result
0 Input packets for which rt lookup is bypassed

mpls:
0 Total MPLS packets received
0 Packets forwarded
0 Packets dropped
0 Packets with header too small
0 After tagging, packets can't fit link MTU
0 Packets with IPv4 explicit NULL tag
0 Packets with IPv4 explicit NULL cksum errors
0 Packets with router alert tag
0 LSP ping packets (ttl-expired/router alert)
0 Packets with ttl expired
0 Packets with tag encoding error
0 Packets discarded due to no route
0 Packets used first nexthop in ecmp unilist

vpls:
0 Total packets received
0 Packets with size smaller than minimum
0 Packets with incorrect version number
0 Packets for this host
0 Packets with no logical interface
0 Packets with no family
0 Packets with no route table
0 Packets with no auxiliary table
0 Packets with no corefacing entry
0 packets with no CE-facing entry
0 MAC route learning requests
0 MAC routes learnt
0 Requests to learn an existing route
0 Learning requests while learning disabled on interface
0 Learning requests over capacity
0 MAC routes moved
0 Requests to move static route
0 MAC route aging requests
0 MAC routes aged
0 Bogus address in aging requests
0 Requests to age static route
0 Requests to re-ageout aged route
0 Requests involving multiple peer FEs
0 Aging acks from PFE
0 Aging non-acks from PFE
0 Aging requests timed out waiting on FEs
0 Aging requests over max-rate
0 Errors finding peer FEs
0 Unsupported platform
0 Packets dropped due to no l3 route table
0 Packets dropped due to no local ifl
0 Packets punted
0 Packets dropped due to no socket

bridge:
Input:
0 packets received
0 packets forwarded
0 packets failed to forward
0 packets dropped
0 packets with vmember lookup failures
0 packets with vlan lookup failures
0 packets with stp state lookup failures
0 packets dropped due to stp blocked/listening

```

```
0 packets dropped due to stp learning
0 packets with src MAC learning failures
0 packets with input control processing failures
Forward:
0 packets sent successfully
0 packets with send failures
0 packets forwarded to l3 interface
0 packets with l3 send failures
0 packets discarded
0 packets with l2ifl store failures
0 packets with ifl mismatch failures
0 packets with packet duplication failures
0 packets with tag lookup failures
0 packets with no route for DMAC
0 packets with no route table
0 packets with no nexthop
0 packets with dead nexthop
0 packets with eof reached error
Learning:
0 MACs learned
0 packets sent to l3 interface
0 packets with l3 send failures
0 packets hit holdq while learning
0 MAC moves
0 packets discarded
0 packets with no route for SMAC
0 packets with no nexthop
0 packets with dead nexthop
0 packets dropped due to no resolve route
0 packets with l3 ifd lookup failures
0 packets with l3 ifl lookup failures
0 packets with l3 invalid rnh
0 packets with no route for SMAC in clone learning
0 packets with no nexthop in clone learning
0 packets with dead nexthop in clone learning
0 packets dropped due to no resolve nh in clone learning
Output:
0 packets forwarded
0 packets failed to forward
0 packets with vmember lookup failures
0 packets with vlan lookup failures
0 packets with input control processing failures
Send:
0 packets sent successfully
0 packets with send failures
0 packets dropped due to interface down
0 packets with dev output failures
0 blocked ifl discards
0 packets with tag lookup failures
0 packets with stp state lookup failures
0 packets with tag insertion failures
0 packets with tag removal failures
Flood:
0 packets flooded
0 flood failures
IGMP:
0 packets sent successfully
0 packets with send failures
0 packets forwarded
0 packets failed to forward
0 packets with mpull failures
```

```

0 packets with vmember lookup failures
0 packets with vlan lookup failures
0 packets with ifl lookup failures
0 packets with tag lookup failures
Misc:
0 packets with size smaller than minimum
0 packets with double tags
0 packets with no ifl
0 packets with no family
0 packets with no route table

```

show system statistics (TX Matrix Router)

```

user@host> show system statistics
sfc0-re0:

```

```

-----
Tcp:
361694 packets sent
    326507 data packets (103237236 bytes)
    2343 data packets retransmitted (2673324 bytes)
    0 resends initiated by MTU discovery
    33857 ack only packets (31613 packets delayed)
    0 URG only packets
    14 window probe packets
    387 window update packets
    1108 control packets
345879 packets received
    298207 acks(for 103141728 bytes)
    438 duplicate acks
    0 acks for unsent data
    204578 packets received in-sequence(13820995 bytes)
    6 completely duplicate packets(18 bytes)
    0 old duplicate packets
    0 packets with some duplicate data(0 bytes duped)
    0 out-of-order packets(0 bytes)
    0 packets of data after window(0 bytes)
    0 window probes
    899 window update packets
    166 packets received after close
    0 discarded for bad checksums
    0 discarded for bad header offset fields
    0 discarded because packet too short
406 connection requests
233 connection accepts
0 bad connection attempts
0 listen queue overflows
616 connections established (including accepts)
911 connections closed (including 41 drops)
    346 connections updated cached RTT on close
    346 connections updated cached RTT variance on close
    200 connections updated cached ssthresh on close
23 embryonic connections dropped
298155 segments updated rtt(of 287216 attempts)
1163 retransmit timeouts
    27 connections dropped by retransmit timeout
0 persist timeouts
    0 connections dropped by persist timeout
5 keepalive timeouts
    5 keepalive probes sent
    0 connections dropped by keepalive
69922 correct ACK header predictions

```

```
34993 correct data packet header predictions
233 syncache entries added
    0 retransmitted
    0 dupsyn
    0 dropped
    233 completed
    0 bucket overflow
    0 cache overflow
    0 reset
    0 stale
    0 aborted
    0 badack
    0 unreach
    0 zone failures
0 cookies sent
0 cookies received
23 SACK recovery episodes
68 segment retransmits in SACK recovery episodes
71542 byte retransmits in SACK recovery episodes
158 SACK options (SACK blocks) received
0 SACK options (SACK blocks) sent
0 SACK scoreboard overflow
0 ACKs sent in response to in-window but not exact RSTs
0 ACKs sent in response to in-window SYNs on established connections
0 rcv packets dropped by TCP due to bad address
0 out-of-sequence segment drops due to insufficient memory
259 RST packets
0 ICMP packets ignored by TCP
0 send packets dropped by TCP due to auth errors
0 rcv packets dropped by TCP due to auth errors
0 outgoing segments dropped due to policing
```

lcc0-re0:

Tcp:

```
346 packets sent
    222 data packets (22894 bytes)
    0 data packets retransmitted (0 bytes)
    0 resends initiated by MTU discovery
    80 ack only packets (12 packets delayed)
    0 URG only packets
    0 window probe packets
    5 window update packets
    42 control packets
358 packets received
    268 acks(for 22939 bytes)
    9 duplicate acks
    0 acks for unsent data
    203 packets received in-sequence(33820 bytes)
    0 completely duplicate packets(0 bytes)
    0 old duplicate packets
    0 packets with some duplicate data(0 bytes duped)
    0 out-of-order packets(0 bytes)
    0 packets of data after window(0 bytes)
    0 window probes
    6 window update packets
    0 packets received after close
    0 discarded for bad checksums
    0 discarded for bad header offset fields
    0 discarded because packet too short
13 connection requests
```

```

18 connection accepts
0 bad connection attempts
0 listen queue overflows
31 connections established (including accepts)
35 connections closed (including 2 drops)
    3 connections updated cached RTT on close
    3 connections updated cached RTT variance on close
    0 connections updated cached ssthresh on close
0 embryonic connections dropped
268 segments updated rtt(of 247 attempts)
0 retransmit timeouts
    0 connections dropped by retransmit timeout
0 persist timeouts
    0 connections dropped by persist timeout
0 keepalive timeouts
    0 keepalive probes sent
    0 connections dropped by keepalive
0 correct ACK header predictions
42 correct data packet header predictions
18 syncache entries added
    0 retransmitted
    0 dupsyn
    0 dropped
    18 completed
    0 bucket overflow
    0 cache overflow
    0 reset
    0 stale
    0 aborted
    0 badack
    0 unreach
    0 zone failures
0 cookies sent
0 cookies received
0 SACK recovery episodes
0 segment retransmits in SACK recovery episodes
0 byte retransmits in SACK recovery episodes
0 SACK options (SACK blocks) received
0 SACK options (SACK blocks) sent
0 SACK scoreboard overflow
0 ACKs sent in response to in-window but not exact RSTs
0 ACKs sent in response to in-window SYNs on established connections
0 rcv packets dropped by TCP due to bad address
0 out-of-sequence segment drops due to insufficient memory
5 RST packets
0 ICMP packets ignored by TCP
0 send packets dropped by TCP due to auth errors
0 rcv packets dropped by TCP due to auth errors
0 outgoing segments dropped due to policing

```

lcc1-re0:

 Tcp:

```

348 packets sent
    223 data packets (22895 bytes)
    0 data packets retransmitted (0 bytes)
    0 resends initiated by MTU discovery
    81 ack only packets (13 packets delayed)
    0 URG only packets
    0 window probe packets
    5 window update packets

```

```
    42 control packets
360 packets received
    269 acks(for 22940 bytes)
    9 duplicate acks
    0 acks for unsent data
    203 packets received in-sequence(33820 bytes)
    0 completely duplicate packets(0 bytes)
    0 old duplicate packets
    0 packets with some duplicate data(0 bytes duped)
    0 out-of-order packets(0 bytes)
    0 packets of data after window(0 bytes)
    0 window probes
    6 window update packets
    0 packets received after close
    0 discarded for bad checksums
    0 discarded for bad header offset fields
    0 discarded because packet too short
13 connection requests
18 connection accepts
0 bad connection attempts
0 listen queue overflows
31 connections established (including accepts)
36 connections closed (including 2 drops)
    3 connections updated cached RTT on close
    3 connections updated cached RTT variance on close
    0 connections updated cached ssthresh on close
0 embryonic connections dropped
269 segments updated rtt(of 248 attempts)
0 retransmit timeouts
    0 connections dropped by retransmit timeout
0 persist timeouts
    0 connections dropped by persist timeout
0 keepalive timeouts
    0 keepalive probes sent
    0 connections dropped by keepalive
0 correct ACK header predictions
43 correct data packet header predictions
18 syncache entries added
    0 retransmitted
    0 dupsyn
    0 dropped
    18 completed
    0 bucket overflow
    0 cache overflow
    0 reset
    0 stale
    0 aborted
    0 badack
    0 unreach
    0 zone failures
0 cookies sent
0 cookies received
0 SACK recovery episodes
0 segment retransmits in SACK recovery episodes
0 byte retransmits in SACK recovery episodes
0 SACK options (SACK blocks) received
0 SACK options (SACK blocks) sent
0 SACK scoreboard overflow
0 ACKs sent in response to in-window but not exact RSTs
0 ACKs sent in response to in-window SYNs on established connections
0 rcv packets dropped by TCP due to bad address
```



```

0 out-of-sequence segment drops due to insufficient memory
5 RST packets
0 ICMP packets ignored by TCP
0 send packets dropped by TCP due to auth errors
0 rcv packets dropped by TCP due to auth errors
0 outgoing segments dropped due to policing

```

```
1cc2-re0:
```

```
-----
Tcp:
```

```

405 packets sent
    271 data packets (23926 bytes)
    0 data packets retransmitted (0 bytes)
    0 resends initiated by MTU discovery
    86 ack only packets (13 packets delayed)
    0 URG only packets
    0 window probe packets
    5 window update packets
    46 control packets
418 packets received
    321 acks(for 23975 bytes)
    9 duplicate acks
    0 acks for unsent data
    234 packets received in-sequence(34403 bytes)
    0 completely duplicate packets(0 bytes)
    0 old duplicate packets
    0 packets with some duplicate data(0 bytes duped)
    0 out-of-order packets(0 bytes)
    0 packets of data after window(0 bytes)
    0 window probes
    7 window update packets
    0 packets received after close
    0 discarded for bad checksums
    0 discarded for bad header offset fields
    0 discarded because packet too short
15 connection requests
19 connection accepts
0 bad connection attempts
0 listen queue overflows
34 connections established (including accepts)
39 connections closed (including 2 drops)
    4 connections updated cached RTT on close
    4 connections updated cached RTT variance on close
    0 connections updated cached ssthresh on close
0 embryonic connections dropped
321 segments updated rtt(of 299 attempts)
0 retransmit timeouts
    0 connections dropped by retransmit timeout
0 persist timeouts
    0 connections dropped by persist timeout
0 keepalive timeouts
    0 keepalive probes sent
    0 connections dropped by keepalive
0 correct ACK header predictions
48 correct data packet header predictions
19 syncache entries added
    0 retransmitted
    0 dupsyn
    0 dropped
    19 completed
    0 bucket overflow

```

```
0 cache overflow
0 reset
0 stale
0 aborted
0 badack
0 unreach
0 zone failures
0 cookies sent
0 cookies received
0 SACK recovery episodes
0 segment retransmits in SACK recovery episodes
0 byte retransmits in SACK recovery episodes
0 SACK options (SACK blocks) received
0 SACK options (SACK blocks) sent
0 SACK scoreboard overflow
0 ACKs sent in response to in-window but not exact RSTs
0 ACKs sent in response to in-window SYNs on established connections
0 rcv packets dropped by TCP due to bad address
0 out-of-sequence segment drops due to insufficient memory
5 RST packets
0 ICMP packets ignored by TCP
0 send packets dropped by TCP due to auth errors
0 rcv packets dropped by TCP due to auth errors
0 outgoing segments dropped due to policing
```

1cc3-re0:

Tcp:

```
346 packets sent
  221 data packets (22895 bytes)
  0 data packets retransmitted (0 bytes)
  0 resends initiated by MTU discovery
  81 ack only packets (13 packets delayed)
  0 URG only packets
  0 window probe packets
  5 window update packets
  42 control packets
360 packets received
  267 acks(for 22940 bytes)
  9 duplicate acks
  0 acks for unsent data
  203 packets received in-sequence(33820 bytes)
  0 completely duplicate packets(0 bytes)
  0 old duplicate packets
  0 packets with some duplicate data(0 bytes duped)
  0 out-of-order packets(0 bytes)
  0 packets of data after window(0 bytes)
  0 window probes
  6 window update packets
  0 packets received after close
  0 discarded for bad checksums
  0 discarded for bad header offset fields
  0 discarded because packet too short
13 connection requests
18 connection accepts
0 bad connection attempts
0 listen queue overflows
31 connections established (including accepts)
35 connections closed (including 2 drops)
  3 connections updated cached RTT on close
  3 connections updated cached RTT variance on close
```

```

    0 connections updated cached ssthresh on close
0 embryonic connections dropped
267 segments updated rtt(of 246 attempts)
0 retransmit timeouts
    0 connections dropped by retransmit timeout
0 persist timeouts
    0 connections dropped by persist timeout
0 keepalive timeouts
    0 keepalive probes sent
    0 connections dropped by keepalive
0 correct ACK header predictions
43 correct data packet header predictions
18 syncache entries added
    0 retransmitted
    0 dupsyn
    0 dropped
    18 completed
    0 bucket overflow
    0 cache overflow
    0 reset
    0 stale
    0 aborted
    0 badack
    0 unreach
    0 zone failures
0 cookies sent
0 cookies received
0 SACK recovery episodes
0 segment retransmits in SACK recovery episodes
0 byte retransmits in SACK recovery episodes
0 SACK options (SACK blocks) received
0 SACK options (SACK blocks) sent
0 SACK scoreboard overflow
0 ACKs sent in response to in-window but not exact RSTs
0 ACKs sent in response to in-window SYNs on established connections
0 rcv packets dropped by TCP due to bad address
0 out-of-sequence segment drops due to insufficient memory
5 RST packets
0 ICMP packets ignored by TCP
0 send packets dropped by TCP due to auth errors
0 rcv packets dropped by TCP due to auth errors
0 outgoing segments dropped due to policing

```

show system statistics (QFX Series)

```

user@switch> show system statistics
Tcp:
571779 packets sent
21517 data packets (1797102 bytes)
2 data packets retransmitted (20 bytes)
0 resends initiated by MTU discovery
3708 ack only packets (531 packets delayed)
0 URG only packets
1 window probe packets
1 window update packets
1093063 control packets
1132541 packets received
20961 acks(for 1796102 bytes)
5861 duplicate acks
0 acks for unsent data
19556 packets received in-sequence(232079 bytes)

```

3018 completely duplicate packets(0 bytes)
0 old duplicate packets
4 packets with some duplicate data(4 bytes duped)
2 out-of-order packets(2 bytes)
0 packets of data after window(0 bytes)
0 window probes
39 window update packets
0 packets received after close
0 discarded for bad checksums
0 discarded for bad header offset fields
0 discarded because packet too short
546519 connection requests
78 connection accepts
0 bad connection attempts
0 listen queue overflows
100 connections established (including accepts)
546596 connections closed (including 6 drops)
47 connections updated cached RTT on close
47 connections updated cached RTT variance on close
0 connections updated cached ssthresh on close
546497 embryonic connections dropped
20453 segments updated rtt(of 566914 attempts)
2 retransmit timeouts
0 connections dropped by retransmit timeout
0 persist timeouts
0 connections dropped by persist timeout
3028 keepalive timeouts
3027 keepalive probes sent
1 connections dropped by keepalive
7515 correct ACK header predictions
12258 correct data packet header predictions
78 syncache entries added
0 retransmitted
0 dupsyn
4 dropped
78 completed
0 bucket overflow
0 cache overflow
0 reset
0 stale
0 aborted
0 badack
0 unreach
0 zone failures
0 cookies sent
0 cookies received
1 SACK recovery episodes
1 segment retransmits in SACK recovery episodes
1 byte retransmits in SACK recovery episodes
71 SACK options (SACK blocks) received
1 SACK options (SACK blocks) sent
0 SACK scoreboard overflow
0 ACKs sent in response to in-window but not exact RSTs
0 ACKs sent in response to in-window SYNs on established connections
0 rcv packets dropped by TCP due to bad address
0 out-of-sequence segment drops due to insufficient memory
546544 RST packets
0 ICMP packets ignored by TCP
0 send packets dropped by TCP due to auth errors
0 rcv packets dropped by TCP due to auth errors
0 outgoing segments dropped due to policing

```
udp:
147 datagrams received
0 with incomplete header
0 with bad data length field
0 with bad checksum
9 dropped due to no socket
0 broadcast/multicast datagrams dropped due to no socket
0 dropped due to full socket buffers
0 not for hashed pcb
138 delivered
0 datagrams output
ip:
73704 total packets received
0 bad header checksums
0 with size smaller than minimum
0 with data size < data length
0 with header length < data size
0 with data length < header length
0 with incorrect version number
0 packets destined to dead next hop
0 fragments received
0 fragments dropped (dup or out of space)
0 fragments dropped (queue overflow)
0 fragments dropped after timeout
0 fragments dropped due to over limit
0 packets reassembled ok
1133057 packets for this host
0 packets for unknown/unsupported protocol
40146 packets forwarded
0 packets not forwardable
40146 redirects sent
1121700 packets sent from this host
0 packets sent with fabricated ip header
0 output packets dropped due to no bufs
0 output packets discarded due to no route
0 output datagrams fragmented
0 fragments created
0 datagrams that can't be fragmented
0 packets with bad options
0 packets with options handled without error
0 strict source and record route options
0 loose source and record route options
0 record route options
0 timestamp options
0 timestamp and address options
0 timestamp and prespecified address options
0 option packets dropped due to rate limit
0 router alert options
0 multicast packets dropped (no iflist)
0 packets dropped (src and int don't match)
0 transit re packets dropped on mgmt i/f
0 packets used first nexthop in ecmp unilist
0 incoming ttpoip packets received
0 incoming ttpoip packets dropped
0 outgoing TTPoIP packets sent
0 outgoing TTPoIP packets dropped
icmp:
0 drops due to rate limit
9 calls to icmp_error
0 errors not generated because old message was icmp
Output histogram:
```

```
295 echo reply
9 destination unreachable
0 messages with bad code fields
0 messages less than the minimum length
0 messages with bad checksum
0 messages with bad source address
0 messages with bad length
0 echo drops with broadcast or multicast destination address
0 timestamp drops with broadcast or multicast destination address
Input histogram:
295 echo
295 message responses generated
igmp:
0 messages received
0 messages received with too few bytes
0 messages received with bad checksum
0 membership queries received
0 membership queries received with invalid fields
0 membership reports received
0 membership reports received with invalid fields
0 membership reports received for groups to which we belong
0 Membership reports sent
raw_if:
0 RAW packets transmitted
0 PPPOE packets transmitted
0 ISDN packets transmitted
0 DIALER packets transmitted
0 PPP packets transmitted to pppd
0 PPP packets transmitted to jppd
0 IGMPv2 packets transmitted
13 output drops due to tx error
0 MPU packets transmitted
0 PPPOE packets received
0 ISDN packets received
0 DIALER packets received
0 PPP packets received from pppd
0 MPU packets received
0 PPP packets received from jppd
0 IGMPv2 packets received
0 Input drops due to bogus protocol
0 input drops due to no mbufs available
0 input drops due to no space in socket
0 input drops due to no socket
arp:
186413 datagrams received
88 ARP requests received
88 ARP replies received
0 resolution request received
0 unrestricted proxy requests
0 restricted proxy requests
0 received proxy requests
0 proxy requests not proxied
0 restricted proxy requests not proxied
0 datagrams with bogus interface
0 datagrams with incorrect length
0 datagrams for non-IP protocol
0 datagrams with unsupported op code
0 datagrams with bad protocol address length
0 datagrams with bad hardware address length
0 datagrams with multicast source address
0 datagrams with multicast source address
```

```

0 datagrams with my own hardware address
164 datagrams for an address not on the interface
0 datagrams with a broadcast source address
0 datagrams with source address duplicate to mine
186065 datagrams which were not for me
0 packets discarded waiting for resolution
0 packets sent after waiting for resolution
50 ARP requests sent
88 ARP replies sent
0 requests for memory denied
0 requests dropped on entry
0 requests dropped during retry
0 requests dropped due to interface deletion
0 requests on unnumbered interfaces
0 new requests on unnumbered interfaces
0 replies for from unnumbered interfaces
0 requests on unnumbered interface with non-subnetted donor
0 replies from unnumbered interface with non-subnetted donor
ip6:
0 total packets received
0 packets with size smaller than minimum
0 packets with data size < data length
0 packets with bad options
0 packets with incorrect version number
0 fragments received
0 fragments dropped (dup or out of space)
0 fragments dropped after timeout
0 fragments that exceeded limit
0 packets reassembled ok
0 packets for this host
0 packets forwarded
0 packets not forwardable
0 redirects sent
0 packets sent from this host
0 packets sent with fabricated ip header
0 output packets dropped due to no bufs, etc.
0 output datagrams fragmented
0 fragments created
0 datagrams that can't be fragmented
0 packets that violated scope rules
0 multicast packets which we don't join
0 packets whose headers are not continuous
0 tunneling packets that can't find gif
0 packets discarded due to too may headers
0 failures of source address selection
0 forward cache hit
0 forward cache miss
0 Packets destined to dead next hop
0 option packets dropped due to rate limit
0 Packets dropped (src and int don't match)
0 packets dropped due to bad protocol
0 transit re packet(null) dropped on mgmt i/f
icmp6:
0 Calls to icmp_error
0 Errors not generated because old message was icmp error
0 Errors not generated because rate limitation
0 Messages with bad code fields
0 Messages < minimum length
0 Bad checksums
0 Messages with bad length
0 No route

```

0 Administratively prohibited
0 Beyond scope
0 Address unreachable
0 Port unreachable
0 packet too big
0 Time exceed transit
0 Time exceed reassembly
0 Erroneous header field
0 Unrecognized next header
0 Unrecognized option
0 redirect
0 Unknown
0 Message responses generated
0 Messages with too many ND options
pfkey:
0 Requests sent from userland
0 Bytes sent from userland
histogram by message type:
0 reserved
0 dump
0 Messages with invalid length field
0 Messages with invalid version field
0 Messages with invalid message type field
0 Messages too short
0 Messages with memory allocation failure
0 Messages with duplicate extension
0 Messages with invalid extension type
0 Messages with invalid sa type
0 Messages with invalid address extension
0 Requests sent to userland
0 Bytes sent to userland
histogram by message type:
0 reserved
0 dump
0 Messages toward single socket
0 Messages toward all sockets
0 Messages toward registered sockets
0 Messages with memory allocation failure
cInI:
0 Total packets received
0 Packets delivered
0 Too small packets
0 Packets with bad header length
0 Packets with bad checksum
0 Bad version packets
0 Unknown or unsupported protocol packets
0 Packets with bogus sdl size
0 No free memory in socket buffer
0 Send packets discarded
0 Sbappend failure
0 Mcopy failure
0 Address fields were not reasonable
0 Segment information forgotten
0 Forwarded packets
0 Total packets sent
0 Output packets discarded
0 Non-forwarded packets
0 Packets fragmented
0 Fragments sent
0 Fragments discarded
0 Fragments timed out


```
0 Fragmentation prohibited
0 Packets reconstructed
0 Packets destined to dead nexthop
0 Packets discarded due to no route
0 Error pdu rate drops
0 ER pdu generation failure
esis:
0 Total pkts received
0 Total packets consumed by protocol
0 Pdus received with bad checksum
0 Pdus received with bad version number
0 Pdus received with bad type field
0 Short pdus received
0 Pdus with bogus sdl size
0 Pdus with bad header length
0 Pdus with unknown or unsupported protocol
0 No free memory in socket buffer
0 Send packets discarded
0 Sbappend failure
0 Mcopy failure
0 ISO family not configured
tnp:
0 Unicast packets received
0 Broadcast packets received
0 Fragmented packets received
0 Hello packets dropped
0 Fragments dropped
0 Fragment reassembly queue flushes
0 Packets with tnp src address collision received
0 Hello packets received
0 Control packets received
0 Rdp packets received
0 Udp packets received
0 Tunnel packets received
0 Input packets discarded with no protocol
0 Packets of version unspecified received
0 Packets of version 1 received
0 Packets of version 2 received
0 Packets of version 3 received
0 Unicast packets sent
0 Broadcast packets sent
0 Fragmented packets sent
0 Hello packets dropped
0 Fragments dropped
0 Hello packets sent
0 Control packets sent
0 Rdp packets sent
0 Udp packets sent
0 Tunnel packets sent
0 Packets sent with unknown protocol
0 Packets of version unspecified sent
0 Packets of version 1 sent
0 Packets of version 2 sent
0 Packets of version 3 sent
rdp:
0 Input packets
0 Packets discarded for bad checksum
0 Packets discarded due to bad sequence number
0 Refused connections
0 Acks received
0 Packets dropped due to full socket buffers
```

```
0 Retransmits
0 Output packets
0 Acks sent
0 Connects
0 Closes
0 Keepalives received
0 Keepalives sent
tudp:
67 Datagrams received
0 Datagrams with incomplete header
0 Datagrams with bad data length field
0 Datagrams with bad checksum
0 Datagrams dropped due to no socket
0 Broadcast/multicast datagrams dropped due to no socket
0 Datagrams dropped due to full socket buffers
67 Delivered
68 Datagrams output
ttp:
0 Packets sent
0 Packets sent while unconnected
0 Packets sent while interface down
0 Packets sent couldn't get buffer
0 Packets sent couldn't find neighbor
0 L2 packets received
0 Unknown L3 packets received
0 IPv4 L3 packets received
0 MPLS L3 packets received
0 MPLS->IPv4 L3 packets received
0 IPv4->MPLS L3 packets received
0 IPv6 L3 packets received
0 ARP L3 packets received
0 CLNP L3 packets received
0 TNP L3 packets received
0 NULL L3 packets received
0 Cyclotron cycle L3 packets received
0 Cyclotron send L3 packets received
0 Packets received while unconnected
0 Packets received from unknown ifl
0 Input packets couldn't get buffer
0 Input packets with bad type
0 Input packets with discard type
0 Input packets with too many tlvs
0 Input packets with bad tlv header
70633 Input packets with bad tlv type
68877 Input packets dropped based on tlv result0 Input packets for which rt lookup
  is bypassed
mpls:
0 Total MPLS packets received
0 Packets forwarded
0 Packets dropped
0 Packets with header too small
0 After tagging, packets can't fit link MTU
0 Packets with IPv4 explicit NULL tag
0 Packets with IPv4 explicit NULL cksum errors
0 Packets with router alert tag
0 LSP ping packets (ttl-expired/router alert)
0 Packets with ttl expired
0 Packets with tag encoding error
0 Packets discarded due to no route
0 Packets used first nexthop in ecmp unilist
vpls:
```

```

0 Total packets received
0 Packets with size smaller than minimum
0 Packets with incorrect version number
0 Packets for this host
0 Packets with no logical interface
0 Packets with no family
0 Packets with no route table
582 Copyright © 2010, Juniper Networks, Inc.
0 Packets with no auxiliary table
0 Packets with no corefacing entry
0 packets with no CE-facing entry
0 MAC route learning requests
0 MAC routes learnt
0 Requests to learn an existing route
0 Learning requests while learning disabled on interface
0 Learning requests over capacity
0 MAC routes moved
0 Requests to move static route
0 MAC route aging requests
0 MAC routes aged
0 Bogus address in aging requests
0 Requests to age static route
0 Requests to re-ageout aged route
0 Requests involving multiple peer FEs
0 Aging acks from PFE
0 Aging non-acks from PFE
0 Aging requests timed out waiting on FEs
0 Aging requests over max-rate
0 Errors finding peer FEs
0 Unsupported platform
0 Packets dropped due to no l3 route table
0 Packets dropped due to no local ifl
0 Packets punted
0 Packets dropped due to no socket
bridge:
Input:
0 packets received
0 packets forwarded
0 packets failed to forward
0 packets dropped
0 packets with vmember lookup failures
0 packets with vlan lookup failures
0 packets with stp state lookup failures
0 packets dropped due to stp blocked/listening
0 packets dropped due to stp learning
0 packets with src MAC learning failures
0 packets with input control processing failures
Forward:
0 packets sent successfully
0 packets with send failures
0 packets forwarded to l3 interface
0 packets with l3 send failures
0 packets discarded
0 packets with l2ifl store failures
0 packets with ifl mismatch failures
0 packets with packet duplication failures
0 packets with tag lookup failures
0 packets with no route for DMAC
0 packets with no route table
0 packets with no nexthop
0 packets with dead nexthop

```

```
0 packets with eof reached error
Learning:
0 MACs learned
0 packets sent to l3 interface
0 packets with l3 send failures
0 packets hit holdq while learning
0 MAC moves
0 packets discarded
0 packets with no route for SMAC
0 packets with no nexthop
0 packets with dead nexthop
0 packets dropped due to no resolve route
0 packets with l3 ifd lookup failures
0 packets with l3 ifl lookup failures
0 packets with l3 invalid rnh
0 packets with no route for SMAC in clone learning
0 packets with no nexthop in clone learning
0 packets with dead nexthop in clone learning
0 packets dropped due to no resolve nh in clone learning
Output:
0 packets forwarded
0 packets failed to forward
0 packets with vmember lookup failures
0 packets with vlan lookup failures
0 packets with input control processing failures
Send:
0 packets sent successfully
0 packets with send failures
0 packets dropped due to interface down
0 packets with dev output failures
0 blocked ifl discards
0 packets with tag lookup failures
0 packets with stp state lookup failures
0 packets with tag insertion failures
0 packets with tag removal failures
Flood:
0 packets flooded
0 flood failures
IGMP:
0 packets sent successfully
0 packets with send failures
0 packets forwarded
0 packets failed to forward
0 packets with mpull failures
0 packets with vmember lookup failures
0 packets with vlan lookup failures
0 packets with ifl lookup failures
0 packets with tag lookup failures
Misc:
0 packets with size smaller than minimum
0 packets with double tags
0 packets with no ifl
0 packets with no family
0 packets with no route table
```

show system uptime

List of Syntax	Syntax on page 695 Syntax (EX Series Switches) on page 695 Syntax (QFX Series) on page 695 Syntax (TX Matrix Router) on page 695 Syntax (TX Matrix Plus Router) on page 695 Syntax (MX Series Router) on page 695
Syntax	show system uptime
Syntax (EX Series Switches)	show system uptime <all-members> <local> <member <i>member-id</i> >
Syntax (QFX Series)	show system uptime <director-group <i>name</i> > <infrastructure <i>name</i> > <interconnect-device <i>name</i> > <node-group <i>name</i> >
Syntax (TX Matrix Router)	show system uptime <all-chassis all-lcc lcc <i>number</i> scc>
Syntax (TX Matrix Plus Router)	show system uptime <detail> <all-chassis all-lcc lcc <i>number</i> sfc <i>number</i> >
Syntax (MX Series Router)	show system uptime <all-members> <invoke-on> <local> <member <i>member-id</i> >
Release Information	Command introduced before Junos OS Release 7.4. Command introduced in Junos OS Release 9.0 for EX Series switches. sfc option introduced for the TX Matrix Plus router in JUNOS Release 9.6. Command introduced in Junos OS Release 11.1 for the QFX Series. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display the current time and information about how long the router or switch, router or switch software, and routing protocols have been running.
Options	none —Show time since the system rebooted and processes started. all-chassis —(TX Matrix routers and TX Matrix Plus routers only) (Optional) Show time since the system rebooted and processes started on all the routers in the chassis. all-lcc —(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router, show time since the system rebooted and processes started for all T640 routers (or line-card chassis) connected to the TX Matrix router. On a TX Matrix Plus

router, show time since the system rebooted and processes started for all connected T1600 or T4000 LCCs.

all-members—(EX4200 switches and MX Series routers only) (Optional) Show time since the system rebooted and processes started on all members of the Virtual Chassis configuration.

director-group *name*—(QFabric systems only) (Optional) Show time since the system rebooted and processes started on the Director group.

infrastructure *name*—(QFabric systems only) (Optional) Show time since the system rebooted and processes started on the fabric control Routing Engine and fabric manager Routing Engine.

interconnect-device *name*—(QFabric systems only) (Optional) Show time since the system rebooted and processes started on the Interconnect device.

invoke-on—(MX Series routers only) (Optional) Display the time since the system rebooted and processes started on the master Routing Engine, backup Routing Engine, or both, on a router with two Routing Engines.

lcc *number*—(TX Matrix routers and TX Matrix Plus routers only) (Optional) On a TX Matrix router, show time since the system rebooted and processes started for a specific T640 router that is connected to the TX Matrix router. On a TX Matrix Plus router, show time since the system rebooted and processes started for a specific router that is connected to the TX Matrix Plus router.

Replace *number* with the following values depending on the LCC configuration:

- 0 through 3, when T640 routers are connected to a TX Matrix router in a routing matrix.
- 0 through 3, when T1600 routers are connected to a TX Matrix Plus router in a routing matrix.
- 0 through 7, when T1600 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.
- 0, 2, 4, or 6, when T4000 routers are connected to a TX Matrix Plus router with 3D SIBs in a routing matrix.

local—(EX4200 switches and MX Series routers only) (Optional) Show time since the system rebooted and processes started on the local Virtual Chassis member.

member *member-id*—(EX4200 switches and MX Series routers only) (Optional) Show time since the system rebooted and processes started on the specified member of the Virtual Chassis configuration. For EX4200 switches, replace *member-id* with a value from 0 through 9. For an MX Series Virtual Chassis, replace *member-id* with a value of 0 or 1.

node-group *name*—(QFabric systems only) (Optional) Show time since the system rebooted and processes started on the Node group.

scc—(TX Matrix routers only) (Optional) Show time since the system rebooted and processes started for the TX Matrix router (or switch-card chassis).

sfc number—(TX Matrix Plus routers only) (Optional) Show time since the system rebooted and processes started for the TX Matrix Plus router. Replace *number* with 0.

Additional Information By default, when you issue the **show system uptime** command on the master Routing Engine of a TX Matrix router or a TX Matrix Plus router, the command is broadcast to all the master Routing Engines of the LCCs connected to it in the routing matrix. Likewise, if you issue the same command on the backup Routing Engine of a TX Matrix or a TX Matrix Plus router, the command is broadcast to all backup Routing Engines of the LCCs that are connected to it in the routing matrix.

Required Privilege Level view

Related Documentation

- [10-Gigabit Ethernet LAN/WAN PIC with XFP \(T640 Router\)](#)
- [Routing Matrix with a TX Matrix Plus Router Solutions Page](#)

List of Sample Output

[show system uptime on page 698](#)
[show system uptime all-lcc \(TX Matrix Router\) on page 698](#)
[show system uptime all-lcc \(TX Matrix Plus Router\) on page 698](#)
[show system uptime \(EX Series\) on page 699](#)
[show system uptime \(QFX Series\) on page 699](#)

Output Fields [Table 31 on page 697](#) describes the output fields for the **show system uptime** command. Output fields are listed in the approximate order in which they appear.

Table 31: show system uptime Output Fields

Field Name	Field Description
Current time	Current system time in UTC.
Time Source	Reference time source that the system is locked to.
System booted	Date and time when the Routing Engine on the router or switch was last booted and how long it has been running.
Protocols started	Date and time when the routing protocols were last started and how long they have been running.
Last configured	Date and time when a configuration was last committed. Also shows the name of the user who issued the last commit command.
time and up	Current time, in the local time zone, and how long the router or switch has been operational.
users	Number of users logged in to the router or switch.
load averages	Load averages for the last 1 minute, 5 minutes, and 15 minutes.

Sample Output

show system uptime

```
user@host> show system uptime
Current time:      1998-10-13 19:45:47 UTC
Time Source:      NTP CLOCK
System booted:    1998-10-12 20:51:41 UTC (22:54:06 ago)
Protocols started: 1998-10-13 19:33:45 UTC (00:12:02 ago)
Last configured:  1998-10-13 19:33:45 UTC (00:12:02 ago) by abc
12:45PM up 22:54, 2 users, load averages: 0.07, 0.02, 0.01
```

show system uptime all-lcc (TX Matrix Router)

```
user@host> show system uptime all-lcc
lcc0-re0:
-----
Current time: 2004-09-13 09:55:35 PDT
Time Source: LOCAL CLOCK
System booted: 2004-09-13 03:13:55 PDT (06:41:40 ago)
Last configured: 2004-09-13 03:17:48 PDT (06:37:47 ago) by root
9:55AM PDT up 6:42, 1 user, load averages: 0.02, 0.03, 0.00
lcc2-re0:
-----
Current time: 2004-09-13 09:55:35 PDT
Time Source: LOCAL CLOCK
System booted: 2004-09-12 03:23:43 PDT (1d 06:31 ago)
Last configured: 2004-09-13 03:05:36 PDT (06:49:59 ago) by root
9:55AM PDT up 1 day, 6:32, 1 user, load averages: 0.02, 0.01, 0.00
```

show system uptime all-lcc (TX Matrix Plus Router)

```
user@host> show system uptime all-lcc
sfc0-re0:
-----
Current time: 2009-05-25 00:24:30 PDT
Time Source: NTP CLOCK
System booted: 2009-05-24 06:39:33 PDT (17:44:57 ago)
Protocols started: 2009-05-24 06:40:30 PDT (17:44:00 ago)
Last configured: 2009-05-24 06:33:27 PDT (17:51:03 ago) by gregdo
12:24AM up 17:45, 2 users, load averages: 0.07, 0.05, 0.01

lcc0-re0:
-----
Current time: 2009-05-25 00:24:30 PDT
Time Source: NTP CLOCK
System booted: 2009-05-24 06:39:46 PDT (17:44:44 ago)
error: the routing subsystem is not running
Last configured: 2009-05-24 06:40:47 PDT (17:43:43 ago) by root
12:24AM up 17:45, 0 users, load averages: 0.00, 0.00, 0.00

lcc1-re0:
-----
Current time: 2009-05-25 00:24:30 PDT
Time Source: NTP CLOCK
System booted: 2009-05-24 06:39:38 PDT (17:44:52 ago)
error: the routing subsystem is not running
Last configured: 2009-05-24 06:40:18 PDT (17:44:12 ago) by root
12:24AM up 17:45, 0 users, load averages: 0.00, 0.00, 0.00

lcc2-re0:
```



```

-----
Current time: 2009-05-25 00:24:30 PDT
Time Source: NTP CLOCK
System booted: 2009-05-24 06:39:48 PDT (17:44:42 ago)
error: the routing subsystem is not running
Last configured: 2009-05-24 06:40:44 PDT (17:43:46 ago) by root
12:24AM up 17:45, 0 users, load averages: 0.00, 0.00, 0.00

```

```
lcc3-re0:
```

```

-----
Current time: 2009-05-25 00:24:30 PDT
Time Source: NTP CLOCK
System booted: 2009-05-24 06:39:44 PDT (17:44:46 ago)
error: the routing subsystem is not running
Last configured: 2009-05-24 06:40:08 PDT (17:44:22 ago) by root
12:24AM up 17:45, 0 users, load averages: 0.00, 0.00, 0.00

```

show system uptime (EX Series)

```

user@switch> show system uptime
Current time: 2014-03-12 16:39:56 UTC
Time Source: NTP CLOCK
System booted: 2014-03-12 14:58:05 UTC (01:41:51 ago)
Protocols started: 2014-03-12 14:59:48 UTC (01:40:08 ago)
Last configured: 2014-03-12 14:58:58 UTC (01:40:58 ago) by root
4:39PM up 1:42, 4 users, load averages: 0.02, 0.02, 0.00

```

show system uptime (QFX Series)

```

user@switch> show system uptime
Current time: 2010-08-27 03:12:30 PDT
Time Source: NTP CLOCK
System booted: 2010-08-13 17:11:54 PDT (1w6d 10:00 ago)
Protocols started: 2010-08-13 17:13:56 PDT (1w6d 09:58 ago)
Last configured: 2010-08-26 05:54:00 PDT (21:18:30 ago) by regress
3:12AM up 13 days, 10:01, 3 users, load averages: 0.00, 0.00, 0.00

```

