



Junos[®] OS

PTX3000 Integrated Photonic Line Card Feature Guide

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Junos[®] OS PTX3000 Integrated Photonic Line Card Feature Guide
15.1F6
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About the Documentation

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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.

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Supported Platforms

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

- PTX3000

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 [CLI Explorer](#).

Documentation Conventions

[Table 1 on page ix](#) 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 ix](#) 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.	user@host> show chassis alarms No alarms currently active
<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 <i>metric</i>>;
(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 (<i>string1</i> <i>string2</i> <i>string3</i>)
# (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 <i>address</i> ; 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 of the Juniper Networks TechLibrary 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 <http://www.juniper.net/techpubs/feedback/>.
- 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

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- 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

- Understanding the Integrated Photonic Line Card Architecture and Configuration on page 3

CHAPTER 1

Understanding the Integrated Photonic Line Card Architecture and Configuration

- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)
- [Understanding How to Configure the Integrated Photonic Line Card on page 8](#)

Integrated Photonic Line Card Base and Expansion Module Overview

The PTX3000 integrated photonic line system is a fully integrated photonic line system for converged core and metro core packet optical networks running point-to-point and ring topologies. The PTX3000 integrated photonic line system includes the following optional components:

- Integrated photonic line card (IPLC) base module
- Integrated photonic line card (IPLC) expansion module

The external optical inline amplifier (optical ILA) provides periodic amplification of the optical line signal to enable long distance transmission.

A comprehensive management strategy enables complete management through both the Junos OS CLI and optionally through the Connectivity Services Director (CSD) application running on the Junos Space Network Management Platform.

To complete the optical solution, Juniper's integrated 100G Coherent transponders can be leveraged, along with the IPLC, IPLC expansion module, optical ILA and CSD to provide an end-to-end fully managed packet optical solution.



NOTE: The integrated photonic line card (IPLC) base module and expansion module require Junos OS 15.1F6 software on the PTX3000.

This topic provides an overview of the integrated photonic line card (IPLC) base module and expansion module and includes the following sections:

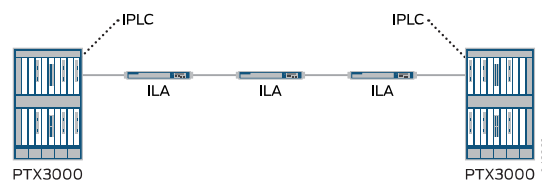
- [Overview on page 4](#)
- [Configuring, Managing, and Monitoring the IPLC on page 4](#)

- [High Availability, Resiliency, and Integrity on page 5](#)
- [Usability, Serviceability, Security and Troubleshooting on page 5](#)

Overview

The IPLC base module provides the combined functionality of a 32-port reconfigurable optical add/drop multiplexer (ROADM), optical amplifier, optical equalizer, and optical channel monitor on a single card. It enables ad-hoc allocation of network bandwidth for high-demand, real-time applications, and network services that are delivered over an optical fiber infrastructure. You can use the IPLC expansion module to increase the system capacity to 64 channels.

Figure 1: IPLC Point-to-Point Configuration



[Figure 1 on page 4](#) shows a typical IPLC point-to-point configuration. In this configuration, the **Line IN** and **Line OUT** ports on the front of the IPLC base modules are connected to Juniper Networks' optical inline amplifier (ILA) in the optical fiber network. Optical ILA nodes are typically placed into the network where the fiber length is greater than 80–100 km. For a complete description of the IPLC hardware and optical ILA, see the *PTX3000 Packet Transport Router Hardware Guide*.

For ring configurations and other configurations that require east-west communications, you can connect two IPLC base modules together to form a two-degree node that consists of two 32-port ROADMs, each with its own line termination. You can also express traffic east-west on a wavelength-by-wavelength basis. You configure all channel routing through software.

Configuring, Managing, and Monitoring the IPLC

You configure, manage, and monitor IPLC modules in a similar way to standard PTX3000 line cards—that is, by entering a minimum set of CLI commands and making the proper connections between the ports on the IPLC front panel and optical interfaces in the same chassis or different chassis.

Junos Space Connectivity Services Director

Optionally, you can use the GUI-based Junos Space Connectivity Services Director to configure, manage, and monitor the IPLC. For a complete description of the Junos Space Connectivity Services Director software, see [Junos Space Connectivity Services Director](#).

SNMP

You can also use SNMP to configure the IPLC performance monitor thresholds, and monitor and manage the IPLC modules and optical ILAs.

Optical Supervisory Channel

An integrated optical supervisory channel automates control of the optical layer by providing control and management of remote IPLC modules.

High Availability, Resiliency, and Integrity

Because the IPLC modules are not connected to the PTX3000 high-speed backplane, resets and upgrades to the system software do not affect traffic running on the IPLC modules. From an optical perspective, the IPLC modules tolerate both fast and slow changes in physical conditions. For example, if a large number of optical channels disappear due to a fiber cut, the IPLC has sophisticated control circuitry that prevents any errors on the remaining channels. Similarly, slow degradation of the fiber plant is also accommodated to ensure optimal performance across the lifespan of the system.

To ensure error-free transmission across both long fiber runs and large numbers of wavelengths on spans, the IPLC base module automatically controls the power of each channel.

Usability, Serviceability, Security and Troubleshooting

Traditionally, wavelength-division multiplexing (WDM) systems and subsystems have relied on a high degree of manual configuration and fine-tuning from expert users to enable signals to be transmitted error free across the inherently analog medium of optical fiber. The IPLC automates these activities to the point that adding a wavelength is as simple as configuring a port on the router. No optical expertise is required because the IPLC automates the introduction, removal, and balancing of optical channels and you simply need to enable the traffic-carrying port by setting some basic Junos CLI commands.

WDM networks typically contain many elements and identifying underlying failure points is often complex. With the IPLC, if at any point traffic is interrupted, the system raises a number of alarms to notify the management and control layers of the system and also to help quickly and easily identify the root cause of the failure.

Performance Monitors

Alarms and analog performance monitors are available to allow expert or non-expert users easily identify and localize faults. Performance monitors monitor analog data and alarms enabling you to quickly view the health of the IPLC. You can quickly and easily configure and enable alarm thresholds at the various monitoring points on the IPLC module.

Related Documentation

- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)
- [Understanding How to Configure the Integrated Photonic Line Card on page 8](#)

Understanding the Integrated Photonic Line Card Architecture

This topic provides an architectural and functional overview of the IPLC and includes the following sections:

- [Architecture Overview on page 6](#)
- [Functional Component Overview on page 6](#)

Architecture Overview

The **ADD** and **DROP** ports on the IPLC modules can connect to the integrated 100 Gbps coherent DWDM optics in the PTX3000 chassis, or to 100 Gbps and above coherent DWDM optics in a PTX5000 or MX Series chassis. All connections between the DWDM optics and the IPLC are made through the front panel. The IPLC base module accepts and then multiplexes 32 individual wavelengths (connected through the **ADD** and **DROP** ports on the front panel) into a single fiber pair. If you require more than 32 channels, you can connect the optional IPLC expansion module to the IPLC base module to increase the port capacity of the node to 64 ports.

The wavelengths from the **ADD** and **DROP** ports are then amplified, monitored, and controlled and then transmitted towards the optical network over the **Line OUT** port on front panel of the IPLC base module. In the reverse direction, the received signals from the optical network on the **Line IN** port are amplified to overcome for loss in the optical fiber and then demultiplexed into individual wavelengths and sent to the configured **ADD** and **DROP** ports on the front panel.

The 32 channels provided by the IPLC base module are known as the *odd* channels. The 32 channels provided by the optional IPLC expansion module are known as the *even* channels. This odd and even designation reflects the default wavelengths the channels support.

In the multiplexing-add path, the 32 even channels from the IPLC expansion module are interleaved with the 32 odd channels from the IPLC base module. In the demultiplexing-drop path, the 32 even channels are separated from the odd channels using a deinterleaver. All 64 channels go through the main common components used for amplification and equalization. All 32 channels on the IPLC base module are 100 GHz spaced, per the ITU-T Grid Specifications (G.694.1). The 32 channels on the IPLC expansion module are offset from the IPLC base module channels by 50 GHz.

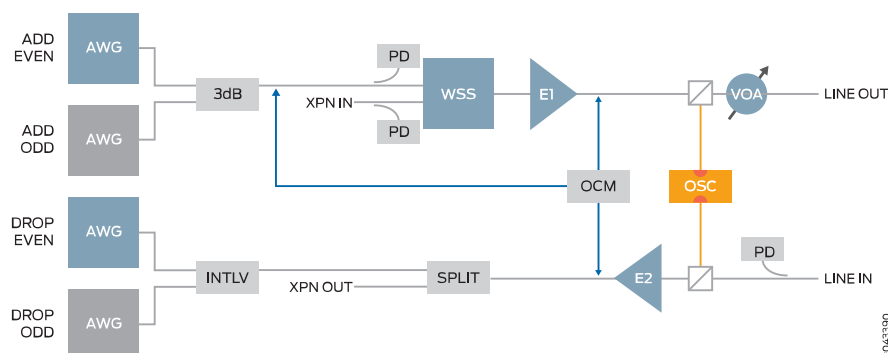
Two-Degree Node

For ring topologies and other network topologies that require a two-degree node for east-and west communications, you can connect two IPLC base modules together through the **PT IN-PT OUT** ports on the front panel and enter a few CLI commands to form a two-degree node. Two-degree nodes enable you to route wavelengths in both directions.

Functional Component Overview

The high-level optical functional block diagram of the combined functions of both the IPLC base module and the IPLC expansion module are shown in [Figure 2 on page 7](#).

Figure 2: Combined Functions of the IPLC Base and Expansion Modules



IPLC Base Module Functional Components

The main building blocks of the IPLC base module architecture are as follows:

- A 2x1 wavelength selective switch (WSS) on the add path selects wavelengths from among all channels presented from the 32 **Add** ports of the IPLC base module (shown in blue in Figure 2 on page 7) and from the 32 **Add** ports on the IPLC expansion module (shown in gray in Figure 2 on page 7).
- A booster erbium-doped fiber amplifier (EDFA) (E1) followed by a variable optical attenuator (VOA) compensate for the loss of the WSS, multiplexer, and 3 dB coupler.
- A variable gain preamplifier EDFA (E2) to compensate for the loss of the preceding fiber span.
- An optical channel monitor (OCM) with three points of observation including the following:
 - Booster EDFA (E1) output
 - Preamplifier EDFA (E2) output
 - The combined channels of the local add function at the input of the WSS, which indicates which channels (both odd and even channels) are being added locally
- An optical supervisory channel (OSC) communicates inband with the remote IPLC modules, as well as the optical ILA, and is used for the analysis of the fiber span characteristics, performance monitoring, and IPLC fault handling.
- An optical splitter is used to broadcast the received signal from the output of the preamplifier (E2) toward both **DROP** and **PT IN** and **PT OUT** ports
- Four power monitors:
 - **AWG Add**—Monitors the input of the WSS measuring the total input power of the combined channels of the local add function
 - **Express In**—Monitors the input of the WSS measuring the total input power at the input to the WSS coming from the **PT IN** and **PT OUT** express ports
 - **Line IN**—Monitors the input at the **Line IN** port, for detection of the incoming line signal optical power

- **Line OUT**—Monitors the output at the **Line OUT** port, for detection of the outgoing line signal optical power
- **OSC ADD**—Monitors OSC power at **Line OUT**
- **OSC DROP**—Monitors OSC power at **Line IN**

IPLC Expansion Module Functional Components

The IPLC expansion module is a passive multiplexer/demultiplexer that interfaces only with the IPLC base module. The IPLC expansion module receives its sole input from and delivers its sole output to the IPLC base module through the **XPN IN** and **XPN OUT** ports. As such, it does not interface directly with the network or the high-speed backplane of the PTX3000 router. [Figure 2 on page 7](#) shows the main building blocks for both the IPLC base module and expansion module.

The main building blocks of the IPLC expansion module architecture are as follows:

- Add filter capable of multiplexing 32 DWDM channels of certain wavelengths
- Drop filter capable of demultiplexing 32 DWDM channels having the same certain wavelengths
- Demultiplexing filter whose input (which is also the sole input to the expansion module) is monitored through a power detector. The power detector determines whether light is present. If light is present, the power detector determines whether the light has reached the expansion module through the patch cord between the IPLC base module and the IPLC expansion module.

Related Documentation

- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding How to Configure the Integrated Photonic Line Card on page 8](#)

Understanding How to Configure the Integrated Photonic Line Card

This topic describes the basic configuration process for the IPLC modules and includes the following sections: Integrated Photonic Line Card

- [Understanding the Front Panel Connections on page 8](#)
- [Recommended Slot Placement on page 9](#)
- [Understanding How to Configure Wavelengths on the IPLC Ports on page 9](#)
- [Understanding How to Configure the Wavelength Operational Mode on page 12](#)

Understanding the Front Panel Connections

The IPLC base module and expansion module are slide-in cards that each occupy a single slot within the PTX3000 chassis. Unlike line cards, the IPLC does not connect into the high-speed data backplane of the chassis, but rather provides the following optical functions that you connect through the front panel:

- **Line IN** and **Line OUT** ports—An input and an output port to connect to the optical line system, such as the optical ILA, or to another IPLC module.
- **PT IN** and **PT OUT** ports—An input and an output port to connect to another IPLC base module. You can use these ports to connect two IPLC base modules together to form a two-degree node.
- **XPN IN** and **XPN OUT** ports—An input and an output port to connect to an IPLC expansion module.
- **ADD** and **DROP** ports—A total of 32 pairs of ports (32 **ADD** ports and 32 **DROP** ports) for 32 DWDM channels on the IPLC base module. The optional expansion module doubles the number of **ADD** and **DROP** ports to 64 ports, labeled 32 through 63 on the front panel.

The IPLC modules are designed to connect the **ADD** and **DROP** ports on the front panel to compatible DWDM PICs in the same chassis, or to PICs or MICs in a remote chassis. *PTX Series IPLC Compatibility* a complete list of the PICs and MIC that are compatible with the IPLC ports.

Recommended Slot Placement

To minimize slot requirements and maximize shelf capacity, each IPLC module requires only a single FPC or PIC slot. These slot requirements are especially important if you are configuring a two-degree node or increasing the channel capacity to 64 channels.



BEST PRACTICE: We recommend that you place the IPLC modules into the same FPC/PIC slot pair on the PTX3000 chassis.

Understanding How to Configure Wavelengths on the IPLC Ports

All port wavelengths are controlled by the IPLC WSS and are configured on a wavelength-by-wavelength basis. The mapping for the IPLC ports and wavelengths is fixed. Each port accepts a single, preset wavelength depending on whether the port is located on the IPLC base module or expansion module. [Table 3 on page 9](#) lists the IPLC port number, wavelength, and frequency mapping for the IPLC base module and expansion module.

Table 3: IPLC Port Number, Wavelength, and Frequency Mapping

Frequency [THz]	Central Wavelength [nm]	Spacing	Present on IPLC Module	Label on IPLC Module	Present on IPLC Expansion Module	Label on IPLC Expansion Module
192.05	1561.01	50 GHz	Yes	0	No	No
192.1	1560.61	50/100 GHz	No	No	Yes	32
192.15	1560.2	50 GHz	Yes	1	No	No

Table 3: IPLC Port Number, Wavelength, and Frequency Mapping (*continued*)

Frequency [THz]	Central Wavelength [nm]	Spacing	Present on IPLC Module	Label on IPLC Module	Present on IPLC Expansion Module	Label on IPLC Expansion Module
192.2	1559.79	50/100 GHz	No	No	Yes	33
192.25	1559.39	50 GHz	Yes	2	No	No
192.3	1558.98	50/100 GHz	No	No	Yes	34
192.35	1558.58	50 GHz	Yes	3	No	No
192.4	1558.17	50/100 GHz	No	No	Yes	35
192.45	1557.77	50 GHz	Yes	4	No	No
192.5	1557.36	50/100 GHz	No	No	Yes	36
192.55	1556.96	50 GHz	Yes	5	No	No
192.6	1556.55	50/100 GHz	No	No	Yes	37
192.65	1556.15	50 GHz	Yes	6	No	No
192.7	1555.75	50/100 GHz	No	No	Yes	38
192.75	1555.34	50 GHz	Yes	7	No	No
192.8	1554.94	50/100 GHz	No	No	Yes	39
192.85	1554.54	50 GHz	Yes	8	No	No
192.9	1554.13	50/100 GHz	No	No	Yes	40
192.95	1553.73	50 GHz	Yes	9	No	No
193	1553.33	50/100 GHz	No	No	Yes	41
193.05	1552.93	50 GHz	Yes	10	No	No
193.1	1552.52	50/100 GHz	No	No	Yes	42
193.15	1552.12	50 GHz	Yes	11	No	No
193.2	1551.72	50/100 GHz	No	No	Yes	43
193.25	1551.32	50 GHz	Yes	12	No	No

Table 3: IPLC Port Number, Wavelength, and Frequency Mapping (*continued*)

Frequency [THz]	Central Wavelength [nm]	Spacing	Present on IPLC Module	Label on IPLC Module	Present on IPLC Expansion Module	Label on IPLC Expansion Module
193.3	1550.92	50/100 GHz	No	No	Yes	44
193.35	1550.52	50 GHz	Yes	13	No	No
193.4	1550.12	50/100 GHz	No	No	Yes	45
193.45	1549.72	50 GHz	Yes	14	No	No
193.5	1549.32	50/100 GHz	No	No	Yes	46
193.55	1548.91	50 GHz	Yes	15	No	No
193.6	1548.51	50/100 GHz	No	No	Yes	47
193.65	1548.11	50 GHz	Yes	16	No	No
193.7	1547.72	50/100 GHz	No	No	Yes	48
193.75	1547.32	50 GHz	Yes	17	No	No
193.8	1546.92	50/100 GHz	No	No	Yes	49
193.85	1546.52	50 GHz	Yes	18	No	No
193.9	1546.12	50/100 GHz	No	No	Yes	50
193.95	1545.72	50 GHz	Yes	19	No	No
194	1545.32	50/100 GHz	No	No	Yes	51
194.05	1544.92	50 GHz	Yes	20	No	No
194.1	1544.53	50/100 GHz	No	No	Yes	52
194.15	1544.13	50 GHz	Yes	21	No	No
194.2	1543.73	50/100 GHz	No	No	Yes	53
194.25	1543.33	50 GHz	Yes	22	No	No
194.3	1542.94	50/100 GHz	No	No	Yes	54
194.35	1542.54	50 GHz	Yes	23	No	No

Table 3: IPLC Port Number, Wavelength, and Frequency Mapping (*continued*)

Frequency [THz]	Central Wavelength [nm]	Spacing	Present on IPLC Module	Label on IPLC Module	Present on IPLC Expansion Module	Label on IPLC Expansion Module
194.4	1542.14	50/100 GHz	No	No	Yes	55
194.45	1541.75	50 GHz	Yes	24	No	No
194.5	1541.35	50/100 GHz	No	No	Yes	56
194.55	1540.95	50 GHz	Yes	25	No	No
194.6	1540.56	50/100 GHz	No	No	Yes	57
194.65	1540.16	50 GHz	Yes	26	No	No
194.7	1539.77	50/100 GHz	No	No	Yes	58
194.75	1539.37	50 GHz	Yes	27	No	No
194.8	1538.98	50/100 GHz	No	No	Yes	59
194.85	1538.58	50 GHz	Yes	28	No	No
194.9	1538.19	50/100 GHz	No	No	Yes	60
194.95	1537.79	50 GHz	Yes	29	No	No
195.00	1537.40	50/100 GHz	No	No	Yes	61
195.05	1537.00	50 GHz	Yes	30	No	No
195.10	1536.61	50/100 GHz	No	No	Yes	62
195.15	1536.22	50 GHz	Yes	31	No	No
195.20	1535.82	50/100 GHz	No	No	Yes	63

Understanding How to Configure the Wavelength Operational Mode

The IPLC supports three possible modes of operation for IPLC wavelengths on the add and drop ports as follows:

- **blocked**—(Default) If there is no explicit configuration for the IPLC wavelength, the wavelength is in blocked mode.
- **switch**—Switches the specified IPLC wavelength to an optical interface on the same or different chassis, including a remote chassis.

To switch a wavelength to an optical interface on the same chassis, enter the following in the CLI:

```
user@host# set chassis fpc fpc-slot optical-options wavelength nm switch
interface-name
```

To switch a wavelength to an optical interface on a remote chassis, enter the following in the CLI:

```
user@host# set chassis fpc fpc-slot optical-options wavelength nm switch remote
```

For complete details on switching a wavelength to an optical interface, see *Configuring the Integrated Photonic Line Card to Switch Wavelengths to Local or Remote Optical Interfaces*.

- **wss-express-in**—Bypass the specified wavelength.

For example, to bypass wavelength 1550.12 on the IPLC in slot 1:

```
user@host# set chassis fpc 1 optical-options wavelength 1550.12 wss-express-in
```



NOTE: Bypassing wavelengths is supported only on IPLC two-degree nodes running express traffic. For more information, see “[Configuring a Two-Degree Node for Express Traffic](#)” on page 19.

Related Documentation

- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)
- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)

PART 2

Configuration

- [Configuring Integrated Photonic Line Card Nodes on page 17](#)
- [Configuring and Managing Express Traffic on Two-Degree Nodes on page 23](#)
- [Switching Wavelengths to Optical Interfaces in a Local or Remote Chassis on page 25](#)
- [Configuring the Performance Monitors on page 29](#)

CHAPTER 2

Configuring Integrated Photonic Line Card Nodes

- [Increasing the Channel Capacity of the Node on page 17](#)
- [Configuring a Two-Degree Node for Express Traffic on page 19](#)
- [Configuring Wavelengths on the Integrated Photonic Line Card Add and Drop Ports on page 20](#)

Increasing the Channel Capacity of the Node

The IPLC base module can accept and multiplex (add) and demultiplex (drop) up to 32 individual wavelengths into a single fiber pair. If you require more than 32 channels, you can increase the IPLC node capacity to 64 channels by connecting the IPLC expansion module to the IPLC base module. This procedure describes how to connect these two modules and configure the IPLC node to support 64 channels.

Before you begin, you must physically connect the IPLC base module and expansion module together as follows:

- Install the IPLC base module and the IPLC expansion module into the PTX3000 chassis.



BEST PRACTICE: We recommend that you place the IPLC modules into the same FPC/PIC slot pair in the PTX3000 chassis.

- Connect the two IPLC modules together as follows:
 - Connect the **XPN IN** port of the IPLC base module to the **XPN OUT** of the IPLC expansion module.
 - Connect the **XPN OUT** port of the IPLC base module to the **XPN IN** of the IPLC expansion module.



BEST PRACTICE: Always refer to the PTX3000 Packet Transport Router Hardware Guide when connecting or disconnecting cables on the IPLC modules. See [PTX3000 Packet Transport Router Hardware Guide](#).

To upgrade an IPLC configuration to 64 channels, create a logical association between the IPLC base module and the IPLC expansion module:

1. From configuration mode, specify the slot location of the IPLC base module and access the IPLC configuration hierarchy.

```
[edit]
user@host# edit chassis fpc slot optical-options
```

For example, if the IPLC base module resides in slot 1:

```
[edit]
user@host# edit chassis fpc 1 optical-options
```

2. Specify the slot location of the IPLC expansion module resides.

```
[edit chassis edit chassis fpc 1 optical-options]
user@host# set expansion-card fpc fpc-slot
```

For example, if the IPLC expansion module resides in slot 2:

```
[edit chassis edit chassis fpc 1 optical-options]
user@host# set expansion-card fpc 2
```

3. Verify the logical connection between the IPLC base module and expansion module.

```
user@host> show chassis fpc 1

optical-options {
  expansion-card {
    fpc {
      2;
    }
  }
}
```

4. If the configuration is correct, save it.

```
[edit chassis]
user@host# commit
```

5. Configure the wavelengths on the IPLC ports, see either [“Switching a Wavelength to an Optical Interface on a Remote Chassis” on page 26](#), [“Switching a Wavelength to an Optical Interface in the Same Chassis” on page 25](#), or [“Bypassing a Wavelength” on page 23](#).

Related Documentation

- [Understanding How to Configure the Integrated Photonic Line Card on page 8](#)
- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)

Configuring a Two-Degree Node for Express Traffic

For metro linear and metro ring topologies that require a two-degree node, you can connect two IPLC base modules together to form a two-degree IPLC node. This enables you to run express traffic in two directions. This topic describes how to setup and configure an IPLC two-degree node.

Before you begin, complete the following hardware tasks:

- Install and connect the two IPLC base modules together through the **PT IN** and **PT OUT** ports. These two IPLC modules form the two-degree IPLC node.



BEST PRACTICE: We recommend that you place the IPLC modules into the same FPC/PIC slot pair on the PTX3000 chassis.

- Connect the **Line IN** and **Line OUT** ports on the two IPLC modules to the fiber span in each direction.



BEST PRACTICE: Anytime you need to disconnect or connect the fiber span from the **Line IN** and **Line OUT** ports on the IPLC module, we recommend you disable the optical supervisory channel and the erbium-doped fiber amplifiers on the IPLC.

Always refer to the PTX3000 Packet Transport Router Hardware Guide when connecting or disconnecting cables on the IPLC modules. See [PTX3000 Packet Transport Router Hardware Guide](#).

To configure a two-degree IPLC node:

1. On the first IPLC base module, specify that the traffic on the **PT IN** and **PT OUT** ports is express traffic.

[edit]

```
user@host# set chassis fpc slot optical-options express-in fpc slot
```

For example, if the first IPLC base module resides in slot 1 and the second IPLC base module resides in slot 2, enter the following:

[edit]

```
user@host# set chassis fpc 1 optical-options express-in fpc 2
```

2. On the second IPLC base module, specify that the traffic on the **PT IN** and **PT OUT** ports is express traffic.

[edit]

```
user@host# set chassis fpc slot optical-options express-in fpc slot
```

For example, if the second IPLC base module resides in slot 2 and the first IPLC base module resides in slot 1:

[edit]

```
user@host# set chassis fpc 2 optical-options express-in fpc 1
```



NOTE: You can have only one association between two IPLC base modules running in **express-in** mode.

3. Verify that the two IPLC base modules are now associated together. For example:

```
[edit chassis fpc 1]
user@host# show

optical-options {
  express-in {
    fpc {
      2;
    }
  }
}

[edit chassis fpc 2]
user@host# show

optical-options {
  express-in {
    fpc {
      1;
    }
  }
}
```

4. If the configuration is correct, save it.

```
[edit chassis]
user@host# commit
```

5. Configure the wavelengths on the IPLC ports, see [“Bypassing a Wavelength” on page 23](#).

Related Documentation

- [Understanding How to Configure the Integrated Photonic Line Card on page 8](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)
- [Example: Integrated Photonic Line Card in a Metro Linear Packet Optical Configuration on page 37](#)

Configuring Wavelengths on the Integrated Photonic Line Card Add and Drop Ports

To configure the IPLC to add or drop a specific wavelength:

1. Specify the slot location of the IPLC module and access the IPLC configuration hierarchy.

```
[edit]
user@host# edit chassis fpc slotoptical-options
```

For example, if the IPLC module resides in slot 1, enter the following:

```
[edit]
```

```
user@host# edit chassis fpc 1 optical-options
```

2. Specify the wavelength you want to support.

```
[edit chassis fpc 1 optical-options]
```

```
user@host# set wavelength nm
```

For example, to support wavelength 1550.12, enter:

```
[edit chassis fpc 1 optical-options]
```

```
user@host# set wavelength 1550.12
```



NOTE: You can only specify the wavelengths listed here [wavelength](#). If you enter an unsupported value you are prompted with an error message.

3. Verify that the configuration. For example:

```
[edit chassis fpc 1 optical-options]
```

```
user@host# show
```

```
wavelength 1550.12 {
}
```

4. If the configuration is correct, save it.

```
[edit chassis fpc 1 optical-options]
```

```
user@host# commit
```

5. Complete your configuration by configuring the port to switch the wavelengths to an optical interface on the local or remote chassis. See, *Configuring the Integrated Photonic Line Card to Switch Wavelengths to Local or Remote Optical Interfaces*.

Related Documentation

- [Configuring the Integrated Photonic Line Card to Switch Wavelengths to Local or Remote Optical Interfaces](#)
- [Bypassing a Wavelength on page 23](#)
- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)

CHAPTER 3

Configuring and Managing Express Traffic on Two-Degree Nodes

- [Bypassing a Wavelength on page 23](#)

Bypassing a Wavelength

To control and manage express traffic, the IPLC enables you to optically bypass a wavelength by entering a simple CLI command. When you bypass a wavelength, it is not terminated on the local IPLC port, it is passed on to the next downstream IPLC node. You can use this procedure to manage express traffic at intermediate, two-degree IPLC nodes. This topic describes how to bypass a wavelength on the IPLC module.



NOTE: Bypassing wavelengths is supported only on IPLC two-degree nodes running express traffic. For more information, see [“Configuring a Two-Degree Node for Express Traffic” on page 19](#).

Before you begin, configure the IPLC two-degree intermediate node for express traffic. See [“Configuring a Two-Degree Node for Express Traffic” on page 19](#).

To configure the IPLC to bypass a wavelength:

1. Access the IPLC configuration hierarchy and specify the wavelength you want to bypass.

For example, to bypass wavelength 1532.29 on the IPLC in slot 1:

```
[edit ]
user@host# set chassis fpc 1 optical-options wavelength 1532.29 wss-express-in
```

2. Verify that the configuration is correct. For example:

```
[edit chassis fpc 1 optical-options]
user@host# show

wavelength 1532.29 {
  wss-express-in;
}
```

3. If the configuration is correct, save it.

```
[edit chassis fpc 1 optical-options]
```

user@host# commit

**Related
Documentation**

- [Configuring Wavelengths on the Integrated Photonic Line Card Add and Drop Ports on page 20](#)
- [Configuring the Integrated Photonic Line Card to Switch Wavelengths to Local or Remote Optical Interfaces](#)
- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)

Switching Wavelengths to Optical Interfaces in a Local or Remote Chassis

- [Switching a Wavelength to an Optical Interface in the Same Chassis on page 25](#)
- [Switching a Wavelength to an Optical Interface on a Remote Chassis on page 26](#)

Switching a Wavelength to an Optical Interface in the Same Chassis

This topic describes how to configure the IPLC to switch the wavelengths on the **ADD** and **DROP** ports to compatible optical interfaces on the local chassis.



NOTE: For a list of compatible optical interfaces that are compatible with the IPLC ports, see *PTX Series IPLC Compatibility*.

Before you begin, complete the following tasks:

- Install the optical interface cards and configure the wavelength on the local optical interface so that it is compatible with the wavelength on the IPLC. See [Configuring the 10-Gigabit or 100-Gigabit Ethernet DWDM Interface Wavelength](#).
- Install the IPLC module and connect the **ADD** and **DROP** ports to the respective local optical interfaces.

To configure the IPLC to add or drop a wavelength to an optical interface on the local chassis:

1. Specify the slot of the local IPLC module and access the IPLC configuration hierarchy.

```
[edit]
user@host# edit chassis fpc slot optical-options
```

For example, if the IPLC base module resides in slot 1:

```
[edit]
user@host# edit chassis fpc 1 optical-options
```

2. Specify the wavelength number and the name of the physical optical interface to which you want to switch the wavelength.

```
[edit chassis fpc 1 optical-options]
user@host# set wavelength nm switch interface-name
```

For example, if you want to switch wavelength 1550.12 running on the local IPLC module in slot 1 to the optical interface in slot 3, PIC 0, port 0:

```
[edit chassis fpc 1 optical-options]
user@host# set wavelength 1550.12 switch et-3/0/0
```

This step creates the association between the wavelength on the IPLC and the local optical interface.

3. Verify that the configuration is correct. For example:

```
[edit chassis fpc 1 optical-options]
user@host# show

wavelength 1550.12 {
  switch {
    et-3/0/0;
  }
}
```

4. If the configuration is correct, save it.

```
[edit chassis fpc 1 optical-options]
user@host# commit
```

Related Documentation

- [Switching a Wavelength to an Optical Interface on a Remote Chassis on page 26](#)
- [Understanding How to Configure the Integrated Photonic Line Card on page 8](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)

Switching a Wavelength to an Optical Interface on a Remote Chassis

This topic describes how to configure the IPLC module to switch a wavelength on the **ADD** and **DROP** ports to a compatible optical interface on a remote chassis.



NOTE: For a list of compatible optical interfaces that are compatible with the IPLC ports, see *PTX Series IPLC Compatibility*.

Before you begin, complete the following tasks:

- Install the optical interfaces and configure the wavelength number on the interface so that it is compatible with the wavelength number on the IPLC. See [Configuring the 10-Gigabit or 100-Gigabit Ethernet DWDM Interface Wavelength](#).
- Install the IPLC module at the remote location and connect the **ADD** and **DROP** ports to the respective remote optical interfaces.

To configure the IPLC to switch a wavelength to an optical interface on a remote chassis:

1. Specify the slot of the local IPLC module and access the IPLC configuration hierarchy.

```
[edit]
user@host# edit chassis fpc slot optical-options
```

For example, if the IPLC module resides in slot 1:

```
[edit]
user@host# edit chassis fpc 1 optical-options
```

2. Specify the wavelength to switch to the remote optical interface.

```
[edit chassis fpc 1 optical-options]
user@host# set wavelength nm switch remote
```

For example, if you want to add or drop wavelength 1550.12 to a remote optical interface:

```
[edit chassis fpc 1 optical-options]
user@host# set wavelength 1550.12 switch remote
```

3. Verify that the configuration is correct. For example:

```
[edit chassis fpc 1 optical-options]
user@host# show

wavelength 1550.12 {
  switch {
    remote;
  }
}
```

4. If the configuration is correct, save it.

```
[edit chassis fpc 1 optical-options]
user@host# commit
```

**Related
Documentation**

- [Understanding How to Configure the Integrated Photonic Line Card on page 8](#)
- [Bypassing a Wavelength on page 23](#)
- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)

CHAPTER 5

Configuring the Performance Monitors

- [Enabling and Configuring Thresholds on the Integrated Photonic Line Card Performance Monitors on page 29](#)

Enabling and Configuring Thresholds on the Integrated Photonic Line Card Performance Monitors

Performance monitors monitor the health of the IPLC modules at various points on the IPLC hardware based on threshold crossing alerts (TCA)s. This topic describes how to enable and configure TCAs for the IPLC performance monitors.

The IPLC supports the performance monitors listed in [Table 4 on page 29](#).

Table 4: IPLC Optical Performance Monitors

Performance Monitor	15 Min Bin	24 Hr Bin	TCA High	TCA Low
OSC TX power	Yes	Yes	Yes	Yes
OSC RX power	Yes	Yes	Yes	Yes
OSC/FPGA estimated fiber loss	Yes	Yes	No	No
Line OUT VOA attenuation	Yes	Yes	Yes	Yes
EDFA Input power (for both EDFAs)	Yes	Yes	Yes	Yes
EDFA Output power (for both EDFAs)	Yes	Yes	Yes	Yes
EDFA Signal output power (for both EDFAs)	Yes	Yes	Yes	Yes
OCM power readings	Yes	Yes	Yes	Yes
Power monitor at ADD port	Yes	Yes	Yes	Yes
Power monitor at PT IN port	Yes	Yes	Yes	Yes

Each performance monitor supports:

- 15-minute and 24-hour binning
- Low and high threshold levels as described in [Table 5 on page 30](#).

Table 5: IPLC Threshold Crossing Alert Minimum and Maximum Values

TCA	Description	Granularity	Range Minimum/Maximum Default and Recommended Value
Erbium-Doped Fiber Amplifier (EDFA) Input Power (for Both EDFAs)			
edfa1-awg-high-tca	Ingress EDFA pump AWG high TCA	5s	390/440 mW 400 mW
edfa1-awg-low-tca	Ingress EDFA pump AWG low TCA		5/15 mW 5 mW
edfa1-express-high-tca	Ingress EDFA pump express high TCA		390/440 mW 400 mW
edfa1-express-low-tca	Ingress EDFA pump express low TCA		5/15 mW 5 mW
edfa1-in-power-high-tca	Ingress EDFA input power high TCA	0.5s	10/12 dBm 11 dBm
edfa1-in-power-low-tca	Ingress EDFA input power low TCA		–38/–34 dBm –35 dBm
edfa1-out-power-high-tca	Ingress EDFA output power high TCA		20/21 dBm 20.5 dBm
edfa1-out-power-low-tca	Ingress EDFA output power low TCA		–1/0.5 dBm
edfa1-pump-current-high-tca	Ingress EDFA pump current high TCA	1s	10/300 mA
edfa1-pump-current-low-tca	Ingress EDFA pump current low TCA		
edfa1-sig-power-high-tca	Ingress EDFA signal power high TCA	0.5s	10/12 dBm 11 dBm
edfa1-sig-power-low-tca	Ingress EDFA signal power low TCA >		–39/–35 dBm –36 dBm
Erbium-Doped Fiber Amplifier (EDFA) Output Power (for Both EDFAs)			

Table 5: IPLC Threshold Crossing Alert Minimum and Maximum Values (*continued*)

TCA	Description	Granularity	Range Minimum/Maximum Default and Recommended Value
Erbium-Doped Fiber Amplifier (EDFA) Input Power (for Both EDFAs)			
edfa2-awg-high-tca	Egress EDFA pump AWG high TCA	5s	390/440 mW 400 mW
edfa2-awg-low-tca	Egress EDFA pump AWG low TCA		5/15 mW 5 mW
edfa2-express-high-tca	Egress EDFA pump express high TCA		390/440 mW 400 mW
edfa2-express-low-tca	Egress EDFA pump express low TCA		5/15 mW 5 mW
edfa2-in-power-high-tca	Egress EDFA input power high TCA	0.5s	10/12 dBm 11 dBm
edfa2-in-power-low-tca	Egress EDFA input power low TCA		−38/−34 dBm −35 dBm
edfa2-out-power-high-tca	Egress EDFA output power high TCA		20/21 dBm 20.5 dBm
edfa2-out-power-low-tca	Egress EDFA output power low TCA		−1/0.5 dBm −0.5 dBm
edfa2-pump-current-high-tca	Egress EDFA pump current high TCA	1s	10/300 mA
edfa2-pump-current-low-tca	Egress EDFA pump current low TCA		
edfa2-sig-power-high-tca	Egress EDFA signal power high TCA	0.5s	10/12 dBm 11 dBm
edfa2-sig-power-low-tca	Egress EDFA signal power low TCA		−39/−35 dBm −36 dBm
Line OUT Variable Optical Attenuation (VOA)			

Table 5: IPLC Threshold Crossing Alert Minimum and Maximum Values (*continued*)

TCA	Description	Granularity	Range Minimum/Maximum Default and Recommended Value
Erbium-Doped Fiber Amplifier (EDFA) Input Power (for Both EDFAs)			
lout-voa-high-tca	LOUT VOA high TCA	0.5	16/25 dBm 17 dBm
lout-voa-low-tca	LOUT VOA low TCA	N/A	N/A
Optical Channel Monitor (OCM) Power Readings (64 channels x 1 Monitoring Points)			
ocm-power-high-line-out-tca	OCM Power Line Out high TCA	0.5 dBm	1/2 dBm per channel 1.5 dBm per channel <i>NOTE:</i> Assumes VOA setting = 0
ocm-power-low-line-out-tca	OCM Power Line Out low TCA		–2/–1 dBm per channel –1.5 dBm per channel <i>NOTE:</i> Assumes VOA setting = 0
Optical Supervisory Channel (OSC) Estimated Fiber Loss			
osc-fiber-loss-high-tca	OSC fiber loss high TCA	0.5 dB	36/39 dB 37 dB
osc-fiber-loss-low-tca	OSC fiber loss low TCA	N/A	N/A
Optical Supervisory Channel (OSC) RX Power			
osc-rx-power-high-tca	OSC RX power high TCA	0.5 dBm	5/7 dBm 6 dBm
osc-rx-power-low-tca	OSC RX power low TCA		–47/–46 dBm –46 dBm
Optical Supervisory Channel (OSC) TX Power			
osc-tx-power-high-tca	OSC TX power high TCA	0.5 dBm	5.5/7 dBm 6 dBm
osc-tx-power-low-tca	OSC TX power low TCA		–2/–0.5 dBm –1 dBm

To configure a TCA, specify the TCA low and high thresholds and then enable the TCA. This example enables the **osc-rx-power-high-tca** and **osc-rx-power-low-tca** TCA in the **OSC RX power** performance monitor.

To configure a TCA:

1. Navigate to the IPLC TCA configuration. For example:

```
[edit]
user@host# edit chassis fpc 2 optical-options tca
```

2. Configure the 15-minute, low threshold. For example:

```
[edit chassis fpc 2 optical-options tca]
user@host# set osc-rx-power-low-tca threshold -46 enable-tca
```

3. Configure the 15-minute, high threshold. For example:

```
[edit chassis fpc 2 optical-options tca]
user@host# set osc-rx-power-high-tca threshold 7 enable-tca
```

4. Configure the 24-hour, low threshold. For example:

```
[edit chassis fpc 2 optical-options tca]
user@host# set osc-rx-power-low-tca threshold-24hrs -46 enable-tca
```

5. Configure the 24-hour, high threshold. For example:

```
[edit chassis fpc 2 optical-options tca]
user@host# set osc-rx-power-high-tca threshold-24hrs 7 enable-tca
```

6. Verify the configuration.

```
[edit chassis fpc 2 optical-options tca]
user@host# show

osc-rx-power-high-tca {
    enable-tca;
    threshold 7;
    threshold-24hrs 7;
}
osc-rx-power-low-tca {
    enable-tca;
    threshold -46;
    threshold-24hrs -46;
}
```

7. Save your configuration.

```
[edit chassis fpc 2 optical-options tca]
user@host# commit
```

8. You can use the following commands to view information about performance monitors and TCA alarms:

- To view the status of the IPLC module, use the **show chassis fpc optical-properties status** command.
- To view the current alerts, use the **show chassis fpc optical-properties pm-current** command.

- To display alerts in 15-minute intervals, use the [show chassis fpc optical-properties pm-interval](#) command.
- To view the 24-hour alerts, use the [show chassis fpc optical-properties pm-currentday](#) command.
- To view the alerts from the previous day, use the [show chassis fpc optical-properties pm-previousday](#) command.

**Related
Documentation**

- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)

PART 3

Example Configurations

- [Configuring the Integrated Photonic Line Card in a Metro Linear Packet Optical Network on page 37](#)

CHAPTER 6

Configuring the Integrated Photonic Line Card in a Metro Linear Packet Optical Network

- [Example: Integrated Photonic Line Card in a Metro Linear Packet Optical Configuration on page 37](#)

Example: Integrated Photonic Line Card in a Metro Linear Packet Optical Configuration

This example shows how to configure Junos OS to support the integrated photonic line card (IPLC) base modules in a Metro linear packet optical configuration.

- [Requirements on page 37](#)
- [Overview on page 38](#)
- [Configuration on page 41](#)
- [Verification on page 47](#)

Requirements

This example uses the following hardware and software components:

- Four IPLC base modules
- Compatible 10-Gigabit or 100-Gigabit Ethernet OTN PICs. For a list of compatible optical interfaces that are compatible with the IPLC ports, see *PTX Series IPLC Compatibility*.
- Three PTX3000 Packet Transport Routers running Junos OS 15.1F6

For complete information on all PTX Series Packet Transport Routers hardware components, see [PTX Series Packet Transport Routers](#).

For complete information on all PTX Series Packet Transport Routers software features, see [Junos OS for PTX Series Packet Transport Routers, Release 15.1](#).

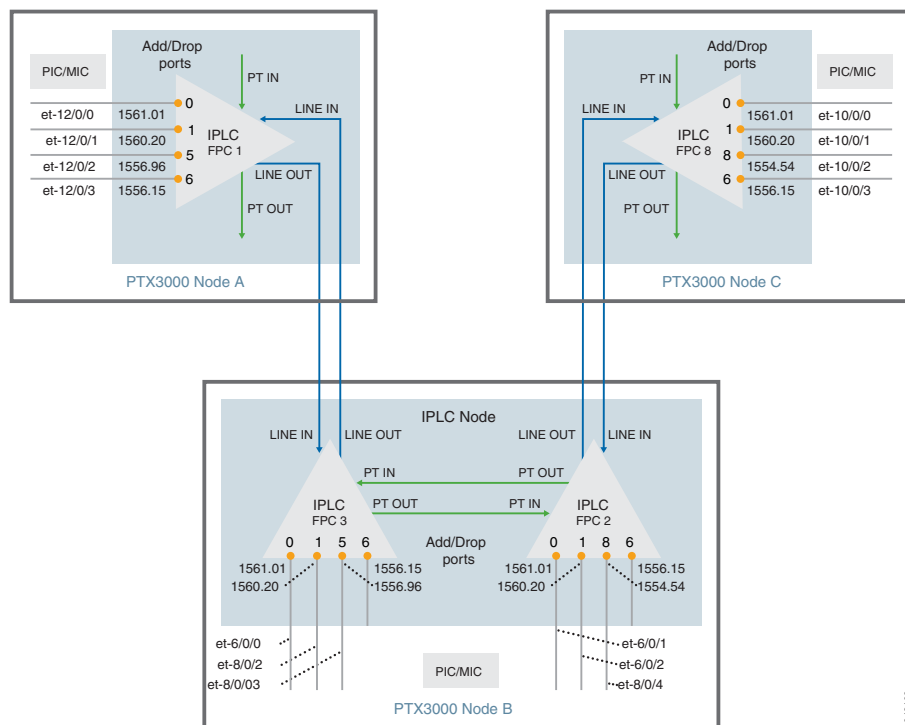
Overview

This examples describes how to configure Junos OS to support IPLC base modules in a metro linear packet optical deployment. The **Add** and **Drop** ports of the IPLC modules are physically connected to interfaces housed in the same PTX3000 chassis.

Topology

Figure 3 on page 38 shows the configuration of the IPLC modules and interfaces for this example.

Figure 3: IPLC in Metro Linear Packet Optical Deployment



This procedure describes how to configure Junos OS for the IPLC modules. This is not a complete configuration and does not include full instructions for configuring the router or the associated line cards. Before you start this procedure, complete the following hardware and software tasks on the PTX3000 router:

- Install the IPLC modules, associated line cards, and PICs into the PTX3000 chassis so that the hardware configuration matches what is shown in [Figure 3 on page 38](#). If you need to make changes to the positions of the cards in the chassis, adjust the FPC numbers referenced in [Figure 3 on page 38](#) and configure them accordingly.



BEST PRACTICE: We recommend that you place the two IPLC modules at Node B into the same FPC/PIC slot pair on the PTX3000 chassis. In this example the IPLCs at Node B are located in FPC slots 2 and 3.

- Configure the associated wavelengths on the interfaces of the PTX3000 by using the following procedure:

1. Specify the interface to configure.

```
[edit]
user@host# edit interfaces interface-name
```

For example:

```
[edit]
user@host# edit interfaces et-6/0/0]
```

2. Specify the wavelength value supported on the interface.

```
[edit interfaces et-6/0/0]
user@host# set wavelength
```



NOTE: Be sure to specify wavelength values on each interface as shown in [Figure 3 on page 38](#). If you must adjust the wavelength values, make sure that you enter a value supported on the IPLC. For information on the wavelengths supported by the IPLC, see “[Understanding the Integrated Photonic Line Card Architecture](#)” on page 6.

- Make all connections to and from the PICs in the PTX3000 chassis to the **Add** and **Drop** ports on front panel of each IPLC node as shown in [Figure 3 on page 38](#).
- Connect your fiber pairs to the **Line IN** and **Line OUT** ports on the front panel of each IPLC node as shown in [Figure 3 on page 38](#).

For simplicity, [Figure 3 on page 38](#) does not show the optical ILAs between the three IPLC nodes.

- On Node B, connect the two IPLC modules together using the **PT IN** and **PT OUT** ports on the front panel of the IPLC as shown in [Figure 3 on page 38](#).



BEST PRACTICE: Anytime you need to disconnect or connect the fiber span from the Line IN and Line OUT ports on the IPLC module, we recommend you disable the optical supervisory channel and the erbium-doped fiber amplifiers on the IPLC.

Always refer to the PTX3000 Packet Transport Router Hardware Guide when connecting or disconnecting cables on the IPLC modules. See [PTX3000 Packet Transport Router Hardware Guide](#).

This example results in the following configuration:

Table 6: Example Configuration Summary

Wavelength	Node A		Node B		Node C	
	Optical Interface Waveform is Switched to on PTX3000 Chassis	IPLC Slot: Port: Mode:	Optical Interface Waveform is Switched to on PTX3000 Chassis	IPLC Slot: Port: Mode:	Optical Interface Waveform is Switched to on PTX3000 Chassis	IPLC Slot: Port: Mode:
1554.54	—	—	et-8/0/4	Slot: 2 Port: 8 Mode: switch	et-10/0/2	Slot: 8 Port: 8 Mode: switch
1556.15	et-12/0/3	Slot: 1 Port: 6 Mode: switch	—	Slot: 2 Port: 6 Mode: wss-express-in(bypass) Slot: 3 Port: 6 Mode: wss-express-in(bypass)	et-10/0/3	Slot: 8 Port: 6 Mode: switch
1556.96	et-12/0/2	Slot: 1 Port: 5 Mode: switch	et-8/0/3	Slot: 3 Port: 5 Mode: switch	—	—

Table 6: Example Configuration Summary (*continued*)

Wavelength	Node A		Node B		Node C	
	Optical Interface Waveform is Switched to on PTX3000 Chassis	IPLC Slot: Port: Mode:	Optical Interface Waveform is Switched to on PTX3000 Chassis	IPLC Slot: Port: Mode:	Optical Interface Waveform is Switched to on PTX3000 Chassis	IPLC Slot: Port: Mode:
1560.20	et-12/0/1	Slot: 1	et-6/0/2	Slot: 2	et-10/0/1	Slot: 8
		Port: 1	et-8/0/2	Port: 1		Port: 1
		Mode: switch		Mode: switch		Mode: switch
				Slot: 3		
				Port: 1		
1561.01	et-12/0/0			Mode: switch	et-10/0/0	
		Slot: 1	et-6/0/1	Slot: 2		Slot: 8
		Port: 0	et-6/0/0	Port: 0		Port: 0
		Mode: switch		Mode: switch		Mode: switch
				Slot: 3		
				Port: 0		
				Mode: switch		

Configuration

The following example requires you to navigate various levels in the configuration hierarchy.

For information about navigating the CLI, see *Using the CLI Editor in Configuration Mode*.

Before you start this procedure, be sure to complete the tasks described in the “[Topology](#)” on [page 38](#) section of this example.

To configure the IPLC base modules in this example, perform these tasks:

- [Configuring the IPLC Base Module at Node A on page 42](#)
- [Configuring the Two IPLC Base Modules at Node B on page 43](#)
- [Configuring the IPLC Base Module at Node C on page 46](#)
- [Results on page ?](#)

CLI Quick Configuration

To quickly configure the IPLC modules in this example, copy the following commands into a text file, remove any line breaks, and then paste the commands into the CLI at the **[edit]** hierarchy level.

```
set chassis fpc 1 optical-options wavelength 1556.15 switch et-12/0/3
set chassis fpc 1 optical-options wavelength 1556.96 switch et-12/0/2
set chassis fpc 1 optical-options wavelength 1560.20 switch et-12/0/1
set chassis fpc 1 optical-options wavelength 1561.01 switch et-12/0/0
set chassis fpc 2 optical-options wavelength 1554.54 switch et-8/0/4
set chassis fpc 2 optical-options wavelength 1556.15 wss-express-in
set chassis fpc 2 optical-options wavelength 1560.20 switch et-6/0/2
set chassis fpc 2 optical-options wavelength 1561.01 switch et-6/0/1
set chassis fpc 2 optical-options express-in fpc 3
set chassis fpc 3 optical-options wavelength 1556.15 wss-express-in
set chassis fpc 3 optical-options wavelength 1556.96 switch et-8/0/3
set chassis fpc 3 optical-options wavelength 1560.20 switch et-8/0/2
set chassis fpc 3 optical-options wavelength 1561.01 switch et-6/0/0
set chassis fpc 3 optical-options express-in fpc 2
set chassis fpc 8 optical-options wavelength 1554.54 switch et-10/0/2
set chassis fpc 8 optical-options wavelength 1556.15 switch et-10/0/3
set chassis fpc 8 optical-options wavelength 1560.20 switch et-10/0/1
set chassis fpc 8 optical-options wavelength 1561.01 switch et-10/0/0
```

Configuring the IPLC Base Module at Node A

Step-by-Step Procedure

This procedure describes how to configure the IPLC base module in slot 1 of Node A in this example.

Before you start this procedure, be sure to complete the tasks described in the [“Topology” on page 38](#) section of this example.

To configure the IPLC base module in slot 1 of Node A:

1. Specify the slot location of the IPLC base module in Node A and access the IPLC configuration hierarchy.

[edit]
user@host# **edit chassis fpc 1 optical-options**
2. Configure wavelength 1561.01 on port 0 of the IPLC base module to be switched to optical interface et-12/0/0.

[edit chassis fpc 1 optical-options]
user@host# **set wavelength 1561.01 switch et-12/0/0**
3. Configure wavelength 1560.20 on port 1 of the IPLC base module to be switched to optical interface et-12/0/1.

[edit chassis fpc 1 optical-options]
user@host# **set wavelength 1560.20 switch et-12/0/1**
4. Configure wavelength 1556.96 on port 5 of the IPLC base module to be switched to optical interface et-12/0/2.

[edit chassis fpc 1 optical-options]
user@host# **set wavelength 1556.96 switch et-12/0/2**
5. Configure wavelength 1556.15 on port 6 of the IPLC base module to be switched to optical interface et-12/0/3.

[edit chassis fpc 1 optical-options]
user@host# **set wavelength 1556.15 switch et-12/0/3**

Results Confirm the configuration of the IPLC modules for Node A. If the command output does not display the intended configuration, repeat the instructions in this procedure to correct the configuration.

```
[edit chassis fpc 1 optical-options]
user@host# show

wavelength 1556.15 {
  switch {
    et-12/0/3;
  }
}
wavelength 1556.96 {
  switch {
    et-12/0/2;
  }
}
wavelength 1560.20 {
  switch {
    et-12/0/1;
  }
}
wavelength 1561.01 {
  switch {
    et-12/0/0;
  }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Configuring the Two IPLC Base Modules at Node B

Step-by-Step Procedure This procedure describes how to configure the IPLC base module in slot 2 of Node B in this example.

Before you start this procedure, be sure to complete the tasks described in the [“Topology” on page 38](#) section of this example.



BEST PRACTICE: We recommend that you place the two IPLC modules in the same FPC/PIC slot pair on the PTX3000 chassis.

To configure the IPLC base module in slot 2 of Node B:

1. Specify the slot location of the IPLC base module and access the IPLC configuration hierarchy.

```
[edit]
user@host# edit chassis fpc 2 optical-options
```

2. Create a logical connection between this IPLC base module and the IPLC base module in slot 3.

```
[edit chassis fpc 2 optical-options]
user@host# set express-in fpc 3
```

3. Configure wavelength 1561.01 on port 0 of the IPLC base module in slot 2 to be switched to local optical interface et-6/0/1.

```
[edit chassis fpc 2 optical-options]
user@host# set wavelength 1561.01 switch et-6/0/1
```

4. Configure wavelength 1560.20 on port 1 of the IPLC base module in slot 2 to be switched to local optical interface et-6/0/2.

```
[edit chassis fpc 2 optical-options]
user@host# set wavelength 1560.20 switch et-6/0/2
```

5. Configure wavelength 1554.54 on port 8 of the IPLC base module in slot 2 to be switched to local optical interface et-8/0/4.

```
[edit chassis fpc 2 optical-options]
user@host# set wavelength 1554.54 switch et-8/0/4
```

6. Configure wavelength 1556.15 on port 6 of the IPLC base module in slot 2 to be bypassed:

```
[edit chassis fpc 2 optical-options]
user@host# set wavelength 1556.15 wss-express-in
```

Step-by-Step Procedure

This procedure describes how to configure the IPLC base module in slot 3 of Node B in this example.

Before you start this procedure, be sure to complete the tasks described in the [“Topology” on page 38](#) section of this example.

To configure the IPLC base module in slot 3 of Node B:

1. Specify the slot location of the IPLC base module and access the IPLC configuration hierarchy.

```
[edit]
user@host# edit chassis fpc 3 optical-options
```

2. Create a logical connection between this IPLC base module and the IPLC base module in slot 2.

```
[edit chassis fpc 3 optical-options]
user@host# set express-in fpc 2
```

3. Configure wavelength 1561.01 on port 0 of the IPLC base module to be switched to optical interface et-6/0/0.

```
[edit chassis fpc 3 optical-options]
user@host# set wavelength 1561.01 switch et-6/0/0
```

4. Configure wavelength 1560.20 on port 1 of the IPLC base module to be switched to optical interface et-8/0/2.

```
[edit chassis fpc 3 optical-options]
user@host# set wavelength 1560.20 switch et-8/0/02
```

5. Configure wavelength 1556.96 on port 5 of the IPLC base module to be switched to optical interface et-8/0/3.

```
[edit chassis fpc 3 optical-options]
```

```
user@host# set wavelength 1556.96 switch et-8/0/3
```

6. Configure wavelength 1556.15 on port 6 of the IPLC base module in slot 3 to be bypassed:

```
[edit chassis fpc 3 optical-options]
user@host# set wavelength 1556.15 wss-express-in
```

Results Confirm the configuration of the IPLC module located in slot 2 of Node B. If the command output does not display the intended configuration, repeat the instructions in this procedure to correct the configuration.

```
[edit chassis fpc 2 optical-options]
user@host# show
```

```
wavelength 1554.54 {
  switch {
    et-8/0/4;
  }
}
wavelength 1556.15 {
  wss-express-in;
}
wavelength 1560.20 {
  switch {
    et-6/0/2;
  }
}
wavelength 1561.01 {
  switch {
    et-6/0/1;
  }
}
express-in {
  fpc {
    3;
  }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Confirm the configuration of the IPLC module located in slot 3 of Node B. If the command output does not display the intended configuration, repeat the instructions in this procedure to correct the configuration.

```
[edit chassis fpc 3 optical-options]
user@host# show
```

```
wavelength 1556.15 {
  wss-express-in;
}
wavelength 1556.96 {
  switch {
    et-8/0/3;
  }
}
wavelength 1560.20 {
  switch {
    et-8/0/2;
  }
}
```

```
}
wavelength 1561.01 {
    switch {
        et-6/0/0;
    }
}
express-in {
    fpc {
        2;
    }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Configuring the IPLC Base Module at Node C

Step-by-Step Procedure This procedure describes how to configure the IPLC base module in slot 8 of Node C in this example.

Before you start this procedure, be sure to complete the tasks described in the [“Topology” on page 38](#) section of this example.

Step-by-Step Procedure To configure the IPLC base module in slot 8 of Node C:

1. Specify the slot location of the IPLC base module in Node C and access the IPLC configuration hierarchy.

[edit]
user@host# **edit chassis fpc 8 optical-options**
2. Configure wavelength 1561.01 on port 0 of the IPLC base module to be switched to optical interface et-10/0/0.

[edit chassis fpc 8 optical-options]
user@host# **set wavelength 1561.01 switch et-10/0/0**
3. Configure wavelength 1560.20 on port 1 of the IPLC base module to be switched to optical interface et-10/0/1.

[edit chassis fpc 8 optical-options]
user@host# **set wavelength 1560.20 switch et-10/0/1**
4. Configure wavelength 1554.54 on port 8 of the IPLC base module to be switched to optical interface et-10/0/2.

[edit chassis fpc 8 optical-options]
user@host# **set wavelength 1554.54 switch et-10/0/2**
5. Configure wavelength 1556.15 on port 6 of the IPLC base module to be switched to optical interface et-10/0/3.

[edit chassis fpc 8 optical-options]
user@host# **set wavelength 1556.15 switch et-10/0/3**

Results Confirm the configuration of the IPLC module located in slot 8 of Node C. If the command output does not display the intended configuration, repeat the instructions in this procedure to correct the configuration.

```
[edit chassis fpc 8 optical-options]
user@host# show

wavelength 1554.54 {
    switch {
        et-10/0/2;
    }
}
wavelength 1556.15 {
    switch {
        et-10/0/3;
    }
}
wavelength 1560.20 {
    switch {
        et-10/0/1;
    }
}
wavelength 1561.01 {
    switch {
        et-10/0/0;
    }
}
```

If you are done configuring the device, enter **commit** from configuration mode.

Verification

Confirm that the configuration is working properly.

- [Verifying the Topology of Each IPLC Node on page 47](#)

Verifying the Topology of Each IPLC Node

Purpose Verify the topology of each IPLC node.

Action Run the `show chassis fpc optical-properties topology` command with the **detail** output level at each IPLC node and verify that the following fields match the values listed in [Table 6 on page 40](#).

- **Port/Wavelength**—Verify that this field lists the proper wavelength values and IPLC port numbers for each node in this example.
- **State**—Verify that the values for this field match what is listed in [Table 6 on page 40](#) for the mode value of each IPLC port for each node in this example.
- **Connected To**—If the wavelength is being switched, verify that this field lists the correct interface the wavelength is being switched to.

Verify the topology of each IPLC node.

1. For example, at IPLC Node A, enter the following.

```
user@host>show chassis fpc optical-properties topology detail fpc-slot 1

IPLC Topology Information
Wavelength(nm) / Port / Frequency(THz)          State          Connected
To
```

Express-in Port	Expansion Port		DOWN	NA
1561.01	0	192.05	Switched	et-12/0/0
1560.20	1	192.15	Switched	et-12/0/1
1559.39	2	192.25	Blocked	NA
1558.58	3	192.35	Blocked	NA
1557.77	4	192.45	Blocked	NA
1556.96	5	192.55	Switched	et-12/0/2
1556.15	6	192.65	Switched	et-12/0/3
1555.34	7	192.75	Blocked	NA
1554.54	8	192.85	Blocked	NA
1553.73	9	192.95	Blocked	NA
1552.93	10	193.05	Blocked	NA
1552.12	11	193.15	Blocked	NA
1551.32	12	193.25	Blocked	NA
1550.52	13	193.35	Blocked	NA
1549.72	14	193.45	Blocked	NA
1548.91	15	193.55	Blocked	NA
1548.11	16	193.65	Blocked	NA
1547.32	17	193.75	Blocked	NA
1546.52	18	193.85	Blocked	NA
1545.72	19	193.95	Blocked	NA
1544.92	20	194.05	Blocked	NA
1544.13	21	194.15	Blocked	NA
1543.33	22	194.25	Blocked	NA
1542.54	23	194.35	Blocked	NA
1541.75	24	194.45	Blocked	NA
1540.95	25	194.55	Blocked	NA
1540.16	26	194.65	Blocked	NA
1539.37	27	194.75	Blocked	NA
1538.58	28	194.85	Blocked	NA
1537.79	29	194.95	Blocked	NA
1537.00	30	195.05	Blocked	NA
1536.22	31	195.15	Blocked	NA

2. At Node B, enter the following:

```
user@host> show chassis fpc optical-properties topology detail fpc-slot 2
user@host> show chassis fpc optical-properties topology detail fpc-slot 3
```

3. At Node C:

```
user@host> show chassis fpc optical-properties topology detail fpc-slot 8
```

Meaning For example, in Step 1 for Node A, you can see that the IPLC module in slot 1 includes the following configuration:

- Wavelength 1561.01 is switched to optical interface et-12/0/0
- Wavelength 1560.20 is switched to optical interface et-12/0/1
- Wavelength 1556.96 is switched to optical interface et-12/0/2
- Wavelength 1556.16 is switched to optical interface et-12/0/3

This matches what is listed in [Table 6 on page 40](#) for Node A and confirms the configuration is operating correctly.

**Related
Documentation**

- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)
- [Configuring Wavelengths on the Integrated Photonic Line Card Add and Drop Ports on page 20](#)
- [Configuring a Two-Degree Node for Express Traffic on page 19](#)

CHAPTER 7

Troubleshooting and Maintenance

- [Enabling or Disabling Erbium-Doped Fiber Amplifiers on page 51](#)
- [Enabling or Disabling the Optical Supervisory Channel Laser on page 52](#)

Enabling or Disabling Erbium-Doped Fiber Amplifiers

When you need to perform maintenance or troubleshooting, you can disable the erbium-doped fiber amplifiers on the IPLC.



BEST PRACTICE: Anytime you need to disconnect or connect the fiber span from the Line IN and Line OUT ports on the IPLC module, we recommend you disable the optical supervisory channel and the erbium-doped fiber amplifiers on the IPLC.

Always refer to the PTX3000 Packet Transport Router Hardware Guide when connecting or disconnecting cables on the IPLC modules. See [PTX3000 Packet Transport Router Hardware Guide](#).

To enable or disable the erbium-doped fiber amplifiers on the IPLC:

1. Access the IPLC configuration hierarchy.

For example, if the IPLC resides in slot 2:

```
[edit]
user@host# edit chassis fpc 2 optical-options
```

2. (Optional), To enable the erbium-doped fiber amplifiers on the IPLC.

```
[edit edit chassis fpc 2 optical-options]
user@host# set no-disable-edfa
```

3. (Optional), To disable the erbium-doped fiber amplifiers on the IPLC.

```
[edit edit chassis fpc 2 optical-options]
user@host# set disable-edfa
```

4. Confirm the configuration.

```
[edit edit chassis fpc 2 optical-options]
user@host# show
```

```
no-disable-edfa;  
}
```

5. Save your configuration.

```
[edit edit chassis fpc 2 optical-options]  
user@host# commit
```

**Related
Documentation**

- [Enabling or Disabling the Optical Supervisory Channel Laser on page 52](#)
- [optical-options on page 64](#)

Enabling or Disabling the Optical Supervisory Channel Laser

When you need to perform maintenance or troubleshooting, you can disable the optical supervisory channel laser on the IPLC module.



BEST PRACTICE: Anytime you need to disconnect or connect the fiber span from the Line IN and Line OUT ports on the IPLC module, we recommend you disable the optical supervisory channel laser and the erbium-doped fiber amplifiers on the IPLC.

Always refer to the PTX3000 Packet Transport Router Hardware Guide when connecting or disconnecting cables on the IPLC modules. See [PTX3000 Packet Transport Router Hardware Guide](#).

To enable or disable the optical supervisory channel laser:

1. Access the IPLC configuration hierarchy.

```
[edit]  
user@host# edit chassis fpc 2 optical-options
```

2. (Optional), To enable the optical supervisory channel laser.

```
[edit edit chassis fpc 2 optical-options]  
user@host# set no-disable-osc
```

3. (Optional), To disable the optical supervisory channel laser.

```
[edit edit chassis fpc 2 optical-options]  
user@host# set disable-osc
```

4. Confirm the configuration.

```
[edit edit chassis fpc 2 optical-options]  
user@host# show
```

```
no-disable-osc;  
}
```

5. Save your configuration.

```
[edit edit chassis fpc 2 optical-options]  
user@host# commit
```

- Related Documentation**
- [Enabling or Disabling the Optical Supervisory Channel Laser on page 52](#)
 - [optical-options on page 64](#)

PART 4

Configuration Statements and Operational Commands


- [Configuration Statements on page 57](#)
- [Operational Commands on page 79](#)

CHAPTER 8

Configuration Statements

- [expansion-card \(IPLC\) on page 58](#)
- [express-in \(IPLC\) on page 60](#)
- [fpc \(M320, T320, T640 and PTX Series Routers\) on page 62](#)
- [optical-options \(IPLC\) on page 64](#)
- [switch \(IPLC\) on page 66](#)
- [tca \(IPLC\) on page 68](#)
- [wavelength \(IPLC\) on page 74](#)
- [wss-express-in \(IPLC\) on page 78](#)


expansion-card (IPLC)

Syntax	<pre>expansion-card { fpc fpc-slot; }</pre>
Hierarchy Level	[edit chassis fpc fpc-slot optical-options]
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	<p>Create a logical association between the specified IPLC base module and IPLC expansion module. The IPLC base module can accept and multiplex (add) and demultiplex (drop) up to 32 individual wavelengths into a single fiber pair. If you require the IPLC to support more than 32 channels, you can configure it to support an additional 32 channels by installing and connecting the IPLC expansion module to the IPLC base module, thus increasing the IPLC channel capacity to 64 channels.</p> <p>Use this statement in combination with attaching the IPLC base and expansion modules together through the front panel as follows:</p> <ul style="list-style-type: none"> Install the IPLC base module and IPLC expansion module in the chassis. <div style="border: 1px solid #ccc; padding: 10px; margin: 10px 0;"> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>BEST PRACTICE: We recommend that you place the IPLC modules in the same FPC/PIC slot pair in the chassis.</p> </div> </div> </div> <ul style="list-style-type: none"> Connect the two IPLC modules together as follows: <ul style="list-style-type: none"> Connect the XPN IN port of the IPLC base module to the XPN OUT of the IPLC expansion module. Connect the XPN OUT port of the IPLC base module to the XPN IN of the IPLC expansion module. <p>For complete details on making these connections on the PTX3000 Packet Transport Router, see the PTX3000 Hardware Guide.</p>
Options	<p>fpc-slot—Specify the slot in which the IPLC expansion module resides.</p> <p>Range: 0 through 15</p> <p>Default: None</p>
Example	<p>If the IPLC base module resides in slot 1 and the IPLC expansion module resides in slot 2:</p> <pre>[edit] user@host# set chassis fpc 1 optical-options expansion-card fpc 2</pre>
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

**Related
Documentation**

- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)
- [Increasing the Channel Capacity of the Node on page 17](#)
- [Configuring a Two-Degree Node for Express Traffic on page 19](#)

express-in (IPLC)

Syntax	<code>express-in { fpc <i>fpc-slot</i>; }</code>
Hierarchy Level	[edit chassis fpc <i>fpc-slot</i> optical-options]
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Create a logical connection for between two IPLC base modules to form a two-degree IPLC node. By using this statement, along with connecting two IPLC base modules together through the front panel, you create a two-degree IPLC node that can communicate either east-west or north-south. You can use this option for express traffic in IPLC ring and metro linear scenarios, as well as other network deployments that require a two-degree IPLC node.
	<div>  <p>NOTE: In conjunction with this statement, connect the two IPLC base modules together through the PT IN and PT OUT ports on the front panel; otherwise, an association between the two modules is not properly formed.</p> </div>
	<div>  <p>BEST PRACTICE: We recommend that you place the IPLC modules into the same FPC/PIC slot pair on the PTX3000 chassis.</p> </div>
	<div>  <p>NOTE: You can configure only one logical association between two IPLC base modules.</p> </div>
Options	<i>fpc-slot</i> —Specify the location of the IPLC base module. Default: None
Example	<p>To create a logical connection between the IPLC base modules in slots 1 and 2:</p> <pre>[edit] user@host# set chassis fpc 1 optical-options express-in fpc 2</pre>
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"> • Bypassing a Wavelength on page 23 • Integrated Photonic Line Card Base and Expansion Module Overview on page 3 • Understanding the Integrated Photonic Line Card Architecture on page 6

- *Configuring the Integrated Photonic Line Card to Switch Wavelengths to Local or Remote Optical Interfaces*

fpc (M320, T320, T640 and PTX Series Routers)

```
Syntax  fpc slot-number {
        error {
            [fatal | major | minor] {
                threshold threshold-value;
                action (alarm | disable-pfe | offline-pic | log | get-state | offline | reset);
            }
        }
        optical-options {
            expansion-card {
                fpc fpc-slot;
            }
            express-in {
                fpc fpc-slot;
            }
            tca tca-identifier (enable-tca | no-enable-tca) (threshold number | threshold-24hrs
                number) ;
            wavelength nm{
                switch interface-name{
                }
                wss-express-in fpc-slot;
            }
        }
    }
    pic pic-number {
        cel {
            el port-number {
                channel-group group-number timeslots slot-number;
            }
        }
        ct3 {
            port port-number {
                tl link-number {
                    channel-group group-number timeslots slot-number;
                }
            }
        }
        framing (sdh | sonet);
        idle-cell-format {
            itu-t;
            payload-pattern payload-pattern-byte;
        }
        max-queues-per-interface (8 | 4);
        no-concatenate;
        q-pic-large-buffer (large-scale | small-scale);
    }
}
```

Hierarchy Level [edit chassis]

Release Information Statement introduced before Junos OS Release 7.4.
Error statement introduced for PTX Series routers in Junos OS Release 13.3.

Description Configure properties for the PICs in individual Flexible PIC Concentrators (FPCs).

Options *slot-number*—Slot number in which the FPC is installed.

Range: M320, T640, T1600, T4000, and PTX5000 routers: 0 through 7

Range: PTX3000 routers: 0, 2, 4, 6, 8, 10, 12, 14



NOTE: On PTX1000 routers, the FPC number is always 0.

The remaining statements are explained separately.

Required Privilege interface—To view this statement in the configuration.

Level interface-control—To add this statement to the configuration.

- Related Documentation**
- *Configuring the Junos OS to Enable SONET/SDH Framing for SONET/SDH PICs*
 - *Configuring the Junos OS to Enable a SONET PIC to Operate in Channelized (Multiplexed) Mode*
 - *Configuring FPC Error Levels and Actions*

optical-options (IPLC)

```
Syntax  optical-options {
        disable-edfa;
        disable-osc;
        expansion-card {
            fpc fpc-slot;
        }
        express-in {
            fpc fpc-slot;
        }
        no-disable-edfa;
        no-disable-osc;
        switch interface-name{
        }
        tca tca-identifier (enable-tca | no-enable-tca) (threshold number | threshold-24hrs number)
        ;
        wavelength nm{
            wss-express-in fpc-slot;
        }
    }
```

Hierarchy Level [edit chassis chassis **fpc slot**]

Release Information Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.

Description Configure the settings for the integrated photonic line card (IPLC). The options under this statement enables you to increase the IPLC channel capacity to 64 channels, configure express in and out traffic from another IPLC base module, create a single two-degree IPLC node, switch express traffic to optical interfaces in the local or remote chassis, optically bypass channels, and fine-tune performance monitors.

Options **slot**—Specify the slot number the IPLC resides in.

Range: 0 through 15

disable-edfa—Disable both erbium-doped fiber amplifiers on the IPLC. Disabling the erbium-doped fiber amplifiers on the IPLC is required as a preliminary step whenever the you need to disconnect the fiber span from the **Line IN** and **Line OUT** ports for troubleshooting.

disable-osc—Disable the optical supervisory channel laser.

no-disable-edfa—Enable both erbium-doped fiber amplifiers on the IPLC. By default, both erbium-doped fiber amplifiers are enabled.

no-disable-osc—Enable the optical supervisory channel. By default, the optical supervisory channel is enabled.



BEST PRACTICE: Anytime you need to disconnect or connect the fiber span from the **Line IN** and **Line OUT** ports on the IPLC module, we recommend you

disable the optical supervisory channel and the erbium-doped fiber amplifiers on the IPLC.

Always refer to the PTX3000 Packet Transport Router Hardware Guide when connecting or disconnecting cables on the IPLC modules. See [PTX3000 Packet Transport Router Hardware Guide](#).

All other options 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">• Understanding How to Configure the Integrated Photonic Line Card on page 8• Configuring a Two-Degree Node for Express Traffic on page 19• Configuring Wavelengths on the Integrated Photonic Line Card Add and Drop Ports on page 20
------------------------------	--

switch (IPLC)

Syntax	<code>switch <i>interface-name</i> remote;</code>
Hierarchy Level	<code>[edit chassis fpc <i>fpc-slot</i> optical-options wavelength <i>nm</i>]</code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Switch the specified wavelength from the IPLC port to the specified local or remote optical interface.

The IPLC is designed to connect the **ADD** and **DROP** ports on the front panel to compatible optical PICs or MICs on the local or remote chassis. Wavelengths configured on the local IPLC **ADD** ports are multiplexed and sent over the **Line OUT** port of the IPLC base module. The remote IPLC base module receives the signal on the **Line IN** port and demultiplexes the wavelengths to the **DROP** ports on the front panel of the IPLC according to the configuration of the remote IPLC. After you have made the physical connections between the IPLC ports and the local and remote optical interfaces, you need to configure the IPLC to switch the wavelengths to the optical interfaces.

This statement requires you to make the following connections:

- Install the optical interfaces and configure the wavelength number on the interface so that it is compatible with the wavelength on the IPLC. See [Configuring the 10-Gigabit or 100-Gigabit Ethernet DWDM Interface Wavelength](#). For a list of compatible optical interfaces that are compatible with the IPLC ports, see *PTX Series IPLC Compatibility*.
- Install the IPLC module in the local or remote PTX Series chassis and connect the **ADD** and **DROP** ports to the respective optical interfaces.



NOTE: The specified slot must contain an IPLC base module or IPLC expansion module.

Options	<p>fpc-slot—Specify the IPLC slot number.</p> <p>interface-name—Specify the name of the optical interface to which you want to switch the specified wavelength. This field is free-form text.</p> <p>nm—Specify the wavelength number you want to switch.</p> <p>Remote—Specify that the wavelength is to be switched to an optical interface on a remote chassis.</p>
Example: Switching Wavelengths to an Optical Interface on the Local Chassis	<p>To switch wavelength 1550.12 on the local IPLC module in slot 2 to the local et-1/1/0 interface, enter the following:</p> <pre>[edit] user@host# set chassis fpc 2optical-options wavelength 1550.12 switch et-1/1/0</pre>

Example: Switching Wavelengths to an Optical Interface on the Remote Chassis To switch wavelength 1550.12 on the local IPLC module in slot 2 to an optical interface on a remote chassis, enter the following:

[edit]

```
user@host# set chassis fpc 2 optical-options wavelength 1550.12 switch remote
```

Required Privilege Level interface—To view this statement in the configuration.
interface-control—To add this statement to the configuration.

Related Documentation

- *Configuring the Integrated Photonic Line Card to Switch Wavelengths to Local or Remote Optical Interfaces*
- [Understanding How to Configure the Integrated Photonic Line Card on page 8](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)
- [Configuring a Two-Degree Node for Express Traffic on page 19](#)

tca (IPLC)

Syntax	<code>tca tca-identifier (enable-tca no-enable-tca) (threshold <i>number</i> threshold-24hrs <i>number</i>) ;</code>
Hierarchy Level	<code>[edit chassis fpc fpc-slot optical-options]</code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Configure the threshold crossing alerts (TCA)s for the integrated photonic line card (IPLC).

TCAs can give the management system an early indication as to the state of the associated entity when it crosses a certain threshold. The timely detection of TCAs is essential to proactively manage the IPLC modules. TCAs are not an indication of a fault, but rather an indication that the entity may be close to a fault. You can choose which TCAs you want monitored by enabling the TCA. You can either keep the default threshold settings or modify the settings.

You can enable TCAs on the IPLC for the performance monitors listed in [Table 7 on page 68](#).

Table 7: IPLC Optical Performance Monitors

Performance Monitor	15 Min Bin	24 Hr Bin	TCA High	TCA Low
OSC TX power	Yes	Yes	Yes	Yes
OSC RX power	Yes	Yes	Yes	Yes
OSC/FPGA estimated fiber loss	Yes	Yes	No	No
Line OUT VOA attenuation	Yes	Yes	Yes	Yes
EDFA Input power (for both EDFAs)	Yes	Yes	Yes	Yes
EDFA Output power (for both EDFAs)	Yes	Yes	Yes	Yes
EDFA Signal output power (for both EDFAs)	Yes	Yes	Yes	Yes
EDFA Pump current (for both EDFAs)	Yes	Yes	Yes	Yes
OCM power readings (64 channels x 1 monitoring points)	Yes	Yes	Yes	Yes
Power monitor at ADD port	Yes	Yes	Yes	Yes
Power monitor at EXPRESS IN port	Yes	Yes	Yes	Yes

Each performance monitor supports:

- 15-minute and 24-hour binning

- Low and high threshold levels

[Table 8 on page 70](#) describes each TCA as well as their default, minimum, maximum, and recommended values.

Table 8: IPLC Threshold Crossing Alert Minimum and Maximum Values

TCA Identifier	Description	Granularity	Range Minimum/Maximum Default and Recommended Value
Erbium-Doped Fiber Amplifier (EDFA) Input Power (for Both EDFAs)			
edfa1-awg-high-tca	Ingress EDFA pump AWG high TCA	5s	390/440 mW 400 mW
edfa1-awg-low-tca	Ingress EDFA pump AWG low TCA		5/15 mW 5 mW
edfa1-express-high-tca	Ingress EDFA pump express high TCA		390/440 mW 400 mW
edfa1-express-low-tca	Ingress EDFA pump express low TCA		5/15 mW 5 mW
edfa1-in-power-high-tca	Ingress EDFA input power high TCA	0.5s	10/12 dBm 11 dBm
edfa1-in-power-low-tca	Ingress EDFA input power low TCA		−38/−34 dBm −35 dBm
edfa1-out-power-high-tca	Ingress EDFA output power high TCA		20/21 dBm 20.5 dBm
edfa1-out-power-low-tca	Ingress EDFA output power low TCA		−1/0.5 dBm
edfa1-pump-current-high-tca	Ingress EDFA pump current high TCA	1s	10/300 mA
edfa1-pump-current-low-tca	Ingress EDFA pump current low TCA		
edfa1-sig-power-high-tca	Ingress EDFA signal power high TCA	0.5s	10/12 dBm 11 dBm
edfa1-sig-power-low-tca	Ingress EDFA signal power low TCA >		−39/−35 dBm −36 dBm
Erbium-Doped Fiber Amplifier (EDFA) Output Power (for Both EDFAs)			
edfa2-awg-high-tca	Egress EDFA pump AWG high TCA	5s	390/440 mW 400 mW

Table 8: IPLC Threshold Crossing Alert Minimum and Maximum Values (*continued*)

TCA Identifier	Description	Granularity	Range Minimum/Maximum Default and Recommended Value
Erbium-Doped Fiber Amplifier (EDFA) Input Power (for Both EDFAs)			
edfa2-awg-low-tca	Egress EDFA pump AWG low TCA		5/15 mW 5 mW
edfa2-express-high-tca	Egress EDFA pump express high TCA		390/440 mW 400 mW
edfa2-express-low-tca	Egress EDFA pump express low TCA		5/15 mW 5 mW
edfa2-in-power-high-tca	Egress EDFA input power high TCA	0.5s	10/12 dBm 11 dBm
edfa2-in-power-low-tca	Egress EDFA input power low TCA		−38/−34 dBm −35 dBm
edfa2-out-power-high-tca	Egress EDFA output power high TCA		20/21 dBm 20.5 dBm
edfa2-out-power-low-tca	Egress EDFA output power low TCA		−1/0.5 dBm −0.5 dBm
edfa2-pump-current-high-tca	Egress EDFA pump current high TCA	1s	10/300 mA
edfa2-pump-current-low-tca	Egress EDFA pump current low TCA		
edfa2-sig-power-high-tca	Egress EDFA signal power high TCA	0.5s	10/12 dBm 11 dBm
edfa2-sig-power-low-tca	Egress EDFA signal power low TCA		−39/−35 dBm −36 dBm
Line OUT Variable Optical Attenuation (VOA)			
lout-voa-high-tca	LOUT VOA high TCA	0.5	16/25 dBm 17 dBm
lout-voa-low-tca	LOUT VOA low TCA	N/A	N/A

Table 8: IPLC Threshold Crossing Alert Minimum and Maximum Values (*continued*)

TCA Identifier	Description	Granularity	Range Minimum/Maximum Default and Recommended Value
Erbium-Doped Fiber Amplifier (EDFA) Input Power (for Both EDFAs)			
Optical Channel Monitor (OCM) Power Readings (64 channels x 1 Monitoring Points)			
ocm-power-high-line-out-tca	OCM Power Line Out high TCA	0.5 dBm	1/2 dBm per channel 1.5 dBm per channel <i>NOTE:</i> Assumes VOA setting =0
ocm-power-low-line-out-tca	OCM Power Line Out low TCA		−2/−1 dBm per channel −1.5 dBm per channel <i>NOTE:</i> Assumes VOA setting =0
Optical Supervisory Channel (OSC) Estimated Fiber Loss			
osc-fiber-loss-high-tca	OSC fiber loss high TCA	0.5 dB	36/39 dB 37 dB
osc-fiber-loss-low-tca	OSC fiber loss low TCA	N/A	N/A
Optical Supervisory Channel (OSC) RX Power			
osc-rx-power-high-tca	OSC RX power high TCA	0.5 dBm	5/7 dBm 6 dBm
osc-rx-power-low-tca	OSC RX power low TCA		−47/−46 dBm −46 dBm
Optical Supervisory Channel (OSC) TX Power			
osc-tx-power-high-tca	OSC TX power high TCA	0.5 dBm	5.5/7 dBm 6 dBm
osc-tx-power-low-tca	OSC TX power low TCA		−2/−0.5 dBm −1 dBm

Default By default, TCAs are disabled.

Options *tca-identifier*—Specify the name of the TCA identifier.

enable-tca | *no-enable-tca*—Enable or disable the threshold crossing alert.

threshold number—Specify the 15-minute interval threshold.

threshold-24hrs number—Specify the 24-hour interval threshold.

See [Table 8 on page 70](#) for a description of all TCAs, as well as the default, minimum, maximum, and recommended threshold values.

Example To specify the 15-minute and 24-hour interval thresholds for the optical supervisory channel receive power, enter the following:

```
[edit]
user@host# set chassis fpc 2 optical-options tca osc-rx-power-low-tca threshold -46
enable-tca
user@host# set chassis fpc 2 optical-options tca osc-rx-power-high-tca threshold 5.5
enable-tca
```

Required Privilege interface—To view this statement in the configuration.
Level interface-control—To add this statement to the configuration.

Related Documentation

- [Enabling and Configuring Thresholds on the Integrated Photonic Line Card Performance Monitors on page 29](#)
- [show chassis fpc optical-properties alarms on page 81](#)
- [show chassis fpc optical-properties edfa on page 84](#)
- [show chassis fpc optical-properties status on page 102](#)
- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)

wavelength (IPLC)

Syntax `wavelength nm;`
 `wss-express-in fpc-slot;`
 `}`
 `switch interface-name;`
 `}`

Hierarchy Level [edit chassis fpc *fpc-slot* [optical-options](#)]

Release Information Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.

Description Specify the wavelength in nanometers (nm) that you want to configure on the IPLC port.

Options *nm*—Wavelength in nanometers. It can be one of the following listed for the central wavelength in [Table 9 on page 75](#):

Table 9: IPLC Port Number, Wavelength, and Frequency Mapping

Frequency [THz]	Central Wavelength [nm]	Spacing	Present on IPLC Module	Label on IPLC Module	Present on IPLC Expansion Module	Label on IPLC Expansion Module
192.05	1561.01	50 GHz	Yes	0	No	No
192.1	1560.61	50/100 GHz	No	No	Yes	32
192.15	1560.2	50 GHz	Yes	1	No	No
192.2	1559.79	50/100 GHz	No	No	Yes	33
192.25	1559.39	50 GHz	Yes	2	No	No
192.3	1558.98	50/100 GHz	No	No	Yes	34
192.35	1558.58	50 GHz	Yes	3	No	No
192.4	1558.17	50/100 GHz	No	No	Yes	35
192.45	1557.77	50 GHz	Yes	4	No	No
192.5	1557.36	50/100 GHz	No	No	Yes	36
192.55	1556.96	50 GHz	Yes	5	No	No
192.6	1556.55	50/100 GHz	No	No	Yes	37
192.65	1556.15	50 GHz	Yes	6	No	No
192.7	1555.75	50/100 GHz	No	No	Yes	38
192.75	1555.34	50 GHz	Yes	7	No	No
192.8	1554.94	50/100 GHz	No	No	Yes	39
192.85	1554.54	50 GHz	Yes	8	No	No
192.9	1554.13	50/100 GHz	No	No	Yes	40
192.95	1553.73	50 GHz	Yes	9	No	No
193	1553.33	50/100 GHz	No	No	Yes	41
193.05	1552.93	50 GHz	Yes	10	No	No
193.1	1552.52	50/100 GHz	No	No	Yes	42

Table 9: IPLC Port Number, Wavelength, and Frequency Mapping (*continued*)

Frequency [THz]	Central Wavelength [nm]	Spacing	Present on IPLC Module	Label on IPLC Module	Present on IPLC Expansion Module	Label on IPLC Expansion Module
193.15	1552.12	50 GHz	Yes	11	No	No
193.2	1551.72	50/100 GHz	No	No	Yes	43
193.25	1551.32	50 GHz	Yes	12	No	No
193.3	1550.92	50/100 GHz	No	No	Yes	44
193.35	1550.52	50 GHz	Yes	13	No	No
193.4	1550.12	50/100 GHz	No	No	Yes	45
193.45	1549.72	50 GHz	Yes	14	No	No
193.5	1549.32	50/100 GHz	No	No	Yes	46
193.55	1548.91	50 GHz	Yes	15	No	No
193.6	1548.51	50/100 GHz	No	No	Yes	47
193.65	1548.11	50 GHz	Yes	16	No	No
193.7	1547.72	50/100 GHz	No	No	Yes	48
193.75	1547.32	50 GHz	Yes	17	No	No
193.8	1546.92	50/100 GHz	No	No	Yes	49
193.85	1546.52	50 GHz	Yes	18	No	No
193.9	1546.12	50/100 GHz	No	No	Yes	50
193.95	1545.72	50 GHz	Yes	19	No	No
194	1545.32	50/100 GHz	No	No	Yes	51
194.05	1544.92	50 GHz	Yes	20	No	No
194.1	1544.53	50/100 GHz	No	No	Yes	52
194.15	1544.13	50 GHz	Yes	21	No	No
194.2	1543.73	50/100 GHz	No	No	Yes	53

Table 9: IPLC Port Number, Wavelength, and Frequency Mapping (*continued*)

Frequency [THz]	Central Wavelength [nm]	Spacing	Present on IPLC Module	Label on IPLC Module	Present on IPLC Expansion Module	Label on IPLC Expansion Module
194.25	1543.33	50 GHz	Yes	22	No	No
194.3	1542.94	50/100 GHz	No	No	Yes	54
194.35	1542.54	50 GHz	Yes	23	No	No
194.4	1542.14	50/100 GHz	No	No	Yes	55
194.45	1541.75	50 GHz	Yes	24	No	No
194.5	1541.35	50/100 GHz	No	No	Yes	56
194.55	1540.95	50 GHz	Yes	25	No	No
194.6	1540.56	50/100 GHz	No	No	Yes	57
194.65	1540.16	50 GHz	Yes	26	No	No
194.7	1539.77	50/100 GHz	No	No	Yes	58
194.75	1539.37	50 GHz	Yes	27	No	No
194.8	1538.98	50/100 GHz	No	No	Yes	59
194.85	1538.58	50 GHz	Yes	28	No	No
194.9	1538.19	50/100 GHz	No	No	Yes	60
194.95	1537.79	50 GHz	Yes	29	No	No
195.00	1537.40	50/100 GHz	No	No	Yes	61
195.05	1537.00	50 GHz	Yes	30	No	No
195.10	1536.61	50/100 GHz	No	No	Yes	62
195.15	1536.22	50 GHz	Yes	31	No	No
195.20	1535.82	50/100 GHz	No	No	Yes	63

Default: 1550.12–1550.12 nm, 50/100GHz spacing

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

- [switch \(IPLC\) on page 66](#)
- [wss-express-in \(IPLC\) on page 78](#)

wss-express-in (IPLC)

Syntax wss-express-in ;

Hierarchy Level [edit chassis fpc *fpc-slot* optical-options [wavelength nm](#)]

Release Information Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.

Description Bypass the specified wavelength on this IPLC module. When you bypass a wavelength, it does not terminate at the local node, it is passed on to the next IPLC node. Use this statement to control and manage express traffic at intermediate, two-degree IPLC nodes.



NOTE: Bypassing wavelengths is supported only on IPLC two-degree nodes running express traffic. For more information, see [“Configuring a Two-Degree Node for Express Traffic” on page 19](#).

Options wss-express-in—Bypass the specified wavelength.



NOTE: You can bypass only wavelengths that are expressed-in at intermediate, two-degree IPLC nodes.

Example Bypassing a wavelength is a two-step process:

1. Configure the two-degree IPLC node for express traffic. See [“Configuring a Two-Degree Node for Express Traffic” on page 19](#).
2. Bypass the wavelength.

For example, to bypass wavelength 1550.12 on the IPLC module in slot 2 of the two-degree IPLC node:

[edit]

```
user@host# set chassis fpc 2 optical-options wavelength 1550.12 wss-express-in
```

Required Privilege Level interface—To view this statement in the configuration.
interface-control—To add this statement to the configuration.

Related Documentation

- [express-in \(IPLC\) on page 60](#)
- [wavelength \(IPLC\) on page 74](#)
- [Bypassing a Wavelength on page 23](#)

CHAPTER 9

Operational Commands

- `clear chassis fpc optical-properties`
- `show chassis fpc optical-properties alarms`
- `show chassis fpc optical-properties edfa`
- `show chassis fpc optical-properties mfg-info`
- `show chassis fpc optical-properties ocm`
- `show chassis fpc optical-properties pm-current`
- `show chassis fpc optical-properties pm-currentday`
- `show chassis fpc optical-properties pm-interval`
- `show chassis fpc optical-properties pm-previousday`
- `show chassis fpc optical-properties status`
- `show chassis fpc optical-properties topology`
- `show chassis hardware`
- `show chassis environment fpc`
- `show chassis environment monitored`
- `request chassis fpc optical-module firmware-upgrade`

clear chassis fpc optical-properties

Syntax	clear chassis fpc optical-properties fpc-slot <i>fpc-slot</i> (pm-current pm-currentday all)
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Clear the performance monitoring data for the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<p><i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides</p> <p>pm-current—Information for the current 15-minute performance monitoring data</p> <p>pm-currentday—Information for the current 24-hour performance monitoring data</p> <p>all—All performance monitoring data (current, current day, previous day, and interval)</p>
Required Privilege Level	clear
Related Documentation	<ul style="list-style-type: none">• tca on page 68• show chassis fpc optical-properties pm-currentday on page 93• show chassis fpc optical-properties pm-current on page 90• show chassis fpc optical-properties pm-interval on page 96• show chassis fpc optical-properties pm-previousday on page 99
List of Sample Output	clear chassis fpc optical-properties all on page 80
Output Fields	When you enter this command, you are provided feedback on the status of your request.

Sample Output

clear chassis fpc optical-properties all

```
user@host> clear chassis fpc optical-properties fpc-slot 5 all
```

show chassis fpc optical-properties alarms

Syntax	<code>show chassis fpc optical-properties alarms fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display the alarms for the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot. Use this command to view the current alarms on the IPLC.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides.
Additional Information	The alarms provide information about system or component failures on the IPLC.



NOTE: The *fpc-slot* number in the alarms refers to the FPC or PIC in which the IPLC module resides.

Table 10: Alarm Descriptions

Alarm	Description
IPLC <i>fpc-slot</i> AWG Add LOS	The IPLC AWG Add port has detected loss of signal (LOS).
IPLC <i>fpc-slot</i> Express-In LOS	The IPLC Express-In (XPN-IN) port has detected LOS.
IPLC <i>fpc-slot</i> OSC Add LOS	The IPLC OSC Add port has detected LOS.
IPLC <i>fpc-slot</i> OSC Drop LOS	The IPLC OSC Drop port has detected LOS.
IPLC <i>fpc-slot</i> Line In LOS	The IPLC Line IN port has detected LOS.
IPLC <i>fpc-slot</i> Reflect Power Failure	The IPLC has detected back reflection power failure.
IPLC <i>fpc-slot</i> Out of Gain	The IPLC could not converge on the set gain. It is operating at a gain value exceeding the allowable deviation from the set gain.
IPLC <i>fpc-slot</i> Pump EOL	The IPLC pump has reached its end of life (i.e. Pump current has reached the maximum rated value).
IPLC <i>fpc-slot</i> Temperature Failure	The IPLC EDFA has detected temperature failure.
IPLC <i>fpc-slot</i> Output LOS	The IPLC EDFA Output port has detected LOS.
IPLC <i>fpc-slot</i> Input LOS	The IPLC EDFA Input port has detected LOS.
IPLC <i>fpc-slot</i> Output Power Failure	The IPLC Output port has detected power failure.

Table 10: Alarm Descriptions (*continued*)

Alarm	Description
IPLC <i>fpc-slot</i> WSS Temperature Failure	The IPLC WSS has detected temperature failure.
IPLC <i>fpc-slot</i> Inter Diag	The IPLC is in the diagnostics mode.
IPLC <i>fpc-slot</i> Firmware Inconsistent	The IPLC firmware is inconsistent with the software or hardware. NOTE: If you see this alarm, upgrade your firmware by using the request chassis fpc optical-module firmware-upgrade command.
IPLC <i>fpc-slot</i> OCM Module Failure	The IPLC OCM module has failed.
IPLC <i>fpc-slot</i> WSS Module Failure	The IPLC WSS module has failed.
IPLC <i>fpc-slot</i> EDFA2 Module Failure	The IPLC EDFA2 module has failed.
IPLC <i>fpc-slot</i> EDFA1 Module Failure	The IPLC EDFA1 module has failed.
IPLC <i>fpc-slot</i> SFP LOS	The IPLC SFP has detected LOS.
IPLC <i>fpc-slot</i> SFP LOF	The IPLC SFP has detected loss of frame (LOF).

Required Privilege Level view

Related Documentation

- [Integrated Photonic Line Card Base and Expansion Module Overview on page 3](#)
- [Understanding the Integrated Photonic Line Card Architecture on page 6](#)

List of Sample Output [show chassis fpc optical-properties alarms on page 82](#)

Output Fields [Table 11 on page 82](#) lists the output fields for the **show chassis fpc optical-properties alarms** command. Output fields are listed in the approximate order in which they appear.

Table 11: show chassis fpc optical-properties alarms Output Fields

Field Name	Field Description
Module	Component on which the alarm is triggered.
Active	FPC or PIC slot number where the active alarm is triggered.
Alarms	Alarm that is triggered.

Sample Output

show chassis fpc optical-properties alarms

```
user@host> show chassis fpc optical-properties alarms fpc-slot 14
```

Module Active Alarms

Main Board	IPLC 14 OSC Drop LOS
Main Board	IPLC 14 Line In LOS
Output EDFA	IPLC 14 Output LOS
Output EDFA	IPLC 14 Input LOS
Main Board	IPLC 14 Firmware Inconsistent
Main Board	IPLC 14 SFP LOS

show chassis fpc optical-properties edfa

Syntax	<code>show chassis fpc optical-properties edfa fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display the erbium-doped fiber amplifier (EDFA) properties for the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • Integrated Photonic Line Card Base and Expansion Module Overview on page 3 • Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties edfa on page 84
Output Fields	Table 12 on page 84 lists the output fields for the show chassis fpc optical-properties edfa command. Output fields are listed in the approximate order in which they appear.

Table 12: show chassis fpc optical-properties edfa Output Fields

Field Name	Field Description
EDFA Information	Detailed EDFA information such as gain setting, input loss of signal (LOS) upper threshold, output LOS upper threshold, and so on
INPUT EDFA	Values for the input EDFA received from the hardware. The input EDFA amplifies the received signal from the Line IN port before dropping the signal locally and sending a copy to the PT OUT port.
OUTPUT EDFA	Values for the output EDFA. The output EDFA amplifies the output of the wavelength-selective switching (WSS) before sending the amplified signal to Line OUT port.

Sample Output

show chassis fpc optical-properties edfa

```
user@host> show chassis fpc optical-properties edfa fpc-slot 5
```

EDFA Information	INPUT EDFA	OUTPUT EDFA
Gain Setting Saved (low/high 0.01 dB)	1089/1800	1900
Gain Tilt Setting (mBm)	0	0
Input LOS Upper Threshold (0.01 dBm)	-3300	-100
Input LOS Lower Threshold (0.01 dBm)	-3600	-2300
Output LOS Upper Threshold (0.01 dBm)	-100	-100
Output LOS Lower Threshold (0.01 dBm)	-400	-400
Gain Setting (low/high 0.01 dB)	1089/1800	1900
Output Enable	Yes	Yes
Auto LOS Enable	Yes	No

Mode	0	0
Plim Power	0	-6000

show chassis fpc optical-properties mfg-info

Syntax	<code>show chassis fpc optical-properties mfg-info fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display manufacturing details such as module type, software version, boot versions and so on, for the integrated photonic line card (IPLC) module and hardware components. This information is displayed for the main board (IPLC), erbium-doped fiber amplifier (EDFA), wavelength selective switch (WSS), and optical channel monitor (OCM) hardware components.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> Integrated Photonic Line Card Base and Expansion Module Overview on page 3 Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties mfg info on page 86
Output Fields	Table 13 on page 86 lists the output fields for the show chassis fpc optical-properties mfg info command. Output fields are listed in the approximate order in which they appear.

Table 13: show chassis fpc optical-properties mfg info Output Fields

Field Name	Field Description
MAIN BOARD	Display manufacturing details about the for the main board (IPLC)
EDFA	Display manufacturing details about the erbium-doped fiber amplifier (EDFA)
WSS	Display manufacturing details about the wavelength selective switch (WSS)
OCM	Display manufacturing details about the optical channel monitor (OCM)

Sample Output

show chassis fpc optical-properties mfg info

```

user@host> show chassis fpc optical-properties mfg-info fpc-slot 5
Manufacturing Information
      MAIN BOARD      EDFA      WSS
      OCM
Product Name      IPLC      EDFA      WSS
      OCM
Module Type      NULL      NULL      NULL
      NULL
Boot Version      -      1.01.0001      -
      1.01.0001

```

Software Version	SDK:9.91.0001;FDev:1.01.0002		
Firmware Version	1.03.0004	1.02.0002	
1.01.6103	1.02.0001		
FPGA Version	42	1.04.0001	-
	-		
CPLD Version	40	-	-
	-		
Hardware Version	2.01	2.01	3.00
	2.01		
PCB Revision	2.01	2.01	3.00
	2.01		
Part Number	RADMADM2D0JUP01	RADMADM2D0JUP01-2	
DWDM21WSS50PL01	OCMM0G2192JUP01		
Serial Number	3DI05490003	B5845436	b3675577
	B5690792		
Manufacturing Date	2015-12-03	2015-11-10	
2015-07-08	2015-09-30		
Calibration Date	2015-12-03	2015-11-10	
2015-08-08	2015-10-10		

show chassis fpc optical-properties ocm

Syntax	<code>show chassis fpc optical-properties ocm fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display the optical channel monitor (OCM) properties for the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> Integrated Photonic Line Card Base and Expansion Module Overview on page 3 Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties ocm on page 88
Output Fields	Table 14 on page 88 lists the output fields for the show chassis fpc optical-properties ocm command. Output fields are listed in the approximate order in which they appear.

Table 14: show chassis fpc optical-properties ocm Output Fields

Field Name	Field Description
Wavelength(nm) / Port / Frequency(THz)	Wavelength used, port number of the IPLC module or expansion module, and frequency of the wavelength. NOTE: When the expansion module is configured, this statement displays 64 channels.
Line Out (OCM2)(0.01 dBm)	Displays the power values of each channel at the LINE OUT (output port on the IPLC). This power information is measured in dBm units by the OCM.

Sample Output

show chassis fpc optical-properties ocm

```
user@host> show chassis fpc optical-properties ocm fpc-slot 5
```

```
OCM Power Information
Wavelength(nm) / Port / Frequency(THz)      Line Out(OCM2)(0.01 dBm)
1561.01          0      192.05                -6000
1560.20          1      192.15                -6000
1559.39          2      192.25                -6000
1558.58          3      192.35                -6000
1557.77          4      192.45                -6000
1556.96          5      192.55                -6000
1556.15          6      192.65                -6000
1555.34          7      192.75                -6000
1554.54          8      192.85                -6000
1553.73          9      192.95                -6000
```

1552.93	10	193.05	-6000
1552.12	11	193.15	-6000
1551.32	12	193.25	-6000
1550.52	13	193.35	-6000
1549.72	14	193.45	-6000
1548.91	15	193.55	-6
1548.11	16	193.65	-6000
1547.32	17	193.75	-6000
1546.52	18	193.85	-6000
1545.72	19	193.95	-6000
1544.92	20	194.05	-6000
1544.13	21	194.15	-6000
1543.33	22	194.25	-6000
1542.54	23	194.35	-6000
1541.75	24	194.45	-6000
1540.95	25	194.55	-6000
1540.16	26	194.65	-6000
1539.37	27	194.75	-6000
1538.58	28	194.85	-6000
1537.79	29	194.95	-6000
1537.00	30	195.05	-6000
1536.22	31	195.15	-6000

show chassis fpc optical-properties pm-current

Syntax	<code>show chassis fpc optical-properties pm-current fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display the current performance monitors for the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • Enabling and Configuring Thresholds on the Integrated Photonic Line Card Performance Monitors on page 29 • Integrated Photonic Line Card Base and Expansion Module Overview on page 3 • Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties pm-current on page 91
Output Fields	Table 15 on page 90 lists the output fields for the show chassis fpc optical-properties pm-current command. Output fields are listed in the approximate order in which they appear.

Table 15: show chassis fpc optical-properties pm-current Output Fields

Field Name	Field Description
PM	Performance monitor
CURRENT	Current (instantaneous) value of the performance monitor during the 15-minute interval.
MIN	Minimum value measured
MAX	Maximum value measured
AVG	Average value
THRESHOLD (MIN) (MAX)	Threshold value set for the minimum and maximum values
TCA-ENABLED (MIN) (MAX)	Threshold-crossing alert (TCA) set for the minimum and maximum values. Yes: TCA is enabled.
TCA-RAISED (MIN) (MAX)	TCA raised for the minimum and maximum values. Yes: TCA crosses the threshold.

Sample Output

show chassis fpc optical-properties pm-current

```
user@host> show chassis fpc optical-properties pm-current fpc-slot 5
```

```
Physical interface: 5, SNMP ifIndex 5
```

```
15:30-current
```

```
Suspect Flag:False
```

```
Reason:None
```

PM	Reason:None	CURRENT	MIN	MAX	AVG	THRESHOLD
TCA-ENABLED	TCA-RAISED					
(MAX)	(MIN)	(MAX)	(MIN)	(MAX)		(MIN)
OSC Tx Power(0.01 dBm)		174	174	176	175	0
0 No No	No No					
OSC Rx Power(0.01 dBm)		-932	-933	-930	-931	0
0 No No	No No					
OSC Fiber Loss(0.01 dB)		1832	1815	1836	1825	0
0 No No	No No					
Line OUT VOA(0.01 dB)		20	10	40	25	0
0 No No	No No					
Ingress EDFA						
Input Power(0.01 dBm)		-1428	-1430	-1425	-1427	0
0 No No	No No					
Output Power(0.01 dBm)		-308	-309	-305	-307	0
0 No No	No No					
Signal Power(0.01 dBm)		-340	-341	-336	-338	0
0 No No	No No					
Egress EDFA						
Input Power(0.01 dBm)		-1845	-1850	-1843	-1846	0
0 No No	No No					
Output Power(0.01 dBm)		104	101	106	103	0
0 No No	No No					
Signal Power(0.01 dBm)		54	49	56	52	0
0 No No	No No					
Power monitor						
AWG Add(0.01 dB)		-1158	-1166	-1152	-1159	0
0 No No	No No					
Express In(0.01 dB)		-6000	-6000	-6000	-6000	0
0 No No	No No					
OCM Power (LOUT)(0.01 dBm)						
1561.01		-6000	-6000	-6000	-6000	0
0 No No	No No					
1560.20		-6000	-6000	-6000	-6000	0
0 No No	No No					
1559.39		-6000	-6000	-6000	-6000	0
0 No No	No No					
1558.58		-6000	-6000	-6000	-6000	0
0 No No	No No					
1557.77		-6000	-6000	-6000	-6000	0
0 No No	No No					
1556.96		-6000	-6000	-6000	-6000	0
0 No No	No No					
1556.15		-6000	-6000	-6000	-6000	0
0 No No	No No					
1555.34		-6000	-6000	-6000	-6000	0
0 No No	No No					
1554.54		-6000	-6000	-6000	-6000	0
0 No No	No No					
1553.73		-6000	-6000	-6000	-6000	0
0 No No	No No					

	1552.93				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1552.12				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1551.32				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1550.52				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1549.72				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1548.91				5	-17	15	-1	0
0	No	No	No	No	No				
	1548.11				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1547.32				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1546.52				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1545.72				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1544.92				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1544.13				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1543.33				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1542.54				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1541.75				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1540.95				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1540.16				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1539.37				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1538.58				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1537.79				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1537.00				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				
	1536.22				-6000	-6000	-6000	-6000	0
0	No	No	No	No	No				

show chassis fpc optical-properties pm-currentday

Syntax	<code>show chassis fpc optical-properties pm-currentday fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Displays the performance monitors for the current day for the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • Enabling and Configuring Thresholds on the Integrated Photonic Line Card Performance Monitors on page 29 • Integrated Photonic Line Card Base and Expansion Module Overview on page 3 • Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties pm-currentday on page 94
Output Fields	Table 16 on page 93 lists the output fields for the show chassis fpc optical-properties currentday command. Output fields are listed in the approximate order in which they appear.

Table 16: show chassis fpc optical-properties pm-currentday Output Fields

Field Name	Field Description
PM	Performance monitor
MIN	Minimum value measured
MAX	Maximum value measured
AVG	Average value
THRESHOLD (MIN) (MAX)	Threshold value set for the minimum and maximum values.
TCA-ENABLED (MIN) (MAX)	Threshold-crossing alert (TCA) set for the minimum and maximum values. Yes: TCA is enabled.
TCA-RAISED (MIN) (MAX)	TCA raised for the minimum and maximum values. Yes: TCA crosses the threshold.

Sample Output

show chassis fpc optical-properties pm-currentday

```

user@host> show chassis fpc optical-properties pm-currentday fpc-slot 5
Physical interface: 5, SNMP ifIndex 5
Current Day:
Suspect Flag:True          Reason:Invalid Interval
PM                          MIN      MAX      AVG      THRESHOLD
TCA-ENABLED               TCA-RAISED
(MIN) (MAX)               (MIN) (MAX)
OSC Tx Power(0.01 dBm)    171      172      172      0      0
No No                    No No
OSC Rx Power(0.01 dBm)   -1166    -1149    -1156    0      0
No No                    No No
OSC Fiber Loss(0.01 dB)   0         0         0         0      0
No No                    No No
Line OUT VOA(0.01 dB)    10        30        20        0      0
No No                    No No
Ingress EDFA
Input Power(0.01 dBm)    -1724    -1522    -1661    0      0
No No                    No No
Output Power(0.01 dBm)   129       311      185      0      0
No No                    No No
Signal Power(0.01 dBm)   74        276      136      0      0
No No                    No No
Egress EDFA
Input Power(0.01 dBm)    -6000    -1564    -3783    0      0
No No                    No No
Output Power(0.01 dBm)   -3        363      178      0      0
No No                    No No
Signal Power(0.01 dBm)   -1034     335      -351     0      0
No No                    No No
Power monitor
AWG Add(0.01 dB)         -6000    -1146    -3577    0      0
No No                    No No
Express In(0.01 dB)       -6000    -6000    -6000    0      0
No No                    No No
OCM Power (LOUT)(0.01 dBm)
1561.01                  -6000    -6000    -6000    0      0
No No                    No No
1560.20                  -6000    -6000    -6000    0      0
No No                    No No
1559.39                  -6000    -6000    -6000    0      0
No No                    No No
1558.58                  -6000    -6000    -6000    0      0
No No                    No No
1557.77                  -6000    -6000    -6000    0      0
No No                    No No
1556.96                  -6000    -6000    -6000    0      0
No No                    No No
1556.15                  -6000    -6000    -6000    0      0
No No                    No No
1555.34                  -6000    -6000    -6000    0      0
No No                    No No
1554.54                  -6000    -6000    -6000    0      0
No No                    No No
1553.73                  -6000    -6000    -6000    0      0
No No                    No No
1552.93                  -6000    -6000    -6000    0      0

```

No	No	No	No	-6000	-6000	-6000	0	0
	1552.12							
No	No	No	No	-6000	-6000	-6000	0	0
	1551.32							
No	No	No	No	-6000	-6000	-6000	0	0
	1550.52							
No	No	No	No	-6000	-6000	-6000	0	0
	1549.72							
No	No	No	No	-6000	308	-2853	0	0
	1548.91							
No	No	No	No	-6000	-6000	-6000	0	0
	1548.11							
No	No	No	No	-6000	-6000	-6000	0	0
	1547.32							
No	No	No	No	-6000	-6000	-6000	0	0
	1546.52							
No	No	No	No	-6000	-6000	-6000	0	0
	1545.72							
No	No	No	No	-6000	-6000	-6000	0	0
	1544.92							
No	No	No	No	-6000	-6000	-6000	0	0
	1544.13							
No	No	No	No	-6000	-6000	-6000	0	0
	1543.33							
No	No	No	No	-6000	-6000	-6000	0	0
	1542.54							
No	No	No	No	-6000	-6000	-6000	0	0
	1541.75							
No	No	No	No	-6000	-6000	-6000	0	0
	1540.95							
No	No	No	No	-6000	-6000	-6000	0	0
	1540.16							
No	No	No	No	-6000	-6000	-6000	0	0
	1539.37							
No	No	No	No	-6000	-6000	-6000	0	0
	1538.58							
No	No	No	No	-6000	-6000	-6000	0	0
	1537.79							
No	No	No	No	-6000	-6000	-6000	0	0
	1537.00							
No	No	No	No	-6000	-6000	-6000	0	0
	1536.22							
No	No	No	No					

show chassis fpc optical-properties pm-interval

Syntax	<code>show chassis fpc optical-properties pm-interval fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display 15-minute intervals for the performance monitors for the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • Enabling and Configuring Thresholds on the Integrated Photonic Line Card Performance Monitors on page 29 • Integrated Photonic Line Card Base and Expansion Module Overview on page 3 • Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties pm-interval on page 97
Output Fields	Table 17 on page 96 lists the output fields for the show chassis fpc optical-properties pm-interval command. Output fields are listed in the approximate order in which they appear.

Table 17: show chassis fpc optical-properties pm-interval Output Fields

Field Name	Field Description
PM	Performance monitor
MIN	Minimum value measured
MAX	Maximum value measured
AVG	Average value
THRESHOLD (MIN) (MAX)	Threshold value set for the minimum and maximum values.
TCA-ENABLED (MIN) (MAX)	Threshold-crossing alert (TCA) set for the minimum and maximum values. Yes: TCA is enabled.
TCA-RAISED (MIN) (MAX)	TCA raised for the minimum and maximum values. Yes: TCA crosses the threshold.

Sample Output

show chassis fpc optical-properties pm-interval

```

user@host> show chassis fpc optical-properties pm-interval fpc-slot 5
Physical interface: 5, SNMP ifIndex 5
Interval#:1, 2016-04-24,15:30:00.00 - 2016-04-24,15:45:00.00
Suspect Flag:True Reason:Invalid Interval

```

PM		MIN	MAX	AVG	THRESHOLD	
TCA-ENABLED	TCA-RAISED				(MIN)	(MAX)
(MIN)	(MAX)	(MIN)	(MAX)			
OSC Tx Power(0.01 dBm)		172	172	172	0	0
No No	No No					
OSC Rx Power(0.01 dBm)		-1153	-1147	-1150	0	0
No No	No No					
OSC Fiber Loss(0.01 dB)		0	0	0	0	0
No No	No No					
Line OUT VOA(0.01 dB)		10	2480	1245	0	0
No No	No No					
Ingress EDFA						
Input Power(0.01 dBm)		-1702	-1696	-1699	0	0
No No	No No					
Output Power(0.01 dBm)		148	155	151	0	0
No No	No No					
Signal Power(0.01 dBm)		96	102	99	0	0
No No	No No					
Egress EDFA						
Input Power(0.01 dBm)		-1570	-1566	-1568	0	0
No No	No No					
Output Power(0.01 dBm)		357	361	359	0	0
No No	No No					
Signal Power(0.01 dBm)		328	333	330	0	0
No No	No No					
Power monitor						
AWG Add(0.01 dB)		-1162	-1150	-1156	0	0
No No	No No					
Express In(0.01 dB)		-6000	-6000	-6000	0	0
No No	No No					
OCM Power (LOUT)(0.01 dBm)						
1561.01		-6000	-6000	-6000	0	0
No No	No No					
1560.20		-6000	-6000	-6000	0	0
No No	No No					
1559.39		-6000	-6000	-6000	0	0
No No	No No					
1558.58		-6000	-6000	-6000	0	0
No No	No No					
1557.77		-6000	-6000	-6000	0	0
No No	No No					
1556.96		-6000	-6000	-6000	0	0
No No	No No					
1556.15		-6000	-6000	-6000	0	0
No No	No No					
1555.34		-6000	-6000	-6000	0	0
No No	No No					
1554.54		-6000	-6000	-6000	0	0
No No	No No					
1553.73		-6000	-6000	-6000	0	0
No No	No No					
1552.93		-6000	-6000	-6000	0	0

No	No	No	No	-6000	-6000	-6000	0	0
	1552.12							
No	No	No	No	-6000	-6000	-6000	0	0
	1551.32							
No	No	No	No	-6000	-6000	-6000	0	0
	1550.52							
No	No	No	No	-6000	-6000	-6000	0	0
	1549.72							
No	No	No	No	-6000	305	-2847	0	0
	1548.91							
No	No	No	No	-6000	-6000	-6000	0	0
	1548.11							
No	No	No	No	-6000	-6000	-6000	0	0
	1547.32							
No	No	No	No	-6000	-6000	-6000	0	0
	1546.52							
No	No	No	No	-6000	-6000	-6000	0	0
	1545.72							
No	No	No	No	-6000	-6000	-6000	0	0
	1544.92							
No	No	No	No	-6000	-6000	-6000	0	0
	1544.13							
No	No	No	No	-6000	-6000	-6000	0	0
	1543.33							
No	No	No	No	-6000	-6000	-6000	0	0
	1542.54							
No	No	No	No	-6000	-6000	-6000	0	0
	1541.75							
No	No	No	No	-6000	-6000	-6000	0	0
	1540.95							
No	No	No	No	-6000	-6000	-6000	0	0
	1540.16							
No	No	No	No	-6000	-6000	-6000	0	0
	1539.37							
No	No	No	No	-6000	-6000	-6000	0	0
	1538.58							
No	No	No	No	-6000	-6000	-6000	0	0
	1537.79							
No	No	No	No	-6000	-6000	-6000	0	0
	1537.00							
No	No	No	No	-6000	-6000	-6000	0	0
	1536.22							
No	No	No	No	-6000	-6000	-6000	0	0
... truncated								

show chassis fpc optical-properties pm-previousday

Syntax	<code>show chassis fpc optical-properties pm-previousday fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display performance monitors for the previous 24-hour period for the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • Enabling and Configuring Thresholds on the Integrated Photonic Line Card Performance Monitors on page 29 • Integrated Photonic Line Card Base and Expansion Module Overview on page 3 • Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties pm-previousday on page 100
Output Fields	Table 18 on page 99 lists the output fields for the show chassis fpc optical-properties pm-previousday command. Output fields are listed in the approximate order in which they appear.

Table 18: show chassis fpc optical-properties pm-previousday Output Fields

Field Name	Field Description
PM	Performance monitor
MIN	Minimum value measured
MAX	Maximum value measured
AVG	Average value
THRESHOLD (MIN) (MAX)	Threshold value set for the minimum and maximum values.
TCA-ENABLED (MIN) (MAX)	Threshold-crossing alert (TCA) set for the minimum and maximum values. Yes: TCA is enabled.
TCA-RAISED (MIN) (MAX)	TCA raised for the minimum and maximum values. Yes: TCA crosses the threshold.

Sample Output

show chassis fpc optical-properties pm-previousday

```

user@host> show chassis fpc optical-properties pm-previousday fpc-slot 5
Physical interface: 5, SNMP ifIndex 5
Previous Day: 2016-04-24,17:00:00.00
Suspect Flag:True Reason:Invalid Interval
PM
TCA-ENABLED TCA-RAISED MIN MAX AVG THRESHOLD
(MIN) (MAX) (MIN) (MAX) (MIN) (MAX)
OSC Tx Power(0.01 dBm) 0 172 170 0 0
No No No No
OSC Rx Power(0.01 dBm) -1158 0 -1143 0 0
No No No No
OSC Fiber Loss(0.01 dB) 0 0 0 0 0
No No No No
Line OUT VOA(0.01 dB) 0 2480 98 0 0
No No No No
Ingress EDFA
Input Power(0.01 dBm) -1706 0 -1683 0 0
No No No No
Output Power(0.01 dBm) 0 158 151 0 0
No No No No
Signal Power(0.01 dBm) 0 106 99 0 0
No No No No
Egress EDFA
Input Power(0.01 dBm) -6000 0 -2420 0 0
No No No No
Output Power(0.01 dBm) -843 364 122 0 0
No No No No
Signal Power(0.01 dBm) -6000 336 -907 0 0
No No No No
Power monitor
AWG Add(0.01 dB) -6000 0 -2053 0 0
No No No No
Express In(0.01 dB) -6000 0 -5953 0 0
No No No No
OCM Power (LOUT)(0.01 dBm)
1561.01 -6000 0 -5953 0 0
No No No No
1560.20 -6000 0 -5953 0 0
No No No No
1559.39 -6000 0 -5953 0 0
No No No No
1558.58 -6000 0 -5953 0 0
No No No No
1557.77 -6000 0 -5953 0 0
No No No No
1556.96 -6000 0 -5953 0 0
No No No No
1556.15 -6000 0 -5953 0 0
No No No No
1555.34 -6000 0 -5953 0 0
No No No No
1554.54 -6000 0 -5953 0 0
No No No No
1553.73 -6000 0 -5953 0 0
No No No No
1552.93 -6000 0 -5953 0 0

```

No	No	No	No					
	1552.12			-6000	0	-5953	0	0
No	No	No	No					
	1551.32			-6000	0	-5953	0	0
No	No	No	No					
	1550.52			-6000	0	-5953	0	0
No	No	No	No					
	1549.72			-6000	0	-5953	0	0
No	No	No	No					
	1548.91			-6000	308	-1130	0	0
No	No	No	No					
	1548.11			-6000	0	-5953	0	0
No	No	No	No					
	1547.32			-6000	0	-5953	0	0
No	No	No	No					
	1546.52			-6000	0	-5953	0	0
No	No	No	No					
	1545.72			-6000	0	-5953	0	0
No	No	No	No					
	1544.92			-6000	0	-5953	0	0
No	No	No	No					
	1544.13			-6000	0	-5953	0	0
No	No	No	No					
	1543.33			-6000	0	-5953	0	0
No	No	No	No					
	1542.54			-6000	0	-5953	0	0
No	No	No	No					
	1541.75			-6000	0	-5953	0	0
No	No	No	No					
	1540.95			-6000	0	-5953	0	0
No	No	No	No					
	1540.16			-6000	0	-5953	0	0
No	No	No	No					
	1539.37			-6000	0	-5953	0	0
No	No	No	No					
	1538.58			-6000	0	-5953	0	0
No	No	No	No					
	1537.79			-6000	0	-5953	0	0
No	No	No	No					
	1537.00			-6000	0	-5953	0	0
No	No	No	No					
	1536.22			-6000	0	-5953	0	0
No	No	No	No					

show chassis fpc optical-properties status

Syntax	<code>show chassis fpc optical-properties status fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display the operational status of the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides.
Additional Information	To enable and configure the IPLC performance monitors. See “Enabling and Configuring Thresholds on the Integrated Photonic Line Card Performance Monitors” on page 29.
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> Integrated Photonic Line Card Base and Expansion Module Overview on page 3 Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties status on page 103
Output Fields	Table 19 on page 102 lists the output fields for the <code>show chassis fpc optical-properties status</code> command. Output fields are listed in the approximate order in which they appear.

Table 19: show chassis fpc optical-properties status Output Fields

Field Name	Field Description
Uptime	Display how long the IPLC has been up.
Input EDFA: Case temperature, pump temperature, and coil temperature	Display the temperature reading for the components in the input EDFA.
Output EDFA: Case temperature, pump temperature, and coil temperature	Display the temperature reading for the components in the output EDFA.
WSS Power Supply Voltage (0.01 V)	Display the power supply voltage reading for the wavelength-selective switch (WSS).
WSS Temperature	Display the temperature reading for the WSS.
OCM Temperature	Display the temperature reading for the optical channel monitor (OCM).
OSC Status	Display whether the OSC is enabled or disabled.

Sample Output

show chassis fpc optical-properties status

```
user@host> show chassis fpc optical-properties status fpc-slot 5
```

```
Module Status
Uptime                14754 seconds
Input EDFA Case Temperature  29.9 degress C
Input EDFA Pump Temperature  25.7 degrees C
Input EDFA Coil Temperature  53.3 degrees C
Output EDFA Case Temperature  29.9 degrees C
Output EDFA Pump Temperature  25.6 degrees C
Output EDFA Coil Temperature  53.3 degrees C
WSS Power Supply Voltage (0.01 V) 496
WSS Temperature         32.2 degrees C
OCM Temperature         29.9 degrees C
OSC Status              Yes
```

show chassis fpc optical-properties topology

Syntax	<code>show chassis fpc optical-properties topology <detail> fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX Series Packet Transport Routers.
Description	Display topology Information about the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<p><i>fpc-slot</i>—Slot number of the FPC or PIC in which the IPLC module resides</p> <p>detail—Displays the blocked wavelengths.</p>
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> • Integrated Photonic Line Card Base and Expansion Module Overview on page 3 • Understanding the Integrated Photonic Line Card Architecture on page 6
List of Sample Output	show chassis fpc optical-properties topology on page 104
Output Fields	Table 20 on page 104 lists the output fields for the show chassis fpc optical-properties topology command. Output fields are listed in the approximate order in which they appear.

Table 20: show chassis fpc optical-properties topology Output Fields

Field Name	Field Description
Wavelength(nm) / Port / Frequency(THz)	<p>Wavelength used, port number of the IPLC module or expansion module, and frequency of the wavelength.</p> <p>NOTE: When the expansion module is configured, this statement displays 64 channels.</p>
State	<p>Express-in Port or Expansion Port: State is UP or DOWN.</p> <p>Wavelength Port: State is AWG Add, Blocked, Switch, or Express-In.</p>
Connected To	<p>Express-in Port: Slot number of the connected IPLC base module.</p> <p>Expansion Port: Slot number of the connected IPLC expansion module.</p> <p>Wavelength Port: For the Switch state: Name of the interface to which it is connected. For the Express-In state: IPLC to which it is connected.</p>

Sample Output

show chassis fpc optical-properties topology

```
user@host> show chassis fpc optical-properties topology fpc-slot 5
```

```

IPLC Topology Information
Wavelength(nm) / Port / Frequency(THz)      State      Connected To
Express-in Port                               DOWN       NA

```

Expansion Port			DOWN	NA
1548.91	15	193.55	AWG Add	et-12/0/0

show chassis hardware

List of Syntax	Syntax on page 106 Syntax (EX Series) on page 106 Syntax (T4000 Router) on page 106 Syntax (TX Matrix Router) on page 106 Syntax (TX Matrix Plus Router) on page 106 Syntax (MX Series Routers) on page 106 Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers) on page 106 Syntax (QFX Series) on page 107 Syntax (OCX Series) on page 107 Syntax (PTX Series Packet Transport Routers) on page 107 Syntax (ACX Series Universal Access Routers) on page 107
Syntax	<code>show chassis hardware</code> <code><detail extensive></code> <code><clei-models></code> <code><models></code>
Syntax (EX Series)	<code>show chassis hardware</code> <code><clei-models></code> <code><detail extensive></code> <code><models></code> <code><satellite [slot-id <i>slot-id</i> device-alias <i>alias-name</i>]></code>
Syntax (T4000 Router)	<code>show chassis hardware</code> <code><clei-models></code> <code><detail extensive></code> <code><models></code>
Syntax (TX Matrix Router)	<code>show chassis hardware</code> <code><clei-models></code> <code><detail extensive></code> <code><models></code> <code><lcc <i>number</i> scc></code>
Syntax (TX Matrix Plus Router)	<code>show chassis hardware</code> <code><clei-models></code> <code><detail extensive></code> <code><models></code> <code><lcc <i>number</i> sfc <i>number</i>></code>
Syntax (MX Series Routers)	<code>show chassis hardware</code> <code><detail extensive></code> <code><clei-models></code> <code><models></code> <code><all-members></code> <code><local></code> <code><member <i>member-id</i>></code>
Syntax (MX104, MX2010, and MX2020	<code>show chassis hardware</code> <code><clei-models></code>

3D Universal Edge Routers)	<detail extensive> <models> <satellite [slot-id <i>slot-id</i> device-alias <i>alias-name</i>]>
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> <p>satellite option introduced in Junos OS Release 14.2R3.</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.

On QFX3500, QFX5100, OCX Series standalone switches, and PTX1000 routers, both the FPC and FPC *number* are always 0.

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.

satellite [*slot-id slot-id* | device-alias *alias-name*]—(Junos Fusion only) (Optional) Display hardware information for the specified satellite device in a Junos Fusion, or for all satellite devices in the Junos Fusion if no satellite devices are specified.

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 21: 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

[show chassis hardware \(EX8216 Switch\) on page 116](#)
[show chassis hardware clei-models \(EX8216 Switch\) on page 117](#)
[show chassis hardware clei-models \(T1600 Router\) on page 118](#)
[show chassis hardware \(EX2300-C Switch\) on page 119](#)
[show chassis hardware \(EX2300 Switch\) on page 119](#)
[show chassis hardware detail \(EX4200 Switch\) on page 119](#)
[show chassis hardware \(EX4300 Switch\) on page 119](#)
[show chassis hardware models \(EX4500 Switch\) on page 120](#)
[show chassis hardware detail \(EX9200 Switch\) on page 120](#)
[show chassis hardware \(M7i Router\) on page 121](#)
[show chassis hardware \(M10 Router\) on page 121](#)
[show chassis hardware models \(M10 Router\) on page 122](#)
[show chassis hardware \(M20 Router\) on page 122](#)
[show chassis hardware models \(M20 Router\) on page 123](#)
[show chassis hardware \(M40 Router\) on page 123](#)
[show chassis hardware \(M40e Router\) on page 124](#)
[show chassis hardware \(M120 Router\) on page 124](#)
[show chassis hardware detail \(M120 Router\) on page 125](#)
[show chassis hardware models \(M120 Router\) on page 126](#)
[show chassis hardware \(M160 Router\) on page 127](#)
[show chassis hardware models \(M160 Router\) on page 127](#)
[show chassis hardware detail \(M160 Router\) on page 128](#)
[show chassis hardware \(M320 Router\) on page 129](#)
[show chassis hardware models \(M320 Router\) on page 130](#)
[show chassis hardware \(MX5 Router\) on page 131](#)
[show chassis hardware \(MX10 Router\) on page 131](#)
[show chassis hardware \(MX40 Router\) on page 132](#)
[show chassis hardware \(Fixed MX80 Router\) on page 132](#)
[show chassis hardware \(Modular MX80 Router\) on page 133](#)
[show chassis hardware \(MX104 Router\) on page 133](#)
[show chassis hardware detail \(MX104 Router\) on page 134](#)
[show chassis hardware extensive \(MX104 Router\) on page 134](#)
[show chassis hardware models \(MX104 Router\) on page 138](#)
[show chassis hardware clei-models \(MX104 Router\) on page 138](#)
[show chassis hardware \(MX240 Router\) on page 138](#)
[show chassis hardware detail \(MX 240 Router with Routing Engine Displaying DIMM Information\) on page 139](#)
[show chassis hardware \(MX240 Router with Enhanced MX SCB\) on page 139](#)
[show chassis hardware \(MX480 Router\) on page 140](#)
[show chassis hardware \(MX480 Router with Enhanced MX SCB\) on page 140](#)
[show chassis hardware \(MX480 Routers with MPC5E and Built-in OTN PIC\) on page 141](#)
[show chassis hardware detail \(MX480 Routers with MPC5E and Built-in OTN PIC\) on page 142](#)
[show chassis hardware extensive \(MX480 Routers with MPC5E and Built-in OTN PIC\) on page 144](#)
[show chassis hardware \(MX960 Router\) on page 147](#)

[show chassis hardware \(MX960 Router with Bidirectional Optics\) on page 147](#)
[show chassis hardware \(MX960 Router with Enhanced MX SCB\) on page 148](#)
[show chassis hardware models \(MX960 Router with Enhanced MX SCB\) on page 150](#)
[show chassis hardware \(MX960 Router with MPC5EQ\) on page 150](#)
[show chassis hardware detail \(MX960 Router\) on page 153](#)
[show chassis hardware detail \(MX960 Router with MPC5EQ\) on page 154](#)
[show chassis hardware extensive \(MX960 Router with MPC5EQ\) on page 157](#)
[show chassis hardware models \(MX960 Router with MPC5EQ\) on page 165](#)
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Output Fields [Table 22 on page 114](#) lists the output fields for the **show chassis hardware** command. Output fields are listed in the approximate order in which they appear.

Table 22: 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 22: 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 22: 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		CHAS-BP-T640-S
FPM Display	REV 05	710-002897		CRAFT-T640-S
CIP	REV 06	710-002895		CIP-L-T640-S
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	FANTRAY-T-S
Fan Tray 1	FANTRAY-T-S
Fan Tray 2	FAN-REAR-TX-T640-S

show chassis hardware (EX2300-C Switch)

```
user@switch> show chassis hardware
Hardware inventory:
Item              Version  Part number  Serial number  Description
Chassis
Pseudo CB 0
Routing Engine 0
FPC 0             REV 04    650-059984   HV0215410003   EX2300-C-12P
  CPU             BUILTIN   BUILTIN      FPC CPU
  PIC 0           REV 04    BUILTIN      BUILTIN        12x10/100/1000 Base-T
  PIC 1           REV 04    650-059984   HV0215410003   2x10G SFP/SFP+
    Xcvr 0        REV 01    740-021309   T09K00695      SFP+-10G-LR
    Xcvr 1        REV 01    740-030658   AD1146A05JT    SFP+-10G-USR
Power Supply 0
JPSU-170W-AC
```

show chassis hardware (EX2300 Switch)

```
user@switch> show chassis hardware
Hardware inventory:
Item              Version  Part number  Serial number  Description
Chassis
Pseudo CB 0
Routing Engine 0
FPC 0             REV 05    650-059968   JY0215410033   EX2300-24P
  CPU             BUILTIN   BUILTIN      FPC CPU
  PIC 0           REV 05    BUILTIN      BUILTIN        24x10/100/1000 Base-T
  PIC 1           REV 05    650-059968   JY0215410033   4x10G SFP/SFP+
    Xcvr 0        REV 01    740-030658   AD1125A03ES    SFP+-10G-USR
    Xcvr 1        REV 01    740-021308   AJPOTDZ        SFP+-10G-SR
    Xcvr 3        REV 01    740-021309   A9401FL        SFP+-10G-LR
Power Supply 0
JPSU-450W-AC-AFO
Fan Tray 0
(AFO)
Fan Tray 1
(AFO)
Fan Module, Airflow Out
Fan Module, Airflow Out
```

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, 8 POE
Routing Engine 0
FPC 0             REV 11    750-021256   BM0208327733   EX4200-24T, 8 POE
  CPU             BUILTIN   BUILTIN      FPC CPU
  PIC 0           BUILTIN   BUILTIN      24x 10/100/1000 Base-T
  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			PD3713160055	EX4300-48P
Routing Engine 0	REV 04	650-044930	PD3713160055	EX4300-48P
FPC 0	REV 04	650-044930	PD3713160055	EX4300-48P
CPU		BUILTIN	BUILTIN	FPC CPU
PIC 0	REV 04	BUILTIN	BUILTIN	48x 10/100/1000 Base-T
PIC 1	REV 04	BUILTIN	BUILTIN	4x 40GE
Power Supply 0	REV 01	740-046871	1EDA3090026	JPSU-1100-AC-AF0-A
Fan Tray 0 (AF0)				Fan Module, Airflow Out
Fan Tray 1 (AF0)				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
FPC 0	REV 01	750-035700	GG0210271867	EX4500-40F-FB-C
PIC 0		BUILTIN	BUILTIN	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			JN111DA44RFB	EX9208
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				FANTRAY-M10I-S
Fan Tray 1				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		CHAS-MP-M10i-S
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
Fan Tray 1
Fan Tray 2
Fan Tray 3

Front Upper Fan Tray
Front Middle Fan Tray
Front Bottom Fan Tray
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				cpv5000
SCB	REV X1	710-000075	S/N AA0158	Internet Processor I
SSRAM bank 0	REV 02	710-000077	S/N AA2267	1 MB
SSRAM bank 1	REV 02	710-000077	S/N AA2270	1 MB
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	REV 01	710-000175	S/N AA0048	
SSRAM	REV 01	710-000077	S/N AA2333	1 MB
SDRAM bank 0	REV 01	710-000099	S/N AA2332	64 MB
SDRAM bank 1	REV X1	710-000099	S/N AA2337	64 MB
PIC 0	REV 04	750-000613	S/N aa0343	1x OC-12 SONET, SMIR
PIC 1	REV 04	750-000613	S/N AA0379	1x OC-12 SONET, SMIR
PIC 2	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	REV 01	710-000175	S/N AA0042	
SSRAM	REV 02	710-000077	S/N AA2288	1 MB
SDRAM bank 0	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	REV 01	710-000175	S/N AA0050	

SSRAM	REV 01	710-000077	S/N AA2327	1 MB
SDRAM bank 0	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	REV 10	710-000175	S/N AA7663	
SSRAM	REV 01	710-000077	S/N 501590	1 MB
SDRAM bank 0	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				m40e
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			3e000007c8176601	Present
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
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)

```
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
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
```

```
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
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				Rear Top Fan Tray
Fan Tray 3				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		CRAFT-M120-S
PEM 0	Rev 05	740-011936		PWR-M120-AC-S
PEM 1	Rev 05	740-011936		PWR-M120-AC-S
Routing Engine 0	REV 03	740-014080		RE-A-1000-2048-S
CB 0	REV 03	710-011403		CB-M120-S
CB 1	REV 06	710-011403		CB-M120-S
FPC 1	REV 02	710-015908		M120-cFPC-1XGE-XFP
FPC 3				
PIC 0	REV 16	750-008155		PB-2GE-SFP-QPP
PIC 1	REV 09	750-007745		PC-40C3-SON-SMIR
PIC 2	REV 16	750-008155		PB-2GE-SFP-QPP
PIC 3	REV 07	750-011800		PB-8GE-TYPE2-SFP-IQ2
FPC 4				
PIC 0	REV 16	750-007141		PC-10GE-SFP
FPC 5				

PIC 1	REV 05	750-012052	PB-1CHOC3-SMIR-QPP
PIC 2	REV 01	750-013167	PE-4CHDS3-QPP
PIC 3	REV 01	750-010240	PB-1GE-SFP
Fan Tray 0			FFANTRAY-M120-S
Fan Tray 1			FFANTRAY-M120-S
Fan Tray 2			RFANTRAY-M120-S
Fan Tray 3			RFANTRAY-M120-S

show chassis hardware (M160 Router)

```
user@host> show chassis hardware
```

Item	Version	Part number	Serial number	Description
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
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				FPC Type OC192
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)

```
user@host> show chassis hardware detail
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
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	S00076	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)

```
user@host> show chassis hardware
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			67245	M320
Midplane	REV 05	710-009120	RB1202	M320 Midplane
FPM GBUS	REV 04	710-005928	HZ5697	M320 Board
FPM Display	REV 05	710-009351	HR1464	M320 FPM Display
CIP	REV 04	710-005926	HT8672	M320 CIP
PEM 0	Rev 05	740-009148	QK34208	DC Power Entry Module
PEM 1	Rev 05	740-009148	QK34262	DC Power Entry Module
PEM 2	Rev 05	740-009148	QF10449	DC Power Entry Module
PEM 3	Rev 05	740-009148	QJ18257	DC Power Entry Module
Routing Engine 0	REV 06	740-008883	P11123901185	RE-4.0
CB 0	REV 07	710-009115	JB2382	M320 Control Board
FPC 0	REV 02	710-005017	CD9926	M320 FPC Type 2
CPU	REV 01	710-011659	CJ6940	M320 PCA SCPU
PIC 0	REV 07	750-001900	AT1594	1x OC-48 SONET, SMSR
PIC 1	REV 03	750-001850	HS2746	1x Tunnel
PIC 2	REV 05	750-010618	JE7117	4x G/E SFP, 1000 BASE
PIC 3	REV 06	750-001900	HE6083	1x OC-48 SONET, SMSR
FPC 2	REV 02	710-005017	CH0319	M320 FPC Type 1
CPU	REV 01	710-011659	CJ6942	M320 PCA SCPU
PIC 0	REV 05	750-003034	BD8705	4x OC-3 SONET, SMIR
FPC 5	REV 02	710-005017	CD9938	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

show chassis hardware models (M320 Router)

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user@host> show chassis hardware models
Hardware inventory:

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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 (MX5 Router)

```

user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number  Description
Chassis                               E1368         MX5-T
Midplane          REV 01   711-038215   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      BUILTIN        Routing Engine
TFEB 0            BUILTIN  BUILTIN      BUILTIN        Forwarding Engine
Processor
  QXM 0           REV 05   711-028408   ZA9136        MPC QXM
  FPC 0            BUILTIN  BUILTIN      BUILTIN        MPC BUILTIN
  MIC 0            BUILTIN  BUILTIN      BUILTIN        4x 10GE XFP
  PIC 0            BUILTIN  BUILTIN      BUILTIN        4x 10GE XFP
  FPC 1            BUILTIN  BUILTIN      BUILTIN        MPC BUILTIN
  MIC 0           REV 24   750-028392   YX9820        3D 20x 1GE(LAN) SFP
  PIC 0            BUILTIN  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      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   P9POXV3       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   P9MOU37       SFP-SX
  MIC 1           REV 20   750-028380   ZG2657        3D 2x 10GE XFP
  PIC 2            BUILTIN  BUILTIN      BUILTIN        1x 10GE XFP
  PIC 3            BUILTIN  BUILTIN      BUILTIN        1x 10GE XFP
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      BUILTIN        Routing Engine
TFEB 0            BUILTIN  BUILTIN      BUILTIN        Forwarding Engine
Processor
  QXM 0           REV 05   711-028408   ZA9053        MPC QXM
  FPC 0            BUILTIN  BUILTIN      BUILTIN        MPC BUILTIN
  MIC 0            BUILTIN  BUILTIN      BUILTIN        4x 10GE XFP
  PIC 0            BUILTIN  BUILTIN      BUILTIN        4x 10GE XFP
  FPC 1            BUILTIN  BUILTIN      BUILTIN        MPC BUILTIN
  MIC 0           REV 24   750-028392   YX9436        3D 20x 1GE(LAN) SFP
  PIC 0            BUILTIN  BUILTIN      BUILTIN        10x 1GE(LAN) SFP
    Xcvr 0         REV 01   740-031851   AM1107SUFQW   SFP-SX

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PIC 1	BUILTIN	BUILTIN	10x 1GE(LAN) SFP
Fan Tray			Fan Tray

show chassis hardware (MX40 Router)

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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
TFEB 0        BUILTIN   BUILTIN      Routing Engine
              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

```

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
FEB 0         BUILTIN   BUILTIN      Routing Engine
              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                               MX80
PEM 0                               AC Power Entry Module
Routing Engine                               Routing Engine
FEB 0                               Forwarding Engine Board

QXM 0          REV 05  711-028408  JR7041  MPC QXM
FPC 0                               MPC BUILTIN
MIC 0                               4x 10GE XFP
PIC 0                               4x 10GE XFP
FPC 1                               MPC BUILTIN
MIC 0          REV 02  750-028380  JR6598  3D 2x 10GE XFP
PIC 0                               1x 10GE XFP
Xcvr 0          REV 01  740-014289  T07M86365 XFP-10G-SR
PIC 1                               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                               1x 10GE XFP
Xcvr 0          REV 02  740-014289  T08L86302 XFP-10G-SR
PIC 3                               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                               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                               Forwarding Engine
Processor
FPC 0                               MPC BUILTIN
FPC 1                               MPC BUILTIN
MIC 0          REV 15  750-036132  CAAF7948  2x0C12/8x0C3 CC-CE
PIC 0                               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
  usb0 (addr 1) EHCI root hub 0
  usb0 (addr 2) USB2513Bi 9491
  usb0 (addr 3) ATP IG eUSB SSD 44801
  Freescale    uhub0
  SMSC         uhub1
  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      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 extensive (MX104 Router)

```

user@host> show chassis hardware extensive

```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			G3503	MX104
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
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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 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
  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
  Address 0x70: ff ff ff 72 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
  Address 0x70: ff ff ff c2 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
  Address 0x70: ff ff ff c2 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 2xOC12/8xOC3 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    PCQOU2J      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
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          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
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
Address 0x70: ff ff ff c2 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		BUILTIN	BUILTIN	
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		BUILTIN		
FPC 0		BUILTIN		
FPC 1		BUILTIN		
MIC 0	REV 01	750-046905	PROTOXCLEI	MIC-3D-20GE-SFP-EH
FPC 2		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	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	RMPD 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	AJ40J0J	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	RMPD 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	HMPD 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	RMPD 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	HMPD 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 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			JN1C0338AFB	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 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 HMPCE 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 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
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

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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 00 00 00 00
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

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```

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 00 00 00 00
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
  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

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Address 0x70: ff ff ff 4b 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                               MX960
Midplane                               MX960 Midplane
PIM                               Power Inlet Module
PEM 2
PEM 3                               PS 1.7kW; 200-240VAC in
Routing Engine 0 REV 00    740-015113   1000617944    RE-S-1300
CB 0                               MX960 Test SCB
FPC 4                               MX960 Test DPC
CPU
PIC 0                               1x 10GE (LAN/WAN)
PIC 1                               10x 1GE
FPC 7                               MX960 Test DPC
CPU
PIC 0                               1x 10GE (LAN/WAN)
Xcvr 0                               XFP-10G-SR
PIC 1                               10x 1GE
Xcvr 1                               SFP-SX
Xcvr 4                               SFP-SX
Xcvr 6                               SFP-SX
Xcvr 9                               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                               MX960
Midplane                               MX960 Backplane
FPM Board                               Front Panel Display
PDM                               Power Distribution Module
PEM 0                               PS 1.7kW; 200-240VAC in
PEM 1                               PS 1.7kW; 200-240VAC in
PEM 2                               PS 1.7kW; 200-240VAC in
Routing Engine 0 REV 06    740-013063   1000691458    RE-S-2000
CB 0                               MX SCB
CB 1                               MX SCB
FPC 3                               DPCE 40x 1GE R
CPU
FPC 4                               DPCE 40x 1GE R
CPU                               DPC PMB
PIC 0                               10x 1GE (LAN)
Xcvr 1                               SFP-1000BASE-BX40-D
Xcvr 2                               SFP-1000BASE-BX40-D
Xcvr 5                               SFP-1000BASE-BX10-U
Xcvr 6                               SFP-1000BASE-BX40-U
Xcvr 8                               SFP-1000BASE-BX40-U
PIC 1                               10x 1GE (LAN)
Xcvr 0                               SFP-1000BASE-BX10-D

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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)

```
user@host> show chassis hardware models
```

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-SFPP
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)

```
user@host> show chassis hardware
```

Hardware inventory:

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	Rev 10	740-027760	QCS1702N062	PS 4.1kW; 200-240V AC
PEM 1	Rev 04	740-027760	QCS1422N02C	PS 4.1kW; 200-240V AC
PEM 2	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	RMPD PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQA0DYT	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQG0MS7	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	AQG0MRQ	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	HMPD 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	AMPD 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	RMPD PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQA095A	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQG0M1E	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	QSFPP+-40G-SR4
Xcvr 1	REV 01	740-046565	QC480274	QSFPP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130190	QSFPP+-40G-SR4
PIC 3		BUILTIN	BUILTIN	3X40GE QSFPP
Xcvr 0	REV 01	740-046565	QD130197	QSFPP+-40G-SR4
Xcvr 1	REV 01	740-046565	QD130180	QSFPP+-40G-SR4
Xcvr 2	REV 01	740-046565	QD130199	QSFPP+-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	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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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         Rev 01    740-013682   000038         PS 1.7kW; 200-240VAC in
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      NROWT5925N77    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
PIC 0
PIC 0          BUILTIN   BUILTIN      1x 10GE(LAN/WAN)
PIC 1          BUILTIN   BUILTIN      10x 1GE
PIC 7          REV 01    710-013305   JL9634         MX960 Test DPC
CPU
PIC 0          BUILTIN   BUILTIN      1x 10GE(LAN/WAN)

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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 detail (MX960 Router with MPC5EQ)

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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	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	MPCE 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	RMPM PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQA095A	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQG0M1E	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	AQG0LYC	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQG0LYB	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	RMPM PMB
PIC 0		BUILTIN	BUILTIN	2X10GE SFPP OTN
Xcvr 0	REV 01	740-021308	AQG0MXE	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQG0LVY	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	AQG0LW1	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQG0LW3	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	HMPM PMB 2G
PIC 0		BUILTIN	BUILTIN	4x10GE SFPP
Xcvr 0	REV 01	740-021308	ANA0MM3	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	AQG0MS6	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	AQG0MRX	SFP+-10G-SR

Xcvr 2	REV 01	740-021308	AQG0M6Y	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	AQG0LZM	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	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 extensive (MX960 Router with MPC5EQ)

```

user@host> show chassis hardware extensive
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
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
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

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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
  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
  Address 0x70: 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
  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
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 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 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

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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 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 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 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:
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

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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
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 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

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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 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 ff
Address 0x70: ff ff ff c2 00 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 00
I2C Hex Data:
Address 0x00: 00 00 00 00 0a 90 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 ae dc 00 00 00 00 0a 6e 00 00
Xcvr 0          REV 01    740-021308    AQA0DYT          SFP+-10G-SR
Xcvr 1          REV 01    740-021308    AQG0MS7          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 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 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 00
I2C Hex Data:
Address 0x00: 00 00 00 00 0a 90 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 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:    COUIBBNBA
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
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
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
Address 0x70: ff ff ff cf 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
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
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
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
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 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

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```

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 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 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 ff
  Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
    CPU          REV 11      711-029089      CAAV4645      AMPC PMB
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 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 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          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

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```

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

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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)

```
user@host> show chassis hardware clei-models
```

Hardware inventory:

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 (MX960 Router with MPC3E and 100-Gigabit DWDM OTN MIC)

```
user@host> show chassis hardware
```

Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN123F6D9AFA	MX960
Midplane	REV 04	750-047849	ACRC8764	Enhanced MX960 Backplane
FPM Board	REV 03	710-014974	CACS4395	Front Panel Display
PDM	Rev 03	740-013110	QCS1809500Z	Power Distribution Module
PEM 0	Rev 08	740-029344	QCS1817V0LK	DC 4.1kW Power Entry
Module				
PEM 1	Rev 08	740-029344	QCS1814V01F	DC 4.1kW Power Entry
Module				
PEM 2	Rev 08	740-029344	QCS1810V1EW	DC 4.1kW Power Entry
Module				
PEM 3	Rev 08	740-029344	QCS1810V1K5	DC 4.1kW Power Entry
Module				
Routing Engine 0	REV 11	740-031116	9013103483	RE-S-1800x4
Routing Engine 1	REV 10	740-031116	9009198513	RE-S-1800x4
CB 0	REV 23	750-031391	CADW3218	Enhanced MX SCB
CB 1	REV 14	750-031391	ABBK5220	Enhanced MX SCB

FPC 1	REV 14	750-045372	CADK0464	MPCE Type 3 3D
CPU	REV 10	711-035209	CADM9839	HMPC PMB 2G
MIC 0	REV 19	750-033199	CAAE5870	1X100GE CFP
PIC 0		BUILTIN	BUILTIN	1X100GE CFP
Xcvr 0	REV 01	740-032210	UTHOH0W	CFP-100G-LR4
FPC 2	REV 14	750-045372	CADN3262	MPCE Type 3 3D
CPU	REV 10	711-035209	CADN8129	HMPC PMB 2G
FPC 3	REV 14	750-045372	CADH0146	MPCE Type 3 3D
CPU	REV 10	711-035209	CADT2458	HMPC PMB 2G
MIC 0	REV 03	750-057666	CADP1386	1X100GE DWDM CFP2-ACO
PIC 0		BUILTIN	BUILTIN	1X100GE DWDM CFP2-ACO
Xcvr 0	REV 01	740-062357	SMD5136.1	OTN-100G-LH
FPC 4	REV 18	750-045372	CAEV5668	MPCE Type 3 3D
CPU	REV 10	711-035209	CAET7827	HMPC PMB 2G
FPC 7	REV 14	750-045372	CADJ1947	MPCE Type 3 3D
CPU	REV 10	711-035209	CADJ1561	HMPC PMB 2G
MIC 0	REV 05	750-057666	CAEB5763	1X100GE DWDM CFP2-ACO
PIC 0		BUILTIN	BUILTIN	1X100GE DWDM CFP2-ACO
Xcvr 0	REV 01	740-062357	1DJBZ052002	OTN-100G-LH
FPC 8	REV 14	750-045372	CADK0485	MPCE Type 3 3D
CPU	REV 10	711-035209	CADM9828	HMPC PMB 2G
MIC 0	REV 03	750-057666	CADP1390	1X100GE DWDM CFP2-ACO
PIC 0		BUILTIN	BUILTIN	1X100GE DWDM CFP2-ACO
FPC 9	REV 14	750-045372	CADJ1936	MPCE Type 3 3D
CPU	REV 10	711-035209	CADJ1566	HMPC PMB 2G
MIC 0	REV 14	750-057666	CAFF7544	1X100GE DWDM CFP2-ACO
PIC 0		BUILTIN	BUILTIN	1X100GE DWDM CFP2-ACO
Xcvr 0	REV 01	740-062357	1DJBZ05100K	OTN-100G-LH
FPC 10	REV 14	750-054901	CADJ3846	MPC3E NG HQoS
CPU	REV 11	711-045719	CADN5471	RMPC PMB
MIC 0	REV 05	750-057666	CAEB5760	1X100GE DWDM CFP2-ACO
PIC 0		BUILTIN	BUILTIN	1X100GE DWDM CFP2-ACO
Xcvr 0	REV 01	740-062357	SMD5091.1	CFP-Loopback
Fan Tray 0	REV 08	740-031521	ACDB4083	Enhanced Fan Tray
Fan Tray 1	REV 08	740-031521	ACDB3995	Enhanced Fan Tray

show chassis hardware clei-models(MX960 Router with MPC3E and 100-Gigabit DWDM OTN MIC)

```
user@host> show chassis hardware clei-models
```

Hardware inventory:

Item	Version	Part number	CLEI code	FRU model number
Midplane	REV 04	750-047849	CMMJA10BRA	CHAS-BP3-MX960-S
FPM Board	REV 03	710-014974		CRAFT-MX960-S
PEM 0	Rev 08	740-029344		PWR-MX960-4100-DC-S
PEM 1	Rev 08	740-029344		PWR-MX960-4100-DC-S
PEM 2	Rev 08	740-029344		PWR-MX960-4100-DC-S
PEM 3	Rev 08	740-029344		PWR-MX960-4100-DC-S
Routing Engine 0	REV 11	740-031116	COUCASYBAB	RE-S-1800X4-16G-S
Routing Engine 1	REV 10	740-031116	COUCASYBAA	RE-S-1800X4-16G-S
CB 0	REV 23	750-031391	COUCATXBAA	SCBE-MX-S
CB 1	REV 14	750-031391	COUCARCBAA	SCBE-MX-S
FPC 1	REV 14	750-045372	COUIBBNBAB	MX-MPC3E-3D
MIC 0	REV 19	750-033199	COUIBA8BAA	MIC3-3D-1X100GE-CFP
FPC 2	REV 14	750-045372	COUIBBNBAB	MX-MPC3E-3D
FPC 3	REV 14	750-045372	COUIBBNBAB	MX-MPC3E-3D
MIC 0	REV 03	750-057666	PROTOXCLEI	PROTO-ASSEMBLY
FPC 4	REV 18	750-045372	COUIBBNBAC	MX-MPC3E-3D
FPC 7	REV 14	750-045372	COUIBBNBAB	MX-MPC3E-3D
MIC 0	REV 05	750-057666	PROTOXCLEI	PROTO-ASSEMBLY
FPC 8	REV 14	750-045372	COUIBBNBAB	MX-MPC3E-3D
MIC 0	REV 03	750-057666	PROTOXCLEI	PROTO-ASSEMBLY

FPC 9	REV 14	750-045372	COUIBBNBAB	MX-MPC3E-3D
MIC 0	REV 14	750-057666	PROTOXCLEI	PROTO-ASSEMBLY
FPC 10	REV 14	750-054901	PROTOXCLEI	PROTO-ASSEMBLY
MIC 0	REV 05	750-057666	PROTOXCLEI	PROTO-ASSEMBLY
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 (PTX3000 Router with 5-port 100-Gigabit DWDM OTN PIC)

```

user@host> show chassis hardware
Hardware inventory:
Item                Version  Part number  Serial number  Description
Chassis              JN123AC42AJC PTX3000
Midplane             REV 22  750-044645  ACLP6640      Backplane
FPM                  REV 07  760-044663  ACMX2146      Front Panel Display
PSM 1                REV 02  740-044980  1EDD3080169   DC 12V Power Supply
PSM 2                REV 06  740-044981  1EDK5040563   AC 12V Power Supply
PSM 3                REV 06  740-044981  1EDK5040313   AC 12V Power Supply
PSM 4                REV 04  740-044980  1EDJ3330088   DC 12V Power Supply
Routing Engine 0     REV 12  740-026942  P737A-006029  RE-DUO-2600
CB 0                 REV 18  750-044656  ACMZ3179      Control Board
FPC 2                REV 06  750-057064  ACAM6098      FPC3-SFF-PTX-1X
CPU                  BUILTIN      BUILTIN      SMPC PMB
PIC 0                REV 17  750-059747  ACNW3510      5X100GE DWDM CFP2-ACO
  Xcvr 0              REV 01  740-062357  1DJBZ040003   OTN-100G-LH
  Xcvr 2              REV 01  740-062357  1DJBZ044004   OTN-100G-LH
  Xcvr 3              REV 01  740-062357  1DJBZ03500P   OTN-100G-LH
  Xcvr 4              REV 01  740-062357  1DJBZ03700C   OTN-100G-LH
FPC 4                REV 12  750-057064  ACAM7153      FPC3-SFF-PTX-1X
CPU                  BUILTIN      BUILTIN      SMPC PMB
PIC 0                REV 17  750-059747  ACNW3511      5X100GE DWDM CFP2-ACO
  Xcvr 0              REV 01  740-061663  47             OTN-100G-LH
  Xcvr 1              REV 01  740-061663  39             OTN-100G-LH
  Xcvr 2              REV 01  740-062357  1DJBZ044002   OTN-100G-LH
  Xcvr 3              REV 01  740-062357  1DJBZ03700G   OTN-100G-LH
  Xcvr 4              REV 01  740-062357  1DJBZ041001   OTN-100G-LH
FPC 8                REV 11  750-057064  ACAM6808      FPC3-SFF-PTX-1X
CPU                  BUILTIN      BUILTIN      SMPC PMB
PIC 0                REV 17  750-059747  ACNW3508      5X100GE DWDM CFP2-ACO
  Xcvr 0              REV 01  740-061663  194            OTN-100G-LH
  Xcvr 1              REV 01  740-061663  168            OTN-100G-LH
  Xcvr 2              REV 01  740-061663  52             OTN-100G-LH
  Xcvr 3              REV 01  740-061663  85             OTN-100G-LH
  Xcvr 4              REV 01  740-061663  218            OTN-100G-LH
SIB 0                REV 03  750-057067  ACAM8513      SIB3-SFF-PTX
SIB 1                REV 01  750-057067  ACAM5918      SIB3-SFF-PTX
SIB 2                REV 01  711-057066  ACAM4325      SIB3-SFF-PTX
SIB 3                REV 01  711-057066  ACAM4328      SIB3-SFF-PTX
SIB 4                REV 01  711-057066  ACAM4349      SIB3-SFF-PTX
SIB 5                REV 01  711-057066  ACAM4323      SIB3-SFF-PTX
SIB 6                REV 01  711-057066  ACAM4344      SIB3-SFF-PTX
SIB 7                REV 01  750-057067  ACAM4346      SIB3-SFF-PTX
SIB 8                REV 01  750-057067  ACAM5911      SIB3-SFF-PTX
Fan Tray 0           REV 13  760-044659  ACMZ6395      Fan Tray (Exhaust)
Fan Tray 1           REV 13  760-044659  ACMZ6957      Fan Tray (Exhaust)

```

show chassis hardware clei-models (PTX3000 Router with 5-port 100-Gigabit DWDM OTN PIC)

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user@host> show chassis hardware clei-models
Hardware inventory:
Item                Version  Part number  CLEI code      FRU model number

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Midplane	REV 22	750-044645	IPMVN10FRA	CHAS-MP-PTX3000-S
FPM	REV 07	760-044663	IPUCBE5CAA	FPD-SFF-PTX-S
PSM 1	REV 02	740-044980	PROTOPWRDC	PSM-SFF-PTX-DC-2200-S
PSM 2	REV 06	740-044981	IPUPAK0KAB	PSM-SFF-PTX-AC-S
PSM 3	REV 06	740-044981	IPUPAK0KAB	PSM-SFF-PTX-AC-S
PSM 4	REV 04	740-044980	IPUPAK1KAA	PSM-SFF-PTX-DC-S
Routing Engine 0	REV 12	740-026942		RE-DUO-C2600-16G-S
CB 0	REV 18	750-044656	IPUCBE6CAB	CB-SFF-PTX-S
FPC 2	REV 06	750-057064	PROTOXCLEI	PROTO-ASSEMBLY
PIC 0	REV 17	750-059747	IPU3BC5HAA	PTX-5-100G-WDM
FPC 4	REV 12	750-057064		
PIC 0	REV 17	750-059747	IPU3BC5HAA	PTX-5-100G-WDM
FPC 8	REV 11	750-057064		
PIC 0	REV 17	750-059747	IPU3BC5HAA	PTX-5-100G-WDM
SIB 0	REV 03	750-057067	PROTOXCLEI	PROTO-ASSEMBLY
SIB 1	REV 01	750-057067	PROTOXCLEI	PROTO-ASSEMBLY
SIB 2	REV 01	711-057066	PROTOXCLEI	PROTO-ASSEMBLY
SIB 3	REV 01	711-057066	PROTOXCLEI	PROTO-ASSEMBLY
SIB 4	REV 01	711-057066	PROTOXCLEI	PROTO-ASSEMBLY
SIB 5	REV 01	711-057066	PROTOXCLEI	PROTO-ASSEMBLY
SIB 6	REV 01	711-057066	PROTOXCLEI	PROTO-ASSEMBLY
SIB 7	REV 01	750-057067	PROTOXCLEI	PROTO-ASSEMBLY
SIB 8	REV 01	750-057067	PROTOXCLEI	PROTO-ASSEMBLY
Fan Tray 0	REV 13	760-044659	IPUCBE8CAA	FAN-SFF-PTX-S
Fan Tray 1	REV 13	760-044659	IPUCBE8CAA	FAN-SFF-PTX-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		750-044636	ABAB8506	Lower Backplane
Midplane 1	REV 01	711-044557	ZY8296	Upper Backplane
PMP	REV 03	711-032426	ACA11388	Power Midplane
Front Panel 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	AJCOJML	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:
```

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 Module	REV 01	740-045050	1E02224000G	DC 52V Power Supply
PSM 4 Module	REV 01	740-045050	1E022240013	DC 52V Power Supply
PSM 5 Module	REV 01	740-045050	1E022240007	DC 52V Power Supply
PSM 6 Module	REV 01	740-045050	1E02224001C	DC 52V Power Supply
PSM 7 Module	REV 01	740-045050	1E02224001D	DC 52V Power Supply
PSM 8 Module	REV 01	740-045050	1E02224001B	DC 52V Power Supply
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 SFP+
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 SFP+
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 SFP+
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 SFP+
Xcvr 0	REV 01	740-021308	03DZ06A01033	SFP+-10G-SR
Xcvr 1	REV 01	740-021308	973152A00022	SFP+-10G-SR
Xcvr 2	REV 01	740-021308	03DZ06A01026	SFP+-10G-SR
Xcvr 3	REV 01	740-021308	973152A00013	SFP+-10G-SR
Xcvr 4	REV 01	740-021308	03DZ06A01028	SFP+-10G-SR
Xcvr 5	REV 01	740-021308	973152A00079	SFP+-10G-SR
Xcvr 6	REV 01	740-021308	03DZ06A01018	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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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
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

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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 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
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
Address 0x40: ff 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
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 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

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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
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 4d 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
...
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
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
  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
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
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
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
...
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
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
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
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
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
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
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
Address 0x70: ff ff ff c6 ff ff ff ff ff ff ff ff ff ff ff
CPU
REV 08    711-035209  CAAB9842          HMPMPC 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: HMPMPC PMB 2G
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 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
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          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 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 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
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
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
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        00000000000000000000000000000000
PSM 5         REV 0B   740-033727   VG00015        00000000000000000000000000000000
PSM 6         REV 0B   740-033727   VH00097        00000000000000000000000000000000
PSM 7         REV 0C   740-033727   VJ00151        00000000000000000000000000000000

```


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-SFP
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	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	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	AMPD 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	ALMOA6D	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	RMPD 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         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
  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      RMPC 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        HMPCE PMB 2G
  MIC 0       REV 14   750-033196   CAAW9214      1X100GE CX

```

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	AMPD 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	ALMOA6D	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	RMPD 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)

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Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis				
Jedec Code:	0x7fb0	EEPROM Version:	0x02	
		S/N:	JN11C9AFEAFK	MX2010
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 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
  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
  Address 0x70: 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 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 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 ff
I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00

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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  1EDB3200K8      DC 52V Power Supply
Module
Jedec Code:    0x7fb0          EEPROM Version:    0x02
P/N:           740-050037      S/N:              1EDB3200K8
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
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 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  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 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  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

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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    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 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 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    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

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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
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 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 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 ff
..

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show chassis hardware (MX2020 Router)

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user@host > show chassis hardware
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	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
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	740-031980	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

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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user@host> show chassis hardware detail
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               JN11E2227AFJ  MX2020
Midplane                               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

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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
ADC 1	REV 13	750-043596	PROTOXCLEI
ADC 2	REV 13	750-043596	IPUCBA8CAA
ADC 3	REV 13	750-043596	IPUCBA8CAA
ADC 4	REV 13	750-043596	IPUCBA8CAA
ADC 5	REV 13	750-043596	PROTOXCLEI
ADC 6	REV 13	750-043596	PROTOXCLEI
ADC 7	REV 07	750-043596	PROTOXCLEI
ADC 8	REV 07	750-043596	PROTOXCLEI
ADC 9	REV 07	750-043596	PROTOXCLEI
ADC 10	REV 13	750-043596	IPUCBA8CAA
ADC 12	REV 13	750-043596	IPUCBA8CAA
ADC 13	REV 13	750-043596	PROTOXCLEI
ADC 14	REV 13	750-043596	PROTOXCLEI
ADC 15	REV 13	750-043596	IPUCBA8CAA
ADC 16	REV 13	750-043596	PROTOXCLEI
ADC 17	REV 13	750-043596	PROTOXCLEI
ADC 18	REV 13	750-043596	PROTOXCLEI
ADC 19	REV 11	750-043596	PROTOXCLEI
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
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Hardware inventory:
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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 Module	REV 01	740-050037	1EDB3130079	DC 52V Power Supply
PSM 4 Module	REV 01	740-050037	1EDB3130077	DC 52V Power Supply
PSM 5 Module	REV 01	740-050037	1EDB3130020	DC 52V Power Supply
PSM 6 Module	REV 01	740-050037	1EDB313009S	DC 52V Power Supply
PSM 7 Module	REV 01	740-050037	1EDB313008E	DC 52V Power Supply
PSM 8 Module	REV 01	740-050037	1EDB3130063	DC 52V Power Supply
PSM 12 Module	REV 01	740-050037	1EDB3130026	DC 52V Power Supply
PSM 13 Module	REV 01	740-050037	1EDB3130074	DC 52V Power Supply
PSM 14 Module	REV 01	740-050037	1EDB313009D	DC 52V Power Supply
PSM 15 Module	REV 01	740-050037	1EDB3130024	DC 52V Power Supply
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	RMPC 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 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	AQGOVLVZ	SFP+-10G-SR
PIC 1		BUILTIN	BUILTIN	12X10GE SFPP OTN
PIC 2		BUILTIN	BUILTIN	3X40GE QSFP
PIC 3		BUILTIN	BUILTIN	3X40GE QSFP
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
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Hardware inventory:

Item	Version	Part number	Serial number	Description
Chassis			JN120BADBAFJ	MX2020
Midplane				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
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)

```
user@host> show chassis hardware extensive
```

```
Hardware inventory:
```

Item	Version	Part number	Serial number	Description
Chassis			JN120BADBAFJ	MX2020
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
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
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
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
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 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:       IPMYAE5JRA
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
Address 0x70: ff ff ff 95 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
Address 0x70: ff ff ff 2a 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 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 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 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 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 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 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
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
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
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
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 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 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 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 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 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 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
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
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
```


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 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
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 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
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
Address 0x40: ff ff ff ff 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 ff ff 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				Lower Backplane
Midplane 1	REV 04	711-032387	ABAC7474	Upper Backplane
PMP 1	REV 03	711-032428	ACA11137	Upper Power Midplane
PMP 0	REV 03	711-032426	ACA11016	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-OC192-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	ANAN8S	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	REV 01	711-044315	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
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         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
FPM Display   REV 02    710-002897
CIP           REV 05    710-002895
PEM 0         Rev 01    740-002595
SCG 0         REV 04    710-003423
SCG 1         REV 04    710-003423
Routing Engine 0 REV 01    740-005022
Routing Engine 1 REV 07    740-005022
CB 0          REV 06    710-002726
CB 1          REV 06    710-002728
FPC 5         REV 05    710-007527
  PIC 0       REV 05    750-002510
  PIC 1       REV 05    750-001901
FPC 6         REV 03    710-001721
  PIC 1       REV 01    750-009553
SIB 4         REV 02    750-005486
Fan Tray 0
Fan Tray 1
Fan Tray 2
```

CHAS-BP-T640-S
CRAFT-T640-S
CIP-L-T640-S
PWR-T-DC-S
SCG-T-S
SCG-T-S
RE-600-2048-S
RE-600-2048-S
CHAS-BP-T640-S
CB-L-T-S
T640-FPC2
PB-2GE-SX
PB-40C12-SON-SMIR
T640-FPC3
PC-40C48-SON-SFP
SIB-I-T640-S
FANTRAY-T-S
FANTRAY-T-S
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 ff ff ff
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
...
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 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)

```
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

show chassis hardware (T4000 Router with LSR FPC)

```
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

show chassis hardware clei-models (T4000 Router)

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
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)

user@host> show chassis hardware detail

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
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 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)

```
user@host> show chassis hardware models
```

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)

```
user@host> show chassis hardware scc
scc-re0:
```

Hardware inventory:

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
Hardware inventory:
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

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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:
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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

lcc0-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

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:
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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
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 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
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 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 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 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
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 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

```


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

lcc1-re0:

Hardware inventory:

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

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

lcc0-re0:

```

-----
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)

```

user@host> show chassis hardware models
sfc0-re0:

```


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

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
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
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 (PTX3000 Packet Transport Router with the IPLC module)

```

user@switch> show chassis hardware
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis
Midplane       REV 11   750-044645  ACAL0016      Backplane
FPM            REV 03   760-044663  ACAR0137      Front Panel Display

```


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			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 (PTX5000 Packet Transport Router with FPC2-PTX-P1A)

```
user@host> show chassis hardware
```

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 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   AJC0BHC       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

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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-DU0-C2600-16G-S
Routing Engine 1	REV 06	740-026942	P737A-002438	RE-DU0-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
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
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
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 20 01 00 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 extensive (PTX1000 Packet Transport Router)

```

user@host> show chassis hardware extensive
Hardware inventory:
Item          Version  Part number  Serial number  Description
Chassis                               UNDEFINED    PTX1000
Pseudo CB 0
Routing Engine 0
FPC 0         REV 06    750-053330   ACAM4850       RE-PTX1000
CPU           BUILTIN   BUILTIN      PTX1000-FPC-P2-BUILTIN
PIC 0         BUILTIN   BUILTIN      FPC CPU
                                   288X10GE/72X40GE/24X100GE

Xcvr 2        REV 01    740-046565   QE240845       QSFP+-40G-SR4
Xcvr 3        REV 01    740-046565   QE240962       QSFP+-40G-SR4
Xcvr 5        REV 01    740-032986   ES400LZ        QSFP+-40G-SR4
Xcvr 12       REV 01    740-054053   QE419452       QSFP+-4X10G-SR
Xcvr 18       REV 01    740-054053   QE419481       QSFP+-4X10G-SR
Xcvr 30       REV 01    740-046565   QE440485       QSFP+-40G-SR4
Xcvr 48       REV 01    740-032986   ES400K3        QSFP+-40G-SR4
Xcvr 68       REV 01    740-046565   QF2805J3       QSFP+-40G-SR4
Mezz          REV 05    711-053333   ACAM4282       Mezzanine Board
Power Supply 2 REV 01    740-054405   1EDN4470131    AC AFO 1600W PSU
Power Supply 3 REV 01    740-054405   1EDN4470112    AC AFO 1600W PSU
Fan Tray 0                               PTX1000 Fan Tray 0, Front
to Back Airflow - AFO
Fan Tray 1                               PTX1000 Fan Tray 1, Front
to Back Airflow - AFO
Fan Tray 2                               PTX1000 Fan Tray 2, Front
to Back Airflow - AFO

```

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
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
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
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
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-MSC
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-MSC    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
  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-MSC
  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 ff
  Address 0x30: ff 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 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   P3566-C        QFX3500-48S4Q
  CPU          BUILTIN   BUILTIN      FPC CPU
  PIC 0        BUILTIN   BUILTIN      48x 10G-SFP+
    Xcvr 12    REV 01    740-030658   AD1125A0438    SFP+-10G-USR
    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  QFX5100-24Q-2P
  CPU              BUILTIN   BUILTIN      FPC CPU
  PIC 0            BUILTIN   BUILTIN      24x 40G-QSFP
    Xcvr 8          REV 01    740-032986   QA470143      QSFP+-40G-SR4
    Xcvr 14          REV 01    740-032986   QB500525      QSFP+-40G-SR4
  PIC 1            REV 02    611-049555   RR3113310169  QFX-EM-4Q
    Xcvr 0           REV 01    740-032986   QC440904      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
  to Back Airflow - AFO
Fan Tray 1
  to Back Airflow - AFO
Fan Tray 2
  to Back Airflow - AFO
Fan Tray 3
  to Back Airflow - AFO
Fan Tray 4
  to Back Airflow - AFO
QFX5100 Fan Tray 0, Front
QFX5100 Fan Tray 1, Front
QFX5100 Fan Tray 2, Front
QFX5100 Fan Tray 3, Front
QFX5100 Fan Tray 4, Front

```

show chassis environment fpc

List of Syntax	Syntax on page 288 Syntax (TX Matrix and TX Matrix Plus Routers) on page 288 Syntax (MX Series Routers) on page 288 Syntax (MX2010 3D Universal Edge Routers) on page 288 Syntax (MX2020 3D Universal Edge Routers) on page 288 Syntax (QFX Series) on page 288 Syntax (OCX Series) on page 288 Syntax (PTX3000 Series) on page 288
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 <i>member-id</i> >
Syntax (MX2010 3D Universal Edge Routers)	show chassis environment fpc <slot>
Syntax (MX2020 3D Universal Edge Routers)	show chassis environment fpc <slot> <satellite [slot-id <i>slot-id</i> [device-alias <i>alias-name</i>]]>
Syntax (QFX Series)	show chassis environment fpc <fpc-slot> interconnect-device <i>name</i>
Syntax (OCX Series)	show chassis environment fpc <fpc-slot>
Syntax (PTX3000 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.

satellite option introduced in Junos OS Release 14.2R3.

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.

satellite [*slot-id slot-id* | *device-alias alias-name*]—(Junos Fusion only) (Optional) Display environmental information for the FPCs in the specified satellite device in a Junos Fusion, or for all satellite devices in the Junos Fusion if no satellite devices are specified.

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 Rotuing 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.
- PTX3000 Packet Transport Router—Replace **fpc-slot** with 0 through 15.

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 292](#)
- [show chassis environment fpc \(M160 Router\) on page 293](#)
- [show chassis environment fpc \(M320 Router\) on page 294](#)
- [show chassis environment fpc \(MX2020 Router\) on page 294](#)

[show chassis environment fpc \(MX2010 Router\) on page 297](#)
[show chassis environment fpc \(MX240 Router\) on page 300](#)
[show chassis environment fpc \(MX480 Router\) on page 301](#)
[show chassis environment fpc \(MX960 Router\) on page 301](#)
[show chassis environment fpc \(MX480 Router with 100-Gigabit Ethernet CFP\) on page 302](#)
[show chassis environment fpc \(MX240, MX480, MX960 with Application Services Modular Line Card\) on page 304](#)
[show chassis environment fpc \(T320, T640, and T1600 Routers\) on page 304](#)
[show chassis environment fpc \(T4000 Router\) on page 305](#)
[show chassis environment fpc lcc \(TX Matrix Router\) on page 310](#)
[show chassis environment fpc lcc \(TX Matrix Plus Router\) on page 310](#)
[show chassis environment fpc \(QFX Series and OCX Series\) on page 311](#)
[show chassis environment fpc interconnect-device \(QFabric Systems\) on page 311](#)
[show chassis environment fpc 5 \(PTX3000 Packet Transport Router\) on page 312](#)
[show chassis environment fpc 0 \(PTX5000 Packet Transport Router\) on page 312](#)
[show chassis environment fpc 07 \(PTX5000 Packet Transport Router with FPC2-PTX-P1A\) on page 313](#)
[show chassis environment FPC 1 \(MX Routers with Media Services Blade \[MSB\]\) on page 314](#)

Output Fields Table 23 on page 291 lists the output fields for the **show chassis environment fpc** command. Output fields are listed in the approximate order in which they appear.

Table 23: 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.

Table 23: show chassis environment fpc Output Fields (*continued*)

Field Name	Field Description
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	(M120 and M320 routers, MX2010 routers, MX2020 routers, and PTX Series only) Temperature of the air flowing out of the chassis. The PTX Series Packet Transport Routers, and the MX2010 and MX2020 routers include exhaust temperatures for multiple zones (Exhaust A and Exhaust B).
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.
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 5(PTX3000 Packet Transport Router)

```

user@host> show chassis environment fpc 5
FPC 5 status:
State                               Online
Intake Temperature                  31 degrees C / 87 degrees F
Exhaust Temperature                 41 degrees C / 105 degrees F
Power
  FPC 12.0v                         12221 mV
  FPC VCC 0.5-1.3v                  1640 mV
  FPC VNN 0.5-1.3v                  1640 mV
  FPC 1.0v                           1640 mV
  FPC 1.1v                           1640 mV
  FPC 1.35v                          1640 mV
  FPC VDDQ 1.5v                     1640 mV
  FPC 1.8v                           1640 mV
  FPC 3.3v                           3280 mV
  FPC 5.0v bias                      5143 mV
  FPC 5.0v usb                       5143 mV
  FPC VCC 12.0v                     12289 mV
  FPC Vref 3.3v                     3280 mV
  MAIN 12.0v-i                       2265 mA

```

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 TEMP0 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 monitored

List of Syntax	Syntax on page 315 Syntax (MX2020 and MX2010 Routers) on page 315
Syntax	show chassis environment monitored
Syntax (MX2020 and MX2010 Routers)	show chassis environment monitored <all-members> <local> <member <i>member-id</i> >
Release Information	Command introduced in Junos OS Release 12.1 for PTX Series Packet Transport 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. all-members , local , and member <i>member-id</i> options introduced in Junos OS Release 15.1 for MX2020 and MX2010 routers.
Description	<p>(PTX Series Packet Transport Routers, and MX2010 and MX2020 routers) Display status information for monitored temperatures.</p> <p>On the PTX Series Packet Transport Routers, and on MX2010 and MX2020 routers, you can configure which temperatures are monitored for computing temperature alarms. Use this command to display only the temperatures that are monitored. Temperatures that are not included in the temperature alarm computations are not displayed.</p>
Options	<p>none—Display status information for monitored temperatures.</p> <p>all-members—(MX2010 and MX2020 routers only) (Optional) Display chassis information for monitored temperatures in all members of the Virtual Chassis configuration.</p> <p>local—(MX2010 and MX2020 routers only) (Optional) Display chassis information for monitored temperatures in the local member of the Virtual Chassis.</p> <p>member <i>member-id</i>—(MX2010 and MX2020 routers only) (Optional) Display chassis information for monitored temperatures in the specified member of the Virtual Chassis. Replace <i>member-id</i> with the value 0 or 1.</p>
Required Privilege Level	view
Related Documentation	<ul style="list-style-type: none"> <i>show chassis environment</i> <i>Chassis-Level Feature Guide</i>
List of Sample Output	show chassis environment monitored (PTX3000 Packet Transport Router) on page 316 show chassis environment monitored (PTX5000 Packet Transport Router) on page 317 show chassis environment monitored (MX2010 Router) on page 317 show chassis environment monitored (MX2020 Router) on page 320

Output Fields Table 24 on page 316 lists the output fields for the **show chassis environment monitored** command. Output fields are listed in the approximate order in which they appear.

Table 24: show chassis environment monitored Output Fields

Field Name	Field Description
Item	Chassis component: <ul style="list-style-type: none"> (PTX Series Packet Transport Routers, and MX2010 and MX2020 routers)—Information about the chassis, Routing Engines, Control Boards (CBs), Switch Interface Boards (SIBs), PICs, and Flexible PIC Concentrators (FPCs).
Status	Status of the specified item: OK , Alarm , or Present .
Measurement	Temperature of the air flowing past the specified chassis component. Temperature is displayed in degrees Celsius (C) and degrees Fahrenheit (F).

Sample Output

show chassis environment monitored (PTX3000 Packet Transport Router)

```

user@host> show chassis environment monitored
Class Item                               Status      Measurement
Routing Engine 0 CPU                    OK          54 degrees C / 129 degrees F
Routing Engine 1 CPU                    Present
CB 0 Exhaust A                          OK          25 degrees C / 77 degrees F
CB 1 Exhaust A                          OK          22 degrees C / 71 degrees F
SIB 0 Exhaust                           OK          34 degrees C / 93 degrees F
SIB 0 TF                                OK          42 degrees C / 107 degrees F
SIB 1 Exhaust                           OK          31 degrees C / 87 degrees F
SIB 1 TF                                OK          41 degrees C / 105 degrees F
SIB 2 Exhaust                           OK          32 degrees C / 89 degrees F
SIB 2 TF                                OK          40 degrees C / 104 degrees F
SIB 3 Exhaust                           OK          32 degrees C / 89 degrees F
SIB 3 TF                                OK          40 degrees C / 104 degrees F
SIB 4 Exhaust                           OK          31 degrees C / 87 degrees F
SIB 4 TF                                OK          40 degrees C / 104 degrees F
SIB 5 Exhaust                           OK          31 degrees C / 87 degrees F
SIB 5 TF                                OK          39 degrees C / 102 degrees F
SIB 6 Exhaust                           OK          31 degrees C / 87 degrees F
SIB 6 TF                                OK          39 degrees C / 102 degrees F
SIB 7 Exhaust                           OK          35 degrees C / 95 degrees F
SIB 7 TF                                OK          40 degrees C / 104 degrees F
SIB 8 Exhaust                           OK          32 degrees C / 89 degrees F
SIB 8 TF                                OK          40 degrees C / 104 degrees F
FPC 2 PMB CPU                           OK          67 degrees C / 152 degrees F
FPC 2 Exhaust                           OK          40 degrees C / 104 degrees F
FPC 2 Intake                             OK          33 degrees C / 91 degrees F
FPC 2 TL0                               OK          69 degrees C / 156 degrees F
FPC 2 TQ0                               OK          60 degrees C / 140 degrees F
FPC 2 TL1                               OK          56 degrees C / 132 degrees F
FPC 2 TQ1                               OK          45 degrees C / 113 degrees F
PIC Ambient                             OK          40 degrees C / 104 degrees F
FPC 6 PMB CPU                           OK          80 degrees C / 176 degrees F
FPC 6 Exhaust                           OK          53 degrees C / 127 degrees F
FPC 6 Intake                             OK          36 degrees C / 96 degrees F
FPC 6 TL0                               OK          69 degrees C / 156 degrees F

```

FPC 6 TQ0	OK	65 degrees C / 149 degrees F
FPC 6 TL1	OK	52 degrees C / 125 degrees F
FPC 6 TQ1	OK	47 degrees C / 116 degrees F
PIC Ambient	OK	46 degrees C / 114 degrees F
FPC 12 PMB CPU	OK	42 degrees C / 107 degrees F
FPC 12 Intake	OK	33 degrees C / 91 degrees F
FPC 12 Exhaust	OK	41 degrees C / 105 degrees F
FPC 12 TL0	OK	48 degrees C / 118 degrees F
FPC 12 TQ0	OK	45 degrees C / 113 degrees F
FPC 12 TL1	OK	58 degrees C / 136 degrees F
FPC 12 TQ1	OK	50 degrees C / 122 degrees F
PIC Ambient	OK	56 degrees C / 132 degrees F
PIC 100G_OTN_LH-12/0/0	OK	74 degrees C / 165 degrees F
PIC 100G_OTN_LH-12/0/1	OK	93 degrees C / 199 degrees F

show chassis environment monitored (PTX5000 Packet Transport Router)

```
user@host> show chassis environment monitored
```

Class	Item	Status	Measurement
	Routing Engine 0 CPU	OK	71 degrees C / 159 degrees F
	Routing Engine 1 CPU	OK	62 degrees C / 143 degrees F
	CB 0 Exhaust A	OK	45 degrees C / 113 degrees F
	CB 0 Exhaust B	OK	41 degrees C / 105 degrees F
	CB 1 Exhaust A	OK	39 degrees C / 102 degrees F
	CB 1 Exhaust B	OK	36 degrees C / 96 degrees F

show chassis environment monitored (MX2010 Router)

```
user@host > show chassis environment monitored
```

Class	Item	Status	Measurement
Temp	CB 0 IntakeA-Zone0	OK	37 degrees C / 98 degrees F
	CB 0 IntakeB-Zone1	OK	31 degrees C / 87 degrees F
	CB 0 IntakeC-Zone0	OK	39 degrees C / 102 degrees F
	CB 0 ExhaustA-Zone0	OK	36 degrees C / 96 degrees F
	CB 0 ExhaustB-Zone1	OK	32 degrees C / 89 degrees F
	CB 0 TCBC-Zone0	OK	34 degrees C / 93 degrees F
	CB 1 IntakeA-Zone0	OK	36 degrees C / 96 degrees F
	CB 1 IntakeB-Zone1	OK	28 degrees C / 82 degrees F
	CB 1 IntakeC-Zone0	OK	38 degrees C / 100 degrees F
	CB 1 ExhaustA-Zone0	OK	36 degrees C / 96 degrees F
	CB 1 ExhaustB-Zone1	OK	30 degrees C / 86 degrees F
	CB 1 TCBC-Zone0	OK	33 degrees C / 91 degrees F
	SPMB 0 Intake	OK	30 degrees C / 86 degrees F
	SPMB 1 Intake	OK	28 degrees C / 82 degrees F
	Routing Engine 0 CPU	OK	32 degrees C / 89 degrees F
	Routing Engine 1 CPU	Present	
	SFB 0 Intake-Zone0	OK	46 degrees C / 114 degrees F
	SFB 0 Exhaust-Zone1	OK	38 degrees C / 100 degrees F
	SFB 0 IntakeA-Zone0	OK	35 degrees C / 95 degrees F
	SFB 0 IntakeB-Zone1	OK	31 degrees C / 87 degrees F
	SFB 0 Exhaust-Zone0	OK	39 degrees C / 102 degrees F
	SFB 0 SFB-XF2-Zone1	OK	44 degrees C / 111 degrees F
	SFB 0 SFB-XF1-Zone0	OK	47 degrees C / 116 degrees F
	SFB 0 SFB-XF0-Zone0	OK	56 degrees C / 132 degrees F
	SFB 1 Intake-Zone0	OK	34 degrees C / 93 degrees F
	SFB 1 Exhaust-Zone1	OK	34 degrees C / 93 degrees F
	SFB 1 IntakeA-Zone0	OK	29 degrees C / 84 degrees F
	SFB 1 IntakeB-Zone1	OK	29 degrees C / 84 degrees F
	SFB 1 Exhaust-Zone0	OK	32 degrees C / 89 degrees F

SFB 1 SFB-XF2-Zone1	OK	42 degrees C / 107 degrees F
SFB 1 SFB-XF1-Zone0	OK	40 degrees C / 104 degrees F
SFB 1 SFB-XF0-Zone0	OK	42 degrees C / 107 degrees F
SFB 2 Intake-Zone0	OK	33 degrees C / 91 degrees F
SFB 2 Exhaust-Zone1	OK	33 degrees C / 91 degrees F
SFB 2 IntakeA-Zone0	OK	28 degrees C / 82 degrees F
SFB 2 IntakeB-Zone1	OK	28 degrees C / 82 degrees F
SFB 2 Exhaust-Zone0	OK	31 degrees C / 87 degrees F
SFB 2 SFB-XF2-Zone1	OK	41 degrees C / 105 degrees F
SFB 2 SFB-XF1-Zone0	OK	39 degrees C / 102 degrees F
SFB 2 SFB-XF0-Zone0	OK	42 degrees C / 107 degrees F
SFB 3 Intake-Zone0	OK	33 degrees C / 91 degrees F
SFB 3 Exhaust-Zone1	OK	33 degrees C / 91 degrees F
SFB 3 IntakeA-Zone0	OK	29 degrees C / 84 degrees F
SFB 3 IntakeB-Zone1	OK	28 degrees C / 82 degrees F
SFB 3 Exhaust-Zone0	OK	31 degrees C / 87 degrees F
SFB 3 SFB-XF2-Zone1	OK	43 degrees C / 109 degrees F
SFB 3 SFB-XF1-Zone0	OK	40 degrees C / 104 degrees F
SFB 3 SFB-XF0-Zone0	OK	42 degrees C / 107 degrees F
SFB 4 Intake-Zone0	OK	34 degrees C / 93 degrees F
SFB 4 Exhaust-Zone1	OK	34 degrees C / 93 degrees F
SFB 4 IntakeA-Zone0	OK	29 degrees C / 84 degrees F
SFB 4 IntakeB-Zone1	OK	28 degrees C / 82 degrees F
SFB 4 Exhaust-Zone0	OK	32 degrees C / 89 degrees F
SFB 4 SFB-XF2-Zone1	OK	43 degrees C / 109 degrees F
SFB 4 SFB-XF1-Zone0	OK	42 degrees C / 107 degrees F
SFB 4 SFB-XF0-Zone0	OK	43 degrees C / 109 degrees F
SFB 5 Intake-Zone0	OK	34 degrees C / 93 degrees F
SFB 5 Exhaust-Zone1	OK	34 degrees C / 93 degrees F
SFB 5 IntakeA-Zone0	OK	30 degrees C / 86 degrees F
SFB 5 IntakeB-Zone1	OK	28 degrees C / 82 degrees F
SFB 5 Exhaust-Zone0	OK	32 degrees C / 89 degrees F
SFB 5 SFB-XF2-Zone1	OK	41 degrees C / 105 degrees F
SFB 5 SFB-XF1-Zone0	OK	41 degrees C / 105 degrees F
SFB 5 SFB-XF0-Zone0	OK	44 degrees C / 111 degrees F
SFB 6 Intake-Zone0	OK	35 degrees C / 95 degrees F
SFB 6 Exhaust-Zone1	OK	34 degrees C / 93 degrees F
SFB 6 IntakeA-Zone0	OK	30 degrees C / 86 degrees F
SFB 6 IntakeB-Zone1	OK	29 degrees C / 84 degrees F
SFB 6 Exhaust-Zone0	OK	33 degrees C / 91 degrees F
SFB 6 SFB-XF2-Zone1	OK	44 degrees C / 111 degrees F
SFB 6 SFB-XF1-Zone0	OK	43 degrees C / 109 degrees F
SFB 6 SFB-XF0-Zone0	OK	46 degrees C / 114 degrees F
SFB 7 Intake-Zone0	OK	39 degrees C / 102 degrees F
SFB 7 Exhaust-Zone1	OK	34 degrees C / 93 degrees F
SFB 7 IntakeA-Zone0	OK	34 degrees C / 93 degrees F
SFB 7 IntakeB-Zone1	OK	29 degrees C / 84 degrees F
SFB 7 Exhaust-Zone0	OK	37 degrees C / 98 degrees F
SFB 7 SFB-XF2-Zone1	OK	43 degrees C / 109 degrees F
SFB 7 SFB-XF1-Zone0	OK	47 degrees C / 116 degrees F
SFB 7 SFB-XF0-Zone0	OK	52 degrees C / 125 degrees F
FPC 0 Intake	OK	36 degrees C / 96 degrees F
FPC 0 Exhaust A	OK	42 degrees C / 107 degrees F
FPC 0 Exhaust B	OK	51 degrees C / 123 degrees F
FPC 0 LU 0 TSen	OK	49 degrees C / 120 degrees F
FPC 0 LU 0 Chip	OK	50 degrees C / 122 degrees F
FPC 0 LU 1 TSen	OK	49 degrees C / 120 degrees F
FPC 0 LU 1 Chip	OK	54 degrees C / 129 degrees F
FPC 0 LU 2 TSen	OK	49 degrees C / 120 degrees F
FPC 0 LU 2 Chip	OK	45 degrees C / 113 degrees F
FPC 0 LU 3 TSen	OK	49 degrees C / 120 degrees F

FPC 0 LU 3 Chip	OK	46 degrees C / 114 degrees F
FPC 0 MQ 0 TSen	OK	40 degrees C / 104 degrees F
FPC 0 MQ 0 Chip	OK	41 degrees C / 105 degrees F
FPC 0 MQ 1 TSen	OK	40 degrees C / 104 degrees F
FPC 0 MQ 1 Chip	OK	44 degrees C / 111 degrees F
FPC 0 MQ 2 TSen	OK	40 degrees C / 104 degrees F
FPC 0 MQ 2 Chip	OK	38 degrees C / 100 degrees F
FPC 0 MQ 3 TSen	OK	40 degrees C / 104 degrees F
FPC 0 MQ 3 Chip	OK	41 degrees C / 105 degrees F
FPC 1 Intake	OK	34 degrees C / 93 degrees F
FPC 1 Exhaust A	OK	46 degrees C / 114 degrees F
FPC 1 Exhaust B	OK	54 degrees C / 129 degrees F
FPC 1 LU 0 TSen	OK	45 degrees C / 113 degrees F
FPC 1 LU 0 Chip	OK	55 degrees C / 131 degrees F
FPC 1 LU 1 TSen	OK	45 degrees C / 113 degrees F
FPC 1 LU 1 Chip	OK	44 degrees C / 111 degrees F
FPC 1 LU 2 TSen	OK	45 degrees C / 113 degrees F
FPC 1 LU 2 Chip	OK	50 degrees C / 122 degrees F
FPC 1 LU 3 TSen	OK	45 degrees C / 113 degrees F
FPC 1 LU 3 Chip	OK	58 degrees C / 136 degrees F
FPC 1 XM 0 TSen	OK	45 degrees C / 113 degrees F
FPC 1 XM 0 Chip	OK	52 degrees C / 125 degrees F
FPC 1 XF 0 TSen	OK	45 degrees C / 113 degrees F
FPC 1 XF 0 Chip	OK	63 degrees C / 145 degrees F
FPC 1 PLX Switch TSen	OK	45 degrees C / 113 degrees F
FPC 1 PLX Switch Chip	OK	47 degrees C / 116 degrees F
FPC 8 Intake	OK	32 degrees C / 89 degrees F
FPC 8 Exhaust A	OK	44 degrees C / 111 degrees F
FPC 8 Exhaust B	OK	37 degrees C / 98 degrees F
FPC 8 LU 0 TCAM TSen	OK	41 degrees C / 105 degrees F
FPC 8 LU 0 TCAM Chip	OK	49 degrees C / 120 degrees F
FPC 8 LU 0 TSen	OK	41 degrees C / 105 degrees F
FPC 8 LU 0 Chip	OK	52 degrees C / 125 degrees F
FPC 8 MQ 0 TSen	OK	41 degrees C / 105 degrees F
FPC 8 MQ 0 Chip	OK	47 degrees C / 116 degrees F
FPC 8 LU 1 TCAM TSen	OK	39 degrees C / 102 degrees F
FPC 8 LU 1 TCAM Chip	OK	42 degrees C / 107 degrees F
FPC 8 LU 1 TSen	OK	39 degrees C / 102 degrees F
FPC 8 LU 1 Chip	OK	46 degrees C / 114 degrees F
FPC 8 MQ 1 TSen	OK	39 degrees C / 102 degrees F
FPC 8 MQ 1 Chip	OK	45 degrees C / 113 degrees F
FPC 9 Intake	OK	34 degrees C / 93 degrees F
FPC 9 Exhaust A	OK	41 degrees C / 105 degrees F
FPC 9 Exhaust B	OK	54 degrees C / 129 degrees F
FPC 9 LU 0 TSen	OK	51 degrees C / 123 degrees F
FPC 9 LU 0 Chip	OK	52 degrees C / 125 degrees F
FPC 9 LU 1 TSen	OK	51 degrees C / 123 degrees F
FPC 9 LU 1 Chip	OK	55 degrees C / 131 degrees F
FPC 9 LU 2 TSen	OK	51 degrees C / 123 degrees F
FPC 9 LU 2 Chip	OK	47 degrees C / 116 degrees F
FPC 9 LU 3 TSen	OK	51 degrees C / 123 degrees F
FPC 9 LU 3 Chip	OK	47 degrees C / 116 degrees F
FPC 9 MQ 0 TSen	OK	40 degrees C / 104 degrees F
FPC 9 MQ 0 Chip	OK	42 degrees C / 107 degrees F
FPC 9 MQ 1 TSen	OK	40 degrees C / 104 degrees F
FPC 9 MQ 1 Chip	OK	44 degrees C / 111 degrees F
FPC 9 MQ 2 TSen	OK	40 degrees C / 104 degrees F
FPC 9 MQ 2 Chip	OK	38 degrees C / 100 degrees F
FPC 9 MQ 3 TSen	OK	40 degrees C / 104 degrees F
FPC 9 MQ 3 Chip	OK	40 degrees C / 104 degrees F
ADC 0 Intake	OK	35 degrees C / 95 degrees F

ADC 0 Exhaust	OK	44 degrees C / 111 degrees F
ADC 0 ADC-XF1	OK	48 degrees C / 118 degrees F
ADC 0 ADC-XF0	OK	59 degrees C / 138 degrees F
ADC 1 Intake	OK	34 degrees C / 93 degrees F
ADC 1 Exhaust	OK	45 degrees C / 113 degrees F
ADC 1 ADC-XF1	OK	53 degrees C / 127 degrees F
ADC 1 ADC-XF0	OK	56 degrees C / 132 degrees F
ADC 8 Intake	OK	35 degrees C / 95 degrees F
ADC 8 Exhaust	OK	41 degrees C / 105 degrees F
ADC 8 ADC-XF1	OK	52 degrees C / 125 degrees F
ADC 8 ADC-XF0	OK	55 degrees C / 131 degrees F
ADC 9 Intake	OK	33 degrees C / 91 degrees F
ADC 9 Exhaust	OK	42 degrees C / 107 degrees F
ADC 9 ADC-XF1	OK	55 degrees C / 131 degrees F
ADC 9 ADC-XF0	OK	56 degrees C / 132 degrees F

show chassis environment monitored (MX2020 Router)

```
user@host > show chassis environment monitored
```

Class	Item	Status	Measurement
Temp	CB 0 IntakeA-Zone0	OK	44 degrees C / 111 degrees F
	CB 0 IntakeB-Zone1	OK	34 degrees C / 93 degrees F
	CB 0 IntakeC-Zone0	OK	46 degrees C / 114 degrees F
	CB 0 ExhaustA-Zone0	OK	44 degrees C / 111 degrees F
	CB 0 ExhaustB-Zone1	OK	36 degrees C / 96 degrees F
	CB 0 TCBC-Zone0	OK	39 degrees C / 102 degrees F
	CB 1 IntakeA-Zone0	OK	46 degrees C / 114 degrees F
	CB 1 IntakeB-Zone1	OK	43 degrees C / 109 degrees F
	CB 1 IntakeC-Zone0	OK	47 degrees C / 116 degrees F
	CB 1 ExhaustA-Zone0	OK	45 degrees C / 113 degrees F
	CB 1 ExhaustB-Zone1	OK	42 degrees C / 107 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	43 degrees C / 109 degrees F
	Routing Engine 0 CPU	OK	34 degrees C / 93 degrees F
	Routing Engine 1 CPU	OK	42 degrees C / 107 degrees F
	SFB 0 Intake-Zone0	OK	52 degrees C / 125 degrees F
	SFB 0 Exhaust-Zone1	OK	45 degrees C / 113 degrees F
	SFB 0 IntakeA-Zone0	OK	47 degrees C / 116 degrees F
	SFB 0 IntakeB-Zone1	OK	38 degrees C / 100 degrees F
	SFB 0 Exhaust-Zone0	OK	49 degrees C / 120 degrees F
	SFB 0 SFB-XF2-Zone1	OK	59 degrees C / 138 degrees F
	SFB 0 SFB-XF1-Zone0	OK	65 degrees C / 149 degrees F
	SFB 0 SFB-XF0-Zone0	OK	65 degrees C / 149 degrees F
	SFB 1 Intake-Zone0	OK	53 degrees C / 127 degrees F
	SFB 1 Exhaust-Zone1	OK	45 degrees C / 113 degrees F
	SFB 1 IntakeA-Zone0	OK	48 degrees C / 118 degrees F
	SFB 1 IntakeB-Zone1	OK	39 degrees C / 102 degrees F
	SFB 1 Exhaust-Zone0	OK	48 degrees C / 118 degrees F
	SFB 1 SFB-XF2-Zone1	OK	60 degrees C / 140 degrees F
	SFB 1 SFB-XF1-Zone0	OK	64 degrees C / 147 degrees F
	SFB 1 SFB-XF0-Zone0	OK	66 degrees C / 150 degrees F
	SFB 2 Intake-Zone0	OK	54 degrees C / 129 degrees F
	SFB 2 Exhaust-Zone1	OK	46 degrees C / 114 degrees F
	SFB 2 IntakeA-Zone0	OK	48 degrees C / 118 degrees F
	SFB 2 IntakeB-Zone1	OK	39 degrees C / 102 degrees F
	SFB 2 Exhaust-Zone0	OK	50 degrees C / 122 degrees F
	SFB 2 SFB-XF2-Zone1	OK	63 degrees C / 145 degrees F
	SFB 2 SFB-XF1-Zone0	OK	67 degrees C / 152 degrees F
	SFB 2 SFB-XF0-Zone0	OK	67 degrees C / 152 degrees F
	SFB 3 Intake-Zone0	OK	54 degrees C / 129 degrees F

SFB 3 Exhaust-Zone1	OK	46 degrees C / 114 degrees F
SFB 3 IntakeA-Zone0	OK	50 degrees C / 122 degrees F
SFB 3 IntakeB-Zone1	OK	40 degrees C / 104 degrees F
SFB 3 Exhaust-Zone0	OK	50 degrees C / 122 degrees F
SFB 3 SFB-XF2-Zone1	OK	64 degrees C / 147 degrees F
SFB 3 SFB-XF1-Zone0	OK	66 degrees C / 150 degrees F
SFB 3 SFB-XF0-Zone0	OK	68 degrees C / 154 degrees F
SFB 4 Intake-Zone0	OK	55 degrees C / 131 degrees F
SFB 4 Exhaust-Zone1	OK	48 degrees C / 118 degrees F
SFB 4 IntakeA-Zone0	OK	51 degrees C / 123 degrees F
SFB 4 IntakeB-Zone1	OK	42 degrees C / 107 degrees F
SFB 4 Exhaust-Zone0	OK	51 degrees C / 123 degrees F
SFB 4 SFB-XF2-Zone1	OK	63 degrees C / 145 degrees F
SFB 4 SFB-XF1-Zone0	OK	66 degrees C / 150 degrees F
SFB 4 SFB-XF0-Zone0	OK	68 degrees C / 154 degrees F
SFB 5 Intake-Zone0	OK	55 degrees C / 131 degrees F
SFB 5 Exhaust-Zone1	OK	49 degrees C / 120 degrees F
SFB 5 IntakeA-Zone0	OK	51 degrees C / 123 degrees F
SFB 5 IntakeB-Zone1	OK	43 degrees C / 109 degrees F
SFB 5 Exhaust-Zone0	OK	51 degrees C / 123 degrees F
SFB 5 SFB-XF2-Zone1	OK	65 degrees C / 149 degrees F
SFB 5 SFB-XF1-Zone0	OK	66 degrees C / 150 degrees F
SFB 5 SFB-XF0-Zone0	OK	71 degrees C / 159 degrees F
SFB 6 Intake-Zone0	OK	55 degrees C / 131 degrees F
SFB 6 Exhaust-Zone1	OK	49 degrees C / 120 degrees F
SFB 6 IntakeA-Zone0	OK	51 degrees C / 123 degrees F
SFB 6 IntakeB-Zone1	OK	43 degrees C / 109 degrees F
SFB 6 Exhaust-Zone0	OK	51 degrees C / 123 degrees F
SFB 6 SFB-XF2-Zone1	OK	64 degrees C / 147 degrees F
SFB 6 SFB-XF1-Zone0	OK	66 degrees C / 150 degrees F
SFB 6 SFB-XF0-Zone0	OK	68 degrees C / 154 degrees F
SFB 7 Intake-Zone0	OK	55 degrees C / 131 degrees F
SFB 7 Exhaust-Zone1	OK	49 degrees C / 120 degrees F
SFB 7 IntakeA-Zone0	OK	51 degrees C / 123 degrees F
SFB 7 IntakeB-Zone1	OK	43 degrees C / 109 degrees F
SFB 7 Exhaust-Zone0	OK	52 degrees C / 125 degrees F
SFB 7 SFB-XF2-Zone1	OK	66 degrees C / 150 degrees F
SFB 7 SFB-XF1-Zone0	OK	67 degrees C / 152 degrees F
SFB 7 SFB-XF0-Zone0	OK	70 degrees C / 158 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	60 degrees C / 140 degrees F
FPC 0 LU 0 TSen	OK	56 degrees C / 132 degrees F
FPC 0 LU 0 Chip	OK	59 degrees C / 138 degrees F
FPC 0 LU 1 TSen	OK	56 degrees C / 132 degrees F
FPC 0 LU 1 Chip	OK	61 degrees C / 141 degrees F
FPC 0 LU 2 TSen	OK	56 degrees C / 132 degrees F
FPC 0 LU 2 Chip	OK	52 degrees C / 125 degrees F
FPC 0 LU 3 TSen	OK	56 degrees C / 132 degrees F
FPC 0 LU 3 Chip	OK	52 degrees C / 125 degrees F
FPC 0 MQ 0 TSen	OK	49 degrees C / 120 degrees F
FPC 0 MQ 0 Chip	OK	49 degrees C / 120 degrees F
FPC 0 MQ 1 TSen	OK	49 degrees C / 120 degrees F
FPC 0 MQ 1 Chip	OK	52 degrees C / 125 degrees F
FPC 0 MQ 2 TSen	OK	49 degrees C / 120 degrees F
FPC 0 MQ 2 Chip	OK	45 degrees C / 113 degrees F
FPC 0 MQ 3 TSen	OK	49 degrees C / 120 degrees F
FPC 0 MQ 3 Chip	OK	46 degrees C / 114 degrees F
FPC 1 Intake	OK	39 degrees C / 102 degrees F
FPC 1 Exhaust A	OK	48 degrees C / 118 degrees F
FPC 1 Exhaust B	OK	55 degrees C / 131 degrees F

FPC 1 LU 0 TSen	OK	52 degrees C / 125 degrees F
FPC 1 LU 0 Chip	OK	54 degrees C / 129 degrees F
FPC 1 LU 1 TSen	OK	52 degrees C / 125 degrees F
FPC 1 LU 1 Chip	OK	56 degrees C / 132 degrees F
FPC 1 LU 2 TSen	OK	52 degrees C / 125 degrees F
FPC 1 LU 2 Chip	OK	49 degrees C / 120 degrees F
FPC 1 LU 3 TSen	OK	52 degrees C / 125 degrees F
FPC 1 LU 3 Chip	OK	50 degrees C / 122 degrees F
FPC 1 MQ 0 TSen	OK	48 degrees C / 118 degrees F
FPC 1 MQ 0 Chip	OK	48 degrees C / 118 degrees F
FPC 1 MQ 1 TSen	OK	48 degrees C / 118 degrees F
FPC 1 MQ 1 Chip	OK	51 degrees C / 123 degrees F
FPC 1 MQ 2 TSen	OK	48 degrees C / 118 degrees F
FPC 1 MQ 2 Chip	OK	45 degrees C / 113 degrees F
FPC 1 MQ 3 TSen	OK	48 degrees C / 118 degrees F
FPC 1 MQ 3 Chip	OK	45 degrees C / 113 degrees F
FPC 2 Intake	OK	39 degrees C / 102 degrees F
FPC 2 Exhaust A	OK	48 degrees C / 118 degrees F
FPC 2 Exhaust B	OK	58 degrees C / 136 degrees F
FPC 2 LU 0 TSen	OK	55 degrees C / 131 degrees F
FPC 2 LU 0 Chip	OK	57 degrees C / 134 degrees F
FPC 2 LU 1 TSen	OK	55 degrees C / 131 degrees F
FPC 2 LU 1 Chip	OK	63 degrees C / 145 degrees F
FPC 2 LU 2 TSen	OK	55 degrees C / 131 degrees F
FPC 2 LU 2 Chip	OK	51 degrees C / 123 degrees F
FPC 2 LU 3 TSen	OK	55 degrees C / 131 degrees F
FPC 2 LU 3 Chip	OK	52 degrees C / 125 degrees F
FPC 2 MQ 0 TSen	OK	48 degrees C / 118 degrees F
FPC 2 MQ 0 Chip	OK	50 degrees C / 122 degrees F
FPC 2 MQ 1 TSen	OK	48 degrees C / 118 degrees F
FPC 2 MQ 1 Chip	OK	52 degrees C / 125 degrees F
FPC 2 MQ 2 TSen	OK	48 degrees C / 118 degrees F
FPC 2 MQ 2 Chip	OK	47 degrees C / 116 degrees F
FPC 2 MQ 3 TSen	OK	48 degrees C / 118 degrees F
FPC 2 MQ 3 Chip	OK	47 degrees C / 116 degrees F
FPC 3 Intake	OK	41 degrees C / 105 degrees F
FPC 3 Exhaust A	OK	48 degrees C / 118 degrees F
FPC 3 Exhaust B	OK	58 degrees C / 136 degrees F
FPC 3 LU 0 TSen	OK	56 degrees C / 132 degrees F
FPC 3 LU 0 Chip	OK	59 degrees C / 138 degrees F
FPC 3 LU 1 TSen	OK	56 degrees C / 132 degrees F
FPC 3 LU 1 Chip	OK	61 degrees C / 141 degrees F
FPC 3 LU 2 TSen	OK	56 degrees C / 132 degrees F
FPC 3 LU 2 Chip	OK	51 degrees C / 123 degrees F
FPC 3 LU 3 TSen	OK	56 degrees C / 132 degrees F
FPC 3 LU 3 Chip	OK	53 degrees C / 127 degrees F
FPC 3 MQ 0 TSen	OK	50 degrees C / 122 degrees F
FPC 3 MQ 0 Chip	OK	51 degrees C / 123 degrees F
FPC 3 MQ 1 TSen	OK	50 degrees C / 122 degrees F
FPC 3 MQ 1 Chip	OK	55 degrees C / 131 degrees F
FPC 3 MQ 2 TSen	OK	50 degrees C / 122 degrees F
FPC 3 MQ 2 Chip	OK	47 degrees C / 116 degrees F
FPC 3 MQ 3 TSen	OK	50 degrees C / 122 degrees F
FPC 3 MQ 3 Chip	OK	50 degrees C / 122 degrees F
FPC 4 Intake	OK	41 degrees C / 105 degrees F
FPC 4 Exhaust A	OK	48 degrees C / 118 degrees F
FPC 4 Exhaust B	OK	59 degrees C / 138 degrees F
FPC 4 LU 0 TSen	OK	56 degrees C / 132 degrees F
FPC 4 LU 0 Chip	OK	60 degrees C / 140 degrees F
FPC 4 LU 1 TSen	OK	56 degrees C / 132 degrees F
FPC 4 LU 1 Chip	OK	64 degrees C / 147 degrees F

FPC 4 LU 2 TSen	OK	56 degrees C / 132 degrees F
FPC 4 LU 2 Chip	OK	51 degrees C / 123 degrees F
FPC 4 LU 3 TSen	OK	56 degrees C / 132 degrees F
FPC 4 LU 3 Chip	OK	54 degrees C / 129 degrees F
FPC 4 MQ 0 TSen	OK	49 degrees C / 120 degrees F
FPC 4 MQ 0 Chip	OK	53 degrees C / 127 degrees F
FPC 4 MQ 1 TSen	OK	49 degrees C / 120 degrees F
FPC 4 MQ 1 Chip	OK	55 degrees C / 131 degrees F
FPC 4 MQ 2 TSen	OK	49 degrees C / 120 degrees F
FPC 4 MQ 2 Chip	OK	48 degrees C / 118 degrees F
FPC 4 MQ 3 TSen	OK	49 degrees C / 120 degrees F
FPC 4 MQ 3 Chip	OK	49 degrees C / 120 degrees F
FPC 5 Intake	OK	42 degrees C / 107 degrees F
FPC 5 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 5 Exhaust B	OK	61 degrees C / 141 degrees F
FPC 5 LU 0 TSen	OK	58 degrees C / 136 degrees F
FPC 5 LU 0 Chip	OK	61 degrees C / 141 degrees F
FPC 5 LU 1 TSen	OK	58 degrees C / 136 degrees F
FPC 5 LU 1 Chip	OK	64 degrees C / 147 degrees F
FPC 5 LU 2 TSen	OK	58 degrees C / 136 degrees F
FPC 5 LU 2 Chip	OK	56 degrees C / 132 degrees F
FPC 5 LU 3 TSen	OK	58 degrees C / 136 degrees F
FPC 5 LU 3 Chip	OK	54 degrees C / 129 degrees F
FPC 5 MQ 0 TSen	OK	51 degrees C / 123 degrees F
FPC 5 MQ 0 Chip	OK	53 degrees C / 127 degrees F
FPC 5 MQ 1 TSen	OK	51 degrees C / 123 degrees F
FPC 5 MQ 1 Chip	OK	55 degrees C / 131 degrees F
FPC 5 MQ 2 TSen	OK	51 degrees C / 123 degrees F
FPC 5 MQ 2 Chip	OK	50 degrees C / 122 degrees F
FPC 5 MQ 3 TSen	OK	51 degrees C / 123 degrees F
FPC 5 MQ 3 Chip	OK	49 degrees C / 120 degrees F
FPC 6 Intake	OK	42 degrees C / 107 degrees F
FPC 6 Exhaust A	OK	50 degrees C / 122 degrees F
FPC 6 Exhaust B	OK	61 degrees C / 141 degrees F
FPC 6 LU 0 TSen	OK	58 degrees C / 136 degrees F
FPC 6 LU 0 Chip	OK	62 degrees C / 143 degrees F
FPC 6 LU 1 TSen	OK	58 degrees C / 136 degrees F
FPC 6 LU 1 Chip	OK	64 degrees C / 147 degrees F
FPC 6 LU 2 TSen	OK	58 degrees C / 136 degrees F
FPC 6 LU 2 Chip	OK	56 degrees C / 132 degrees F
FPC 6 LU 3 TSen	OK	58 degrees C / 136 degrees F
FPC 6 LU 3 Chip	OK	56 degrees C / 132 degrees F
FPC 6 MQ 0 TSen	OK	51 degrees C / 123 degrees F
FPC 6 MQ 0 Chip	OK	58 degrees C / 136 degrees F
FPC 6 MQ 1 TSen	OK	51 degrees C / 123 degrees F
FPC 6 MQ 1 Chip	OK	61 degrees C / 141 degrees F
FPC 6 MQ 2 TSen	OK	51 degrees C / 123 degrees F
FPC 6 MQ 2 Chip	OK	51 degrees C / 123 degrees F
FPC 6 MQ 3 TSen	OK	51 degrees C / 123 degrees F
FPC 6 MQ 3 Chip	OK	51 degrees C / 123 degrees F
FPC 7 Intake	OK	42 degrees C / 107 degrees F
FPC 7 Exhaust A	OK	50 degrees C / 122 degrees F
FPC 7 Exhaust B	OK	61 degrees C / 141 degrees F
FPC 7 LU 0 TSen	OK	58 degrees C / 136 degrees F
FPC 7 LU 0 Chip	OK	59 degrees C / 138 degrees F
FPC 7 LU 1 TSen	OK	58 degrees C / 136 degrees F
FPC 7 LU 1 Chip	OK	64 degrees C / 147 degrees F
FPC 7 LU 2 TSen	OK	58 degrees C / 136 degrees F
FPC 7 LU 2 Chip	OK	54 degrees C / 129 degrees F
FPC 7 LU 3 TSen	OK	58 degrees C / 136 degrees F
FPC 7 LU 3 Chip	OK	53 degrees C / 127 degrees F

FPC 7 MQ 0 TSen	OK	51 degrees C / 123 degrees F
FPC 7 MQ 0 Chip	OK	53 degrees C / 127 degrees F
FPC 7 MQ 1 TSen	OK	51 degrees C / 123 degrees F
FPC 7 MQ 1 Chip	OK	54 degrees C / 129 degrees F
FPC 7 MQ 2 TSen	OK	51 degrees C / 123 degrees F
FPC 7 MQ 2 Chip	OK	48 degrees C / 118 degrees F
FPC 7 MQ 3 TSen	OK	51 degrees C / 123 degrees F
FPC 7 MQ 3 Chip	OK	48 degrees C / 118 degrees F
FPC 8 Intake	OK	42 degrees C / 107 degrees F
FPC 8 Exhaust A	OK	50 degrees C / 122 degrees F
FPC 8 Exhaust B	OK	61 degrees C / 141 degrees F
FPC 8 LU 0 TSen	OK	58 degrees C / 136 degrees F
FPC 8 LU 0 Chip	OK	63 degrees C / 145 degrees F
FPC 8 LU 1 TSen	OK	58 degrees C / 136 degrees F
FPC 8 LU 1 Chip	OK	65 degrees C / 149 degrees F
FPC 8 LU 2 TSen	OK	58 degrees C / 136 degrees F
FPC 8 LU 2 Chip	OK	56 degrees C / 132 degrees F
FPC 8 LU 3 TSen	OK	58 degrees C / 136 degrees F
FPC 8 LU 3 Chip	OK	56 degrees C / 132 degrees F
FPC 8 MQ 0 TSen	OK	50 degrees C / 122 degrees F
FPC 8 MQ 0 Chip	OK	53 degrees C / 127 degrees F
FPC 8 MQ 1 TSen	OK	50 degrees C / 122 degrees F
FPC 8 MQ 1 Chip	OK	58 degrees C / 136 degrees F
FPC 8 MQ 2 TSen	OK	50 degrees C / 122 degrees F
FPC 8 MQ 2 Chip	OK	48 degrees C / 118 degrees F
FPC 8 MQ 3 TSen	OK	50 degrees C / 122 degrees F
FPC 8 MQ 3 Chip	OK	49 degrees C / 120 degrees F
FPC 9 Intake	OK	43 degrees C / 109 degrees F
FPC 9 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 9 Exhaust B	OK	61 degrees C / 141 degrees F
FPC 9 LU 0 TSen	OK	58 degrees C / 136 degrees F
FPC 9 LU 0 Chip	OK	61 degrees C / 141 degrees F
FPC 9 LU 1 TSen	OK	58 degrees C / 136 degrees F
FPC 9 LU 1 Chip	OK	63 degrees C / 145 degrees F
FPC 9 LU 2 TSen	OK	58 degrees C / 136 degrees F
FPC 9 LU 2 Chip	OK	55 degrees C / 131 degrees F
FPC 9 LU 3 TSen	OK	58 degrees C / 136 degrees F
FPC 9 LU 3 Chip	OK	54 degrees C / 129 degrees F
FPC 9 MQ 0 TSen	OK	52 degrees C / 125 degrees F
FPC 9 MQ 0 Chip	OK	53 degrees C / 127 degrees F
FPC 9 MQ 1 TSen	OK	52 degrees C / 125 degrees F
FPC 9 MQ 1 Chip	OK	54 degrees C / 129 degrees F
FPC 9 MQ 2 TSen	OK	52 degrees C / 125 degrees F
FPC 9 MQ 2 Chip	OK	48 degrees C / 118 degrees F
FPC 9 MQ 3 TSen	OK	52 degrees C / 125 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	48 degrees C / 118 degrees F
FPC 10 Exhaust B	OK	54 degrees C / 129 degrees F
FPC 10 LU 0 TSen	OK	53 degrees C / 127 degrees F
FPC 10 LU 0 Chip	OK	54 degrees C / 129 degrees F
FPC 10 LU 1 TSen	OK	53 degrees C / 127 degrees F
FPC 10 LU 1 Chip	OK	58 degrees C / 136 degrees F
FPC 10 LU 2 TSen	OK	53 degrees C / 127 degrees F
FPC 10 LU 2 Chip	OK	51 degrees C / 123 degrees F
FPC 10 LU 3 TSen	OK	53 degrees C / 127 degrees F
FPC 10 LU 3 Chip	OK	51 degrees C / 123 degrees F
FPC 10 MQ 0 TSen	OK	49 degrees C / 120 degrees F
FPC 10 MQ 0 Chip	OK	50 degrees C / 122 degrees F
FPC 10 MQ 1 TSen	OK	49 degrees C / 120 degrees F
FPC 10 MQ 1 Chip	OK	52 degrees C / 125 degrees F

FPC 10 MQ 2 TSen	OK	49 degrees C / 120 degrees F
FPC 10 MQ 2 Chip	OK	48 degrees C / 118 degrees F
FPC 10 MQ 3 TSen	OK	49 degrees C / 120 degrees F
FPC 10 MQ 3 Chip	OK	48 degrees C / 118 degrees F
FPC 11 Intake	OK	39 degrees C / 102 degrees F
FPC 11 Exhaust A	OK	47 degrees C / 116 degrees F
FPC 11 Exhaust B	OK	51 degrees C / 123 degrees F
FPC 11 LU 0 TSen	OK	50 degrees C / 122 degrees F
FPC 11 LU 0 Chip	OK	52 degrees C / 125 degrees F
FPC 11 LU 1 TSen	OK	50 degrees C / 122 degrees F
FPC 11 LU 1 Chip	OK	55 degrees C / 131 degrees F
FPC 11 LU 2 TSen	OK	50 degrees C / 122 degrees F
FPC 11 LU 2 Chip	OK	49 degrees C / 120 degrees F
FPC 11 LU 3 TSen	OK	50 degrees C / 122 degrees F
FPC 11 LU 3 Chip	OK	49 degrees C / 120 degrees F
FPC 11 MQ 0 TSen	OK	47 degrees C / 116 degrees F
FPC 11 MQ 0 Chip	OK	47 degrees C / 116 degrees F
FPC 11 MQ 1 TSen	OK	47 degrees C / 116 degrees F
FPC 11 MQ 1 Chip	OK	51 degrees C / 123 degrees F
FPC 11 MQ 2 TSen	OK	47 degrees C / 116 degrees F
FPC 11 MQ 2 Chip	OK	45 degrees C / 113 degrees F
FPC 11 MQ 3 TSen	OK	47 degrees C / 116 degrees F
FPC 11 MQ 3 Chip	OK	49 degrees C / 120 degrees F
FPC 12 Intake	OK	39 degrees C / 102 degrees F
FPC 12 Exhaust A	OK	47 degrees C / 116 degrees F
FPC 12 Exhaust B	OK	50 degrees C / 122 degrees F
FPC 12 LU 0 TSen	OK	49 degrees C / 120 degrees F
FPC 12 LU 0 Chip	OK	51 degrees C / 123 degrees F
FPC 12 LU 1 TSen	OK	49 degrees C / 120 degrees F
FPC 12 LU 1 Chip	OK	54 degrees C / 129 degrees F
FPC 12 LU 2 TSen	OK	49 degrees C / 120 degrees F
FPC 12 LU 2 Chip	OK	47 degrees C / 116 degrees F
FPC 12 LU 3 TSen	OK	49 degrees C / 120 degrees F
FPC 12 LU 3 Chip	OK	49 degrees C / 120 degrees F
FPC 12 MQ 0 TSen	OK	47 degrees C / 116 degrees F
FPC 12 MQ 0 Chip	OK	46 degrees C / 114 degrees F
FPC 12 MQ 1 TSen	OK	47 degrees C / 116 degrees F
FPC 12 MQ 1 Chip	OK	51 degrees C / 123 degrees F
FPC 12 MQ 2 TSen	OK	47 degrees C / 116 degrees F
FPC 12 MQ 2 Chip	OK	45 degrees C / 113 degrees F
FPC 12 MQ 3 TSen	OK	47 degrees C / 116 degrees F
FPC 12 MQ 3 Chip	OK	47 degrees C / 116 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	51 degrees C / 123 degrees F
FPC 13 LU 0 TSen	OK	50 degrees C / 122 degrees F
FPC 13 LU 0 Chip	OK	52 degrees C / 125 degrees F
FPC 13 LU 1 TSen	OK	50 degrees C / 122 degrees F
FPC 13 LU 1 Chip	OK	54 degrees C / 129 degrees F
FPC 13 LU 2 TSen	OK	50 degrees C / 122 degrees F
FPC 13 LU 2 Chip	OK	48 degrees C / 118 degrees F
FPC 13 LU 3 TSen	OK	50 degrees C / 122 degrees F
FPC 13 LU 3 Chip	OK	48 degrees C / 118 degrees F
FPC 13 MQ 0 TSen	OK	48 degrees C / 118 degrees F
FPC 13 MQ 0 Chip	OK	47 degrees C / 116 degrees F
FPC 13 MQ 1 TSen	OK	48 degrees C / 118 degrees F
FPC 13 MQ 1 Chip	OK	51 degrees C / 123 degrees F
FPC 13 MQ 2 TSen	OK	48 degrees C / 118 degrees F
FPC 13 MQ 2 Chip	OK	46 degrees C / 114 degrees F
FPC 13 MQ 3 TSen	OK	48 degrees C / 118 degrees F
FPC 13 MQ 3 Chip	OK	47 degrees C / 116 degrees F

FPC 14 Intake	OK	41 degrees C / 105 degrees F
FPC 14 Exhaust A	OK	49 degrees C / 120 degrees F
FPC 14 Exhaust B	OK	50 degrees C / 122 degrees F
FPC 14 LU 0 TSen	OK	49 degrees C / 120 degrees F
FPC 14 LU 0 Chip	OK	50 degrees C / 122 degrees F
FPC 14 LU 1 TSen	OK	49 degrees C / 120 degrees F
FPC 14 LU 1 Chip	OK	54 degrees C / 129 degrees F
FPC 14 LU 2 TSen	OK	49 degrees C / 120 degrees F
FPC 14 LU 2 Chip	OK	48 degrees C / 118 degrees F
FPC 14 LU 3 TSen	OK	49 degrees C / 120 degrees F
FPC 14 LU 3 Chip	OK	50 degrees C / 122 degrees F
FPC 14 MQ 0 TSen	OK	48 degrees C / 118 degrees F
FPC 14 MQ 0 Chip	OK	48 degrees C / 118 degrees F
FPC 14 MQ 1 TSen	OK	48 degrees C / 118 degrees F
FPC 14 MQ 1 Chip	OK	52 degrees C / 125 degrees F
FPC 14 MQ 2 TSen	OK	48 degrees C / 118 degrees F
FPC 14 MQ 2 Chip	OK	47 degrees C / 116 degrees F
FPC 14 MQ 3 TSen	OK	48 degrees C / 118 degrees F
FPC 14 MQ 3 Chip	OK	50 degrees C / 122 degrees F
FPC 15 Intake	OK	42 degrees C / 107 degrees F
FPC 15 Exhaust A	OK	51 degrees C / 123 degrees F
FPC 15 Exhaust B	OK	52 degrees C / 125 degrees F
FPC 15 LU 0 TSen	OK	52 degrees C / 125 degrees F
FPC 15 LU 0 Chip	OK	55 degrees C / 131 degrees F
FPC 15 LU 1 TSen	OK	52 degrees C / 125 degrees F
FPC 15 LU 1 Chip	OK	59 degrees C / 138 degrees F
FPC 15 LU 2 TSen	OK	52 degrees C / 125 degrees F
FPC 15 LU 2 Chip	OK	50 degrees C / 122 degrees F
FPC 15 LU 3 TSen	OK	52 degrees C / 125 degrees F
FPC 15 LU 3 Chip	OK	51 degrees C / 123 degrees F
FPC 15 MQ 0 TSen	OK	51 degrees C / 123 degrees F
FPC 15 MQ 0 Chip	OK	53 degrees C / 127 degrees F
FPC 15 MQ 1 TSen	OK	51 degrees C / 123 degrees F
FPC 15 MQ 1 Chip	OK	60 degrees C / 140 degrees F
FPC 15 MQ 2 TSen	OK	51 degrees C / 123 degrees F
FPC 15 MQ 2 Chip	OK	52 degrees C / 125 degrees F
FPC 15 MQ 3 TSen	OK	51 degrees C / 123 degrees F
FPC 15 MQ 3 Chip	OK	53 degrees C / 127 degrees F
FPC 16 Intake	OK	44 degrees C / 111 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	56 degrees C / 132 degrees F
FPC 16 LU 2 TSen	OK	51 degrees C / 123 degrees F
FPC 16 LU 2 Chip	OK	50 degrees C / 122 degrees F
FPC 16 LU 3 TSen	OK	51 degrees C / 123 degrees F
FPC 16 LU 3 Chip	OK	50 degrees C / 122 degrees F
FPC 16 MQ 0 TSen	OK	51 degrees C / 123 degrees F
FPC 16 MQ 0 Chip	OK	50 degrees C / 122 degrees F
FPC 16 MQ 1 TSen	OK	51 degrees C / 123 degrees F
FPC 16 MQ 1 Chip	OK	55 degrees C / 131 degrees F
FPC 16 MQ 2 TSen	OK	51 degrees C / 123 degrees F
FPC 16 MQ 2 Chip	OK	49 degrees C / 120 degrees F
FPC 16 MQ 3 TSen	OK	51 degrees C / 123 degrees F
FPC 16 MQ 3 Chip	OK	52 degrees C / 125 degrees F
FPC 17 Intake	OK	45 degrees C / 113 degrees F
FPC 17 Exhaust A	OK	52 degrees C / 125 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	61 degrees C / 141 degrees F
FPC 17 LU 2 TSen	OK	54 degrees C / 129 degrees F
FPC 17 LU 2 Chip	OK	54 degrees C / 129 degrees F
FPC 17 LU 3 TSen	OK	54 degrees C / 129 degrees F
FPC 17 LU 3 Chip	OK	55 degrees C / 131 degrees F
FPC 17 MQ 0 TSen	OK	53 degrees C / 127 degrees F
FPC 17 MQ 0 Chip	OK	53 degrees C / 127 degrees F
FPC 17 MQ 1 TSen	OK	53 degrees C / 127 degrees F
FPC 17 MQ 1 Chip	OK	57 degrees C / 134 degrees F
FPC 17 MQ 2 TSen	OK	53 degrees C / 127 degrees F
FPC 17 MQ 2 Chip	OK	51 degrees C / 123 degrees F
FPC 17 MQ 3 TSen	OK	53 degrees C / 127 degrees F
FPC 17 MQ 3 Chip	OK	54 degrees C / 129 degrees F
FPC 18 Intake	OK	46 degrees C / 114 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	58 degrees C / 136 degrees F
FPC 18 LU 1 TSen	OK	56 degrees C / 132 degrees F
FPC 18 LU 1 Chip	OK	63 degrees C / 145 degrees F
FPC 18 LU 2 TSen	OK	56 degrees C / 132 degrees F
FPC 18 LU 2 Chip	OK	54 degrees C / 129 degrees F
FPC 18 LU 3 TSen	OK	56 degrees C / 132 degrees F
FPC 18 LU 3 Chip	OK	56 degrees C / 132 degrees F
FPC 18 MQ 0 TSen	OK	54 degrees C / 129 degrees F
FPC 18 MQ 0 Chip	OK	57 degrees C / 134 degrees F
FPC 18 MQ 1 TSen	OK	54 degrees C / 129 degrees F
FPC 18 MQ 1 Chip	OK	62 degrees C / 143 degrees F
FPC 18 MQ 2 TSen	OK	54 degrees C / 129 degrees F
FPC 18 MQ 2 Chip	OK	53 degrees C / 127 degrees F
FPC 18 MQ 3 TSen	OK	54 degrees C / 129 degrees F
FPC 18 MQ 3 Chip	OK	56 degrees C / 132 degrees F
FPC 19 Intake	OK	49 degrees C / 120 degrees F
FPC 19 Exhaust A	OK	56 degrees C / 132 degrees F
FPC 19 Exhaust B	OK	62 degrees C / 143 degrees F
FPC 19 LU 0 TSen	OK	62 degrees C / 143 degrees F
FPC 19 LU 0 Chip	OK	63 degrees C / 145 degrees F
FPC 19 LU 1 TSen	OK	62 degrees C / 143 degrees F
FPC 19 LU 1 Chip	OK	69 degrees C / 156 degrees F
FPC 19 LU 2 TSen	OK	62 degrees C / 143 degrees F
FPC 19 LU 2 Chip	OK	61 degrees C / 141 degrees F
FPC 19 LU 3 TSen	OK	62 degrees C / 143 degrees F
FPC 19 LU 3 Chip	OK	62 degrees C / 143 degrees F
FPC 19 MQ 0 TSen	OK	58 degrees C / 136 degrees F
FPC 19 MQ 0 Chip	OK	62 degrees C / 143 degrees F
FPC 19 MQ 1 TSen	OK	58 degrees C / 136 degrees F
FPC 19 MQ 1 Chip	OK	64 degrees C / 147 degrees F
FPC 19 MQ 2 TSen	OK	58 degrees C / 136 degrees F
FPC 19 MQ 2 Chip	OK	59 degrees C / 138 degrees F
FPC 19 MQ 3 TSen	OK	58 degrees C / 136 degrees F
FPC 19 MQ 3 Chip	OK	60 degrees C / 140 degrees F
ADC 0 Intake	OK	40 degrees C / 104 degrees F
ADC 0 Exhaust	OK	50 degrees C / 122 degrees F
ADC 0 ADC-XF1	OK	58 degrees C / 136 degrees F
ADC 0 ADC-XF0	OK	63 degrees C / 145 degrees F
ADC 1 Intake	OK	38 degrees C / 100 degrees F
ADC 1 Exhaust	OK	48 degrees C / 118 degrees F
ADC 1 ADC-XF1	OK	59 degrees C / 138 degrees F
ADC 1 ADC-XF0	OK	61 degrees C / 141 degrees F

ADC 2 Intake	OK	36 degrees C / 96 degrees F
ADC 2 Exhaust	OK	50 degrees C / 122 degrees F
ADC 2 ADC-XF1	OK	53 degrees C / 127 degrees F
ADC 2 ADC-XF0	OK	59 degrees C / 138 degrees F
ADC 3 Intake	OK	39 degrees C / 102 degrees F
ADC 3 Exhaust	OK	49 degrees C / 120 degrees F
ADC 3 ADC-XF1	OK	61 degrees C / 141 degrees F
ADC 3 ADC-XF0	OK	62 degrees C / 143 degrees F
ADC 4 Intake	OK	39 degrees C / 102 degrees F
ADC 4 Exhaust	OK	49 degrees C / 120 degrees F
ADC 4 ADC-XF1	OK	60 degrees C / 140 degrees F
ADC 4 ADC-XF0	OK	61 degrees C / 141 degrees F
ADC 5 Intake	OK	38 degrees C / 100 degrees F
ADC 5 Exhaust	OK	52 degrees C / 125 degrees F
ADC 5 ADC-XF1	OK	55 degrees C / 131 degrees F
ADC 5 ADC-XF0	OK	65 degrees C / 149 degrees F
ADC 6 Intake	OK	39 degrees C / 102 degrees F
ADC 6 Exhaust	OK	51 degrees C / 123 degrees F
ADC 6 ADC-XF1	OK	58 degrees C / 136 degrees F
ADC 6 ADC-XF0	OK	63 degrees C / 145 degrees F
ADC 7 Intake	OK	39 degrees C / 102 degrees F
ADC 7 Exhaust	OK	52 degrees C / 125 degrees F
ADC 7 ADC-XF1	OK	61 degrees C / 141 degrees F
ADC 7 ADC-XF0	OK	68 degrees C / 154 degrees F
ADC 8 Intake	OK	39 degrees C / 102 degrees F
ADC 8 Exhaust	OK	50 degrees C / 122 degrees F
ADC 8 ADC-XF1	OK	64 degrees C / 147 degrees F
ADC 8 ADC-XF0	OK	63 degrees C / 145 degrees F
ADC 9 Intake	OK	41 degrees C / 105 degrees F
ADC 9 Exhaust	OK	50 degrees C / 122 degrees F
ADC 9 ADC-XF1	OK	60 degrees C / 140 degrees F
ADC 9 ADC-XF0	OK	62 degrees C / 143 degrees F
ADC 10 Intake	OK	46 degrees C / 114 degrees F
ADC 10 Exhaust	OK	53 degrees C / 127 degrees F
ADC 10 ADC-XF1	OK	66 degrees C / 150 degrees F
ADC 10 ADC-XF0	OK	65 degrees C / 149 degrees F
ADC 11 Intake	OK	46 degrees C / 114 degrees F
ADC 11 Exhaust	OK	53 degrees C / 127 degrees F
ADC 11 ADC-XF1	OK	63 degrees C / 145 degrees F
ADC 11 ADC-XF0	OK	64 degrees C / 147 degrees F
ADC 12 Intake	OK	47 degrees C / 116 degrees F
ADC 12 Exhaust	OK	53 degrees C / 127 degrees F
ADC 12 ADC-XF1	OK	65 degrees C / 149 degrees F
ADC 12 ADC-XF0	OK	65 degrees C / 149 degrees F
ADC 13 Intake	OK	48 degrees C / 118 degrees F
ADC 13 Exhaust	OK	55 degrees C / 131 degrees F
ADC 13 ADC-XF1	OK	65 degrees C / 149 degrees F
ADC 13 ADC-XF0	OK	67 degrees C / 152 degrees F
ADC 14 Intake	OK	49 degrees C / 120 degrees F
ADC 14 Exhaust	OK	57 degrees C / 134 degrees F
ADC 14 ADC-XF1	OK	68 degrees C / 154 degrees F
ADC 14 ADC-XF0	OK	72 degrees C / 161 degrees F
ADC 15 Intake	OK	50 degrees C / 122 degrees F
ADC 15 Exhaust	OK	56 degrees C / 132 degrees F
ADC 15 ADC-XF1	OK	68 degrees C / 154 degrees F
ADC 15 ADC-XF0	OK	68 degrees C / 154 degrees F
ADC 16 Intake	OK	51 degrees C / 123 degrees F
ADC 16 Exhaust	OK	57 degrees C / 134 degrees F
ADC 16 ADC-XF1	OK	67 degrees C / 152 degrees F
ADC 16 ADC-XF0	OK	68 degrees C / 154 degrees F
ADC 17 Intake	OK	51 degrees C / 123 degrees F

ADC 17 Exhaust	OK	57 degrees C / 134 degrees F
ADC 17 ADC-XF1	OK	69 degrees C / 156 degrees F
ADC 17 ADC-XF0	OK	69 degrees C / 156 degrees F
ADC 18 Intake	OK	52 degrees C / 125 degrees F
ADC 18 Exhaust	OK	58 degrees C / 136 degrees F
ADC 18 ADC-XF1	OK	67 degrees C / 152 degrees F
ADC 18 ADC-XF0	OK	72 degrees C / 161 degrees F
ADC 19 Intake	OK	50 degrees C / 122 degrees F
ADC 19 Exhaust	OK	58 degrees C / 136 degrees F
ADC 19 ADC-XF1	OK	68 degrees C / 154 degrees F
ADC 19 ADC-XF0	OK	71 degrees C / 159 degrees F

request chassis fpc optical-module firmware-upgrade

Syntax	<code>request chassis fpc optical module firmware-upgrade fpc-slot <i>fpc-slot</i></code>
Release Information	Statement introduced in Junos OS Release 15.1F6 on PTX3000 Series Packet Transport Routers.
Description	Upgrade the firmware of the integrated photonic line card (IPLC) module installed in the Flexible PIC Concentrator (FPC) or PIC slot.
Options	<i>fpc-slot</i> —Slot number of the FPC or PIC in which the IPLC module resides.
Required Privilege Level	maintenance
Related Documentation	<ul style="list-style-type: none">• Integrated Photonic Line Card Base and Expansion Module Overview on page 3• Understanding the Integrated Photonic Line Card Architecture on page 6• Understanding How to Configure the Integrated Photonic Line Card on page 8
List of Sample Output	request chassis fpc optical module firmware-upgrade on page 330
Output Fields	When you enter the command, you are provided feedback on the status of your request.

Sample Output

request chassis fpc optical module firmware-upgrade

```
user@host> request chassis fpc optical module firmware-upgrade fpc-slot 4
IPLC 2 upgrade finished
user@host>
```