Port Mirroring for EX9200 Switches

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Port Mirroring for EX9200 Switches
15.1
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About the Documentation

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- Supported Platforms on page xi
- Using the Examples in This Manual on page xi
- Documentation Conventions on page xiii
- Documentation Feedback on page xv
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Supported Platforms

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

- EX Series

Using the Examples in This Manual

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

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

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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.xsl;
       }
     }
   }
   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.xsl; }
   ```

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

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

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

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

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

Documentation Conventions

Table 1 on page xiii 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 xiii 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**

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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`
Italic text like this	• Introduces or emphasizes important new terms. • Identifies guide names. • Identifies RFC and Internet draft titles.	• A policy *term* is a named structure that defines match conditions and actions. • *Junos OS CLI User Guide* • RFC 1997, *BGP Communities Attribute*
Italic text like this	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** *domain-name*
Text like this	Represents names of configuration statements, commands, files, and directories; configuration hierarchy levels; or labels on routing platform components.	• To configure a stub area, include the **stub** statement at the **[edit protocols ospf area area-id]** hierarchy level. • The console port is labeled **CONSOLE**.
< > (angle brackets)	Encloses optional keywords or variables.	**stub <default-metric** ***metric*****>;**
| (pipe symbol)	Indicates a choice between the mutually exclusive keywords or variables on either side of the symbol. The set of choices is often enclosed in parentheses for clarity.	**broadcast | multicast** **(*string1* | *string2* | *string3*)**
# (pound sign)	Indicates a comment specified on the same line as the configuration statement to which it applies.	**rsvp { # Required for dynamic MPLS only**
[ ] (square brackets)	Encloses a variable for which you can substitute one or more values.	**community name members [** ***community-ids*** **]**

Indention and braces ({ })	Identifies a level in the configuration hierarchy.	[edit]
		routing-options {
		  static {
		  route default {
		  nexthop *address*;
		  retain;
		  }
		  }
		}

; (semicolon)	Identifies a leaf statement at a configuration hierarchy level.	
GUI Conventions		
Bold text like this	Represents graphical user interface (GUI) items you click or select.	• In the Logical Interfaces box, select **All Interfaces**. • To cancel the configuration, click **Cancel**.

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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**.

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- Find product documentation: http://www.juniper.net/techpubs/
- Find solutions and answer questions using our Knowledge Base: http://kb.juniper.net/

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- Download the latest versions of software and review release notes: http://www.juniper.net/customers/csc/software/
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- 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.

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PART 1

Overview

- Introduction to Port Mirroring on page 3
- Port Mirroring Instances on page 9
- Behavior of Layer 2 Port Mirroring of Logical Interfaces on PE Routers on page 13
- Restrictions on page 17

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CHAPTER 1

Introduction to Port Mirroring

- Layer 2 Port Mirroring Overview on page 3
- Layer 2 Port Mirroring Properties on page 4
- Application of Layer 2 Port Mirroring Types on page 5

Layer 2 Port Mirroring Overview

On routing platforms and switches that contain an Internet Processor II ASIC, you can send a copy of any incoming packet from the routing platform or switch to an external host address or a packet analyzer for analysis. This is known as *port mirroring*. In Junos OS Release 9.3 and later, Juniper Networks MX Series 3D Universal Edge Routers in a Layer 2 environment support port mirroring for Layer 2 bridging traffic and virtual private LAN service (VPLS) traffic. In Junos OS Release 9.4 and later, MX Series routers in a Layer 2 environment also support port mirroring for Layer 2 VPN traffic over a circuit cross-connect (CCC) that transparently connects logical interfaces of the same type. In Junos OS Release 12.3R2, Juniper Networks EX Series switches support port mirroring for Layer 2 bridging traffic.

Layer 2 port mirroring enables you to specify the manner in which incoming and outgoing packets at specified ports are monitored and the manner in which copies of selected packets are forwarded to another destination, where the packets can be analyzed. MX Series routers and EX Series switches support Layer 2 port mirroring by performing flow monitoring functions using a class-of-service (CoS) architecture that is in concept similar to, but in particulars different from, other routing platforms and switches.

Like the M120 Multiservice Edge Router and M320 Multiservice Edge Routers, MX Series routers and EX Series switches support port mirroring of IPv4, IPv6, and VPLS packets simultaneously. However, the *Junos OS Layer 2 Switching and Bridging Library for Routing Devices* describes port mirroring only for Layer 2 bridging traffic (**family ethernet-switching**), Layer 2 VPLS traffic (**family vpls**) through an MX Series router, and Layer 2 VPN traffic that passes through a CCC (**family ccc**).

For general information about packet flow within MX Series routers and other routers, see the *Class of Service Feature Guide for Routing Devices*.

In a Layer 3 environment, MX Series routers and EX Series switches support port mirroring of IPv4 (**family inet**) and IPv6 (**family inet6**) traffic. For information about Layer 3 port

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mirroring, see the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

Related Documentation

- Layer 2 Port Mirroring Properties on page 4
- *Restrictions on Layer 2 Port Mirroring*
- *Application of Layer 2 Port Mirroring Types*
- *Application of Layer 2 Port Mirroring Types*

Layer 2 Port Mirroring Properties

Port mirroring specifies the following types of properties:

- Packet-Selection Properties on page 4
- Packet Address Family on page 4
- Mirror Destination Properties on page 5
- Mirror-Once Option on page 5

Packet-Selection Properties

The packet-selection properties of Layer 2 port-mirroring specify how the sampled packets are to be selected for mirroring:

- The number of packets in each sample.
- The number of packets to mirror from each sample.
- The length to which mirrored packets are to be truncated.

Packet Address Family

The packet address family type specifies the type of traffic to be mirrored. In a Layer 2 environment, MX Series routers and EX Series switches support port mirroring for the following packet address families:

- Family type **ethernet-switching**—For mirroring VPLS traffic when the physical interface is configured with encapsulation type **ethernet-bridge**.
- Family type **ccc**—For mirroring Layer 2 VPN traffic.
- Family type **vpls**—For mirroring VPLS traffic.

NOTE: In typical applications, you send mirrored packets directly to an analyzer or a workstation for analysis, not to another router or switch. If you must send mirrored packets over a network, you should use tunnels. For Layer 2 VPN implementations, you can use the Layer 2 VPN routing instance type l2vpn to tunnel the packets to a remote destination.

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For information about configuring a routing instance for Layer 2 VPN, see the *Junos OS VPNs Library for Routing Devices*. For a detailed Layer 2 VPN example configuration, see the *Junos OS, Release 15.1*. For information about tunnel interfaces, see the *Junos OS Network Interfaces Library for Routing Devices*.

Mirror Destination Properties

For a given packet address family, the mirror destination properties of a Layer 2 port-mirroring instance specify how the selected packets are to be sent on a particular physical interface:

- The physical interface on which to send the selected packets.
- Whether filter checking is to be disabled for the mirror destination interface. By default, filter checking is enabled on all

NOTE: If you apply a filter to an interface that is also a Layer 2 port-mirroring destination, a commit failure occurs unless you have disabled filter checking for that mirror destination interface.

Mirror-Once Option

If port mirroring is enabled at both ingress and egress interfaces, you can prevent the MX Series router and an EX Series switch from sending duplicate packets to the same destination (which would complicate the analysis of the mirrored traffic).

NOTE: The mirror-once port-mirroring option is a global setting. The option is independent of the packet selection properties and the packet family type-specific mirror destination properties.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Restrictions on Layer 2 Port Mirroring*
- *Application of Layer 2 Port Mirroring Types*

Application of Layer 2 Port Mirroring Types

You can apply different sets of Layer 2 port-mirroring properties to the VPLS packets at different ingress or egress points of an MX Series or of an EX Series route.

Table 3 on page 6 describes the three types of Layer 2 port mirroring you can configure on an MX Series router and EX Series switch: the global instance, named instances, and firewall filters.

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Table 3: Application of Layer 2 Port Mirroring Types

Type of Layer 2 Port Mirroring Definition	Point of Application	Scope of Mirroring	Description	Configuration Details
Global Instance of Layer 2 Port Mirroring	All ports in the MX Series router (or switch) chassis	VPLS packets received on all ports in the MX Series router (or switch) chassis	If configured, the global port-mirroring properties implicitly apply to all VPLS packets received on all ports in the router (or switch) chassis.	See *Configuring the Global Instance of Layer 2 Port Mirroring*
Named Instance of Layer 2 Port Mirroring	Ports grouped at the FPC level See "Binding Layer 2 Port Mirroring to Ports Grouped at the FPC Level" on page 30.	VPLS packets received on ports associated with a specific DPC or FPC and its Packet Forwarding Engines.	Overrides any port-mirroring properties configured by the global port-mirroring instance.	See *Defining a Named Instance of Layer 2 Port Mirroring*. **NOTE:** The number of port-mirroring destinations supported for an MX Series router and for an EX Series switch is limited to the number of Packet Forwarding Engines contained on the DPCs or FPCs installed in the router or switch chassis.
	Ports grouped at the PIC level See "Binding Layer 2 Port Mirroring to Ports Grouped at the PIC Level" on page 32.	VPLS packets received on ports associated with a specific Packet Forwarding Engine.	Overrides any port-mirroring properties configured at the FPC level or in the global port-mirroring instance.	

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Table 3: Application of Layer 2 Port Mirroring Types *(continued)*

Type of Layer2PortMirroring Definition	Point of Application	Scope of Mirroring	Description	Configuration Details
Layer2Port-Mirroring Firewall Filter	Logical interface (including an aggregated Ethernet interface) See *Applying Layer 2 Port Mirroring to a Logical Interface*.	VPLS packets received or sent on a logical interface.	In the firewall filter configuration, include *action* and *action-modifier* terms to apply to the packets selected for mirroring: 1. The **accept** action is recommended. 2. Specify port mirroring by Including one of the following modifiers: • The **port-mirror** modifier implicitly references the port-mirroring properties currently bound to the underlying physical interfaces. • The **port-mirror-instance *pm-instance-name*** modifier explicitly references a named instance of port mirroring. 3. (Optional) For tunnel interface input packets only, to mirror the packets to additional destinations, include the **next-hop-group *next-hop-group-name*** modifier. This modifier references a next-hop-group that specifies the next-hop addresses (for sending additional copies of packets to an analyzer).	See *Defining a Layer 2 Port-Mirroring Firewall Filter*. **NOTE:** Layer 2 port-mirroring firewall filters are not supported for logical systems. For mirroring tunnel interface input packets to multiple destinations, also see "Defining a Next-Hop Group for Layer 2 Port Mirroring" on page 72.
	VLAN forwarding table or flood table See *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a Bridge Domain*.	Layer 2 traffic forwarded or flooded to a VLAN		
	VPLS routing instance forwarding table or flood table See *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance*.	Layer 2 traffic forwarded or flooded to a VPLS routing instance		

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Restrictions on Layer 2 Port Mirroring*
- Precedence of Multiple Levels of Layer 2 Port Mirroring on a Physical Interface on page 29
- Layer 2 Port Mirroring of PE Router Logical Interfaces on page 41
- *Layer 2 Port Mirroring of PE Router Aggregated Ethernet Interfaces*

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CHAPTER 2

Port Mirroring Instances

- Layer 2 Port Mirroring Global Instance on page 9
- Layer 2 Port Mirroring Named Instances on page 9

Layer 2 Port Mirroring Global Instance

On an MX Series router and on an EX Series switch, you can configure a set of port-mirroring properties that implicitly apply to packets received on all ports in the router (or switch) chassis. This set of port-mirroring properties is the *global instance* of Layer 2 port mirroring for the router or switch.

Within the global instance configuration, you can specify a set of mirror destination properties for each packet address family supported by Layer 2 port mirroring.

For a general description of Layer 2 port-mirroring properties, see "Layer 2 Port Mirroring Properties" on page 4. For a comparison of the types of Layer 2 port mirroring available on an MX Series router and on an EX Series switch, see *Application of Layer 2 Port Mirroring Types*.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Configuring the Global Instance of Layer 2 Port Mirroring*
- Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis on page 34
- *Example: Layer 2 Port Mirroring with Multiple Instances*
- *Example: Layer 2 Port Mirroring to Multiple Destinations*

Layer 2 Port Mirroring Named Instances

This topic describes the following information:

- Layer 2 Port Mirroring Named Instances Overview on page 10
- Mirroring at Ports Grouped at the FPC Level on page 10
- Mirroring at Ports Grouped at the PIC Level on page 11
- Mirroring at a Group of Ports Bound to Multiple Named Instances on page 11

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Layer 2 Port Mirroring Named Instances Overview

On an MX Series router and on an EX Series switch, you can define a set of port-mirroring properties that you can explicitly bind to physical ports on the router or switch. This set of port mirroring properties is known as a *named instance* of Layer 2 port mirroring.

You can bind a named instance of Layer 2 port mirroring to physical ports associated with an MX Series router's or an EX Series switch's Packet Forwarding Engine components at different levels of the router (or switch) chassis:

- At the FPC level—You can bind a named instance to the physical ports associated with a specific Dense Port Concentrator (DPC) or to the physical ports associated with a specific Flexible Port Concentrator (FPC).
- At the PIC level—You can bind a named instance of port mirroring to a specific Packet Forwarding Engine (on a specific DPC) or to a specific PIC.

NOTE: MX Series routers support DPCs as well as FPCs and PICs. Unlike FPCs, DPCs do not support PICs. In the Junos OS CLI, however, you use FPC and PIC syntax to configure or display information about DPCs and the Packet Forwarding Engines on the DPCs.

The following points summarize the behavior of Layer 2 port mirroring based on named instances:

- The scope of packet selection is determined by the target of the binding—At the ports (or port) bound to a named instance of Layer 2 port mirroring, the router or switch selects input packets according to the packet-selection properties in the named instance.
- The destination of a selected packet is determined by the packet address family—Of the packets selected, the router or switch mirrors only the packets belonging to an address family for which the named instance of Layer 2 port mirroring specifies a set of mirror destination properties. In a Layer 2 environment, MX Series routers and EX Series switches support port mirroring of VPLS (**family ethernet-switching** or **family vpls**) traffic and Layer 2 VPN traffic with **family ccc**.

For a general description of Layer 2 port-mirroring properties, see "Layer 2 Port Mirroring Properties" on page 4. For a comparison of the types of Layer 2 port mirroring available on an MX Series router and on an EX Series switch, see *Application of Layer 2 Port Mirroring Types*.

Mirroring at Ports Grouped at the FPC Level

On an MX Series router and on an EX Series switch, you can bind a named instance of Layer 2 port mirroring to a specific DPC or FPC installed in the router (or switch) chassis. The port mirroring properties in the instance are applied to all Packet Forwarding Engines (and their associated ports) on the specified DPC or to all PICs (and their associated ports) installed in the specified FPC. Port mirroring properties that are bound to a DPC

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or FPC override any port-mirroring properties bound at the global level or the MX Series router (or switch) chassis.

Mirroring at Ports Grouped at the PIC Level

On an MX Series router and on an EX Series switch, you can bind a named instance of Layer 2 port mirroring to a specific Packet Forwarding Engine or PIC. The port-mirroring properties in that instance are applied to all ports associated with the specified Packet Forwarding Engine or PIC. Port-mirroring properties that are bound to a Packet Forwarding Engine or PIC override any port-mirroring properties bound at the DPC or FPC that contains them.

NOTE: For MX960 routers, there is a one-to-one mapping of Packet Forwarding Engines to Ethernet ports. Therefore, on MX960 routers only, you can configure port-specific bindings of port-mirroring instances.

Mirroring at a Group of Ports Bound to Multiple Named Instances

On an MX Series router and on an EX Series switch, you can apply up to two named instances of Layer 2 port mirroring to the same group of ports within the router (or switch) chassis. By applying two different port-mirroring instances to the same DPC, FPC, Packet Forwarding Engine, or PIC, you can bind two distinct Layer 2 port mirroring specifications to a single group of ports.

NOTE: You can configure only one global instance of Layer 2 port mirroring on an MX Series router and on an EX Series switch.

NOTE: You can configure more than two port mirroring instances for each FPC by configuring inline port mirroring. For information on inline port mirroring, see "Configuring Inline Port Mirroring" on page 91.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Defining a Named Instance of Layer 2 Port Mirroring*
- Binding Layer 2 Port Mirroring to Ports Grouped at the FPC Level on page 30
- Binding Layer 2 Port Mirroring to Ports Grouped at the PIC Level on page 32
- Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis on page 34
- *Example: Layer 2 Port Mirroring with Multiple Instances*

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CHAPTER 3

Behavior of Layer 2 Port Mirroring of Logical Interfaces on PE Routers

- Layer 2 Port Mirroring of PE Router or PE Switch Logical Interfaces on page 13
- Layer 2 Port Mirroring of PE Router or PE Switch Aggregated Ethernet Interfaces on page 15

Layer 2 Port Mirroring of PE Router or PE Switch Logical Interfaces

For a router or switch configured as a provider edge (PE) device on the customer-facing edge of a service provider network, you can apply a Layer 2 port-mirroring firewall filter at the following ingress and egress points to mirror the traffic between the router or switch and customer edge (CE) devices, which are typically also routers and Ethernet switches.

Table 4 on page 14 describes the ways in which you can apply Layer 2 port-mirroring firewall filters to a router or switch configured as a PE device.

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Table 4: Application of Layer 2 Port Mirroring Firewall Filters on PE Devices

Point of Application	Scope of Mirroring	Notes	Configuration Details
Ingress Customer-Facing Logical Interface	Packets originating within a service provider customer's network, sent first to a CE device, and sent next to the PE device.	You can also configure aggregated Ethernet interfaces between CE devices and PE devices for VPLS routing instances. Traffic is load-balanced across all of the links in the aggregated interface. Traffic received on an aggregated Ethernet interface is forwarded over a different interface based on a lookup of the destination MAC (DMAC) address: • Packets destined for a local site are sent out of the load-balanced child interface. • Packets destined for the remote site are encapsulated and forwarded over a label-switched path (LSP).	See *Applying Layer 2 Port Mirroring to a Logical Interface*. For more information about VPLS routing instances, see *Configuring a VPLS Routing Instance* and *Configuring VLAN Identifiers for Bridge Domains and VPLS Routing Instances*.
Egress Customer-Facing Logical Interface	Unicast packets being forwarded by the PE device to another PE device. **NOTE:** If you apply a port-mirroring filter to the output for a logical interface, only unicast packets are mirrored. To mirror multicast, unknown unicast, and broadcast packets, apply a filter to the input to the flood table of a VLAN or VPLS routing instance.		See *Applying Layer 2 Port Mirroring to a Logical Interface*.
Input to a VLAN Forwarding Table or Flood Table	Forwarding traffic or flood traffic sent to the VLAN from a CE device.	Forwarding and flood traffic typically consists of broadcast packets, multicast packets, unicast packets with an unknown destination MAC address, or packets with a MAC entry in the DMAC routing table.	See *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a Bridge Domain*. For information about flooding behavior in VPLS, see the *Junos OS VPNs Library for Routing Devices*.
Input to a VPLS Routing Instance Forwarding Table or Flood Table	Forwarding traffic or flood traffic sent to the VPLS routing instance from a CE device.		See *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance*. For information about flooding behavior in VPLS, see the *Junos OS VPNs Library for Routing Devices*.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Example: Layer 2 Port Mirroring at a Logical Interface*

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Layer 2 Port Mirroring of PE Router or PE Switch Aggregated Ethernet Interfaces

An aggregated Ethernet interface is a virtual aggregated link that consists of a set of physical interfaces of the same speed and operating in full-duplex link connection mode. You can configure aggregated Ethernet interfaces between CE devices and PE devices for VPLS routing instances. Traffic is load-balanced across all of the links in the aggregated interface. If one or more links in the aggregated interface fails, the traffic is switched to the remaining links.

You can apply a Layer 2 port-mirroring firewall filter to an aggregated Ethernet interface to configure port mirroring at the parent interface. However, if any child interfaces are bound to different Layer 2 port-mirroring instances, packets received at the child interfaces will be mirrored to the destinations specified by their respective port-mirroring instances. Thus, multiple child interfaces can mirror packets to multiple destinations.

For example, suppose the parent aggregated Ethernet interface instance **ae0** has two child interfaces:

- **xe-2/0/0**
- **xe-3/1/2**

Suppose that these child interfaces on **ae0** are bound to two different Layer 2 port-mirroring instances:

- **pm_instance_A**—A named instance of Layer 2 port mirroring, bound to child interface **xe-2/0/0**.
- **pm_instance_B**—A named instance of Layer 2 port mirroring, bound to child interface **xe-3/1/2**.

Now suppose you apply a Layer 2 port-mirroring firewall filter to the Layer 2 traffic sent on **ae0.0** (logical unit **0** on the aggregated Ethernet interface instance **0**). This enables port mirroring on **ae0.0**, which has the following effect on the processing of traffic received on the child interfaces for which Layer 2 port-mirroring properties are specified:

- The packets received on **xe-2/0/0.0** are mirrored to the output interfaces configured in port-mirroring instance **pm_instance_A**.
- The packets received on **xe-3/1/2.0** are mirrored to the output interfaces configured in port-mirroring instance **pm_instance_B**.

Because **pm_instance_A** and **pm_instance_B** can specify different packet-selection properties or mirror destination properties, the packets received on **xe-2/0/0.0** and **xe-3/1/2.0** can mirror different packets to different destinations.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*

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CHAPTER 4

Restrictions

- Restrictions on Layer 2 Port Mirroring on page 17

Restrictions on Layer 2 Port Mirroring

The following restrictions apply to Layer 2 port mirroring:

- Only Layer 2 transit data (packets that contain chunks of data transiting the routing platform or switch as they are forwarded from a source to a destination) can be mirrored. Layer 2 local data (packets that contain chunks of data that are destined for or sent by the Routing Engine, such as Layer 2 control packets) are not mirrored.
- If you apply a port-mirroring filter to the output of a logical interface, only unicast packets are mirrored. To mirror broadcast packets, multicast packets, unicast packets with an unknown destination media access control (MAC) address, or packets with MAC entry in the destination MAC (DMAC) routing table, apply a filter to the input to the flood table of a VLAN or virtual private LAN service (VPLS) routing instance.
- The mirror destination device should be on a dedicated VLAN and should not participate in any bridging activity: The mirror destination device should not have a bridge to the ultimate traffic destination, and the mirror destination device should not send the mirrored packets back to the source address.
- For either the global port-mirroring instance or a named port-mirroring instance, you can configure only one mirror output interface per port-mirroring instance and packet address family. If you include more than one **interface** statement under the **family (ethernet-switching | ccc | vpls) output** statement, the previous **interface** statement is overridden.
- Layer 2 port-mirroring firewall filtering is not supported for logical systems.

  In a Layer 2 port-mirroring firewall filter definition, the filter ***action-modifier*** (**port-mirror** or **port-mirror-instance** ***pm-instance-name***) relies on port-mirroring properties defined in the global instance or named instances of Layer 2 port mirroring, which are configured under the **[edit forwarding-options port-mirroring]** hierarchy. Therefore, the filter ***term*** cannot support Layer 2 port mirroring for logical systems.
- For a Layer 2 port mirroring firewall filter in which you implicitly reference Layer 2 port mirroring properties by including the **port-mirror** statement, if multiple named instances of Layer 2 port mirroring are bound to the underlying physical interface, then only the

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first binding in the stanza (or the only binding) is used at the logical interface. This is done mainly for backward compatibility.

- Layer 2 port-mirroring firewall filters do not support the use of next-hop subgroups for load-balancing mirrored traffic.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Application of Layer 2 Port Mirroring Types*
- Precedence of Multiple Levels of Layer 2 Port Mirroring on a Physical Interface on page 29
- Layer 2 Port Mirroring of PE Router Logical Interfaces on page 41
- *Layer 2 Port Mirroring of PE Router Aggregated Ethernet Interfaces*

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PART 2

Configuring Port Mirroring

- Port Mirroring Instances on page 21
- Port Mirroring for Physical Interfaces on page 29
- Port Mirroring for Logical interfaces on page 41
- Port Mirroring for Multiple Destinations on page 65
- Port Mirroring for Remote Destinations on page 81
- Inline Port Mirroring on page 91

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CHAPTER 5

Port Mirroring Instances

- Configuring the Global Instance of Layer 2 Port Mirroring on page 21
- Defining a Named Instance of Layer 2 Port Mirroring on page 24

Configuring the Global Instance of Layer 2 Port Mirroring

On an MX Series router and on an EX Series switch, you can configure a set of Layer 2 port-mirroring properties that implicitly apply to packets received on all ports in the router (or switch) chassis.

To configure the global instance of Layer 2 port mirroring on an MX Series router and on an EX Series switch:

1. Enable configuration of the Layer 2 port mirroring:

   ```
   [edit]
   user@host# edit forwarding-options port-mirroring
   ```

2. Enable configuration of the packet-selection properties:

   ```
   [edit forwarding-options port-mirroring]
   user@host# edit input
   ```

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3. Specify global-level packet-selection properties.

   a. Specify the number of packets to select:

      ```
      [edit forwarding-options port-mirroring input]
      user@host# set rate number
      ```

      The valid range is **1** through **65535**.

   b. Specify the number of packets to mirror from each selection:

      ```
      [edit forwarding-options port-mirroring input]
      user@host# set run-length number
      ```

      The valid range is **0** through **20**. The default value is **0**.

   c. Specify the length to which mirrored packets are to be truncated:

      ```
      [edit forwarding-options port-mirroring input]
      user@host# set maximum-packet-length number
      ```

      The valid range is **0** through **9216**. The default value is **0**, which means the mirrored packets are not truncated.

4. Specify the global-level Layer 2 address-type family from which traffic is to be selected for mirroring:

   ```
   [edit forwarding-options port-mirroring input]
   user@host# up
   [edit forwarding-options port-mirroring]
   user@host# edit family family
   ```

   The value of the *family* option can be **ethernet-switching**, **ccc**, or **vpls**.

   NOTE: Under the **[edit forwarding-options port-mirroring]** hierarchy level, the protocol family statement **family ethernet-switching** is an alias for **family vpls**. The command-line interface (CLI) displays Layer 2 port-mirroring configurations as **family vpls**, even for Layer 2 port-mirroring configured as **family ethernet-switching**. Use **family ethernet-switching** when the physical interface is configured with **encapsulation ethernet-bridge**.

5. Enable configuration of global-level mirror destination properties for this address family:

   ```
   [edit forwarding-options port-mirroring family family]
   user@host# edit output
   ```


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6. Specify global-level mirror destination properties for this address family.

   a. Specify the physical interface on which to send the mirrored packets:

      ```
      [edit forwarding-options port-mirroring family family output]
      user@host# set interface interface-name
      ```

      You can also specify an integrated routing and bridging (IRB) interface as the output interface.

   b. (Optional) Allow configuration of filters on the destination interface for the named port-mirroring instance:

      ```
      [edit forwarding-options port-mirroring family family output]
      user@host# set no-filter-check
      ```

7. (Optional) Specify that any packets selected for mirroring are to be mirrored only once to any mirroring destination:

   ```
   [edit forwarding-options port-mirroring family family output]
   user@host# up 2
   [edit forwarding-options port-mirroring]
   user@host# set mirror-once
   ```

   TIP: Enable the mirror-once option when an MX Series router or an EX Series switch is configured to perform Layer 2 port mirroring at both ingress and egress interfaces, which could result in sending duplicate packets to the same destination (which would complicate the analysis of the mirrored traffic).

8. Verify the minimum configuration of the global instance of Layer 2 port mirroring:

   ```
   [edit forwarding-options ... ]
   user@host# top
   [edit]
   user@host# show forwarding-options

   forwarding-options {
     port-mirroring {
       input { # Global packet-selection properties.
         maximum-packet-length number; # Default is 0.
         rate number;
         run-length number;
       }
       family (ccc | vpls) { # Address- type 'ethernet-switching' displays as 'vpls'.
         output { # Global mirror destination properties.
           interface interface-name;
           no-filter-check; # Optional. Allow filters on interface.
         }
       }
       mirror-once; # Optional. Mirror destinations do not receive duplicate packets.
     }
   }
   ```

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Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- Layer 2 Port Mirroring Global Instance on page 9
- Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis on page 34
- *Example: Layer 2 Port Mirroring with Multiple Instances*

Defining a Named Instance of Layer 2 Port Mirroring

On an MX Series router and on an EX Series switch, you can define a set of Layer 2 port-mirroring properties that you can bind to a particular Packet Forwarding Engine (at the PIC level of the router or switch chassis) or to a group of Packet Forwarding Engines (at the DPC or FPC level of the chassis).

To define a named instance of Layer 2 port mirroring on an MX Series router or on an EX Series switch:

1. Enable configuration of a named instance of Layer 2 port mirroring :

   ```
   [edit]
   user@host# edit forwarding-options port-mirroring instance pm-instance-name
   ```

2. Enable configuration of the packet-sampling properties:

   ```
   [edit forwarding-options port-mirroring instance pm-instance-name]
   user@host# edit input
   ```


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3. Specify packet-selection properties:

   a. Specify the number of packets to select:

      [edit forwarding-options port-mirroring instance *pm-instance-name* input]
      user@host# **set rate** ***number***

      The valid range is **1** through **65535**.

   b. Specify the number of packets to mirror from each selection:

      [edit forwarding-options port-mirroring instance *pm-named-instance* input]
      user@host# **set run-length** ***number***

      The valid range is **0** through **20**. The default value is **0**.

      NOTE: **The run-length statement is not supported on MX80 routers.**

   c. Specify the length to which mirrored packets are to be truncated:

      [edit forwarding-options port-mirroring instance *pm-instance-name* input]
      user@host# **set maximum-packet-length** ***number***

      The valid range is **0** through **9216**. The default value is **0**, which means the mirrored packets are not truncated.

      NOTE: **The maximum-packet-length statement is not supported on MX80 routers.**

4. Enable configuration of the mirror destination properties for Layer 2 packets that are part of bridging domain, Layer 2 switching cross-connects, or virtual private LAN service (VPLS):

   a. Specify the Layer 2 address family type of traffic to be mirrored:

      [edit forwarding-options port-mirroring instance *pm-instance-name* input]
      user@host# **up**
      [edit forwarding-options port-mirroring instance *pm-instance-name*]
      user@host# **edit family** ***family***

      The value of the *family* option can be **ethernet-switching**, **ccc**, or **vpls**.

      NOTE: **Under the [edit forwarding-options port-mirroring] hierarchy level, the protocol family statement family ethernet-switching is an alias for family vpls. The command-line interface (CLI) displays Layer 2 port-mirroring configurations as family vpls, even for Layer 2 port-mirroring configured as family ethernet-switching. Use family ethernet-switching when the physical interface is configured with encapsulation ethernet-bridge.**

      Enable configuration of the mirror destination properties:

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b. [edit forwarding-options port-mirroring instance *pm-instance-name* family *family*]
user@host# **edit output**

5. Specify mirror destination properties.

a. Specify the physical interface on which to send the mirrored packets:

[edit forwarding-options port-mirroring instance *pm-instance-name* family *family* output]
user@host# **set interface** *interface-name*

b. (Optional) Allow configuration of filters on the destination interface for the global port-mirroring instance:

[edit forwarding-options port-mirroring instance *pm-instance-name* family *family* output]
user@host# **set no-filter-check**

NOTE: You cannot configure port mirroring instances on MX80 routers. You can only configure port mirroring at the global level on MX80 routers.

6. (Optional) Specify that any packets selected for mirroring are to be mirrored only once to any mirroring destination:

[edit forwarding-options port-mirroring instance *pm-instance-name* family *family* output]
user@host# **up 3**
[edit forwarding-options port-mirroring]
user@host# **set mirror-once**

TIP: Enable the global **mirror-once** option when an MX Series router or an EX Series switch is configured to perform Layer 2 port mirroring at both ingress and egress interfaces, which could result in sending duplicate packets to the same destination (which in turn would complicate the analysis of the mirrored traffic).

7. To configure a mirroring destination for a different packet family type, repeat steps 4 through 6.

8. Verify the minimum configuration of the named instances of Layer 2 port mirroring:

[edit forwarding-options ...]
user@host# **top**
[edit]
user@host# **show forwarding-options**

```
forwarding-options {
  port-mirroring {
    ... optional-global-port-mirroring-configuration ...
    instance {
      pm-instance-name ( # A named instance of port mirroring
        input { # Packet-selection properties
```


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```
            maximum-packet-length number; # Default is 0.
            rate number;
            run-length number;
          }
          family (ccc | vpls) { # Address- type 'ethernet-switching' displays as 'vpls'.
            output { # Mirror destination properties
              interface interface-name;
              no-filter-check; # Optional. Allow filters on interface.
            }
          }
        }
      }
      mirror-once; # Optional. Mirror destinations do not receive duplicate packets.
    }
  }
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Named Instances*
- Binding Layer 2 Port Mirroring to Ports Grouped at the FPC Level on page 30
- Binding Layer 2 Port Mirroring to Ports Grouped at the PIC Level on page 32
- Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis on page 34
- *Example: Layer 2 Port Mirroring with Multiple Instances*

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CHAPTER 6

Port Mirroring for Physical Interfaces

- Precedence of Multiple Levels of Layer 2 Port Mirroring on a Physical Interface on page 29
- Binding Layer 2 Port Mirroring to Ports Grouped at the FPC Level on page 30
- Binding Layer 2 Port Mirroring to Ports Grouped at the PIC Level on page 32
- Disabling Layer 2 Port Mirroring Instances on page 33
- Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis on page 34
- Example: Layer 2 Port Mirroring with Multiple Instances on page 36

Precedence of Multiple Levels of Layer 2 Port Mirroring on a Physical Interface

You can bind different sets of Layer 2 port mirroring properties (the global instance and one or more named instances) at various levels of an MX Series router or of an EX Series switch chassis (at the chassis level, at the FPC level, or at the PIC level). Therefore, it is possible for a single group of physical interfaces to be bound to multiple Layer 2 port mirroring definitions.

If a group of ports (or, in the case of a PIC-level binding in an MX960 router, a single port) is bound to multiple Layer 2 port mirroring definitions, the router (or switch) applies the Layer 2 port-mirroring properties to those ports as follows:

1. **Chassis-level port-mirroring properties implicitly apply to all ports in the chassis.** If an MX Series router or an EX Series switch is configured with the global port-mirroring instance, those port mirroring properties apply to all ports. See *Configuring the Global Instance of Layer 2 Port Mirroring*.
2. **FPC-level port-mirroring properties override chassis-level properties.** If a DPC or FPC is bound to a named instance of port mirroring, those port mirroring properties apply to all ports associated with that DPC or FPC, overriding any port mirroring properties bound at the chassis level. See "Binding Layer 2 Port Mirroring to Ports Grouped at the FPC Level" on page 30.
3. **PIC-level port-mirroring properties override FPC-level properties.** If a Packet Forwarding Engine or PIC is bound to a named instance of port mirroring, those port mirroring properties apply to all ports associated with the Packet Forwarding Engine or PIC, overriding any port mirroring properties bound to those ports at the FPC level. See "Binding Layer 2 Port Mirroring to Ports Grouped at the PIC Level" on page 32.

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Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Restrictions on Layer 2 Port Mirroring*
- *Application of Layer 2 Port Mirroring Types*
- Layer 2 Port Mirroring of PE Router Logical Interfaces on page 41
- *Layer 2 Port Mirroring of PE Router Aggregated Ethernet Interfaces*

Binding Layer 2 Port Mirroring to Ports Grouped at the FPC Level

On an MX Series router and on an EX Series switch, you can bind a named instance of Layer 2 port mirroring to a specific DPC or to a specific FPC in the router (or switch) chassis. This is known as binding a named instance of Layer 2 port mirroring *at the FPC level* of the router (or switch) chassis. The port mirroring properties specified in the named instance are applied to all physical ports associated with all Packet Forwarding Engines on the specified DPC or FPC.

NOTE: You can also bind a named instance of Layer 2 port mirroring to a specific Packet Forwarding Engine on a DPC or FPC in the router (or switch) chassis.

For any packet-type family supported by Layer 2 port mirroring

- Port mirroring properties bound to a specific DPC or FPC override any port-mirroring properties configured at the global level.
- Port mirroring properties bound to a specific Packet Forwarding Engine override any port-mirroring properties configured at the DPC or FPC level.

You can apply up to two named instances of Layer 2 port mirroring to the same group of ports within the router (or switch) chassis. By applying two different port-mirroring instances to the same DPC or FPC, you can bind two distinct Layer 2 port mirroring specifications to a single group of ports.

Before you begin, complete the following tasks:

- Define a named instance of Layer 2 port mirroring. See *Defining a Named Instance of Layer 2 Port Mirroring*.
- Display information about the number and types of DPCs or FPCs in the MX Series router and in the EX Series switch, the number of Packet Forwarding Engines on each, and the number and types of ports per Packet Forwarding Engine. See *Displaying Information About DPCs or FPCs in an MX Series Router*.

To bind a named instance of Layer 2 port-mirroring to a DPC or FPC and its Packet Forwarding Engines:

1. Enable configuration of the router (or switch) chassis properties:

   [edit]

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```
user@host# edit chassis
```

2. Enable configuration of a DPC (and its corresponding Packet Forwarding Engines) or an FPC (and its installed PICs):

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

3. Bind a named instance of Layer 2 port mirroring (***pm-instance-name***) to the DPC or FPC:

```
[edit chassis fpc slot-number]
user@host# set port-mirror-instance pm-instance-name
```

4. (Optional) To bind a second named instance of Layer 2 port mirroring to the same DPC or FPC, repeat step 3 and specify a different named instance of Layer 2 port mirroring.

5. Verify the minimum configuration of the binding:

```
[edit chassis fpc slot-number port-mirror-instance pm-instance-name]
user@host# top
[edit]
user@host# show chassis

chassis {
   fpc slot-number { # Bind two port mirroring named instances at the FPC level.
      port-mirror-instance pm-instance-name-1;
      port-mirror-instance pm-instance-name-2;
   }
}
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Named Instances*
- *Defining a Named Instance of Layer 2 Port Mirroring*
- Binding Layer 2 Port Mirroring to Ports Grouped at the PIC Level on page 32
- Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis on page 34
- *Example: Layer 2 Port Mirroring with Multiple Instances*

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Binding Layer 2 Port Mirroring to Ports Grouped at the PIC Level

On an MX Series router and on an EX Series switch, you can bind a named instance of Layer 2 port mirroring to the ports associated with a specific Packet Forwarding Engine (on a DPC) or to the ports associated with a specific PIC (installed in an FPC). This is known as binding a named instance of Layer 2 port mirroring *at the PIC level* of the router (or switch) chassis. The port-mirroring properties specified in the named instance are applied to all physical ports associated with the specified Packet Forwarding Engine.

NOTE: You can also bind a named instance of Layer 2 port mirroring to a specific DPC or FPC in the router (or switch) chassis.

For any packet-type family supported by Layer 2 port mirroring:

- Port mirroring properties bound to a specific Packet Forwarding Engine override any port-mirroring properties configured at the DPC or FPC level.
- Port mirroring properties bound to a specific DPC or FPC override any port-mirroring properties configured at the global level.

You can apply up to two named instances of Layer 2 port mirroring to the same group of ports within the router (or switch) chassis. By applying two different port-mirroring instances to the same Packet Forwarding Engine or PIC, you can bind two distinct Layer 2 port mirroring specifications to a single group of ports.

For MX960 routers, there is a one-to-one mapping of Packet Forwarding Engines to Ethernet ports. Therefore, on MX960 routers only, you can bind a named instance of Layer 2 port mirroring to a *specific port* by binding the instance to the Packet Forwarding Engine associated with the port.

Before you begin, complete the following tasks:

- Define a named instance of Layer 2 port mirroring. See *Defining a Named Instance of Layer 2 Port Mirroring*.
- Display information about the number and types of DPCs in the MX Series router or in the EX Series switch, the number of Packet Forwarding Engines on each DPC, and the number and types of ports per Packet Forwarding Engine. See *Displaying Information About DPCs or FPCs in an MX Series Router*.

To bind a named instance of Layer 2 port-mirroring to a Packet Forwarding Engine:

1. Enable configuration of the router (or switch) chassis properties:

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

2. Enable configuration of a Packet Forwarding Engine or PIC:

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


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```
user@host# edit pic slot-number
```

3. Bind a named instance of Layer 2 port mirroring (***pm-instance-name***) to the Packet Forwarding Engine or PIC:

```
[edit chassis fpc slot-number pic slot-number]
user@host# set port-mirror-instance pm-instance-name
```

4. (Optional) To bind a second named instance of Layer 2 port mirroring to the same Packet Forwarding Engine or PIC, repeat step 3 and specify a different named instance of Layer 2 port mirroring.

5. Verify the minimum configuration of the binding:

```
[edit forwarding-options ... ]
user@host# top
[edit]
user@host# show chassis
chassis {
  fpc slot-number {
    ... optional-binding-of-a-port-mirroring-instance-at-the-dpc-level ...
    pic slot-number { # Bind two port-mirroring named instances at the PIC level.
      port-mirror-instance pm-instance-name-1;
      port-mirror-instance pm-instance-name-2;
    }
  }
}
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Named Instances*
- *Defining a Named Instance of Layer 2 Port Mirroring*
- Binding Layer 2 Port Mirroring to Ports Grouped at the FPC Level on page 30
- Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis on page 34
- *Example: Layer 2 Port Mirroring with Multiple Instances*

Disabling Layer 2 Port Mirroring Instances

You can disable the global instance of Layer 2 port mirroring, a particular named instance, or all instances of port mirroring:

- To disable the global instance of Layer 2 port mirroring, include the disable statement at the **[edit *forwarding-options port-mirroring*]** hierarchy level:

```
[edit]
forwarding-options {
  port-mirroring {
    disable; Disables the global instance of Layer 2 port mirroring.
    ...global-instance-of-layer-2-port-mirroring-configuration...
  }
}
```

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- To disable the definition of a particular named instance of Layer 2 port mirroring, include the disable statement at the **[edit *forwarding-options port-mirroring instance instance-name*]** hierarchy level:

```
[edit]
forwarding-options {
  port-mirroring {
    ...optional-configuration-of-the-global-instance-of-layer-2-port-mirroring...
    instance {
      port-mirroring-instance-name {
        disable; Disables this named instance of Layer 2 port mirroring.
        ...definition-of-a-named-instance-of-layer-2-port-mirroring...
      }
    }
  }
}
```

- To disable the global instance and all named instances of Layer 2 port mirroring, include the disable-all-instances statement at the **[edit *forwarding-options port-mirroring*]** hierarchy level:

```
[edit]
forwarding-options {
  port-mirroring {
    disable-all-instances; Disables all instances of Layer 2 port mirroring.
    ...optional-configuration-of-the-global-instance-of-layer-2-port-mirroring...
    instance {
      port-mirroring-instance-name {
        ...definition-of-a-named-instance-of-layer-2-port-mirroring...
      }
    }
  }
}
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- Layer 2 Port Mirroring Global Instance on page 9
- *Layer 2 Port Mirroring Named Instances*
- Displaying Layer 2 Port-Mirroring Instance Settings and Status on page 95

Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis

On an MX Series router or on an EX Series switch, you can apply named instances of Layer 2 port mirroring at the FPC or DPC level of the chassis or at the PIC level of the chassis. However, you can configure (and implicitly apply) only one global instance of Layer 2 port mirroring to the entire chassis.

- Layer 2 Port Mirroring at the FPC Level on page 35
- Layer 2 Port Mirroring at the PIC Level on page 35
- Layer 2 Port Mirroring at the FPC and PIC Levels on page 35

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Layer 2 Port Mirroring at the FPC Level

In this example configuration of an MX Series router or of an EX Series switch chassis, a named instance of Layer 2 port mirroring (**pm1**) is bound to physical ports grouped at the FPC level:

```
[edit]
chassis {
  fpc 2 {
    port-mirror-instance pm1;
  }
}
```

This is not a complete configuration. The physical interfaces associated with the FPC or DPC in slot 2 must be configured at the **[edit interfaces]** hierarchy level. The Layer 2 port mirroring named instance **pm1** must be configured at the **[edit forwarding-options port-mirroring instance]** hierarchy level.

Layer 2 Port Mirroring at the PIC Level

In this example configuration of an MX Series router or of an EX Series switch chassis, a named instance of Layer 2 port mirroring (**pm2**) is bound to the physical ports grouped at the PIC level:

```
[edit]
chassis {
  fpc 2 {
    pic 0 {
      port-mirror-instance pm2;
    }
  }
}
```

This is not a complete configuration. The physical interfaces associated with the FPC or DPC in slot 2 must be configured at the **[edit interfaces]** hierarchy level. The Layer 2 port mirroring named instance **pm2** must be configured at the **[edit forwarding-options port-mirroring instance]** hierarchy level.

Layer 2 Port Mirroring at the FPC and PIC Levels

In this example configuration of an MX Series router chassis or an EX Series switch, one named instance of Layer 2 port mirroring (**pm1**) is applied at the FPC level of the router (or switch) chassis. A second named instance (**pm2**) is applied at the PIC level:

```
[edit]
chassis {
  fpc 2 {
    port-mirror-instance pm1;
    pic 0 {
      port-mirror-instance pm2;
    }
  }
}
```

This is not a complete configuration. Physical interfaces associated with the FPC or DPC in slot 2, including physical interfaces associated with **pic 0**, must be configured at the

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[edit interfaces] hierarchy level. The Layer 2 port mirroring named instances **pm1** and **pm2** must be configured at the **[edit forwarding-options port-mirroring instance]** hierarchy level.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- Layer 2 Port Mirroring Global Instance on page 9
- *Layer 2 Port Mirroring Named Instances*
- *Configuring the Global Instance of Layer 2 Port Mirroring*
- *Defining a Named Instance of Layer 2 Port Mirroring*

Example: Layer 2 Port Mirroring with Multiple Instances

Because you can configure more than one port-mirroring instance, care is required when specifying which instance is meant. This topic contains the following information:

- Example: Configuring Multiple Instances of Layer 2 Port Mirroring on page 36
- Explicit Reference of a Port Mirroring Instance on page 39
- Implicit Reference of Port Mirroring on the Underlying Physical Interface on page 39

Example: Configuring Multiple Instances of Layer 2 Port Mirroring

This configuration example illustrates the configuration of Layer 2 port mirroring at the physical interfaces associated with FPC 2, PIC 0 and at two logical interfaces on one of those ports.

At the physical interface levels of the router (or switch) chassis, two named instances of port mirroring are configured and then bound to the group of physical ports associated with FPC 2, PIC 0.

At two of the logical interfaces on physical interface **ge-2/0/1**, two Layer 2 port-mirroring firewall filters are applied to the input traffic. One filter *explicitly* references the port mirroring properties specified in one of the named instances of port mirroring. The other filter *implicitly* references the port mirroring properties in effect on the underlying physical interface **ge-2/0/1**.

The resulting configuration is an example of the relationships that can exist between multiple instances of Layer 2 port mirroring applied to an MX Series router or an EX Series switch.

1. Configure two named instances of Layer 2 port mirroring (**pm_instance_1** and **pm_instance_2**), and include mirror destination properties for VLAN traffic (**family ethernet-switching**):

```
[edit]
forwarding-options {
  port-mirroring {
    instance {
      pm_instance_1 {
        input {
```


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```
            ... packet-selection-properties-configuration ...
          }
          family ethernet-switching {
            ... mirror-destination-properties-configuration ...
          }
        }
        pm_instance_2 {
          input {
            ... packet-selection-properties-configuration ...
          }
          family ethernet-switching {
            ... mirror-destination-properties-configuration ...
          }
        }
      }
    }
  }
```

NOTE: In this example, no global port-mirroring properties are configured on the router (or switch).

2. Apply the Layer 2 port mirroring instances to the same group of ports in the router (or switch) chassis. In this example, the named instances of Layer 2 port mirroring are applied to the same group of physical interfaces specified at the PIC level of the chassis:

```
[edit]
chassis {
  fpc 2 {
    pic 0 {
      port-mirror-instance pm_instance_1;
      port-mirror-instance pm_instance_2;
    }
  }
}
```

Note that, in this example, two named instances of Layer 2 port mirroring are bound to the PIC level of the chassis at the same group of ports.

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3. Configure two Layer 2 port-mirroring firewall filters, both for VLAN traffic and with one of the filters explicitly referencing one of the named instances of Layer 2 port mirroring:

   - Configure the filter **pm_filter_1** to use the Layer 2 port-mirroring properties configured in the named port-mirroring instance **pm_instance_1**. To refer to the Layer 2 port mirroring properties configured in a particular named instance of port mirroring, use the **port-mirror-instance** ***port-mirroring-instance-name*** statement.
   - Configure the filter **pm_filter_2** to use the Layer 2 port mirroring properties in effect on the underlying physical interface of the logical interface to which the filter is applied. To refer to the Layer 2 port mirroring properties in effect on the underlying physical interface, use the **port-mirror** statement. If two instances of port mirroring are bound to that port, then the firewall filter uses the first instance bound within the **[edit chassis fpc** ***slot-number***] or **[edit chassis fpc** ***slot-number*** **pic** ***slot-number***] hierarchy level.

   ```
   [edit]
   firewall {
     family ethernet-switching {
       filter pm_filter_1 {
         term pm {
           then port-mirror-instance pm_instance_1;
         }
       }
       filter pm_filter_2 {
         term pm {
           then port-mirror;
         }
       }
     }
   }
   ```

   NOTE: Because the **port-mirror** filter action modifier relies on the port-mirroring properties defined at the **[edit forwarding-options port-mirroring]** hierarchy level, the **port-mirror** filter action is not supported for logical systems.

4. Apply the two Layer 2 port-mirroring firewall filters to logical interfaces on interface **ge-2/0/1**:

   ```
   [edit]
   interfaces {
     ge-2/0/1 {
       flexible-vlan-tagging;
       encapsulation ethernet-bridge;
       unit 0 {
         vlan-id 201;
         family ethernet-switching {
           filter { # Explicitly references a named instance of port mirroring.
             input pm_filter_1;
           }
         }
       }
       unit 1 {
   ```


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```
        vlan-id 202;
        family ethernet-switching {
          filter { # Implicitly references the underlying port mirroring.
            input pm_filter_2;
          }
        }
      }
    }
  }
```

Explicit Reference of a Port Mirroring Instance

On logical interface **ge-2/0/1.0**, the **port-mirror-instance** statement explicitly references the Layer 2 port mirroring properties in the named instance **pm_instance_1**. In this example, the port mirroring properties specified in **pm_instance_1** remain in effect at logical interface **ge-2/0/1.0** under the following conditions:

- The firewall filter **pm_filter_1** remains configured (as shown in step 3).
- The named instance **pm_instance_1** remains configured (as shown in step 1).

Even if the named instance **pm_instance_1** is no longer configured or no longer bound to the router (or switch) chassis at FPC 2, PIC 0, the port mirroring properties specified in **pm_instance_1** remain in effect at logical interface **fe-2/0/1.0** through firewall filter **pm_filter_1**.

Implicit Reference of Port Mirroring on the Underlying Physical Interface

On logical interface **ge-2/0/1.1**, the **port-mirror** statement implicitly references the Layer 2 port mirroring properties in effect at the underlying physical interface **ge-2/0/1**. In this example, the port mirroring properties specified in **pm_instance_2** remain in effect at the ports associated with FPC 2, PIC 0 under the following conditions:

- The firewall filter **pm_filter_2** remains configured (as shown in step 3).
- The named instance **pm_instance_2** remains configured (as shown in step 1).
- The named instance **pm_instance_2** remains bound to the router (or switch) chassis at FPC 2, PIC 0 (as shown in step 2).

If you disable the named instance **pm_instance_2** or delete its binding to the physical ports associated with FPC 2, PIC 0, then—if global Layer 2 port mirroring properties had been configured—the global port mirroring properties would be used at logical interface **ge-2/0/1.1** through firewall filter **pm_filter_2**.

NOTE: There is a limitation to a Layer 2 port mirroring firewall filter in which you implicitly reference Layer 2 port mirroring properties by including the **port-mirror** statement. If multiple named instances of Layer 2 port mirroring are bound to the underlying physical interface, then only the first binding in the stanza (or the only binding) is used at the logical interface. This is done mainly for backward compatibility.

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In the example above, filter **pmff_bd_filter_2** uses the **port-mirror** statement, and so the filter action uses the mirroring properties of the first port mirroring instance applied to the router (or switch) chassis at the **[edit chassis fpc 2 pic 0]** hierarchy level, which is the instance **pm_instance_1**.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Named Instances*
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Named Instance of Layer 2 Port Mirroring*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*

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CHAPTER 7

Port Mirroring for Logical interfaces

- Layer 2 Port Mirroring of PE Router Logical Interfaces on page 41
- Layer 2 Port Mirroring Firewall Filters on page 43
- Defining a Layer 2 Port-Mirroring Firewall Filter on page 45
- Applying Layer 2 Port Mirroring to a Logical Interface on page 49
- Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VLAN on page 52
- Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance on page 54
- Example: Layer 2 Port Mirroring at a Logical Interface on page 56
- Example: Layer 2 Port Mirroring for a Layer 2 VPN on page 58
- Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links on page 60

Layer 2 Port Mirroring of PE Router Logical Interfaces

For an MX Series router or an EX Series switch configured as a provider edge (PE) router or PE switch on the customer-facing edge of a service provider network, you can apply a Layer 2 port-mirroring firewall filter at the following ingress and egress points to mirror the traffic between the MX Series router (or an EX Series switch) and customer edge (CE) devices, such as routers and Ethernet switches.

Table 4 on page 14 describes the ways in which you can apply Layer 2 port-mirroring firewall filters to an MX Series router or an EX Series switch configured as a PE router or PE switch.

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Table 5: Application of Layer 2 Port Mirroring Firewall Filters on PE Routers and PE Switches

Point of Application	Scope of Mirroring	Notes	Configuration Details
Ingress Customer-Facing Logical Interface	Packets originating within a service provider customer's network, sent first to a CE device, and sent next to an MX Series router or an EX Series switch acting as a PE router or PE switch.	You can also configure aggregated Ethernet interfaces between CE devices and PE routers or PE switches for VPLS routing instances. Traffic is load-balanced across all of the links in the aggregated interface. Traffic received on an aggregated Ethernet interface is forwarded over a different interface based on a lookup of the destination MAC (DMAC) address: • Packets destined for a local site are sent out of the load-balanced child interface. • Packets destined for the remote site are encapsulated and forwarded over a label-switched path (LSP).	See *Applying Layer 2 Port Mirroring to a Logical Interface*. For more information about VPLS routing instances, see *Configuring a VPLS Routing Instance* and *Configuring VLAN Identifiers for Bridge Domains and VPLS Routing Instances*.
Egress Customer-Facing Logical Interface	Unicast packets being forwarded by the MX Series router or the EX Series switch to another PE router or PE switch. **NOTE:** If you apply a port-mirroring filter to the output for a logical interface, only unicast packets are mirrored. To mirror multicast, unknown unicast, and broadcast packets, apply a filter to the input to the flood table of a bridge domain or VPLS routing instance.		See *Applying Layer 2 Port Mirroring to a Logical Interface*.
Input to a Bridge Domain Forwarding Table or Flood Table	Forwarding traffic or flood traffic sent to the bridge domain from a CE device.	Forwarding and flood traffic typically consists of broadcast packets, multicast packets, unicast packets with an unknown destination MAC address, or packets with a MAC entry in the DMAC routing table.	See *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a Bridge Domain*. For information about flooding behavior in VPLS, see the *Junos OS VPNs Library for Routing Devices*.
Input to a VPLS Routing Instance Forwarding Table or Flood Table	Forwarding traffic or flood traffic sent to the VPLS routing instance from a CE device.		See *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance*. For information about flooding behavior in VPLS, see the *Junos OS VPNs Library for Routing Devices*.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Example: Layer 2 Port Mirroring at a Logical Interface*

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Layer 2 Port Mirroring Firewall Filters

This topic describes the following information:

- Layer 2 Port Mirroring Firewall Filters Overview on page 43
- Mirroring of Packets Received or Sent on a Logical Interface on page 44
- Mirroring of Packets Forwarded or Flooded to a VLAN on page 44
- Mirroring of Packets Forwarded or Flooded to a VPLS Routing Instance on page 45

Layer 2 Port Mirroring Firewall Filters Overview

On an MX Series router and on an EX Series switch, you can configure a firewall filter *term* to specify that Layer 2 port mirroring is to be applied to all packets at the interface to which the firewall filter is applied.

You can apply a Layer 2 port-mirroring firewall filter to the input or output logical interfaces (including aggregated Ethernet logical interfaces), to traffic forwarded or flooded to a VLAN, or traffic forwarded or flooded to a VPLS routing instance.

MX Series routers and EX Series switches support Layer 2 port mirroring of VPLS (**family ethernet-switching** or **family vpls**) traffic and Layer 2 VPN traffic with **family ccc** n a Layer 2 environment

Within a firewall filter **term**, you can specify the Layer 2 port-mirroring properties under the **then** statement in either of the following ways:

- Implicitly reference the Layer 2 port mirroring properties in effect on the port.
- Explicitly reference a particular named instance of Layer 2 port mirroring.

NOTE: When configuring a Layer 2 port-mirroring firewall filter, do not include the optional from statement that specifies match conditions based on the route source address. Omit this statement so that all packets are considered to match and all *actions* and *action-modifiers* specified in the then statement are taken.

If you want to mirror all incoming packets, then you must not use the from statement; /* comment: one configure filter terms with from if they are interested in mirroring only a subset of packet.

For a general description of Layer 2 port-mirroring properties, see "Layer 2 Port Mirroring Properties" on page 4. For a comparison of the types of Layer 2 port mirroring available on an MX Series router and on an EX Series switch, see *Application of Layer 2 Port Mirroring Types*.

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NOTE: If you associate integrated routing and bridging (IRB) with the VLAN (or VPLS routing instance), and also configure within the VLAN (or VPLS routing instance) a forwarding table filter with the **port-mirror** or **port-mirror-instance** action, then the IRB packet is mirrored as a Layer 2 packet. You can disable this behavior by configuring the *no-irb-layer-2-copy* statement in the VLAN (or VPLS routing instance).

For a detailed description of how to configure a Layer 2 port-mirroring firewall filter, see *Defining a Layer 2 Port-Mirroring Firewall Filter*.

For detailed information about how you can use Layer 2 port-mirroring firewall filters with MX Routers and EX Series switches configured as provider edge (PE) routers or PE switches, see "Layer 2 Port Mirroring of PE Router Logical Interfaces" on page 41. For detailed information about configuring firewall filters in general (including in a Layer 3 environment), see the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

Mirroring of Packets Received or Sent on a Logical Interface

To mirror Layer 2 traffic received or sent on a logical interface, apply a port-mirroring firewall filter to the input or output of the interface.

A port-mirroring firewall filter can also be applied to an aggregated-Ethernet logical interface. For details, see *Layer 2 Port Mirroring of PE Router Aggregated Ethernet Interfaces*.

NOTE: If port-mirroring firewall filters are applied at both the input and output of a logical interface, two copies of each packet are mirrored. To prevent the router or switch from forwarding duplicate packets to the same destination, you can enable the "mirror-once" option for Layer 2 port mirroring in the global instance for the Layer 2 packet address family.

Mirroring of Packets Forwarded or Flooded to a VLAN

To mirror Layer 2 traffic forwarded to or flooded to a VLAN, apply a port-mirroring firewall filter to the input to the forwarding table or flood table. Any packet received for the VLAN forwarding or flood table and that matches the filter conditions is mirrored.

For more information about VLANs, see *Layer 2 Bridge Domains Overview*. For information about flooding behavior in a VLAN, see *Layer 2 Learning and Forwarding for Bridge Domains Overview*.

NOTE: When you configure port mirroring on any interface under one VLAN, the mirrored packet can move to an external analyzer located under different VLANs.

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Mirroring of Packets Forwarded or Flooded to a VPLS Routing Instance

To mirror Layer 2 traffic forwarded to or flooded to a VPLS routing instance, apply a port-mirroring firewall filter to the input to the forwarding table or flood table. Any packet received for the VPLS routing instance forwarding or flood table and that matches the filter condition is mirrored.

For more information about VPLS routing instances, see *Configuring a VPLS Routing Instance* and *Configuring VLAN Identifiers for Bridge Domains and VPLS Routing Instances*. For information about flooding behavior in VPLS, see the *Junos OS VPNs Library for Routing Devices*.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Example: Layer 2 Port Mirroring at a Logical Interface*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*
- *Example: Layer 2 Port Mirroring to Multiple Destinations*

Defining a Layer 2 Port-Mirroring Firewall Filter

For virtual private LAN service (VPLS) traffic (**family ethernet-switching** or **family vpls**) and for Layer 2 VPNs with **family ccc** on MX Series routers and on EX Series switches only, you can define a firewall filter that specifies Layer 2 port mirroring as the action to be performed if a packet matches the conditions configured in the firewall filter term.

You can use a Layer 2 port-mirroring firewall filter in the following ways:

- To mirror packets received or sent on a logical interface.
- To mirror packets forwarded or flooded to a VLAN.
- To mirror packets forwarded or flooded to a VPLS routing instance.
- To mirror tunnel interface input packets only to multiple destinations.

For a summary of the three types of Layer 2 port-mirroring you can configure on an MX Series router and on an EX Series switch, see *Application of Layer 2 Port Mirroring Types*.

For information about configuring firewall filters in general (including in a Layer 3 environment), see *Stateless Firewall Filter Overview* and *How Firewall Filters Evaluate Packets* in the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

To define a firewall filter with a Layer 2 port-mirroring action:

1. Enable configuration of firewall filters for Layer 2 packets that are part of a VLAN, a Layer 2 switching cross-connect, or a virtual private LAN service (VPLS):

   [edit]

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```
user@host# edit firewall family family
```

The value of the ***family*** option can be **ethernet-switching**, **ccc**, or **vpls**.

2. Enable configuration of a firewall filter ***pm-filter-name***:

```
[edit firewall family family]
user@host# edit filter pm-filter-name
```

3. Enable configuration of a firewall filter term ***pm-filter-term-name***:

```
[edit firewall family family filter pm-filter-name]
user@host# edit term pm-filter-term-name
```

For more information about firewall filter terms in general (including in a Layer 3 environment), see *Guidelines for Configuring Firewall Filters* in the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

4. (Optional) Specify the firewall filter match conditions based on the route source address *only if* you want to mirror a subset of the sampled packets.

For information about configuring firewall filter match conditions in general (including in a Layer 3 environment), see *Firewall Filter Match Conditions Based on Numbers or Text Aliases*, *Firewall Filter Match Conditions Based on Bit-Field Values*, *Firewall Filter Match Conditions Based on Address Fields*, and *Firewall Filter Match Conditions Based on Address Classes*, in the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

- For detailed information about Layer 2 bridging firewall filter match conditions (which are supported on MX Series routers and EX Series switches only), see *Firewall Filter Match Conditions for Layer 2 Bridging Traffic*.
- For detailed information about VPLS firewall filter match conditions, see *Firewall Filter Match Conditions for VPLS Traffic*.
- For detailed information about Layer 2 circuit cross-connect (CCC) firewall filter match conditions, see *Firewall Filter Match Conditions for Layer 2 CCC Traffic*.

NOTE: If you want all sampled packets to be considered to match (and be subjected to the actions specified in the **then** statement), then omit the **from** statement altogether.

5. Enable configuration of the ***action*** and ***action-modifier*** to apply to matching packets:

```
[edit firewall family family filter pm-filter-name term pm-filter-term-name]
user@host# edit then
```

6. Specify the actions to be taken on matching packets:

```
[edit firewall family family filter pm-filter-name term pm-filter-term-name then]
user@host# set action
```

The recommended value for the ***action*** is **accept**. If you do not specify an action, or if you omit the **then** statement entirely, all packets that match the conditions in the **from** statement are accepted.

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7. Specify Layer 2 port mirroring or a next-hop group as the ***action-modifier***:

   - To reference the Layer 2 port mirroring properties currently in effect for the Packet Forwarding Engine or PIC associated with the underlying physical interface, use the **port-mirror** statement:

     ```
     [edit firewall family family filter pm-filter-name term pm-filter-term-name then]
     user@host# set port-mirror
     ```

   - To reference the Layer 2 port mirroring properties configured in a specific named instance, use the **port-mirror-instance** *pm-instance-name* action modifier:

     ```
     [edit firewall family family filter pm-filter-name term pm-filter-term-name then]
     user@host# set port-mirror-instance pm-instance-name
     ```

     If the underlying physical interface is not bound to a named instance of Layer 2 port mirroring but instead is implicitly bound to the global instance of Layer 2 port mirroring, then traffic at the logical interface is mirrored according to the properties specified in the named instance referenced by the **port-mirror-instance** action modifier.

   - To reference a next-hop group that specifies the next-hop addresses (for sending additional copies of packets to an analyzer), use the **next-hop-group** *pm-next-hop-group-name* action modifier:

     ```
     [edit firewall family family filter pm-filter-name term pm-filter-term-name then]
     user@host# set next-hop-group pm-next-hop-group-name
     ```

     For configuration information about next-hop groups, see "Defining a Next-Hop Group for Layer 2 Port Mirroring" on page 72. If you specify a next-hop group for Layer 2 port mirroring, the firewall filter term applies to the tunnel interface input only.

8. Verify the minimum configuration of the Layer 2 port-mirroring firewall filter:

   ```
   [edit firewall ... ]
   user@host# top
   [edit]
   user@host# show firewall

   family (ethernet-switching | ccc | vpls) { # Type of packets to mirror
     filter pm-filter-name { # Firewall filter name
       term pm-filter-term-name {
         from { # Do not specify match conditions based on route source address
         }
         then {
           action; # Recommended action is 'accept'
           action-modifier; # Three options for Layer 2 port mirroring
         }
       }
     }
   }
   ```

   In the firewall filter term **then** statement, the *action-modifier* can be **port-mirror**, **port-mirror-instance** *pm-instance-name*, or **next-hop-group** *pm-next-hop-group-name*.

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Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- Layer 2 Port Mirroring to Multiple Destinations Using Next-Hop Groups on page 68
- *Example: Layer 2 Port Mirroring at a Logical Interface*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*
- *Example: Layer 2 Port Mirroring to Multiple Destinations*

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Applying Layer 2 Port Mirroring to a Logical Interface

You can apply a Layer 2 port-mirroring firewall filter to the input or to the output of a logical interface, including an aggregated Ethernet logical interface. Only packets of the address-type family specified by the filter action are mirrored.

Before you begin, complete the following task:

- Define a Layer 2 port-mirroring firewall filter to be applied to the input to a logical interface or output to a logical interface. For details, see *Defining a Layer 2 Port-Mirroring Firewall Filter*.

NOTE: This configuration task shows two Layer 2 port-mirroring firewall filters: one filter applied to the logical interface ingress traffic, and one filter applied to the logical interface egress traffic.

To apply a Layer 2 port-mirroring firewall filter to an input or output logical interface:

1. Configure the underlying physical interface for the logical interface.

   a. Enable configuration of the underlying physical interface:

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

      NOTE: A port-mirroring firewall filter can also be applied to an aggregated-Ethernet logical interface.

   b. For Fast Ethernet and Gigabit Ethernet interfaces and aggregated Ethernet interfaces configured for VPLS, enable the reception and transmission of 802.1Q VLAN-tagged frames on the interface:

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

   c. For Ethernet interfaces that have IEEE 802.1Q VLAN tagging and bridging enabled and that must accept packets carrying TPID 0x8100 or a user-defined TPID, set the logical link-layer encapsulation type:

      ```
      [edit interfaces interface-name]
      user@host# set encapsulation extended-vlan-ethernet-switching
      ```

2. Configure the logical interface to which you want to apply a Layer 2 port-mirroring firewall filter.

   a. Specify the logical unit number:

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

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b. For a Fast Ethernet, Gigabit Ethernet, or Aggregated Ethernet interface, bind an 802.1Q VLAN tag ID to the logical interface:

```
[edit interfaces interface-name unit logical-unit-number]
user@host# set vlan-id number
```

3. Enable specification of an input or output filter to be applied to Layer 2 packets that are part of bridging domain, Layer 2 switching cross-connects, or virtual private LAN service (VPLS).

   - If the filter is to be evaluated when packets are received on the interface:

     ```
     [edit interfaces interface-name unit logical-unit-number]
     user@host# set family family filter input pm-filter-name-a
     ```

   - If the filter is to be evaluated when packets are sent on the interface:

     ```
     [edit interfaces interface-name unit logical-unit-number]
     user@host# set family family filter output pm-filter-name-b
     ```

   The value of the *family* option can be **ethernet-switching**, **ccc**, or **vpls**.

   NOTE: If port-mirroring firewall filters are applied at both the input and output of a logical interface, two copies of each packet are mirrored. To prevent the router or switch from forwarding duplicate packets to the same destination, include the optional **mirror-once** statement at the **[edit forwarding-options]** hierarchy level.

4. Verify the minimum configuration for applying a named Layer 2 port mirroring firewall filter to a logical interface:

```
[edit interfaces interface-name unit logical-unit-number family family filter ... ]
user@host# top
[edit]
user@host# show interfaces

interfaces {
  interface-name {
    vlan-tagging;
    encapsulation extended-vlan-ethernet-switching;
    unit number { # Apply a filter to the input of this interface
      vlan-id number;
      family (ethernet-switching | ccc | vpls) {
        filter {
          input pm-filter-for-logical-interface-input;
        }
      }
    }
    unit number { # Apply a filter to the output of this interface
      vlan-id number;
      family (ethernet-switching | ccc | vpls) {
        filter {
          output pm-filter-for-logical-interface-output;
        }
      }
```


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```
        }
      }
    }
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a Bridge Domain*
- *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance*
- *Example: Layer 2 Port Mirroring at a Logical Interface*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*

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Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VLAN

You can apply a Layer 2 port-mirroring firewall filter to traffic being forwarded or flooded to a VLAN. Only packets of the specified family type and forwarded or flooded to that VLAN are mirrored.

Before you begin, complete the following task:

- Define a Layer 2 port-mirroring firewall filter to be applied to the traffic being forwarded to a VLAN or flooded to a VLAN. For details, see *Defining a Layer 2 Port-Mirroring Firewall Filter*.

NOTE: This configuration task shows two Layer_2 port-mirroring firewall filters: one filter applied to the VLAN forwarding table ingress traffic, and one filter applied to the VLAN flood table ingress traffic.

To apply a Layer 2 port-mirroring firewall filter to the forwarding table or flood table of a VLAN:

1. Enable configuration of the VLAN ***bridge-domain-name*** to which you want to apply a Layer 2 port-mirroring firewall filter for forwarded or flooded traffic:

   - For a VLAN:

     ```
     [edit]
     user@host# edit bridge-domains bridge-domain-name
     ```

   - For a VLAN under a routing instance:

     ```
     [edit]
     user@host# edit routing-instances routing-instance-name bridge-domains
       bridge-domain-name
     user@host# set instance-type virtual-switch
     ```

     For more detailed configuration information, see *Configuring a VPLS Routing Instance*.

2. Configure the VLAN:

   ```
   [edit]
   user@host# set domain-type bridge
   user@host# set interface interface-name
   user@host# set routing-interface routing-interface-name
   ```

   For more detailed configuration information, see *Configuring a Bridge Domain* and *Configuring VLAN Identifiers for Bridge Domains and VPLS Routing Instances*.

3. Enable configuration of traffic forwarding on the VLAN:

   ```
   [edit ... bridge-domains bridge-domain-name]
   user@host# edit forwarding-options
   ```


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4. Apply a Layer 2 port-mirroring firewall filter to the VLAN forwarding table or flood table.

   - To mirror packets being forwarded to the VLAN:

     [edit ... bridge-domains *bridge-domain-name* forwarding-options]
     user@host# **set filter input *pm-filter-for-bd-ingress-forwarded***

   - To mirror packets being flooded to the VLAN:

     [edit ... bridge-domains *bridge-domain-name* forwarding-options]
     user@host# **set flood input *pm-filter-for-bd-ingress-flooded***

5. Verify the minimum configuration for applying a Layer 2 port-mirroring firewall filter to the forwarding table or flood table of the VLAN.

   a. Navigate to the hierarchy level at which the VLAN is configured:

      - **[edit]**
      - **[edit routing-instances *routing-instance-name*]**

   b. Display the VLAN configurations:

      user@host# **show vlans**

      ```
      vlans {
        vlan-name {
          instance-type virtual-switch; # For a bridge domain under a routing instance.
          domain-type bridge;
          interface interface-name;
          forwarding-options {
            filter { # Mirror ingress forwarded traffic
              input pm-filter-for-bd-ingress-forwarded;
            }
            flood { # Mirror ingress flooded traffic
              input pm-filter-for-bd-ingress-flooded;
            }
          }
        }
      }
      ```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Applying Layer 2 Port Mirroring to a Logical Interface*
- *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance*
- *Example: Layer 2 Port Mirroring at a Logical Interface*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*

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Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance

You can apply a Layer 2 port-mirroring firewall filter to traffic being forwarded or flooded to a VPLS routing instance. Only packets of the specified family type and forwarded or flooded to that VPLS routing instance are mirrored.

Before you begin, complete the following task:

- Define a Layer 2 port-mirroring firewall filter to be applied to the traffic being forwarded to a VPLS routing instance or flooded to a VLAN. For details, see *Defining a Layer 2 Port-Mirroring Firewall Filter*.

NOTE: This configuration task shows two Layer_2 port-mirroring firewall filters: one filter applied to the VPLS routing instance forwarding table ingress traffic, and one filter applied to the VPLS routing instance flood table ingress traffic.

To apply a Layer 2 port-mirroring firewall filter to the forwarding table or flood table of a VPLS routing instance:

1. Enable configuration of the VPLS routing instance to which you want to apply a Layer 2 port-mirroring firewall filter for forwarded or flooded traffic:

   [edit]
   user@host# **edit routing-instances** ***routing-instance-name***
   user@host# **set instance-type vpls**
   user@host# **set interface** ***interface-name***
   user@host# **set route-distinguisher (***as-number:number* **|** *ip-address:number***)**
   user@host# **set vrf-import [***policy-names***]**
   user@host# **set vrf-export [***policy-names***]**
   user@host# **edit protocols vpls**
   user@host@ **...** ***vpls-configuration*** **...**

   For more detailed configuration information, see *Configuring a VPLS Routing Instance*.

2. Enable configuration of traffic forwarding on the VPLS routing instance:

   [edit routing-instances *routing-instance-name* protocols *vpls*]
   user@host# **up 2**
   [edit routing-instances *routing-instance-name*]
   user@host# **edit forwarding-options**

3. Apply a Layer 2 port-mirroring firewall filter to the VPLS routing instance forwarding table or flood table.

   - To mirror packets being forwarded to the VPLS routing instance:

     [edit routing-instances *routing-instance-name* forwarding-options]
     user@host# **set filter input** ***pm-filter-for-vpls-ri-forwarded***

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- To mirror packets being flooded to the VPLS routing instance:

  ```
  [edit routing-instances routing-instance-name forwarding-options]
  user@host# set flood input pm-filter-for-vpls-ri-flooded
  ```

4. Verify the minimum configuration for applying a Layer 2 port-mirroring firewall filter to the forwarding table or flood table of the VPLS routing instance:

```
[edit routing-instances routing-instance-name forwarding-options]
user@host# top
[edit]
user@host# show routing-instances

routing-instances {
  routing-instance-name {
    instance-type vpls;
    interface interface-name;
    route-distinguisher (as-number:number | ip-address:number);
    vrf-import [policy-names];
    vrf-export [policy-names];
    protocols {
      vpls {
        ...vpls-configuration...
      }
    }
    forwarding-options {
      family vpls {
        filter { # Mirror ingress forwarded traffic
          input pm-filter-for-vpls-ri-forwarded;
        }
        flood { # Mirror ingress flooded traffic
          input pm-filter-for-vpls-ri-flooded;
        }
      }
    }
  }
}
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Applying Layer 2 Port Mirroring to a Logical Interface*
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- *Example: Layer 2 Port Mirroring at a Logical Interface*
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- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*

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Example: Layer 2 Port Mirroring at a Logical Interface

The following steps describe an example in which the global port-mirroring instance and a port-mirroring firewall filter are used to configure Layer 2 port mirroring for the input to a logical interface.

1. Configure the VLAN **example-bd-with-analyzer**, which contains the external packet analyzer, and the VLAN **example-bd-with-traffic**, which contains the source and destination of the Layer 2 traffic being mirrored:

```
[edit]
bridge-domains {
  example-bd-with-analyzer { # Contains an external traffic analyzer
    vlan-id 1000;
    interface ge-2/0/0.0; # External analyzer
  }
  example-bd-with-traffic { # Contains traffic input and output interfaces
    vlan-id 1000;
    interface ge-2/0/6.0; # Traffic input port
    interface ge-3/0/1.2; # Traffic output port
  }
}
```

   Assume that logical interface **ge-2/0/0.0** is associated with an external traffic analyzer that is to receive port-mirrored packets. Assume that logical interfaces **ge-2/0/6.0** and **ge-3/0/1.2** will be traffic input and output ports, respectively.

2. Configure Layer 2 port-mirroring for the global instance, with the port-mirroring destination being the VLAN interface associated with the external analyzer (logical interface **ge-2/0/0.0** on VLAN **example-bd-with-analyzer**). Be sure to enable the option that allows filters to be applied to this port-mirroring destination:

```
[edit]
forwarding-options {
  port-mirroring {
    input {
      rate 10;
      run-length 5;
    }
    family ethernet-switching {
      output {
        interface ge-2/0/0.0; # Mirror packets to the external analyzer
        no-filter-check; # Allow filters on the mirror destination interface
      }
    }
  }
}
```

   The **input** statement at the **[edit forwarding-options port-mirroring]** hierarchy level specifies that sampling begins every tenth packet and that each of the first five packets selected are to be mirrored.

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The **output** statement at the **[edit forwarding-options port-mirroring family ethernet-switching]** hierarchy level specifies the output mirror interface for Layer 2 packets in a bridging environment:

- Logical interface **ge-2/0/0.0**, which is associated with the external packet analyzer, is configured as the port-mirroring destination.
- The optional **no-filter-check** statement allows filters to be configured on this destination interface.

3. Configure the Layer 2 port-mirroring firewall filter **example-bridge-pm-filter**:

```
[edit]
firewall {
  family ethernet-switching {
    filter example-bridge-pm-filter {
      term example-filter-terms {
        then {
          accept;
          port-mirror;
        }
      }
    }
  }
}
```

When this firewall filter is applied to the input or output of a logical interface for traffic in a bridging environment, Layer 2 port mirroring is performed according to the input packet-sampling properties and mirror destination properties configured for the Layer 2 port mirroring global instance. Because this firewall filter is configured with the single, default filter action **accept**, all packets selected by the **input** properties (**rate** = **10** and **run-length** = **5**) match this filter.

4. Configure the logical interfaces:

```
[edit]
interfaces {
  ge-2/0/0 { # Define the interface to the external analyzer
    encapsulation ethernet-bridge;
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-2/0/6 { # Define the traffic input port
    flexible-vlan-tagging;
    encapsulation extended-vlan-bridge;
    unit 0 {
      vlan-id 100;
      family ethernet-switching {
        filter {
          input example-bridge-pm-filter; # Apply the port-mirroring firewall filter
        }
      }
    }
  }
  ge-3/0/1 { # Define the traffic output port
```

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```
        flexible-vlan-tagging;
        encapsulation extended-vlan-bridge;
        unit 2 {
          vlan-tags outer 10 inner 20;
          family ethernet-switching;
        }
      }
    }
```

Packets received at logical interface **ge-2/0/6.0** on VLAN **example-bd-with-traffic** are evaluated by the port-mirroring firewall filter **example-bridge-pm-filter**. The firewall filter acts on the input traffic according to the filter actions configured in the firewall filter itself plus the input packet-sampling properties and mirror destination properties configured in the global port-mirroring instance:

- All packets received at **ge-2/0/6.0** are forwarded to their (assumed) normal destination at logical interface **ge-3/0/1.2**.
- For every ten input packets, copies of the first five packets in that selection are forwarded to the external analyzer at logical interface **ge-0/0/0.0** in the other VLAN, **example-bd-with-analyzer**.

If you configure the port-mirroring firewall filter **example-bridge-pm-filter** to take the **discard** action instead of the **accept** action, all original packets are discarded while copies of the packets selected using the global port-mirroring **input** properties are sent to the external analyzer.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*

Example: Layer 2 Port Mirroring for a Layer 2 VPN

The following example is not a complete configuration, but shows all the steps needed to configure port mirroring on an L2VPN using **family ccc**.

1. Configure the VLAN **port-mirror-bd**, which contains the external packet analyzer:

```
[edit]
vlans {
  port-mirror-vlan { # Contains an external traffic analyzer
    interface ge-2/2/9.0; # External analyzer
  }
}
```

2. Configure the Layer 2 VPN CCC to connect logical interface **ge-2/0/1.0** and logical interface **ge-2/0/1.1**:

```
[edit]
protocols {
  mpls {
    interface all;
```


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```
    }
    connections {
      interface-switch if_switch {
        interface ge-2/0/1.0;
        interface ge-2/0/1.1;
      }
    }
}
```

3. Configure Layer 2 port mirroring for the global instance, with the port-mirroring destination being the VLAN interface associated with the external analyzer (logical interface **ge-2/2/9.0** on VLAN **example-bd-with-analyzer**):

```
[edit]
forwarding-options {
  port-mirroring {
    input {
      rate 1;
      maximum-packet-length 200;
    }
    family ccc {
      output {
        interface ge-2/2/9.0; # Mirror packets to the external analyzer
      }
    }
    instance {
      inst1 {
        input {
          rate 1;
          maximum-packet-length 300;
        }
        family ccc {
          output {
            interface ge-2/2/9.0;
          }
        {
      }
    }
  }
}
```

4. Define the Layer 2 port-mirroring firewall filter **pm_filter_ccc** for **family ccc**:

```
[edit]
firewall {
  family ccc {
    filter pm_filter_ccc {
      term pm {
        then port-mirror;
      }
    }
  }
}
```

5. Apply the port mirror instance to the chassis:

```
[edit]
```

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```
chassis {
  fpc 2 {
    port-mirror-instance inst1;
  }
}
```

6. Configure interface **ge-2/2/9** for the VLANs, and configure interface **ge-2/0/1** for port mirroring with the **pm_filter_ccc** firewall filter:

```
[edit]
interfaces {
  ge-2/2/9 {
    encapsulation ethernet-bridge;
    unit 0 {
      family ethernet-switching;
    }
  }
  ge-2/0/1 {
    vlan-tagging;
    encapsulation extended-vlan-ccc;
    unit 0 {
      vlan-id 10;
      family ccc {
        filter {
          input pm_filter_ccc;
        }
      }
    }
    unit 1 {
      vlan-id 20;
      family ccc {
        filter {
          output pm_filter_ccc;
        }
      }
    }
  }
}
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*

Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links

The following example is not a complete configuration, but shows all the steps needed to configure port mirroring on an L2VPN using **family ccc** and aggregated Ethernet links.

1. Configure the VLAN **port_mirror_bd**, which contains the external packet analyzer:

```
[edit]
vlans {
  port_mirror_vlan { # Contains an external traffic analyzer
```


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```
    interface ge-2/2/8.0; # External analyzer
  }
}
```

2. Configure the Layer 2 VPN CCC to connect interface **ae0.0** and interface **ae0.1**:

```
[edit]
protocols {
  mpls {
    interface all;
  }
  connections {
    interface-switch if_switch {
      interface ae0.0;
      interface ae0.1;
    }
  }
}
```

3. Configure Layer 2 port mirroring for the global instance, with the port-mirroring destination being the VLAN interface associated with the external analyzer (logical interface **ge-2/2/9.0** on VLAN **example_bd_with_analyzer**):

```
[edit]
forwarding-options {
  port-mirroring {
    input {
      rate 1;
      maximum-packet-length 200;
    }
    family ccc {
      output {
        interface ge-2/2/8.0; # Mirror packets to the external analyzer
      }
    }
    instance {
      pm_instance_1 {
        input {
          rate 1;
          maximum-packet-length 300;
        }
        family ccc {
          output {
            interface ge-2/2/8.0;
          }
        {
      }
    }
  }
}
```

4. Configure the firewall filter **pm_ccc** for **family ccc**:

```
[edit]
firewall {
  family ccc {
    filter pm_ccc {
```

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```
        term pm {
          then port-mirror;
        }
      }
    }
  }
```

5. Apply the aggregated Ethernet interfaces and port mirror instance to the chassis:

```
[edit]
chassis {
  aggregated-devices {
    ethernet {
      device-count 10;
    }
  }
  fpc 2 {
    port-mirror-instance pm_instance_1;
  }
}
```

6. Configure interfaces **ae0** and **ge-2/0/2** (for aggregated Ethernet) and **ge-2/2/8** (for port mirroring) with the **pm_ccc** filter:

```
[edit]
interfaces {
  ae0 {
    vlan-tagging;
    encapsulation extended-vlan-ccc;
    unit 0 {
      vlan-id 10;
      family ccc {
        filter {
          input pm_ccc;
        }
      }
    }
    unit 1 {
      vlan-id 20;
      family ccc {
        filter {
          output pm_ccc;
        }
      }
    }
  }
  ge-2/0/2 {
    gigether-options {
      802.3ad ae0;
    }
  }
  ge-2/2/8 {
    encapsulation ethernet-bridge;
    unit 0 {
      family ethernet-switching;
    }
  }
```

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```
}
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*

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CHAPTER 8

Port Mirroring for Multiple Destinations

- Layer 2 Port Mirroring Firewall Filters on page 65
- Layer 2 Port Mirroring to Multiple Destinations Using Next-Hop Groups on page 68
- Defining a Layer 2 Port-Mirroring Firewall Filter on page 69
- Defining a Next-Hop Group for Layer 2 Port Mirroring on page 72
- Applying Layer 2 Port Mirroring to a Logical Interface on page 74
- Example: Layer 2 Port Mirroring to Multiple Destinations on page 76

Layer 2 Port Mirroring Firewall Filters

This topic describes the following information:

- Layer 2 Port Mirroring Firewall Filters Overview on page 65
- Mirroring of Packets Received or Sent on a Logical Interface on page 66
- Mirroring of Packets Forwarded or Flooded to a VLAN on page 67
- Mirroring of Packets Forwarded or Flooded to a VPLS Routing Instance on page 67

Layer 2 Port Mirroring Firewall Filters Overview

On an MX Series router and on an EX Series switch, you can configure a firewall filter *term* to specify that Layer 2 port mirroring is to be applied to all packets at the interface to which the firewall filter is applied.

You can apply a Layer 2 port-mirroring firewall filter to the input or output logical interfaces (including aggregated Ethernet logical interfaces), to traffic forwarded or flooded to a VLAN, or traffic forwarded or flooded to a VPLS routing instance.

MX Series routers and EX Series switches support Layer 2 port mirroring of VPLS (**family ethernet-switching** or **family vpls**) traffic and Layer 2 VPN traffic with **family ccc** n a Layer 2 environment

Within a firewall filter **term**, you can specify the Layer 2 port-mirroring properties under the **then** statement in either of the following ways:

- Implicitly reference the Layer 2 port mirroring properties in effect on the port.
- Explicitly reference a particular named instance of Layer 2 port mirroring.

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NOTE: When configuring a Layer 2 port-mirroring firewall filter, do not include the optional from statement that specifies match conditions based on the route source address. Omit this statement so that all packets are considered to match and all *actions* and *action-modifiers* specified in the then statement are taken.

If you want to mirror all incoming packets, then you must not use the from statement; /* comment: one configure filter terms with from if they are interested in mirroring only a subset of packet.

For a general description of Layer 2 port-mirroring properties, see "Layer 2 Port Mirroring Properties" on page 4. For a comparison of the types of Layer 2 port mirroring available on an MX Series router and on an EX Series switch, see *Application of Layer 2 Port Mirroring Types*.

NOTE: If you associate integrated routing and bridging (IRB) with the VLAN (or VPLS routing instance), and also configure within the VLAN (or VPLS routing instance) a forwarding table filter with the port-mirror or port-mirror-instance action, then the IRB packet is mirrored as a Layer 2 packet. You can disable this behavior by configuring the *no-irb-layer-2-copy* statement in the VLAN (or VPLS routing instance).

For a detailed description of how to configure a Layer 2 port-mirroring firewall filter, see *Defining a Layer 2 Port-Mirroring Firewall Filter*.

For detailed information about how you can use Layer 2 port-mirroring firewall filters with MX Routers and EX Series switches configured as provider edge (PE) routers or PE switches, see "Layer 2 Port Mirroring of PE Router Logical Interfaces" on page 41. For detailed information about configuring firewall filters in general (including in a Layer 3 environment), see the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

Mirroring of Packets Received or Sent on a Logical Interface

To mirror Layer 2 traffic received or sent on a logical interface, apply a port-mirroring firewall filter to the input or output of the interface.

A port-mirroring firewall filter can also be applied to an aggregated-Ethernet logical interface. For details, see *Layer 2 Port Mirroring of PE Router Aggregated Ethernet Interfaces*.

NOTE: If port-mirroring firewall filters are applied at both the input and output of a logical interface, two copies of each packet are mirrored. To prevent the router or switch from forwarding duplicate packets to the same destination, you can enable the "mirror-once" option for Layer 2 port mirroring in the global instance for the Layer 2 packet address family.

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Mirroring of Packets Forwarded or Flooded to a VLAN

To mirror Layer 2 traffic forwarded to or flooded to a VLAN, apply a port-mirroring firewall filter to the input to the forwarding table or flood table. Any packet received for the VLAN forwarding or flood table and that matches the filter conditions is mirrored.

For more information about VLANs, see *Layer 2 Bridge Domains Overview*. For information about flooding behavior in a VLAN, see *Layer 2 Learning and Forwarding for Bridge Domains Overview*.

NOTE: **When you configure port mirroring on any interface under one VLAN, the mirrored packet can move to an external analyzer located under different VLANs.**

Mirroring of Packets Forwarded or Flooded to a VPLS Routing Instance

To mirror Layer 2 traffic forwarded to or flooded to a VPLS routing instance, apply a port-mirroring firewall filter to the input to the forwarding table or flood table. Any packet received for the VPLS routing instance forwarding or flood table and that matches the filter condition is mirrored.

For more information about VPLS routing instances, see *Configuring a VPLS Routing Instance* and *Configuring VLAN Identifiers for Bridge Domains and VPLS Routing Instances*. For information about flooding behavior in VPLS, see the *Junos OS VPNs Library for Routing Devices*.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Example: Layer 2 Port Mirroring at a Logical Interface*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*
- *Example: Layer 2 Port Mirroring to Multiple Destinations*

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Layer 2 Port Mirroring to Multiple Destinations Using Next-Hop Groups

On an MX Series router and on an EX Series switch, you can mirror traffic to multiple destinations by configuring next-hop groups in Layer 2 port-mirroring firewall filters applied to tunnel interfaces. The mirroring of packets to multiple destinations is also known as *multipacket port mirroring*,

NOTE: Junos OS Release 9.5 introduced support for Layer 2 port mirroring using next-hop groups on MX Series routers, but required installation of a Tunnel PIC. Beginning in Junos OS Release 9.6, Layer 2 port mirroring using next-hop groups on MX Series routers does not require Tunnel PICs.

On MX Series routers and on EX Series switches, you can define a firewall filter for mirroring packets to a next-hop group. The next-hop group can contain Layer 2 members, Layer 3 members, and subgroups that are either unit list (mirroring packets to each interface) or load-balanced (mirroring packets to one of several interfaces). The MX Series router and the EX Series switch supports up to 30 next-hop groups. Each next-hop group supports up to 16 next-hop addresses. Each next-hop group must specify at least two addresses.

To enable port mirroring to the members of a next-hop group, you specify the next-hop group as the filter action of a firewall filter, and then you apply the firewall filter to logical tunnel interfaces (**lt-**) or virtual tunnel interfaces (**vt-**) on the MX Series router or on the EX Series switch.

NOTE: The use of subgroups for load-balancing mirrored traffic is not supported.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3Layer 2 Port Mirroring Overview on page 3
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- Defining a Next-Hop Group for Layer 2 Port Mirroring on page 72
- *Example: Layer 2 Port Mirroring to Multiple Destinations*

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Defining a Layer 2 Port-Mirroring Firewall Filter

For virtual private LAN service (VPLS) traffic (**family ethernet-switching** or **family vpls**) and for Layer 2 VPNs with **family ccc** on MX Series routers and on EX Series switches only, you can define a firewall filter that specifies Layer 2 port mirroring as the action to be performed if a packet matches the conditions configured in the firewall filter term.

You can use a Layer 2 port-mirroring firewall filter in the following ways:

- To mirror packets received or sent on a logical interface.
- To mirror packets forwarded or flooded to a VLAN.
- To mirror packets forwarded or flooded to a VPLS routing instance.
- To mirror tunnel interface input packets only to multiple destinations.

For a summary of the three types of Layer 2 port-mirroring you can configure on an MX Series router and on an EX Series switch, see *Application of Layer 2 Port Mirroring Types*.

For information about configuring firewall filters in general (including in a Layer 3 environment), see *Stateless Firewall Filter Overview* and *How Firewall Filters Evaluate Packets* in the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

To define a firewall filter with a Layer 2 port-mirroring action:

1. Enable configuration of firewall filters for Layer 2 packets that are part of a VLAN, a Layer 2 switching cross-connect, or a virtual private LAN service (VPLS):

   ```
   [edit]
   user@host# edit firewall family family
   ```

   The value of the ***family*** option can be **ethernet-switching**, **ccc**, or **vpls**.

2. Enable configuration of a firewall filter ***pm-filter-name***:

   ```
   [edit firewall family family]
   user@host# edit filter pm-filter-name
   ```

3. Enable configuration of a firewall filter term ***pm-filter-term-name***:

   ```
   [edit firewall family family filter pm-filter-name]
   user@host# edit term pm-filter-term-name
   ```

   For more information about firewall filter terms in general (including in a Layer 3 environment), see *Guidelines for Configuring Firewall Filters* in the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

4. (Optional) Specify the firewall filter match conditions based on the route source address *only if* you want to mirror a subset of the sampled packets.

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For information about configuring firewall filter match conditions in general (including in a Layer 3 environment), see *Firewall Filter Match Conditions Based on Numbers or Text Aliases*, *Firewall Filter Match Conditions Based on Bit-Field Values*, *Firewall Filter Match Conditions Based on Address Fields*, and *Firewall Filter Match Conditions Based on Address Classes*, in the *Routing Policies, Firewall Filters, and Traffic Policers Feature Guide for Routing Devices*.

- For detailed information about Layer 2 bridging firewall filter match conditions (which are supported on MX Series routers and EX Series switches only), see *Firewall Filter Match Conditions for Layer 2 Bridging Traffic*.
- For detailed information about VPLS firewall filter match conditions, see *Firewall Filter Match Conditions for VPLS Traffic*.
- For detailed information about Layer 2 circuit cross-connect (CCC) firewall filter match conditions, see *Firewall Filter Match Conditions for Layer 2 CCC Traffic*.

NOTE: If you want all sampled packets to be considered to match (and be subjected to the actions specified in the **then** statement), then omit the **from** statement altogether.

5. Enable configuration of the ***action*** and ***action-modifier*** to apply to matching packets:

   [edit firewall family *family* filter *pm-filter-name* term *pm-filter-term-name*]
   user@host# **edit then**

6. Specify the actions to be taken on matching packets:

   [edit firewall family *family* filter *pm-filter-name* term *pm-filter-term-name* then]
   user@host# **set** ***action***

   The recommended value for the ***action*** is **accept**. If you do not specify an action, or if you omit the **then** statement entirely, all packets that match the conditions in the **from** statement are accepted.

7. Specify Layer 2 port mirroring or a next-hop group as the ***action-modifier***:

   - To reference the Layer 2 port mirroring properties currently in effect for the Packet Forwarding Engine or PIC associated with the underlying physical interface, use the **port-mirror** statement:

     [edit firewall family *family* filter *pm-filter-name* term *pm-filter-term-name* then]
     user@host# **set port-mirror**

   - To reference the Layer 2 port mirroring properties configured in a specific named instance, use the **port-mirror-instance** ***pm-instance-name*** action modifier:

     [edit firewall family *family* filter *pm-filter-name* term *pm-filter-term-name* then]
     user@host# **set port-mirror-instance** ***pm-instance-name***

     If the underlying physical interface is not bound to a named instance of Layer 2 port mirroring but instead is implicitly bound to the global instance of Layer 2 port mirroring, then traffic at the logical interface is mirrored according to the properties

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specified in the named instance referenced by the **port-mirror-instance** action modifier.

- To reference a next-hop group that specifies the next-hop addresses (for sending additional copies of packets to an analyzer), use the **next-hop-group** *pm-next-hop-group-name* action modifier:

  ```
  [edit firewall family family filter pm-filter-name term pm-filter-term-name then]
  user@host# set next-hop-group pm-next-hop-group-name
  ```

  For configuration information about next-hop groups, see "Defining a Next-Hop Group for Layer 2 Port Mirroring" on page 72. If you specify a next-hop group for Layer 2 port mirroring, the firewall filter term applies to the tunnel interface input only.

8. Verify the minimum configuration of the Layer 2 port-mirroring firewall filter:

   ```
   [edit firewall ... ]
   user@host# top
   [edit]
   user@host# show firewall

   family (ethernet-switching | ccc | vpls) { # Type of packets to mirror
     filter pm-filter-name { # Firewall filter name
       term pm-filter-term-name {
         from { # Do not specify match conditions based on route source address
         }
         then {
           action; # Recommended action is 'accept'
           action-modifier; # Three options for Layer 2 port mirroring
         }
       }
     }
   }
   ```

   In the firewall filter term **then** statement, the *action-modifier* can be **port-mirror**, **port-mirror-instance** *pm-instance-name*, or **next-hop-group** *pm-next-hop-group-name*.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- Layer 2 Port Mirroring to Multiple Destinations Using Next-Hop Groups on page 68
- *Example: Layer 2 Port Mirroring at a Logical Interface*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*
- *Example: Layer 2 Port Mirroring to Multiple Destinations*

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Defining a Next-Hop Group for Layer 2 Port Mirroring

On MX Series routers and EX Series switches, you can mirror tunnel interface input traffic to multiple destinations. To this form of *multipacket port mirroring*, you specify two or more additional destinations in a next-hop group, define a firewall filter that references the next-hop group as the filter action, and then apply the filter to a logical tunnel interface (**lt-**) or virtual tunnel interface (**vt-**) on the MX Series router and on an EX Series switch.

NOTE: This topic describes how to define a next-hop group for Layer 2 port mirroring to multiple destinations. For detailed information about defining a firewall filter for Layer 2 port mirroring to multiple destinations, see *Defining a Layer 2 Port-Mirroring Firewall Filter*.

To define a next-hop group for a Layer 2 port-mirroring firewall filter action:

1. Enable configuration of Layer 2 forwarding options.

   - To enable Layer 2 forwarding options at the top level:

     ```
     [edit]
     user@host edit forwarding-options port-mirroring family (ccc | vpls) output
     ```

   - To enable Layer 2 forwarding options for a routing instance:

     ```
     [edit]
     user@host edit forwarding-options port-mirroring instance instance-name
       family (ccc | vpls) output
     ```

2. Enable configuration of a next-hop-group for Layer 2 port mirroring:

   ```
   [edit forwarding-options port-mirroring ... family (ccc | vpls) output]
   user@host# edit next-hop-group pm-next-hop-group-name
   ```

3. Specify the type of addresses to be used in the next-hop group configuration. By default, the next-hop group is specified using Layer 3 addresses (**group-type inet**). To specify the next-hop group using Layer 2 addresses instead, you must include the **group-type layer-2** statement:

   ```
   [edit forwarding-options port-mirroring ... family (ccc | vpls) output next-hop-group
     pm-next-hop-group-name]
   user@host# set group-type layer-2
   ```

4. Specify the logical interfaces of the next-hop route (or switch) r:

   ```
   [edit forwarding-options port-mirroring ... family (ccc | vpls) output next-hop-group
     pm-next-hop-group-name]
   user@host# set interface logical-interface-name-1
   user@host# set interface logical-interface-name-2
   ```

   The MX Series router and the EX Series switch supports up to 30 next-hop groups. Each next-hop group supports up to 16 next-hop addresses. Each next-hop group must specify at least two addresses.

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5. Verify the configuration of the next-hop group:

```
[edit forwarding-options port-mirroring ... family (ccc | vpls) output next-hop-group
  pm-next-hop-group-name]
user@host# top
[edit]
user@host# show forwarding-options

...
next-hop-group pm-next-hop-group-name { # Next-hop group on a bridge domain.
  group-type layer-2;
  interface logical-interface-name-1;
  interface logical-interface-name-2;
}
...
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- Layer 2 Port Mirroring to Multiple Destinations Using Next-Hop Groups on page 68
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- Displaying Next-Hop Group Settings and Status on page 95
- *Example: Layer 2 Port Mirroring to Multiple Destinations*

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Applying Layer 2 Port Mirroring to a Logical Interface

You can apply a Layer 2 port-mirroring firewall filter to the input or to the output of a logical interface, including an aggregated Ethernet logical interface. Only packets of the address-type family specified by the filter action are mirrored.

Before you begin, complete the following task:

- Define a Layer 2 port-mirroring firewall filter to be applied to the input to a logical interface or output to a logical interface. For details, see *Defining a Layer 2 Port-Mirroring Firewall Filter*.

NOTE: This configuration task shows two Layer 2 port-mirroring firewall filters: one filter applied to the logical interface ingress traffic, and one filter applied to the logical interface egress traffic.

To apply a Layer 2 port-mirroring firewall filter to an input or output logical interface:

1. Configure the underlying physical interface for the logical interface.

   a. Enable configuration of the underlying physical interface:

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

      NOTE: A port-mirroring firewall filter can also be applied to an aggregated-Ethernet logical interface.

   b. For Fast Ethernet and Gigabit Ethernet interfaces and aggregated Ethernet interfaces configured for VPLS, enable the reception and transmission of 802.1Q VLAN-tagged frames on the interface:

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

   c. For Ethernet interfaces that have IEEE 802.1Q VLAN tagging and bridging enabled and that must accept packets carrying TPID 0x8100 or a user-defined TPID, set the logical link-layer encapsulation type:

      ```
      [edit interfaces interface-name]
      user@host# set encapsulation extended-vlan-ethernet-switching
      ```

2. Configure the logical interface to which you want to apply a Layer 2 port-mirroring firewall filter.

   a. Specify the logical unit number:

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


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b. For a Fast Ethernet, Gigabit Ethernet, or Aggregated Ethernet interface, bind an 802.1Q VLAN tag ID to the logical interface:

```
[edit interfaces interface-name unit logical-unit-number]
user@host# set vlan-id number
```

3. Enable specification of an input or output filter to be applied to Layer 2 packets that are part of bridging domain, Layer 2 switching cross-connects, or virtual private LAN service (VPLS).

   - If the filter is to be evaluated when packets are received on the interface:

     ```
     [edit interfaces interface-name unit logical-unit-number]
     user@host# set family family filter input pm-filter-name-a
     ```

   - If the filter is to be evaluated when packets are sent on the interface:

     ```
     [edit interfaces interface-name unit logical-unit-number]
     user@host# set family family filter output pm-filter-name-b
     ```

   The value of the *family* option can be **ethernet-switching**, **ccc**, or **vpls**.

   NOTE: If port-mirroring firewall filters are applied at both the input and output of a logical interface, two copies of each packet are mirrored. To prevent the router or switch from forwarding duplicate packets to the same destination, include the optional **mirror-once** statement at the **[edit forwarding-options]** hierarchy level.

4. Verify the minimum configuration for applying a named Layer 2 port mirroring firewall filter to a logical interface:

```
[edit interfaces interface-name unit logical-unit-number family family filter ... ]
user@host# top
[edit]
user@host# show interfaces

interfaces {
  interface-name {
    vlan-tagging;
    encapsulation extended-vlan-ethernet-switching;
    unit number { # Apply a filter to the input of this interface
      vlan-id number;
      family (ethernet-switching | ccc | vpls) {
        filter {
          input pm-filter-for-logical-interface-input;
        }
      }
    }
    unit number { # Apply a filter to the output of this interface
      vlan-id number;
      family (ethernet-switching | ccc | vpls) {
        filter {
          output pm-filter-for-logical-interface-output;
        }
      }
```

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```
    }
  }
}
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Layer 2 Port Mirroring Firewall Filters*
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a Bridge Domain*
- *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance*
- *Example: Layer 2 Port Mirroring at a Logical Interface*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*

Example: Layer 2 Port Mirroring to Multiple Destinations

On MX Series routers and EX Series switches, you can mirror traffic to multiple destinations by configuring next-hop groups in Layer 2 port-mirroring firewall filters applied to tunnel interfaces.

1. Configure the chassis to support tunnel services at PIC 0 on FPC 2. This configuration includes two logical tunnel interfaces on FPC 2, PIC 0, port 10.

```
[edit]
chassis {
  fpc 2 {
    pic 0 {
      tunnel-services {
        bandwidth 1g;
      }
    }
  }
}
```

2. Configure the physical and logical interfaces for three VLANs and one Layer 2 VPN CCC:

   - VLAN **bd** will span logical interfaces **ge-2/0/1.0** and **ge-2/0/1.1**.
   - VLAN **bd_next_hop_group** will span logical interfaces **ge-2/2/9.0** and **ge-2/0/2.0**.
   - VLAN **bd_port_mirror** will use the logical tunnel interface **lt-2/0/10.2**.
   - Layer 2 VPN CCC **if_switch** will connect logical interfaces **ge-2/0/1.2** and **lt-2/0/10.1**.

```
[edit]
interfaces {
  ge-2/0/1 {
    flexible-vlan-tagging;
    encapsulation flexible-ethernet-services;
    unit 0 { # An interface on bridge domain 'bd'.
      encapsulation vlan-bridge;
```


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```
        vlan-id 200;
        family ethernet-switching {
          filter {
            input pm_bridge;
          }
        }
      }
      unit 1 { # An interface on bridge domain 'bd'.
        encapsulation vlan-bridge;
        vlan-id 201;
        family ethernet-switching {
          filter {
            input pm_bridge;
          }
        }
      }
      unit 2 {
        encapsulation vlan-ccc;
        vlan-id 1000;
      }
    }
    ge-2/0/2 { # For 'bd_next_hop_group'
      encapsulation ethernet-bridge;
      unit 0 {
        family ethernet-switching;
      }
    }
    lt-2/0/10 {
      unit 1 {
        encapsulation ethernet-ccc;
        peer-unit 2;
      }
      unit 2 {
        encapsulation ethernet-bridge;
        peer-unit 1;
        family ethernet-switching {
          filter {
            output redirect_to_nhg;
          }
        }
      }
    }
    ge-2/2/9 {
      encapsulation ethernet-bridge;
      unit 0 { # For 'bd_next_hop_group'
        family ethernet-switching;
      }
    }
  }
```

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3. Configure the three VLANs and the Layer 2 VPN switching CCC:

   - VLAN **bd** spans logical interfaces **ge-2/0/1.0** and **ge-2/0/1.1**.
   - VLAN **bd_next_hop_group** spans logical interfaces **ge-2/2/9.0** and **ge-2/0/2.0**.
   - VLAN **bd_port_mirror** uses the logical tunnel interface **lt-2/0/10.2**.
   - Layer 2 VPN CCC **if_switch** connects interfaces **ge-2/0/1.2** and **lt-2/0/10.1**.

   ```
   [edit]
   vlans {
     vlans {
       interface ge-2/0/1.0;
       interface ge-2/0/1.1;
     }
     bd_next_hop_group {
       interface ge-2/2/9.0;
       interface ge-2/0/2.0;
     }
     bd_port_mirror {
       interface lt-2/0/10.2;
     }
   }
   protocols {
     mpls {
       interface all;
     }
     connections {
       interface-switch if_switch {
         interface ge-2/0/1.2;
         interface lt-2/0/10.1;
       }
     }
   }
   ```

   For detailed information about configuring the CCC connection for Layer 2 switching cross-connects, see the *MPLS Applications Feature Guide for Routing Devices*.

4. Configure forwarding options:

   - Configure global port mirroring properties to mirror **family vpls** traffic to an interface on the bridge domain **bd_port_mirror**.
   - Configure the next-hop group **nhg_mirror_to_bd** to forward Layer 2 traffic to the VLAN **bd_next_hop_group**.

   Both of these forwarding options will be referenced by the port-mirroring firewall filter:

   ```
   [edit]
   forwarding-options {
     port-mirroring { # Global port mirroring properties.
       input {
         rate 1;
       }
       family vpls {
         output {
           interface lt-2/0/10.2; # Interface on 'bd_port_mirror' bridge domain.
           no-filter-check;
   ```

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```
        }
      }
    }
    next-hop-group nhg_mirror_to_bd { # Configure a next-hop group.
      group-type layer-2; # Specify 'layer-2' for Layer 2; default 'inet' is for Layer 3.
      interface ge-2/0/2.0; # Interface on 'bd_next_hop_group' bridge domain.
      interface ge-2/2/9.0; # Interface on 'bd_next_hop_group' bridge domain.
    }
  }
```

5. Configure two Layer 2 port-mirroring firewall filters for **family bridge** traffic:

   - **filter_pm_bridge**—Sends all **family bridge** traffic to the global port mirroring destination.
   - **filter_redirect_to_nhg**—Sends all **family bridge** traffic to the final next-hop group **nhg_mirror_to_bd**.

   Layer 2 port-mirroring firewall filters for **family bridge** traffic applies to traffic on a physical interface configured with encapsulation **ethernet-bridge**.

```
[edit]
firewall {
  family bridge {
    filter filter_pm_bridge {
      term term_port_mirror {
        then port-mirror;
      }
    }
    filter filter_redirect_to_nhg {
      term term_nhg {
        then next-hop-group nhg_mirror_to_bd;
      }
    }
  }
}
```

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- Layer 2 Port Mirroring to Multiple Destinations Using Next-Hop Groups on page 68
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- Defining a Next-Hop Group for Layer 2 Port Mirroring on page 72
- Displaying Next-Hop Group Settings and Status on page 95

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CHAPTER 9

Port Mirroring for Remote Destinations

- Layer 2 Port Mirroring to Remote Destination by Using Destination as VLAN on page 81
- Configuration Layer 2 Port Mirroring to a Remote VLAN on page 81
- Example: Configuring Layer 2 Port Mirroring to Remote VLAN on page 83

Layer 2 Port Mirroring to Remote Destination by Using Destination as VLAN

You configure port mirroring on an EX9200 switch to send copies of traffic to an output destination, such as an interface, a routing-instance, or a VLAN; and for the input traffic, you can configure a firewall filter term with various match conditions and actions.

When you configure VLAN as the output destination in a port-mirroring configuration, the traffic for each port-mirroring session is carried over a user-specified VLAN that is dedicated for that mirroring session in all participating switches. The mirrored traffic is copied onto that VLAN (also called as mirror VLAN) and forwarded to interfaces, which are members of the mirror VLAN. The destination interfaces, which are members of the mirror VLAN, can span across multiple switches in the network provided that the same remote mirroring VLAN is used for a mirroring session in all the switches.

You can use the **port-mirror** or **port-mirror-instance** action in the firewall filter configuration when you mirror traffic to remote destinations by configuring a VLAN as a port-mirroring output destination.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- Configuration Layer 2 Port Mirroring to a Remote VLAN on page 81
- *Defining a Layer 2 Port-Mirroring Firewall Filter*

Configuration Layer 2 Port Mirroring to a Remote VLAN

EX9200 switches enable you to configure mirroring to send copies of packets to either a local interface for local monitoring or to a VLAN for remote monitoring. You can use mirroring to copy the following packets:

- Packets entering or exiting a port
- Packets entering or exiting a VLAN

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BEST PRACTICE: Mirror only necessary packets to reduce potential performance impact. We recommend that you:

- Disable port mirroring that you have configured when you are not using them.
- Specify individual interfaces as input rather than specifying all interfaces as input in a port mirroring configuration.
- Limit the amount of mirrored traffic by:
  - Using statistical sampling.
  - Setting ratios to select statistical samples.
  - Using firewall filters.

- Configuring Port Mirroring to a Remote VLAN on page 82

Configuring Port Mirroring to a Remote VLAN

To filter packets to be mirrored to a port-mirroring instance, create the instance and then use it as the action in the firewall filter. You can use firewall filters in both local and remote mirroring configurations.

If the same port-mirroring instance is used in multiple filters or terms, the packets are copied to the port-mirroring output port or port-mirroring VLAN only once.

To filter mirrored traffic, create a port-mirroring instance under the **[edit forwarding-options]** hierarchy level, and then create a firewall filter. The filter can use any of the available match conditions and must have **port-mirror-instance** *instance-name* as an action. This action in the firewall filter configuration provides the input to the port-mirroring instance.

To configure a port-mirroring instance with firewall filters:

1. Configure the port-mirroring instance name and set the output destination to a VLAN:

   ```
   [edit forwarding-options]
   user@switch# set port-mirroring instance instance-name output vlan (vlan-ID | vlan-name)
   ```

   For example, configure a port-mirroring instance **employee-monitor** and set the output destination to a VLAN ID **999**:

   ```
   [edit forwarding-options]
   user@switch# set port-mirroring instance employee-monitor output vlan 999
   ```

2. Create a firewall filter by using any of the available match conditions and assign the port-mirroring instance name as an action in the firewall filter configuration.

   ```
   [edit firewall family ethernet-switching]
   user@switch set filter filter-name term term-name from match-condition
   user@switch set filter filter-name term term-name then match-condition
   user@switch# set filter filter-name term term-namethen port-mirror-instance instance-name
   ```


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For example, create a firewall filter called **example-filter** with two terms **no-analyzer** and **to-analyzer**, and assign the **to-analyzer** term to the **employee-monitor** port-mirroring instance:

a. Create the first term to define the traffic that should not pass through to the port-mirroring instance **employee-monitor**:

```
[edit firewall family ethernet-switching]
user@switch# set filter (Firewall Filters) example-filter term no-analyzer from
source-address 192.0.2.14
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term no-analyzer from protocol tcp
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term no-analyzer then accept
```

b. Create the second term to define the traffic that should pass through to the port-mirroring instance **employee-monitor**:

```
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term to-analyzer from destination-port 80
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term to-analyzer then port-mirror-instance
employee–monitor
[edit firewall family ethernet-switching]
user@switch# set filter example-filter term to-analyzer then accept
```

3. Apply the firewall filter to an interface or VLAN that provides input to the port-mirroring instance.

   To apply a firewall filter to an interface:

   ```
   [edit]
   user@switch# set interfaces interface-name unit 0 family ethernet-switching filer (input |
   output) filter-name
   ```

   To apply a firewall filter to a VLAN:

   ```
   [edit]
   user@switch# set vlan (vlan-ID or vlan-name) filter (input | output) filter-name
   ```

   For example, to apply the **example-filter** firewall filter to the ge-0/0/1 interface:

   ```
   [edit]
   user@switch# set interfaces ge-0/0/1 unit 0 family ethernet-switching filter input
   example-filter
   ```

   For example, to apply the **example-filter** filter to the **source-vlan** VLAN:

   ```
   [edit]
   user@switch# set vlan source-vlan filter input example-filter
   ```

Related Documentation

- Example: Configuring Layer 2 Port Mirroring to Remote VLAN on page 83
- Layer 2 Port Mirroring to Remote Destination by Using Destination as VLAN on page 81

Example: Configuring Layer 2 Port Mirroring to Remote VLAN

EX9200 switches enable you to configure mirroring to send copies of packets to either a local interface for local monitoring or to a VLAN for remote monitoring. You can use mirroring to copy these packets:

- Packets entering or exiting a port

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- Packets entering or existing a VLAN

You can analyze the mirrored traffic by using a protocol analyzer application running on a remote monitoring station if you are sending mirrored traffic to an analyzer VLAN.

This topic includes two related examples that describe how to mirror traffic entering ports on the switch to the **remote-analyzer** VLAN so that you can perform analysis from a remote monitoring station. The first example shows how to mirror all traffic entering the ports connected to employee computers. The second example shows the same scenario but includes a filter to mirror only the employee traffic going to the Web.

BEST PRACTICE: **Mirror only necessary packets to reduce potential performance impact. We recommend that you:**

- **Disable your configured mirroring sessions when you are not using them.**
- **Specify individual interfaces as input to analyzers rather than specifying all interfaces as input.**
- **Limit the amount of mirrored traffic by using firewall filters.**

This example describes how to configure remote mirroring:

- Requirements on page 84
- Overview and Topology on page 84
- Mirroring Employee-to-Web Traffic for Remote Analysis on page 85
- Verification on page 89

Requirements

This example uses the following hardware and software components:

- An EX9200 switch connected to another EX9200 switch
- Junos OS Release 13.2X50-D10 or later for EX Series switches

Before you configure remote mirroring, be sure that:

- You have an understanding of mirroring concepts.
- The interfaces that port-mirroring will use as output interfaces have been configured on the switch.

Overview and Topology

This topic includes two related examples that describe how to configure mirroring to the **remote-analyzer** VLAN so that analysis can be performed from a remote monitoring station. The first example shows how to configure a switch to mirror all traffic from employee computers. The second example shows the same scenario, but the setup includes a filter to mirror only the employee traffic going to the Web.

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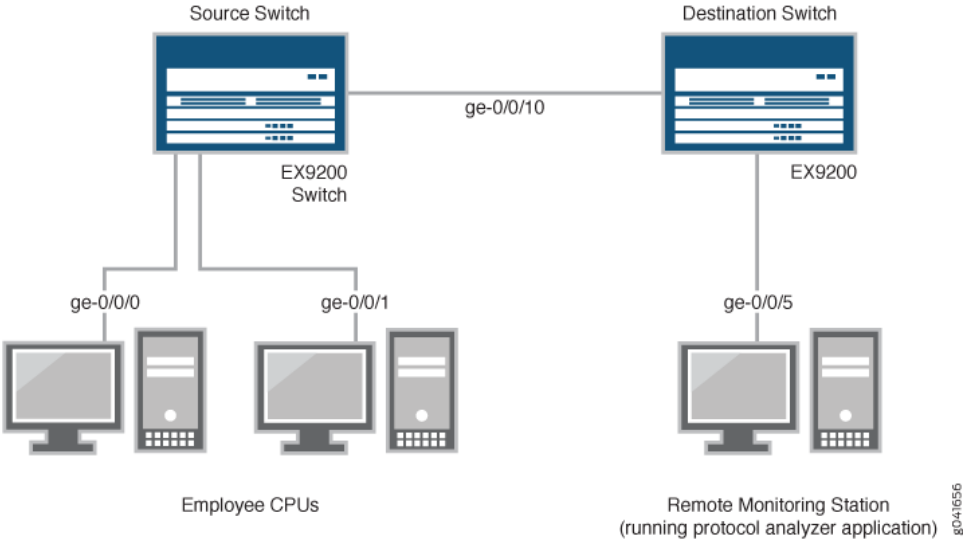
Figure 1 on page 85 shows the network topology for both these example scenarios.

Figure 1: Remote Mirroring Network Topology Example



In this example:

a. Interface ge-0/0/0 is a Layer 2 interface, and interface ge-0/0/1 is a Layer 2 interface (both interfaces on the source switch) that serve as connections for employee computers.

b. Interface ge-0/0/10 is a Layer 2 interface that connects the source switch to the destination switch.

c. Interface ge-0/0/5 is a Layer 2 interface that connects the destination switch to the remote monitoring station.

d. VLAN **remote-analyzer** is configured on all switches in the topology to carry the mirrored traffic.

Mirroring Employee-to-Web Traffic for Remote Analysis

To configure port mirroring for remote traffic analysis of employee-to-Web traffic, perform these tasks:

CLI Quick Configuration

To quickly configure port-mirroring to mirror employee traffic to the external Web, copy the following commands and paste them into the switch terminal window:

- Copy and paste the following commands in the source switch terminal window:

```
[edit]
set forwarding-options port-mirroring instance employee-web-monitor output vlan 999
set vlans remote-analyzer vlan-id 999
set interfaces ge-0/0/10 unit 0 family ethernet-switching interface-mode access
set interfaces ge-0/0/10 unit 0 family ethernet-switching vlan members 999
set firewall family ethernet-switching filter watch-employee term employee-to-corp from
destination-address 192.0.2.16/28
set firewall family ethernet-switching filter watch-employee term employee-to-corp from
source-address 192.0.2.16/28
```

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```
set firewall family ethernet-switching filter watch-employee term employee-to-corp then
accept
set firewall family ethernet-switching filter watch-employee term employee-to-web from
destination-port 80
set firewall family ethernet-switching filter watch-employee term employee-to-web then
port-mirror-instance employee-web-monitor
set interfaces ge-0/0/0 unit 0 family ethernet-switching filter input watch-employee
set interfaces ge-0/0/1 unit 0 family ethernet-switching filter input watch-employee
```

- Copy and paste the following commands in the destination switch terminal window:

```
[edit]
set vlans remote-analyzer vlan-id 999
set interfaces ge-0/0/10 unit 0 family ethernet-switching interface-mode access
set interfaces ge-0/0/10 unit 0 family ethernet-switching vlan members 999
set interfaces ge-0/0/5 unit 0 family ethernet-switching interface-mode access
set interfaces ge-0/0/5 unit 0 family ethernet-switching vlan members 999
```

Step-by-Step Procedure

To configure port mirroring of all traffic from the two ports connected to employee computers to the **remote-analyzer** VLAN for use from a remote monitoring station:

1. On the source switch:

   a. Configure the **employee-web-monitor** port-mirroring instance:

   ```
   [edit ]
   user@switch# set interfaces ge-0/0/10 unit 0 family ethernet-switching port mode
   access
   user@switch# set forwarding-options port-mirroring instance employee-web-monitor
   output vlan 999
   ```

   b. Configure the VLAN ID for the **remote-analyzer** VLAN:

   ```
   [edit vlans]
   user@switch# set remote-analyzer vlan-id 999
   ```

   c. Configure the interface to associate it with the **remote-analyzer** VLAN:

   ```
   [edit interfaces]
   user@switch# set ge-0/0/10 unit 0 family ethernet-switching vlan members 999
   ```

   d. Configure the firewall filter called **watch-employee**:

   ```
   [edit firewall family ethernet-switching]
   user@switch# set filter watch-employee term employee-to-corp from
   destination-address 192.0.2.16/28
   user@switch# set filter watch-employee term employee-to-corp from source-address
   192.0.2.16/28
   user@switch# set filter watch-employee term employee-to-corp then accept
   user@switch# set filter watch-employee term employee-to-web from destination-port
   80
   user@switch# set filter watch-employee term employee-to-web then
   port-mirror-instance employee-web-monitor
   ```

   In this configuration, the **employee-to-corp** term defines that traffic from destination-address **192.0.2.16/28** and source address **192.0.2.16/28** can be accepted to pass through the switch, and the **employee-to-web** term defines that traffic from port **80** must be sent to the port-mirroring instance **employee-web-monitor**.

   e. Apply the firewall filter to the employee interfaces:

   ```
   [edit interfaces]
   ```


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```
user@switch# set ge-0/0/0 unit 0 family ethernet-switching filter input watch-employee
user@switch# set ge-0/0/1 unit 0 family ethernet-switching filter input watch-employee
```

2. On the destination switch:

   - Configure the VLAN ID for the **remote-analyzer** VLAN:

     ```
     [edit vlans]
     user@switch# set remote-analyzer vlan-id 999
     ```

   - Configure the interface on the destination switch for access mode and associate it with the **remote-analyzer** VLAN:

     ```
     [edit interfaces]
     user@switch# set ge-0/0/10 unit 0 family ethernet-switching interface-mode access
     user@switch# set ge-0/0/10 unit 0 family ethernet-switching vlan members 999
     ```

   - Configure the interface connected to the destination switch for access mode and associate it with the **remote-analyzer** VLAN:

     ```
     [edit interfaces]
     user@switch# set ge-0/0/5 unit 0 family ethernet-switching interface-mode access
     user@switch# set ge-0/0/5 unit 0 family ethernet-switching vlan members 999
     ```

Results Check the results of the configuration on the source switch:

```
[edit]
user@switch> show
interfaces {
  ge-0/0/10 {
    unit 0 {
      family ethernet-switching {
        interface-mode access;
        vlan {
          members remote-analyzer;
        }
      }
    }
  }
  ge-0/0/0 {
    unit 0 {
      family ethernet-switching {
        filter {
          input watch-employee;
        }
      }
    }
  }
  ge-0/0/1 {
    unit 0 {
      family ethernet-switching {
        filter {
          input watch-employee;
        }
      }
    }
  }
}
firewall {
```

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```
    family ethernet-switching {
      filter watch-employee {
        term employee-to-corp {
          from {
            source-address {
              192.0.2.16/28;
            }
            destination-address {
              192.0.2.16/28;
            }
          }
          then accept;
        }
        term employee-to-web {
          from {
            destination-port 80;
          }
          then port-mirror-instance employee-web-monitor;
        }
      }
    }
  }
  forwarding-options {
    analyzer employee-web-monitor {
      output {
        vlan {
          999;
        }
      }
    }
  vlans {
    remote-analyzer {
      vlan-id 999;
    }
  }
```

Check the results of the configuration on the destination switch:

```
[edit]
user@switch> show
vlans {
  remote-analyzer {
    vlan-id 999;
  }
}
interfaces {
  ge-0/0/10 {
    unit 0 {
      family ethernet-switching {
        interface-mode access;
        vlan {
          members remote-analyzer;
        }
      }
    }
  }
```


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```
    ge-0/0/5 {
      unit 0 {
        family ethernet-switching {
          interface-mode access;
          vlan {
            members remote-analyzer;
          }
        }
      }
    }
  }
```

Verification

To confirm that the configuration is working properly, perform these tasks:

- Verifying That the Port-Mirroring Instance Has Been Correctly Created on page 89

Verifying That the Port-Mirroring Instance Has Been Correctly Created

Purpose Verify that the port-mirror instance **employee-web-monitor** has been created on the switch with the appropriate output VLAN.

Action You can verify that the port-mirror is configured as expected by using the **show forwarding-options port-mirror** command. To view previously created analyzers that are disabled, go to the J-Web interface.

To verify that the port-mirror is configured as expected while monitoring employee traffic on the source switch, run the **show forwarding-options port-miror** command on the source switch. The following output is displayed for this configuration example:

```
user@switch> show forwarding-options port-mirror

Instance Name: employee-web-monitor
  Instance Id: 3
  Input parameters:
    Rate                  : 1
    Run-length            : 0
    Maximum-packet-length : 0
  Output parameters:
    Family              State     Destination                    Next-hop
    ethernet-switching  up       default-switch/remote-analyzer
```

Meaning This output shows that the **employee-web-monitor** instance has a ratio of 1 (mirroring every packet, which is the default), the maximum size of the original packet that was mirrored (0 indicates the entire packet), the state of the configuration is up (which indicates the proper state and that the analyzer is programmed, is mirroring the traffic entering ge-0/0/0 and ge-0/0/1, and is sending the mirrored traffic to the VLAN called **remote-analyzer**).

Related Documentation

- Layer 2 Port Mirroring to Remote Destination by Using Destination as VLAN on page 81

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CHAPTER 10

Inline Port Mirroring

- Configuring Inline Port Mirroring on page 91

Configuring Inline Port Mirroring

Inline port mirroring provides you with the ability to specify instances that are not bound to the flexible PIC concentrator (FPC) in the firewall filter's **then port-mirror-instance** action. This way, you are not limited to only two port-mirror instances per FPC. Inline port mirroring decouples the port-mirror destination from the input parameters like **rate**. While the input parameters are programmed in the switch interface board, the next-hop destination of the mirrored packet is available in the packet itself. Inline port mirroring is supported only on Trio-based modular port concentrators (MPCs).

Using inline port mirroring, a port-mirror instance will have an option to inherit input parameters from another instance that specifies it, as shown in the following CLI configuration example:

```
instance pm2 {
   + input-parameters-instance pm1;
   family inet {
      output {
         interface ge-1/2/3.0 {
            next-hop 50.0.0.3;
         }
      }
   }
}
```

Multiple levels of inheritance are not allowed. One instance can be referred by multiple instances. An instance can refer to another instance that is defined before it. Forward references are not allowed and an instance cannot refer to itself, doing so will cause an error during configuration parsing.

The user can specify an instance that is not bound to the FPC in the firewall filter. The specified filter should inherit one of the two instances that have been bound to the FPC. If it does not, the packet is not marked for port-mirroring. If it does, then the packet will be sampled using the input parameters specified by the referred instance but the copy will be sent to the its own destination.

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Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a Bridge Domain*
- *Applying Layer 2 Port Mirroring to Traffic Forwarded or Flooded to a VPLS Routing Instance*
- *Example: Layer 2 Port Mirroring at a Logical Interface*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN*
- *Example: Layer 2 Port Mirroring for a Layer 2 VPN with LAG Links*

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PART 3

Troubleshooting

- Monitoring Port Mirroring on page 95

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CHAPTER 11

Monitoring Port Mirroring

- Displaying Layer 2 Port-Mirroring Instance Settings and Status on page 95
- Displaying Next-Hop Group Settings and Status on page 95

Displaying Layer 2 Port-Mirroring Instance Settings and Status

To display the current state of port-mirroring instances, use the **show forwarding-options port-mirroring** **<terse | detail>** **<*instance-name*>** operational command.

For more information about displaying port mirroring instance settings and status, see the *Junos OS Administration Library for Routing Devices*.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- Layer 2 Port Mirroring Global Instance on page 9
- *Layer 2 Port Mirroring Named Instances*
- *Configuring the Global Instance of Layer 2 Port Mirroring*
- *Defining a Named Instance of Layer 2 Port Mirroring*
- Disabling Layer 2 Port Mirroring Instances on page 33
- Examples: Layer 2 Port-Mirroring at Multiple Levels of the Chassis on page 34
- *Example: Layer 2 Port Mirroring with Multiple Instances*

Displaying Next-Hop Group Settings and Status

To display the current state of next-hop groups, use the **show forwarding-options next-hop-group** **<terse | brief | detail>** **<*group-name*>** operational command.

For more information, see the CLI Explorer.

Related Documentation

- Layer 2 Port Mirroring Overview on page 3
- Layer 2 Port Mirroring to Multiple Destinations Using Next-Hop Groups on page 68
- *Defining a Layer 2 Port-Mirroring Firewall Filter*
- Defining a Next-Hop Group for Layer 2 Port Mirroring on page 72

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- *Example: Layer 2 Port Mirroring to Multiple Destinations*

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PART 4

Configuration Statements and Operational Commands

- Configuration Statements on page 99
- Operational Commands: Packet Forwarding Engine Components on page 115
- Operational Commands: Layer 2 Port-Mirroring Instances on page 385
- Operational Commands: Firewall Filter Statistics and Logs on page 389
- Operational Commands: Next-Hop Groups for Layer 2 Port Mirroring on page 403

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CHAPTER 12

Configuration Statements

- [edit forwarding-options port-mirroring] Hierarchy Level on page 99
- disable (Forwarding Options) on page 101
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- input (Port Mirroring) on page 104
- instance on page 105
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- next-hop-group (Port Mirroring) on page 108
- no-filter-check on page 109
- no-tag on page 109
- output (Port Mirroring) on page 110
- rate (Forwarding Options) on page 111
- run-length on page 112
- vlan (Port Mirroring) on page 113

[edit forwarding-options port-mirroring] Hierarchy Level

```
forwarding-options {
  port-mirroring {
    disable;
    disable-all-instances;
    family (bridge | ccc | inet | vpls) {
      output {
        (interface interface-name | next-hop-group group-name);
        no-filter-check;
        routing-instance instance-name;
        vlan (vlan-name | vlan-id) <no-tag>;
      }
    }
```

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```
family inet {
  output {
    interface interface-name {
      next-hop ipv4-address;
    }
    next-hop-group group-name;
    no-filter-check;
  }
}
family inet6 {
  output {
    interface interface-name {
      next-hop ipv6-address;
    }
    next-hop-group group-name{
      group-type inet6;
      interface interface-name {
        next-hop ipv6-address;
      }
      next-hop-subgroup group-name{
        interface interface-name {
          next-hop ipv6-address;
        }
      }
    }
    no-filter-check;
  }
}
family vpls {
  output {
    interface interface-name
    next-hop-group group-name;
    no-filter-check;
  }
}
input {
  maximum-packet-length bytes;
  rate rate;
}
instance instance-name {
  disable;
  family family-name {
    ... same statements as at the [edit forwarding-options port-mirroring family (ccc |
      inet | inet6 | vpls)] hierarchy levels ...
  }
  input {
    ... same statements as at the [edit forwarding-options port-mirroring input] hierarchy
      level ...
  }
}
mirror-once;
traceoptions {
  file <filename> <files number> <match regular-expression> <size maximum-file-size>
    <world-readable | no-world-readable>;
  no-remote-trace;
}
```


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```
    }
}
```

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

disable (Forwarding Options)

Syntax disable;

Hierarchy Level [edit forwarding-options port-mirror],
[edit forwarding-options port-mirror instance *instance-name*],
[edit forwarding-options sampling],
[edit forwarding-options sampling instance *instance-name*],
[edit forwarding-options sampling family (inet |inet6 |mpls)],
[edit forwarding-options sampling family (inet |inet6 |mpls) output file]

Release Information Statement introduced before Junos OS Release 7.4.
Statement added to **port-mirror** hierarchy in Junos OS Release 9.6.

Description Disable traffic accounting, port mirroring, or sampling.

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

Related Documentation
- *Configuring Traffic Sampling*
- *Configuring Port Mirroring*

disable-all-instances

Syntax disable-all-instances;

Hierarchy Level [edit forwarding-options port-mirror]

Release Information Statement introduced in Junos OS Release 9.6.

Description Disable all port mirroring instances globally.

Usage Guidelines See *Configuring Port Mirroring*.

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

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forwarding-options

Syntax

```
forwarding-options {
  dhcp-security {
    arp-inspection;
    group group-name {
      interface interface-name {
        static-ip ip-address {
          mac mac-address;
        }
      }
      overrides {
        no-option82;
        (trusted | untrusted);
      }
    }
    ip-source-guard;
    no-dhcp-snooping;
    option-82 {
      circuit-id {
        prefix {
          host-name;
          logical-system-name;
          routing-instance-name;
        }
        use-interface-description (device | logical);
        use-vlan-id;
      }
      remote-id {
        host-name hostname;
        use-interface-description (device | logical);
        use-string string;
      }
      vendor-id {
        use-string string;
      }
    }
  }
  filter {
    input filter-name;
    output filter-name;
  }
  flood {
    input filter-name;
  }
```

Hierarchy Level

[edit],
[edit bridge-domains *bridge-domain-name*],
[edit vlans *vlan-name*]

Release Information

Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 11.3 for QFX Series switches.

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Hierarchy level **[edit vlans *vlan-name*]** introduced in Junos OS Release 13.2X50-D10 for EX Series switches.
Hierarchy level **[edit bridge-domains *bridge-domain-name*]** introduced in Junos OS Release 14.1 for MX Series routers.

Description Configure traffic forwarding.

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
- *Configuring Traffic Forwarding and Monitoring*
- *[edit forwarding-options] Hierarchy Level*

family (Port Mirroring)

Syntax

```
family (inet | inet6) {
  output {
    interface interface-name {
      next-hop address;
    }
    no-filter-check;
  }
}
```

Hierarchy Level [edit forwarding-options port-mirroring]

Release Information Statement introduced before Junos OS Release 7.4.

Description Configure the protocol family to be sampled. Only IPv4 (**inet**) and IPv6 (**inet6**) are supported.

The 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
- *Configuring Port Mirroring*

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input (Port Mirroring)

Syntax

```
input {
  maximum-packet-lengthbytes
  rate number;
  run-length number;
}
```

Hierarchy Level

[edit forwarding-options port-mirroring],
[edit forwarding-options port-mirroring instance *instance-name*]
[edit forwarding-options port-mirroring family (inet | inet6)]

Release Information

Statement introduced before Junos OS Release 7.4.

Description

Configure port mirroring on a logical interface.

The 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

- *Configuring Port Mirroring*

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instance

Syntax

```
instance {
  instance-name {
    input {
      maximum-packet-length bytes;
      rate number;
      run-length number;
    }
    family (ccc| inet | inet6 | mpls | vpls) {
      output {
        interface interface-name {
          next-hop address;
        }
        no-filter-check;
        server-profile server-profile-name;
      }
    }
  }
}
```

Hierarchy Level

[edit forwarding-options port-mirroring],
[edit routing-instances *routing-instance-name* forwarding-options port-mirroring]

Release Information

Statement introduced in Junos OS Release 9.3 (MX Series routers only).
Support extended to M120 and M320 routers in Junos OS Release 9.5.
maximum-packet-length and **ccc** options introduced in Junos OS Release 9.6 for M120 and M320 routers only.
server-profile option introduced in Junos OS Release 13.2 for PTX Series Packet Transport Routers only.

Description

Configure a port-mirroring instance.

Options

port-mirroring-instance-name—Name of the port-mirroring instance.

The remaining statements are explained separately.

Required Privilege Level

interface—To view this statement in the configuration.
interface-control-level—To add this statement to the configuration.

Related Documentation

- *Configuring Port Mirroring*
- *Configuring Active Flow Monitoring on PTX Series Packet Transport Routers*

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interface (Port Mirroring)

Syntax

```
interface interface-name {
  next-hop address;
}
```

Hierarchy Level [edit forwarding-options port-mirroring family (inet | inet6) output]

Release Information Statement introduced before Junos OS Release 7.4.

Description Specify the output interface for sending copies of packets elsewhere to be analyzed.

Options ***interface-name***—Name of the interface.

The remaining statements are explained separately.

Usage Guidelines See *Configuring Port Mirroring*.

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

interface (Next-Hop Group)

Syntax

```
interface interface-name {
  next-hop address;
}
```

Hierarchy Level [edit forwarding-options next-hop-group *group-name*]

Release Information Statement introduced before Junos OS Release 7.4.

Description Specify the output interface for sending copies of packets elsewhere to be analyzed.

The commit operation fails when a next-hop group has only one interface configured. It is implicitly assumed that a subgroup is up only if more than one interface in the subgroup is up.

Options ***interface-name***—Name of the interface.

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

- *Configuring Next-Hop Groups to Use Multiple Interfaces to Forward Packets Used in Port Mirroring*

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maximum-packet-length

Syntax maximum-packet-length *bytes*;

Hierarchy Level [edit forwarding-options analyzer analyzer-name input],
[edit forwarding-options port-mirroring input],
[edit forwarding-options port-mirroring instance *instance-name* input],
[edit forwarding-options sampling input],
[edit forwarding-options sampling instance *instance-name* input]

Release Information Statement introduced in Junos OS Release 9.6.
Statement introduced in Junos OS Release 12.1X48 for PTX Series Packet Transport Routers.
The **[edit forwarding-options analyzer analyzer-name input]** hierarchy level for MX Series routers introduced in Junos OS Release 14.1.

Description Set the maximum length of the packet used for port mirroring or traffic sampling. Packets with lengths greater than the specified maximum are truncated.

NOTE: The **maximum-packet-length** statement is not supported on MX80 routers.

NOTE: For MX Series routers with Modular Port Interface Concentrators (MPCs), when **maximum-packet-length** (clip length) is configured for port-mirrored packets and the mirror-destination interface is a next-hop-group, the clip length would be effective only for the first member interface of the next-hop-group. The mirrored packet copy sent to the rest of the interfaces would not be clipped.

Native analyzer sessions (that is, the **[edit forwarding-options analyzer analyzer-name input]** hierarchy level for MX Series routers) can be configured without specifying input parameters, which would mean that the instance uses default input values: rate = 1 and maximum-packet-length = 0.

Options *bytes*—Maximum length (in bytes) of the mirrored packet or the sampled packet.

Range: 0 through 9216

Default: 0

For MX Series routers with Modular Port Concentrators (MPCs), port-mirrored or sampled packets can be truncated (or clipped) to any length in the range of 1 to 255 bytes. Only 1 to 255 are valid values for packet truncation on these devices. For other devices, the range is from 0 to 9216. A maximum-packet-length value of zero represents that truncation is disabled, and the entire packet is mirrored or sampled.

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

Related Documentation
- *Configuring Port Mirroring*
- *Configuring Traffic Sampling*

mirror-once

Syntax
mirror-once;

Hierarchy Level
[edit forwarding-options port-mirroring]

Release Information
Statement introduced in Junos OS Release 9.3 (MX Series routers only).
Support extended to M120 routers in Junos OS Release 9.5.
Statement introduced in Junos OS Release 12.1X48 for PTX Packet Transport Routers.

Description
Configure the router to mirror packets only once. This feature is useful if you configure port mirroring on both ingress and egress interfaces, which could result in the same packet being mirrored twice.

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

Related Documentation
- *Configuring Port Mirroring*

next-hop-group (Port Mirroring)

Syntax
next-hop-group *group-name*;

Hierarchy Level
[edit forwarding-options port-mirroring family (inet | vpls) output],
[edit forwarding-options port-mirroring instance *instance-name* family (inet | vpls) output]

Release Information
Statement introduced in Junos OS Release 9.6.

Description
Specify the next-hop address for sending copies of packets to an analyzer. This configuration enables multipacket port mirroring on MX Series routers and EX Series switches without the use of a Tunnel PIC.

The commit operation fails when a next-hop group has only one interface configured. It is implicitly assumed that a subgroup is up only if more than one interface in the subgroup is up.

Options
group-name—Name of next-hop group.

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

Related Documentation
- *Port Mirroring with Next-Hop Groups*

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no-filter-check

Syntax no-filter-check;

Hierarchy Level [edit forwarding-options port-mirroring family (inet | inet6) output]

Release Information Statement introduced before Junos OS Release 7.4.

Description Disable filter checking on the port-mirroring interface.

This statement is required when you send port-mirrored traffic to a Tunnel PIC that has a filter applied to it.

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

Related Documentation
- *Configuring Port Mirroring*

no-tag

Syntax no-tag;

Hierarchy Level
[edit ethernet-switching-options analyzer (Port Mirroring) *name* output vlan (**vlan-id | vlan-name**)]
[edit forwarding-options port-mirroring family ethernet-switching output vlan (**vlan-name | vlan-id**)]
[edit forwarding-options port-mirroring instance **instance-name** family ethernet-switching output vlan (**vlan-name | vlan-id**)]

Release Information Statement introduced in Junos OS Release 11.3 for EX Series switches.
Hierarchy **[edit forwarding-options port-mirroring family ethernet-switching output vlan]** introduced in Junos OS Release 13.2.
Hierarchy **[edit forwarding-options port-mirroring instance instance-name family ethernet-switching output vlan]** introduced in Junos OS Release 13.2.

Description Specify that remote port-mirroring packets are not tagged.

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

Related Documentation
- *Example: Configuring Port Mirroring to Multiple Interfaces for Remote Monitoring of Employee Resource Use on EX Series Switches*
- *Example: Configuring Port Mirroring for Local Monitoring of Employee Resource Use on EX Series Switches*
- *Example: Configuring Port Mirroring for Remote Monitoring of Employee Resource Use on EX Series Switches*

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output (Port Mirroring)

Syntax

```
output {
  interface interface-name {
    next-hop address;
  }
  no-filter-check;
}
```

Hierarchy Level [edit forwarding-options port-mirroring family (inet | inet6)]

Release Information Statement introduced before Junos OS Release 7.4.

Description Configure output interfaces and flow properties.

The 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

- *Configuring Port Mirroring*

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rate (Forwarding Options)

Syntax rate *number*;

Hierarchy Level
[edit forwarding-options analyzer *analyzer-name* input]
[edit forwarding-options port-mirroring input],
[edit forwarding-options sampling input],
[edit forwarding-options sampling instance *instance-name* input],
[edit forwarding-options port-mirroring family (inet|inet6) input],

Release Information
Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 12.1X48 for PTX Series Packet Transport Routers.
Support at the **[edit forwarding-options analyzer analyzer-name input]** hierarchy level for MX Series routers introduced in Junos OS Release 14.1.

Description Set a ratio of the number of packets to be sampled. For example, if you specify a rate of 10, every tenth packet (1 packet out of 10) is sampled.

Native analyzer sessions (that is, the **[edit forwarding-options analyzer analyzer-name input]** hierarchy level for MX Series routers) can be configured without specifying input parameters, which would mean that the instance uses default input values: rate = 1 and maximum-packet-length = 0.

Options *number*—Denominator of the ratio.

Range: 1 through 65,535

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

Related Documentation

- *Configuring Port Mirroring*
- *Configuring Traffic Sampling*

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run-length

Syntax run-length *number*;

Hierarchy Level
[edit forwarding-options port-mirroring input],
[edit forwarding-options port-mirroring instance *port-mirroring-instance-name* input],
[edit forwarding-options port-mirroring family (inet|inet6) input],
[edit forwarding-options sampling input],
[edit forwarding-options sampling instance *instance-name* input]

Release Information
Statement introduced before Junos OS Release 7.4.
Statement introduced in Junos OS Release 12.1X48 for PTX Series Packet Transport Routers.

Description Set the number of samples following the initial trigger event. The configuration enables you to sample packets following those already being sampled.

Options
number—Number of samples.
Range: 0 through 20
Default: 0

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

Related Documentation
- *Applying Forwarding Table Filters*
- *Configuring Port Mirroring*
- *Configuring Traffic Sampling*

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vlan (Port Mirroring)

Syntax vlan (*vlan-name* | *vlan-ID*);

Hierarchy Level [edit forwarding-options port-mirroring family ethernet-switching output]
[edit forwarding-options port-mirroring instance instance-name family ethernet-switching output]

Release Information Statement introduced in Junos OS Release 13.2.

Description Specify the VLAN name or ID for sending copies of packets to an analyzer. This configuration enables remote VLAN port mirroring on EX Series switches.

Options ***vlan-name***—Name of remote mirroring VLAN.

vlan-ID—ID of the remote mirroring VLAN.

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

Related Documentation

- Example: Configuring Layer 2 Port Mirroring to Remote VLAN on page 83
- Layer 2 Port Mirroring to Remote Destination by Using Destination as VLAN on page 81

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CHAPTER 13

Operational Commands: Packet Forwarding Engine Components

- show chassis fabric fpcs
- show chassis fpc
- show chassis hardware
- show chassis pic

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show chassis fabric fpcs

List of Syntax

Syntax on page 116
Syntax (MX Series Routers) on page 116
Syntax (MX2010 and MX2020 3D Universal Edge Routers) on page 116
Syntax (T4000 Core Router) on page 116
Syntax (PTX Series Packet Transport Routers) on page 116
Syntax (TX Matrix Plus Router) on page 116

Syntax

```
show chassis fabric fpcs
<lcc number>
```

Syntax (MX Series Routers)

```
show chassis fabric fpcs
<all-members>
<local>
<member member-id>
```

Syntax (MX2010 and MX2020 3D Universal Edge Routers)

```
show chassis fabric fpcs
```

Syntax (T4000 Core Router)

```
show chassis fabric fpcs
```

Syntax (PTX Series Packet Transport Routers)

```
show chassis fabric fpcs <slot fpc-slot>
```

Syntax (TX Matrix Plus Router)

```
show chassis fabric fpcs
<lcc number>
```

Release Information

Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.4 for EX Series switches.
Command introduced in Junos OS Release 12.1x48 for PTX Series Packet Transport Routers.
Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.
Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.

Description

(M320, MX Series, and T Series routers, EX8200 switches, and PTX Series Packet Transport Routers only) Display the state of the electrical switch fabric links between the Flexible PIC Concentrators (FPCs) and the Switch Interface Boards (SIBs).

Options

none—Display the switch fabric link state. On a TX Matrix router, display the switching fabric link states for the FPCs in all T640 routers connected to the TX Matrix router. On a TX Matrix Plus router, display the switching fabric link states for the FPCs in all routers connected to the TX Matrix Plus router.

all-members—(MX Series routers only) (Optional) Display the switching fabric link states for the FPCs in all members of the Virtual Chassis configuration.

lcc *number*—(TX Matrix router and TX Matrix Plus router only) (Optional) On a TX Matrix router, display the switch fabric link state for the FPCs in the specified T640 router

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(line-card chassis) that is connected to the TX Matrix router. On a TX Matrix Plus router, display the switch fabric link state for the FPCs in the specified router (line-card chassis) that is connected to the TX Matrix Plus router. Replace ***number*** with a following value depending on the LCC configurations:

- From **0** through **3** on a T640 router on the routing matrix with TX Matirx routers.
- From **0** through **3** on a T1600 router on the routing matrix with TX Matirx Plus routers.
- From **0** through **7** on a T1600 router in a routing matrix with TX Matrix Plus router with 3D SIBs.
- **0**, **2**, **4**, **6** on a T4000 router in a routing matrix with TX Matrix Plus router with 3D SIBs.

local—(MX Series routers only) (Optional) Display the switching fabric link states for the FPCs in the local Virtual Chassis member.

member *member-id*—(MX Series routers only) (Optional) Display the switching fabric link states for the FPCs in the specified member of the Virtual Chassis configuration. Replace ***member-id*** with a value of 0 or 1.

slot *fpc-slot*—(PTX Series Packet Transport Routers only) (Optional) Display the fabric state of the specified FPC slot. If no value is provided, display the status of all FPCs.

Required Privilege Level

view

Related Documentation

- *request chassis fabric fpc*
- show chassis fpc on page 154
- *Displaying Information About DPCs or FPCs in an MX Series Router*

List of Sample Output

show chassis fabric fpcs (M320 Router) on page 119
show chassis fabric fpcs (MX240 Router) on page 120
show chassis fabric fpcs (MX480 Router) on page 120
show chassis fabric fpcs (MX960 Router) on page 121
show chassis fabric fpcs (MX240 with AS MLC Modular Carrier Card) on page 123
show chassis fabric fpcs (MX480 with AS MLC Modular Carrier Card) on page 123
show chassis fabric fpcs (MX480 Router with MPC4E) on page 124
show chassis fabric fpcs (MX960 with AS MLC Modular Carrier Card on page 125
show chassis fabric fpcs (MX2010 Router) on page 127
show chassis fabric fpcs (MX2020 Router) on page 130
show chassis fabric fpcs (MX2020 Router with MPC4E) on page 133
show chassis fabric fpcs (T320 Router) on page 134
show chassis fabric fpcs (T640 Router) on page 135
show chassis fabric fpcs (TX Matrix Router) on page 135
show chassis fabric fpcs (TX Matrix Router with 3D SIBs) on page 137
show chassis fabric fpcs lcc (TX Matrix Router with 3D SIBs) on page 140
show chassis fabric fpcs (T1600 Router) on page 140

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show chassis fabric fpcs (T4000 Core Router) on page 142
show chassis fabric fpcs (TX Matrix Plus Router) on page 143
show chassis fabric fpcs lcc (TX Matrix Plus Router) on page 151
show chassis fabric fpcs (EX8200 Switch) on page 151
show chassis fabric fpcs (PTX3000 Router) on page 152

Output Fields Table 6 on page 119 lists the output fields for the **show chassis fabric fpcs** command. Output fields are listed in the approximate order in which they appear.

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Table 6: show chassis fabric fpcs Output Fields

Field Name	Field Description
Fabric management FPC state	Switching fabric link (link from SIB to FPC) state for each FPC: • **Unused**—FPC is not present. (On MX240 and MX480 routers with AS- MLC modular carrier card or MPC4E only) the fabric plane from the pair that share physical links (1 and 5, and 3 and 7) is inactive. • **Destination error on PFEs *list of PFE numbers***—Destination errors to the listed Packet Forwarding Engines. Indicates that the link is not carrying traffic to the listed Packet Forwarding Engines. NOTE: In Junos OS Release 9.6 and later, the list of Packet Forwarding Engines with destination errors is displayed in the output. In Junos OS Releases before 9.6, the output only indicates that there are destination errors. However, the list of Packet Forwarding Engines with destination errors is not displayed. • **Links ok**—Link between the spare SIB and FPC is eligible to carry traffic. • **Link error**—Link between the SIB and FPC has CRC errors. However, the link is still eligible to carry traffic. • **Plane disabled**—Fabric plane has been disabled for the following reasons: ◦ Destination errors have exceeded the thresholds. ◦ Run-time link errors have exceeded the thresholds. ◦ Initialization time link errors detected, and link training was unsuccessful. ◦ **Plane Disabled, Links Error** (PTX Series Packet Transport Routers only)—The plane is disabled because of link errors detected at the FPC RX. • **Plane Disabled, Links Down** (PTX Series Packet Transport Routers only)—The plane is disabled because of link errors detected at the SIB RX. • **Plane enabled**—Link between the active SIB and FPC is eligible to carry traffic. NOTE: On the Enhanced MX SCB with MPC, a maximum of 4 planes are operational and running. On all the other SCBs with MPC, all the planes are operational and running. • **Plane Enabled, Links OK** (PTX Series Packet Transport Routers only)—The FPC CCL RX link is eligible to carry traffic. • **Plane Enabled, Links OK** (TX Matrix and TX Matrix Plus routers only)—The FPC HSL RX link is eligible to carry traffic.

Sample Output

show chassis fabric fpcs (M320 Router)

```
user@host> show chassis fabric fpcs
Fabric management FPC state:
FPC #2
```

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```
  PFE #1
    SIB #0
              Plane enabled
    SIB #1
              Plane enabled
    SIB #2
              Plane enabled
    SIB #3
              Plane enabled
```

show chassis fabric fpcs (MX240 Router)

```
user@host> show chassis fabric fpcs
Fabric management FPC state:
FPC 2
  PFE #0
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Links ok
       Plane 5: Links ok
       Plane 6: Links ok
       Plane 7: Links ok
  PFE #1
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Links ok
       Plane 5: Links ok
       Plane 6: Links ok
       Plane 7: Links ok
  PFE #2
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Links ok
       Plane 5: Links ok
       Plane 6: Links ok
       Plane 7: Links ok
  PFE #3
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Links ok
       Plane 5: Links ok
       Plane 6: Links ok
       Plane 7: Links ok
```

show chassis fabric fpcs (MX480 Router)

```
user@host> show chassis fabric fpcs

FPC 0
  PFE #0
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
```


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```
        Plane 3: Plane enabled
        Plane 4: Links ok
        Plane 5: Links ok
        Plane 6: Links ok
        Plane 7: Links ok
  PFE #1
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Links ok
        Plane 5: Links ok
        Plane 6: Links ok
        Plane 7: Links ok
  PFE #2
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Links ok
        Plane 5: Links ok
        Plane 6: Links ok
        Plane 7: Links ok
  PFE #3
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Links ok
        Plane 5: Links ok
        Plane 6: Links ok
        Plane 7: Links ok
FPC 1
  PFE #0
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Plane enabled
        Plane 5: Plane enabled
        Plane 6: Plane enabled
        Plane 7: Plane enabled
  PFE #1
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Plane enabled
        Plane 5: Plane enabled
        Plane 6: Plane enabled
        Plane 7: Plane enabled
```

show chassis fabric fpcs (MX960 Router)

```
user@host> show chassis fabric fpcs
FPC 0
  PFE #0
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
```

```
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
FPC 1
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
FPC 2
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
...
```


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show chassis fabric fpcs (MX240 with AS MLC Modular Carrier Card)

In the following output, FPC 1 is the AS MLC modular carrier card (AS MCC).

```
user@host>show chassis fabric fpcs
FPC 1
  PFE #0
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Plane enabled
       Plane 5: Unused
       Plane 6: Plane enabled
       Plane 7: Unused
FPC 2
  PFE #0
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Plane enabled
       Plane 5: Plane enabled
       Plane 6: Plane enabled
       Plane 7: Plane enabled
```

show chassis fabric fpcs (MX480 with AS MLC Modular Carrier Card)

In the following output, FPC 5 is the AS MLC modular carrier card (AS MCC).

```
user@host>show chassis fabric fpcs
FPC 2
  PFE #0
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Plane enabled
       Plane 5: Plane enabled
       Plane 6: Plane enabled
       Plane 7: Plane enabled
FPC 4
  PFE #0
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Links ok
       Plane 5: Links ok
       Plane 6: Links ok
       Plane 7: Links ok
  PFE #2
       Plane 0: Plane enabled
       Plane 1: Plane enabled
       Plane 2: Plane enabled
       Plane 3: Plane enabled
       Plane 4: Links ok
       Plane 5: Links ok
       Plane 6: Links ok
       Plane 7: Links ok
FPC 5
```

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```
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Unused
      Plane 6: Plane enabled
      Plane 7: Unused
```

show chassis fabric fpcs (MX480 Router with MPC4E)

In the following output, **FPC4** is the MPC4E (MPC4E-3D-32XGE-SFPP) card.

```
user@host > show chassis fabric fpcs
Fabric management FPC state:
FPC 0
  PFE #0
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Links ok
      Plane 6: Plane enabled
      Plane 7: Links ok
  PFE #1
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Links ok
      Plane 6: Plane enabled
      Plane 7: Links ok
FPC 1
  PFE #0
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Links ok
      Plane 6: Plane enabled
      Plane 7: Links ok
  PFE #1
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Links ok
      Plane 6: Plane enabled
      Plane 7: Links ok
  PFE #2
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Links ok
```


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```
      Plane 6: Plane enabled
      Plane 7: Links ok
  PFE #3
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Links ok
      Plane 6: Plane enabled

FPC 3
  PFE #0
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Links ok
      Plane 6: Plane enabled
      Plane 7: Links ok
FPC 4
  PFE #0
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Unused
      Plane 6: Plane enabled
      Plane 7: Unused
  PFE #1
      Plane 0: Links ok
      Plane 1: Links ok
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Unused
      Plane 6: Plane enabled
      Plane 7: Unused
```

show chassis fabric fpcs (MX960 with AS MLC Modular Carrier Card

In the following output, FPC 5 is the AS MLC modular carrier card (AS MCC).

```
user@host>show chassis fabric fpcs
Fabric management FPC state:
FPC 0
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
```

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```
      Plane 5: Links ok
FPC 1
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
FPC 4
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
FPC 5
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
FPC 8
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
```


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```
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Links ok
      Plane 5: Links ok
```

show chassis fabric fpcs (MX2010 Router)

```
user@host> show chassis fabric fpcs
Fabric management FPC state:
FPC 0
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 1
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 2
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
```

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```
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 3
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
 Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 4
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 5
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
```


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```
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 6
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 7
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
```

```
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
 Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 8
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 9
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane disabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
```

show chassis fabric fpcs (MX2020 Router)

```
user@host> show chassis fabric fpcs
Fabric management FPC state:
FPC 0
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #2
      Plane 0: Plane enabled
```


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```
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 1
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 2
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
```

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```
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 3
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
```


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```
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 4
...
```

show chassis fabric fpcs (MX2020 Router with MPC4E)

```
user@host > show chassis fabric fpcs
Fabric management FPC state:
FPC 0
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 9
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 10
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 14
```

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```
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
FPC 19
  PFE #0
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #1
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #2
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
  PFE #3
      Plane 0: Plane enabled
      Plane 1: Plane enabled
      Plane 2: Plane enabled
      Plane 3: Plane enabled
      Plane 4: Plane enabled
      Plane 5: Plane enabled
      Plane 6: Plane enabled
      Plane 7: Plane enabled
```

show chassis fabric fpcs (T320 Router)

```
user@host> show chassis fabric fpcs
FPC #3
  PFE #1
```


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```
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
FPC #5
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
FPC #7
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
```

show chassis fabric fpcs (T640 Router)

```
user@host> show chassis fabric fpcs
Fabric management FPC state:

FPC #2
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
FPC #3
  PFE #1
    SIB #2
           Plane enabled
    SIB #3
           Link error
           Destination error on PFEs       0    1    2    3    4    5    6    7
             8    9   10   11   12   13   14   15   16   17   18   19   20   21
    SIB #4
           Destination error on PFEs       0    1    2    3    4    5    6    7
             8    9   10   11   12   13   14   15   16   17   18   19   20   21
...
```

show chassis fabric fpcs (TX Matrix Router)

```
user@host> show chassis fabric fpcs
lcc0-re0:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #0
  PFE #1
```

```
    SIB #0
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #2
  PFE #1
    SIB #0
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok  FPC #3
  PFE #1
    SIB #2
           Plane enabled
    SIB #3
           Link error
           Destination error on PFEs       0    1    2    3    4    5    6    7
             8    9   10   11   12   13   14   15   16   17   18   19   20   21
    SIB #4
           Destination error on PFEs       0    1    2    3    4    5    6    7
             8    9   10   11   12   13   14   15   16   17   18   19   20   21
...
FPC #4
  PFE #0
    SIB #4 Links ok
  PFE #1
    SIB #4 Links ok
FPC #5
  PFE #1
    SIB #4 Links ok
FPC #6
  PFE #1
    SIB #4 Links ok

lcc2-re0:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #0
  PFE #1
    SIB #4 Links ok
FPC #1
  PFE #1
    SIB #4 Links ok
FPC #2
  PFE #0
    SIB #4 Links ok
  PFE #1
    SIB #4 Links ok
FPC #4
  PFE #0
    SIB #4 Links ok
  PFE #1
    SIB #4 Links ok
FPC #5
```


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```
  PFE #1
    SIB #4 Links ok
```

show chassis fabric fpcs (TX Matrix Router with 3D SIBs)

```
user@host> show chassis fabric fpcs
lcc0-re0:
-------------------------------------------------------------------------
Fabric management FPC state:
FPC #0
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #3
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #4
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
```

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```
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #5
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #6
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
```


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```
    SIB #4
            Links ok

lcc2-re0:
--------------------------------------------------------------------------

lcc4-re0:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #2
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #3
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok

lcc6-re0:
--------------------------------------------------------------------------
```

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show chassis fabric fpcs lcc (TX Matrix Router with 3D SIBs)

```
user@host> show chassis fabric fpcs lcc 4
lcc4-re0:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #2
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #3
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
```

show chassis fabric fpcs (T1600 Router)

```
user@host> show chassis fabric fpcs
Fabric management FPC state:
FPC #0
  PFE #0
    SIB #0
            Links ok
```


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```
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
FPC #1
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
FPC #2
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
FPC #4
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
```

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```
                Plane enabled
    SIB #3
                Plane enabled
    SIB #4
                Plane enabled
  PFE #1
    SIB #0
                Links ok
    SIB #1
                Plane enabled
    SIB #2
                Plane enabled
    SIB #3
                Plane enabled
    SIB #4
                Plane enabled
FPC #3
  PFE #1
    SIB #2
               Plane enabled
    SIB #3
               Link error
               Destination error on PFEs       0    1    2    3    4    5    6    7
                 8    9   10   11   12   13   14   15   16   17   18   19   20   21
    SIB #4
               Destination error on PFEs       0    1    2    3    4    5    6    7
                 8    9   10   11   12   13   14   15   16   17   18   19   20   21
```

show chassis fabric fpcs (T4000 Core Router)

```
Fabric management FPC state:
FPC #2
  PFE #0
    SIB #0
                Links ok
    SIB #1
                Plane enabled
    SIB #2
                Plane enabled
    SIB #3
                Plane enabled
    SIB #4
                Plane enabled
FPC #3
  PFE #0
    SIB #0
                Links ok
    SIB #1
                Plane enabled
    SIB #2
                Plane enabled
    SIB #3
                Plane enabled
    SIB #4
                Plane enabled
FPC #5
  PFE #0
    SIB #0
                Links ok
    SIB #1
                Plane enabled
```


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```
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
FPC #6
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Plane enabled
    SIB #2
            Plane enabled
    SIB #3
            Plane enabled
    SIB #4
            Plane enabled
```

show chassis fabric fpcs (TX Matrix Plus Router)

```
user@host> show chassis fabric fpcs
lcc0-re0:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #0
  PFE #1
    SIB #0
            Unused
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #2
  PFE #0
```

```
    SIB #0
            Unused
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Unused
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #3
  PFE #1
    SIB #2
           Plane enabled
    SIB #3
           Link error
           Destination error on PFEs       0    1    2    3    4    5    6    7
             8    9   10   11   12   13   14   15   16   17   18   19   20   21
    SIB #4
           Destination error on PFEs       0    1    2    3    4    5    6    7
             8    9   10   11   12   13   14   15   16   17   18   19   20   21
FPC #4
  PFE #0
    SIB #0
            Unused
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Unused
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #6
  PFE #0
    SIB #0
            Unused
    SIB #1
            Links ok
```


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```
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Unused
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #7
  PFE #0
    SIB #0
            Unused
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok

lcc1-re0:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #2
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #4
  PFE #0
    SIB #0
            Links ok
    SIB #1
```

```
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Destination error on PFEs       1    8    9   29   40   65   72   73

             93  104
    SIB #4
            Links ok
FPC #6
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #7
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok

lcc2-re0:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #0
  PFE #0
```


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```
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #2
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #4
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #5
  PFE #0
    SIB #0
            Links ok
    SIB #1
```

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```
                Links ok
    SIB #2
                Links ok
    SIB #3
                Links ok
    SIB #4
                Links ok
  PFE #1
    SIB #0
                Links ok
    SIB #1
                Links ok
    SIB #2
                Links ok
    SIB #3
                Links ok
    SIB #4
                Links ok
FPC #6
  PFE #0
    SIB #0
                Links ok
    SIB #1
                Links ok
    SIB #2
                Links ok
    SIB #3
                Links ok
    SIB #4
                Links ok
  PFE #1
    SIB #0
                Links ok
    SIB #1
                Links ok
    SIB #2
                Links ok
    SIB #3
                Links ok
    SIB #4
                Links ok
FPC #7
  PFE #0
    SIB #0
                Links ok
    SIB #1
                Links ok
    SIB #2
                Links ok
    SIB #3
                Links ok
    SIB #4
                Links ok

lcc3-re0:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #0
  PFE #0
    SIB #0
                Links ok
```


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```
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #2
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #4
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
```

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```
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #5
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #6
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
  PFE #1
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
    SIB #4
            Links ok
FPC #7
  PFE #0
    SIB #0
            Links ok
    SIB #1
            Links ok
    SIB #2
            Links ok
    SIB #3
            Links ok
```


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```
    SIB #4
            Links ok
```

show chassis fabric fpcs lcc (TX Matrix Plus Router)

```
user@host> show chassis fabric fpcs lcc 0
lcc0-re1:
--------------------------------------------------------------------------
Fabric management FPC state:
FPC #3
  PFE #1
    SIB #2
           Plane enabled
    SIB #3
           Link error
           Destination error on PFEs       0    1    2    3    4    5    6    7
             8    9   10   11   12   13   14   15   16   17   18   19   20   21
    SIB #4
           Destination error on PFEs       0    1    2    3    4    5    6    7
             8    9   10   11   12   13   14   15   16   17   18   19   20   21
FPC #4
  PFE #0
    SIB #0 Links ok
    SIB #1 Links ok
    SIB #2 Links ok
    SIB #3 Links ok
    SIB #4 Links ok
  PFE #1
    SIB #0 Links ok
    SIB #1 Links ok
    SIB #2 Links ok
    SIB #3 Links ok
    SIB #4 Links ok
FPC #6
  PFE #0
    SIB #0 Links ok
    SIB #1 Links ok
    SIB #2 Links ok
    SIB #3 Links ok
    SIB #4 Links ok
  PFE #1
    SIB #0 Links ok
    SIB #1 Links ok
    SIB #2 Links ok
    SIB #3 Links ok
    SIB #4 Links ok
FPC #7
  PFE #0
    SIB #0 Links ok
    SIB #1 Links ok
    SIB #2 Links ok
    SIB #3 Links ok
    SIB #4 Links ok
```

show chassis fabric fpcs (EX8200 Switch)

```
user@host> show chassis fabric fpcs
Fabric management FPC state
FPC 6
  PFE #0
      Plane 0: Plane enabled
```

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```
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Links ok
        Plane 5: Links ok
        Plane 6: Links ok
        Plane 7: Links ok
        Plane 8: Plane enabled
        Plane 9: Plane enabled
        Plane 10: Plane enabled
        Plane 11: Plane enabled
    PFE #1
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Links ok
        Plane 5: Links ok
        Plane 6: Links ok
        Plane 7: Links ok
        Plane 8: Plane enabled
        Plane 9: Plane enabled
        Plane 10: Plane enabled
        Plane 11: Plane enabled
FPC 7
    PFE #0
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Links ok
        Plane 5: Links ok
        Plane 6: Links ok
        Plane 7: Links ok
        Plane 8: Plane enabled
        Plane 9: Plane enabled
        Plane 10: Plane enabled
        Plane 11: Plane enabled
    PFE #1
        Plane 0: Plane enabled
        Plane 1: Plane enabled
        Plane 2: Plane enabled
        Plane 3: Plane enabled
        Plane 4: Links ok
        Plane 5: Links ok
        Plane 6: Links ok
        Plane 7: Links ok
        Plane 8: Plane enabled
        Plane 9: Plane enabled
        Plane 10: Plane enabled
        Plane 11: Plane enabled
```

show chassis fabric fpcs (PTX3000 Router)

```
user@host> show chassis fabric fpcs slot 8
Fabric management FPC state:
FPC #8
    PFE #0
        SIB0_Fcore0 (plane  0)   Plane Enabled, Links OK
        SIB0_Fcore1 (plane  1)   Plane Enabled, Links OK
        SIB1_Fcore0 (plane  2)   Plane Enabled, Links OK
```


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```
    SIB1_Fcore1 (plane  3)   Plane Enabled, Links OK
    SIB2_Fcore0 (plane  4)   Plane Enabled, Links OK
    SIB2_Fcore1 (plane  5)   Plane Enabled, Links OK
    SIB3_Fcore0 (plane  6)   Plane Enabled, Links OK
    SIB3_Fcore1 (plane  7)   Plane Enabled, Links OK
    SIB4_Fcore0 (plane  8)   Plane Enabled, Links OK
    SIB4_Fcore1 (plane  9)   Plane Enabled, Links OK
    SIB5_Fcore0 (plane 10)   Plane Enabled, Links OK
    SIB5_Fcore1 (plane 11)   Plane Enabled, Links OK
    SIB6_Fcore0 (plane 12)   Plane Enabled, Links OK
    SIB6_Fcore1 (plane 13)   Plane Enabled, Links OK
    SIB7_Fcore0 (plane 14)   Plane Enabled, Links OK
    SIB7_Fcore1 (plane 15)   Plane Enabled, Links OK
    SIB8_Fcore0 (plane 16)   Plane Enabled, Links OK
    SIB8_Fcore1 (plane 17)   Plane Enabled, Links OK
PFE #1
    SIB0_Fcore0 (plane  0)   Plane Enabled, Links OK
    SIB0_Fcore1 (plane  1)   Plane Enabled, Links OK
    SIB1_Fcore0 (plane  2)   Plane Enabled, Links OK
    SIB1_Fcore1 (plane  3)   Plane Enabled, Links OK
    SIB2_Fcore0 (plane  4)   Plane Enabled, Links OK
    SIB2_Fcore1 (plane  5)   Plane Enabled, Links OK
    SIB3_Fcore0 (plane  6)   Plane Enabled, Links OK
    SIB3_Fcore1 (plane  7)   Plane Enabled, Links OK
    SIB4_Fcore0 (plane  8)   Plane Enabled, Links OK
    SIB4_Fcore1 (plane  9)   Plane Enabled, Links OK
    SIB5_Fcore0 (plane 10)   Plane Enabled, Links OK
    SIB5_Fcore1 (plane 11)   Plane Enabled, Links OK
    SIB6_Fcore0 (plane 12)   Plane Enabled, Links OK
    SIB6_Fcore1 (plane 13)   Plane Enabled, Links OK
    SIB7_Fcore0 (plane 14)   Plane Enabled, Links OK
    SIB7_Fcore1 (plane 15)   Plane Enabled, Links OK
    SIB8_Fcore0 (plane 16)   Plane Enabled, Links OK
    SIB8_Fcore1 (plane 17)   Plane Enabled, Links OK
```

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show chassis fpc

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Syntax (OCX Series) on page 154
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Syntax

```
show chassis fpc
<detail <slot>> | <pic-status <slot>>
```

Syntax (EX Series Switches)

```
show chassis fpc
<detail <fpc-slot>> | <pic-status <fpc-slot>>
<fpc-slot>
```

Syntax (T4000 Routers)

```
show chassis fpc
<detail <fpc-slot>>
<pic-status <fpc-slot>>
```

Syntax (TX Matrix and TX Matrix Plus Routers)

```
show chassis fpc
<detail <fpc-slot>> | <pic-status <fpc-slot>>
<slot>
```

Syntax (MX Series Routers and EX Series switches)

```
show chassis fpc
<detail <slot>> | <pic-status <slot>>
<all-members>
<local>
<member member-id>
```

Syntax (MX104, MX2010, and MX2020 3D Universal Edge Routers)

```
show chassis fpc
<slot> detail | <detail <slot>> | <pic-status <slot>>
<fpc-slot>
```

Syntax (QFX Series)

```
show chassis fpc
<detail>
<interconnect-device name <fpc-slot fpc-slot>>
<node-device name>
```

Syntax (OCX Series)

```
show chassis fpc
<detail>
```

Syntax (PTX Series Packet Transport Routers)

```
show chassis fpc
<detail <fpc-slot>> | <pic-status <fpc-slot>>
<fpc-slot>
```


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Syntax (ACX Series Universal Access Routers)

show chassis fpc
<detail <*fpc-slot*>> | <pic-status <*fpc-slot*>>
<*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 12.2 for ACX Series Universal Access Routers.
Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.
Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.
Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.
Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.

Description

Display status information about the installed Flexible PIC Concentrators (FPCs)and PICs.

Options

none—Display status information for all FPCs. On a TX Matrix router, display status information for all FPCs on the attached T640 routers in the routing matrix. On a TX Matrix Plus router, display status information for all FPCs on the attached routers in the routing matrix.

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NOTE: In EX8200 switches, line cards initialize Packet Forwarding Engine during startup. If an error occurs during hardware initialization, the FPCs with bad hardware parts power down after transferring the debug information to the Routing Engine. The Routing Engine marks the FPC offline, logs the error in system log messages (/var/log/messages), and generates an alarm to inform the user.

See the following sample output:

```
user@host> show chassis fpc
                    Temp  CPU Utilization (%)   Memory
Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap
  Buffer
  0  Empty
  1  Empty
  2  Empty
  3  Empty
  4  Empty
  5  Offline         ---Hard FPC error---
  6  Empty
  7  Online            26      4          0       1024        0
     32
```

The following sample output shows the alarm raised for the failed FPCs:

```
user@host> show chassis alarms
4 alarms currently active
Alarm time               Class  Description
2011-03-24 00:52:51 UTC  Major  FPC 5 Hard errors
2011-03-24 00:52:31 UTC  Major  Fan Tray Failure
2011-03-24 00:52:31 UTC  Major  Fan Tray Failure
2011-03-24 00:51:26 UTC  Minor  Loss of communication with Backup
RE
```


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NOTE: On T4000 routers, when you include the **enhanced-mode** statement at the **[edit chassis network-services]** hierarchy level and reboot the system, only the T4000 Type 5 FPCs present on the router become online while the remaining FPCs are offline, and FPC misconfiguration alarms are generated. The **show chassis alarm** command output displays FPC misconfiguration (**FPC *fpc-slot* misconfig**) as the reason for the generation the alarms.

The following sample output shows the FPC status after the **enhanced-mode** statement is configured on the T4000 router. The T4000 Type 5 FPC present in slot 5 becomes online while the remaining FPCs are offline.

```
user@host> show chassis fpc
                    Temp  CPU Utilization (%)   Memory
Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap
  Buffer
  0  offline         ---FPC misconfiguration---
  1  offline         ---FPC misconfiguration---
  2  offline         ---FPC misconfiguration---
  3  Empty
  4  Empty
  5  Online            66      50          0       2816       29
    27
```

The following sample output shows FPC misconfiguration alarms:

```
user@host> show chassis alarms
3 alarms currently active
Alarm time               Class  Description
2011-03-24 00:52:51 PST  Major  FPC 1 misconfig
2011-03-24 00:52:31 PST  Major  FPC 2 misconfig
2011-03-24 00:52:31 PST  Major  FPC 3 misconfig
```

detail—(Optional) Display detailed status information for all FPCs or for the FPC in the specified slot (see ***fpc-slot*** or ***slot***).

all-members—(MX Series routers and EX Series switches only) (Optional) Display status information for all FPCs on all members of the Virtual Chassis configuration.

interconnect-device *name*—(QFabric systems only) (Optional) Display status information for all FPCs on the Interconnect device.

fpc-slot—(Optional) FPC slot number:

- (TX Matrix and TX Matrix Plus routers only)—On a TX Matrix router, if you specify the number of the T640 router (line-card chassis) by using the **lcc *number*** option (the recommended method), replace ***fpc-slot*** with a value from **0** through **7**. Otherwise, replace ***fpc-slot*** with a value from **0** through **31**. Likewise, on a TX Matrix Plus router, if you specify the number of the specified router (line-card chassis) by using the **lcc *number*** option (the recommended method), replace ***fpc-slot*** with

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a value from **0** through **7**. Otherwise, replace ***fpc-slot*** with a value from **0** through **31**. For example, the following commands have the same result:

```
user@host> show chassis fpc detail 1 lcc 1
user@host> show chassis fpc detail 9
```

- M120 router—Replace ***fpc-slot*** with a value from **0** through **5**.
- MX80 router—Replace ***fpc-slot*** with a value from **0** through **1**.
- MX104 routers—Replace ***fpc-slot*** with a value from **0** through **2**.
- MX240 router—Replace ***fpc-slot*** with a value from **0** through **2**.
- MX480 router—Replace ***fpc-slot*** with a value from **0** through **5**.
- MX-960 router—Replace ***fpc-slot*** with a value from **0** through **11**.
- MX2010 router—Replace ***fpc-slot-number*** with a value from **0** through **9**.
- MX2020 router—Replace ***fpc-slot-number*** with a value from **0** through **19**.
- Other routers—Replace ***fpc-slot*** with a value from **0** through **7**.
- EX Series switches:
  - EX3200 switches and EX4200 standalone switches—Replace ***fpc-slot*** with **0**.
  - EX4200 switches in a Virtual Chassis configuration—Replace ***fpc-slot*** with a value from **0** through **9**.
  - EX6210 switches—Replace ***fpc-slot*** with a value from **0** through **9**.
  - EX8208 switches—Replace ***fpc-slot*** with a value from **0** through **7**.
  - EX8216 switches—Replace ***fpc-slot*** with a value from **0** through **15**.
- QFX Series:
  - QFXSeries and OCX Series switches—Replace ***fpc-slot*** with 0.
  - QFabric systems—Replace ***fpc-slot*** with 0 through 31 on the Interconnect device.
- PTX Series Packet Transport Routers:
  - PTX5000 Packet Transport Router—Replace ***fpc-slot*** with a value from **0** through **7**.
- ACX Series Universal Access Routers:
  - ACX1000 and ACX2000 Universal Access Routers—Replace ***fpc-slot*** with **0**.

local—(MX Series routers and EX Series switches only) (Optional) Display status information for all FPCs on the local Virtual Chassis member.

member ***member-id***—(MX Series routers and EX Series switches only) (Optional) Display status information for all FPCs on the specified member of the Virtual Chassis configuration. Replace ***member-id*** with a value of 0 or 1.

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node-device ***name***—(QFabric systems only) (Optional) Display status information for each Node device. Each Node device is equivalent to an FPC.

pic-status—(Optional) Display status information for all PICs or for the PIC in the specified slot (see ***fpc-slot***).

NOTE: On T1600 routers, Type 4 FPCs with ASICs based on the SL2.0 chipset do not support the 10-Gigabit Ethernet LAN/WAN PIC with SFP+ (10x10GE [LAN/WAN] SFPP). If you issue the **show chassis fpc** command with the **pic-status** option, the CLI displays the string "Not Supported" for 10x10GE(LAN/WAN) SFPP PICs installed on such FPCs. The following is a sample output:

```
user@host> show chassis fpc pic-status
Slot 0   Online       E2-FPC Type 1
  PIC 0  Online       1x G/E SFP, 1000 BASE
  PIC 1  Online       Adaptive Services-II
  PIC 2  Online       1x G/E IQ, 1000 BASE
  PIC 3  Online       1x G/E IQ, 1000 BASE
Slot 1   Online       FPC Type 3-ES
  PIC 0  Present      UNUSED- Not Supported
Slot 2   Online       FPC Type 4-ES
  PIC 0  Offline      4x OC-192 SONET XFP
  PIC 1  Present      10x10GE(LAN/WAN) SFPP- Not Supported
<<<<<<
Slot 4   Offline      FPC Type 1-ES
Slot 5   Offline      FPC Type 2-ES
Slot 6   Online       E2-FPC Type 3
  PIC 0  Online       1x OC-192 SONET XFP
  PIC 1  Online       4x OC-48 SONET
  PIC 2  Online       4x OC-48 SONET
  PIC 3  Online       MultiServices 500
Slot 7   Online       FPC Type 4-ES
  PIC 0  Online       4x 10GE (LAN/WAN) XFP
  PIC 1  Online       4x 10GE (LAN/WAN) XFP
```

In addition, an entry is logged in the system log messages (/var/log/messages) that the PIC is not supported. The following is a sample message logged in the system log:

```
Apr  5 08:47:36  router1 chassisd[2770]: CHASSISD_UNSUPPORTED_PIC:
 PIC 1 in FPC 2 (type 763, version 257) is not supported
```

If you see this issue, contact Juniper Networks Technical Assistance Center (JTAC) for a possible fix. For more information about this issue and a possible solution, see PSN-2010-03-696.

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NOTE: When there is a double-bit ECC error in a network processor's memory, the Channelized OC3/STM1 (Multi-Rate) Circuit Emulation MIC with SFP or Channelized E1/T1 Circuit Emulation MIC is switched to the offline state.

```
user@host> show chassis fpc pic-status
Slot 1   Online       MPC Type 2 3D Q
PIC 0  Offline      1xCOC12/4xCOC3 CH-CE- ECC error detected
```

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.

Required Privilege Level

view

Related Documentation

- *request chassis fpc*
- *show chassis fpc-feb-connectivity*
- show chassis fabric fpcs on page 116
- *Configuring the Junos OS to Resynchronize FPC Sequence Numbers with Active FPCs when an FPC Comes Online*
- *MX960 Flexible PIC Concentrator Description*
- *ACX2000 and ACX2100 Routers Hardware and CLI Terminology Mapping*
- *enhanced-mode*

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Output Fields Table 7 on page 162 lists the output fields for the **show chassis fpc** command. Output fields are listed in the approximate order in which they appear.

Table 7: show chassis fpc Output Fields

Field Name	Field Description	Level of Output

Slot or **Slot State**	Slot number and state. The state can be one of the following conditions:
	• **Dead**—Held in reset because of errors.
	• **Diag**—Slot is being ignored while the FPC is running diagnostics.
	• **Dormant**—Held in reset.
	• **Empty**—No FPC is present.
	• **Offline**—(PTX Series Packet Transport Routers only) One of the following two states is displayed:
	  ◦ **FPC offlined due to unreachable destinations**
	  ◦ **FPC Offlined due to degraded FPC action**
	• **Online**—FPC is online and running.
	• **Present**—FPC is detected by the chassis daemon but either is not supported by the current version of Junos OS or is inserted in the wrong slot. The output also states either **Hardware Not Supported** or **Hardware Not In Right Slot**. The FPC is coming up but not yet online.
	• **Probed**—Probe is complete; awaiting restart of the Packet Forwarding Engine.
	• **Probe-wait**—Waiting to be probed.
		all levels

Logical slot	Slot number.	all levels
Temp (C) or Temperature	Temperature of the air passing by the FPC, in degrees Celsius or in both Celsius and Fahrenheit.	all levels all levels

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Table 7: show chassis fpc Output Fields *(continued)*

Field Name	Field Description	Level of Output
Temperature (PTX Series)	On PTX Series Packet Transport Routers, temperature details are provided in degrees Celsius and Fahrenheit. Output includes: • Temperature (PMB)—Temperature of the air passing by the Processor Mezzanine Board (PMB) at the bottom of the FPC. • Temperature (Intake)—Temperature of the air flowing into the chassis. • Temperature (Exhaust)—Exhaust temperatures for multiple zones (Exhaust A and Exhaust B). • Temperature (TL*n*)-–Temperature of the specified Lookup ASIC (TL) of the packet forwarding engine on the FPC. • Temperature (TQ*n*)-–Temperature of the specified Queuing and Memory Interface ASIC (TQ) of the packet forwarding engine on the FPC.	**detail**
Total CPU Utilization (%)	Total percentage of CPU being used by the FPC's processor.	all levels
Interrupt CPU Utilization (%)	Of the total CPU being used by the FPC's processor, the percentage being used for interrupts.	none specified
1 min CPU utilization (%) NOTE: Supported only on MX240, MX480, MX960, MX2010, and MX2020.	Information about the Routing Engine's CPU utilization in the past 1 minute.	none specified
5 min CPU utilization (%) NOTE: Supported only on MX240, MX480, MX960, MX2010, and MX2020.	Information about the Routing Engine's CPU utilization in the past 5 minutes.	none specified
15 min CPU utilization (%) NOTE: Supported only on MX240, MX480, MX960, MX2010, and MX2020.	Information about the Routing Engine's CPU utilization in the past 15 minutes.	none specified
Memory DRAM (MB)	Total DRAM, in megabytes, available to the FPC's processor.	none specified

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Table 7: show chassis fpc Output Fields *(continued)*

Field Name	Field Description	Level of Output
Heap Utilization (%)	Percentage of heap space (dynamic memory) being used by the FPC's processor. If this number exceeds 80 percent, there may be a software problem (memory leak). NOTE: On MX Series routers and EX Series switches in a broadband edge environment, heap utilization levels higher than 70 percent can affect unified ISSU, router stability, or scaling capability.	none specified
Buffer Utilization (%)	Percentage of buffer space being used by the FPC's processor for buffering internal messages.	none specified
Total CPU DRAM	Amount of DRAM available to the FPC's CPU.	**detail**
Total RLDRAM	Amount of reduced latency dynamic random access memory (RLDRAM) available to the FPC CPU.	**detail**
Total DDR DRAM	Amount of double data rate dynamic random access memory (DDR DRAM) available to the FPC CPU.	**detail**
Total SRAM	Amount of static RAM (SRAM) used by the FPC's CPU.	**detail**
Total SDRAM	Total amount of memory used for storing packets and notifications.	**detail**
I/O Manager ASICs information	I/O Manager version number, manufacturer, and part number.	**detail**
Start time	Time when the Routing Engine detected that the FPC was running.	**detail**
Uptime	How long the Routing Engine has been connected to the FPC and, therefore, how long the FPC has been up and running.	**detail**
PIC type	(**pic-status** output only) Type of PIC.	none specified

Sample Output

show chassis fpc (EX6210 Switch)

```
user@switch> show chassis fpc
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State           (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Online            7      5          0       1024        0         32
  2  Empty
  3  Empty
  4  Online           25     17          2       2048        0         30
  5  Online           25      3          0       2048        0         24
  6  Online            6      5          0       1024        0         32
  7  Empty
  8  Empty
  9  Online            8      7          0       1024        0         32
```


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show chassis fpc (M10 Router)

```
user@host> show chassis fpc
FPC status:
                Temp
Slot State      (C)
  0  Online      27
  1  Online      28
```

show chassis fpc (M20 Router)

```
user@host> show chassis fpc
FPC status:
                Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State      (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty        0      0          0         0         0          0
  1  Online      38      0          0         8         0          4
  2  Online      35      0          0         8         0          3
  3  Empty        0      0          0         0         0          0
```

show chassis fpc detail (M Series Routers)

```
user@host> show chassis fpc detail 1
Slot 1 information:
  State                               Online
  Temperature                      48 degrees C
  Total CPU DRAM                   32 MB
  Total SRAM                        4 MB
  Total SDRAM                     256 MB
  I/O Manager ASICs information       Version 2.0, Foundry IBM, Part number 0
  I/O Manager ASICs information       Version 2.0, Foundry IBM, Part number 0
  Start time                          2000-02-08 02:18:49 UTC
  Uptime                              14 hours, 41 minutes, 41 seconds
```

show chassis fpc detail (MX80 Router)

```
user@host> show chassis fpc detail
Slot 0 information:
  State                               Online
  Temperature                      47 degrees C / 116 degrees F
  Total CPU DRAM                 1024 MB
  Total SRAM                      331 MB
  Total SDRAM                    1280 MB
  Start time                          2010-02-08 12:25:33 PST
  Uptime                              2 hours, 13 minutes, 19 seconds
Slot 1 information:
  State                               Online
  Temperature                      47 degrees C / 116 degrees F
  Total CPU DRAM                 1024 MB
  Total SRAM                      331 MB
  Total SDRAM                    1280 MB
  Start time                          2010-02-08 12:25:33 PST
  Uptime                              2 hours, 13 minutes, 19 seconds
```

show chassis fpc (MX104 Router)

```
user@host> show chassis fpc
Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online            32     15          5       2048       22         13
```

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```
  1  Online           32     15          5       2048       22          13
  2  Online           32     15          5       2048       22          13
```

show chassis fpc detail (MX104 Router)

```
user@host> show chassis fpc detail
Slot 0 information:
  State                               Online
  Temperature                      32 (C)
  Total CPU DRAM                 2048 MB
  Total SRAM                      403 MB
  Total SDRAM                    1316 MB
  Start time                          2013-05-23 14:39:18 IST
  Uptime                              1 hour, 20 minutes, 22 seconds
Slot 1 information:
  State                               Online
  Temperature                      32 (C)
  Total CPU DRAM                 2048 MB
  Total SRAM                      403 MB
  Total SDRAM                    1316 MB
  Start time                          2013-05-23 14:39:18 IST
  Uptime                              1 hour, 20 minutes, 22 seconds
Slot 2 information:
  State                               Online
  Temperature                      32 (C)
  Total CPU DRAM                 2048 MB
  Total SRAM                      403 MB
  Total SDRAM                    1316 MB
  Start time                          2013-05-23 14:39:18 IST
  Uptime                              1 hour, 20 minutes, 22 seconds
```

show chassis fpc pic-status (MX104 Router)

```
user@host> show chassis fpc pic-status
Slot 0   Online
Slot 1   Online
  PIC 0  Online       10x 1GE(LAN) -E  SFP
  PIC 1  Online       10x 1GE(LAN) -E  SFP
Slot 2   Online
  PIC 0  Online       4x 10GE(LAN) SFP+
```

show chassis fpc (MX240 Router)

```
user@host> show chassis fpc
                    Temp    CPU Utilization (%)     Memory       Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Online           34      6          0       1024       18          30
  2  Online           33      9          0       1024       24          30
```

show chassis fpc (EX Series Switch)

```
user@host> show chassis fpc
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Online           41     13          0       2048       19          14
  2  Online           42     12          0       2048       19          14
```

show chassis fpc detail (EX9200 Switch)

```
user@switch> show chassis fpc detail
```


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```
Slot 2 information:
  State                                 Online
  Temperature                            37
  Total CPU DRAM                       2048 MB
  Total RLDRAM                          331 MB
  Total DDR DRAM                       1536 MB
  Start time:                           2014-03-12 15:35:28 UTC
  Uptime:                               1 hour, 4 minutes, 29 seconds
  Max Power Consumption                 239 Watts
Slot 3 information:
  State                                 Online
  Temperature                            39
  Total CPU DRAM                       2048 MB
  Total RLDRAM                         1036 MB
  Total DDR DRAM                       6656 MB
  Start time:                           2014-03-12 15:00:18 UTC
  Uptime:                               1 hour, 39 minutes, 39 seconds
  Max Power Consumption                 520 Watts
```

show chassis fpc (MX480 Router)

```
user@host> show chassis fpc
                    Temp  CPU Utilization (%)   CPU Utilization (%)  Memory
Utilization (%)
Slot State            (C)  Total  Interrupt      1min   5min   15min  DRAM (MB)
Heap     Buffer
  0  Online                    1          0        1      2      3    1024
  4         56
  1  Online                    1          0        2      2      3    1024
  4         56
```

show chassis fpc (MX480 Router with 100-Gigabit Ethernet CFP)

```
user@host> show chassis fpc
        Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State     (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
 0  Online      33   4      0              2048      10       13
 1  Online      36   7      0              2048      16       13
 2  Online      29   6      0              1024      27       29
 3  Online      33   0      0                 0       0        0
 4  Online      36   7      0              2048      19       13
 5  Online      34  31      11             2048      14       13
```

show chassis fpc pic-status (MX480 Router with 100-Gigabit Ethernet CFP)

```
user@host> show chassis fpc pic-status
Slot 1   Online       MPC Type 3
  PIC 2  Online       1X100GE CFP
 Slot 2  Online       DPCE 40x 1GE R EQ
  PIC 0  Online       10x 1GE(LAN) EQ
  PIC 1  Online       10x 1GE(LAN) EQ
  PIC 2  Online       10x 1GE(LAN) EQ
  PIC 3  Online       10x 1GE(LAN) EQ
 Slot 3  Online       MPC Type 3
  PIC 0  Online       1X100GE CFP
  PIC 2  Online       1X100GE CFP
 Slot 4  Online       MPC Type 3
  PIC 0  Online       1X100GE CFP
  PIC 2  Online       1X100GE CFP
 Slot 5  Online       MPC Type 2 3D EQ
  PIC 0  Online       2x 10GE  XFP
  PIC 1  Online       2x 10GE  XFP
```

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```
  PIC 2  Online       10x 1GE(LAN) SFP
  PIC 3  Online       10x 1GE(LAN) SFP
```

show chassis fpc pic-status (EX Series Switch)

```
user@host> show chassis fpc pic-status
Slot 1   Online       EX9200 32x10G SFP
  PIC 0  Online       8X10GE SFPP
  PIC 1  Online       8X10GE SFPP
  PIC 2  Online       8X10GE SFPP
  PIC 3  Online       8X10GE SFPP
Slot 2   Online       EX9200 32x10G SFP
  PIC 0  Online       8X10GE SFPP
  PIC 1  Online       8X10GE SFPP
  PIC 2  Online       8X10GE SFPP
  PIC 3  Online       8X10GE SFPP
```

show chassis fpc (MX480 Router with MPC4E)

```
user@host> show chassis fpc
       Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Empty
  2  Online            38      7          0       2048       19         14
  3  Online            39      8          0       2048       18         14
  4  Online            39      7          0       2048       17         14
  5  Empty
```

show chassis fpc detail (MX480 Router with MPC4E)

```
user@host> show chassis fpc detail
Slot 2 information:
  State                               Online
  Temperature                         38
  Total CPU DRAM                    2048 MB
  Total RLDRAM                      1036 MB
  Total DDR DRAM                    11264 MB
  Start time:                         2013-02-18 05:06:57 PST
  Uptime:                             17 hours, 41 minutes, 9 seconds
  Max Power Consumption              610 Watts
Slot 3 information:
  State                               Online
  Temperature                         38
  Total CPU DRAM                    2048 MB
  Total RLDRAM                      1036 MB
  Total DDR DRAM                    11264 MB
  Start time:                         2013-02-18 05:07:00 PST
  Uptime:                             17 hours, 41 minutes, 6 seconds
  Max Power Consumption              610 Watts
Slot 4 information:
  State                               Diagnostics
  Temperature                         37
  Total CPU DRAM                      0 MB
  Total RLDRAM                        0 MB
  Total DDR DRAM                      0 MB
  Max Power Consumption              520 Watts
```

show chassis fpc (MX480 Router with MPC4E)

```
user@host> show chassis fpc
```


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```
                Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State       (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Empty
  2  Online         38      7          0       2048       19         14
  3  Online         39      8          0       2048       18         14
  4  Online         39      7          0       2048       17         14
  5  Empty
```

show chassis fpc detail (MX480 Router with MPC4E)

```
user@host> show chassis fpc detail
Slot 2 information:
  State                               Online
  Temperature                      38
  Total CPU DRAM                   2048 MB
  Total RLDRAM                     1036 MB
  Total DDR DRAM                   11264 MB
  Start time:                         2013-02-18 05:06:57 PST
  Uptime:                             17 hours, 41 minutes, 9 seconds
  Max Power Consumption            610 Watts
Slot 3 information:
  State                               Online
  Temperature                      38
  Total CPU DRAM                   2048 MB
  Total RLDRAM                     1036 MB
  Total DDR DRAM                   11264 MB
  Start time:                         2013-02-18 05:07:00 PST
  Uptime:                             17 hours, 41 minutes, 6 seconds
  Max Power Consumption            610 Watts
Slot 4 information:
  State                               Diagnostics
  Temperature                      37
  Total CPU DRAM                   0 MB
  Total RLDRAM                     0 MB
  Total DDR DRAM                   0 MB
  Max Power Consumption            520 Watts
```

show chassis fpc (MX960 Router)

```
user@host> show chassis fpc
                    Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State       (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
 0  Empty
 1  Empty
 2  Empty
 3  Online       25     19          0       1024       15         57
 4  Empty
 5  Online       26     27          0       1024       15         57
 6  Empty
 7  Empty
 8  Empty
 9  Empty
 10  Empty
 11  Empty
```

show chassis fpc (MX960 Router with MPC5EQ)

```
user@host> show chassis fpc
                    Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online           38     16          0       3584        7         13
```

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```
  1  Online           31     15          0       2048       17          13
  2  Empty
  3  Online           31     14          0       2048       20          13
  4  Online           34     16          0       3584        7          13
  5  Online           34     16          0       3584        7          13
  6  Empty
  7  Online           32      9          0       2048       18          14
  8  Online           36     19          0       3584        7          13
  9  Online           31      9          0       2048       13          13
 10  Online           35     14          0       3584        7          13
 11  Online           33     11          0       2048       18          14
```

show chassis fpc detail (MX960 Router with MPC5EQ)

```
user@host> show chassis fpc detail
Slot 0 information:
  State                               Online
  Temperature                      38
  Total CPU DRAM                3584 MB
  Total XR2                      291 MB
  Total DDR DRAM               24960 MB
  Start time:                         2014-04-22 10:01:46 PDT
  Uptime:                             1 hour, 23 minutes, 40 seconds
  Max Power Consumption          607 Watts
Slot 1 information:
  State                               Online
  Temperature                      31
  Total CPU DRAM                2048 MB
  Total RLDRAM                  1036 MB
  Total DDR DRAM                6656 MB
  Start time:                         2014-04-22 10:01:50 PDT
  Uptime:                             1 hour, 23 minutes, 36 seconds
  Max Power Consumption          520 Watts
Slot 3 information:
  State                               Online
  Temperature                      31
  Total CPU DRAM                2048 MB
  Total RLDRAM                  1324 MB
  Total DDR DRAM                5120 MB
  Start time:                         2014-04-22 10:01:50 PDT
  Uptime:                             1 hour, 23 minutes, 36 seconds
  Max Power Consumption          440 Watts
Slot 4 information:
  State                               Online
  Temperature                      34
  Total CPU DRAM                3584 MB
  Total XR2                      291 MB
  Total DDR DRAM               24960 MB
  Start time:                         2014-04-22 10:01:54 PDT
  Uptime:                             1 hour, 23 minutes, 32 seconds
  Max Power Consumption          607 Watts
Slot 5 information:
  State                               Online
  Temperature                      34
  Total CPU DRAM                3584 MB
  Total XR2                      291 MB
  Total DDR DRAM               24960 MB
  Start time:                         2014-04-22 10:01:56 PDT
  Uptime:                             1 hour, 23 minutes, 30 seconds
  Max Power Consumption          607 Watts
Slot 7 information:
```


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```
  State                                 Online
  Temperature                        32
  Total CPU DRAM                   2048 MB
  Total RLDRAM                     1036 MB
  Total DDR DRAM                   11264 MB
  Start time:                           2014-04-22 10:02:02 PDT
  Uptime:                               1 hour, 23 minutes, 24 seconds
  Max Power Consumption             608 Watts
Slot 8 information:
  State                                 Online
  Temperature                        36
  Total CPU DRAM                   3584 MB
  Total XR2                         291 MB
  Total DDR DRAM                   24960 MB
  Start time:                           2014-04-22 10:02:07 PDT
  Uptime:                               1 hour, 23 minutes, 19 seconds
  Max Power Consumption             607 Watts
Slot 9 information:
  State                                 Online
  Temperature                        31
  Total CPU DRAM                   2048 MB
  Total RLDRAM                      734 MB
  Total DDR DRAM                   3108 MB
  Start time:                           2014-04-22 10:02:05 PDT
  Uptime:                               1 hour, 23 minutes, 21 seconds
  Max Power Consumption             368 Watts
Slot 10 information:
  State                                 Online
  Temperature                        35
  Total CPU DRAM                   3584 MB
  Total XR2                         291 MB
  Total DDR DRAM                   24960 MB
  Start time:                           2014-04-22 10:02:11 PDT
  Uptime:                               1 hour, 23 minutes, 15 seconds
  Max Power Consumption             607 Watts
Slot 11 information:
  State                                 Online
  Temperature                        33
  Total CPU DRAM                   2048 MB
  Total RLDRAM                     1036 MB
  Total DDR DRAM                   11264 MB
  Start time:                           2014-04-22 10:02:16 PDT
  Uptime:                               1 hour, 23 minutes, 10 seconds
  Max Power Consumption             608 Watts
```

show chassis fpc pic-status(MX960 Router with MPC5EQ)

```
user@host> show chassis fpc pic-status
Slot 0   Online       MPC5E 3D Q 2CGE+4XGE
  PIC 0  Online       2X10GE SFPP OTN
  PIC 1  Online       1X100GE CFP2 OTN
  PIC 2  Online       2X10GE SFPP OTN
  PIC 3  Online       1X100GE CFP2 OTN
Slot 1   Online       MPCE Type 3 3D
  PIC 0  Online       10X10GE SFPP
  PIC 2  Online       1X100GE CXP
Slot 3   Online       MPC 3D 16x 10GE
  PIC 0  Online       4x 10GE(LAN) SFP+
  PIC 1  Online       4x 10GE(LAN) SFP+
  PIC 2  Online       4x 10GE(LAN) SFP+
```

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```
  PIC 3  Online       4x 10GE(LAN) SFP+
Slot 4   Online       MPC5E 3D Q 2CGE+4XGE
  PIC 0  Online       2X10GE SFPP OTN
  PIC 1  Online       1X100GE CFP2 OTN
  PIC 2  Online       2X10GE SFPP OTN
  PIC 3  Online       1X100GE CFP2 OTN
Slot 5   Online       MPC5E 3D Q 2CGE+4XGE
  PIC 0  Online       2X10GE SFPP OTN
  PIC 1  Online       1X100GE CFP2 OTN
  PIC 2  Online       2X10GE SFPP OTN
  PIC 3  Online       1X100GE CFP2 OTN
Slot 7   Online       MPC4E 3D 2CGE+8XGE
  PIC 0  Online       4x10GE SFPP
  PIC 1  Online       1X100GE CFP
  PIC 2  Online       4x10GE SFPP
  PIC 3  Online       1X100GE CFP
Slot 8   Online       MPC5E 3D Q 24XGE+6XLGE
  PIC 0  Offline      12X10GE SFPP OTN
  PIC 1  Offline      12X10GE SFPP OTN
  PIC 2  Online       3X40GE QSFPP
  PIC 3  Online       3X40GE QSFPP
Slot 9   Online       MPCE Type 2 3D P
  PIC 0  Online       2x 10GE  XFP
  PIC 1  Online       2x 10GE  XFP
Slot 10  Online       MPC5E 3D Q 24XGE+6XLGE
  PIC 0  Online       12X10GE SFPP
  PIC 1  Online       12X10GE SFPP
  PIC 2  Offline      3X40GE QSFPP
  PIC 3  Offline      3X40GE QSFPP
Slot 11  Online       MPC4E 3D 2CGE+8XGE
  PIC 0  Online       4x10GE SFPP
  PIC 1  Online       1X100GE CFP
  PIC 2  Online       4x10GE SFPP
  PIC 3  Online       1X100GE CFP
```

show chassis fpc (MX240, MX480, MX960 Routers with Application Services Modular Line Card

```
user@host> show chassis fpc 1
    Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  1  Online            34      5          0       3072        5         13
```

show chassis fpc (MX240, MX480, MX960 with Application Services Modular Line Card

```
user@host> show chassis fpc 1 detail
Slot 1 information:
  State                                 Online
  Temperature                          34
  Total CPU DRAM                     3072 MB
  Total RLDRAM                        259 MB
  Total DDR DRAM                     4864 MB
  Start time:                           2012-06-19 10:51:43 PDT
  Uptime:                               16 minutes, 48 seconds
  Max Power Consumption               550 Watts
```

show chassis fpc (MX240, MX480, MX960, MX2010, and MX2020 3D Universal Edge Routers Configured for Dynamic Power Management

```
user@host> show chassis fpc 2 detail

Slot 2 information:
```


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```
  State                                Online
  Temperature                        37
  Total CPU DRAM                   3584 MB
  Total XR2                         275 MB
  Total DDR DRAM                  20352 MB
  Start time:                          2014-07-18 02:51:23 PDT
  Uptime:                              5 minutes, 19 seconds
  Max MPC Base Power Consumption   485 Watts
  Max MIC0 Power Consumption        50 Watts
  Max MIC1 Power Consumption        50 Watts
  Max MPC Total Power Consumption  585 Watts
```

show chassis fpc (MX2010 Routers)

```
user@host> show chassis fpc
     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online            34      9          0       2048       18         13
  1  Online            32      9          0       2048       15         13
  2  Empty
  3  Empty
  4  Empty
  5  Empty
  6  Empty
  7  Empty
  8  Online            31     13          0       2048       11         13
  9  Online            33     10          0       2048       18         13
```

show chassis fpc (MX2020 Routers)

```
user@host> show chassis fpc
                    Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online            10     12          0       2048       18         13
  1  Online             8      9          0       2048       18         13
  2  Online             7      9          0       2048       18         13
  3  Online             8     10          0       2048       18         13
  4  Online             9     10          0       2048       18         13
  5  Online             8      9          0       2048       18         13
  6  Online             8     10          0       2048       18         13
  7  Online             9      9          0       2048       18         13
  8  Online             9     10          0       2048       18         13
  9  Online            10      9          0       2048       18         13
 10  Online            16      8          0       2048       18         13
 11  Online            11     10          0       2048       18         13
 12  Online            10     10          0       2048       18         13
 13  Online            11      9          0       2048       18         13
 14  Online            12     10          0       2048       18         13
 15  Online            13      9          0       2048       18         13
 16  Online            13      9          0       2048       18         13
 17  Online            12      9          0       2048       18         13
 18  Online            12      8          0       2048       18         13
 19  Online            14     10          0       2048       18         13
```

show chassis fpc (MX2020 Router with MPC4E)

```
user@host> show chassis fpc
     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online            33     12          2       2048       11         13
  1  Empty
  2  Empty
```

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```
  3  Empty
  4  Empty
  5  Empty
  6  Empty
  7  Empty
  8  Empty
  9  Online            31     10          0       2048       11         13
 10  Online            32      7          0       2048       14         13
 11  Empty
 12  Empty
 13  Empty
 14  Online            28     12          0       2048       15         14
 15  Empty
 16  Empty
 17  Empty
 18  Empty
 19  Online            38      8          0       2048       18         13
```

show chassis fpc detail (MX2020 Router with MPC4E)

```
user@host> show chassis fpc detail
Slot 0 information:
  State                               Online
  Temperature                          34
  Total CPU DRAM                     2048 MB
  Total RLDRAM                        806 MB
  Total DDR DRAM                     2632 MB
  Start time:                             2013-02-17 08:17:35 PST
  Uptime:                                 1 day, 14 hours, 50 minutes, 39 seconds
  Max Power Consumption               368 Watts
Slot 9 information:
  State                               Online
  Temperature                          32
  Total CPU DRAM                     2048 MB
  Total RLDRAM                        806 MB
  Total DDR DRAM                     2632 MB
  Start time:                             2013-02-17 08:17:43 PST
  Uptime:                                 1 day, 14 hours, 50 minutes, 31 seconds
  Max Power Consumption               368 Watts
Slot 10 information:
  State                               Online
  Temperature                          37
  Total CPU DRAM                     2048 MB
  Total RLDRAM                       1036 MB
  Total DDR DRAM                     6656 MB
  Start time:                             2013-02-17 08:17:54 PST
  Uptime:                                 1 day, 14 hours, 50 minutes, 20 seconds
  Max Power Consumption               520 Watts
Slot 14 information:
  State                               Online
  Temperature                          32
  Total CPU DRAM                     2048 MB
  Total RLDRAM                       1036 MB
  Total DDR DRAM                    11264 MB
  Start time:                             2013-02-17 08:18:01 PST
  Uptime:                                 1 day, 14 hours, 50 minutes, 13 seconds
  Max Power Consumption               610 Watts
Slot 19 information:
  State                               Online
  Temperature                          38
  Total CPU DRAM                     2048 MB
```


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```
  Total RLDRAM                    1324 MB
  Total DDR DRAM                  5120 MB
  Start time:                          2013-02-17 08:18:08 PST
  Uptime:                              1 day, 14 hours, 50 minutes, 6 seconds
  Max Power Consumption            440 Watts
```

show chassis fpc (MX2020 Router with MPC5EQ and MPC6E)

```
user@host> show chassis fpc
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online           31     20          0       3584        7         13
  1  Online           28     19          0       2048       17         13
  2  Online           27     10          0       2048       18         14
  3  Online           26     10          0       2048       13         13
  4  Online           29     19          0       3584        7         13
  5  Online           28     68          0       2048       20         13
  6  Empty
  7  Empty
  8  Empty
  9  Online           36     19          0       3584       10         13
 10  Online           37     26          0       3584       10         13
 11  Empty
 12  Empty
 13  Empty
 14  Empty
 15  Empty
 16  Empty
 17  Online           28     43          0       3584       10         13
 18  Online           29     19          0       3584        7         13
 19  Online           31     19          0       3584        7         13
```

show chassis fpc detail (MX2020 Router with MPCEQ and MPC6E)

```
user@host> show chassis fpc detail
Slot 0 information:
  State                               Online
  Temperature                      31
  Total CPU DRAM                3584 MB
  Total XR2                      291 MB
  Total DDR DRAM               24960 MB
  Start time:                         2014-04-22 23:33:19 PDT
  Uptime:                             6 minutes, 24 seconds
  Max Power Consumption          607 Watts
Slot 1 information:
  State                               Online
  Temperature                      28
  Total CPU DRAM                2048 MB
  Total RLDRAM                  1036 MB
  Total DDR DRAM                6656 MB
  Start time:                         2014-04-22 23:33:24 PDT
  Uptime:                             6 minutes, 19 seconds
  Max Power Consumption          520 Watts
Slot 2 information:
  State                               Online
  Temperature                      27
  Total CPU DRAM                2048 MB
  Total RLDRAM                  1036 MB
  Total DDR DRAM               11264 MB
  Start time:                         2014-04-22 23:33:34 PDT
```

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```
  Uptime                                6 minutes, 9 seconds
  Max Power Consumption          608 Watts
Slot 3 information:
  State                                 Online
  Temperature                     26
  Total CPU DRAM                2048 MB
  Total RLDRAM                   734 MB
  Total DDR DRAM                3108 MB
  Start time:                           2014-04-22 23:33:39 PDT
  Uptime:                               6 minutes, 4 seconds
  Max Power Consumption          368 Watts
Slot 4 information:
  State                                 Online
  Temperature                     29
  Total CPU DRAM                3584 MB
  Total XR2                      291 MB
  Total DDR DRAM               24960 MB
  Start time:                           2014-04-22 23:33:51 PDT
  Uptime:                               5 minutes, 52 seconds
  Max Power Consumption          607 Watts
Slot 5 information:
  State                                 Online
  Temperature                     28
  Total CPU DRAM                2048 MB
  Total RLDRAM                  1324 MB
  Total DDR DRAM                5120 MB
  Start time:                           2014-04-22 23:33:57 PDT
  Uptime:                               5 minutes, 46 seconds
  Max Power Consumption          440 Watts
Slot 9 information:
  State                                 Online
 Temperature                      25
  Total CPU DRAM                3584 MB
  Total XR2                      518 MB
  Total DDR DRAM               49920 MB
  Start time:                           2014-04-22 23:31:20 PDT
  Uptime:                               8 minutes, 23 seconds
  Max Power Consumption         1130 Watts
Slot 10 information:
  State                                 Online
  Temperature                     32
  Total CPU DRAM                3584 MB
  Total XR2                      518 MB
  Total DDR DRAM               49920 MB
  Start time:                           2014-04-22 23:31:25 PDT
  Uptime:                               8 minutes, 18 seconds
  Max Power Consumption         1130 Watts
Slot 17 information:
  State                                 Online
  Temperature                     25
  Total CPU DRAM                3584 MB
  Total XR2                      518 MB
  Total DDR DRAM               49920 MB
  Start time:                           2014-04-22 23:31:29 PDT
  Uptime:                               8 minutes, 14 seconds
  Max Power Consumption         1130 Watts
Slot 18 information:
  State                                 Online
  Temperature                     29
  Total CPU DRAM                3584 MB
  Total XR2                      291 MB
```


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```
  Total DDR DRAM                  24960 MB
  Start time:                          2014-04-22 23:34:11 PDT
  Uptime:                              5 minutes, 32 seconds
  Max Power Consumption            607 Watts
Slot 19 information:
  State                                Online
  Temperature                       32
  Total CPU DRAM                  3584 MB
  Total XR2                        291 MB
  Total DDR DRAM                  24960 MB
  Start time:                          2014-04-22 23:34:20 PDT
  Uptime:                              5 minutes, 23 seconds
  Max Power Consumption            607 Watts
```

show chassis fpc pic-status (MX2020 Router with MPC5EQ and MPC6E)

```
user@host> show chassis fpc pic-status
Slot 0   Online       MPC5E 3D Q 24XGE+6XLGE
  PIC 0  Online       12X10GE SFPP OTN
  PIC 1  Online       12X10GE SFPP OTN
  PIC 2  Offline      3X40GE QSFPP
  PIC 3  Offline      3X40GE QSFPP
Slot 1   Online       MPCE Type 3 3D
  PIC 0  Online       10X10GE SFPP
  PIC 2  Online       1X100GE CXP
Slot 2   Online       MPC4E 3D 2CGE+8XGE
  PIC 0  Online       4x10GE SFPP
  PIC 1  Online       1X100GE CFP
  PIC 2  Online       4x10GE SFPP
  PIC 3  Online       1X100GE CFP
Slot 3   Online       MPCE Type 2 3D P
  PIC 0  Online       2x 10GE  XFP
  PIC 1  Online       2x 10GE  XFP
Slot 4   Online       MPC5E 3D Q 2CGE+4XGE
  PIC 0  Online       2X10GE SFPP OTN
  PIC 1  Online       1X100GE CFP2 OTN
  PIC 2  Online       2X10GE SFPP OTN
  PIC 3  Online       1X100GE CFP2 OTN
Slot 5   Online       MPC 3D 16x 10GE
  PIC 0  Online       4x 10GE(LAN) SFP+
  PIC 1  Online       4x 10GE(LAN) SFP+
  PIC 2  Online       4x 10GE(LAN) SFP+
  PIC 3  Online       4x 10GE(LAN) SFP+
Slot 9   Online       MPC6E 3D
  PIC 0  Online       2X100GE CFP2 OTN
  PIC 1  Online       2X100GE CFP2 OTN
Slot 10  Online       MPC6E 3D
  PIC 0  Online       24X10GE SFPP OTN
  PIC 1  Online       4X100GE CXP
Slot 17  Online       MPC6E 3D
  PIC 0  Online       24X10GE SFPP
  PIC 1  Online       4X100GE CXP
Slot 18  Online       MPC5E 3D Q 24XGE+6XLGE
  PIC 0  Offline      12X10GE SFPP OTN
  PIC 1  Offline      12X10GE SFPP OTN
  PIC 2  Online       3X40GE QSFPP
  PIC 3  Online       3X40GE QSFPP
Slot 19  Online       MPC5E 3D Q 24XGE+6XLGE
  PIC 0  Online       12X10GE SFPP OTN
  PIC 1  Offline      12X10GE SFPP OTN
```

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```
  PIC 2  Offline      3X40GE QSFPP
  PIC 3  Online       3X40GE QSFPP
```

show chassis fpc detail (MX Series Routers)

```
user@host> show chassis fpc detail 2
Slot 0 information:
  State                                 Online
  Temperature                        36 degrees C / 96 degrees F
  Total CPU DRAM                   1024 MB
  Total RLDRAM                      256 MB
  Total DDR DRAM                   4096 MB
  Start time:                           2009-08-11 21:20:30 PDT
  Uptime:                               2 hours, 8 minutes, 50 seconds
  Max Power Consumption             335 Watts
```

show chassis fpc detail (EX Series Switches)

```
user@host> show chassis fpc detail 2
Slot 1 information:
  State                                 Online
  Temperature                        41
  Total CPU DRAM                   2048 MB
  Total RLDRAM                     1036 MB
  Total DDR DRAM                   11264 MB
  Start time:                           2013-04-02 00:04:52 PDT
  Uptime:                               7 days, 9 hours, 47 minutes, 46 seconds
  Max Power Consumption             610 Watts
Slot 2 information:
  State                                 Online
  Temperature                        41
  Total CPU DRAM                   2048 MB
  Total RLDRAM                     1036 MB
  Total DDR DRAM                   11264 MB
  Start time:                           2013-04-02 00:04:56 PDT
  Uptime:                               7 days, 9 hours, 47 minutes, 42 seconds
  Max Power Consumption             610 Watts
```

show chassis fpc (Hardware Not Supported)

```
user@host> show chassis fpc
show chassis fpc
                    Temp  CPU Utilization (%)   Memory    Utilization (%)
 Slot State           (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online          -------------------- CPU less FPC --------------------
  1  Present         ------ Hardware Not In Right Slot ------
  2  Online                   0          0         0         0          0
  3  Present         ------ Hardware Not Supported ------
  4  Empty
  5  Empty
  6  Online                   0          0         0         0          0
```

show chassis fpc detail (Hardware Not Supported)

```
user@host> show chassis fpc detail
Slot 0 information:
  State                               Online
  Total CPU DRAM                      ---- CPU less FPC ----
  Start time                          2006-07-07 03:21:00 UTC
  Uptime                              27 minutes, 51 seconds
 Slot 1 information:
  State                               Present
```


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```
  Reason                                --- Hardware Not In Right Slot ---
 Slot 2 information:
  State                                 Online
  Total CPU DRAM                     32 MB
  Start time                            2006-07-07 03:20:59 UTC
  Uptime                                27 minutes, 52 seconds
 Slot 3 information:
  State                                 Present
  Reason                                --- Hardware Not Supported ---
  Total CPU DRAM                      0 MB
 Slot 6 information:
  State                                 Online
  Total CPU DRAM                     32 MB
  Start time                            2006-07-07 03:21:01 UTC
  Uptime                                27 minutes, 50 seconds
```

show chassis fpc pic-status

```
user@host> show chassis fpc pic-status
Slot 0 Online
  PIC 1    1x OC-12 ATM, MM
  PIC 2    1x OC-12 ATM, MM
  PIC 3    1x OC-12 ATM, MM
Slot 1 Online
  PIC 0    1x OC-48 SONET, SMIR
Slot 2 Online
  PIC 0    1x OC-192 SONET, SMSR
```

show chassis fpc pic-status (M Series Routers)

```
user@host> show chassis fpc pic-status
Slot 1   Online       FPC Type 1
  PIC 0  Present      2x OC-3 ATM, MM- Hardware Error
  PIC 1  Online       4x OC-3 SONET, SMIR
Slot 2   Online       E-FPC Type 2
  PIC 0  Online       4x G/E, 1000 BASE-SX
  PIC 1  Online       2x G/E SFP, 1000 BASE
  PIC 3  Online       1x Tunnel
Slot 3   Online       E-FPC Type 1
  PIC 0  Online       1x G/E IQ, 1000 BASE
  PIC 2  Online       1x G/E SFP, 1000 BASE
Slot 4   Online       E-FPC Type 2
  PIC 0  Online       4x G/E SFP, 1000 BASE
  PIC 1  Online       4x G/E SFP, 1000 BASE
  PIC 2  Online       4x G/E SFP, 1000 BASE
  PIC 3  Online       4x G/E SFP, 1000 BASE
Slot 5   Online       FPC Type 2
...
```

show chassis fpc pic-status (M120 Router)

```
user@host> show chassis fpc pic-status
Slot 1   Online       M120 CFPC 10GE
  PIC 0  Online       1x 10GE(LAN/WAN) XFP
Slot 3   Online       M120 FPC Type 2 (proto)
  PIC 0  Online       2x G/E IQ, 1000 BASE
  PIC 1  Online       4x OC-3 SONET, SMIR
  PIC 2  Online       2x G/E IQ, 1000 BASE
  PIC 3  Online       8x 1GE(LAN), IQ2
Slot 4   Online       M120 FPC Type 3 (proto)
  PIC 0  Online       10x 1GE(LAN), 1000 BASE
```

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```
Slot 5   Online       M120 FPC Type 1 (proto)
  PIC 0  Present      1x G/E, 1000 BASE-LX- Not Supported
  PIC 1  Online       1x CHOC3 IQ SONET, SMLR
  PIC 2  Online       4x CHDS3 IQ
  PIC 3  Online       1x G/E SFP, 1000 BASE
```

show chassis fpc pic-status (MX240, MX480, and MX960 Routers with Application Services Modular Line Card)

In the following output **Slot 1 and Slot 5** are the Application Services Modular Carrier Cards (AS MCC), **PIC 0** is the Application Services Modular Storage Card (AS MSC), and **PIC 2** is the Application Services Modular Processing Card (AS MXC).

```
user@host>show chassis fpc pic-status
Slot 2   Online       MPC Type 1 3D Q
  Slot 1   Online       AS-MCC
  PIC 0  Online       AS-MSC
  PIC 2  Online       AS-MXC
Slot 4   Offline      MPC 3D 16x 10GE
Slot 5   Offline      AS-MCC
```

show chassis fpc lcc (TX Matrix Router)

```
user@host> show chassis fpc lcc 0
lcc0-re0:
--------------------------------------------------------------------------
                     Temp  CPU       Utilization (%)  Memory    Utilization (%)
Slot State      (C)  Total  Interrupt     DRAM (MB)       Heap   Buffer
  0  Empty
  1  Online      27      2          0       256         8         44
  2  Online      27      3          0        256        15         44
  3  Empty
  4  Empty
  5  Empty
  6  Empty
  7  Empty
```

show chassis fpc pic-status (TX Matrix Router)

```
user@host> show chassis fpc pic-status
lcc0-re0:
--------------------------------------------------------------------------
Slot 0   Online       FPC Type 3
  PIC 0  Online       1x OC-192 SM SR1
  PIC 1  Online       1x OC-192 SM SR2
  PIC 2  Online       1x OC-192 SM SR1
  PIC 3  Online       1x Tunnel
Slot 1   Online       FPC Type 2
  PIC 0  Online       1x OC-48 SONET, SMSR
  PIC 1  Online       1x OC-48 SONET, SMSR

lcc1-re0:
--------------------------------------------------------------------------

lcc2-re0:
--------------------------------------------------------------------------
Slot 1   Online       FPC Type 3
  PIC 0  Online       1x OC-192 SM SR1
Slot 5   Online       FPC Type 2
  PIC 0  Online       1x OC-48 SONET, SMSR
  PIC 1  Online       2x G/E, 1000 BASE-LX
  PIC 2  Online       2x G/E, 1000 BASE-LX
```


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```
  PIC 3  Online       1x OC-48 SONET, SMSR

lcc3-re0:
--------------------------------------------------------------------------
```

show chassis fpc pic-status lcc (TX Matrix Router)

```
user@host> show chassis fpc pic-status lcc 0
lcc0-re0:
--------------------------------------------------------------------------
Slot 0   Online       FPC Type 3
  PIC 0  Online       1x OC-192 SM SR2
Slot 1   Online       FPC Type 2
  PIC 0  Online       2x OC-12 ATM2 IQ, MM
  PIC 1  Online       1x OC-48 SONET, SMSR
  PIC 2  Online       1x OC-48 SONET, SMSR
  PIC 3  Online       4x G/E, 1000 BASE-SX
```

show chassis fpc (TX Matrix Plus Router)

```
user@host> show chassis fpc
lcc0-re0:
--------------------------------------------------------------------------
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Online            38      4          0       2048        3         24
  2  Online            43      8          0       2048        6         24
  3  Empty
  4  Online            43      6          0       2048        6         24
  5  Empty
  6  Online            42     13          0       2048        6         24
  7  Online            45      7          0       2048        3         24

lcc2-re0:
--------------------------------------------------------------------------
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online            42     10          0       2048        6         24
  1  Empty
  2  Online            42     11          0       2048        6         24
  3  Online            40      5          0       2048        3         24
  4  Online            33     26          0       1024        8         49
  5  Empty
  6  Online            43      8          0       2048        6         24
  7  Online            46      6          0       2048        3         24

lcc3-re0:
--------------------------------------------------------------------------
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Empty
  2  Online            39     30          0       2048        7         24
  3  Empty
  4  Online            41      8          0       2048        6         24
  5  Online            41     12          0       2048        6         24
  6  Online            40      8          0       2048        6         24
  7  Online            42      4          0       2048        3         24
```

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show chassis fpc lcc (TX Matrix Plus Router)

```
user@host> show chassis fpc lcc 0
lcc0-re0:
--------------------------------------------------------------------------
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Online            38      4          0       2048        3         24
  2  Online            43      8          0       2048        6         24
  3  Empty
  4  Online            43      6          0       2048        6         24
  5  Empty
  6  Online            42     14          0       2048        6         24
  7  Online            45      6          0       2048        3         24
```

show chassis fpc detail (TX Matrix Plus Router)

```
user@host> show chassis fpc details

lcc0-re0:
--------------------------------------------------------------------------
Slot 1 information:
  State                               Online
  Temperature                      38 degrees C / 100 degrees F
  Total CPU DRAM                 2048 MB
  Total SRAM                       64 MB
  Total SDRAM                    1280 MB
  Start time                          2010-10-04 20:06:22 PDT
  Uptime                              1 hour, 32 minutes, 51 seconds
Slot 2 information:
  State                               Online
  Temperature                      43 degrees C / 109 degrees F
  Total CPU DRAM                 2048 MB
  Total SRAM                      128 MB
  Total SDRAM                    2560 MB
  Start time                          2010-10-04 20:06:37 PDT
  Uptime                              1 hour, 32 minutes, 36 seconds
Slot 4 information:
  State                               Online
  Temperature                      43 degrees C / 109 degrees F
  Total CPU DRAM                 2048 MB
  Total SRAM                      128 MB
  Total SDRAM                    2560 MB
  Start time                          2010-10-04 20:06:40 PDT
  Uptime                              1 hour, 32 minutes, 33 seconds
Slot 6 information:
  State                               Online
  Temperature                      42 degrees C / 107 degrees F
  Total CPU DRAM                 2048 MB
  Total SRAM                      128 MB
  Total SDRAM                    2560 MB
  Start time                          2010-10-04 20:06:42 PDT
  Uptime                              1 hour, 32 minutes, 31 seconds
Slot 7 information:
  State                               Online
  Temperature                      45 degrees C / 113 degrees F
  Total CPU DRAM                 2048 MB
  Total SRAM                       64 MB
  Total SDRAM                    1280 MB
  Start time                          2010-10-04 20:06:43 PDT
```


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```
  Uptime                                1 hour, 32 minutes, 30 seconds

lcc2-re0:
--------------------------------------------------------------------------
Slot 0 information:
  State                                 Online
  Temperature                          42 degrees C / 107 degrees F
  Total CPU DRAM                     2048 MB
  Total SRAM                          128 MB
  Total SDRAM                        2560 MB
  Start time                            2010-10-04 20:06:35 PDT
  Uptime                                1 hour, 32 minutes, 38 seconds
Slot 2 information:
  State                                 Online
  Temperature                          42 degrees C / 107 degrees F
  Total CPU DRAM                     2048 MB
  Total SRAM                          128 MB
  Total SDRAM                        2560 MB
  Start time                            2010-10-04 20:06:37 PDT
  Uptime                                1 hour, 32 minutes, 36 seconds
Slot 3 information:
  State                                 Online
  Temperature                          40 degrees C / 104 degrees F
  Total CPU DRAM                     2048 MB
  Total SRAM                            64 MB
  Total SDRAM                        1280 MB
  Start time                            2010-10-04 20:06:28 PDT
  Uptime                                1 hour, 32 minutes, 45 seconds
Slot 4 information:
  State                                 Online
  Temperature                          33 degrees C / 91 degrees F
  Total CPU DRAM                     1024 MB
  Total SRAM                            64 MB
  Total SDRAM                        1280 MB
  Start time                            2010-10-04 20:08:03 PDT
  Uptime                                1 hour, 31 minutes, 10 seconds
Slot 6 information:
  State                                 Online
  Temperature                          43 degrees C / 109 degrees F
  Total CPU DRAM                     2048 MB
  Total SRAM                          128 MB
  Total SDRAM                        2560 MB
  Start time                            2010-10-04 20:06:44 PDT
  Uptime                                1 hour, 32 minutes, 29 seconds
Slot 7 information:
  State                                 Online
  Temperature                          46 degrees C / 114 degrees F
  Total CPU DRAM                     2048 MB
  Total SRAM                            64 MB
  Total SDRAM                        1280 MB
  Start time                            2010-10-04 20:06:46 PDT
  Uptime                                1 hour, 32 minutes, 27 seconds

lcc3-re0:
--------------------------------------------------------------------------
Slot 2 information:
  State                                 Online
  Temperature                          38 degrees C / 100 degrees F
  Total CPU DRAM                     2048 MB
  Total SRAM                          128 MB
  Total SDRAM                        2560 MB
```

```
  Start time                          2010-10-04 20:17:31 PDT
  Uptime                              1 hour, 21 minutes, 42 seconds
Slot 4 information:
  State                               Online
  Temperature                        41 degrees C / 105 degrees F
  Total CPU DRAM                   2048 MB
  Total SRAM                        128 MB
  Total SDRAM                      2560 MB
  Start time                          2010-10-04 20:17:34 PDT
  Uptime                              1 hour, 21 minutes, 39 seconds
Slot 5 information:
  State                               Online
  Temperature                        41 degrees C / 105 degrees F
  Total CPU DRAM                   2048 MB
  Total SRAM                        128 MB
  Total SDRAM                      2560 MB
  Start time                          2010-10-04 20:17:36 PDT
  Uptime                              1 hour, 21 minutes, 37 seconds
Slot 6 information:
  State                               Online
  Temperature                        40 degrees C / 104 degrees F
  Total CPU DRAM                   2048 MB
  Total SRAM                        128 MB
  Total SDRAM                      2560 MB
  Start time                          2010-10-04 20:17:39 PDT
  Uptime                              1 hour, 21 minutes, 34 seconds
Slot 7 information:
  State                               Online
  Temperature                        42 degrees C / 107 degrees F
  Total CPU DRAM                   2048 MB
  Total SRAM                          64 MB
  Total SDRAM                      1280 MB
  Start time                          2010-10-04 20:17:41 PDT
  Uptime                              1 hour, 21 minutes, 32 seconds
```

show chassis fpc pic-status (TX Matrix Plus Router)

```
user@host> show chassis fpc pic-status

lcc0-re0:
--------------------------------------------------------------------------
Slot 1   Online       FPC Type 2-ES
  PIC 0  Online       8x 1GE(LAN), IQ2
Slot 2   Online       FPC Type 4-ES
  PIC 0  Online       4x 10GE (LAN/WAN) XFP
Slot 4   Online       FPC Type 4-ES
  PIC 0  Online       4x 10GE (LAN/WAN) XFP
Slot 6   Online       FPC Type 4-ES
  PIC 0  Online       4x 10GE (LAN/WAN) XFP
  PIC 1  Online       4x 10GE (LAN/WAN) XFP
Slot 7   Online       FPC Type 3-ES
  PIC 0  Online       10x 1GE(LAN), 1000 BASE
  PIC 2  Online       1x OC-192 SM SR2
  PIC 3  Online       10x 1GE(LAN), 1000 BASE

lcc2-re0:
--------------------------------------------------------------------------
Slot 0   Online       FPC Type 4-ES
  PIC 0  Online       4x 10GE (LAN/WAN) XFP
Slot 2   Online       FPC Type 4-ES
  PIC 0  Online       4x 10GE (LAN/WAN) XFP
```


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```
  PIC 1  Online       4x 10GE (LAN/WAN) XFP
Slot 3   Online       FPC Type 2-ES
  PIC 0  Online       8x 1GE(LAN), IQ2
Slot 4   Online       FPC Type 4
  PIC 0  Online       10x10GE(LAN/WAN) SFPP
Slot 6   Online       FPC Type 4-ES
  PIC 0  Online       4x OC-192 SONET XFP
Slot 7   Online       FPC Type 3-ES
  PIC 0  Online       10x 1GE(LAN), 1000 BASE
  PIC 1  Offline      1x 10GE(LAN/WAN) IQ2E
  PIC 2  Online       1x OC-192 SM SR2
  PIC 3  Online       1x Tunnel

lcc3-re0:
--------------------------------------------------------------------------
Slot 2   Online       FPC Type 4-ES
  PIC 0  Online       10x10GE(LAN/WAN) SFPP
Slot 4   Online       FPC Type 4-ES
  PIC 0  Online       4x OC-192 SONET XFP
Slot 5   Online       FPC Type 4-ES
  PIC 0  Online       4x OC-192 SONET XFP
  PIC 1  Online       4x 10GE (LAN/WAN) XFP
Slot 6   Online       FPC Type 4-ES
  PIC 1  Online       4x 10GE (LAN/WAN) XFP
Slot 7   Online       FPC Type 3-ES
  PIC 0  Online       10x 1GE(LAN), 1000 BASE
  PIC 1  Online       8x 1GE(TYPE3), IQ2E
  PIC 2  Online       4x OC-48 SONET
```

show chassis fpc (T1600 Router)

```
user@host> show chassis fpc
                    Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State           (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Empty
  2  Online           49      3          0       2048        3         24
  3  Online           46      6          0       2048        6         24
  4  Empty
  5  Online           46      5          0       2048        3         24
  6  Empty
  7  Online           44      8          0       1024        7         49
```

show chassis fpc detail (T1600 Router)

```
user@host> show chassis fpc detail

show chassis fpc detail
Slot 2 information:
  State                           Online
  Temperature                  49 degrees C / 120 degrees F
  Total CPU DRAM             2048 MB
  Total SRAM                   64 MB
  Total SDRAM                1280 MB
  Start time                      2010-10-04 21:12:52 PDT
  Uptime                          32 minutes, 9 seconds
Slot 3 information:
  State                           Online
  Temperature                  47 degrees C / 116 degrees F
  Total CPU DRAM             2048 MB
  Total SRAM                  128 MB
```

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```
  Total SDRAM                    2560 MB
  Start time                          2010-10-04 21:13:06 PDT
  Uptime                              31 minutes, 55 seconds
Slot 5 information:
  State                               Online
  Temperature                      46 degrees C / 114 degrees F
  Total CPU DRAM                 2048 MB
  Total SRAM                       64 MB
  Total SDRAM                    1280 MB
  Start time                          2010-10-04 21:12:56 PDT
  Uptime                              32 minutes, 5 seconds
Slot 7 information:
  State                               Online
  Temperature                      44 degrees C / 111 degrees F
  Total CPU DRAM                 1024 MB
  Total SRAM                       64 MB
  Total SDRAM                    1280 MB
  Start time                          2010-10-04 21:14:34 PDT
  Uptime                              30 minutes, 27 seconds
```

show chassis fpc <fpc-slot> (EX Series Switch)

```
user@host> show chassis fpc 2

                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  2  Online           40     12          0       2048       19         14
```

show chassis fpc slot (T1600 Router)

```
user@host> show chassis fpc slot 2

                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  2  Online           49      3          0       2048        3         24
```

show chassis fpc pic-status (T1600 Router)

```
user@host> show chassis fpc pic-status

Slot 2   Online       FPC Type 1-ES
  PIC 0  Online       Load Type 1
  PIC 1  Online       4x 1GE(LAN), IQ2E
  PIC 3  Online       1x OC-12-3 SFP
Slot 3   Online       FPC Type 4-ES
  PIC 0  Online       4x 10GE (LAN/WAN) XFP
  PIC 1  Online       4x OC-192 SONET XFP
Slot 5   Online       FPC Type 2-ES
  PIC 0  Online       Load Type 2
  PIC 1  Online       8x 1GE(LAN), IQ2E
  PIC 2  Online       8x 1GE(LAN), IQ2E
  PIC 3  Online       1x OC-48-12-3 SFP
Slot 7   Online       FPC Type 4
  PIC 0  Online       4x 10GE (LAN/WAN) XFP
```

show chassis fpc (T4000 Router)

```
user@host> show chassis fpc

regress@stymphalian# run show chassis fpc
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
```


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```
  0  Online           48     15          0       2816       21         27
  1  Empty
  2  Empty
  3  Online           51     15          0       2816       21         27
  4  Empty
  5  Online           39      8          0       2048        6         23
  6  Online           49     15          0       2816       21         27
  7  Empty
```

show chassis fpc detail (T4000 Router)

```
user@host> show chassis fpc detail
Slot 0 information:
  State                               Online
  Temperature                      48 degrees C / 118 degrees F
  Total CPU DRAM                   2816 MB
  Total SRAM                       1554 MB
  Total SDRAM                      10752 MB
  Start time                          2012-02-09 22:56:25 PST
  Uptime                              2 hours, 40 minutes, 52 seconds
Slot 3 information:
  State                               Online
  Temperature                      51 degrees C / 123 degrees F
  Total CPU DRAM                   2816 MB
  Total SRAM                       1554 MB
  Total SDRAM                      10752 MB
  Start time                          2012-02-09 22:56:22 PST
  Uptime                              2 hours, 40 minutes, 55 seconds
Slot 5 information:
  State                               Online
  Temperature                      39 degrees C / 102 degrees F
  Total CPU DRAM                   2048 MB
  Total SRAM                       128 MB
  Total SDRAM                      2560 MB
  Start time                          2012-02-09 22:51:27 PST
  Uptime                              2 hours, 45 minutes, 50 seconds
Slot 6 information:
  State                               Online
  Temperature                      49 degrees C / 120 degrees F
  Total CPU DRAM                   2816 MB
  Total SRAM                       1554 MB
  Total SDRAM                      10752 MB
  Start time                          2012-02-09 22:56:29 PST
  Uptime                              2 hours, 40 minutes, 48 seconds
```

show chassis fpc pic-status (T4000 Router)

```
user@host> show chassis fpc pic-status
Slot 0   Online       FPC Type 5-3D
  PIC 0  Online       12x10GE (LAN/WAN) SFPP
  PIC 1  Online       12x10GE (LAN/WAN) SFPP
Slot 3   Online       FPC Type 5-3D
  PIC 0  Online       1x100GE
  PIC 1  Online       12x10GE (LAN/WAN) SFPP
Slot 5   Online       FPC Type 4-ES
  PIC 0  Online       100GE
  PIC 1  Online       100GE CFP
Slot 6   Online       FPC Type 5-3D
  PIC 0  Online       12x10GE (LAN/WAN) SFPP
  PIC 1  Online       12x10GE (LAN/WAN) SFPP
```

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show chassis fpc (QFX Series and OCX Series)

```
user@switch> show chassis fpc
Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
0  Online            26      2          0       2820        0         49
```

show chassis fpc detail (QFX3500 Switches)

```
user@switch> show chassis fpc detail
Slot 0 information:
  State                               Online
  Temperature                      28 degrees C / 82 degrees F
  Total CPU DRAM                 2820 MB
  Total SRAM                        0 MB
  Total SDRAM                       0 MB
  Start time                          2010-09-20 01:34:13 PDT
  Uptime                              3 days, 3 hours, 31 minutes, 48 seconds
```

show chassis fpc pic-status (QFX3500 Switches)

```
user@switch> show chassis fpc pic-status
Slot 0   Online       QFX 48x10G 4x40G Switch
  PIC 0  Online       48x 10G-SFP+
  PIC 1  Online       15x 10G-SFP+
```

show chassis fpc interconnect-device (QFabric System)

```
user@switch> show chassis fpc interconnect-device interconnect1
FPC status:
                     Temp
Slot State            (C)
  0  Online             0
  1  Online             0
  2  Online             0
  3  Online             0
  4  Online             0
  5  Online             0
  6  Online             0
  7  Online             0
  8  Online             0
  9  Online             0
 10  Online             0
 11  Online             0
 12  Online             0
 13  Online             0
 14  Online             0
 15  Online             0
```

show chassis fpc interconnect-device (QFabric System)

```
user@switch> show chassis fpc interconnect-device interconnect1 3
FPC status:
                     Temp
Slot State            (C)
  3  Online             0
```

show chassis fpc interconnect-device detail (QFabric System)

```
user@switch> show chassis fpc interconnect-device interconnect1 3 detail
```


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```
Slot 3 information:
  State                               Online
  Temperature                      0 degrees C / 32 degrees F
  Start time                          2011-08-18 10:45:04 PDT
  Uptime                              1 minute, 49 seconds
```

show chassis fpc pic-status interconnect-device (QFabric System)

```
user@switch> show chassis fpc pic-status interconnect-device interconnect1
Slot 0   Online       QFX 16-port QSFP+ Front Card
  PIC 0  Online       16x 40G-QSFP+
  PIC 1  Online       16x 40G-GE
Slot 1   Online       QFX 16-port QSFP+ Front Card
  PIC 0  Online       16x 40G-QSFP+
 PIC 1  Online       16x 40G-GE
Slot 2   Online       QFX 16-port QSFP+ Front Card
  PIC 0  Online       16x 40G-QSFP+
  PIC 1  Online       16x 40G-GE
Slot 3   Online       QFX 16-port QSFP+ Front Card
  PIC 0  Online       16x 40G-QSFP+
  PIC 1  Online       16x 40G-GE
Slot 4   Online       QFX 16-port QSFP+ Front Card
  PIC 0  Online       16x 40G-QSFP+
  PIC 1  Online       16x 40G-GE
Slot 5   Online       QFX 16-port QSFP+ Front Card
  PIC 0  Online       16x 40G-QSFP+
  PIC 1  Online       16x 40G-GE
Slot 6   Online       QFX 16-port QSFP+ Front Card
  PIC 0  Online       16x 40G-QSFP+
  PIC 1  Online       16x 40G-GE
Slot 7   Online       QFX 16-port QSFP+ Front Card
  PIC 0  Online       16x 40G-QSFP+
  PIC 1  Online       16x 40G-GE
Slot 8   Online       QFX Fabric Rear Card
  PIC 0  Online       16x 40G-GE
Slot 9   Online       QFX Fabric Rear Card
  PIC 0  Online       16x 40G-GE
Slot 10  Online       QFX Fabric Rear Card
  PIC 0  Online       16x 40G-GE
Slot 11  Online       QFX Fabric Rear Card
  PIC 0  Online       16x 40G-GE
Slot 12  Online       QFX Fabric Rear Card
  PIC 0  Online       16x 40G-GE
Slot 13  Online       QFX Fabric Rear Card
  PIC 0  Online       16x 40G-GE
Slot 14  Online       QFX Fabric Rear Card
  PIC 0  Online       16x 40G-GE
Slot 15  Online       QFX Fabric Rear Card
  PIC 0  Online       16x 40G-GE
```

show chassis fpc pic-status node-device (QFabric System)

```
user@switch> show chassis fpc pic-status node-device node1
Slot node1 Online      QFX 48x10G 4x40G Switch
  PIC 0  Online       48x 10G-SFP+
  PIC 1  Online       4x 40G-QSFP+
```

show chassis fpc (PTX5000 Packet Transport Router)

```
user@host> show chassis fpc
```

```
                    Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State           (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Empty
  1  Empty
  2  Online            50      6          0       2816        5         27
  3  Empty
  4  Empty
  5  Online            48      9          0       2816        5         27
  6  Empty
  7  Online            49      8          0       2816        5         27
```

show chassis fpc detail (PTX5000 Packet Transport Router)

```
user@host> show chassis fpc detail
Slot 2 information:
  State                               Online
  Temperature                      35 degrees C / 95 degrees F (PMB)
  Temperature                      35 degrees C / 95 degrees F (Intake)
  Temperature                      50 degrees C / 122 degrees F (Exhaust A)
  Temperature                      54 degrees C / 129 degrees F (Exhaust B)
  Temperature                      54 degrees C / 129 degrees F (TL0)
  Temperature                      52 degrees C / 125 degrees F (TQ0)
  Temperature                      61 degrees C / 141 degrees F (TL1)
  Temperature                      58 degrees C / 136 degrees F (TQ1)
  Temperature                      57 degrees C / 134 degrees F (TL2)
  Temperature                      58 degrees C / 136 degrees F (TQ2)
  Temperature                      62 degrees C / 143 degrees F (TL3)
  Temperature                      61 degrees C / 141 degrees F (TQ3)
  Total CPU DRAM                 2816 MB
  Total SRAM                        0 MB
  Total SDRAM                       0 MB
  Start time                          2012-01-12 12:05:42 PST
  Uptime                              3 hours, 14 minutes, 7 seconds
Slot 5 information:
  State                               Online
  Temperature                      35 degrees C / 95 degrees F (PMB)
  Temperature                      34 degrees C / 93 degrees F (Intake)
  Temperature                      48 degrees C / 118 degrees F (Exhaust A)
  Temperature                      53 degrees C / 127 degrees F (Exhaust B)
  Temperature                      54 degrees C / 129 degrees F (TL0)
  Temperature                      52 degrees C / 125 degrees F (TQ0)
  Temperature                      69 degrees C / 156 degrees F (TL1)
  Temperature                      56 degrees C / 132 degrees F (TQ1)
  Temperature                      54 degrees C / 129 degrees F (TL2)
  Temperature                      56 degrees C / 132 degrees F (TQ2)
  Temperature                      59 degrees C / 138 degrees F (TL3)
  Temperature                      60 degrees C / 140 degrees F (TQ3)
  Total CPU DRAM                 2816 MB
  Total SRAM                        0 MB
  Total SDRAM                       0 MB
  Start time                          2012-01-12 12:05:43 PST
  Uptime                              3 hours, 14 minutes, 6 seconds
Slot 7 information:
  State                               Online
  Temperature                      35 degrees C / 95 degrees F (PMB)
  Temperature                      33 degrees C / 91 degrees F (Intake)
  Temperature                      50 degrees C / 122 degrees F (Exhaust A)
  Temperature                      55 degrees C / 131 degrees F (Exhaust B)
  Temperature                      56 degrees C / 132 degrees F (TL0)
  Temperature                      56 degrees C / 132 degrees F (TQ0)
  Temperature                      61 degrees C / 141 degrees F (TL1)
```


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```
  Temperature                      57 degrees C / 134 degrees F (TQ1)
  Temperature                      55 degrees C / 131 degrees F (TL2)
  Temperature                      59 degrees C / 138 degrees F (TQ2)
  Temperature                      62 degrees C / 143 degrees F (TL3)
  Temperature                      62 degrees C / 143 degrees F (TQ3)
  Total CPU DRAM                 2816 MB
  Total SRAM                        0 MB
  Total SDRAM                       0 MB
  Start time                          2012-01-12 12:05:44 PST
  Uptime                              3 hours, 14 minutes, 5 seconds
```

show chassis fpc pic-status (PTX5000 Packet Transport Router)

```
user@host> show chassis fpc pic-status
Slot 2   Online       FPC
  PIC 0  Online       24x 10GE(LAN) SFP+
  PIC 1  Online       24x 10GE(LAN) SFP+
Slot 5   Online       FPC
  PIC 0  Online       24x 10GE(LAN) SFP+
  PIC 1  Online       2x 40GE CFP
Slot 7   Online       FPC
  PIC 0  Online       24x 10GE(LAN) SFP+
  PIC 1  Online       2x 40GE CFP
```

show chassis fpc (ACX2000 Universal Access Router)

```
user@host> show chassis fpc
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online           61     17          6       512        21         37
```

show chassis fpc 0 (ACX2000 Universal Access Router)

```
user@host> show chassis fpc 0
                     Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State            (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
  0  Online           61     17          6       512        21         37
```

show chassis fpc detail (ACX2000 Universal Access Router)

```
user@host> show chassis fpc detail
Slot 0 information:
  State                               Online
  Temperature                      61 degrees C / 141 degrees F
  Total CPU DRAM                  512 MB
  Start time                          2012-05-29 02:52:06 PDT
  Uptime                              27 minutes, 17 seconds
```

show chassis fpc pic-status (ACX2000 Universal Access Router)

```
user@host> show chassis fpc pic-status
Slot 0   Online
  PIC 0  Online       16x CHE1T1, RJ48
  PIC 1  Online       8x 1GE(LAN) RJ45
  PIC 2  Online       2x 1GE(LAN) SFP
  PIC 3  Online       2x 10GE(LAN) SFP+
```

show chassis FPC 1 (MX Routers with Media Services Blade [MSB])

```
user@switch> show chassis fpc 1
                    Temp  CPU Utilization (%)   Memory    Utilization (%)
Slot State           (C)  Total  Interrupt      DRAM (MB) Heap     Buffer
```

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```
  1  Online            34      5          0       3072        5          13
```

show chassis FPC 1 detail (MX Routers with Media Services Blade [MSB])

```
user@switch> show chassis fpc 1 detail
Slot 1 information:
  State                                   Online
  Temperature                              34
  Total CPU DRAM                         3072 MB
  Total RLDRAM                            259 MB
  Total DDR DRAM                         4864 MB
  Start time:                                 2012-06-19 10:51:43 PDT
  Uptime:                                     16 minutes, 48 seconds
  Max Power Consumption                   550 Watts
```


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show chassis hardware

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Syntax (QFX Series) on page 194
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Syntax

```
show chassis hardware
<detail | extensive>
<clei-models>
<models>
```

Syntax (EX Series)

```
show chassis hardware
<clei-models>
<detail | extensive>
<models>
```

Syntax (T4000 Router)

```
show chassis hardware
<clei-models>
<detail | extensive>
<models>
```

Syntax (TX Matrix Router)

```
show chassis hardware
<clei-models>
<detail | extensive>
<models>
<lcc number | scc>
```

Syntax (TX Matrix Plus Router)

```
show chassis hardware
<clei-models>
<detail | extensive>
<models>
<lcc number | sfc number>
```

Syntax (MX Series Routers)

```
show chassis hardware
<detail | extensive>
<clei-models>
<models>
<all-members>
<local>
<member member-id>
```

Syntax (MX104, MX2010, and MX2020

```
show chassis hardware
<clei-models>
<detail | extensive>
```

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3D Universal Edge Routers)	<models>
Syntax (QFX Series)	show chassis hardware <detail | extensive> <clei-models> <interconnect-device *name*> <node-device *name*> <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	Command introduced before Junos OS Release 7.4. **models** option introduced in Junos OS Release 8.2. Command introduced in Junos OS Release 9.0 for EX Series switches. **sfc** option introduced for the TX Matrix Plus router in Junos OS Release 9.6. Command introduced in Junos OS Release 11.1 for QFX Series. Command introduced in Junos OS Release 12.1X48 for PTX Series Packet Transport Routers. Command introduced in Junos OS Release 12.2 for ACX Series Universal Access Routers. Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers. Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers. Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers. Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.
Description	Display 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. In the EX Series switch command output, FPC refers to the following: • On EX2200 switches, EX3200 switches, EX4200 standalone switches, and EX4500 switches—Refers to the switch; FPC *number* is always 0. • On EX4200 switches in a Virtual Chassis configuration—Refers to the member of a Virtual Chassis; FPC *number* equals the member ID, from 0 through 9. • On EX8208 and EX8216 switches—Refers to a line card; FPC *number* equals the slot number for the line card. On QFX3500, QFX5100, and OCX Series standalone switches, both the FPC and FPC *number* are always **0**.

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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.

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local—(MX Series routers only) (Optional) Display hardware-specific information for the local Virtual Chassis members.

member *member-id*—(MX Series routers and EX Series switches) (Optional) Display hardware-specific information for the specified member of the Virtual Chassis configuration. Replace *member-id* variable with a value 0 or 1.

models—(Optional) Display model numbers and part numbers for orderable FRUs and, for components that use ID EEPROM format v2, the CLEI code.

node-device *name*—(QFabric systems only) (Optional) Display hardware-specific information for the Node device.

scc—(TX Matrix router only) (Optional) Display hardware information for the TX Matrix router (switch-card chassis).

sfc *number*—(TX Matrix Plus router only) (Optional) Display hardware information for the TX Matrix Plus router (switch-fabric chassis). Replace *number* variable with **0**.

Additional Information

The **show chassis hardware detail** command now displays DIMM information for the following Routing Engines:

Table 8: 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*

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Output Fields Table 9 on page 200 lists the output fields for the **show chassis hardware** command. Output fields are listed in the approximate order in which they appear.

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Table 9: show chassis hardware Output Fields

Field Name	Field Description	Level of Output
Item	Chassis component: • (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 *EX Series Switches Hardware and CLI Terminology Mapping*. • (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

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Table 9: 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	Brief description of the hardware item: • 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**. On EX Series switches, a brief description of the FPC. The following list shows the PIM abbreviation in the output and the corresponding PIM name. • **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

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Table 9: show chassis hardware Output Fields *(continued)*

Field Name	Field Description	Level of Output
	• **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, 4xFXO, 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 M 16x 10GE**—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-SFPP 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                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
```


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```
  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-1OC48-SON-SMSR
  PIC 2          REV 14   750-001901                     PB-4OC12-SON-SMIR
  PIC 3          REV 07   750-001900                     PB-1OC48-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-4OC48-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-4OC48-SON-SFP
  PIC 3          REV 32   750-003700                     PC-1OC192-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-4OC192-SON-XFP
  PIC 1          REV 01   750-010850                     PD-1OC768-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-1OC192-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
```


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```
Fan Tray 0                                                    FANTRAY-T-S
Fan Tray 1                                                    FANTRAY-T-S
Fan Tray 2                                                    FAN-REAR-TX-T640-S
```

show chassis hardware detail (EX4200 Switch)

```
user@host> show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                BM0208327733      EX4200-24T
Routing Engine 0 REV 11   750-021256   BM0208327733      EX4200-24T, 8 POE
Routing Engine 0                       BM0208327733      EX4200-24T, 8 POE
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                                                  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-AFO-A
Fan Tray 0                                                Fan Module, Airflow Out
 (AFO)
Fan Tray 1                                                Fan Module, Airflow Out
 (AFO)
```

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
```


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```
    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-4OC3-SON-MM
  PIC 1          REV 11   750-002992                     PE-4FE-TX
  PIC 2          REV 03   750-002977                     PE-2OC3-ATM-MM
  PIC 3          REV 08   750-005724                     PE-2OC3-ATM2-MM
FPC 1
  PIC 2          REV 12   750-008425                     PE-AS
  PIC 3          REV 13   750-005636                     PE-4CHDS3-QPP
Fan Tray 0                                              FANTRAY-M10I-S
Fan Tray 1                                              FANTRAY-M10I-S
```

show chassis hardware (M20 Router)

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

```
Chassis                                 20033             M20
Backplane        REV 07   710-001517   S/N AA7940
Power supply B   Rev 01   740-001465   S/N 000001        AC
Display          REV 02   710-001519   S/N AA9704
Host 0                                  98000004f8f27501  teknor
SSB slot 0       REV 01   710-001951   S/N AD5905        Internet Processor II
  SSRAM bank 0   REV 01   710-001385   S00480            2 MB
  SSRAM bank 1   REV 01   710-001385   S00490            2 MB
  SSRAM bank 2   REV 01   710-001385   S001:?            2 MB
  SSRAM bank 3   REV 01   710-001385   S00483            2 MB
SSB slot 1       N/A      N/A          N/A               Backup
FPC 1            REV 01   710-001292   S/N AB7528
  SSRAM          REV 01   710-000077   S/N 304209        1 MB
  SDRAM bank 0   REV 01   710-000099   S/N 000603        64 MB
  SDRAM bank 1   REV 01   710-000099   S/N 000414        64 MB
  PIC 0          REV 03   750-000612   S/N AB8433        2x OC-3 ATM, MM
  PIC 1          REV 01   750-000616   S/N AA1168        1x OC-12 ATM, MM
  PIC 2          REV 01   750-000613   S/N AA1008        1x OC-12 SONET, SMIR
  PIC 3          REV 01   750-002501   S/N AD5810        4x E3
FPC 2            REV 01   710-001292   S/N AC0119
  SSRAM          REV 01   710-000077   S/N 503241        1 MB
  SDRAM bank 0   REV 01   710-000099   S/N 306835        64 MB
  SDRAM bank 1   REV 01   710-000099   S/N 306832        64 MB
Fan Tray 0                                               Front Upper Fan Tray
Fan Tray 1                                               Front Middle Fan Tray
Fan Tray 2                                               Front Bottom Fan Tray
Fan Tray 3                                               Rear Fan Tray
```

show chassis hardware models (M20 Router)

```
user@host> show chassis hardware models
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Backplane        REV 03   710-002334                     CHAS-MP-M20-S
Power Supply A   REV 06   740-001465                     PWR-M20-AC-S
Display          REV 04   710-001519                     CRAFT-M20-S
Routing Engine 0 REV 06   740-003239                     RE-333-768-S
Routing Engine 1 REV 06   740-003239                     RE-333-768-S
SSB 0            REV 02   710-001951                     SSB-E-M20
SSB 1            N/A      N/A
FPC 0            REV 03   710-003308                     FPC-E
  PIC 0          REV 08   750-002303                     P-4FE-TX
  PIC 1          REV 07   750-004745                     P-2MCDS3
  PIC 2          REV 03   750-002965                     PE-4CHDS3
FPC 1            REV 03   710-003308                     FPC-E
  PIC 0          REV 03   750-002914                     P-2OC3-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
```


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```
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
```

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```
FPC 2            REV 02   710-005197   BD9824           M40e-FPC Type 2
  CPU            REV 01   710-004600   BD9531
  PIC 0          REV 03   750-003737   AY3986           4x G/E, 1000 BASE-SX
FPC 4            REV 02   710-005078   BE0664           M40e-FPC Type 1
  CPU            REV 01   710-004600   BD9559
  PIC 0          REV 03   750-001894   AG7963           1x G/E, 1000 BASE-SX
  PIC 2          REV 01   750-002575   AF2472           4x OC-3 SONET, SMIR
FPC 6            REV 02   710-005078   BE0652           M40e-FPC Type 1
  CPU            REV 01   710-004600   BD9607
  PIC 0          REV 02   750-002911   AN2286           4x F/E, 100 BASE-TX
  PIC 2          REV 01   750-002577   AP6345           4x OC-3 SONET, MM
```

show chassis hardware (M120 Router)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN000054AC        M120
Midplane         REV 01   710-013667   RB4170           M120 Midplane
FPM Board        REV 02   710-011407   CJ9186           M120 FPM Board
FPM Display      REV 02   710-011405   CJ9173           M120 FPM Display
FPM CIP          REV 02   710-011410   CJ9221           M120 FPM CIP
PEM 0            Rev 05   740-011936   RM28320          AC Power Entry Module
PEM 1            Rev 05   740-011936   RM28321          AC Power Entry Module
Routing Engine 0 REV 03   740-014080   1000642883       RE-A-1000
CB 0             REV 03   710-011403   CM8346           M120 Control Board
CB 1             REV 06   710-011403   CP6728           M120 Control Board
FPC 1            REV 02   710-015908   CP6925           M120 CFPC 10GE
  PIC 0                   BUILTIN      BUILTIN          1x 10GE(LAN/WAN) XFP
    Xcvr 0       REV 01   740-014279   62E204N00007     XFP-10G-LR
FPC 3            REV 03   710-011393   CJ9234           M120 FPC Type 2
  PIC 0          REV 16   750-008155   NB5229           2x G/E IQ, 1000 BASE
    Xcvr 0       REV 01   740-011613   P9F15JB          SFP-SX
    Xcvr 1       REV 01   740-007326   P4Q0R9G          SFP-SX
  PIC 1          REV 09   750-007745   CG4360           4x OC-3 SONET, SMIR
  PIC 2          REV 16   750-008155   ND7787           2x G/E IQ, 1000 BASE
    Xcvr 0       REV 01   740-011613   P9F12AS          SFP-SX
    Xcvr 1       REV 01   740-011613   P9F1ALU          SFP-SX
  PIC 3          REV 07   750-011800   JW1284           8x 1GE(LAN), IQ2
    Xcvr 0       REV 01   740-011613   P9F1AM6          SFP-SX
    Xcvr 6       REV 01   740-011613   P9F16NN          SFP-SX
    Xcvr 7       REV 01   740-011782   P8C29Y7          SFP-SX
  Board B        REV 02   710-011395   CN3754           M120 FPC Mezz
FPC 4            REV 02   710-011398   CP6741           M120 FPC Type 3
  PIC 0          REV 16   750-007141   NB2855           10x 1GE(LAN), 1000 BASE

    Xcvr 0       REV 01   740-011782   P922A1F          SFP-SX
    Xcvr 1       REV 01   740-011782   P922A16          SFP-SX
    Xcvr 2       REV 01   740-011782   P922A0U          SFP-SX
    Xcvr 3       REV 01   740-011782   P9229UZ          SFP-SX
    Xcvr 4       REV 01   740-009029   P11JXWP          SFP-LX
    Xcvr 6       REV 01   740-011613   P9F1ALW          SFP-SX
FPC 5            REV 01   710-011388   CJ9088           M120 FPC Type 1
  PIC 0          *** Hardware Not Supported ***
  PIC 1          REV 05   750-012052   NB0410           1x CHOC3 IQ SONET, SMLR

  PIC 2          REV 01   750-013167   CM3824           4x CHDS3 IQ
  PIC 3          REV 01   750-010240   CB5366           1x G/E SFP, 1000 BASE
  Board B        REV 01   710-011390   CJ9103           M120 FPC Mezz Board
FEB 3            REV 04   710-011663   CP6673           M120 FEB
FEB 4            REV 04   710-011663   CJ9368           M120 FEB
```


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```
FEB 5            REV 04   710-011663   CJ9386           M120 FEB
Fan Tray 0                                             Front Top Fan Tray
Fan Tray 1                                             Front Bottom Fan Tray
Fan Tray 2                                             Rear Top Fan Tray
Fan Tray 3                                             Rear Bottom Fan Tray
```

show chassis hardware detail (M120 Router)

```
user@host> show chassis hardware detail
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      MPBBT0X2HS2E3M    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
```

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```
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-4OC3-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
```


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```
  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-1OC12-SON-SMIR
  PIC 2          REV 04   750-001894                     PB-1GE-SX
  PIC 3          REV 04   750-001896                     PB-1OC12-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-1OC12-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-4OC12-SON-SMIR
  PIC 1          REV 06   750-001900                     PB-1OC48-SON-SMSR
  PIC 2          REV 07   750-001900                     PB-1OC48-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
```

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```
Chassis                                 101               M160
Midplane         REV 02   710-001245   S/N AB4107
FPM CMB          REV 01   710-001642   S/N AA2911
FPM Display      REV 01   710-001647   S/N AA2999
CIP              REV 02   710-001593   S/N AA9563
PEM 0            Rev 01   740-001243   S/N KJ35769       DC
PEM 1            Rev 01   740-001243   S/N KJ35765       DC
PCG 0            REV 01   710-001568   S/N AA9794
PCG 1            REV 01   710-001568   S/N AA9804
Host 1                                  da000004f8d57001  teknor
MCS 1            REV 03   710-001226   S/N AA9777
SFM 0 SPP        REV 04   710-001228   S/N AA2975
SFM 0 SPR        REV 02   710-001224   S/N AA9838        Internet Processor I
  SSRAM bank 0   REV 01   710-000077   S/N 306456        1 MB
  SSRAM bank 1   REV 01   710-000077   S/N 306474        1 MB
  SSRAM bank 2   REV 01   710-000077   S/N 306388        1 MB
  SSRAM bank 3   REV 01   710-000077   S/N 306392        1 MB
SFM 1 SPP        REV 04   710-001228   S/N AA2860
SFM 1 SPR        REV 01   710-001224   S/N AB0139        Internet Processor I
  SSRAM bank 0   REV 01   710-000077   S/N 302917        1 MB
  SSRAM bank 1   REV 01   710-000077   S/N 302662        1 MB
  SSRAM bank 2   REV 01   710-000077   S/N 302593        1 MB
  SSRAM bank 3   REV 01   710-000077   S/N 100160        1 MB
FPC 0            REV 03   710-001255   S/N AA9806        FPC Type 1
  CPU            REV 02   710-001217   S/N AA9590
  SSRAM          REV 01   710-000077   S/N 302836        1 MB
  SDRAM 0        REV 01   710-001196   S00141            32 MB
  SDRAM 1        REV 01   710-001196   S0010;            32 MB
  SSRAM          REV 01   710-000077   S/N 302633        1 MB
  SDRAM 0        REV 01   710-001196   S00143            32 MB
  SDRAM 1        REV 01   710-001196   S00115            32 MB
  SSRAM          REV 01   710-000077   S/N 302952        1 MB
  SDRAM 0        REV 01   710-001196   S00135            32 MB
  SDRAM 1        REV 01   710-001196   S001=3            32 MB
  SSRAM          REV 01   710-000077   S/N 302892        1 MB
  SDRAM 0        REV 01   710-001196   S000?6            32 MB
  SDRAM 1        REV 01   710-001196   S001=5            32 MB
  PIC 1          REV 05   750-000616   S/N AA1527        1x OC-12 ATM, MM
  PIC 2          REV 05   750-000616   S/N AA1535        1x OC-12 ATM, MM
  PIC 3          REV 01   750-000616   S/N AA1519        1x OC-12 ATM, MM
FPC 1            REV 02   710-001611   S/N AA9523        FPC Type 2
  CPU            REV 02   710-001217   S/N AA9571
  SSRAM          REV 01   710-000077   S/N 306340        1 MB
  SDRAM 0        REV 01   710-001196   S00012            32 MB
  SDRAM 1        REV 01   710-001196   S0001?            32 MB
  SSRAM          REV 01   710-000077   S/N 306454        1 MB
  SDRAM 0        REV 01   710-001196   S00028            32 MB
  SDRAM 1        REV 01   710-001196   S0002?            32 MB
  SSRAM          REV 01   710-000077   S/N 306492        1 MB
  SDRAM 0        REV 01   710-001196   S00015            32 MB
  SDRAM 1        REV 01   710-001196   S00031            32 MB
  SSRAM          REV 01   710-000077   S/N 306363        1 MB
  SDRAM 0        REV 01   710-001196   S00013            32 MB
  SDRAM 1        REV 01   710-001196   S00032            32 MB
  PIC 0          REV 03   750-001900   S/N AA9626        1x STM-16 SDH, SMIR
  PIC 1          REV 01   710-002381   S/N AD3633        2x G/E, 1000 BASE-SX
FPC 2                                                    FPC Type OC192
... SSRAM          REV 01   710-000077   S/N 306466        1 MB
```


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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)

```
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-1OC12-SON-SMIR
  PIC 2          REV 04   750-001894                     PB-1GE-SX
  PIC 3          REV 04   750-001896                     PB-1OC12-SON-SMIR
FPC 1            REV 02   710-010419                     M320-FPC1
  PIC 0          REV 04   750-001894                     PB-1GE-SX
  PIC 1          REV 04   750-001894                     PB-1GE-SX
  PIC 3          REV 03   750-001894                     PB-1GE-SX
FPC 2            REV 02   710-010419                     M320-FPC1
  PIC 0          REV 10   750-005634                     PB-1CHOC12SMIR-QPP
  PIC 1          REV 10   750-005634                     PB-1CHOC12SMIR-QPP
```

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```
  PIC 2          REV 07   750-005634                    PB-1CHOC12SMIR-QPP
  PIC 3          REV 07   750-005634                    PB-1CHOC12SMIR-QPP
  PIC 1          REV 10   750-005634                    PB-1CHOC12SMIR-QPP
  PIC 2          REV 07   750-005634                    PB-1CHOC12SMIR-QPP
  PIC 3          REV 07   750-005634                    PB-1CHOC12SMIR-QPP
FPC 3
  PIC 0          REV 03   750-001895                    PB-1OC12-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-4OC12-SON-SMIR
  PIC 1          REV 06   750-001900                    PB-1OC48-SON-SMSR
  PIC 2          REV 07   750-001900                    PB-1OC48-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           Routing Engine
TFEB 0                    BUILTIN      BUILTIN           Forwarding Engine
Processor
  QXM 0          REV 05   711-028408   ZA9136            MPC QXM
FPC 0                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0                   BUILTIN      BUILTIN           4x 10GE XFP
    PIC 0                 BUILTIN      BUILTIN           4x 10GE XFP
FPC 1                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0          REV 24   750-028392   YX9820            3D 20x 1GE(LAN) SFP
    PIC 0                 BUILTIN      BUILTIN           10x 1GE(LAN) SFP
      Xcvr 0     REV 01   740-031851   AM1045SUAQ3       SFP-SX
      Xcvr 1     REV 01   740-031851   AM1045SUAPA       SFP-SX
      Xcvr 2     REV 01   740-031851   AM1045SUAN7       SFP-SX
      Xcvr 3     REV 01   740-031851   AM1045SU91Q       SFP-SX
      Xcvr 4     REV 01   740-031851   AM1045SUDDR       SFP-SX
      Xcvr 9     REV 01   740-011613   AM0848SB6A1       SFP-SX
    PIC 1                 BUILTIN      BUILTIN           10x 1GE(LAN) SFP
      Xcvr 0     REV 01   740-031851   AM1045SUAN0       SFP-SX
      Xcvr 1     REV 01   740-011613   AS0812S0719       SFP-SX
      Xcvr 2     REV 01   740-011613   AM0821SA121       SFP-SX
      Xcvr 3     REV 01   740-011613   PF21K21           SFP-SX
      Xcvr 4     REV 01   740-011613   AM0848SB69Z       SFP-SX
      Xcvr 5     REV 01   740-011782   P9P0XV3           SFP-SX
      Xcvr 6     REV 01   740-011613   AM0812S8WJN       SFP-SX
      Xcvr 7     REV 01   740-011613   PAM3G9Q           SFP-SX
      Xcvr 8     REV 01   740-011613   AM0848SB4A6       SFP-SX
      Xcvr 9     REV 01   740-011782   P9M0U37           SFP-SX
```


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```
  MIC 1          REV 20   750-028380   ZG2657           3D 2x 10GE XFP
    PIC 2                 BUILTIN      BUILTIN          1x 10GE XFP
    PIC 3                 BUILTIN      BUILTIN          1x 10GE XFP
Fan Tray                                                Fan Tray
```

show chassis hardware (MX10 Router)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                E1372             MX10-T
Midplane         REV 01   711-038211   YF5285            MX10-T
PEM 0            Rev 04   740-028288   VB01678           AC Power Entry Module
Routing Engine            BUILTIN      BUILTIN           Routing Engine
TFEB 0                    BUILTIN      BUILTIN           Forwarding Engine
Processor
  QXM 0          REV 05   711-028408   ZA9053            MPC QXM
FPC 0                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0                   BUILTIN      BUILTIN           4x 10GE XFP
    PIC 0                 BUILTIN      BUILTIN           4x 10GE XFP
FPC 1                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0          REV 24   750-028392   YX9436            3D 20x 1GE(LAN) SFP
    PIC 0                 BUILTIN      BUILTIN           10x 1GE(LAN) SFP
      Xcvr 0     REV 01   740-031851   AM1107SUFQW       SFP-SX
    PIC 1                 BUILTIN      BUILTIN           10x 1GE(LAN) SFP
Fan Tray                                                Fan Tray
```

show chassis hardware (MX40 Router)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                E1367             MX40-T
Midplane         REV 01   711-038211   YF5284            MX40-T
PEM 0            Rev 04   740-028288   VB01680           AC Power Entry Module
PEM 1            Rev 04   740-028288   VB01700           AC Power Entry Module
Routing Engine            BUILTIN      BUILTIN           Routing Engine
TFEB 0                    BUILTIN      BUILTIN           Forwarding Engine
Processor
  QXM 0          REV 05   711-028408   ZA9048            MPC QXM
FPC 0                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0                   BUILTIN      BUILTIN           4x 10GE XFP
    PIC 0                 BUILTIN      BUILTIN           4x 10GE XFP
      Xcvr 0     REV 01   740-014279   M7067UPP          XFP-10G-LR
      Xcvr 1              NON-JNPR     K9J02UN           XFP-10G-LR
FPC 1                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0          REV 24   750-028392   YX3504            3D 20x 1GE(LAN) SFP
    PIC 0                 BUILTIN      BUILTIN           10x 1GE(LAN) SFP
      Xcvr 0     REV 01   740-011613   AM0812S8WTE       SFP-SX
      Xcvr 1     REV 01   740-011613   PFA6KV2           SFP-SX
      Xcvr 2     REV 01   740-031851   AM1045SUDDM       SFP-SX
      Xcvr 3     REV 01   740-011613   PD63C7M           SFP-SX
      Xcvr 4     REV 01   740-011613   PD63DJY           SFP-SX
      Xcvr 5     REV 02   740-011613   AA0950STLL9       SFP-SX
      Xcvr 6     REV 01   740-011782   PAR1YHC           SFP-SX
      Xcvr 7     REV 01   740-011782   P9P0XXL           SFP-SX
      Xcvr 8     REV 01   740-011613   PD63D95           SFP-SX
      Xcvr 9     REV 01   740-031851   AM1045SU9B8       SFP-SX
    PIC 1                 BUILTIN      BUILTIN           10x 1GE(LAN) SFP
      Xcvr 0     REV 01   740-011613   PF21L3Z           SFP-SX
      Xcvr 1     REV 01   740-031851   AM1045SU7M9       SFP-SX
```

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```
    Xcvr 2      REV 01   740-031851   AM1045SUAPT       SFP-SX
    Xcvr 3      REV 01   740-011613   PFF2BZH           SFP-SX
    Xcvr 4      REV 01   740-031851   AM1045SUDDN       SFP-SX
    Xcvr 5      REV 01   740-031851   AM1039S00ZR       SFP-SX
    Xcvr 6      REV 01   740-031851   AM1045SUD6Y       SFP-SX
    Xcvr 8      REV 01   740-011613   PFM1QBS           SFP-SX
    Xcvr 9      REV 01   740-011613   PFF2E25           SFP-SX
  MIC 1         REV 01   750-021130   KG4391            3D 2x 10GE XFP
    PIC 2               BUILTIN      BUILTIN           1x 10GE XFP
      Xcvr 0    REV 01   740-011571   C645XJ04G         XFP-10G-SR
    PIC 3               BUILTIN      BUILTIN           1x 10GE XFP
      Xcvr 0             NON-JNPR     CA49BK0AE         XFP-10G-SR
Fan Tray                                               Fan Tray
```

show chassis hardware (Fixed MX80 Router)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                                  MX80-48T
Midplane         REV 01   711-031603   KF9250            MX80-48T
Routing Engine            BUILTIN      BUILTIN           Routing Engine
FEB 0                     BUILTIN      BUILTIN           Forwarding Engine Board
FPC 0                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0                   BUILTIN      BUILTIN           4x 10GE XFP
    PIC 0                 BUILTIN      BUILTIN           4x 10GE XFP
      Xcvr 0              NON-JNPR     M6439D41          XFP-10G-LR
      Xcvr 1     REV 01   740-014279   6XE931N00202      XFP-10G-LR
      Xcvr 2     REV 01   740-014289   C715XU05F         XFP-10G-SR
      Xcvr 3     REV 01   740-014289   C650XU0EP         XFP-10G-SR
FPC 1                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0          REV 01   711-029399   JR6981            12x 1GE(LAN) RJ45
    PIC 0                 BUILTIN      BUILTIN           12x 1GE(LAN) RJ45
    PIC 1                 BUILTIN      BUILTIN           12x 1GE(LAN) RJ45
  MIC 1          REV 01   BUILTIN      BUILTIN           12x 1GE(LAN) RJ45
    PIC 2                 BUILTIN      BUILTIN           12x 1GE(LAN) RJ45
    PIC 3                 BUILTIN      BUILTIN           12x 1GE(LAN) RJ45
Fan Tray                                                 Fan Tray
```

show chassis hardware (Modular MX80 Router)

```
user@host> show chassis hardware

Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                                  MX80
Midplane         REV 02   711-031594   JR7084            MX80
PEM 0            Rev 01   740-028288   000018            AC Power Entry Module
Routing Engine            BUILTIN      BUILTIN           Routing Engine
FEB 0                     BUILTIN      BUILTIN           Forwarding Engine Board

  QXM 0          REV 05   711-028408   JR7041            MPC QXM
FPC 0                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0                   BUILTIN      BUILTIN           4x 10GE XFP
    PIC 0                 BUILTIN      BUILTIN           4x 10GE XFP
FPC 1                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0          REV 02   750-028380   JR6598            3D 2x 10GE XFP
    PIC 0                 BUILTIN      BUILTIN           1x 10GE XFP
      Xcvr 0     REV 01   740-014289   T07M86365         XFP-10G-SR
    PIC 1                 BUILTIN      BUILTIN           1x 10GE XFP
      Xcvr 0     REV 01   740-014289   T07M71094         XFP-10G-SR
```


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```
  MIC 1          REV 02   750-028380   JG8548           3D 2x 10GE XFP
    PIC 2                 BUILTIN      BUILTIN          1x 10GE XFP
      Xcvr 0     REV 02   740-014289   T08L86302        XFP-10G-SR
    PIC 3                 BUILTIN      BUILTIN          1x 10GE XFP
      Xcvr 0     REV 02   740-014289   C810XU0BA        XFP-10G-SR
Fan Tray                                                Fan Tray
```

show chassis hardware (MX104 Router)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               G3503             MX104
Midplane         REV 28   750-044219   CAAX5741          MX104
PEM 0            REV 03   740-045933   1H072500016       AC Power Entry Module
PEM 1            REV 03   740-045932   1H073050017       DC Power Entry Module
Routing Engine 0 REV 20   750-044228   CAAY7935          RE-MX-104
Routing Engine 1 REV 13   750-044228   CAAM6380          RE-MX-104
AFEB 0                    BUILTIN      BUILTIN           Forwarding Engine
Processor
FPC 0                     BUILTIN      BUILTIN           MPC BUILTIN
FPC 1                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0          REV 15   750-036132   CAAF7948          2xOC12/8xOC3 CC-CE
    PIC 0                 BUILTIN      BUILTIN           2xOC12/8xOC3 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   PBK0NK3           SFP-LR
  MIC 1
FPC 2                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    PIC 0                 BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
      Xcvr 0     REV 01   740-031980   B10F00465         SFP+-10G-SR
      Xcvr 1     REV 01   740-031980   B10F00461         SFP+-10G-SR
      Xcvr 2     REV 01   740-031980   B10G01545         SFP+-10G-SR
      Xcvr 3     REV 01   740-031980   B10G01385         SFP+-10G-SR
Fan Tray 0       REV 02   711-049570   CAAX6538          Fan Tray
```

show chassis hardware detail (MX104 Router)

```
user@host> show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               G3503             MX104
Midplane         REV 28   750-044219   CAAX5741          MX104
PEM 0            REV 03   740-045933   1H072500016       AC Power Entry Module
PEM 1            REV 03   740-045932   1H073050017       DC Power Entry Module
Routing Engine 0 REV 20   750-044228   CAAY7935          RE-MX-104
  da0    7836 MB  ATP IG eUSB SSD                       Nand Flash 0
  usb0 (addr 1)  EHCI root hub 0       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
  da0    7836 MB  ATP IG eUSB SSD                       Nand Flash 0
AFEB 0                    BUILTIN      BUILTIN           Forwarding Engine
Processor
FPC 0                     BUILTIN      BUILTIN           MPC BUILTIN
```

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```
FPC 1                    BUILTIN      BUILTIN          MPC BUILTIN
  MIC 0          REV 15   750-036132   CAAF7948         2xOC12/8xOC3 CC-CE
    PIC 0                 BUILTIN      BUILTIN          2xOC12/8xOC3 CC-CE
      Xcvr 0     REV 01   740-011615   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   PBK0NK3          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
 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
```


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```
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 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 ff
  Address 0x40: 02 02 00 ff 01 49 50 55 50 41 4a 38 4b 41 41 50
  Address 0x50: 57 52 2d 41 4d 58 31 31 30 30 2d 44 43 2d 53 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 72 ff ff ff ff ff ff ff ff ff ff ff ff
Routing Engine 0 REV 20   750-044228   CAAY7935          RE-MX-104
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-044228        S/N:               CAAY7935
 Assembly ID:  0x0b81            Assembly Version:  01.20
 Date:         03-18-2013        Assembly Flags:    0x00
 Version:      REV 20            CLEI Code:         PROTOXCLEI
 ID: RE-MX-104                   FRU Model Number:  PROTO-ASSEMBLY
 Board Information Record:
  Address 0x00: ad 01 00 08 b0 a8 6e a6 fc 10 ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 fe 0b 81 01 14 52 45 56 20 32 30 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 32 32 38 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 59 37 39 33 35 00 12 03 07
  Address 0x30: dd ff ff ff ad 01 00 08 b0 a8 6e a6 fc 10 ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
  Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
  da0    7836 MB  ATP IG eUSB SSD                        Nand Flash 0
  usb0 (addr 1)  EHCI root hub 0       Freescale         uhub0
  usb0 (addr 2)  USB2513Bi  9491       SMSC              uhub1
  usb0 (addr 3)  ATP IG eUSB SSD 44801 ATP Electronics   umass0
Routing Engine 1 REV 13   750-044228   CAAM6380          RE-MX-104
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-044228        S/N:               CAAM6380
```

```
 Assembly ID:  0x0b81            Assembly Version:  01.13
 Date:         09-17-2012        Assembly Flags:    0x00
 Version:      REV 13            CLEI Code:         PROTOXCLEI
 ID: RE-MX-104                   FRU Model Number:  PROTO-ASSEMBLY
 Board Information Record:
  Address 0x00: ad 01 00 08 64 87 88 27 08 18 ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 fe 0b 81 01 0d 52 45 56 20 31 33 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 32 32 38 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 4d 36 33 38 30 00 11 09 07
  Address 0x30: dc ff ff ff ad 01 00 08 64 87 88 27 08 18 ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
  Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
  da0    7836 MB  ATP IG eUSB SSD                        Nand Flash 0
AFEB 0                    BUILTIN      BUILTIN           Forwarding Engine
Processor
FPC 0                     BUILTIN      BUILTIN           MPC BUILTIN
FPC 1                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0          REV 15   750-036132   CAAF7948          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: 2xOC12/8xOC3 CC-CE          FRU Model Number:  MIC-3D-8OC3-2OC12-ATM
 Board Information Record:
  Address 0x00: 12 01 05 03 05 ff 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           2xOC12/8xOC3 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   PBK0NK3           SFP-LR
  MIC 1
FPC 2                     BUILTIN      BUILTIN           MPC BUILTIN
  MIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
 Jedec Code:   0x0000            EEPROM Version:    0x00
 P/N:          BUILTIN           S/N:               BUILTIN
 Assembly ID:  0x0a60            Assembly Version:  00.00
 Date:         00-00-0000        Assembly Flags:    0x00
 ID: 4x 10GE(LAN) SFP+
 Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 I2C Hex Data:
  Address 0x00: 00 00 00 00 0a 60 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 4d 58 43 00
  Address 0x20: 42 55 49 4c 54 49 4e 00 4d 58 43 00 00 00 00 00
```


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```
  Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 c0 02 a5 04 7f b0 02 ff 0a 1a 01 0f
    PIC 0                 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 ff
  Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
```

show chassis hardware models (MX104 Router)

```
user@host> show chassis hardware models
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
Midplane         REV 20   750-044219   CAAS5849          PROTO-ASSEMBLY
PEM 0            REV 01   740-045932   1H072400065
Routing Engine 0 REV 16   750-044228   CAAR5915          PROTO-ASSEMBLY
AFEB 0                    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
```

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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   AARCHOO           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
```


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```
  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
```


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```
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   AHN0WR5           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   ANA0ND0           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   ANA0NGF           SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   ANA0NG9           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   ANA0MP9           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQA06CG           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   19T511100493      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   APR040J           SFP+-10G-SR
FPC 1            REV 26   750-046005   CACN1894          MPC5E 3D Q 2CGE+4XGE
  CPU            REV 09   711-045719   CACN8698          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0       REV 01   740-031980   163363A03046      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJ40JS8           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
  PIC 2                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0       REV 01   740-031980   153363A00593      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJ40JUJ           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
    Xcvr 0                NON-JNPR     UQC0B53           CFP2-100G-LR4-D
FPC 2            REV 26   750-046005   CACN1891          MPC5E 3D Q 2CGE+4XGE
  CPU            REV 09   711-045719   CACN8694          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0                NON-JNPR     URA012A           SFP+-10G-LR
  PIC 1                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
    Xcvr 0                NON-JNPR     J13F47042         CFP2-100G-LR4-D
  PIC 2                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0       REV 01   740-031980   AJC0BM3           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   11T511100917      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
    Xcvr 0                NON-JNPR     UQK07SU           CFP2-100G-LR4-D
FPC 3            REV 03   750-045372   CAAD9425          MPCE Type 3 3D
CPU            REV 08   711-035209   CAAD9094          HMPC PMB 2G
  MIC 0          REV 14   750-033196   CAAW9204          1X100GE CXP
    PIC 0                 BUILTIN      BUILTIN           1X100GE CXP
      Xcvr 0     REV 01   740-046563   XD16FC034         CFP2-100G-SR10
  MIC 1          REV 19   750-033199   CAAJ1814          1X100GE CFP
    PIC 2                 BUILTIN      BUILTIN           1X100GE CFP
FPC 4            REV 21.0.11 750-045715 CAAY3568        MPC5E 3D Q 24XGE+6XLGE
  CPU            REV 07   711-045719   CAAW7430          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           12X10GE SFPP OTN
    Xcvr 0       REV 01   740-031980   AP406NG           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AR41NLP           SFP+-10G-SR
```

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```
    Xcvr 2       REV 01   740-031980   B11D05630         SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           12X10GE SFPP OTN
  PIC 2                   BUILTIN      BUILTIN           3X40GE QSFPP
  PIC 3                   BUILTIN      BUILTIN           3X40GE QSFPP
  WAN MEZZ     REV 12   750-049136   CACM6678          MPC5E 24XGE OTN Mezz
FPC 5          REV 11   750-045372   CABK7539          MPCE Type 3 3D
  CPU          REV 08   711-035209   CABJ2466          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 detail (MX480 Routers with MPC5E and built-in OTN PIC)

```
user@host> show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               JN11C0338AFB      MX480
Midplane         REV 05   710-017414   ABAB8430          MX480 Midplane
FPM Board        REV 02   710-017254   ZS8005            Front Panel Display
PEM 0            Rev 05   740-029970   QCS1024U089       PS 1.4-2.52kW; 90-264V
AC in
PEM 1            Rev 10   740-029970   QCS1314U0FJ       PS 1.4-2.52kW; 90-264V
AC in
PEM 2            Rev 07   740-029970   QCS1121U076       PS 1.4-2.52kW; 90-264V
AC in
Routing Engine 0 REV 05   740-031116   9009092471        RE-S-1800x4
  ad0    3896 MB  VRFCF14096DIHK1      VM4096MB 6862     Compact Flash
  ad1   30533 MB  UGB94ARF32H0S3-KC    UNIGEN-478612-001127 Disk 1
  usb0 (addr 1)  EHCI root hub 0       Intel             uhub0
  usb0 (addr 2)  product 0x0020 32     vendor 0x8087     uhub1
  DIMM 0         SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 1         SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 2         SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 3         SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 05   740-031116   9009097958        RE-S-1800x4
  ad0    3896 MB  VRFCF14096DIHK1      VM4096MB 6145     Compact Flash
  ad1   30533 MB  UGB94ARF32H0S3-KC    UNIGEN-499551-000273 Disk 1
CB 0             REV 16   750-031391   CAAX0789          Enhanced MX SCB
CB 1             REV 16   750-031391   CAAX0856          Enhanced MX SCB
FPC 0            REV 32   750-028467   ABBP1782          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBP5410          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   983152A00038      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11F00211         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AQ72LPB           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AHN0WR5           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   ANA0ND0           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   ANA0NGF           SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   ANA0NG9           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   ANA0MP9           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
```


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```
    Xcvr 0       REV 01   740-021308   AQA06CG           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   19T511100493      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   APR040J           SFP+-10G-SR
FPC 1            REV 26   750-046005   CACN1894          MPC5E 3D Q 2CGE+4XGE
  CPU            REV 09   711-045719   CACN8698          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0       REV 01   740-031980   163363A03046      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJ40JS8           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
  PIC 2                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0       REV 01   740-031980   153363A00593      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJ40JUJ           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
    Xcvr 0                NON-JNPR     UQC0B53           CFP2-100G-LR4-D
FPC 2            REV 26   750-046005   CACN1891          MPC5E 3D Q 2CGE+4XGE
  CPU            REV 09   711-045719   CACN8694          RMPC PMB
PIC 0                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0                NON-JNPR     URA012A           SFP+-10G-LR
  PIC 1                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
    Xcvr 0                NON-JNPR     J13F47042         CFP2-100G-LR4-D
  PIC 2                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0       REV 01   740-031980   AJC0BM3           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   11T511100917      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
    Xcvr 0                NON-JNPR     UQK07SU           CFP2-100G-LR4-D
FPC 3            REV 03   750-045372   CAAD9425          MPCE Type 3 3D
  CPU            REV 08   711-035209   CAAD9094          HMPC PMB 2G
  MIC 0          REV 14   750-033196   CAAW9204          1X100GE CXP
    PIC 0                 BUILTIN      BUILTIN           1X100GE CXP
      Xcvr 0     REV 01   740-046563   XD16FC034         CFP2-100G-SR10
  MIC 1          REV 19   750-033199   CAAJ1814          1X100GE CFP
    PIC 2                 BUILTIN      BUILTIN           1X100GE CFP
FPC 4            REV 21.0.11 750-045715 CAAY3568        MPC5E 3D Q 24XGE+6XLGE
  CPU            REV 07   711-045719   CAAW7430          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           12X10GE SFPP OTN
    Xcvr 0       REV 01   740-031980   AP406NG           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AR41NLP           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11D05630         SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           12X10GE SFPP OTN
  PIC 2                   BUILTIN      BUILTIN           3X40GE QSFPP
  PIC 3                   BUILTIN      BUILTIN           3X40GE QSFPP
  WAN MEZZ       REV 12   750-049136   CACM6678          MPC5E 24XGE OTN Mezz
FPC 5            REV 11   750-045372   CABK7539          MPCE Type 3 3D
  CPU            REV 08   711-035209   CABJ2466          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                                JN11C0338AFB      MX480
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
                                 S/N:               JN11C0338AFB
```

```
  Assembly ID:  0x01fe            Assembly Version:  00.00
  Date:         00-00-0000        Assembly Flags:    0x02
  ID: MX480
  Board Information Record:
   Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  I2C Hex Data:
   Address 0x00: 7f b0 02 ff 01 fe 00 00 00 00 00 00 00 00 00 00
   Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
   Address 0x20: 4a 4e 31 31 43 30 33 33 38 41 46 42 02 00 00 00
   Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
   Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
   Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
   Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
   Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane          REV 05   710-017414   ABAB8430          MX480 Midplane
  Jedec Code:   0x7fb0            EEPROM Version:    0x01
  P/N:          710-017414        S/N:               ABAB8430
  Assembly ID:  0x01fe            Assembly Version:  01.05
  Date:         12-13-2011        Assembly Flags:    0x00
  Version:      REV 05
  ID: MX480 Midplane              FRU Model Number:  CHAS-BP-MX480-S
  Board Information Record:
   Address 0x00: ad 01 08 00 00 23 9c fc 98 00 ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 01 ff 01 fe 01 05 52 45 56 20 30 35 00 00
   Address 0x10: 00 00 00 00 37 31 30 2d 30 31 37 34 31 34 00 00
   Address 0x20: 53 2f 4e 20 41 42 41 42 38 34 33 30 00 0d 0c 07
   Address 0x30: db ff ff ff ad 01 08 00 00 23 9c fc 98 00 ff ff
   Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 43
   Address 0x50: 48 41 53 2d 42 50 2d 4d 58 34 38 30 2d 53 00 00
   Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
   Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
FPM Board         REV 02   710-017254   ZS8005            Front Panel Display
  Jedec Code:   0x7fb0            EEPROM Version:    0x01
  P/N:          710-017254        S/N:               ZS8005
  Assembly ID:  0x01ff            Assembly Version:  01.02
  Date:         11-21-2011        Assembly Flags:    0x00
  Version:      REV 02
  ID: Front Panel Display         FRU Model Number:  CRAFT-MX480-S
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 01 ff 01 ff 01 02 52 45 56 20 30 32 00 00
   Address 0x10: 00 00 00 00 37 31 30 2d 30 31 37 32 35 34 00 00
   Address 0x20: 53 2f 4e 20 5a 53 38 30 30 35 00 00 00 15 0b 07
   Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 43
   Address 0x50: 52 41 46 54 2d 4d 58 34 38 30 2d 53 00 00 00 00
   Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
   Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
PEM 0             Rev 05   740-029970   QCS1024U089       PS 1.4-2.52kW; 90-264V
AC in
  Jedec Code:   0x7fb0            EEPROM Version:    0x01
  P/N:          740-029970        S/N:               QCS1024U089
  Assembly ID:  0x0432            Assembly Version:  01.05
  Date:         06-17-2010        Assembly Flags:    0x00
  Version:      Rev 05
  ID: PS 1.4-2.52kW; 90-264V AC in FRU Model Number:  PWR-MX480-2520-AC-S
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
  I2C Hex Data:
```


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```
  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
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 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  UGB94ARF32HOS3-KC    UNIGEN-478612-001127 Disk 1
  usb0 (addr 1)  EHCI root hub 0       Intel             uhub0
  usb0 (addr 2)  product 0x0020 32     vendor 0x8087     uhub1
  DIMM 0         SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 1         SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 2         SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 3         SGU04G72H1BB2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 05   740-031116   9009097958        RE-S-1800x4
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-031116        S/N:               9009097958
 Assembly ID:  0x09c0            Assembly Version:  01.05
 Date:         02-06-2012        Assembly Flags:    0x00
 Version:      REV 05            CLEI Code:         COUCALDBAA
 ID: RE-S-1800x4                 FRU Model Number:  RE-S-1800X4-16G-S
 Board Information Record:
  Address 0x00: 54 32 30 32 37 43 41 2d 34 32 46 42 23 23 23 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 c0 01 05 52 45 56 20 30 35 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 33 31 31 31 36 00 00
  Address 0x20: 39 30 30 39 30 39 37 39 35 38 00 00 00 06 02 07
  Address 0x30: dc ff ff ff 54 32 30 32 37 43 41 2d 34 32 46 42
  Address 0x40: 23 23 23 00 01 43 4f 55 43 41 4c 44 42 41 41 52
  Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 4b ff ff ff ff ff ff ff ff ff ff ff ff
  ad0    3896 MB  VRFCF14096DIHK1      VM4096MB 6145     Compact Flash
  ad1   30533 MB  UGB94ARF32HOS3-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         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
CB 0             REV 05   710-013725   JK6947            MX960 Test SCB
FPC 4            REV 01   710-013305   JM7617            MX960 Test DPC
  CPU
  PIC 0                   BUILTIN      BUILTIN           1x 10GE(LAN/WAN)
  PIC 1                   BUILTIN      BUILTIN           10x 1GE
FPC 7            REV 01   710-013305   JL9634            MX960 Test DPC
  CPU
  PIC 0                   BUILTIN      BUILTIN           1x 10GE(LAN/WAN)
    Xcvr 0                NON-JNPR     MYBG65I82C        XFP-10G-SR
  PIC 1                   BUILTIN      BUILTIN           10x 1GE
    Xcvr 1       REV 01   740-011782   P7N0368           SFP-SX
    Xcvr 4       REV 01   740-011782   P8J1W27           SFP-SX
    Xcvr 6       REV 01   740-011782   P8J1VSD           SFP-SX
    Xcvr 9       REV 01   740-011782   P8J1W25           SFP-SX
Fan Tray 0
Fan Tray 1
```


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show chassis hardware (MX960 Router with Bidirectional Optics)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN10BA5B9AFA      MX960
Midplane         REV 03   710-013698   TR0234            MX960 Backplane
FPM Board        REV 03   710-014974   JA0878            Front Panel Display
PDM              Rev 03   740-013110   QCS11135028       Power Distribution Module
PEM 0            Rev 03   740-013682   QCS11154036         PS 1.7kW; 200-240VAC in
PEM 1            Rev 03   740-013682   QCS11154010         PS 1.7kW; 200-240VAC in
PEM 2            Rev 03   740-013682   QCS11154022         PS 1.7kW; 200-240VAC in
Routing Engine 0 REV 06   740-013063   1000691458        RE-S-2000
CB 0             REV 07   710-013385   KA2190            MX SCB
CB 1             REV 07   710-013385   KA0837            MX SCB
FPC 3            REV 02   750-018122   KB3890            DPCE 40x 1GE R
  CPU
FPC 4            REV 01   750-018122   KB3889            DPCE 40x 1GE R
  CPU            REV 06   710-013713   KB3976            DPC PMB
  PIC 0                   BUILTIN      BUILTIN           10x 1GE(LAN)
    Xcvr 1       REV 01   740-020426   4910549           SFP-1000BASE-BX40-D
    Xcvr 2       REV 01   740-020426   4910551           SFP-1000BASE-BX40-D
    Xcvr 5       REV 01   740-021340   77E245N00006      SFP-1000BASE-BX10-U
    Xcvr 6       REV 01   740-020425   4882821           SFP-1000BASE-BX40-U
    Xcvr 8       REV 01   740-020425   4882820           SFP-1000BASE-BX40-U
  PIC 1                   BUILTIN      BUILTIN           10x 1GE(LAN)
    Xcvr 0       REV 01   740-020465   77E555N00894      SFP-1000BASE-BX10-D
    Xcvr 1       REV 01   740-020465   75E467X00818      SFP-1000BASE-BX10-D
    Xcvr 2       REV 01   740-020465   75E467X00573      SFP-1000BASE-BX10-D
    Xcvr 3       REV 01   740-020465   4888227           SFP-1000BASE-BX10-D
    Xcvr 4       REV 01   740-020465   4888241           SFP-1000BASE-BX10-D
    Xcvr 5       REV 01   740-021340   77E245N00005      SFP-1000BASE-BX10-U
    Xcvr 6       REV 01   740-021340   76E245X00487      SFP-1000BASE-BX10-U
    Xcvr 7       REV 01   740-021341   5255889           SFP-1000BASE-BX10-U
    Xcvr 8       REV 01   740-021341   5255887           SFP-1000BASE-BX10-U
    Xcvr 9       REV 01   740-021340   77E245N00004      SFP-1000BASE-BX10-U
  PIC 2                   BUILTIN      BUILTIN           10x 1GE(LAN)
    Xcvr 0       REV 01   740-020424   5007582           SFP-1000BASE-BX10-D
    Xcvr 1       REV 01   740-020424   4888187           SFP-1000BASE-BX10-D
    Xcvr 2       REV 01   740-020424   4656500           SFP-1000BASE-BX10-D
    Xcvr 5       REV 01   740-021341   5255886           SFP-1000BASE-BX10-U
    Xcvr 7       REV 01   740-021340   77E245N00003      SFP-1000BASE-BX10-U
    Xcvr 8       REV 01   740-021341   5255888           SFP-1000BASE-BX10-U
  PIC 3                   BUILTIN      BUILTIN           10x 1GE(LAN)
    Xcvr 0       REV 01   740-017726   74S184H30341      SFP-EX
    Xcvr 1       REV 01   740-017726   4814061           SFP-EX
    Xcvr 5       REV 01   740-017726   6ZS184H31108      SFP-EX
    Xcvr 9       REV 01   740-021340   76E245X00486      SFP-1000BASE-BX10-U
Fan Tray 0
Fan Tray 1       REV 03   740-014971   TP0850            Fan Tray
```

show chassis hardware (MX960 Router with Enhanced MX SCB)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN1096805AFA      MX960
Midplane         REV 03   710-013698   TR0183            MX960 Backplane
Fan Extender     REV 02   710-018051   JY5227            Extended Cable Manager
FPM Board        REV 03   710-014974   JZ6876            Front Panel Display
PDM              Rev 03   740-013110   QCS11035023       Power Distribution Module
```

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```
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   PDS0MRY           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   AHN0X1Z           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
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  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   PDS0MPZ          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
```

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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-4OC3-1OC12-SON2-SFP
  PIC 1          REV 08   750-014637   DM3671           PB-4OC3-4OC12-SON-SFP
FPC 10           REV 04   710-013699   JY4654           DPC-R-4GE-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
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
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          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   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          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         CFP-100G-SR10
FPC 3            REV 35   750-028467   CAAT9156          MPC 3D 16x 10GE
  CPU            REV 11   711-029089   CAAV4645          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
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    Xcvr 0       REV 01   740-021308   AQ43HZ1          SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQ43HZC          SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQ43HD2          SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ502HN          SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ43HGF          SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQ501RZ          SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQ5029V          SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ501X9          SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ502ZN          SFP+-10G-SR
 Xcvr 1       REV 01   740-021308   AQ43H86          SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQ502ZY          SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ502PZ          SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ503E6          SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQ502XN          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11F00213        SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ50336          SFP+-10G-SR
FPC 4            REV 18   750-046005   CACE6568         MPC5E 3D Q 2CGE+4XGE
  CPU            REV 09   711-045719   CACG8900         RMPC PMB
  PIC 0                   BUILTIN      BUILTIN          2X10GE SFPP OTN
    Xcvr 0       REV 01   740-021308   AQA095A          SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   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         RMPC 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         HMPC 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         RMPC PMB
  PIC 0                   BUILTIN      BUILTIN          12X10GE SFPP OTN
  PIC 1                   BUILTIN      BUILTIN          12X10GE SFPP OTN
  PIC 2                   BUILTIN      BUILTIN          3X40GE QSFPP
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    Xcvr 0       REV 01   740-046565   QC480289          QSFP+-40G-SR4
    Xcvr 1       REV 01   740-046565   QC480274          QSFP+-40G-SR4
    Xcvr 2       REV 01   740-046565   QD130190          QSFP+-40G-SR4
  PIC 3                   BUILTIN      BUILTIN           3X40GE QSFPP
    Xcvr 0       REV 01   740-046565   QD130197          QSFP+-40G-SR4
    Xcvr 1       REV 01   740-046565   QD130180          QSFP+-40G-SR4
 Xcvr 2       REV 01   740-046565   QD130199          QSFP+-40G-SR4
  WAN MEZZ       REV 09   750-049136   CABN0415          MPC5E 24XGE OTN Mezz
FPC 9            REV 05   750-044444   CAAY9801          MPCE Type 2 3D P
  CPU            REV 04   711-038484   CAAW3673          MPCE PMB 2G
  MIC 0          REV 28   750-028387   CAAX1071          3D 4x 10GE  XFP
    PIC 0                 BUILTIN      BUILTIN           2x 10GE  XFP
      Xcvr 0              NON-JNPR     T12L92342         XFP-10G-SR
      Xcvr 1              NON-JNPR     T12L92303         XFP-10G-SR
    PIC 1                 BUILTIN      BUILTIN           2x 10GE  XFP
      Xcvr 0              NON-JNPR     CC07BK02X         XFP-10G-SR
  QXM 0          REV 06   711-028408   CAAW4883          MPC QXM
  QXM 1          REV 06   711-028408   CAAW4603          MPC QXM
FPC 10           REV 21.0.11 750-045715 CAAY3541        MPC5E 3D Q 24XGE+6XLGE
  CPU            REV 07   711-045719   CAAW7426          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           12X10GE SFPP
    Xcvr 0       REV 01   740-031980   AHK01AP           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQ502ZU           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AP41BLS           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQA08YA           SFP+-10G-SR
    Xcvr 4       REV 01   740-021308   AQA0K26           SFP+-10G-SR
    Xcvr 6       REV 01   740-021308   AQA06S3           SFP+-10G-SR
    Xcvr 7       REV 01   740-021308   AQA06AS           SFP+-10G-SR
    Xcvr 8       REV 01   740-021308   AQA053N           SFP+-10G-SR
    Xcvr 9       REV 01   740-021308   AQA0E97           SFP+-10G-SR
    Xcvr 10      REV 01   740-021308   AQA0GS4           SFP+-10G-SR
    Xcvr 11      REV 01   740-021308   AQA0JVA           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           12X10GE SFPP
    Xcvr 0       REV 01   740-021308   AQA057A           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   ANA0MLS           SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQA093A           SFP+-10G-SR
    Xcvr 3       REV 01   740-021309   943153A00075      SFP+-10G-LR
    Xcvr 4       REV 01   740-021308   AQA077B           SFP+-10G-SR
    Xcvr 5       REV 01   740-021308   AQA0JSC           SFP+-10G-SR
    Xcvr 6       REV 01   740-021308   AQA0735           SFP+-10G-SR
    Xcvr 7       REV 01   740-021308   AQ5028N           SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   AP40VN5           SFP+-10G-SR
    Xcvr 9       REV 01   740-021308   AQA0K0J           SFP+-10G-SR
    Xcvr 10      REV 01   740-021308   AQA07AP           SFP+-10G-SR
    Xcvr 11      REV 01   740-021308   AQA08YB           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           3X40GE QSFPP
  PIC 3                   BUILTIN      BUILTIN           3X40GE QSFPP
  WAN MEZZ       REV 07   750-045717   CAAX3123          MPC5E 24XGE Mezz
FPC 11           REV 17   750-037355   CAAT3986          MPC4E 3D 2CGE+8XGE
  CPU            REV 08   711-035209   CAAR3972          HMPC PMB 2G
  PIC 0                   BUILTIN      BUILTIN           4x10GE SFPP
    Xcvr 0       REV 01   740-021308   AQA0DSE           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQ501Y3           SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQ501XU           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ5036Y           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           1X100GE CFP
    Xcvr 0                NON-JNPR     X12J00247         CFP-100G-SR10
  PIC 2                   BUILTIN      BUILTIN           4x10GE SFPP
    Xcvr 0       REV 01   740-031980   ALQ1DKF           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJ403YA           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AP40TY0           SFP+-10G-SR
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    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)

```
user@host> show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                                  MX960
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    NR0WT5925N77      Hard Disk
CB 0             REV 05   710-013725   JK6947            MX960 Test SCB
FPC 4            REV 01   710-013305   JM7617            MX960 Test DPC
  CPU
  PIC 0                   BUILTIN      BUILTIN           1x 10GE(LAN/WAN)
  PIC 1                   BUILTIN      BUILTIN           10x 1GE
FPC 7            REV 01   710-013305   JL9634            MX960 Test DPC
  CPU
  PIC 0                   BUILTIN      BUILTIN           1x 10GE(LAN/WAN)
    Xcvr 0                NON-JNPR     MYBG65I82C        XFP-10G-SR
  PIC 1                   BUILTIN      BUILTIN           10x 1GE
    Xcvr 1       REV 01   740-011782   P7N0368           SFP-SX
    Xcvr 4       REV 01   740-011782   P8J1W27           SFP-SX
    Xcvr 6       REV 01   740-011782   P8J1VSD           SFP-SX
    Xcvr 9       REV 01   740-011782   P8J1W25           SFP-SX
Fan Tray 0
Fan Tray 1
```

show chassis hardware detail (MX960 Router with MPC5EQ)

```
user@host> show chassis hardware detail
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
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
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  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   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          HMPC PMB 2G
  MIC 0          REV 07   750-033307   CABD5255          10X10GE SFPP
    PIC 0                 BUILTIN      BUILTIN           10X10GE SFPP
      Xcvr 0     REV 01   740-021308   AQ50319           SFP+-10G-SR
      Xcvr 1     REV 01   740-021308   AQ5035V           SFP+-10G-SR
      Xcvr 2     REV 01   740-021308   AQ502XJ           SFP+-10G-SR
      Xcvr 3     REV 01   740-021308   AQ43HHR           SFP+-10G-SR
      Xcvr 4     REV 01   740-021308   AQ502YA           SFP+-10G-SR
      Xcvr 5     REV 01   740-021308   AQ502EU           SFP+-10G-SR
      Xcvr 6     REV 01   740-021308   AQ502HR           SFP+-10G-SR
      Xcvr 7     REV 01   740-021308   AQ502A6           SFP+-10G-SR
      Xcvr 8     REV 01   740-021308   AQ43H8M           SFP+-10G-SR
  MIC 1          REV 14   750-033196   CAAP1398          1X100GE CXP
    PIC 2                 BUILTIN      BUILTIN           1X100GE CXP
      Xcvr 0     REV 01   740-046563   XD16FC064         CFP2-100G-SR10
FPC 3            REV 35   750-028467   CAAT9156          MPC 3D 16x 10GE
  CPU            REV 11   711-029089   CAAV4645          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ43HZ1           SFP+-10G-SR
Xcvr 1       REV 01   740-021308   AQ43HZC           SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQ43HD2           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ502HN           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ43HGF           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQ501RZ           SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQ5029V           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ501X9           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ502ZN           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQ43H86           SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQ502ZY           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ502PZ           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ503E6           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQ502XN           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11F00213         SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQ50336           SFP+-10G-SR
FPC 4            REV 18   750-046005   CACE6568          MPC5E 3D Q 2CGE+4XGE
  CPU            REV 09   711-045719   CACG8900          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           2X10GE SFPP OTN
    Xcvr 0       REV 01   740-021308   AQA095A           SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQG0M1E           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
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    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          RMPC 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          HMPC 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          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           12X10GE SFPP OTN
 PIC 1                   BUILTIN      BUILTIN           12X10GE SFPP OTN
  PIC 2                   BUILTIN      BUILTIN           3X40GE QSFPP
    Xcvr 0        REV 01  740-046565   QC480289          QSFP+-40G-SR4
    Xcvr 1        REV 01  740-046565   QC480274          QSFP+-40G-SR4
    Xcvr 2        REV 01  740-046565   QD130190          QSFP+-40G-SR4
  PIC 3                   BUILTIN      BUILTIN           3X40GE QSFPP
    Xcvr 0        REV 01  740-046565   QD130197          QSFP+-40G-SR4
    Xcvr 1        REV 01  740-046565   QD130180          QSFP+-40G-SR4
    Xcvr 2        REV 01  740-046565   QD130199          QSFP+-40G-SR4
  WAN MEZZ        REV 09  750-049136   CABN0415          MPC5E 24XGE OTN Mezz
FPC 9             REV 05  750-044444   CAAY9801          MPCE Type 2 3D P
  CPU             REV 04  711-038484   CAAW3673          MPCE PMB 2G
  MIC 0           REV 28  750-028387   CAAX1071          3D 4x 10GE  XFP
    PIC 0                 BUILTIN      BUILTIN           2x 10GE  XFP
      Xcvr 0              NON-JNPR     T12L92342         XFP-10G-SR
      Xcvr 1              NON-JNPR     T12L92303         XFP-10G-SR
    PIC 1                 BUILTIN      BUILTIN           2x 10GE  XFP
      Xcvr 0              NON-JNPR     CC07BK02X         XFP-10G-SR
  QXM 0           REV 06  711-028408   CAAW4883          MPC QXM
  QXM 1           REV 06  711-028408   CAAW4603          MPC QXM
FPC 10            REV 21.0.11 750-045715 CAAY3541        MPC5E 3D Q 24XGE+6XLGE
  CPU             REV 07  711-045719   CAAW7426          RMPC PMB
  PIC 0                   BUILTIN      BUILTIN           12X10GE SFPP
    Xcvr 0        REV 01  740-031980   AHK01AP           SFP+-10G-SR
    Xcvr 1        REV 01  740-021308   AQ502ZU           SFP+-10G-SR
    Xcvr 2        REV 01  740-031980   AP41BLS           SFP+-10G-SR
    Xcvr 3        REV 01  740-021308   AQA08YA           SFP+-10G-SR
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    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                                JN1214852AFA      MX960
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
                                 S/N:               JN1214852AFA
 Assembly ID:  0x0512            Assembly Version:  00.00
 Date:         00-00-0000        Assembly Flags:    0x00
 ID: MX960
 Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 05 12 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x20: 4a 4e 31 32 31 34 38 35 32 41 46 41 00 00 00 00
  Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```


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```
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane         REV 01   710-030012   ACAX3674          MX960 Backplane
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          710-030012        S/N:               ACAX3674
 Assembly ID:  0x01df            Assembly Version:  01.01
 Date:         01-19-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         COM8T00CRB
 ID: MX960 Backplane             FRU Model Number:  CHAS-BP-MX960-S
 Board Information Record:
  Address 0x00: ad 01 08 00 54 e0 32 bc 68 00 ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 01 df 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 31 30 2d 30 33 30 30 31 32 00 00
  Address 0x20: 53 2f 4e 20 41 43 41 58 33 36 37 34 00 13 01 07
  Address 0x30: dd ff ff ff ad 01 08 00 54 e0 32 bc 68 00 ff ff
  Address 0x40: ff ff ff ff 01 43 4f 4d 38 54 30 30 43 52 42 43
  Address 0x50: 48 41 53 2d 42 50 2d 4d 58 39 36 30 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 42 00 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff aa ff ff ff ff ff ff ff ff ff ff ff ff
FPM Board        REV 03   710-014974   CAAZ9326          Front Panel Display
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          710-014974        S/N:               CAAZ9326
 Assembly ID:  0x01e6            Assembly Version:  01.03
 Date:         12-31-2012        Assembly Flags:    0x00
 Version:      REV 03
 ID: Front Panel Display         FRU Model Number:  CRAFT-MX960-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 01 e6 01 03 52 45 56 20 30 33 00 00
  Address 0x10: 00 00 00 00 37 31 30 2d 30 31 34 39 37 34 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 5a 39 33 32 36 00 1f 0c 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 43
  Address 0x50: 52 41 46 54 2d 4d 58 39 36 30 2d 53 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
PDM              Rev 03   740-013110   QCS17025017       Power Distribution Module
Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          740-013110        S/N:               QCS17025017
 Assembly ID:  0x0416            Assembly Version:  01.03
 Date:         01-10-2013        Assembly Flags:    0x00
 Version:      Rev 03
 ID: Power Distribution Module
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 04 16 01 03 52 65 76 20 30 33 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 31 33 31 31 30 00 00
  Address 0x20: 51 43 53 31 37 30 32 35 30 31 37 00 00 0a 01 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PEM 0            Rev 10   740-027760   QCS1702N062       PS 4.1kW; 200-240V AC
in
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          740-027760        S/N:               QCS1702N062
```

```
 Assembly ID:  0x0430            Assembly Version:  01.10
 Date:         01-15-2013        Assembly Flags:    0x00
 Version:      Rev 10
 ID: PS 4.1kW; 200-240V AC in    FRU Model Number:  PWR-MX960-4100-AC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 04 30 01 0a 52 65 76 20 31 30 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 32 37 37 36 30 00 00
  Address 0x20: 51 43 53 31 37 30 32 4e 30 36 32 00 00 0f 01 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
  Address 0x50: 57 52 2d 4d 58 39 36 30 2d 34 31 30 30 2d 41 43
  Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PEM 1            Rev 04   740-027760   QCS1422N02C       PS 4.1kW; 200-240V AC
in
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          740-027760        S/N:               QCS1422N02C
 Assembly ID:  0x0430            Assembly Version:  01.04
 Date:         06-04-2010        Assembly Flags:    0x00
 Version:      Rev 04
 ID: PS 4.1kW; 200-240V AC in    FRU Model Number:  PWR-MX960-4100-AC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 04 30 01 04 52 65 76 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 32 37 37 36 30 00 00
  Address 0x20: 51 43 53 31 34 32 32 4e 30 32 43 00 00 04 06 07
  Address 0x30: da ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
  Address 0x50: 57 52 2d 4d 58 39 36 30 2d 34 31 30 30 2d 41 43
  Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
PEM 2            Rev 09   740-027760   QCS1614N01X       PS 4.1kW; 200-240V AC
in
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          740-027760        S/N:               QCS1614N01X
Assembly ID:  0x0430           Assembly Version:  01.09
 Date:         04-07-2012        Assembly Flags:    0x00
 Version:      Rev 09
 ID: PS 4.1kW; 200-240V AC in    FRU Model Number:  PWR-MX960-4100-AC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 04 30 01 09 52 65 76 20 30 39 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 32 37 37 36 30 00 00
  Address 0x20: 51 43 53 31 36 31 34 4e 30 31 58 00 00 07 04 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: 00 00 00 00 01 00 00 00 00 00 00 00 00 00 00 50
  Address 0x50: 57 52 2d 4d 58 39 36 30 2d 34 31 30 30 2d 41 43
  Address 0x60: 2d 53 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Routing Engine 0 REV 08   740-031116   9009131803        RE-S-1800x4
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-031116        S/N:               9009131803
 Assembly ID:  0x09c0            Assembly Version:  01.08
 Date:         03-04-2013        Assembly Flags:    0x00
 Version:      REV 08            CLEI Code:         COUCASKBAA
 ID: RE-S-1800x4                 FRU Model Number:  RE-S-1800X4-16G-S
 Board Information Record:
```


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```
  Address 0x00: 54 32 30 32 37 44 42 2d 34 34 47 42 23 42 23 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 c0 01 08 52 45 56 20 30 38 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 33 31 31 31 36 00 00
  Address 0x20: 39 30 30 39 31 33 31 38 30 33 00 00 00 04 03 07
  Address 0x30: dd ff ff ff 54 32 30 32 37 44 42 2d 34 34 47 42
  Address 0x40: 23 42 23 00 01 43 4f 55 43 41 53 4b 42 41 41 52
  Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 59 ff ff ff ff ff ff ff ff ff ff ff ff
  ad0    3831 MB  UGB30SFA4000T1       SFA4000T1 000016CD Compact Flash
  ad1   30533 MB  UGB94BPH32H0S1-KCI   11000061346       Disk 1
  usb0 (addr 1)  EHCI root hub 0       Intel             uhub0
  usb0 (addr 2)  product 0x0020 32     vendor 0x8087     uhub1
  DIMM 0         VL31B5263F-F8SD DIE REV-0 PCB REV-0     MFR ID-ce80
  DIMM 1         VL31B5263F-F8SD DIE REV-0 PCB REV-0     MFR ID-ce80
  DIMM 2         VL31B5263F-F8SD DIE REV-0 PCB REV-0     MFR ID-ce80
  DIMM 3         VL31B5263F-F8SD DIE REV-0 PCB REV-0     MFR ID-ce80
Routing Engine 1 REV 08   740-031116   9009124913        RE-S-1800x4
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-031116        S/N:               9009124913
 Assembly ID:  0x09c0            Assembly Version:  01.08
 Date:         01-09-2013        Assembly Flags:    0x00
 Version:      REV 08            CLEI Code:         COUCASKBAA
 ID: RE-S-1800x4                 FRU Model Number:  RE-S-1800X4-16G-S
 Board Information Record:
  Address 0x00: 54 32 30 32 37 44 42 2d 34 34 47 42 23 42 23 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 c0 01 08 52 45 56 20 30 38 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 33 31 31 31 36 00 00
  Address 0x20: 39 30 30 39 31 32 34 39 31 33 00 00 00 09 01 07
  Address 0x30: dd ff ff ff 54 32 30 32 37 44 42 2d 34 34 47 42
  Address 0x40: 23 42 23 00 01 43 4f 55 43 41 53 4b 42 41 41 52
 Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 59 ff ff ff ff ff ff ff ff ff ff ff ff
  ad0    3831 MB  UGB30SFA4000T1       SFA4000T1 0000106D Compact Flash
  ad1   30533 MB  UGB94BPH32H0S1-KCI   11000052402       Disk 1
CB 0            REV 18   750-031391   CABF0579          Enhanced MX SCB
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-031391        S/N:               CABF0579
 Assembly ID:  0x09b0            Assembly Version:  01.18
 Date:         04-15-2013        Assembly Flags:    0x00
 Version:      REV 18            CLEI Code:         COUCASRBAA
 ID: Enhanced MX SCB             FRU Model Number:  SCBE-MX-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 b0 01 12 52 45 56 20 31 38 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 31 33 39 31 00 00
  Address 0x20: 53 2f 4e 20 43 41 42 46 30 35 37 39 00 0f 04 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 43 4f 55 43 41 53 52 42 41 41 53
  Address 0x50: 43 42 45 2d 4d 58 2d 53 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 43 00 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 7d ff ff ff ff ff ff ff ff ff ff ff ff
CB 1            REV 16   750-031391   CAAZ2471          Enhanced MX SCB
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-031391        S/N:               CAAZ2471
 Assembly ID:  0x09b0            Assembly Version:  01.16
 Date:         03-09-2013        Assembly Flags:    0x00
```

```
  Version:      REV 16            CLEI Code:         COUCARCBAB
  ID: Enhanced MX SCB             FRU Model Number:  SCBE-MX-S
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 02 ff 09 b0 01 10 52 45 56 20 31 36 00 00
   Address 0x10: 00 00 00 00 37 35 30 2d 30 33 31 33 39 31 00 00
   Address 0x20: 53 2f 4e 20 43 41 41 5a 32 34 37 31 00 09 03 07
   Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 01 43 4f 55 43 41 52 43 42 41 42 53
   Address 0x50: 43 42 45 2d 4d 58 2d 53 00 00 00 00 00 00 00 00
   Address 0x60: 00 00 00 00 00 00 42 00 00 ff ff ff ff ff ff ff
   Address 0x70: ff ff ff 6d ff ff ff ff ff ff ff ff ff ff ff ff
 CB 2             REV 16   750-031391   CAAW9595          Enhanced MX SCB
  Jedec Code:   0x7fb0            EEPROM Version:    0x02
  P/N:          750-031391        S/N:               CAAW9595
  Assembly ID:  0x09b0            Assembly Version:  01.16
  Date:         02-01-2013        Assembly Flags:    0x00
  Version:      REV 16            CLEI Code:         COUCARCBAB
  ID: Enhanced MX SCB             FRU Model Number:  SCBE-MX-S
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 02 ff 09 b0 01 10 52 45 56 20 31 36 00 00
   Address 0x10: 00 00 00 00 37 35 30 2d 30 33 31 33 39 31 00 00
   Address 0x20: 53 2f 4e 20 43 41 41 57 39 35 39 35 00 01 02 07
   Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 01 43 4f 55 43 41 52 43 42 41 42 53
  Address 0x50: 43 42 45 2d 4d 58 2d 53 00 00 00 00 00 00 00 00
   Address 0x60: 00 00 00 00 00 00 42 00 00 ff ff ff ff ff ff ff
   Address 0x70: ff ff ff 6d ff ff ff ff ff ff ff ff ff ff ff ff
 FPC 0            REV 18   750-046005   CACE6574          MPC5E 3D Q 2CGE+4XGE
  Jedec Code:   0x7fb0            EEPROM Version:    0x02
  P/N:          750-046005        S/N:               CACE6574
  Assembly ID:  0x0b8c            Assembly Version:  01.18
  Date:         11-20-2013        Assembly Flags:    0x00
  Version:      REV 18            CLEI Code:         PROTOXCLEI
  ID: MPC5E 3D Q 2CGE+4XGE        FRU Model Number:  PROTO-ASSEMBLY
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 02 ff 0b 8c 01 12 52 45 56 20 31 38 00 00
   Address 0x10: 00 00 00 00 37 35 30 2d 30 34 36 30 30 35 00 00
   Address 0x20: 53 2f 4e 20 43 41 43 45 36 35 37 34 00 14 0b 07
   Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
   Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
   Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
   Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
   CPU             REV 09   711-045719   CACG8908          RMPC PMB
  Jedec Code:   0x7fb0            EEPROM Version:    0x02
  P/N:          711-045719        S/N:               CACG8908
  Assembly ID:  0x0b85            Assembly Version:  01.09
  Date:         11-13-2013        Assembly Flags:    0x00
  Version:      REV 09
  ID: RMPC PMB
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 02 ff 0b 85 01 09 52 45 56 20 30 39 00 00
   Address 0x10: 00 00 00 00 37 31 31 2d 30 34 35 37 31 39 00 00
```


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```
 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   ANA0NAJ           SFP+-10G-SR
```

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```
    Xcvr 1       REV 01   740-021308   AQG0MRQ           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           1X100GE CFP2 OTN
 Jedec Code:   0x0000            EEPROM Version:    0x00
 P/N:          BUILTIN           S/N:               BUILTIN
 Assembly ID:  0x0a6e            Assembly Version:  00.00
 Date:         00-00-0000        Assembly Flags:    0x00
 ID: 1X100GE CFP2 OTN
 Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 I2C Hex Data:
  Address 0x00: 00 00 00 00 0a 6e 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 25 73 3a 20
  Address 0x20: 42 55 49 4c 54 49 4e 00 25 73 3a 20 00 00 00 00
  Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 c0 03 ed ec 31 5c e2 e8 00 00 00 02
 Xcvr 0       REV 01   740-049775   J13K72993         CFP2-100G-LR4
FPC 1            REV 11   750-045372   CABK8154          MPCE Type 3 3D
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-045372        S/N:               CABK8154
 Assembly ID:  0x09db            Assembly Version:  04.11
 Date:         05-18-2013        Assembly Flags:    0x00
 Version:      REV 11            CLEI Code:         COUIBBNBAA
 ID: MPCE Type 3 3D              FRU Model Number:  MX-MPC3E-3D
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 db 04 0b 52 45 56 20 31 31 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 35 33 37 32 00 00
  Address 0x20: 53 2f 4e 20 43 41 42 4b 38 31 35 34 00 12 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 43 4f 55 49 42 42 4e 42 41 41 4d
  Address 0x50: 58 2d 4d 50 43 33 45 2d 33 44 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 44 00 00 ff ff ff ff ff ff ff
  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 ff
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 0b 04 01 08 52 45 56 20 30 38 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 33 35 32 30 39 00 00
  Address 0x20: 53 2f 4e 20 43 41 42 45 37 33 37 30 00 08 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
  Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff 00 00 00 00 00 00 00 00 00 00 00 00
  MIC 0            REV 07   750-033307   CABD5255          10X10GE SFPP
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-033307        S/N:               CABD5255
 Assembly ID:  0x0a2a            Assembly Version:  02.07
 Date:         04-25-2013        Assembly Flags:    0x00
 Version:      REV 07            CLEI Code:         COUIBBJBAA
```


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```
  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
  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 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
 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
```


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```
  P/N:          BUILTIN          S/N:              BUILTIN
  Assembly ID:  0x02fe           Assembly Version: 00.00
  Date:         00-00-0000       Assembly Flags:   0x00
......
```

show chassis hardware models (MX960 Router with MPC5EQ)

```
user@host> show chassis hardware models
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
Midplane         REV 01   710-030012   ACAX3674          CHAS-BP-MX960-S
FPM Board        REV 03   710-014974   CAAZ9326          CRAFT-MX960-S
PEM 0            Rev 10   740-027760   QCS1702N062       PWR-MX960-4100-AC-S
PEM 1            Rev 04   740-027760   QCS1422N02C       PWR-MX960-4100-AC-S
PEM 2            Rev 09   740-027760   QCS1614N01X       PWR-MX960-4100-AC-S
Routing Engine 0 REV 08   740-031116   9009131803        RE-S-1800X4-16G-S
Routing Engine 1 REV 08   740-031116   9009124913        RE-S-1800X4-16G-S
CB 0             REV 18   750-031391   CABF0579          SCBE-MX-S
CB 1             REV 16   750-031391   CAAZ2471          SCBE-MX-S
CB 2             REV 16   750-031391   CAAW9595          SCBE-MX-S
FPC 0            REV 18   750-046005   CACE6574          PROTO-ASSEMBLY
FPC 1            REV 11   750-045372   CABK8154          MX-MPC3E-3D
  MIC 0          REV 07   750-033307   CABD5255          MIC3-3D-10XGE-SFPP
  MIC 1          REV 14   750-033196   CAAP1398          MIC3-3D-1X100GE-CXP
FPC 3            REV 35   750-028467   CAAT9156          MPC-3D-16XGE-SFPP
FPC 4            REV 18   750-046005   CACE6568          PROTO-ASSEMBLY
FPC 5            REV 18   750-046005   CACE6577          PROTO-ASSEMBLY
FPC 7            REV 09   750-037355   CAAF0937          MPC4E-2CGE-8XGE
FPC 8            REV 39   750-045715   CACD1903          PROTO-ASSEMBLY
FPC 9            REV 05   750-044444   CAAY9801          MX-MPC2E-3D-P
  MIC 0          REV 28   750-028387   CAAX1071          MIC-3D-4XGE-XFP
FPC 10           REV 21.0.11 750-045715 CAAY3541         PROTO-ASSEMBLY
FPC 11           REV 17   750-037355   CAAT3986          MPC4E-3D-2CGE-8XGE
Fan Tray 0       REV 08   740-031521   ACAF4219          FFANTRAY-MX960-HC-S
Fan Tray 1       REV 08   740-031521   ACAF4225          FFANTRAY-MX960-HC-S
```

show chassis hardware clei-models (MX960 Router with MPC5EQ)

```
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
```

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```
  MIC 0          REV 28   750-028387   COUIA16BAA        MIC-3D-4XGE-XFP
FPC 10           REV 21.0.11 750-045715 PROTOXCLEI       PROTO-ASSEMBLY
FPC 11           REV 17   750-037355   IPU3A4DHAA        MPC4E-3D-2CGE-8XGE
Fan Tray 0       REV 08   740-031521                     FFANTRAY-MX960-HC-S
Fan Tray 1       REV 08   740-031521                     FFANTRAY-MX960-HC-S
```

show chassis hardware (MX2010 Router)

```
user@host > show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11E3217AFK      MX2010
Midplane         REV 01   750-044636   ABAB8506          Lower Backplane
Midplane 1       REV 01   711-044557   ZY8296            Upper Backplane
PMP              REV 03   711-032426   ACAJ1388          Power Midplane
FPM Board        REV 06   711-032349   ZX8744            Front Panel Display
PSM 4            REV 0C   740-033727   VK00254           DC 52V Power Supply
Module
PSM 5            REV 0B   740-033727   VG00015           DC 52V Power Supply
Module
PSM 6            REV 0B   740-033727   VH00097           DC 52V Power Supply
Module
PSM 7            REV 0C   740-033727   VJ00151           DC 52V Power Supply
Module
PSM 8            REV 0C   740-033727   VJ00149           DC 52V Power Supply
Module
PDM 0            REV 0B   740-038109   WA00008           DC Power Dist Module
PDM 1            REV 0B   740-038109   WA00014           DC Power Dist Module
Routing Engine 0 REV 02   740-041821   9009094134        RE-S-1800x4
Routing Engine 1 REV 02   740-041821   9009094141        RE-S-1800x4
CB 0             REV 08   750-040257   CAAB3491          Control Board
CB 1             REV 08   750-040257   CAAB3489          Control Board
SPMB 0           REV 02   711-041855   CAAA6135          PMB Board
SPMB 1           REV 02   711-041855   CAAA6137          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
```


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```
    Xcvr 1       REV 01   740-021308   AMG0JHE          SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AMH02HT          SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AMH04V4          SFP+-10G-SR
FPC 1            REV 21   750-033205   ZG5027           MPC Type 3
  CPU            REV 04   711-035209   YT4780           HMPC PMB 2G
  MIC 0          REV 03   750-033307   ZV6299           10X10GE SFPP
    PIC 0                 BUILTIN      BUILTIN          10X10GE SFPP
      Xcvr 0     REV 01   740-031980   083363A00410     SFP+-10G-SR
      Xcvr 1     REV 01   740-031980   083363A00334     SFP+-10G-SR
      Xcvr 2     REV 01   740-031980   113363A00125     SFP+-10G-SR
      Xcvr 3     REV 01   740-031980   083363A00953     SFP+-10G-SR
      Xcvr 4     REV 01   740-031980   AHR013D          SFP+-10G-SR
      Xcvr 5     REV 01   740-031980   AJ40JUR          SFP+-10G-SR
      Xcvr 6     REV 01   740-031980   AJ40JKL          SFP+-10G-SR
      Xcvr 7     REV 01   740-031980   AJ30ECK          SFP+-10G-SR
      Xcvr 8     REV 01   740-021308   19T511100864     SFP+-10G-SR
      Xcvr 9     REV 01   740-021308   19T511100868     SFP+-10G-SR
  MIC 1          REV 03   750-033307   ZV6268           10X10GE SFPP
    PIC 2                 BUILTIN      BUILTIN          10X10GE SFPP
      Xcvr 0     REV 01   740-031980   AJC0JML          SFP+-10G-SR
      Xcvr 1     REV 01   740-031980   AJ403PC          SFP+-10G-SR
      Xcvr 2     REV 01   740-031980   AJ10N25          SFP+-10G-SR
      Xcvr 3     REV 01   740-031980   AJ40JF4          SFP+-10G-SR
      Xcvr 4     REV 01   740-031980   AJ40JSJ          SFP+-10G-SR
      Xcvr 5     REV 01   740-031980   AJ403V7          SFP+-10G-SR
      Xcvr 6     REV 01   740-031980   AJ40JN3          SFP+-10G-SR
      Xcvr 7     REV 01   740-031980   AJ40JSU          SFP+-10G-SR
      Xcvr 8     REV 01   740-021308   19T511100468     SFP+-10G-SR
      Xcvr 9     REV 01   740-021308   19T511101363     SFP+-10G-SR
FPC 8            REV 22   750-031089   ZT9746           MPC Type 2 3D
  CPU            REV 06   711-030884   ZS1271           MPC PMB 2G
  MIC 0          REV 26   750-028392   ABBS1150         3D 20x 1GE(LAN) SFP
    PIC 0                 BUILTIN      BUILTIN          10x 1GE(LAN) SFP
      Xcvr 0     REV 01   740-031851   PLG023C          SFP-SX
      Xcvr 1     REV 01   740-031851   PLG09C6          SFP-SX
      Xcvr 2     REV 02   740-011613   AM0950SF9L7      SFP-SX
      Xcvr 3     REV 02   740-011613   AM1001SFN1H      SFP-SX
      Xcvr 4     REV 02   740-011613   AM1001SFM9D      SFP-SX
      Xcvr 5     REV 02   740-011613   AM1001SFLTJ      SFP-SX
      Xcvr 6     REV 01   740-031851   AC1108S03L9      SFP-SX
      Xcvr 7     REV 01   740-031851   AC1102S00NC      SFP-SX
      Xcvr 8     REV 01   740-031851   AC1102S00MX      SFP-SX
      Xcvr 9     REV 01   740-031851   AC1102S0085      SFP-SX
    PIC 1                 BUILTIN      BUILTIN          10x 1GE(LAN) SFP
      Xcvr 0     REV 01   740-031851   AC1102S00KU      SFP-SX
      Xcvr 1     REV 01   740-031851   AC1102S00NG      SFP-SX
      Xcvr 2     REV 01   740-031851   AC1102S00K3      SFP-SX
      Xcvr 3     REV 01   740-031851   AC1102S008R      SFP-SX
      Xcvr 4     REV 01   740-031851   AM1107SUFVJ      SFP-SX
      Xcvr 5     REV 01   740-031851   AC1108S03LG      SFP-SX
  MIC 1          REV 26   750-028387   ABBR9582         3D 4x 10GE  XFP
    PIC 2                 BUILTIN      BUILTIN          2x 10GE  XFP
      Xcvr 0               NON-JNPR     T10A91703        XFP-10G-SR
      Xcvr 1               NON-JNPR     T09L42604        XFP-10G-SR
    PIC 3                 BUILTIN      BUILTIN          2x 10GE  XFP
FPC 9            REV 11   750-036284   ZL3591           MPC 3D 16x 10GE EM
  CPU            REV 10   711-029089   ZL0513           AMPC PMB
  PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   1YT517101825     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   1YT517101821     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   1YT517101682     SFP+-10G-SR
```

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```
    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
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show chassis hardware detail (MX2010 Router)

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user@host > show chassis hardware detail
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            REV 01   740-045050   1E02224000G       DC 52V Power Supply
Module
PSM 4            REV 01   740-045050   1E022240013       DC 52V Power Supply
Module
PSM 5            REV 01   740-045050   1E022240007       DC 52V Power Supply
Module
PSM 6            REV 01   740-045050   1E02224001C       DC 52V Power Supply
Module
PSM 7            REV 01   740-045050   1E02224001D       DC 52V Power Supply
Module
PSM 8            REV 01   740-045050   1E02224001B       DC 52V Power Supply
Module
PDM 0            REV 01   740-045234   1E262250067       DC Power Dist Module
Routing Engine 0 REV 02   740-041821   9009099704        RE-S-1800x4
  ad0    3831 MB  UGB30SFA4000T1       SFA4000T1 00000651 Compact Flash
  ad1   30533 MB  UGB94BPH32H0S1-KCI   11000019592       Disk 1
  usb0 (addr 1)  EHCI root hub 0       Intel             uhub0
  usb0 (addr 2)  product 0x0020 32     vendor 0x8087     uhub1
  DIMM 0         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 1         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
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  DIMM 2         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 3         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 02   740-041821   9009099706        RE-S-1800x4
  ad0    3998 MB  Virtium - TuffDrive VCF P1T0200262860208 114 Compact Flash
  ad1   30533 MB  UGB94ARF32H0S3-KC    UNIGEN-499551-000404 Disk 1
CB 0             REV 13   750-040257   CAAF8436          Control Board
CB 1             REV 13   750-040257   CAAF8434          Control Board
SPMB 0           REV 02   711-041855   ABBV3825          PMB Board
SPMB 1           REV 02   711-041855   ABBV3833          PMB Board
SFB 0            REV 05   711-044466   ABBX5682          Switch Fabric Board
SFB 1            REV 05   711-044466   ABBX5676          Switch Fabric Board
SFB 2            REV 05   711-044466   ABBX5665          Switch Fabric Board
SFB 3            REV 05   711-044466   ABBX5699          Switch Fabric Board
SFB 4            REV 05   711-044466   ABBX5603          Switch Fabric Board
SFB 5            REV 05   711-044466   ABBX5587          Switch Fabric Board
SFB 6            REV 05   711-044466   ABBX5607          Switch Fabric Board
SFB 7            REV 05   711-044466   ABBX5669          Switch Fabric Board
FPC 0            REV 09   750-037355   CAAF0924          MPC Type 4-2
  CPU            REV 08   711-035209   CAAB9842          HMPC PMB 2G
  PIC 0                   BUILTIN      BUILTIN           4x10GE SFPP
    Xcvr 0       REV 01   740-021308   19T511101656      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AMA04RU           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   193363A00558      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B10M00202         SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           1X100GE CFP
    Xcvr 0                NON-JNPR     X12J00328         CFP-100G-SR10
  PIC 2                   BUILTIN      BUILTIN           4x10GE SFPP
    Xcvr 0       REV 01   740-031980   AMA088W           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B10L04211         SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   19T511101602      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B10L04151         SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           1X100GE CFP
Xcvr 0                NON-JNPR     X12J00332         CFP-100G-SR10
FPC 1            REV 18   750-033205   ZE0128            MPC Type 3
  CPU            REV 06   711-035209   ZG5431            HMPC PMB 2G
  MIC 0          REV 15   750-033199   ZP6435            1X100GE CFP
    PIC 0                 BUILTIN      BUILTIN           1X100GE CFP
      Xcvr 0     REV 01   740-032210   J11E46118         CFP-100G-LR4
  MIC 1          REV 15   750-033199   ZP6442            1X100GE CFP
    PIC 2                 BUILTIN      BUILTIN           1X100GE CFP
      Xcvr 0     REV 01   740-032210   UMN03T4           CFP-100G-LR4
FPC 2            REV 16   750-037358   CAAL1001          MPC Type 4-1
  CPU            REV 08   711-035209   CAAK7927          HMPC PMB 2G
  PIC 0                   BUILTIN      BUILTIN           8X10GE SFPP
    Xcvr 0       REV 01   740-031980   193363A00589      SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   973152A00028      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   193363A00376      SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   973152A00016      SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   193363A00499      SFP+-10G-SR
    Xcvr 5       REV 01   740-021308   973152A00039      SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   B11E01239         SFP+-10G-SR
    Xcvr 7       REV 01   740-021308   973152A00058      SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           8X10GE SFPP
    Xcvr 0       REV 01   740-031980   B10M00075         SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   973152A00014      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AMA0638           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   973152A00063      SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   AMA0629           SFP+-10G-SR
    Xcvr 5       REV 01   740-021308   973152A00053      SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   193363A00344      SFP+-10G-SR
    Xcvr 7       REV 01   740-021308   973152A00046      SFP+-10G-SR
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  PIC 2                 BUILTIN      BUILTIN          8X10GE SFPP
    Xcvr 0       REV 01   740-031980   AMA062M          SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   973152A00080     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   193363A00580     SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   973152A00064     SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   093363A01494     SFP+-10G-SR
    Xcvr 5       REV 01   740-021308   973152A00020     SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   123363A00047     SFP+-10G-SR
    Xcvr 7       REV 01   740-021308   973152A00072     SFP+-10G-SR
  PIC 3                 BUILTIN      BUILTIN          8X10GE SFPP
    Xcvr 0       REV 01   740-021308   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
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  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   AJ40JKK           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
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    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
```


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```
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)

```
user@host > show chassis hardware extensive
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11E233DAFK      MX2010
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
                                 S/N:               JN11E233DAFK
 Assembly ID:  0x0557            Assembly Version:  00.00
 Date:         00-00-0000        Assembly Flags:    0x00
 ID: MX2010
 Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 05 57 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x20: 4a 4e 31 31 45 32 33 33 44 41 46 4b 00 00 00 00
  Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane         REV 26   750-044636   ABAB9357          Lower Backplane
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-044636        S/N:               ABAB9357
 Assembly ID:  0x0b66            Assembly Version:  01.26
 Date:         08-28-2012        Assembly Flags:    0x00
 Version:      REV 26            CLEI Code:         PROTOXCLEI
 ID: Lower Backplane             FRU Model Number:  PROTO-ASSEMBLY
 Board Information Record:
  Address 0x00: ad 01 08 00 2c 21 72 70 a0 00 ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 66 01 1a 52 45 56 20 32 36 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 36 33 36 00 00
  Address 0x20: 53 2f 4e 20 41 42 41 42 39 33 35 37 00 1c 08 07
  Address 0x30: dc ff ff ff ad 01 08 00 2c 21 72 70 a0 00 ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
  Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
Midplane 1       REV 01   711-044557   ABAB8643          Upper Backplane
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          711-044557        S/N:               ABAB8643
 Assembly ID:  0x0b65            Assembly Version:  01.01
 Date:         07-27-2012        Assembly Flags:    0x00
 Version:      REV 01
 ID: Upper Backplane
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 0b 65 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 34 34 35 35 37 00 00
  Address 0x20: 53 2f 4e 20 41 42 41 42 38 36 34 33 00 1b 07 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
  Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
```

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```
  Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff 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 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 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 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 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 ff
  Address 0x40: ff ff ff ff 01 49 50 4d 59 41 34 45 4a 52 41 4d
  Address 0x50: 58 32 30 31 30 2d 43 52 41 46 54 2d 53 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 93 ff ff ff ff ff ff ff ff ff ff ff ff
PSM 0            REV 01   740-045050   1E02224000P       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-045050        S/N:               1E02224000P
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         12-06-2012        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         XXXXXXXXXX
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-HC-DC-S-A
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff 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 ff
  Address 0x40: ff ff ff ff 01 58 58 58 58 58 58 58 58 58 58 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 48 43 2d 44 43 2d
  Address 0x60: 53 2d 41 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 4a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 1            REV 01   740-045050   1E02224000M       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-045050        S/N:               1E02224000M
Assembly ID:  0x0478            Assembly Version:  01.01
```


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```
 Date:         12-06-2012        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         XXXXXXXXXX
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-HC-DC-S-A
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 34 35 30 35 30 00 00
  Address 0x20: 31 45 30 32 32 32 34 30 30 30 4d 00 00 06 0c 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 58 58 58 58 58 58 58 58 58 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 48 43 2d 44 43 2d
  Address 0x60: 53 2d 41 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 4a 00 00 00 00 00 00 00 00 00 00 00 00
...
PDM 0            REV 01   740-045234   1E262250067       DC Power Dist Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-045234        S/N:               1E262250067
 Assembly ID:  0x047b            Assembly Version:  01.01
 Date:         06-28-2012        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAJSKAA
 ID: DC Power Dist Module        FRU Model Number:  MX2000-PDM-DC-S-A
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 7b 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 34 35 32 33 34 00 00
  Address 0x20: 31 45 32 36 32 32 35 30 30 36 37 00 00 1c 06 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4a 53 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 44 4d 2d 44 43 2d 53 2d 41
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 89 00 00 00 00 00 00 00 00 00 00 00 00
Routing Engine 0 REV 02   740-041821   9009099704        RE-S-1800x4
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-041821        S/N:               9009099704
 Assembly ID:  0x09c0            Assembly Version:  01.02
 Date:         03-15-2012        Assembly Flags:    0x00
 Version:      REV 02
 ID: RE-S-1800x4                 FRU Model Number:  RE-S-1800X4-16G-S
 Board Information Record:
  Address 0x00: 54 32 30 32 37 44 41 2d 34 34 47 42 23 41 23 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 c0 01 02 52 45 56 20 30 32 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 34 31 38 32 31 00 00
  Address 0x20: 39 30 30 39 30 39 39 37 30 34 00 00 00 0f 03 07
  Address 0x30: dc ff ff ff 54 32 30 32 37 44 41 2d 34 34 47 42
  Address 0x40: 23 41 23 00 01 00 00 00 00 00 00 00 00 00 00 52
  Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 8c ff ff ff ff ff ff ff ff ff ff ff ff
  ad0    3831 MB  UGB30SFA4000T1       SFA4000T1 00000651 Compact Flash
  ad1   30533 MB  UGB94BPH32H0S1-KCI   11000019592       Disk 1
  usb0 (addr 1)  EHCI root hub 0       Intel             uhub0
  usb0 (addr 2)  product 0x0020 32     vendor 0x8087     uhub1
  DIMM 0         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 1         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 2         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 3         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 02   740-041821   9009099706        RE-S-1800x4
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
```

```
 P/N:          740-041821        S/N:               9009099706
 Assembly ID:  0x09c0            Assembly Version:  01.02
 Date:         02-23-2012        Assembly Flags:    0x00
 Version:      REV 02
 ID: RE-S-1800x4                 FRU Model Number:  RE-S-1800X4-16G-S
 Board Information Record:
  Address 0x00: 54 32 30 32 37 44 41 2d 34 34 47 42 23 41 23 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 09 c0 01 02 52 45 56 20 30 32 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 34 31 38 32 31 00 00
 Address 0x20: 39 30 30 39 30 39 39 37 30 36 00 00 00 17 02 07
  Address 0x30: dc ff ff ff 54 32 30 32 37 44 41 2d 34 34 47 42
  Address 0x40: 23 41 23 00 01 00 00 00 00 00 00 00 00 00 00 52
  Address 0x50: 45 2d 53 2d 31 38 30 30 58 34 2d 31 36 47 2d 53
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 8c ff ff ff ff ff ff ff ff ff ff ff ff
  ad0    3998 MB  Virtium - TuffDrive VCF P1T0200262860208 114 Compact Flash
  ad1   30533 MB  UGB94ARF32H0S3-KC    UNIGEN-499551-000404 Disk 1
CB 0             REV 13   750-040257   CAAF8436          Control Board
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-040257        S/N:               CAAF8436
 Assembly ID:  0x0b26            Assembly Version:  01.13
 Date:         08-29-2012        Assembly Flags:    0x00
 Version:      REV 13            CLEI Code:         PROTOXCLEI
 ID: Control Board               FRU Model Number:  PROTO-ASSEMBLY
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 26 01 0d 52 45 56 20 31 33 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 30 32 35 37 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 46 38 34 33 36 00 1d 08 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
  Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c2 ff ff ff ff ff ff ff ff ff ff ff ff
...
SPMB 0           REV 02   711-041855   ABBV3825          PMB Board
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          711-041855        S/N:               ABBV3825
 Assembly ID:  0x0b29            Assembly Version:  01.02
 Date:         08-14-2012        Assembly Flags:    0x00
 Version:      REV 02
 ID: PMB Board
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 0b 29 01 02 52 45 56 20 30 32 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 34 31 38 35 35 00 00
  Address 0x20: 53 2f 4e 20 41 42 42 56 33 38 32 35 00 0e 08 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
  Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff 00 00 00 00 00 00 00 00 00 00 00 00
...
SFB 0            REV 05   711-044466   ABBX5682          Switch Fabric Board
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          711-044466        S/N:               ABBX5682
 Assembly ID:  0x0b25            Assembly Version:  01.05
 Date:         09-07-2012        Assembly Flags:    0x00
```


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```
 Version:      REV 05            CLEI Code:         PROTOXCLEI
 ID: Switch Fabric Board         FRU Model Number:  PROTO-ASSEMBLY
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 25 01 05 52 45 56 20 30 35 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 34 34 34 36 36 00 00
  Address 0x20: 53 2f 4e 20 41 42 42 58 35 36 38 32 00 07 09 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 50
  Address 0x50: 52 4f 54 4f 2d 41 53 53 45 4d 42 4c 59 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 30 30 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c2 00 00 00 01 00 00 00 00 00 00 48 00
...
FPC 0             REV 09   750-037355   CAAF0924          MPC Type 4-2
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-037355        S/N:               CAAF0924
 Assembly ID:  0x0b4e            Assembly Version:  01.09
 Date:         05-21-2012        Assembly Flags:    0x00
 Version:      REV 09            CLEI Code:         PROTOXCLEI
 ID: MPC Type 4-2                FRU Model Number:  MPC4E-2CGE-8XGE
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 4e 01 09 52 45 56 20 30 39 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 33 35 35 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 46 30 39 32 34 00 15 05 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 4d
  Address 0x50: 50 43 34 45 2d 32 43 47 45 2d 38 58 47 45 00 00
  Address 0x60: 00 00 00 00 00 00 30 39 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff c6 ff ff ff ff ff ff ff ff ff ff ff ff
  CPU             REV 08   711-035209   CAAB9842          HMPC 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: HMPC PMB 2G
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 0b 04 01 08 52 45 56 20 30 38 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 33 35 32 30 39 00 00
  Address 0x20: 53 2f 4e 20 43 41 41 42 39 38 34 32 00 11 05 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
  Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff ff 00 00 00 00 00 00 00 00 00 00 00 00
  PIC 0                    BUILTIN      BUILTIN           4x10GE SFPP
 Jedec Code:   0x0000            EEPROM Version:    0x00
 P/N:          BUILTIN           S/N:               BUILTIN
 Assembly ID:  0x0a53            Assembly Version:  00.00
 Date:         00-00-0000        Assembly Flags:    0x00
 ID: 4x10GE SFPP
 Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 I2C Hex Data:
  Address 0x00: 00 00 00 00 0a 53 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 42 55 49 4c 54 49 4e 00 4d 58 43 00
```

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```
  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 ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 3d 01 0d 52 45 56 20 31 33 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 34 33 35 39 36 00 00
  Address 0x20: 53 2f 4e 20 41 42 42 58 35 35 33 32 00 0c 09 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 43 42 41 38 43 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 4c 43 2d 41 44 41 50 54 45 52
  Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 3a 00 00 00 00 00 00 00 00 00 00 00 00
...
```

show chassis hardware models (MX2010 Router)

```
user@host > show chassis hardware models
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
FPM Board        REV 06   711-032349   ZX8744            711-032349
PSM 4            REV 0C   740-033727   VK00254           00000000000000000000000
PSM 5            REV 0B   740-033727   VG00015           00000000000000000000000
PSM 6            REV 0B   740-033727   VH00097           00000000000000000000000
PSM 7            REV 0C   740-033727   VJ00151           00000000000000000000000
PSM 8            REV 0C   740-033727   VJ00149           00000000000000000000000
PDM 0            REV 0B   740-038109   WA00008
PDM 1            REV 0B   740-038109   WA00014
Routing Engine 0 REV 02   740-041821   9009094134        RE-S-1800X4-16G-S
Routing Engine 1 REV 02   740-041821   9009094141        RE-S-1800X4-16G-S
CB 0             REV 08   750-040257   CAAB3491          750-040257
CB 1             REV 08   750-040257   CAAB3489          750-040257
SFB 0            REV 06   711-032385   ZV1828            711-032385
SFB 1            REV 07   711-032385   ZZ2568            711-032385
SFB 2            REV 07   711-032385   ZZ2563            711-032385
SFB 3            REV 07   711-032385   ZZ2564            711-032385
SFB 4            REV 07   711-032385   ZZ2580            711-032385
SFB 5            REV 07   711-032385   ZZ2579            711-0323856
SFB 6            REV 07   711-032385   CAAB4882          711-044170
SFB 7            REV 07   711-032385   CAAB4898          711-044170
FPC 0            REV 33   750-028467   CAAB1919          MPC-3D-16XGE-SFPP
FPC 1            REV 21   750-033205   ZG5027            MX-MPC3-3D
  MIC 0          REV 03   750-033307   ZV6299            MIC3-3D-10XGE-SFPP
  MIC 1          REV 03   750-033307   ZV6268            MIC3-3D-10XGE-SFPP
FPC 8            REV 22   750-031089   ZT9746            MX-MPC2-3D
```


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```
  MIC 0          REV 26   750-028392   ABBS1150          MIC-3D-20GE-SFP
  MIC 1          REV 26   750-028387   ABBR9582          MIC-3D-4XGE-XFP
FPC 9            REV 11   750-036284   ZL3591            MPCE-3D-16XGE-SFPP
ADC 0            REV 05   750-043596   CAAC2073          750-043596
ADC 1            REV 01   750-043596   ZV4117            750-043596
ADC 8            REV 01   750-043596   ZV4107            750-043596
ADC 9            REV 02   750-043596   ZW1555            750-043596
Fan Tray 0       REV 2A   760-046960   ACAY0015
Fan Tray 1       REV 2A   760-046960   ACAY0019
Fan Tray 2       REV 2A   760-046960   ACAY0020
Fan Tray 3       REV 2A   760-046960   ACAY0021
```

show chassis hardware clei-models (MX2010 Routers)

```
user@host > show chassis hardware clei-models
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
FPM Board        REV 06   711-032349   PROTOXCLEI        711-032349
PSM 4            REV 0C   740-033727   0000000000        00000000000000000000000
PSM 5            REV 0B   740-033727   0000000000        00000000000000000000000
PSM 6            REV 0B   740-033727   0000000000        00000000000000000000000
PSM 7            REV 0C   740-033727   0000000000        00000000000000000000000
PSM 8            REV 0C   740-033727   0000000000        00000000000000000000000
PDM 0            REV 0B   740-038109
PDM 1            REV 0B   740-038109
Routing Engine 0 REV 02   740-041821                     RE-S-1800X4-16G-S
Routing Engine 1 REV 02   740-041821                     RE-S-1800X4-16G-S
CB 0             REV 08   750-040257   PROTOXCLEI        750-040257
CB 1             REV 08   750-040257   PROTOXCLEI        750-040257
SFB 0            REV 06   711-032385   PROTOXCLEI        711-032385
SFB 1            REV 07   711-032385   PROTOXCLEI        711-032385
SFB 2            REV 07   711-032385   PROTOXCLEI        711-032385
SFB 3            REV 07   711-032385   PROTOXCLEI        711-032385
SFB 4            REV 07   711-032385   PROTOXCLEI        711-032385
SFB 5            REV 07   711-032385   PROTOXCLEI        711-0323856
SFB 6            REV 07   711-032385   PROTOXCLEI        711-044170
SFB 7            REV 07   711-032385   PROTOXCLEI        711-044170
FPC 0            REV 33   750-028467                     MPC-3D-16XGE-SFPP
FPC 1            REV 21   750-033205                     MX-MPC3-3D
  MIC 0          REV 03   750-033307   PROTOXCLEI        MIC3-3D-10XGE-SFPP
  MIC 1          REV 03   750-033307   PROTOXCLEI        MIC3-3D-10XGE-SFPP
FPC 8            REV 22   750-031089   COUIBAYBAA        MX-MPC2-3D
  MIC 0          REV 26   750-028392   COUIA15BAA        MIC-3D-20GE-SFP
  MIC 1          REV 26   750-028387   COUIA16BAA        MIC-3D-4XGE-XFP
FPC 9            REV 11   750-036284   CMUIACGBAA        MPCE-3D-16XGE-SFPP
ADC 0            REV 05   750-043596   PROTOXCLEI        750-043596
ADC 1            REV 01   750-043596   PROTOXCLEI        750-043596
ADC 8            REV 01   750-043596   PROTOXCLEI        750-043596
ADC 9            REV 02   750-043596   PROTOXCLEI        750-043596
Fan Tray 0       REV 2A   760-046960
Fan Tray 1       REV 2A   760-046960
Fan Tray 2       REV 2A   760-046960
Fan Tray 3       REV 2A   760-046960
```

show chassis hardware (MX2010 Routers with MPC6E and OTN MIC)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               JN11C9AFEAFK      MX2010
Midplane         REV 35   750-044636   ABAB9188          Lower Backplane
```

```
Midplane 1       REV 02   711-044557   ABAB8729          Upper Backplane
PMP              REV 04   711-032426   ACAJ2432          Power Midplane
FPM Board        REV 09   760-044634   ABCA4314          Front Panel Display
PSM 0            REV 01   740-050037   1EDB321015C       DC 52V Power Supply
Module
PSM 1            REV 01   740-050037   1EDB321015J       DC 52V Power Supply
Module
PSM 2            REV 01   740-050037   1EDB32000K8       DC 52V Power Supply
Module
PSM 3            REV 01   740-050037   1EDB32101JW       DC 52V Power Supply
Module
PSM 4            REV 01   740-050037   1EDB321015G       DC 52V Power Supply
Module
PSM 5            REV 01   740-050037   1EDB32101HH       DC 52V Power Supply
Module
PSM 6            REV 01   740-050037   1EDB32101HD       DC 52V Power Supply
Module
PSM 7            REV 01   740-050037   1EDB321015F       DC 52V Power Supply
Module
PSM 8            REV 01   740-050037   1EDB321015B       DC 52V Power Supply
Module
PDM 0            REV 03   740-045234   1EFA3220433       DC Power Dist Module
PDM 1            REV 03   740-045234   1EFA3220425       DC Power Dist Module
Routing Engine 0 REV 02   740-041821   9009115685        RE-S-1800x4
Routing Engine 1 REV 02   740-041821   9009099711        RE-S-1800x4
CB 0             REV 23   750-040257   CABE8395          Control Board
CB 1             REV 12   750-040257   CAAD9499          Control Board
SPMB 0           REV 02   711-041855   ABCG8426          PMB Board
SPMB 1           REV 02   711-041855   ABBS1481          PMB Board
SFB 0            REV 06   711-044466   ABCD5013          Switch Fabric Board
SFB 1            REV 06   711-044466   ABCD5160          Switch Fabric Board
SFB 2            REV 06   711-044466   ABCD5175          Switch Fabric Board
SFB 3            REV 06   711-044466   ABCD4938          Switch Fabric Board
SFB 4            REV 06   711-044466   ABCD4944          Switch Fabric Board
SFB 5            REV 06   711-044466   ABCD4968          Switch Fabric Board
SFB 6            REV 06   711-044466   ABCD5267          Switch Fabric Board
SFB 7            REV 06   711-044466   ABCD4997          Switch Fabric Board
FPC 0            REV 59   750-044130   ABCT7676          MPC6E 3D
  CPU            REV 10   711-045719   ABCK8527          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            HMPC 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          RMPC 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          RMPC 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          RMPC 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
```


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```
 CPU            REV 10   711-029089   ZP6541           AMPC PMB
  PIC 0                    BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ43GAC          SFP+-10G-SR
  PIC 1                    BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   ALM0A6D          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AQF0RB3          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   AQF0H44          SFP+-10G-SR
FPC 8            REV 38   750-031090   CABF7313         MPC Type 2 3D EQ
  CPU            REV 08   711-030884   CABE6727         MPC PMB 2G
  MIC 0          REV 18   750-028380   YK8253           3D 2x 10GE XFP
    PIC 0                  BUILTIN      BUILTIN          1x 10GE XFP
      Xcvr 0     REV 03   740-014289   AD1148M00TP      XFP-10G-SR
    PIC 1                  BUILTIN      BUILTIN          1x 10GE XFP
  QXM 0          REV 06   711-028408   CABC5614         MPC QXM
  QXM 1          REV 06   711-028408   CABC5550         MPC QXM
FPC 9            REV 39   750-044130   ABCK1652         MPC6E 3D
  CPU            REV 09   711-045719   ABCK1655         RMPC PMB
  MIC 0          REV 09   750-049457   ABCP1230         2X100GE CFP2 OTN
    PIC 0                  BUILTIN      BUILTIN          2X100GE CFP2 OTN
      Xcvr 0               NON-JNPR     37300222WP0002   CFP2-100G-LR4-D
      Xcvr 1               NON-JNPR     FD46F001Y        CFP2-100G-SR10
  MIC 1          REV 07   750-049457   ABCV6662         2X100GE CFP2 OTN
    PIC 1                  BUILTIN      BUILTIN          2X100GE CFP2 OTN
      Xcvr 0               NON-JNPR     UQD0014          CFP2-100G-LR4-D
      Xcvr 1               NON-JNPR     J13J68335        CFP2-100G-LR4-D
  XLM 0          REV 07.2.00 711-046638 ABCK5491        MPC6E XL
  XLM 1          REV 07.2.00 711-046638 ABCK5475        MPC6E XL
ADC 1            REV 17   750-043596   ABCG9023         Adapter Card
ADC 2            REV 01   750-043596   ZV4079           Adapter Card
ADC 6            REV 17   750-043596   ABCG8866         Adapter Card
ADC 8            REV 17   750-043596   ABCA8993         Adapter Card
Fan Tray 0       REV 06   760-046960   ACAY0354         172mm FanTray - 6 Fans
Fan Tray 1       REV 06   760-046960   ACAY0831         172mm FanTray - 6 Fans
Fan Tray 2       REV 06   760-046960   ACAY0892         172mm FanTray - 6 Fans
Fan Tray 3       REV 06   760-046960   ACAY0839         172mm FanTray - 6 Fans
```

show chassis hardware detail (MX2010 Routers with MPC6E and OTN MIC)

```
user@host> show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11C9AFEAFK      MX2010
Midplane         REV 35   750-044636   ABAB9188          Lower Backplane
Midplane 1       REV 02   711-044557   ABAB8729          Upper Backplane
PMP              REV 04   711-032426   ACAJ2432          Power Midplane
FPM Board        REV 09   760-044634   ABCA4314          Front Panel Display
PSM 0            REV 01   740-050037   1EDB321015C       DC 52V Power Supply
Module
PSM 1            REV 01   740-050037   1EDB321015J       DC 52V Power Supply
Module
PSM 2            REV 01   740-050037   1EDB32000K8       DC 52V Power Supply
Module
PSM 3            REV 01   740-050037   1EDB32101JW       DC 52V Power Supply
Module
PSM 4            REV 01   740-050037   1EDB321015G       DC 52V Power Supply
Module
```

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```
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  UGB94BPH32HOS1-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  UGB94ARF32HOS3-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            HMPC 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          RMPC 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          RMPC 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          RMPC PMB
  XLM 0          REV 13   711-046638   ABCT7808          MPC6E XL
  XLM 1          REV 13   711-046638   ABCT7809          MPC6E XL
FPC 6            REV 30   750-028467   ZM4986            MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ZP6541            AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   AQ43GAC           SFP+-10G-SR
```


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```
  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   ALM0A6D          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AQF0RB3          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   AQF0H44          SFP+-10G-SR
FPC 8           REV 38  750-031090   CABF7313         MPC Type 2 3D EQ
  CPU           REV 08  711-030884   CABE6727         MPC PMB 2G
  MIC 0         REV 18  750-028380   YK8253           3D 2x 10GE XFP
    PIC 0               BUILTIN      BUILTIN          1x 10GE XFP
      Xcvr 0    REV 03  740-014289   AD1148M00TP      XFP-10G-SR
    PIC 1               BUILTIN      BUILTIN          1x 10GE XFP
  QXM 0         REV 06  711-028408   CABC5614         MPC QXM
  QXM 1         REV 06  711-028408   CABC5550         MPC QXM
FPC 9           REV 39  750-044130   ABCK1652         MPC6E 3D
  CPU           REV 09  711-045719   ABCK1655         RMPC PMB
  MIC 0         REV 09  750-049457   ABCP1230         2X100GE CFP2 OTN
    PIC 0               BUILTIN      BUILTIN          2X100GE CFP2 OTN
      Xcvr 0            NON-JNPR     37300222WP0002   CFP2-100G-LR4-D
      Xcvr 1            NON-JNPR     FD46F001Y        CFP2-100G-SR10
  MIC 1         REV 07  750-049457   ABCV6662         2X100GE CFP2 OTN
    PIC 1               BUILTIN      BUILTIN          2X100GE CFP2 OTN
      Xcvr 0            NON-JNPR     UQD0014          CFP2-100G-LR4-D
      Xcvr 1            NON-JNPR     J13J68335        CFP2-100G-LR4-D
  XLM 0         REV 07.2.00 711-046638 ABCK5491       MPC6E XL
  XLM 1         REV 07.2.00 711-046638 ABCK5475       MPC6E XL
ADC 1           REV 17  750-043596   ABCG9023         Adapter Card
ADC 2           REV 01  750-043596   ZV4079           Adapter Card
ADC 6           REV 17  750-043596   ABCG8866         Adapter Card
ADC 8           REV 17  750-043596   ABCA8993         Adapter Card
Fan Tray 0      REV 06  760-046960   ACAY0354         172mm FanTray - 6 Fans
Fan Tray 1      REV 06  760-046960   ACAY0831         172mm FanTray - 6 Fans
Fan Tray 2      REV 06  760-046960   ACAY0892         172mm FanTray - 6 Fans
Fan Tray 3      REV 06  760-046960   ACAY0839         172mm FanTray - 6 Fans
```

show chassis hardware extensive (MX2010 Routers with MPC6E and OTN MIC)

```
user@host> show chassis hardware extensive
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11C9AFEAFK      MX2010
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
                                 S/N:               JN11C9AFEAFK
 Assembly ID:  0x0557            Assembly Version:  00.00
 Date:         00-00-0000        Assembly Flags:    0x00
 ID: MX2010
 Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 05 57 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x20: 4a 4e 31 31 43 39 41 46 45 41 46 4b 00 00 00 00
  Address 0x30: 00 00 00 ff 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane         REV 35   750-044636   ABAB9188          Lower Backplane
```

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```
  Jedec Code:   0x7fb0            EEPROM Version:    0x02
  P/N:          750-044636        S/N:               ABAB9188
  Assembly ID:  0x0b66            Assembly Version:  01.35
  Date:         06-21-2013        Assembly Flags:    0x00
  Version:      REV 35            CLEI Code:         IPMU810ARA
  ID: Lower Backplane             FRU Model Number:  CHAS-BP-MX2010-S
  Board Information Record:
   Address 0x00: ad 01 08 00 3c 8a b0 38 68 00 ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 02 ff 0b 66 01 23 52 45 56 20 33 35 00 00
   Address 0x10: 00 00 00 00 37 35 30 2d 30 34 34 36 33 36 00 00
   Address 0x20: 53 2f 4e 20 41 42 41 42 39 31 38 38 00 15 06 07
   Address 0x30: dd ff ff ff ad 01 08 00 3c 8a b0 38 68 00 ff ff
   Address 0x40: ff ff ff ff 01 49 50 4d 55 38 31 30 41 52 41 43
   Address 0x50: 48 41 53 2d 42 50 2d 4d 58 32 30 31 30 2d 53 00
   Address 0x60: 00 00 00 00 00 00 30 36 00 ff ff ff ff ff ff ff
   Address 0x70: ff ff ff f8 ff ff ff ff ff ff ff ff ff ff ff ff
Midplane 1       REV 02   711-044557   ABAB8729          Upper Backplane
  Jedec Code:   0x7fb0            EEPROM Version:    0x01
  P/N:          711-044557        S/N:               ABAB8729
  Assembly ID:  0x0b65            Assembly Version:  01.02
  Date:         03-21-2013        Assembly Flags:    0x00
  Version:      REV 02
  ID: Upper Backplane
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 01 ff 0b 65 01 02 52 45 56 20 30 32 00 00
   Address 0x10: 00 00 00 00 37 31 31 2d 30 34 34 35 35 37 00 00
   Address 0x20: 53 2f 4e 20 41 42 41 42 38 37 32 39 00 15 03 07
   Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 00
   Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
   Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
   Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
PMP              REV 04   711-032426   ACAJ2432          Power Midplane
  Jedec Code:   0x7fb0            EEPROM Version:    0x01
  P/N:          711-032426        S/N:               ACAJ2432
  Assembly ID:  0x045d            Assembly Version:  01.04
  Date:         03-28-2013        Assembly Flags:    0x00
  Version:      REV 04
  ID: Power Midplane
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 01 ff 04 5d 01 04 52 45 56 20 30 34 00 00
   Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 34 32 36 00 00
   Address 0x20: 53 2f 4e 20 41 43 41 4a 32 34 33 32 00 1c 03 07
   Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 01 00 00 00 00 00 00 00 00 00 00 00
   Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
   Address 0x60: 00 00 00 00 00 00 ff ff ff ff ff ff ff ff ff ff
   Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
FPM Board        REV 09   760-044634   ABCA4314          Front Panel Display
  Jedec Code:   0x7fb0            EEPROM Version:    0x02
  P/N:          760-044634        S/N:               ABCA4314
  Assembly ID:  0x0b64            Assembly Version:  01.09
  Date:         03-28-2013        Assembly Flags:    0x00
  Version:      REV 09            CLEI Code:         IPMYA4EJRA
  ID: Front Panel Display         FRU Model Number:  MX2010-CRAFT-S
  Board Information Record:
```


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```
  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 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 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
  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 ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 2            REV 01   740-050037   1EDB32000K8       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB32000K8
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         05-23-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff 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 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 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 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 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 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   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
```


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```
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 6            REV 01   740-050037   1EDB32101HD       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB32101HD
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         05-30-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 32 31 30 31 48 44 00 00 1e 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 7            REV 01   740-050037   1EDB321015F       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB321015F
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         05-28-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 32 31 30 31 35 46 00 00 1c 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 8            REV 01   740-050037   1EDB321015B       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB321015B
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         05-28-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 32 31 30 31 35 42 00 00 1c 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PDM 0            REV 03   740-045234   1EFA3220433       DC Power Dist Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
```

```
 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
..
```

show chassis hardware (MX2020 Router)

```
user@host > show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11E2227AFJ      MX2020
Midplane         REV 27   750-040240   ABAB9384          Lower Power Midplane
Midplane 1       REV 04   711-032386   ABAB9386          Upper Backplane
PMP 1            REV 05   711-032428   ACAJ1579          Upper Power Midplane
PMP 0            REV 04   711-032426   ACAJ1524          Lower Power Midplane
FPM Board        REV 06   760-040242   ABBT8837          Front Panel Display
PSM 0            REV 01   740-045050   1E022240056       DC 52V Power Supply
Module
PSM 1            REV 01   740-045050   1E022240054       DC 52V Power Supply
Module
PSM 2            REV 01   740-045050   1E02224005H       DC 52V Power Supply
Module
PSM 3            REV 01   740-045050   1E022240053       DC 52V Power Supply
Module
PSM 4            REV 01   740-045050   1E02224004K       DC 52V Power Supply
Module
PSM 7            REV 01   740-045050   1E02224006W       DC 52V Power Supply
Module
PSM 8            REV 01   740-045050   1E022240062       DC 52V Power Supply
Module
PSM 9            REV 01   740-045050   1E02224005B       DC 52V Power Supply
Module
PSM 10           REV 01   740-045050   1E02224005A       DC 52V Power Supply
Module
PSM 11           REV 01   740-045050   1E022240052       DC 52V Power Supply
Module
PSM 12           REV 01   740-045050   1E022240051       DC 52V Power Supply
Module
PSM 13           REV 01   740-045050   1E022240058       DC 52V Power Supply
```


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```
Module
PSM 14           REV 01   740-045050   1E02224004L       DC 52V Power Supply
Module
PSM 15           REV 01   740-045050   1E02224005M       DC 52V Power Supply
Module
PSM 16           REV 01   740-045050   1E02224006S       DC 52V Power Supply
Module
PSM 17           REV 01   740-045050   1E02224005Z       DC 52V Power Supply
Module
PDM 0            REV 01   740-045234   1E012150033       DC Power Dist Module
PDM 1            REV 01   740-045234   1E012150027       DC Power Dist Module
PDM 2            REV 01   740-045234   1E012150028       DC Power Dist Module
PDM 3            REV 01   740-045234   1E012150045       DC Power Dist Module
Routing Engine 0 REV 02   740-041821   9009089704        RE-S-1800x4
Routing Engine 1 REV 02   740-041821   9009094138        RE-S-1800x4
CB 0             REV 14   750-040257   CAAF8430          Control Board
CB 1             REV 08   750-040257   CAAB3482          Control Board
SPMB 0           REV 01   711-041855   ZS2290            PMB Board
SPMB 1           REV 02   711-041855   CAAA6141          PMB Board
SFB 0            REV 03   711-044466   ABBV6789          Switch Fabric Board
SFB 1            REV 05   711-044466   ABBX5666          Switch Fabric Board
SFB 2            REV 05   711-044466   ABBX5678          Switch Fabric Board
SFB 3            REV 05   711-044466   ABBX5687          Switch Fabric Board
SFB 4            REV 05   711-044466   ABBX5609          Switch Fabric Board
SFB 5            REV 05   711-044466   ABBX5675          Switch Fabric Board
SFB 6            REV 03   711-044466   ABBV6805          Switch Fabric Board
SFB 7            REV 05   711-044466   ABBX5701          Switch Fabric Board
FPC 0            REV 30   750-028467   ABBN0284          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN0507          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E00990         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E04357         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01327         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E04375         SFP+-10G-USR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E02760         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E02904         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E03963         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E00756         SFP+-10G-USR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E04418         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E01077         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E01128         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01253         SFP+-10G-USR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E01140         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11F01626         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E01075         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E01177         SFP+-10G-USR
FPC 1            REV 30   750-028467   ABBN0208          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBJ1084          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E04745         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11F01570         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E04388         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01439         SFP+-10G-USR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E04739         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11F01869         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01675         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01901         SFP+-10G-USR
```

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```
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11F01346        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11F01288        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11F01824        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11E04312        SFP+-10G-USR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11E02811        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11E03847        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11F01495        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11F01265        SFP+-10G-USR
FPC 2           REV 30  750-028467   ZM5111           MPC 3D 16x 10GE
  CPU           REV 10  711-029089   ZP6607           AMPC PMB
  PIC 0                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80LJA          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80MFZ          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80NKL          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80KF4          SFP+-10G-SR
  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80FBJ          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80MM2          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80LJV          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80NXV          SFP+-10G-SR
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80N1H          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80NLS          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80FL5          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80NL9          SFP+-10G-SR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80NG2          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80KDU          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80MG1          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80MM0          SFP+-10G-SR
FPC 3           REV 30  750-028467   ABBN0302         MPC 3D 16x 10GE
  CPU           REV 10  711-029089   ABBN0495         AMPC PMB
  PIC 0                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11F01581        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11E01176        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11F01251        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11E02752        SFP+-10G-USR
  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11E00786        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11E01020        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11E01023        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11E02819        SFP+-10G-USR
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11E02812        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11D04437        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11F01279        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11F01333        SFP+-10G-USR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11E00978        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11E01018        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11F01784        SFP+-10G-USR
    Xcvr 3      REV 01  740-031980   AK80NKP          SFP+-10G-SR
FPC 4           REV 30  750-028467   ABBN0308         MPC 3D 16x 10GE
  CPU           REV 10  711-029089   ABBJ1095         AMPC PMB
  PIC 0                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11E04305        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11E01147        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11E01195        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11F01743        SFP+-10G-USR
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  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11F01892        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11E02880        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11E00725        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11E01057        SFP+-10G-USR
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11E02816        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11C04501        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11E02764        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11E00789        SFP+-10G-USR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-030658   B11F01250        SFP+-10G-USR
    Xcvr 1      REV 01  740-030658   B11E02847        SFP+-10G-USR
    Xcvr 2      REV 01  740-030658   B11E00787        SFP+-10G-USR
    Xcvr 3      REV 01  740-030658   B11E03803        SFP+-10G-USR
FPC 5           REV 30  750-028467   ABBN0316         MPC 3D 16x 10GE
  CPU           REV 10  711-029089   ABBJ1082         AMPC PMB
  PIC 0                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   B11K00523        SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   B11K01848        SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   B11K01865        SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   B11K00540        SFP+-10G-SR
  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   B11K00422        SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   B11K00428        SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   B11K00423        SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   B11K01855        SFP+-10G-SR
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   B11K01847        SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   B11K00526        SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   B11K00529        SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   B11K00525        SFP+-10G-SR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   B11K00425        SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   B11K00530        SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   B11K01851        SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   B11K00528        SFP+-10G-SR
FPC 6           REV 32  750-028467   ABBN6832         MPC 3D 16x 10GE
  CPU           REV 10  711-029089   ABBK6534         AMPC PMB
  PIC 0                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80MB4          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80FQ6          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80N1F          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80NLQ          SFP+-10G-SR
  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80KDR          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80FGJ          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80N5G          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80KD8          SFP+-10G-SR
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80LET          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80N1X          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80NRF          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80NL2          SFP+-10G-SR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80N3D          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80MRB          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80LEQ          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80LER          SFP+-10G-SR
FPC 7           REV 32  750-028467   ABBN6811         MPC 3D 16x 10GE
  CPU           REV 10  711-029089   ABBN7288         AMPC PMB
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  PIC 0                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80NK8          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80LJG          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80LBU          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80N21          SFP+-10G-SR
  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80LEU          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80NLM          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80NL6          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80LES          SFP+-10G-SR
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80LEN          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80ME0          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80LMG          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80MM1          SFP+-10G-SR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80MG7          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80KF9          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80NRQ          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80NLE          SFP+-10G-SR
FPC 8           REV 23  750-028467   YN2977           MPC 3D 16x 10GE
  CPU           REV 10  711-029089   YP1856           AMPC PMB
  PIC 0                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   183363A00875     SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   183363A00851     SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   183363A00772     SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   183363A00882     SFP+-10G-SR
  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   183363A00735     SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   183363A00169     SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   183363A00726     SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   183363A00077     SFP+-10G-SR
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   183363A00168     SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   183363A00676     SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   183363A00732     SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   183363A00091     SFP+-10G-SR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   183363A00725     SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   183363A00642     SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   183363A00871     SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   183363A00853     SFP+-10G-SR
FPC 9           REV 32  750-028467   ABBN6798         MPC 3D 16x 10GE
  CPU           REV 10  711-029089   ABBK6556         AMPC PMB
  PIC 0                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-021308   9ZDZ06A00055     SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   183363A00239     SFP+-10G-SR
    Xcvr 2      REV 01  740-021308   AD0915E003K      SFP+-10G-SR
    Xcvr 3      REV 01  740-021308   AD0915E003A      SFP+-10G-SR
  PIC 1                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80MRC          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AK80NL5          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80NKN          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80N3U          SFP+-10G-SR
  PIC 2                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80N1T          SFP+-10G-SR
    Xcvr 1      REV 01  740-031980   AJ808DJ          SFP+-10G-SR
    Xcvr 2      REV 01  740-031980   AK80NG4          SFP+-10G-SR
    Xcvr 3      REV 01  740-031980   AK80FND          SFP+-10G-SR
  PIC 3                 BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01  740-031980   AK80FKQ          SFP+-10G-SR
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    Xcvr 1       REV 01   740-031980   AK80NLT          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NKR          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LKM          SFP+-10G-SR
FPC 10           REV 32   750-028467   ABBN6813         MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBK6542         AMPC PMB
  PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NA3          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NLF          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80MRH          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80KE4          SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   973152A00030     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80L9H          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80ME8          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NLR          SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NG1          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MCA          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80LFC          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LEM          SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80N9X          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80LAC          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80LF2          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80N8T          SFP+-10G-SR
FPC 11           REV 30   750-028467   ABBN0281         MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN0526         AMPC PMB
  PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11F01326        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E03973        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E00950        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E00674        SFP+-10G-USR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E00775        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E04461        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E01074        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E02821        SFP+-10G-USR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E04501        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E00757        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01623        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E01022        SFP+-10G-USR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E04359        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E02751        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E02736        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E01178        SFP+-10G-USR
FPC 12           REV 32   750-028467   ABBN6796         MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN7259         AMPC PMB
  PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K01856        SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K01853        SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01863        SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02863     SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02668     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02881     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A01671     SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02627     SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02725     SFP+-10G-SR
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    Xcvr 1       REV 01   740-031980   163363A02692      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02730      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03081      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02736      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02568      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02747      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02579      SFP+-10G-SR
FPC 13           REV 30   750-028467   ABBN0270          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBJ0966          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NL1           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NXW           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80KD2           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80FMD           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NKQ           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MGH           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80N38           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NL7           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LEL           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NKD           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80KCY           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LHK           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80M5J           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MBE           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NLG           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LFH           SFP+-10G-SR
FPC 14           REV 32   750-028467   ABBN6790          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBK6515          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LZM           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MCC           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80KCM           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80KE0           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021310   C10F99155         SFP+-10G-LRM
    Xcvr 1       REV 01   740-021310   C10F99049         SFP+-10G-LRM
    Xcvr 2       REV 01   740-021310   C10F99128         SFP+-10G-LRM
    Xcvr 3       REV 01   740-021310   C10F99169         SFP+-10G-LRM
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LF3           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02597      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A03060      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03057      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LEX           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80FEU           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80FNM           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AJQ0Q5G           SFP+-10G-SR
FPC 15           REV 32   750-028467   ABBN6791          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN7289          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K00424         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K01849         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01862         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K01852         SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K00427         SFP+-10G-SR
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    Xcvr 1       REV 01   740-031980   B11K00430        SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01854        SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K00426        SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K00429        SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K01864        SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01850        SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K00522        SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E01144        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E00985        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E00796        SFP+-10G-USR
    Xcvr 3       REV 01   740-031980   B11K01866        SFP+-10G-SR
FPC 16           REV 30   750-028467   ABBM4592         MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN0465         AMPC PMB
  PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11F01435        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E01052        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01328        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01254        SFP+-10G-USR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E02738        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E02881        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01624        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E00889        SFP+-10G-USR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E02883        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E00681        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E04306        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E02813        SFP+-10G-USR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11F01801        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E02753        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E01156        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E04324        SFP+-10G-USR
FPC 17           REV 32   750-028467   ABBN6810         MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN7237         AMPC PMB
  PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02638     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02082     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A01674     SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03058     SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A03048     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02729     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02566     SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02567     SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02878     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02739     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A01959     SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02660     SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02731     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02588     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02673     SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02654     SFP+-10G-SR
FPC 18           REV 30   750-028467   ABBM4739         MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN0487         AMPC PMB
  PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02569     SFP+-10G-SR
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    Xcvr 1       REV 01   740-031980   163363A02886      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A03082      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   133363A00297      SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02726      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A03050      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02884      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03076      SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02581      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02873      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02582      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03083      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031981   UL70BU6           SFP+-10G-LR
    Xcvr 1       REV 01   740-031981   UL50QC6           SFP+-10G-LR
    Xcvr 2       REV 01   740-031981   UL708N6           SFP+-10G-LR
    Xcvr 3       REV 01   740-031981   UL603KK           SFP+-10G-LR
FPC 19           REV 32   750-028467   ABBN6827          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBK6508          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A01688      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A01724      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A01773      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02593      SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A03061      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A03056      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02669      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03070      SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02572      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02697      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02585      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03052      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02591      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02649      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02577      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02698      SFP+-10G-SR
ADC 0            REV 13   750-043596   ABBX5561          Adapter Card
ADC 1            REV 13   750-043596   ABBX5546          Adapter Card
ADC 2            REV 13   750-043596   ABBX5535          Adapter Card
ADC 3            REV 13   750-043596   ABBX5552          Adapter Card
ADC 4            REV 13   750-043596   ABBX5581          Adapter Card
ADC 5            REV 13   750-043596   ABBX5545          Adapter Card
ADC 6            REV 13   750-043596   ABBX5554          Adapter Card
ADC 7            REV 07   750-043596   ABBV7194          Adapter Card
ADC 8            REV 07   750-043596   ABBV7251          Adapter Card
ADC 9            REV 07   750-043596   ABBV7202          Adapter Card
ADC 10           REV 13   750-043596   ABBX5538          Adapter Card
ADC 11           REV 13   750-043596   ABBX5566          Adapter Card
ADC 12           REV 13   750-043596   ABBX5542          Adapter Card
ADC 13           REV 13   750-043596   ABBX5539          Adapter Card
ADC 14           REV 13   750-043596   ABBX5555          Adapter Card
ADC 15           REV 13   750-043596   ABBX5557          Adapter Card
ADC 16           REV 13   750-043596   ABBX5536          Adapter Card
ADC 17           REV 13   750-043596   ABBX5559          Adapter Card
ADC 18           REV 13   750-043596   ABBX5537          Adapter Card
ADC 19           REV 11   750-043596   ABBW5685          Adapter Card
Fan Tray 0       REV 2A   760-046960   ACAY0030          172mm FanTray - 6 Fans
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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
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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         REV 27   750-040240   ABAB9384          Lower Power Midplane
Midplane 1       REV 04   711-032386   ABAB9386          Upper Backplane
PMP 1            REV 05   711-032428   ACAJ1821          Upper Power Midplane
PMP 0            REV 04   711-032426   ACAJ1524          Lower Power Midplane
FPM Board        REV 06   760-040242   ABBT8837          Front Panel Display
PSM 0            REV 01   740-045050   1E02224006G       DC 52V Power Supply
Module
PSM 1            REV 01   740-045050   1E022240053       DC 52V Power Supply
Module
PSM 2            REV 01   740-045050   1E02224004K       DC 52V Power Supply
Module
PSM 3            REV 01   740-045050   1E022240056       DC 52V Power Supply
Module
PSM 4            REV 01   740-045050   1E022240054       DC 52V Power Supply
Module
PSM 5            REV 01   740-045050   1E02224005H       DC 52V Power Supply
Module
PSM 6            REV 01   740-045050   1E02224006S       DC 52V Power Supply
Module
PSM 7            REV 01   740-045050   1E02224005M       DC 52V Power Supply
Module
PSM 8            REV 01   740-045050   1E022240062       DC 52V Power Supply
Module
PSM 9            REV 03   740-045050   1EDB2350095       DC 52V Power Supply
Module
PSM 10           REV 03   740-045050   1EDB235009L       DC 52V Power Supply
Module
PSM 11           REV 03   740-045050   1EDB2350092       DC 52V Power Supply
Module
PSM 12           REV 03   740-045050   1EDB23500AT       DC 52V Power Supply
Module
PSM 13           REV 03   740-045050   1EDB2350094       DC 52V Power Supply
Module
PSM 15           REV 03   740-045050   1EDB235008X       DC 52V Power Supply
Module
PDM 0            REV 01   740-045234   1E012150033       DC Power Dist Module
PDM 1            REV 01   740-045234   1E012150027       DC Power Dist Module
PDM 2            REV 01   740-045234   1E262250072       DC Power Dist Module
Routing Engine 0 REV 02   740-041821   9009094138        RE-S-1800x4
  ad0    3998 MB  Virtium - TuffDisk VCF3 20110825A021D0000064 Compact Flash
  ad1   30533 MB  UGB94ARF32H0S3-KC    UNIGEN-499551-000347 Disk 1
  usb0 (addr 1)  EHCI root hub 0       Intel             uhub0
  usb0 (addr 2)  product 0x0020 32     vendor 0x8087     uhub1
  DIMM 0         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 1         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 2         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 3         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 02   740-041821   9009089709        RE-S-1800x4
  ad0    3831 MB  UGB30SFA4000T1       SFA4000T1 00000113 Compact Flash
  ad1   30533 MB  UGB94ARF32H0S3-KC    UNIGEN-478612-001044 Disk 1
CB 0             REV 08   750-040257   CAAB3482          Control Board
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CB 1            REV 04   750-040257   ZT2864           Control Board
SPMB 0          REV 02   711-041855   CAAA6141         PMB Board
SPMB 1          REV 01   711-041855   ZS2275           PMB Board
SFB 0           REV 05   711-044466   ABBT2161         Switch Fabric Board
SFB 1           REV 05   711-044466   ABBT2159         Switch Fabric Board
SFB 2           REV 05   711-044466   ABBX3718         Switch Fabric Board
SFB 3           REV 05   711-044466   ABBT2152         Switch Fabric Board
SFB 4           REV 05   711-044466   ABBT2160         Switch Fabric Board
SFB 5           REV 05   711-044466   ABBT2145         Switch Fabric Board
SFB 6           REV 05   711-044466   ABBT2150         Switch Fabric Board
SFB 7           REV 05   711-044466   ABBT2163         Switch Fabric Board
FPC 0           REV 30   750-028467   ABBN0284         MPC 3D 16x 10GE
  CPU           REV 10   711-029089   ABBN0507         AMPC PMB
  PIC 0                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-030658   B11E00990        SFP+-10G-USR
    Xcvr 1      REV 01   740-030658   B11E04357        SFP+-10G-USR
    Xcvr 2      REV 01   740-030658   B11F01327        SFP+-10G-USR
Xcvr 3       REV 01   740-030658   B11E04375        SFP+-10G-USR
  PIC 1                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-030658   B11E02760        SFP+-10G-USR
    Xcvr 1      REV 01   740-030658   B11E02904        SFP+-10G-USR
    Xcvr 2      REV 01   740-030658   B11E03963        SFP+-10G-USR
    Xcvr 3      REV 01   740-030658   B11E00756        SFP+-10G-USR
  PIC 2                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-030658   B11E04418        SFP+-10G-USR
    Xcvr 1      REV 01   740-030658   B11E01077        SFP+-10G-USR
    Xcvr 2      REV 01   740-030658   B11E01128        SFP+-10G-USR
    Xcvr 3      REV 01   740-030658   B11F01253        SFP+-10G-USR
  PIC 3                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-030658   B11E01140        SFP+-10G-USR
    Xcvr 1      REV 01   740-030658   B11F01626        SFP+-10G-USR
    Xcvr 2      REV 01   740-030658   B11E01075        SFP+-10G-USR
    Xcvr 3      REV 01   740-030658   B11E01177        SFP+-10G-USR
FPC 1           REV 30   750-028467   ABBN0308         MPC 3D 16x 10GE
  CPU           REV 10   711-029089   ABBJ1095         AMPC PMB
  PIC 0                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-030658   B11E04305        SFP+-10G-USR
    Xcvr 1      REV 01   740-030658   B11E01147        SFP+-10G-USR
    Xcvr 2      REV 01   740-030658   B11E01195        SFP+-10G-USR
    Xcvr 3      REV 01   740-030658   B11F01743        SFP+-10G-USR
  PIC 1                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-030658   B11F01892        SFP+-10G-USR
    Xcvr 1      REV 01   740-030658   B11E02880        SFP+-10G-USR
    Xcvr 2      REV 01   740-030658   B11E00725        SFP+-10G-USR
    Xcvr 3      REV 01   740-030658   B11E01057        SFP+-10G-USR
  PIC 2                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-030658   B11E02816        SFP+-10G-USR
    Xcvr 1      REV 01   740-030658   B11C04501        SFP+-10G-USR
    Xcvr 2      REV 01   740-030658   B11E02764        SFP+-10G-USR
    Xcvr 3      REV 01   740-030658   B11E00789        SFP+-10G-USR
  PIC 3                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-030658   B11F01250        SFP+-10G-USR
    Xcvr 1      REV 01   740-030658   B11E02847        SFP+-10G-USR
    Xcvr 2      REV 01   740-030658   B11E00787        SFP+-10G-USR
    Xcvr 3      REV 01   740-030658   B11E03803        SFP+-10G-USR
FPC 2           REV 30   750-028467   ABBN0316         MPC 3D 16x 10GE
  CPU           REV 10   711-029089   ABBJ1082         AMPC PMB
  PIC 0                  BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0      REV 01   740-031980   B11K00523        SFP+-10G-SR
    Xcvr 1      REV 01   740-031980   B11K01848        SFP+-10G-SR
    Xcvr 2      REV 01   740-031980   B11K01865        SFP+-10G-SR
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    Xcvr 3       REV 01   740-031980   B11K00540         SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K00422         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K00428         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K00423         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K01855         SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K01847         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K00526         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K00529         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K00525         SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
Xcvr 0       REV 01   740-031980   B11K00425         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K00530         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01851         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K00528         SFP+-10G-SR
FPC 3            REV 32   750-028467   ABBN6832          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBK6534          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80MB4           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80FQ6           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80N1F           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NLQ           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80KDR           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80FGJ           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80N5G           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80KD8           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LET           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80N1X           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NRF           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NL2           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80N3D           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MRB           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80LEQ           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LER           SFP+-10G-SR
FPC 4            REV 32   750-028467   ABBN6811          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN7288          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NK8           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80LJG           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80LBU           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80N21           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LEU           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NLM           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NL6           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LES           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LEN           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80ME0           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80LMG           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80MM1           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80MG7           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80KF9           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NRQ           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NLE           SFP+-10G-SR
FPC 5            REV 32   750-028467   ABBN6791          MPC 3D 16x 10GE
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  CPU            REV 10   711-029089   ABBN7289          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K00424         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K01849         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01862         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K01852         SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP
Xcvr 0       REV 01   740-031980   B11K00427         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K00430         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01854         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K00426         SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K00429         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K01864         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01850         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11K00522         SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E01144         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E00985         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E00796         SFP+-10G-USR
    Xcvr 3       REV 01   740-031980   B11K01866         SFP+-10G-SR
FPC 6            REV 30   750-028467   ABBM4592          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN0465          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11F01435         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E01052         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01328         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01254         SFP+-10G-USR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E02738         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E02881         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01624         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E00889         SFP+-10G-USR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E02883         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E00681         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E04306         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E02813         SFP+-10G-USR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11F01801         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E02753         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E01156         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E04324         SFP+-10G-USR
FPC 7            REV 32   750-028467   ABBN6810          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN7237          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A03058      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02082      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A01674      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02638      SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A03048      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02729      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02566      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02567      SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02878      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02739      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A01959      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02660      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
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    Xcvr 0       REV 01   740-031980   163363A02731      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02588      SFP+-10G-SR
 Xcvr 2       REV 01   740-031980   163363A02673      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02654      SFP+-10G-SR
FPC 8            REV 30   750-028467   ABBM4739          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN0487          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02569      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02886      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A03082      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   133363A00297      SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02726      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A03050      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02884      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03076      SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02581      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02873      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02582      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03083      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031981   UL70BU6           SFP+-10G-LR
    Xcvr 1       REV 01   740-031981   UL50QC6           SFP+-10G-LR
    Xcvr 2       REV 01   740-031981   UL708N6           SFP+-10G-LR
    Xcvr 3       REV 01   740-031981   UL603KK           SFP+-10G-LR
FPC 9            REV 32   750-028467   ABBN6827          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBK6508          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A01688      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A01724      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A01773      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02593      SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A03061      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A03056      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02669      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03070      SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02572      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02697      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02585      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03052      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02591      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02649      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02577      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02698      SFP+-10G-SR
FPC 10           REV 30   750-028467   ABBN0302          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN0495          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11F01581         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E01176         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01251         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E02752         SFP+-10G-USR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E00786         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E01020         SFP+-10G-USR
 Xcvr 2       REV 01   740-030658   B11E01023         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E02819         SFP+-10G-USR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
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    Xcvr 0       REV 01   740-030658   B11E02812         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11D04437         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01279         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01333         SFP+-10G-USR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E00978         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E01018         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01784         SFP+-10G-USR
    Xcvr 3       REV 01   740-031980   AK80NKP           SFP+-10G-SR
FPC 11           REV 32   750-028467   ABBN6790          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBK6515          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LZM           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MCC           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80KCM           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80KE0           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021310   C10F99155         SFP+-10G-LRM
    Xcvr 1       REV 01   740-021310   C10F99049         SFP+-10G-LRM
    Xcvr 2       REV 01   740-021310   C10F99128         SFP+-10G-LRM
    Xcvr 3       REV 01   740-021310   C10F99169         SFP+-10G-LRM
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LF3           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02597      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A03060      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03057      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LEX           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80FEU           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80FNM           SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AJQ0Q5G           SFP+-10G-SR
FPC 12           REV 30   750-028467   ZM5111            MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ZP6607            AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LJA           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MFZ           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NKL           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80KF4           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80FBJ           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MM2           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80LJV           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NXV           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80N1H           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NLS           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80FL5           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NL9           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NG2           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80KDU           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80MG1           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80MM0           SFP+-10G-SR
FPC 13           REV 30   750-028467   ABBN0208          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBJ1084          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E04745         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11F01570         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E04388         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01439         SFP+-10G-USR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
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    Xcvr 0       REV 01   740-030658   B11E04739         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11F01869         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01675         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01901         SFP+-10G-USR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11F01346         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11F01288         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01824         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E04312         SFP+-10G-USR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E02811         SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E03847         SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01495         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11F01265         SFP+-10G-USR
FPC 14           REV 23   750-028467   YN2977            MPC 3D 16x 10GE
  CPU            REV 10   711-029089   YP1856            AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   183363A00875      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   183363A00851      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   183363A00772      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   183363A00882      SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   183363A00735      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   183363A00169      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   183363A00726      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   183363A00077      SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   183363A00168      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   183363A00676      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   183363A00732      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   183363A00091      SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   183363A00725      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   183363A00642      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   183363A00871      SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   183363A00853      SFP+-10G-SR
FPC 15           REV 32   750-028467   ABBN6798          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBK6556          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   9ZDZ06A00055      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   183363A00239      SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AD0915E003K       SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AD0915E003A       SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80MRC           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NL5           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NKN           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80N3U           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80N1T           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJ808DJ           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NG4           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80FND           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80FKQ           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NLT           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NKR           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LKM           SFP+-10G-SR
FPC 16           REV 30   750-028467   ABBN0270          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBJ0966          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
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    Xcvr 0       REV 01   740-031980   AK80NL1          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NXW          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80KD2          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80FMD          SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NKQ          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MGH          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80N38          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NL7          SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80M5J          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NKD          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80KCY          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LHK          SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LEL          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MBE          SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80NLG          SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LFH          SFP+-10G-SR
FPC 17           REV 32   750-028467   ABBN6796         MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN7259         AMPC PMB
  PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   B11K01856        SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11K01853        SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11K01863        SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02863     SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02668     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02881     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A01671     SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02627     SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02725     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02692     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02730     SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A03081     SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   163363A02736     SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   163363A02568     SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   163363A02747     SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   163363A02579     SFP+-10G-SR
FPC 18           REV 30   750-028467   ABBN0281         MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBN0526         AMPC PMB
PIC 0                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11F01326        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E03973        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E00950        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E00674        SFP+-10G-USR
  PIC 1                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E00775        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E04461        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11E01074        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E02821        SFP+-10G-USR
  PIC 2                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E04501        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E00757        SFP+-10G-USR
    Xcvr 2       REV 01   740-030658   B11F01623        SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E01022        SFP+-10G-USR
  PIC 3                   BUILTIN      BUILTIN          4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-030658   B11E04359        SFP+-10G-USR
    Xcvr 1       REV 01   740-030658   B11E02751        SFP+-10G-USR
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    Xcvr 2       REV 01   740-030658   B11E02736         SFP+-10G-USR
    Xcvr 3       REV 01   740-030658   B11E01178         SFP+-10G-USR
FPC 19           REV 32   750-028467   ABBN6813          MPC 3D 16x 10GE
  CPU            REV 10   711-029089   ABBK6542          AMPC PMB
  PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NA3           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80NLF           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80MRH           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80KE4           SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-021308   973152A00030      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80L9H           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80ME8           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80NLR           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80NG1           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80MCA           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80LFC           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80LEM           SFP+-10G-SR
  PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80N9X           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AK80LAC           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80LF2           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AK80N8T           SFP+-10G-SR
ADC 0            REV 13   750-043596   ABBX5561          Adapter Card
ADC 1            REV 13   750-043596   ABBX5546          Adapter Card
ADC 2            REV 13   750-043596   ABBX5535          Adapter Card
ADC 3            REV 13   750-043596   ABBX5552          Adapter Card
ADC 4            REV 13   750-043596   ABBX5581          Adapter Card
ADC 5            REV 13   750-043596   ABBX5545          Adapter Card
ADC 6            REV 13   750-043596   ABBX5554          Adapter Card
ADC 7            REV 07   750-043596   ABBV7194          Adapter Card
ADC 8            REV 07   750-043596   ABBV7251          Adapter Card
ADC 9            REV 07   750-043596   ABBV7202          Adapter Card
ADC 10           REV 13   750-043596   ABBX5579          Adapter Card
ADC 11           REV 13   750-043596   ABBX5548          Adapter Card
ADC 12           REV 13   750-043596   ABBX5575          Adapter Card
ADC 13           REV 13   750-043596   ABBX5539          Adapter Card
ADC 14           REV 13   750-043596   ABBX5555          Adapter Card
ADC 15           REV 13   750-043596   ABBX5557          Adapter Card
ADC 16           REV 13   750-043596   ABBX5536          Adapter Card
ADC 17           REV 13   750-043596   ABBX5559          Adapter Card
ADC 18           REV 13   750-043596   ABBX5537          Adapter Card
ADC 19           REV 11   750-043596   ABBW5685          Adapter Card
Fan Tray 0       REV 04   760-046960   ACAY0090          172mm FanTray - 6 Fans
Fan Tray 1       REV 04   760-046960   ACAY0088          172mm FanTray - 6 Fans
Fan Tray 2       REV 04   760-046960   ACAY0089          172mm FanTray - 6 Fans
Fan Tray 3       REV 04   760-046960   ACAY0108          172mm FanTray - 6 Fans
```

show chassis hardware models (MX2020 Router)

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user@host > show chassis hardware models
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
Midplane         REV 27   750-040240   ABAB9384          750-040240
FPM Board        REV 06   760-040242   ABBT8837          760-040242
PSM 0            REV 01   740-045050   1E02224006G       MX2000-PSM-HC-DC-S-A
PSM 1            REV 01   740-045050   1E022240053       MX2000-PSM-HC-DC-S-A
PSM 2            REV 01   740-045050   1E02224004K       MX2000-PSM-HC-DC-S-A
PSM 3            REV 01   740-045050   1E022240056       MX2000-PSM-HC-DC-S-A
PSM 4            REV 01   740-045050   1E022240054       MX2000-PSM-HC-DC-S-A
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PSM 5              REV 01   740-045050   1E02224005H       MX2000-PSM-HC-DC-S-A
PSM 6              REV 01   740-045050   1E02224006S       MX2000-PSM-HC-DC-S-A
PSM 7              REV 01   740-045050   1E02224005M       MX2000-PSM-HC-DC-S-A
PSM 8              REV 01   740-045050   1E022240062       MX2000-PSM-HC-DC-S-A
PSM 9              REV 03   740-045050   1EDB2350095       MX2000-PSM-DC-S-A
PSM 10             REV 03   740-045050   1EDB235009L       MX2000-PSM-DC-S-A
PSM 11             REV 03   740-045050   1EDB2350092       MX2000-PSM-DC-S-A
PSM 12             REV 03   740-045050   1EDB23500AT       MX2000-PSM-DC-S-A
PSM 13             REV 03   740-045050   1EDB2350094       MX2000-PSM-DC-S-A
PSM 15             REV 03   740-045050   1EDB235008X       MX2000-PSM-DC-S-A
PDM 0              REV 01   740-045234   1E012150033
PDM 1              REV 01   740-045234   1E012150027
PDM 2              REV 01   740-045234   1E262250072       MX2000-PDM-DC-S-A
Routing Engine 0   REV 02   740-041821   9009094138        RE-S-1800X4-16G-S
Routing Engine 1   REV 02   740-041821   9009089709        RE-S-1800X4-16G-S
CB 0               REV 08   750-040257   CAAB3482          750-040257
CB 1               REV 04   750-040257   ZT2864            750-040257
SFB 0              REV 05   711-044466   ABBT2161          MX2000-SFB-S
SFB 1              REV 05   711-044466   ABBT2159          MX2000-SFB-S
SFB 2              REV 05   711-044466   ABBX3718          MX2000-SFB-S
SFB 4              REV 05   711-044466   ABBT2160          MX2000-SFB-S
SFB 5              REV 05   711-044466   ABBT2145          MX2000-SFB-S
SFB 7              REV 05   711-044466   ABBT2163          MX2000-SFB-S
FPC 0              REV 30   750-028467   ABBN0284          MPC-3D-16XGE-SFPP
FPC 1              REV 30   750-028467   ABBN0308          MPC-3D-16XGE-SFPP
FPC 2              REV 30   750-028467   ABBN0316          MPC-3D-16XGE-SFPP
FPC 3              REV 32   750-028467   ABBN6832          MPC-3D-16XGE-SFPP
FPC 4              REV 32   750-028467   ABBN6811          MPC-3D-16XGE-SFPP
FPC 5              REV 32   750-028467   ABBN6791          MPC-3D-16XGE-SFPP
FPC 6              REV 30   750-028467   ABBM4592          MPC-3D-16XGE-SFPP
FPC 7              REV 32   750-028467   ABBN6810          MPC-3D-16XGE-SFPP
FPC 8              REV 30   750-028467   ABBM4739          MPC-3D-16XGE-SFPP
FPC 9              REV 32   750-028467   ABBN6827          MPC-3D-16XGE-SFPP
FPC 10             REV 30   750-028467   ABBN0302          MPC-3D-16XGE-SFPP
FPC 11             REV 32   750-028467   ABBN6790          MPC-3D-16XGE-SFPP
FPC 12             REV 30   750-028467   ZM5111            MPC-3D-16XGE-SFPP
FPC 13             REV 30   750-028467   ABBN0208          MPC-3D-16XGE-SFPP
FPC 14             REV 23   750-028467   YN2977            MPC-3D-16XGE-SFPP
FPC 15             REV 32   750-028467   ABBN6798          MPC-3D-16XGE-SFPP
FPC 16             REV 30   750-028467   ABBN0270          MPC-3D-16XGE-SFPP
FPC 17             REV 32   750-028467   ABBN6796          MPC-3D-16XGE-SFPP
FPC 18             REV 30   750-028467   ABBN0281          MPC-3D-16XGE-SFPP
FPC 19             REV 32   750-028467   ABBN6813          MPC-3D-16XGE-SFPP
ADC 0              REV 13   750-043596   ABBX5561          PROTO-ASSEMBLY
ADC 1              REV 13   750-043596   ABBX5546          PROTO-ASSEMBLY
ADC 2              REV 13   750-043596   ABBX5535          MX2000-LC-ADAPTER
ADC 3              REV 13   750-043596   ABBX5552          MX2000-LC-ADAPTER
ADC 4              REV 13   750-043596   ABBX5581          MX2000-LC-ADAPTER
ADC 5              REV 13   750-043596   ABBX5545          PROTO-ASSEMBLY
ADC 6              REV 13   750-043596   ABBX5554          PROTO-ASSEMBLY
ADC 7              REV 07   750-043596   ABBV7194          MX2000-LC-ADAPTER
ADC 8              REV 07   750-043596   ABBV7251          MX2000-LC-ADAPTER
ADC 9              REV 07   750-043596   ABBV7202          MX2000-LC-ADAPTER
ADC 10             REV 13   750-043596   ABBX5579          MX2000-LC-ADAPTER
ADC 12             REV 13   750-043596   ABBX5575          MX2000-LC-ADAPTER
ADC 13             REV 13   750-043596   ABBX5539          PROTO-ASSEMBLY
ADC 14             REV 13   750-043596   ABBX5555          PROTO-ASSEMBLY
ADC 15             REV 13   750-043596   ABBX5557          MX2000-LC-ADAPTER
ADC 16             REV 13   750-043596   ABBX5536          PROTO-ASSEMBLY
ADC 17             REV 13   750-043596   ABBX5559          PROTO-ASSEMBLY
ADC 18             REV 13   750-043596   ABBX5537          PROTO-ASSEMBLY
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ADC 19           REV 11   750-043596   ABBW5685          PROTO-ASSEMBLY
Fan Tray 0       REV 04   760-046960   ACAY0090
Fan Tray 1       REV 04   760-046960   ACAY0088
Fan Tray 2       REV 04   760-046960   ACAY0089
Fan Tray 3       REV 04   760-046960   ACAY0108
```

show chassis hardware clei-models (MX2020 Router)

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user@ host > show chassis hardware clei-models
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Midplane         REV 27   750-040240   PROTOXCLEI        750-040240
FPM Board        REV 06   760-040242   PROTOXCLEI        760-040242
PSM 0            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 1            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 2            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 3            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 4            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 5            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 6            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 7            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 8            REV 01   740-045050   IPUPAJMKAA        MX2000-PSM-HC-DC-S-A
PSM 9            REV 03   740-045050   IPUPAJMKAA        MX2000-PSM-DC-S-A
PSM 10           REV 03   740-045050   IPUPAJMKAA        MX2000-PSM-DC-S-A
PSM 11           REV 03   740-045050   IPUPAJMKAA        MX2000-PSM-DC-S-A
PSM 12           REV 03   740-045050   IPUPAJMKAA        MX2000-PSM-DC-S-A
PSM 13           REV 03   740-045050   IPUPAJMKAA        MX2000-PSM-DC-S-A
PSM 15           REV 03   740-045050   IPUPAJMKAA        MX2000-PSM-DC-S-A
PDM 0            REV 01   740-045234
PDM 1            REV 01   740-045234
PDM 2            REV 01   740-045234   IPUPAJSKAA        MX2000-PDM-DC-S-A
Routing Engine 0 REV 02   740-041821                     RE-S-1800X4-16G-S
Routing Engine 1 REV 02   740-041821                     RE-S-1800X4-16G-S
CB 0             REV 08   750-040257   PROTOXCLEI        750-040257
CB 1             REV 04   750-040257   PROTOXCLEI        750-040257
SFB 0            REV 05   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 1            REV 05   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 2            REV 05   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 4            REV 05   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 5            REV 05   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 7            REV 05   711-044466   IPUCBA6CAA        MX2000-SFB-S
FPC 0            REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 1            REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 2            REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 3            REV 32   750-028467                     MPC-3D-16XGE-SFPP
FPC 4            REV 32   750-028467                     MPC-3D-16XGE-SFPP
FPC 5            REV 32   750-028467                     MPC-3D-16XGE-SFPP
FPC 6            REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 7            REV 32   750-028467                     MPC-3D-16XGE-SFPP
FPC 8            REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 9            REV 32   750-028467                     MPC-3D-16XGE-SFPP
FPC 10           REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 11           REV 32   750-028467                     MPC-3D-16XGE-SFPP
FPC 12           REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 13           REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 14           REV 23   750-028467                     MPC-3D-16XGE-SFPP
FPC 15           REV 32   750-028467                     MPC-3D-16XGE-SFPP
FPC 16           REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 17           REV 32   750-028467                     MPC-3D-16XGE-SFPP
FPC 18           REV 30   750-028467                     MPC-3D-16XGE-SFPP
FPC 19           REV 32   750-028467                     MPC-3D-16XGE-SFPP
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ADC 0            REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 1            REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 2            REV 13   750-043596   IPUCBA8CAA        MX2000-LC-ADAPTER
ADC 3            REV 13   750-043596   IPUCBA8CAA        MX2000-LC-ADAPTER
ADC 4            REV 13   750-043596   IPUCBA8CAA        MX2000-LC-ADAPTER
ADC 5            REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 6            REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 7            REV 07   750-043596   PROTOXCLEI        MX2000-LC-ADAPTER
ADC 8            REV 07   750-043596   PROTOXCLEI        MX2000-LC-ADAPTER
ADC 9            REV 07   750-043596   PROTOXCLEI        MX2000-LC-ADAPTER
ADC 10           REV 13   750-043596   IPUCBA8CAA        MX2000-LC-ADAPTER
ADC 12           REV 13   750-043596   IPUCBA8CAA        MX2000-LC-ADAPTER
ADC 13           REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 14           REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 15           REV 13   750-043596   IPUCBA8CAA        MX2000-LC-ADAPTER
ADC 16           REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 17           REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 18           REV 13   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
ADC 19           REV 11   750-043596   PROTOXCLEI        PROTO-ASSEMBLY
Fan Tray 0       REV 04   760-046960
Fan Tray 1       REV 04   760-046960
Fan Tray 2       REV 04   760-046960
Fan Tray 3       REV 04   760-046960
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show chassis hardware (MX2020 Router with MPC5EQ and MPC6E)

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user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN120BADBAFJ      MX2020
Midplane         REV 51   750-040240   ABAB9243          Lower Backplane
Midplane 1       REV 04   711-032386   ABAB9399          Upper Backplane
PMP 1            REV 05   711-032428   ACAJ2541          Upper Power Midplane
PMP 0            REV 04   711-032426   ACAJ2194          Lower Power Midplane
FPM Board        REV 13   760-040242   ABCA8835          Front Panel Display
PSM 0            REV 01   740-050037   1EDB32403L5       DC 52V Power Supply
Module
PSM 1            REV 01   740-050037   1EDB32403L3       DC 52V Power Supply
Module
PSM 2            REV 01   740-050037   1EDB32403KM       DC 52V Power Supply
Module
PSM 3            REV 01   740-050037   1EDB3130079       DC 52V Power Supply
Module
PSM 4            REV 01   740-050037   1EDB3130077       DC 52V Power Supply
Module
PSM 5            REV 01   740-050037   1EDB3130020       DC 52V Power Supply
Module
PSM 6            REV 01   740-050037   1EDB313009S       DC 52V Power Supply
Module
PSM 7            REV 01   740-050037   1EDB313008E       DC 52V Power Supply
Module
PSM 8            REV 01   740-050037   1EDB3130063       DC 52V Power Supply
Module
PSM 12           REV 01   740-050037   1EDB3130026       DC 52V Power Supply
Module
PSM 13           REV 01   740-050037   1EDB3130074       DC 52V Power Supply
Module
PSM 14           REV 01   740-050037   1EDB313009D       DC 52V Power Supply
Module
PSM 15           REV 01   740-050037   1EDB3130024       DC 52V Power Supply
Module
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PSM 16           REV 01   740-050037   1EDB3130054       DC 52V Power Supply
Module
PSM 17           REV 01   740-050037   1EDB3130080       DC 52V Power Supply
Module
PDM 0            REV 03   740-045234   1EGA3170144       DC Power Dist Module
PDM 1            REV 03   740-045234   1EGA3170158       DC Power Dist Module
PDM 2            REV 03   740-045234   1EGA3170182       DC Power Dist Module
PDM 3            REV 03   740-045234   1EGA3170207       DC Power Dist Module
Routing Engine 0 REV 02   740-041821   9009112112        RE-S-1800x4
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 4       REV 01   740-021308   19T511101104      SFP+-10G-SR
    Xcvr 5       REV 01   740-021308   AQ502ZM           SFP+-10G-SR
    Xcvr 6       REV 01   740-021308   AN10KY2           SFP+-10G-SR
    Xcvr 7       REV 01   740-021308   AQ43G41           SFP+-10G-SR
    Xcvr 8       REV 01   740-021308   AQ41F04           SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   AMS16N3           SFP+-10G-SR
    Xcvr 10      REV 01   740-021308   AMH04Y3           SFP+-10G-SR
    Xcvr 11      REV 01   740-021308   ANA093E           SFP+-10G-SR
  PIC 2                   BUILTIN      BUILTIN           3X40GE QSFPP
  PIC 3                   BUILTIN      BUILTIN           3X40GE QSFPP
  WAN MEZZ       REV 09   750-049136   CABN0410          MPC5E 24XGE OTN Mezz
FPC 1            REV 11   750-045372   CABK8112          MPCE Type 3 3D
  CPU            REV 08   711-035209   CABJ6621          HMPC PMB 2G
  MIC 0          REV 07   750-033307   CAAZ2897          10X10GE SFPP
    PIC 0                 BUILTIN      BUILTIN           10X10GE SFPP
      Xcvr 0     REV 01   740-021308   AQ501VK           SFP+-10G-SR
      Xcvr 1     REV 01   740-021308   AQ501YC           SFP+-10G-SR
      Xcvr 2     REV 01   740-021308   AQ43HJF           SFP+-10G-SR
      Xcvr 3     REV 01   740-021308   AQ43H8D           SFP+-10G-SR
      Xcvr 4     REV 01   740-021308   19T511100370      SFP+-10G-SR
```

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    Xcvr 5     REV 01   740-031980   153363A00763      SFP+-10G-SR
    Xcvr 6     REV 01   740-021308   APH2LXB           SFP+-10G-SR
    Xcvr 7     REV 01   740-031980   AMC0LVV           SFP+-10G-SR
    Xcvr 8     REV 01   740-031980   B11F00230         SFP+-10G-SR
  MIC 1        REV 14   750-033196   CAAP1390          1X100GE CXP
    PIC 2               BUILTIN      BUILTIN           1X100GE CXP
      Xcvr 0   REV 01   740-032166   XB11F000M         CFP2-100G-SR10
FPC 2          REV 17   750-037355   CAAS5826          MPC4E 3D 2CGE+8XGE
  CPU          REV 08   711-035209   CAAR3986          HMPC PMB 2G
  PIC 0                BUILTIN      BUILTIN           4x10GE SFPP
    Xcvr 0     REV 01   740-021308   T09F43722         SFP+-10G-SR
    Xcvr 1     REV 01   740-031980   ALP0KXF           SFP+-10G-SR
    Xcvr 2     REV 01   740-021308   AQ502FG           SFP+-10G-SR
    Xcvr 3     REV 01   740-021308   AQ502T7           SFP+-10G-SR
  PIC 1                BUILTIN      BUILTIN           1X100GE CFP
    Xcvr 0     REV 01   740-035329   X12J00571         CFP-100G-SR10
  PIC 2                BUILTIN      BUILTIN           4x10GE SFPP
    Xcvr 0     REV 01   740-031980   AJ71KEH           SFP+-10G-SR
    Xcvr 1     REV 01   740-031980   B11E01355         SFP+-10G-SR
    Xcvr 3     REV 01   740-031980   B11F00249         SFP+-10G-SR
  PIC 3                BUILTIN      BUILTIN           1X100GE CFP
FPC 3          REV 05   750-044444   CAAY9920          MPCE Type 2 3D P
  CPU          REV 04   711-038484   CAAW3639          MPCE PMB 2G
  MIC 0        REV 28   750-028387   CAAX1083          3D 4x 10GE  XFP
    PIC 0               BUILTIN      BUILTIN           2x 10GE  XFP
      Xcvr 0            NON-JNPR     CC07BK05B         XFP-10G-SR
      Xcvr 1   REV 01   740-011571   C728XJ00U         XFP-10G-SR
    PIC 1               BUILTIN      BUILTIN           2x 10GE  XFP
      Xcvr 0            NON-JNPR     T12L92339         XFP-10G-SR
  QXM 0        REV 06   711-028408   CAAW4915          MPC QXM
  QXM 1        REV 06   711-028408   CAAW4894          MPC QXM
FPC 4          REV 18   750-046005   CACH5661          MPC5E 3D Q 2CGE+4XGE
 CPU           REV 09   711-045719   CACF2880          RMPC PMB
  PIC 0                BUILTIN      BUILTIN           2X10GE SFPP OTN
  PIC 1                BUILTIN      BUILTIN           1X100GE CFP2 OTN
    Xcvr 0     REV 01   740-046563   XD16FC03Y         CFP2-100G-SR10
  PIC 2                BUILTIN      BUILTIN           2X10GE SFPP OTN
  PIC 3                BUILTIN      BUILTIN           1X100GE CFP2 OTN
    Xcvr 0     REV 01   740-049775   J13K72997         CFP2-100G-LR4-D
FPC 5          REV 35   750-028467   CAAR2623          MPC 3D 16x 10GE
  CPU          REV 11   711-029089   CAAR0491          AMPC PMB
  PIC 0                BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0     REV 01   740-021308   AQ5027T           SFP+-10G-SR
    Xcvr 1     REV 01   740-021308   AQ502J0           SFP+-10G-SR
    Xcvr 2     REV 01   740-021308   AQ5027S           SFP+-10G-SR
    Xcvr 3     REV 01   740-021308   AQ501Y7           SFP+-10G-SR
  PIC 1                BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0     REV 01   740-021308   AQ501YB           SFP+-10G-SR
    Xcvr 1     REV 01   740-021308   AQ503EB           SFP+-10G-SR
    Xcvr 2     REV 01   740-021308   AQ43HJH           SFP+-10G-SR
    Xcvr 3     REV 01   740-021308   AQ43J0Y           SFP+-10G-SR
  PIC 2                BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0     REV 01   740-021308   AQ50352           SFP+-10G-SR
    Xcvr 1     REV 01   740-021308   AQ501X6           SFP+-10G-SR
    Xcvr 2     REV 01   740-021308   AQ502NV           SFP+-10G-SR
    Xcvr 3     REV 01   740-021308   AQ502ZJ           SFP+-10G-SR
  PIC 3                BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Xcvr 0     REV 01   740-021308   AQ502H4           SFP+-10G-SR
    Xcvr 1     REV 01   740-021308   AQ43HJK           SFP+-10G-SR
    Xcvr 2     REV 01   740-031980   AJ30CU7           SFP+-10G-SR
FPC 9          REV 30   750-044130   ABCF5773          MPC6E 3D
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  CPU            REV 09   711-045719   ABCF1270          RMPC PMB
  MIC 0          REV 05   750-049457   ABCD7829          2X100GE CFP2 OTN
    PIC 0                 BUILTIN      BUILTIN           2X100GE CFP2 OTN
      Xcvr 0              NON-JNPR     FE13F000K         CFP2-100G-SR10
      Xcvr 1     REV 01   740-048813   XD32FE017         CFP2-100G-LR-D
  MIC 1          REV 07   750-049457   ABCK2812          2X100GE CFP2 OTN
    PIC 1                 BUILTIN      BUILTIN           2X100GE CFP2 OTN
      Xcvr 0     REV 01   740-048813   XD32FE018         CFP2-100G-SR10
      Xcvr 1              NON-JNPR     FE13F000E         CFP2-100G-LR4-D
  XLM 0          REV 05.2.00 711-046638 ABCF5915         MPC6E XL
  XLM 1          REV 05.2.00 711-046638 ABCF5916         MPC6E XL
FPC 10           REV 36   750-044130   ABCS8602          MPC6E 3D
  CPU            REV 09   711-045719   ABCS8779          RMPC PMB
  MIC 0          REV 06   750-049979   ABCK2656          24X10GE SFPP OTN
    PIC 0                 BUILTIN      BUILTIN           24X10GE SFPP OTN
      Xcvr 0     REV 01   740-021308   AQ43J08           SFP+-10G-SR
      Xcvr 1     REV 01   740-021308   AQE1Y2E           SFP+-10G-SR
      Xcvr 2     REV 01   740-021308   AQE1UW4           SFP+-10G-SR
      Xcvr 3     REV 01   740-021308   AQE1MQF           SFP+-10G-SR
      Xcvr 4     REV 01   740-021308   AQG0MN1           SFP+-10G-SR
      Xcvr 5     REV 01   740-021308   AQE1L9M           SFP+-10G-SR
      Xcvr 6     REV 01   740-021308   AQG0MPD           SFP+-10G-SR
      Xcvr 7     REV 01   740-021308   AQE1Y2B           SFP+-10G-SR
      Xcvr 8     REV 01   740-021308   AQG0LT5           SFP+-10G-SR
      Xcvr 9     REV 01   740-021308   AQD2ET4           SFP+-10G-SR
      Xcvr 10    REV 01   740-021308   AQG0MPC           SFP+-10G-SR
      Xcvr 11    REV 01   740-021308   AQG0M63           SFP+-10G-SR
      Xcvr 12    REV 01   740-021308   AQG0LT1           SFP+-10G-SR
      Xcvr 13    REV 01   740-021308   AQG0M4L           SFP+-10G-SR
      Xcvr 14    REV 01   740-021308   AQG0LS7           SFP+-10G-SR
      Xcvr 15    REV 01   740-021308   AQE1MQB           SFP+-10G-SR
      Xcvr 16    REV 01   740-021308   AQG0LZP           SFP+-10G-SR
      Xcvr 17    REV 01   740-021308   AQE1LU9           SFP+-10G-SR
      Xcvr 18    REV 01   740-021308   AQG0MRZ           SFP+-10G-SR
      Xcvr 19    REV 01   740-021308   AQE1MQ9           SFP+-10G-SR
      Xcvr 20    REV 01   740-021308   AQG0LRX           SFP+-10G-SR
      Xcvr 21    REV 01   740-021308   AQE1UWD           SFP+-10G-SR
      Xcvr 22    REV 01   740-021308   AQG0LT4           SFP+-10G-SR
      Xcvr 23    REV 01   740-021308   AQE1MQL           SFP+-10G-SR
  MIC 1          REV 12   750-050008   ABCK5372          4X100GE CXP
    PIC 1                 BUILTIN      BUILTIN           4X100GE CXP
      Xcvr 3     REV 01   740-046563   XD16FC02Z         CFP2-100G-SR10
  XLM 0          REV 07.2.00 711-046638 ABCK3481         MPC6E XL
  XLM 1          REV 07.2.00 711-046638 ABCK4725         MPC6E XL
FPC 17           REV 28   750-044130   ABBZ3873          MPC6E 3D
  CPU            REV 08   711-045719   ABBZ3770          RMPC PMB
  MIC 0          REV 11   750-046535   ABCC7731          24X10GE SFPP
    PIC 0                 BUILTIN      BUILTIN           24X10GE SFPP
      Xcvr 1     REV 01   740-021308   APK0543           SFP+-10G-SR
      Xcvr 2     REV 01   740-031980   B10G01119         SFP+-10G-SR
      Xcvr 3     REV 01   740-021308   AQ502SX           SFP+-10G-SR
      Xcvr 4     REV 01   740-021308   AQ43H84           SFP+-10G-SR
      Xcvr 5     REV 01   740-021308   AQ501TB           SFP+-10G-SR
      Xcvr 6     REV 01   740-021308   AQ502JZ           SFP+-10G-SR
      Xcvr 7     REV 01   740-021308   AQ502SC           SFP+-10G-SR
      Xcvr 8     REV 01   740-021308   AQ502JW           SFP+-10G-SR
      Xcvr 9     REV 01   740-021308   AQ502RM           SFP+-10G-SR
      Xcvr 10    REV 01   740-031980   AHK013B           SFP+-10G-SR
      Xcvr 11    REV 01   740-021308   AQG0MRT           SFP+-10G-SR
      Xcvr 13    REV 01   740-031980   AMC0JTC           SFP+-10G-SR
      Xcvr 14    REV 01   740-021308   ANA0MQ0           SFP+-10G-SR
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      Xcvr 15    REV 01   740-021308   AQ502GS          SFP+-10G-SR
      Xcvr 16    REV 01   740-021308   AQG0M0J          SFP+-10G-SR
      Xcvr 17    REV 01   740-021308   AQG0MUR          SFP+-10G-SR
      Xcvr 18    REV 01   740-021308   AQG0MRR          SFP+-10G-SR
      Xcvr 19    REV 01   740-021308   AQG0M0F          SFP+-10G-SR
      Xcvr 20    REV 01   740-021308   AQ50312          SFP+-10G-SR
      Xcvr 21    REV 01   740-021308   AQ5032U          SFP+-10G-SR
      Xcvr 22    REV 01   740-021308   APE17B5          SFP+-10G-SR
      Xcvr 23    REV 01   740-021309   91D104A00011     SFP+-10G-LR
  MIC 1          REV 03   750-050008   ABCC4522         4X100GE CXP
    PIC 1                 BUILTIN      BUILTIN          4X100GE CXP
      Xcvr 0     REV 01   740-046563   XD16FC02U        CFP2-100G-SR10
      Xcvr 1     REV 01   740-046563   XC42FC03K        CFP2-100G-SR10
      Xcvr 2     REV 01   740-046563   XC42FC01Z        CFP2-100G-SR10
      Xcvr 3     REV 01   740-046563   XC42FC02U        CFP2-100G-SR10
  XLM 0          REV 04.2.00 711-046638 ABBZ3779       MPC6E XL
  XLM 1          REV 04.2.00 711-046638 ABBZ3780       MPC6E XL
FPC 18           REV 39   750-045715   CACD1910         MPC5E 3D Q 24XGE+6XLGE
  CPU            REV 09   711-045719   CACD1817         RMPC PMB
  PIC 0                   BUILTIN      BUILTIN          12X10GE SFPP OTN
  PIC 1                   BUILTIN      BUILTIN          12X10GE SFPP OTN
  PIC 2                   BUILTIN      BUILTIN          3X40GE QSFPP
 Xcvr 0       REV 01   740-046565   QD130194         QSFP+-40G-SR4
    Xcvr 1       REV 01   740-046565   QD130193         QSFP+-40G-SR4
    Xcvr 2       REV 01   740-046565   QD130196         QSFP+-40G-SR4
  PIC 3                   BUILTIN      BUILTIN          3X40GE QSFPP
    Xcvr 0       REV 01   740-046565   QD130191         QSFP+-40G-SR4
    Xcvr 1       REV 01   740-046565   QD130198         QSFP+-40G-SR4
    Xcvr 2       REV 01   740-046565   QD130192         QSFP+-40G-SR4
  WAN MEZZ       REV 09   750-049136   CABN0411         MPC5E 24XGE OTN Mezz
FPC 19           REV 39   750-045715   CACD1908         MPC5E 3D Q 24XGE+6XLGE
  CPU            REV 09   711-045719   CACD1820         RMPC PMB
  PIC 0                   BUILTIN      BUILTIN          12X10GE SFPP OTN
    Xcvr 0       REV 01   740-021308   AQA0EXJ          SFP+-10G-SR
    Xcvr 1       REV 01   740-021308   AQG0M6D          SFP+-10G-SR
    Xcvr 2       REV 01   740-021308   AQG0LW7          SFP+-10G-SR
    Xcvr 3       REV 01   740-021308   AQA0JKB          SFP+-10G-SR
    Xcvr 4       REV 01   740-021308   AQG0MTM          SFP+-10G-SR
    Xcvr 5       REV 01   740-021308   AQA07NE          SFP+-10G-SR
    Xcvr 6       REV 01   740-021308   AQG0M41          SFP+-10G-SR
    Xcvr 7       REV 01   740-021308   AQG0MU7          SFP+-10G-SR
    Xcvr 8       REV 01   740-021308   AQG0MUG          SFP+-10G-SR
    Xcvr 9       REV 01   740-021308   AQG0MMX          SFP+-10G-SR
    Xcvr 10      REV 01   740-021308   AQG0M5K          SFP+-10G-SR
    Xcvr 11      REV 01   740-021308   AQG0LVZ          SFP+-10G-SR
  PIC 1                   BUILTIN      BUILTIN          12X10GE SFPP OTN
  PIC 2                   BUILTIN      BUILTIN          3X40GE QSFPP
  PIC 3                   BUILTIN      BUILTIN          3X40GE QSFPP
    Xcvr 0       REV 01   740-046565   QD130242         QSFP+-40G-SR4
    Xcvr 1       REV 01   740-046565   QD130245         QSFP+-40G-SR4
    Xcvr 2       REV 01   740-046565   QD130613         QSFP+-40G-SR4
  WAN MEZZ       REV 09   750-049136   CABN0418         MPC5E 24XGE OTN Mezz
ADC 0            REV 17   750-043596   ABCD5378         Adapter Card
ADC 1            REV 17   750-043596   ABCD5465         Adapter Card
ADC 2            REV 17   750-043596   ABCD5431         Adapter Card
ADC 3            REV 17   750-043596   ABCD5356         Adapter Card
ADC 4            REV 02   750-043596   ZW1545           Adapter Card
ADC 5            REV 17   750-043596   ABCD5517         Adapter Card
ADC 18           REV 17   750-043596   ABCD5535         Adapter Card
ADC 19           REV 01   750-043596   ZV4127           Adapter Card
Fan Tray 0       REV 06   760-046960   ACAY0791         172mm FanTray - 6 Fans
```


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Fan Tray 1       REV 06   760-046960   ACAY0788          172mm FanTray - 6 Fans
Fan Tray 2       REV 06   760-046960   ACAY0755          172mm FanTray - 6 Fans
Fan Tray 3       REV 06   760-046960   ACAY0441          172mm FanTray - 6 Fans
```

show chassis hardware detail (MX2020 Router with MPC5EQ and MPC6E)

```
user@host>show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               JN120BADBAFJ      MX2020
Midplane         REV 51   750-040240   ABAB9243          Lower Backplane
Midplane 1       REV 04   711-032386   ABAB9399          Upper Backplane
PMP 1            REV 05   711-032428   ACAJ2541          Upper Power Midplane
PMP 0            REV 04   711-032426   ACAJ2194          Lower Power Midplane
FPM Board        REV 13   760-040242   ABCA8835          Front Panel Display
PSM 0            REV 01   740-050037   1EDB32403L5       DC 52V Power Supply
Module
PSM 1            REV 01   740-050037   1EDB32403L3       DC 52V Power Supply
Module
PSM 2            REV 01   740-050037   1EDB32403KM       DC 52V Power Supply
Module
PSM 3            REV 01   740-050037   1EDB3130079       DC 52V Power Supply
Module
PSM 4            REV 01   740-050037   1EDB3130077       DC 52V Power Supply
Module
PSM 5            REV 01   740-050037   1EDB3130020       DC 52V Power Supply
Module
PSM 6            REV 01   740-050037   1EDB313009S       DC 52V Power Supply
Module
PSM 7            REV 01   740-050037   1EDB313008E       DC 52V Power Supply
Module
PSM 8            REV 01   740-050037   1EDB3130063       DC 52V Power Supply
Module
PSM 12           REV 01   740-050037   1EDB3130026       DC 52V Power Supply
Module
PSM 13           REV 01   740-050037   1EDB3130074       DC 52V Power Supply
Module
PSM 14           REV 01   740-050037   1EDB313009D       DC 52V Power Supply
Module
PSM 15           REV 01   740-050037   1EDB3130024       DC 52V Power Supply
Module
PSM 16           REV 01   740-050037   1EDB3130054       DC 52V Power Supply
Module
PSM 17           REV 01   740-050037   1EDB3130080       DC 52V Power Supply
Module
PDM 0            REV 03   740-045234   1EGA3170144       DC Power Dist Module
PDM 1            REV 03   740-045234   1EGA3170158       DC Power Dist Module
PDM 2            REV 03   740-045234   1EGA3170182       DC Power Dist Module
PDM 3            REV 03   740-045234   1EGA3170207       DC Power Dist Module
Routing Engine 0 REV 02   740-041821   9009112112        RE-S-1800x4
  ad0    3998 MB  Virtium - TuffDrive VCF P1T0200274310822 113 Compact Flash
  ad1   30533 MB  UGB94BPH32H0S1-KCI   11000031656       Disk 1
  usb0 (addr 1)  EHCI root hub 0       Intel             uhub0
  usb0 (addr 2)  product 0x0020 32     vendor 0x8087     uhub1
  DIMM 0         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 1         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 2         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
  DIMM 3         SGU04G72H1BD2SA-BB DIE REV-52 PCB REV-54 MFR ID-ce80
Routing Engine 1 REV 02   740-041821   9009112087        RE-S-1800x4
  ad0    3998 MB  Virtium - TuffDrive VCF P1T0200274310822 366 Compact Flash
  ad1   30533 MB  UGB94BPH32H0S1-KCI   11000039979       Disk 1
```

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```
CB 0             REV 23   750-040257   CABA2295          Control Board
CB 1             REV 23   750-040257   CABE8379          Control Board
SPMB 0
SPMB 1
FPC 0            REV 39   750-045715   CACD1902          MPC5E 3D Q 24XGE+6XLGE
  CPU
FPC 1            REV 11   750-045372   CABK8112          MPCE Type 3 3D
  CPU
FPC 2            REV 17   750-037355   CAAS5826          MPC4E 3D 2CGE+8XGE
  CPU
FPC 3            REV 05   750-044444   CAAY9920          MPCE Type 2 3D P
  CPU
FPC 4            REV 18   750-046005   CACH5661          MPC5E 3D Q 2CGE+4XGE
  CPU
FPC 5            REV 35   750-028467   CAAR2623          MPC 3D 16x 10GE
 CPU
FPC 9            REV 30   750-044130   ABCF5773          MPC6E 3D
  CPU
FPC 10           REV 36   750-044130   ABCS8602          MPC6E 3D
  CPU
FPC 17           REV 28   750-044130   ABBZ3873          MPC6E 3D
  CPU
FPC 18           REV 39   750-045715   CACD1910          MPC5E 3D Q 24XGE+6XLGE
  CPU
FPC 19           REV 39   750-045715   CACD1908          MPC5E 3D Q 24XGE+6XLGE
  CPU
Fan Tray 0       REV 06   760-046960   ACAY0791          172mm FanTray - 6 Fans
Fan Tray 1       REV 06   760-046960   ACAY0788          172mm FanTray - 6 Fans
Fan Tray 2       REV 06   760-046960   ACAY0755          172mm FanTray - 6 Fans
Fan Tray 3       REV 06   760-046960   ACAY0441          172mm FanTray - 6 Fans
```

show chassis hardware extensive (MX2020 Router with MPC5EQ and MPC6E)

```
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                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
```


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```
  I2C Hex Data:
   Address 0x00: 7f b0 02 ff 0b 22 01 33 52 45 56 20 35 31 00 00
   Address 0x10: 00 00 00 00 37 35 30 2d 30 34 30 32 34 30 00 00
   Address 0x20: 53 2f 4e 20 41 42 41 42 39 32 34 33 00 1e 05 07
   Address 0x30: dd ff ff ff ad 01 10 00 4c 96 14 72 30 08 ff ff
   Address 0x40: ff ff ff ff 01 49 50 4d 55 37 31 30 41 52 41 43
   Address 0x50: 48 41 53 2d 42 50 2d 4d 58 32 30 32 30 2d 53 00
   Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
   Address 0x70: ff ff ff d3 ff ff ff ff ff ff ff ff ff ff ff ff
Midplane 1       REV 04   711-032386   ABAB9399          Upper Backplane
  Jedec Code:   0x7fb0            EEPROM Version:    0x01
  P/N:          711-032386        S/N:               ABAB9399
  Assembly ID:  0x0b23            Assembly Version:  01.04
  Date:         10-22-2012        Assembly Flags:    0x00
  Version:      REV 04
  ID: Upper Backplane
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 01 fe 0b 23 01 04 52 45 56 20 30 34 00 00
   Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 33 38 36 00 00
   Address 0x20: 53 2f 4e 20 41 42 41 42 39 33 39 39 00 16 0a 07
   Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
   Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
PMP 1            REV 05   711-032428   ACAJ2541          Upper Power Midplane
  Jedec Code:   0x7fb0            EEPROM Version:    0x01
  P/N:          711-032428        S/N:               ACAJ2541
  Assembly ID:  0x045c            Assembly Version:  01.05
  Date:         04-26-2013        Assembly Flags:    0x00
  Version:      REV 05
  ID: Upper Power Midplane
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 01 ff 04 5c 01 05 52 45 56 20 30 35 00 00
   Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 34 32 38 00 00
   Address 0x20: 53 2f 4e 20 41 43 41 4a 32 35 34 31 00 1a 04 07
   Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
   Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x60: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x70: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
PMP 0            REV 04   711-032426   ACAJ2194          Lower Power Midplane
  Jedec Code:   0x7fb0            EEPROM Version:    0x01
  P/N:          711-032426        S/N:               ACAJ2194
  Assembly ID:  0x045d            Assembly Version:  01.04
  Date:         01-29-2013        Assembly Flags:    0x00
  Version:      REV 04
  ID: Lower Power Midplane
  Board Information Record:
   Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  I2C Hex Data:
   Address 0x00: 7f b0 01 ff 04 5d 01 04 52 45 56 20 30 34 00 00
   Address 0x10: 00 00 00 00 37 31 31 2d 30 33 32 34 32 36 00 00
   Address 0x20: 53 2f 4e 20 41 43 41 4a 32 31 39 34 00 1d 01 07
   Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
   Address 0x40: ff ff ff ff 00 ff ff ff ff ff ff ff ff ff ff ff
   Address 0x50: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
```

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```
  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 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 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 ff
  Address 0x40: ff ff ff ff 01 49 50 4d 59 41 45 35 4a 52 41 4d
  Address 0x50: 58 32 30 32 30 2d 43 52 41 46 54 2d 53 00 00 00
  Address 0x60: 00 00 00 00 00 00 41 00 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 95 ff ff ff ff ff ff ff ff ff ff ff ff
PSM 0             REV 01   740-050037   1EDB32403L5       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB32403L5
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         06-21-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff 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 ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 1             REV 01   740-050037   1EDB32403L3       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB32403L3
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         06-21-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff 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
```


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```
 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 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 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
```

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```
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 31 33 30 30 32 30 00 00 10 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 6            REV 01   740-050037   1EDB313009S       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB313009S
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         05-17-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 31 33 30 30 39 53 00 00 11 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 7            REV 01   740-050037   1EDB313008E       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB313008E
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         05-17-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 35 30 30 33 37 00 00
  Address 0x20: 31 45 44 42 33 31 33 30 30 38 45 00 00 11 05 07
  Address 0x30: dd ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 8            REV 01   740-050037   1EDB3130063       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB3130063
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         05-17-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
```


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```
  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 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 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 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 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 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 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 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 ff
```

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```
  Address 0x40: ff ff ff ff 01 49 50 55 50 41 4b 52 4b 41 41 4d
  Address 0x50: 58 32 30 30 30 2d 50 53 4d 2d 44 43 2d 53 00 00
  Address 0x60: 00 00 00 00 00 00 31 30 31 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 2a 00 00 00 00 00 00 00 00 00 00 00 00
PSM 15           REV 01   740-050037   1EDB3130024       DC 52V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-050037        S/N:               1EDB3130024
 Assembly ID:  0x0478            Assembly Version:  01.01
 Date:         05-16-2013        Assembly Flags:    0x00
 Version:      REV 01            CLEI Code:         IPUPAKRKAA
 ID: DC 52V Power Supply Module  FRU Model Number:  MX2000-PSM-DC-S
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 78 01 01 52 45 56 20 30 31 00 00
...
```

show chassis hardware models (MX2020 Routers with MPC5EQ and MPC6E)

```
user@host> show chassis hardware models
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
Midplane         REV 51   750-040240   ABAB9243          CHAS-BP-MX2020-S
FPM Board        REV 13   760-040242   ABCA8835          MX2020-CRAFT-S
PSM 0            REV 01   740-050037   1EDB32403L5       MX2000-PSM-DC-S
PSM 1            REV 01   740-050037   1EDB32403L3       MX2000-PSM-DC-S
PSM 2            REV 01   740-050037   1EDB32403KM       MX2000-PSM-DC-S
PSM 3            REV 01   740-050037   1EDB3130079       MX2000-PSM-DC-S
PSM 4            REV 01   740-050037   1EDB3130077       MX2000-PSM-DC-S
PSM 5            REV 01   740-050037   1EDB3130020       MX2000-PSM-DC-S
PSM 6            REV 01   740-050037   1EDB313009S       MX2000-PSM-DC-S
PSM 7            REV 01   740-050037   1EDB313008E       MX2000-PSM-DC-S
PSM 8            REV 01   740-050037   1EDB3130063       MX2000-PSM-DC-S
PSM 12           REV 01   740-050037   1EDB3130026       MX2000-PSM-DC-S
PSM 13           REV 01   740-050037   1EDB3130074       MX2000-PSM-DC-S
PSM 14           REV 01   740-050037   1EDB313009D       MX2000-PSM-DC-S
PSM 15           REV 01   740-050037   1EDB3130024       MX2000-PSM-DC-S
PSM 16           REV 01   740-050037   1EDB3130054       MX2000-PSM-DC-S
PSM 17           REV 01   740-050037   1EDB3130080       MX2000-PSM-DC-S
PDM 0            REV 03   740-045234   1EGA3170144       MX2000-PDM-DC-S
PDM 1            REV 03   740-045234   1EGA3170158       MX2000-PDM-DC-S
PDM 2            REV 03   740-045234   1EGA3170182       MX2000-PDM-DC-S
PDM 3            REV 03   740-045234   1EGA3170207       MX2000-PDM-DC-S
Routing Engine 0 REV 02   740-041821   9009112112        RE-MX2000-1800X4-S
Routing Engine 1 REV 02   740-041821   9009112087        RE-MX2000-1800X4-S
CB 0             REV 23   750-040257   CABA2295          RE-MX2000-1800X4-S
CB 1             REV 23   750-040257   CABE8379          RE-MX2000-1800X4-S
SFB 0            REV 06   711-044466   ABCD5001          MX2000-SFB-S
SFB 1            REV 06   711-044466   ABCD5034          MX2000-SFB-S
SFB 2            REV 06   711-044466   ABCH3899          MX2000-SFB-S
SFB 3            REV 06   711-044466   ABCD5020          MX2000-SFB-S
SFB 4            REV 06   711-044466   ABCD4975          MX2000-SFB-S
SFB 5            REV 06   711-044466   ABCH3881          MX2000-SFB-S
SFB 6            REV 06   711-044466   ABCD5026          MX2000-SFB-S
SFB 7            REV 06   711-044466   ABCD5032          MX2000-SFB-S
FPC 0            REV 39   750-045715   CACD1902          PROTO-ASSEMBLY
FPC 1            REV 11   750-045372   CABK8112          MX-MPC3E-3D
FPC 2            REV 17   750-037355   CAAS5826          MPC4E-3D-2CGE-8XGE
FPC 3            REV 05   750-044444   CAAY9920          MX-MPC2E-3D-P
FPC 4            REV 18   750-046005   CACH5661          PROTO-ASSEMBLY
```


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```
FPC 5            REV 35   750-028467   CAAR2623          MPC-3D-16XGE-SFPP
FPC 9            REV 30   750-044130   ABCF5773          PROTO-ASSEMBLY
FPC 10           REV 36   750-044130   ABCS8602          PROTO-ASSEMBLY
FPC 17           REV 28   750-044130   ABBZ3873          PROTO-ASSEMBLY
FPC 18           REV 39   750-045715   CACD1910          PROTO-ASSEMBLY
FPC 19           REV 39   750-045715   CACD1908          PROTO-ASSEMBLY
ADC 0            REV 17   750-043596   ABCD5378          MX2000-LC-ADAPTER
ADC 1            REV 17   750-043596   ABCD5465          MX2000-LC-ADAPTER
ADC 2            REV 17   750-043596   ABCD5431          MX2000-LC-ADAPTER
ADC 3            REV 17   750-043596   ABCD5356          MX2000-LC-ADAPTER
ADC 4            REV 02   750-043596   ZW1545            750-043596
ADC 5            REV 17   750-043596   ABCD5517          MX2000-LC-ADAPTER
ADC 18           REV 17   750-043596   ABCD5535          MX2000-LC-ADAPTER
ADC 19           REV 01   750-043596   ZV4127            750-043596
Fan Tray 0       REV 06   760-046960   ACAY0791          MX2000-FANTRAY-S
Fan Tray 1       REV 06   760-046960   ACAY0788          MX2000-FANTRAY-S
Fan Tray 2       REV 06   760-046960   ACAY0755          MX2000-FANTRAY-S
Fan Tray 3       REV 06   760-046960   ACAY0441          MX2000-FANTRAY-S
```

show chassis hardware clei-models (MX2020 Router with MPC5EQ and MPC6E)

```
user@host> show chassis hardware clei-models
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Midplane         REV 51   750-040240   IPMU710ARA        CHAS-BP-MX2020-S
FPM Board        REV 13   760-040242   IPMYAE5JRA        MX2020-CRAFT-S
PSM 0            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 1            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 2            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 3            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 4            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 5            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 6            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 7            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 8            REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 12           REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 13           REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 14           REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 15           REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 16           REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PSM 17           REV 01   740-050037   IPUPAKRKAA        MX2000-PSM-DC-S
PDM 0            REV 03   740-045234   IPUPAJSKAA        MX2000-PDM-DC-S
PDM 1            REV 03   740-045234   IPUPAJSKAA        MX2000-PDM-DC-S
PDM 2            REV 03   740-045234   IPUPAJSKAA        MX2000-PDM-DC-S
PDM 3            REV 03   740-045234   IPUPAJSKAA        MX2000-PDM-DC-S
CB 0             REV 23   750-040257   IPUCBA7CTA        RE-MX2000-1800X4-S
CB 1             REV 23   750-040257   IPUCBA7CTA        RE-MX2000-1800X4-S
SFB 0            REV 06   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 1            REV 06   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 2            REV 06   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 3            REV 06   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 4            REV 06   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 5            REV 06   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 6            REV 06   711-044466   IPUCBA6CAA        MX2000-SFB-S
SFB 7            REV 06   711-044466   IPUCBA6CAA        MX2000-SFB-S
FPC 0            REV 39   750-045715   PROTOXCLEI        PROTO-ASSEMBLY
FPC 1            REV 11   750-045372   COUIBBNBAA        MX-MPC3E-3D
FPC 2            REV 17   750-037355   IPU3A4DHAA        MPC4E-3D-2CGE-8XGE
FPC 3            REV 05   750-044444   COUIBBGBAA        MX-MPC2E-3D-P
  MIC 0          REV 28   750-028387   COUIA16BAA        MIC-3D-4XGE-XFP
FPC 4            REV 18   750-046005   PROTOXCLEI        PROTO-ASSEMBLY
```

```
FPC 5            REV 35   750-028467                    MPC-3D-16XGE-SFPP
FPC 9            REV 30   750-044130   PROTOXCLEI       PROTO-ASSEMBLY
  MIC 0          REV 05   750-049457   PROTOXCLEI       PROTO-ASSEMBLY
FPC 10           REV 36   750-044130   PROTOXCLEI       PROTO-ASSEMBLY
  MIC 0          REV 06   750-049979   PROTOXCLEI       PROTO-ASSEMBLY
  MIC 1          REV 12   750-050008   PROTOXCLEI       PROTO-ASSEMBLY
FPC 17           REV 28   750-044130   PROTOXCLEI       PROTO-ASSEMBLY
  MIC 1          REV 03   750-050008   PROTOXCLEI       PROTO-ASSEMBLY
FPC 18           REV 39   750-045715   PROTOXCLEI       PROTO-ASSEMBLY
FPC 19           REV 39   750-045715   PROTOXCLEI       PROTO-ASSEMBLY
ADC 0            REV 17   750-043596   IPUCBA8CAA       MX2000-LC-ADAPTER
ADC 1            REV 17   750-043596   IPUCBA8CAA       MX2000-LC-ADAPTER
ADC 2            REV 17   750-043596   IPUCBA8CAA       MX2000-LC-ADAPTER
ADC 3            REV 17   750-043596   IPUCBA8CAA       MX2000-LC-ADAPTER
ADC 4            REV 02   750-043596   PROTOXCLEI       750-043596
ADC 5            REV 17   750-043596   IPUCBA8CAA       MX2000-LC-ADAPTER
ADC 18           REV 17   750-043596   IPUCBA8CAA       MX2000-LC-ADAPTER
ADC 19           REV 01   750-043596   PROTOXCLEI       750-043596
Fan Tray 0       REV 06   760-046960   IPUCBA5CAA       MX2000-FANTRAY-S
Fan Tray 1       REV 06   760-046960   IPUCBA5CAA       MX2000-FANTRAY-S
Fan Tray 2       REV 06   760-046960   IPUCBA5CAA       MX2000-FANTRAY-S
Fan Tray 3       REV 06   760-046960   IPUCBA5CAA       MX2000-FANTRAY-S
```

show chassis hardware (MX Series routers with ATM MIC)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN115736EAFC      MX240
Midplane         REV 07   760-021404   ABAA5038          MX240 Backplane
FPM Board        REV 03   760-021392   ABBA2758          Front Panel Display
PEM 0            Rev 01   740-022697   QCS0937C07K       PS 1.2-1.7kW; 100-240V
AC in
PEM 1            Rev 01   740-022697   QCS0939C04X       PS 1.2-1.7kW; 100-240V
AC in
PEM 2            Rev 01   740-022697   QCS0937C06B       PS 1.2-1.7kW; 100-240V
AC in
PEM 3            Rev 01   740-022697   QCS0937C07U       PS 1.2-1.7kW; 100-240V
AC in
Routing Engine 0 REV 12   740-013063   9009042291        RE-S-2000
Routing Engine 1 REV 12   740-013063   9009042266        RE-S-2000
CB 0             REV 06   710-021523   ABBC1435          MX SCB
CB 1             REV 06   710-021523   ABBC1497          MX SCB
FPC 2     REV 14   750-031088   YH8446            MPC Type 2 3D Q
  CPU            REV 06   711-030884   YH9612            MPC PMB 2G
  MIC 0
  MIC 1          REV 10   750-036132   ZP7062            2xOC12/8xOC3 CC-CE
    PIC 2                 BUILTIN      BUILTIN           2xOC12/8xOC3 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
```


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show chassis hardware (MX240, MX480, MX960 routers with Application Services Modular Line Card)

```
user@host>show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               JN11D969BAFA      MX960
Midplane         REV 03   710-013698   ACAA2362          MX960 Backplane
FPM Board        REV 03   710-014974   ZR0639            Front Panel Display
PDM              Rev 03   740-013110   QCS152250SX       Power Distribution Module
PEM 0            Rev 10   740-013683   QCS1512718W       DC Power Entry Module
PEM 1            Rev 10   740-013683   QCS1512702Y       DC Power Entry Module
Routing Engine 0 REV 15   740-013063   9012024667        RE-S-2000
Routing Engine 1 REV 15   740-013063   9012024649        RE-S-2000
CB 0             REV 14   750-031391   ZJ7749            Enhanced MX SCB
CB 1             REV 14   750-031391   ZJ7750            Enhanced MX SCB
CB 2             REV 14   750-031391   ZY9233            Enhanced MX SCB
FPC 0            REV 17   750-031089   YR7434            MPC Type 2 3D
  CPU
FPC 1            REV 11   750-037207   ZW9727            AS-MCC
  CPU            REV 04   711-038173   ZW4817            AS-MCC-PMB
  MIC 0          REV 01   750-037214   ZH3764            AS-MSC
    PIC 0                 BUILTIN      BUILTIN           AS-MSC
  MIC 1          REV 01   711-028408   JZ9200            AS-MXC
    PIC 2                 BUILTIN      BUILTIN           AS-MXC
FPC 4            REV 30   750-028467   ABBN0232          MPC 3D 16x 10GE
  CPU
FPC 5            REV 04   750-037207   ZK9074            AS-MCC
  CPU
Fan Tray 0       REV 05   740-014971   VT5683            Fan Tray
Fan Tray 1       REV 05   740-014971   VT5684            Fan Tray
```

show chassis hardware extensive (MX240, MX480, MX960 routers with Application Services Modular Line Card)

```
user@host> show chassis hardware extensive

ID: AS-MCC                      FRU Model Number:  750-037207
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff  I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 37 01 0b 52 45 56 20 31 31 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 32 30 37 00 00
  Address 0x20: 53 2f 4e 20 5a 57 39 37 32 37 00 00 00 11 02 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 37
  Address 0x50: 35 30 2d 30 33 37 32 30 37 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 31 31 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 5e ff ff ff ff ff ff ff ff ff ff ff ff
  CPU            REV 04   711-038173   ZW4817            AS-MCC-PMB
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          711-038173        S/N:               ZW4817
 Assembly ID:  0x0b38            Assembly Version:  01.04
 Date:         12-30-2011        Assembly Flags:    0x00
 Version:      REV 04
 ID: AS-MCC-PMB
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff  I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 38 01 04 52 45 56 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 33 38 31 37 33 00 00
  Address 0x20: 53 2f 4e 20 5a 57 34 38 31 37 00 00 00 1e 0c 07
```

```
  Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 50 52 4f 54 4f 58 43 4c 45 49 37
  Address 0x50: 31 31 2d 30 33 38 31 37 33 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 30 34 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 60 00 00 00 00 00 00 00 00 00 00 00 00
  MIC 0          REV 01   750-037214   ZH3764            AS-MSC
 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-MSC
 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 01 52 45 56 20 30 31 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 32 31 34 00 00
  Address 0x20: 53 2f 4e 20 5a 48 33 37 36 34 00 00 00 04 07 07
  Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 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 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-MSC
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
```


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```
  CPU
Fan Tray                                                    Enhanced Left Fan Tray
```

show chassis hardware (MX2020 Router with MPC4E)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11E188CAFJ      MX2020
Midplane         REV 04   711-032387   ABAC7474          Lower Backplane
Midplane 1       REV 04   711-032386   ABAC7408          Upper Backplane
PMP 1            REV 03   711-032428   ACAJ1137          Upper Power Midplane
PMP 0            REV 03   711-032426   ACAJ1016          Lower Power Midplane
FPM Board        REV 06   760-040242   ABBT8832          Front Panel Display
PSM 3            REV 0C   740-033727   VK00255           DC 52V Power Supply
Module
PSM 4            REV 0C   740-033727   VJ00148           DC 52V Power Supply
Module
PSM 5            REV 0C   740-033727   VK00207           DC 52V Power Supply
Module
PSM 6            REV 0C   740-033727   VK00319           DC 52V Power Supply
Module
PSM 7            REV 0C   740-033727   VK00264           DC 52V Power Supply
Module
PSM 8            REV 0B   740-033727   VG00025           DC 52V Power Supply
Module
PSM 13           REV 0C   740-033727   VK00274           DC 52V Power Supply
Module
PSM 14           REV 0C   740-033727   VJ00167           DC 52V Power Supply
Module
PSM 15           REV 0C   740-033727   VK00299           DC 52V Power Supply
Module
PSM 16           REV 0C   740-033727   VK00213           DC 52V Power Supply
Module
PSM 17           REV 0C   740-033727   VK00253           DC 52V Power Supply
Module
PDM 0            REV 0B   740-038109   VJ00040           DC Power Dist Module
PDM 2            REV 0B   740-038109   VJ00025           DC Power Dist Module
Routing Engine 0 REV 02   740-041821   9009089735        RE-S-1800x4
Routing Engine 1 REV 02   740-041821   9009089731        RE-S-1800x4
CB 0             REV 04   750-040257   ZT2846            Control Board
CB 1             REV 04   750-040257   ZT2877            Control Board
SPMB 0           REV 01   711-041855   ZS2282            PMB Board
SPMB 1           REV 01   711-041855   ZS2261            PMB Board
SFB 0            REV 07   711-032385   ZZ2582            Switch Fabric Board
SFB 1            REV 04   711-032385   ZV4229            Switch Fabric Board
SFB 2            REV 07   711-032385   CAAB4902          Switch Fabric Board
SFB 3            REV 07   711-032385   CAAB4891          Switch Fabric Board
SFB 4            REV 07   711-032385   CAAB4883          Switch Fabric Board
SFB 5            REV 07   711-032385   CAAB4889          Switch Fabric Board
SFB 6            REV 06   711-032385   ZV1818            Switch Fabric Board
SFB 7            REV 07   711-032385   CAAB4897          Switch Fabric Board
FPC 0            REV 34   750-031090   ZT9799            MPC Type 2 3D EQ
  CPU            REV 06   711-030884   ZS1122            MPC PMB 2G
  MIC 0          REV 11   750-033535   CAAD7674          MIC-3D-1OC192-XFP
    PIC 0                 BUILTIN      BUILTIN           MIC-3D-1OC192-XFP
      Xcvr 0     REV 01   740-014279   753019A00404      XFP-OC192-SR
  MIC 1          REV 14   750-031967   ZM6103            MIC-3D-8OC3OC12-4OC48
    PIC 2                 BUILTIN      BUILTIN           MIC-3D-8OC3OC12-4OC48
      Xcvr 0     REV 01   740-011615   PEF1AZP           SFP-IR
      Xcvr 1     REV 01   740-011615   PEF1AZN           SFP-IR
```

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```
    Xcvr 2      REV 01   740-021308   ANA0N8S          SFP+-10G-SR
  QXM 0         REV 06   711-028408   ZT9339           MPC QXM
  QXM 1         REV 06   711-028408   ZT9237           MPC QXM
FPC 9           REV 34   750-031090   ZT9770           MPC Type 2 3D EQ
  CPU           REV 06   711-030884   ZS1302           MPC PMB 2G
  MIC 0         REV 24   750-028387   YJ3950           3D 4x 10GE  XFP
    PIC 0               BUILTIN      BUILTIN          2x 10GE  XFP
      Xcvr 0            NON-JNPR     T09M52516        XFP-10G-SR
      Xcvr 1            NON-JNPR     CA49BK095        XFP-10G-SR
    PIC 1               BUILTIN      BUILTIN          2x 10GE  XFP
      Xcvr 0    REV 02  740-014289   C834XU01T        XFP-10G-SR
      Xcvr 1            NON-JNPR     T09M52515        XFP-10G-SR
  MIC 1         REV 11   750-033535   CAAD7681         MIC-3D-1OC192-XFP
    PIC 2               BUILTIN      BUILTIN          MIC-3D-1OC192-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   AHP0GPM          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
```


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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     PFR0V6J           SFP-SX
      Xcvr 9     REV 01   740-031851   AM1041SU02U       SFP-SX
Fan Tray
```

show chassis hardware models (MX5, MX10, MX40, MX80, MX240, MX480, and MX960 routers with Enhanced 20-port Gigabit Ethernet MIC)

```
user@host> show chassis hardware models
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
PEM 0            Rev 04   740-028288   VE05267           PWR-MX80-AC-S
PEM 1            Rev 04   740-028288   VE05270           PWR-MX80-AC-S
Routing Engine            BUILTIN      BUILTIN
TFEB 0                    BUILTIN      BUILTIN
FPC 0                     BUILTIN      BUILTIN
FPC 1                     BUILTIN      BUILTIN
  MIC 0          REV 02   750-049846   CAAV2153          MIC-3D-20GE-SFP-E
  MIC 1          REV 26   750-028392   ZY0187            MIC-3D-20GE-SFP
Fan Tray                                                 FANTRAY-MX80-S
```

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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                                        unknown
CB 0             REV 13   710-002728   BC1577            T Series
Control Board
CB 1             REV 13   710-002728   BC1595            T Series
Control Board
FPC 1            REV 09   710-007531   HS1572            FPC Type 2
   CPU            REV 15   710-001726   HR8763             FPC CPU
   PIC 0          REV 01   750-010618   CB5579             4x G/E SFP,
1000 BASE
     SFP 0        REV 01   740-007326   P5809Z1            SFP-SX
     SFP 1        REV 01   740-007326   P4Q10XU            SFP-SX
     SFP 2                 NON-JNPR     RA45020031         SFP-SX
     SFP 3                 NON-JNPR     RA45020032         SFP-SX
   PIC 1          REV 01   750-010618   CD9587             4x G/E SFP,
1000 BASE
     SFP 0                 NON-JNPR     P5A08QZ            SFP-T
     SFP 1        REV 01   740-007326   P4Q133K            SFP-SX
     SFP 2        REV 01   740-007326   P5809YY            SFP-SX
     SFP 3        REV 01   740-007327   4C81704            SFP-LX
   MMB 1          REV 03   710-005555   HR9401             MMB-288mbit
   PPB 0          REV 04   710-003758   HR2886             PPB Type 2
FPC 2            REV 07   710-005860   HP2392            FPC Type 1
   CPU            REV 14   710-001726   HP7797             FPC CPU
   PIC 0          REV 02   750-007643   HM0853             1x G/E QPP,
1000 BASE
     SFP 0        REV 01   740-007326   P11E9JJ            SFP-SX
   MMB 1          REV 02   710-005555   HN2379             MMB-288mbit
   PPB 0          REV 04   710-003758   HP8092             PPB Type 2
FPC 3            REV 07   710-005860   HP2393            FPC Type 1
   CPU            REV 14   710-001726   HP0968             FPC CPU
   PIC 0          REV 01   750-010240   CB5363             1x G/E SFP,
1000 BASE
     SFP 0        REV 01   740-007326   P4R0PNH            SFP-SX
   PIC 1          REV 03   750-003034   HD2832             4x OC-3 SONET,
SMIR
   MMB 1          REV 02   710-005555   HN6307             MMB-288mbit
   PPB 0          REV 04   710-003758   HP5051             PPB Type 2
FPC 4            REV 01   710-010845   JD3872            FPC Type 4
   CPU            REV 02   710-011481   JB6042             FPC CPU
 5            REV 01   710-005802   BC1566            FPC Type 2
   CPU            REV 09   710-001726   AY4922             FPC CPU
   PIC 0          REV 02   750-008155   BE2114             2x G/E QPP,
1000 BASE
     SFP 0        REV 01   740-007326   P4R0PMQ            SFP-SX
     SFP 1        REV 01   740-007326   P4R0PN9            SFP-SX
   PIC 1          REV 01   750-008155   BE2116             2x G/E QPP,
1000 BASE
     SFP 0        REV 01   740-007326   P4R0PNZ            SFP-SX
```


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```
    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                       UNKNOWON
  PIC 3          REV 04   750-005100   AY4850            1x 10GE(LAN),DWDM
FPC 4            REV 01   710-010845   JD3872            FPC Type 4
  CPU            REV 02   710-011481   JB6042            FPC CPU
Fan Tray 0                                               Front Top Fan Tray
Fan Tray 1                                               Front Bottom Fan Tray
Fan Tray 2                                               Rear Fan Tray
```

show chassis hardware models (T640 Router)

```
user@host> show chassis hardware models
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Midplane         REV 04   710-002726                     CHAS-BP-T640-S
FPM Display      REV 02   710-002897                     CRAFT-T640-S
CIP              REV 05   710-002895                     CIP-L-T640-S
PEM 0            Rev 01   740-002595                     PWR-T-DC-S
SCG 0            REV 04   710-003423                     SCG-T-S
SCG 1            REV 04   710-003423                     SCG-T-S
Routing Engine 0 REV 01   740-005022                     RE-600-2048-S
Routing Engine 1 REV 07   740-005022                     RE-600-2048-S
CB 0             REV 06   710-002726                     CHAS-BP-T640-S
CB 1             REV 06   710-002728                     CB-L-T-S
```

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```
FPC 5            REV 05   710-007527                    T640-FPC2
  PIC 0          REV 05   750-002510                    PB-2GE-SX
  PIC 1          REV 05   750-001901                    PB-4OC12-SON-SMIR
FPC 6            REV 03   710-001721                    T640-FPC3
  PIC 1          REV 01   750-009553                    PC-4OC48-SON-SFP
SIB 4            REV 02   750-005486                    SIB-I-T640-S
Fan Tray 0                                              FANTRAY-T-S
Fan Tray 1                                              FANTRAY-T-S
Fan Tray 2                                              FAN-REAR-TX-T640-S
```

show chassis hardware extensive (T640 Router)

```
user@host> show chassis hardware extensive
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                                  T640
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:        ...........       S/N:             ...........
 Assembly ID:  0x0507            Assembly Version:  00.00
 Date:         00-00-0000        Assembly Flags:    0x00
 Version:    ...........
 ID: Gibson LCC Chassis
 Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 05 07 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x20: ff ff ff ff ff ff ff ff ff ff ff ff 00 00 00 00
  Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane         REV 04   710-002726   AX5633
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          710-002726.       S/N:               AX5633.
 Assembly ID:  0x0127            Assembly Version:  01.04
 Date:         06-27-2001        Assembly Flags:    0x00
 Version:      REV 04.....
 ID: Gibson Backplane
 Board Information Record:
  Address 0x00: ad 01 08 00 00 90 69 0e f8 00 ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 01 27 01 04 52 45 56 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 31 30 2d 30 30 32 37 32 36 00 00
  Address 0x20: 53 2f 4e 20 41 58 35 36 33 33 00 00 00 1b 06 07
  Address 0x30: d1 ff ff ff ad 01 08 00 00 90 69 0e f8 00 ff ff
  Address 0x40: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
FPM GBUS         REV 02   710-002901   HE3245
 ...
FPM Display      REV 02   710-002897   HA4873
 ...
CIP              REV 05   710-002895   HA4729
...
PEM 1            RevX02   740-002595   MD21815           Power Entry Module
 ...
SCG 0            REV 04   710-003423   HF6023
 ...
SCG 1            REV 04   710-003423   HF6061
 ...
Routing Engine 0 REV 01   740-005022   210865700292      RE-3.0
...
CB 0             REV 06   710-002728   HE3614
...
```


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```
FPC 1            REV 01   710-002385   HE3009           FPC Type 1
...              REV 06   710-001726   HC0010
```

show chassis hardware (T4000 Router)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN1172F25AHA      T4000
Midplane         REV 01   710-027486   RC8355            T-series Backplane
FPM GBUS         REV 13   710-002901   BBAE0927          T640 FPM Board
FPM Display      REV 01   710-021387   EF6764            T1600 FPM Display
CIP              REV 06   710-002895   BBAD9210          T-series CIP
PEM 0            REV 01   740-036442   VA00016           Power Entry Module 6x60
SCG 0            REV 18   710-003423   BBAD7248          T640 Sonet Clock Gen.
SCG 1            REV 18   710-003423   BBAE3874          T640 Sonet Clock Gen.
Routing Engine 0 REV 05   740-026941   P737F-002248      RE-DUO-1800
Routing Engine 1 REV 06   740-026941   P737F-002653      RE-DUO-1800
CB 0             REV 09   710-022597   ED0295            LCC Control Board
CB 1             REV 09   710-022597   EA6050            LCC Control Board
FPC 0            REV 26   750-032819   EK1173            FPC Type 5-3D
  CPU            REV 12   711-030686   EJ8584            SNG PMB
  PIC 0          REV 07   750-034624   EF6837            12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   123363A01145      SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   123363A01147      SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AJJ01P3           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B10M03256         SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   AJJ01M2           SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   123363A01137      SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   AJJ01PN           SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   AJJ01NW           SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   123363A01139      SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   AJJ01KE           SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   123363A01336      SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   B10M01325         SFP+-10G-SR
  PIC 1          REV 07   750-034624   EF6800            12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   AJJ01SA           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJJ01QZ           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AJH0217           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AJJ01TE           SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   AJJ01KV           SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   AJJ01MU           SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   AJJ01R0           SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   AJJ01TC           SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   AJJ0364           SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   AJD0GV3           SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   B10M03343         SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   AJJ01QJ           SFP+-10G-SR
  LMB 0          REV 05   711-034381   EJ8490            Type-0 LMB
  LMB 1          REV 04   711-035774   EJ8517            Type-1 LMB
  LMB 2          REV 05   711-034381   EJ8489            Type-0 LMB
FPC 3            REV 07   750-032819   EG3637            FPC Type 5-3D
  CPU            REV 09   711-030686   EG0150            SNG PMB
  PIC 0          REV 08   750-035293   EF3657            1x100GE
    Xcvr 0       REV 01   740-032210   C22CQNJ           CFP-100G-LR4
  PIC 1          REV 10   750-034624   BBAN4098          12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   B11J04902         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11J04891         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AJJ01MX           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11J04183         SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   B11J04894         SFP+-10G-SR
```

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```
    Xcvr 5       REV 01   740-031980   B11J04184         SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   B11J04897         SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   B11J04899         SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   AJJ01TV           SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   B11J04057         SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   AJJ01M4           SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   B11J04905         SFP+-10G-SR
  LMB 0          REV 04   711-034381   EG1524            Type-0 LMB
  LMB 1          REV 03   711-035774   EG0345            Type-1 LMB
  LMB 2          REV 04   711-034381   EG1522            Type-0 LMB
FPC 5            REV 03   710-033871   BBAJ0768          FPC Type 4-ES
  CPU            REV 11   710-016744   BBAH9342          ST-PMB2
  PIC 0          REV 09   750-029262   EE6789            100GE
  PIC 1          REV 03   750-034781   EE6655            100GE CFP
    Xcvr 0       REV 01   740-032210   J11A22334         CFP-100G-LR4
  BRIDGE 0       REV 03   711-029995   EE6572            100GE Bridge Board
  MMB 0          REV 07   710-025563   BBAJ4657          ST-MMB2
  MMB 1          REV 07   710-025563   BBAJ3073          ST-MMB2
FPC 6            REV 05   750-010153   EF4936            FPC Type 5-3D
  CPU            REV 06   711-030686   EF4189            SNG PMB
  PIC 0          REV 10   750-034624   BBAN4109          12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   B11J04895         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11J04898         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11J04021         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11J04903         SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   B11J04311         SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   B11J04059         SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   B11J04016         SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   B11J04017         SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   B11J04887         SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   B11J04297         SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   B11J04893         SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   B11J04022         SFP+-10G-SR
  PIC 1          REV 02   750-034624   EE3711            12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   AJH033X           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJJ01N0           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AJJ01SV           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AJJ032L           SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   B10M01593         SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   AJD0FF1           SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   AJJ01NU           SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   123363A01305      SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   B10M00361         SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   AJJ01M7           SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   AJJ032X           SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   AJJ01PG           SFP+-10G-SR
  LMB 0          REV 04   711-034381   EF3838            Type-0 LMB
  LMB 1          REV 03   711-035774   EF3821            Type-1 LMB
  LMB 2          REV 04   711-034381   EF3834            Type-0 LMB
SPMB 0           REV 05   710-023321   ED1990            LCC Switch CPU
SPMB 1           REV 05   710-023321   EA2768            LCC Switch CPU
SIB 0            REV 02   711-036340   EF8802            SIB-HC-3D
SIB 1            REV 07   711-036340   EG2286            SIB-HC-3D
SIB 2            REV 07   711-036340   EG2252            SIB-HC-3D
SIB 3            REV 02   711-036340   EF1358            SIB-HC-3D
SIB 4            REV 02   711-036340   EF8806            SIB-HC-3D
Fan Tray 0                                                Front Top Fan Tray
Fan Tray 1                                                Front Bottom Fan Tray
-- Rev 2
Fan Tray 2                                                Rear Fan Tray -- Rev 3
```


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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
```

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```
Routing Engine 1 REV 06   740-026941                    RE-DUO-C1800-8G-S
CB 0             REV 09   710-022597                    CB-LCC-S
CB 1             REV 09   710-022597                    CB-LCC-S
FPC 3
  PIC 0          REV 08   750-035293   XXXXXXXXBB       PF-1CGE-CFP
  PIC 1          REV 10   750-034624   XXXXXXXXCC       PF-12XGE-SFPP
FPC 5            REV 03   710-033871   IPUCAMBCTD       T1600-FPC4-ES
  PIC 1          REV 03   750-034781   IPUIBKLMAA       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 4       REV 01   740-031980   AJJ01M2           SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   123363A01137      SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   AJJ01PN           SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   AJJ01NW           SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   123363A01139      SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   AJJ01KE           SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   123363A01336      SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   B10M01325         SFP+-10G-SR
  PIC 1          REV 07   750-034624   EF6800            12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   AJJ01SA           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJJ01QZ           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AJH0217           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AJJ01TE           SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   AJJ01KV           SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   AJJ01MU           SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   AJJ01R0           SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   AJJ01TC           SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   AJJ0364           SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   AJD0GV3           SFP+-10G-SR
```


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```
    Xcvr 10      REV 01   740-031980   B10M03343         SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   AJJ01QJ           SFP+-10G-SR
  LMB 0          REV 05   711-034381   EJ8490            Type-0 LMB
  LMB 1          REV 04   711-035774   EJ8517            Type-1 LMB
  LMB 2          REV 05   711-034381   EJ8489            Type-0 LMB
FPC 3            REV 07   750-032819   EG3637            FPC Type 5-3D
  CPU            REV 09   711-030686   EG0150            SNG PMB
  PIC 0          REV 08   750-035293   EF3657            1x100GE
    Xcvr 0       REV 01   740-032210   C22CQNJ           CFP-100G-LR4
  PIC 1          REV 10   750-034624   BBAN4098          12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   B11J04902         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11J04891         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AJJ01MX           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11J04183         SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   B11J04894         SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   B11J04184         SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   B11J04897         SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   B11J04899         SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   AJJ01TV           SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   B11J04057         SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   AJJ01M4           SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   B11J04905         SFP+-10G-SR
  LMB 0          REV 04   711-034381   EG1524            Type-0 LMB
  LMB 1          REV 03   711-035774   EG0345            Type-1 LMB
  LMB 2          REV 04   711-034381   EG1522            Type-0 LMB
FPC 5            REV 03   710-033871   BBAJ0768          FPC Type 4-ES
  CPU            REV 11   710-016744   BBAH9342          ST-PMB2
  PIC 0          REV 09   750-029262   EE6789            100GE
  PIC 1          REV 03   750-034781   EE6655            100GE CFP
    Xcvr 0       REV 01   740-032210   J11A22334         CFP-100G-LR4
  BRIDGE 0       REV 03   711-029995   EE6572            100GE Bridge Board
  MMB 0          REV 07   710-025563   BBAJ4657          ST-MMB2
  MMB 1          REV 07   710-025563   BBAJ3073          ST-MMB2
FPC 6            REV 05   750-010153   EF4936            FPC Type 5-3D
  CPU            REV 06   711-030686   EF4189            SNG PMB
  PIC 0          REV 10   750-034624   BBAN4109          12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   B11J04895         SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11J04898         SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   B11J04021         SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   B11J04903         SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   B11J04311         SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   B11J04059         SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   B11J04016         SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   B11J04017         SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   B11J04887         SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   B11J04297         SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   B11J04893         SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   B11J04022         SFP+-10G-SR
  PIC 1          REV 02   750-034624   EE3711            12x10GE (LAN/WAN) SFPP
    Xcvr 0       REV 01   740-031980   AJH033X           SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   AJJ01N0           SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AJJ01SV           SFP+-10G-SR
    Xcvr 3       REV 01   740-031980   AJJ032L           SFP+-10G-SR
    Xcvr 4       REV 01   740-031980   B10M01593         SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   AJD0FF1           SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   AJJ01NU           SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   123363A01305      SFP+-10G-SR
    Xcvr 8       REV 01   740-031980   B10M00361         SFP+-10G-SR
    Xcvr 9       REV 01   740-031980   AJJ01M7           SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   AJJ032X           SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   AJJ01PG           SFP+-10G-SR
```

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```
  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)

```
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
```


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```
  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)

```
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
    Xcvr 5       REV 01   740-011782   P8Q20XY           SFP-SX
    Xcvr 6       REV 01   740-011613   AM0812S8UJV       SFP-SX
    Xcvr 7       REV 01   740-011613   AM0812S8UP7       SFP-SX
  PIC 2          REV 05   750-004695   HT4383            1x Tunnel
  PIC 3          REV 17   750-009553   RL0204            4x OC-48 SONET
    Xcvr 0       REV 01   740-011785   PDS3T23           SFP-SR
    Xcvr 1       REV 01   740-011785   P6Q0F3E           SFP-SR
  MMB 0          REV 03   710-004047   HD5843            MMB-288mbit
  MMB 1          REV 03   710-004047   HE3208            MMB-288mbit
  PPB 0          REV 02   710-002845   HA4524            PPB Type 3
  PPB 1          REV 02   710-002845   HA4766            PPB Type 3
FPC 3            REV 01   710-010154   HR0863            E-FPC Type 3
  CPU            REV 01   710-010169   HN3422            FPC CPU-Enhanced
  PIC 0          REV 07   750-012793   WF5096            1x 10GE(LAN/WAN) IQ2
    Xcvr 0                NON-JNPR     M64294TP          XFP-10G-LR
  PIC 1          REV 25   750-007141   DV2127            10x 1GE(LAN), 1000 BASE

    Xcvr 0       REV 01   740-011613   PFA6LTJ           SFP-SX
    Xcvr 1       REV 01   740-011782   P9P0XV4           SFP-SX
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    Xcvr 2       REV 01   740-011782   P9M0TNX          SFP-SX
    Xcvr 4       REV 01   740-011782   P9B0TTP          SFP-SX
    Xcvr 5                NON-JNPR     PBS4LED          SFP-SX
  PIC 2          REV 17   750-009553   RL0212           4x OC-48 SONET
    Xcvr 0       REV 01   740-011785   PDS3T8G          SFP-SR
  PIC 3          REV 32   750-003700   DL1279           1x OC-192 12xMM VSR
  MMB 0          REV 01   710-010171   HR0821           MMB-288mbit
  MMB 1          REV 01   710-010171   HR0818           MMB-288mbit
FPC 4            REV 16   710-013037   EB4919           FPC Type 4-ES
  CPU            REV 09   710-016744   BBAA4382         ST-PMB2
  PIC 0          REV 03   711-029996   EB1569           100GE
  PIC 1          REV 05   711-029999   EB9983           100GE CFP
    Xcvr 0       REV 0    740-032210   J10G80746        CFP-100G-LR4
  BRIDGE 0       REV 02   711-029995   EB2235           100GE Bridge Board
  MMB 0          REV 04   710-025563   BBAA7112         ST-MMB2
  MMB 1          REV 04   710-025563   BBAA7149         ST-MMB2
FPC 5            REV 02   710-013037   DE3407           FPC Type 4-ES
  CPU            REV 04   710-016744   DA2124           ST-PMB2
  PIC 0          REV 16   750-012518   DF2554           4x OC-192 SONET XFP
    Xcvr 0       REV 01   740-014279   AA0745N1FX8      XFP-OC192-SR
    Xcvr 1       REV 01   740-014279   AA0748N1HN5      XFP-OC192-SR
    Xcvr 2       REV 01   740-014279   AA0748N1HT6      XFP-OC192-SR
    Xcvr 3       REV 01   740-014279   AA0744N1EC9      XFP-OC192-SR
  PIC 1          REV 01   750-010850   JA0329           1x OC-768 SONET SR
  MMB 0          REV 04   710-016036   DE9577           ST-MMB2
  MMB 1          REV 04   710-016036   DK4060           ST-MMB2
FPC 6            REV 14   710-013037   DV1431           FPC Type 4-ES
  CPU            REV 09   710-016744   DT9020           ST-PMB2
  PIC 0          REV 11   750-017405   DM6261           4x 10GE (LAN/WAN) XFP
    Xcvr 0       REV 01   740-014289   C701XU05Q        XFP-10G-SR
    Xcvr 1       REV 01   740-014279   AA0748N1HPT      XFP-10G-LR
    Xcvr 2       REV 01   740-014289   T08E19189        XFP-10G-SR
    Xcvr 3       REV 01   740-014289   C715XU058        XFP-10G-SR
  PIC 1          REV 13   750-017405   DP8772           4x 10GE (LAN/WAN) XFP
    Xcvr 0       REV 02   740-011571   C850XJ037        XFP-10G-SR
    Xcvr 1       REV 02   740-014289   C839XU0L9        XFP-10G-SR
    Xcvr 2       REV 02   740-014289   C834XU05A        XFP-10G-SR
    Xcvr 3       REV 02   740-014289   C810XU0CE        XFP-10G-SR
  MMB 0          REV 01   710-025563   DT8454           ST-MMB2
  MMB 1          REV 01   710-025563   DT8366           ST-MMB2
FPC 7            REV 09   710-007529   HZ7624           FPC Type 3
  CPU            REV 15   710-001726   HZ1413           FPC CPU
  PIC 0          REV 10   750-012793   DM5627           1x 10GE(LAN/WAN) IQ2
    Xcvr 0       REV 02   740-011571   C831XJ062        XFP-10G-SR
  PIC 1          REV 01   750-015217   JT6762           8x 1GE(TYPE3), IQ2
    Xcvr 0       REV 01   740-011782   P8Q25JU          SFP-SX
    Xcvr 1       REV 01   740-011782   P9B0U0K          SFP-SX
  PIC 2          REV 01   750-015217   JS4268           8x 1GE(TYPE3), IQ2
    Xcvr 0       REV 01   740-011613   AM0812S8XBZ      SFP-SX
    Xcvr 1       REV 01   740-011613   AM0812S8XAP      SFP-SX
    Xcvr 2       REV 01   740-011613   AM0812S8XBY      SFP-SX
    Xcvr 3       REV 01   740-011613   AM0812S8XBX      SFP-SX
    Xcvr 4       REV 01   740-011613   P9F1652          SFP-SX
    Xcvr 5       REV 01   740-011782   P8Q21YC          SFP-SX
    Xcvr 6       REV 01   740-011782   P8Q27HQ          SFP-SX
    Xcvr 7       REV 01   740-011613   P8E2SSU          SFP-SX
  PIC 3          REV 15   750-009450   NB6790           1x OC-192 SM SR2
  MMB 0          REV 03   710-005555   HZ3450           MMB-288mbit
  MMB 1          REV 03   710-005555   HZ3415           MMB-288mbit
  PPB 0          REV 04   710-002845   HP0887           PPB Type 3
  PPB 1          REV 04   710-002845   HW5255           PPB Type 3
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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
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show chassis hardware (TX Matrix Plus Router)

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user@host> show chassis hardware
sfc0-re0:
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Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN113186EAHB      TXP
Midplane         REV 05   710-022574   TS3822            SFC Midplane
FPM Display      REV 03   710-024027   DW4701            TXP FPM Display
CIP 0            REV 05   710-023792   DW7998            TXP CIP
CIP 1            REV 05   710-023792   DW7999            TXP CIP
PEM 0            Rev 04   740-027463   UM26367           Power Entry Module
PEM 1            Rev 04   740-027463   UM26346           Power Entry Module
Routing Engine 0 REV 06   740-026942   737A-1081         RE-DUO-2600
Routing Engine 1 REV 06   740-026942   737A-1043         RE-DUO-2600
CB 0             REV 05   710-022606   DW4435            SFC Control Board
CB 1             REV 09   710-022606   DW6100            SFC Control Board
SPMB 0                    BUILTIN                        SFC Switch CPU
SPMB 1                    BUILTIN                        SFC Switch CPU
SIB F13 0        REV 04   750-024564   DW5764            F13 SIB
  B Board        REV 03   710-023431   DW9053            F13 SIB Mezz
SIB F13 3        REV 04   750-024564   DW5785            F13 SIB
  B Board        REV 03   710-023431   DW9030            F13 SIB Mezz
SIB F13 6
SIB F13 8        REV 04   750-024564   DW5752            F13 SIB
  B Board        REV 03   710-023431   DW9051            F13 SIB Mezz
SIB F13 11       REV 04   750-024564   DW5782            F13 SIB
  B Board        REV 03   710-023431   DW9058            F13 SIB Mezz
SIB F13 12       REV 03   750-024564   DT9466            F13 SIB
  B Board        REV 02   710-023431   DT6556            F13 SIB Mezz
SIB F2S 0/0      REV 05   710-022603   DW7898            F2S SIB
  B Board        REV 05   710-023787   DW7625            F2S SIB Mezz
SIB F2S 0/2      REV 05   710-022603   DW7811            F2S SIB
  B Board        REV 05   710-023787   DW7550            F2S SIB Mezz
SIB F2S 0/4      REV 04   710-022603   DW4873            F2S SIB
  B Board        REV 05   710-023787   DW8509            F2S SIB Mezz
SIB F2S 0/6      REV 04   710-022603   DW4867            F2S SIB
  B Board        REV 05   710-023787   DW8472            F2S SIB Mezz
SIB F2S 1/0      REV 04   710-022603   DW4871            F2S SIB
  B Board        REV 05   710-023787   DW8497            F2S SIB Mezz
SIB F2S 1/2      REV 05   710-022603   DW7868            F2S SIB
  B Board        REV 05   710-023787   DW7551            F2S SIB Mezz
SIB F2S 1/4      REV 04   710-022603   DW4854            F2S SIB
  B Board        REV 05   710-023787   DW8496            F2S SIB Mezz
SIB F2S 1/6      REV 05   710-022603   DW7889            F2S SIB
  B Board        REV 05   710-023787   DW7496            F2S SIB Mezz
SIB F2S 2/0      REV 04   710-022603   DW4852            F2S SIB
  B Board        REV 05   710-023787   DW8498            F2S SIB Mezz
SIB F2S 2/2      REV 04   710-022603   DW4845            F2S SIB
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  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:
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Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11036F8AHA      T1600
Midplane         REV 03   710-017247   RC3799            T-series Backplane
FPM GBUS         REV 10   710-002901   DP7009            T640 FPM Board
FPM Display      REV 01   710-021387   DN7026            T1600 FPM Display
CIP              REV 06   710-002895   DP6024            T-series CIP
PEM 1           Rev 02   740-023211   WA50019          Power Entry Module 4x60A
SCG 0            REV 15   710-003423   DR6757            T640 Sonet Clock Gen.
SCG 1            REV 15   710-003423   DS2225            T640 Sonet Clock Gen.
Routing Engine 0 REV 01   740-026941   737F-1040         RE-DUO-1800
Routing Engine 1 REV 01   740-026941   737F-1016         RE-DUO-1800
CB 0             REV 06   710-022597   DX4011            LCC Control Board
CB 1             REV 06   710-022597   DX4017            LCC Control Board
FPC 1            REV 07   710-013035   DN5847            FPC Type 3-ES
  CPU            REV 08   710-016744   DP2570            ST-PMB2
  PIC 0          REV 05   750-015217   DB0418            8x 1GE(TYPE3), IQ2
    Xcvr 0       REV 01   740-011782   P8Q27ZG           SFP-SX
    Xcvr 1                NON-JNPR     PDA1U0D           SFP-SX
    Xcvr 2       REV 01   740-011613   P9F1ALW           SFP-SX
    Xcvr 3       REV 01   740-011782   PBA403V           SFP-SX
    Xcvr 4                NON-JNPR     PDE09DP           SFP-SX
    Xcvr 5       REV 01   740-011782   PCH2P4K           SFP-SX
    Xcvr 6       REV 01   740-011782   PB94K0F           SFP-SX
    Xcvr 7       REV 01   740-011782   PBA2R2A           SFP-SX
  PIC 1          REV 03   750-004424   HJ4020            1x 10GE(LAN),DWDM
  PIC 2          REV 01   750-003336   HG6073            4x OC-48 SONET, SMSR
  MMB 0          REV 04   710-016036   DP3401            ST-MMB2
FPC 3            REV 12   710-013037   DR1169            FPC Type 4-ES
  CPU            REV 08   710-016744   DP9429            ST-PMB2
  PIC 0          REV 02   750-010850   JA0332            1x OC-768 SONET SR
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  MMB 0          REV 04   710-016036   DR0628           ST-MMB2
  MMB 1          REV 04   710-016036   DR0592           ST-MMB2
FPC 4            REV 05   710-021534   DR7350           FPC Type 1-ES
  CPU            REV 08   710-016744   DP8096           ST-PMB2
  PIC 0          REV 04   750-014627   DP9171           4x OC-3 1x OC-12 SFP
    Xcvr 0       REV 02   740-011615   PDE2RVR          SFP-SR
  PIC 1          REV 22   750-005634   DS5815           1x CHOC12 IQ SONET, SMIR

  PIC 2          REV 09   750-002911   CF4539           4x F/E, 100 BASE-TX
  PIC 3          REV 08   750-021652   DR2827           1x CHOC12 IQE SONET
    Xcvr 0                NON-JNPR     8                UNKNOWN
  MMB 0          REV 04   710-016036   DR0809           ST-MMB2
FPC 5            REV 07   710-007529   HS5608           FPC Type 3
  CPU            REV 15   710-001726   HX4351           FPC CPU
  PIC 0          REV 14   750-009567   WJ8961           1x 10GE(LAN),XENPAK
    Xcvr 0       REV 01   740-013170   J05K05961        XENPAK-LR
  PIC 1          REV 16   750-007141   JJ8146           10x 1GE(LAN), 1000 BASE

    Xcvr 1       REV 01   740-011613   P9F117T          SFP-SX
    Xcvr 2       REV 01   740-011782   PBA2VCL          SFP-SX
    Xcvr 3       REV 01   740-011782   PB83DRB          SFP-SX
    Xcvr 4       REV 01   740-011613   AM0812S8UP8      SFP-SX
  PIC 2          REV 12   750-009567   WF3566           1x 10GE(LAN),XENPAK
    Xcvr 0       REV 02   740-013170   T07C94489        XENPAK-LR
  MMB 0          REV 03   710-005555   HZ1907           MMB-288mbit
  MMB 1          REV 03   710-005555   HW5283           MMB-288mbit
  PPB 0          REV 04   710-002845   HZ7717           PPB Type 3
  PPB 1          REV 04   710-002845   HS0110           PPB Type 3
FPC 6            REV 07   710-013035   DP7486           FPC Type 3-ES
  CPU            REV 08   710-016744   DP2545           ST-PMB2
  PIC 0          REV 09   750-009567   NE6323           1x 10GE(LAN),XENPAK
    Xcvr 0       REV 02   740-013170   T09C71959        XENPAK-LR
  PIC 1          REV 06   750-015217   DN4775           8x 1GE(TYPE3), IQ2
    Xcvr 0       REV 01   740-011782   P7E0T6M          SFP-SX
    Xcvr 1       REV 01   740-011613   AM0812S8XAY      SFP-SX
    Xcvr 2       REV 01   740-011782   P7E0T6J          SFP-SX
    Xcvr 3       REV 01   740-011782   PCH2P7D          SFP-SX
    Xcvr 4       REV 01   740-011782   P9B0QYT          SFP-SX
    Xcvr 5       REV 01   740-011613   AM0812S8WQJ      SFP-SX
    Xcvr 6       REV 02   740-013111   9301220          SFP-T
    Xcvr 7       REV 01   740-011782   P9B0TZ5          SFP-SX
  PIC 2          REV 06   750-015217   DM6747           8x 1GE(TYPE3), IQ2
    Xcvr 0       REV 01   740-011613   PAP0ZB2          SFP-SX
    Xcvr 1       REV 01   740-013111   7019100 2        SFP-T
    Xcvr 6       REV 01   740-011782   PBA29H8          SFP-SX
    Xcvr 7       REV 01   740-011613   AM0812S8WQG      SFP-SX
  MMB 0          REV 04   710-016036   DP3238           ST-MMB2
FPC 7            REV 03   710-021540   DV3154           FPC Type 2-ES
  CPU            REV 09   710-016744   DT9053           ST-PMB2
  PIC 0          REV 13   750-001901   HB4225           4x OC-12 SONET, SMIR
  PIC 1          REV 05   750-001900   AD3644           1x OC-48 SONET, SMSR
  PIC 2          REV 10   750-008155   HV0335           2x G/E IQ, 1000 BASE
    Xcvr 0       REV 01   740-011782   PCH2UKF          SFP-SX
    Xcvr 1       REV 01   740-011782   PCH2V19          SFP-SX
  PIC 3          REV 03   750-014638   JS9493           1x OC-48-12-3 SFP
    Xcvr 0       REV 01   740-011785   P6Q0ENK          SFP-SR
  MMB 0          REV 05   710-016036   DP3323           ST-MMB2
SPMB 0           REV 04   710-023321   DX3004           LCC Switch CPU
SPMB 1           REV 04   710-023321   DX3009           LCC Switch CPU
SIB 0            REV 07   710-022594   DW4195           LCC SIB
  B Board        REV 07   710-023185   DW3930           LCC SIB Mezz
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SIB 1            REV 07   710-022594   DW4179           LCC SIB
  B Board        REV 07   710-023185   DW3919           LCC SIB Mezz
SIB 2
SIB 3            REV 06   710-022594   DT8251           LCC SIB
  B Board        REV 06   710-023185   DT5792           LCC SIB Mezz
SIB 4            REV 08   710-022594   DW8014           LCC SIB
  B Board        REV 07   710-023185   DW3917           LCC SIB Mezz
Fan Tray 0                                             Front Top Fan Tray
Fan Tray 1                                             Front Bottom Fan Tray
Fan Tray 2                                             Rear Fan Tray -- Rev 3

lcc1-re0:
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Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN1102270AHA      T1600
Midplane         REV 04   710-017247   RC5358           T-series Backplane
FPM GBUS         REV 10   710-002901   DS3443           T640 FPM Board
FPM Display      REV 01   710-021387   DS6411           T1600 FPM Display
CIP              REV 06   710-002895   DS4235           T-series CIP
PEM 0           Rev 02   740-023211   VM82438          Power Entry Module 4x60A
SCG 0            REV 15   710-003423   DS6649           T640 Sonet Clock Gen.
SCG 1            REV 15   710-003423   DR6775           T640 Sonet Clock Gen.
Routing Engine 0 REV 01   740-026941   737F-1083        RE-DUO-1800
Routing Engine 1 REV 01   740-026941   737F-1104        RE-DUO-1800
CB 0             REV 06   710-022597   DW8542           LCC Control Board
CB 1             REV 06   710-022597   DW8530           LCC Control Board
FPC 0            REV 02   710-010845   JE2392           FPC Type 4
  CPU            REV 02   710-011481   JF6820           FPC CPU-Enhanced
  PIC 0          REV 11   750-017405   DP7259           4x 10GE (LAN/WAN) XFP
    Xcvr 0       REV 01   740-014279   AA0741N1C8T      XFP-10G-LR
    Xcvr 1       REV 01   740-014279   AA0746N1GAM      XFP-10G-LR
    Xcvr 2       REV 01   740-014279   AA0747N1H0B      XFP-10G-LR
    Xcvr 3       REV 01   740-014279   AA0748N1HZ5      XFP-10G-LR
  MMB 0          REV 03   710-010842   HY7601           ST-MMB
FPC 1            REV 16   710-013037   BBAA7398         FPC Type 4-ES
  CPU            REV 09   710-016744   BBAA2329         ST-PMB2
  PIC 0          REV 03   711-029996   EB1575           100GE
  PIC 1          REV 06   750-034781   EB9980           100GE CFP
  MMB 0          REV 04   710-025563   BBAA5325         ST-MMB2
  MMB 1          REV 04   710-025563   BBAA5444         ST-MMB2
FPC 2            REV 16   710-013037   BBAA7185         FPC Type 4-ES
  CPU            REV 09   710-016744   BBAA3522         ST-PMB2
  PIC 0          REV 03   711-029996   EB1557           100GE
  PIC 1          REV 05   750-034781   EB4660           100GE CFP
    Xcvr 0       REV 0    740-032210   J10F73666        CFP-100G-LR4
  BRIDGE 0       REV 02   711-029995   EB2237           100GE Bridge Board
  MMB 0          REV 04   710-025563   BBAA5347         ST-MMB2
  MMB 1          REV 04   710-025563   BBAA5401         ST-MMB2
FPC 3            REV 10   710-021534   DZ0941           FPC Type 1-ES
  CPU            REV 09   710-016744   DY6364           ST-PMB2
  PIC 0          REV 13   750-012266   DK9192           4x 1GE(LAN), IQ2
    Xcvr 0       REV 01   740-011613   AM0812S8WVD      SFP-SX
    Xcvr 1                NON-JNPR     PDD63Q4          SFP-SX
    Xcvr 2                NON-JNPR     PDE4G54          SFP-SX
    Xcvr 3                NON-JNPR     PD40MAG          SFP-SX
  PIC 1          REV 01   750-007641   HJ2003           1x G/E IQ, 1000 BASE
    Xcvr 0       REV 01   740-011613   AM0812S8WVG      SFP-SX
  PIC 3          REV 17   750-007444   JB6873           1x CHSTM1 IQ SDH, SMIR
  MMB 0          REV 04   710-025563   DZ0281           ST-MMB2
FPC 4            REV 06   710-013035   DK0614           FPC Type 3-ES
```

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```
  CPU            REV 07   710-016744   DK1616           ST-PMB2
  PIC 0          REV 22   750-007141   DM1870           10x 1GE(LAN), 1000 BASE

    Xcvr 0       REV 01   740-011782   PCL3UKW          SFP-SX
    Xcvr 1       REV 01   740-011782   P7E0T73          SFP-SX
    Xcvr 2       REV 01   740-007326   P4T0WLR          SFP-SX
    Xcvr 3       REV 01   740-011782   PAR1LRL          SFP-SX
    Xcvr 4       REV 01   740-011782   P9M0U3Z          SFP-SX
    Xcvr 5       REV 01   740-011782   P9M0U0C          SFP-SX
    Xcvr 6       REV 01   740-011782   P9M0TLG          SFP-SX
    Xcvr 7       REV 01   740-011782   P9M0U0F          SFP-SX
    Xcvr 8       REV 01   740-011613   PFA6LAP          SFP-SX
    Xcvr 9       REV 01   740-011782   PCH2P0U          SFP-SX
  PIC 1          REV 16   750-009450   CV2565           1x OC-192 SM SR2
  PIC 2          REV 05   750-004424   HH3057           1x 10GE(LAN),10GBASE-LR

  PIC 3          REV 12   750-013423   DP0403           MultiServices 500
  MMB 0          REV 04   710-016036   DK1988           ST-MMB2
FPC 5            REV 07   710-013560   DR0004           E2-FPC Type 3
  CPU            REV 05   710-013563   DR0089           FPC CPU-Enhanced
  PIC 0          REV 11   750-012793   DR6107           1x 10GE(LAN/WAN) IQ2
    Xcvr 0       REV 01   740-014289   C743XU074        XFP-10G-SR
  PIC 1          REV 01   750-004695   HD5980           1x Tunnel
  PIC 2          REV 32   750-003700   DL3770           1x OC-192 12xMM VSR
  PIC 3          REV 12   750-009553   WB8901           4x OC-48 SONET
    Xcvr 0       REV 01   740-011785   P9D1GTQ          SFP-SR
    Xcvr 1       REV 01   740-011785   PDS0MMB          SFP-SR
    Xcvr 3       REV 01   740-011785   PDE1KXP          SFP-SR
  MMB 0          REV 07   710-010171   DP7374           MMB-5M3-288mbit
  MMB 1          REV 07   710-010171   DP7404           MMB-5M3-288mbit
FPC 6            REV 07   710-013035   DM0994           FPC Type 3-ES
  CPU            REV 07   710-016744   DM3651           ST-PMB2
  PIC 0          REV 07   750-015217   DN4743           8x 1GE(TYPE3), IQ2
    Xcvr 3       REV 01   740-011613   AM0812S8XB0      SFP-SX
    Xcvr 4       REV 01   740-011782   PB829RB          SFP-SX
    Xcvr 5       REV 01   740-011782   P8J1SYX          SFP-SX
  PIC 1          REV 03   750-003336   HJ9954           4x OC-48 SONET, SMSR
  PIC 3          REV 02   750-012793   JM7665           1x 10GE(LAN/WAN) IQ2
  MMB 0          REV 04   710-016036   DN6913           ST-MMB2
FPC 7            REV 08   710-010845   JM3958           FPC Type 4
  CPU            REV 04   710-011481   JK3669           FPC CPU-Enhanced
  PIC 0          REV 11   750-017405   DP8837           4x 10GE (LAN/WAN) XFP
    Xcvr 1       REV 01   740-014279   753019A00277     XFP-10G-LR
    Xcvr 2       REV 02   740-011571   C850XJ00P        XFP-10G-SR
    Xcvr 3       REV 01   740-014279   AA0813N1RTG      XFP-10G-LR
  MMB 0          REV 04   710-010842   JN1971           ST-MMB
SPMB 0           REV 04   710-023321   DW3629           LCC Switch CPU
SPMB 1           REV 04   710-023321   DW3621           LCC Switch CPU
SIB 0            REV 07   710-022594   DW4200           LCC SIB
  B Board        REV 07   710-023185   DW3932           LCC SIB Mezz
SIB 1            REV 07   710-022594   DW4193           LCC SIB
  B Board        REV 07   710-023185   DW3904           LCC SIB Mezz
SIB 2
SIB 3            REV 07   710-022594   DW4210           LCC SIB
  B Board        REV 06   710-023185   DT5780           LCC SIB Mezz
SIB 4            REV 08   710-022594   DW8019           LCC SIB
  B Board        REV 06   710-023185   DT5795           LCC SIB Mezz
Fan Tray 0                                             Front Top Fan Tray
Fan Tray 1                                             Front Bottom Fan Tray
Fan Tray 2                                             Rear Fan Tray -- Rev 3
```


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show chassis hardware sfc (TX Matrix Plus Router)

```
user@host> show chassis hardware sfc 0
sfc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN112F007AHB      TXP
Midplane         REV 05   710-022574   TS4027            SFC Midplane
FPM Display      REV 03   710-024027   DX0282            TXP FPM Display
CIP 0            REV 04   710-023792   DW4889            TXP CIP
CIP 1            REV 04   710-023792   DW4887            TXP CIP
PEM 0            Rev 07   740-027463   UM26368           Power Entry Module
Routing Engine 0 REV 01   740-026942   737A-1064         SFC RE
Routing Engine 1 REV 01   740-026942   737A-1082         SFC RE
CB 0             REV 09   710-022606   DW6099            SFC Control Board
CB 1             REV 09   710-022606   DW6096            SFC Control Board
SPMB 0                    BUILTIN                        SFC Switch CPU
SPMB 1                    BUILTIN                        SFC Switch CPU
SIB F13 0        REV 04   710-022600   DX0841            F13 SIB
  B Board        REV 03   710-023431   DX0966            F13 SIB Mezz
SIB F13 1        REV 04   750-024564   DW5776            F13 SIB
  B Board        REV 03   710-023431   DW9028            F13 SIB
SIB F13 3        REV 04   750-024564   DW5762            F13 SIB
  B Board        REV 03   710-023431   DW9059            F13 SIB
SIB F13 4        REV 04   750-024564   DW5797            F13 SIB
  B Board        REV 03   710-023431   DW9041            F13 SIB
SIB F13 6        REV 04   750-024564   DW5770            F13 SIB
  B Board        REV 03   710-023431   DW9079            F13 SIB Mezz
SIB F13 7        REV 04   750-024564   DW5758            F13 SIB
  B Board        REV 03   710-023431   DW9047            F13 SIB
SIB F13 8        REV 04   750-024564   DW5761            F13 SIB
  B Board        REV 03   710-023431   DW9043            F13 SIB Mezz
SIB F13 9        REV 04   750-024564   DW5754            F13 SIB
  B Board        REV 03   710-023431   DW9078            F13 SIB Mezz
SIB F13 11       REV 04   710-022600   DX0826            F13 SIB
  B Board        REV 03   710-023431   DX0967            F13 SIB Mezz
SIB F13 12       REV 04   750-024564   DW5794            F13 SIB
  B Board        REV 03   710-023431   DW9044            F13 SIB Mezz
SIB F2S 0/0      REV 05   710-022603   DW7897            F2S SIB
  B Board        REV 05   710-023787   DW7657            NEO PMB
SIB F2S 0/2      REV 05   710-022603   DW7833            F2S SIB
  B Board        REV 05   710-023787   DW7526            NEO PMB
SIB F2S 0/4      REV 05   710-022603   DW7875            F2S SIB
  B Board        REV 05   710-023787   DW7588            NEO PMB
SIB F2S 0/6      REV 05   710-022603   DW7860            F2S SIB
  B Board        REV 05   710-023787   DW7589            NEO PMB
SIB F2S 1/0      REV 04   710-022603   DW4820            F2S SIB
  B Board        REV 05   710-023787   DW8510            NEO PMB
SIB F2S 1/2      REV 05   710-022603   DW7849            F2S SIB
  B Board        REV 05   710-023787   DW7525            NEO PMB
SIB F2S 1/4      REV 05   710-022603   DW7927            F2S SIB
  B Board        REV 05   710-023787   DW7556            F2S SIB Mezz
SIB F2S 1/6      REV 05   710-022603   DW7866            F2S SIB
  B Board        REV 05   710-023787   DW7651            NEO PMB
SIB F2S 2/0      REV 05   710-022603   DW7880            F2S SIB
  B Board        REV 05   710-023787   DW7523            NEO PMB
SIB F2S 2/2      REV 05   710-022603   DW7895            F2S SIB
  B Board        REV 05   710-023787   DW7591            NEO PMB
SIB F2S 2/4      REV 05   710-022603   DW7907            F2S SIB
  B Board        REV 05   710-023787   DW7590            NEO PMB
```

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SIB F2S 2/6      REV 05   710-022603   DW7785           F2S SIB
  B Board        REV 05   710-023787   DW7524           NEO PMB
SIB F2S 3/0      REV 05   710-022603   DW7782           F2S SIB
  B Board        REV 05   710-023787   DW7634           NEO PMB
SIB F2S 3/2      REV 05   710-022603   DW7793           F2S SIB
  B Board        REV 05   710-023787   DW7548           NEO PMB
SIB F2S 3/4      REV 05   710-022603   DW7779           F2S SIB
  B Board        REV 05   710-023787   DW7587           NEO PMB
SIB F2S 3/6      REV 05   710-022603   DW7930           F2S SIB
  B Board        REV 05   710-023787   DW7505           NEO PMB
SIB F2S 4/0      REV 05   710-022603   DW7867           F2S SIB
  B Board        REV 05   710-023787   DW7656           NEO PMB
SIB F2S 4/2      REV 05   710-022603   DW7917           F2S SIB
  B Board        REV 05   710-023787   DW7640           NEO PMB
SIB F2S 4/4      REV 05   710-022603   DW7929           F2S SIB
  B Board        REV 05   710-023787   DW7643           NEO PMB
SIB F2S 4/6      REV 05   710-022603   DW7870           F2S SIB
  B Board        REV 05   710-023787   DW7635           NEO PMB
Fan Tray 0       REV 06   760-024497   DV7831           Front Fan Tray
Fan Tray 1       REV 06   760-024497   DV9614           Front Fan Tray
Fan Tray 2       REV 06   760-024502   DV9618           Rear Fan Tray
Fan Tray 3       REV 06   760-024502   DV9616           Rear Fan Tray
Fan Tray 4       REV 06   760-024502   DV7807           Rear Fan Tray
Fan Tray 5       REV 06   760-024502   DV7828           Rear Fan Tray
```

show chassis hardware extensive (TX Matrix Plus Router)

```
user@host> show chassis hardware extensive
sfc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN112F007AHB      TXP
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
                                 S/N:               JN112F007AHB
 Assembly ID:  0x052c            Assembly Version:  00.00
 Date:         00-00-0000        Assembly Flags:    0x00
 ID: TXP
 Board Information Record:
  Address 0x00: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 05 2c 00 00 00 00 00 00 00 00 00 00
  Address 0x10: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x20: 4a 4e 31 31 32 46 30 30 37 41 48 42 00 00 00 00
  Address 0x30: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x40: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x50: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Midplane         REV 05   710-022574   TS4027            SFC Midplane
 Jedec Code:   0x7fb0            EEPROM Version:    0x01
 P/N:          710-022574        S/N:               TS4027
 Assembly ID:  0x0962            Assembly Version:  01.05
 Date:         03-23-2009        Assembly Flags:    0x00
 Version:      REV 05
 ID: SFC Midplane
 Board Information Record:
  Address 0x00: ad 01 ff ff 00 1d b5 14 00 00 ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 01 ff 09 62 01 05 52 45 56 20 30 35 00 00
  Address 0x10: 00 00 00 00 37 31 30 2d 30 32 32 35 37 34 00 00
```


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```
  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
FPM Display      REV 03   710-024027                     CRAFT-TXP-S
CIP 0            REV 05   710-023792                     CIP-TXP-S
CIP 1            REV 05   710-023792                     CIP-TXP-S
PEM 0            Rev 04   740-027463   IPUPAFGKTA        PWR-TXP-7-60-DC
PEM 1            Rev 04   740-027463   IPUPAFGKTA        PWR-TXP-7-60-DC
Routing Engine 0 REV 06   740-026942                     RE-DUO-C2600-16G-S
Routing Engine 1 REV 06   740-026942                     RE-DUO-C2600-16G-S
CB 0             REV 05   710-022606                     CB-TXP-S
CB 1             REV 09   710-022606                     CB-TXP-S
SIB F13 0        REV 04   750-024564                     SIB-TXP-F13
SIB F13 3        REV 04   750-024564                     SIB-TXP-F13
SIB F13 8        REV 04   750-024564                     SIB-TXP-F13
SIB F13 11       REV 04   750-024564                     SIB-TXP-F13
SIB F13 12       REV 03   750-024564                     SIB-TXP-F13
SIB F2S 0/0      REV 05   710-022603                     SIB-TXP-F2S-S
SIB F2S 0/2      REV 05   710-022603                     SIB-TXP-F2S-S
SIB F2S 0/4      REV 04   710-022603                     SIB-TXP-F2S-S
SIB F2S 0/6      REV 04   710-022603                     SIB-TXP-F2S-S
SIB F2S 1/0      REV 04   710-022603                     SIB-TXP-F2S-S
```

```
SIB F2S 1/2      REV 05   710-022603                    SIB-TXP-F2S-S
SIB F2S 1/4      REV 04   710-022603                    SIB-TXP-F2S-S
SIB F2S 1/6      REV 05   710-022603                    SIB-TXP-F2S-S
SIB F2S 2/0      REV 04   710-022603                    SIB-TXP-F2S-S
SIB F2S 2/2      REV 04   710-022603                    SIB-TXP-F2S-S
SIB F2S 2/4      REV 05   710-022603                    SIB-TXP-F2S-S
SIB F2S 2/6      REV 04   710-022603                    SIB-TXP-F2S-S
SIB F2S 3/0      REV 05   710-022603                    SIB-TXP-F2S-S
SIB F2S 3/2      REV 03   710-022603                    SIB-TXP-F2S-S
SIB F2S 3/4      REV 05   710-022603                    SIB-TXP-F2S-S
SIB F2S 3/6      REV 03   710-022603                    SIB-TXP-F2S-S
SIB F2S 4/0      REV 03   710-022603                    SIB-TXP-F2S-S
SIB F2S 4/2      REV 05   710-022603                    SIB-TXP-F2S-S
SIB F2S 4/4      REV 04   710-022603                    SIB-TXP-F2S-S
SIB F2S 4/6      REV 03   710-022603                    SIB-TXP-F2S-S
Fan Tray 0       REV 02   760-024497                    FANTRAY-TXP-H-S
Fan Tray 1       REV 02   760-024497                    FANTRAY-TXP-H-S
Fan Tray 2       REV 05   760-024502                    FANTRAY-TXP-V-S
Fan Tray 3
Fan Tray 4       REV 05   760-024502                    FANTRAY-TXP-V-S
Fan Tray 5       REV 02   760-024502                    FANTRAY-TXP-V-S

lcc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Midplane         REV 03   710-017247                     CHAS-BP-T1600-S
FPM Display      REV 01   710-021387                     CRAFT-T1600-S
CIP              REV 06   710-002895                     CIP-L-T640-S
PEM 1            Rev 02   740-023211   IPUPAC8KTA        PWR-T1600-4-60-DC-S
SCG 0            REV 15   710-003423                     SCG-T-S
SCG 1            REV 15   710-003423                     SCG-T-S
Routing Engine 0 REV 01   740-026941                     RE-DUO-C1800-8G-S
Routing Engine 1 REV 01   740-026941                     RE-DUO-C1800-8G-S
CB 0             REV 06   710-022597                     CB-LCC-S
CB 1             REV 06   710-022597                     CB-LCC-S
FPC 1            REV 07   710-013035                     T640-FPC3-ES
  PIC 0          REV 05   750-015217                     PC-8GE-TYPE3-SFP-IQ2
  PIC 1          REV 03   750-004424                     PC-1XGE-LR
  PIC 2          REV 01   750-003336                     PC-4OC48-SON-SMSR
FPC 3            REV 12   710-013037                     T1600-FPC4-ES
  PIC 0          REV 02   750-010850                     PD-1OC768-SON-SR
FPC 4            REV 05   710-021534                     T640-FPC1-ES
  PIC 0          REV 04   750-014627                     PB-4OC3-1OC12-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-4OC12-SON-SMIR
  PIC 1          REV 05   750-001900                     PB-1OC48-SON-SMSR
  PIC 2          REV 10   750-008155                     PB-2GE-SFP-QPP
  PIC 3          REV 03   750-014638                     PB-1OC48-SON-B-SFP
SIB 0            REV 07   710-022594                     SIB-TXP-T1600-S
```


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```
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-1OC192-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-1OC192-SON-VSR
  PIC 3          REV 12   750-009553                    PC-4OC48-SON-SFP
FPC 6            REV 07   710-013035                    T640-FPC3-ES
  PIC 0          REV 07   750-015217                    PC-8GE-TYPE3-SFP-IQ2
  PIC 1          REV 03   750-003336                    PC-4OC48-SON-SMSR
  PIC 3          REV 02   750-012793                    PC-1XGE-TYPE3-XFP-IQ2
FPC 7            REV 08   710-010845                    T640-FPC4-ES
  PIC 0          REV 11   750-017405                    PD-4XGE-XFP
SIB 0            REV 07   710-022594                    SIB-TXP-T1600-S
SIB 1            REV 07   710-022594                    SIB-TXP-T1600-S
SIB 3            REV 07   710-022594                    SIB-TXP-T1600-S
SIB 4            REV 08   710-022594                    SIB-TXP-T1600-S
Fan Tray 0                                              FANTRAY-T-S
Fan Tray 1                                              FANTRAY-T-S
Fan Tray 2                                              FANTRAY-TXP-R-S
```

show chassis hardware detail (TX Matrix Plus Router)

```
user@host> show chassis hardware detail
sfc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
```

```
Item             Version  Part number  Serial number     Description
Chassis                                JN111B023AHB      TXP
Midplane         REV 01   710-022574   TR7990            SFC Midplane
FPM Display      REV 03   710-024027   DW4699            TXP FPM Display
CIP 0            REV 01   710-023792   DR1437            TXP CIP
CIP 1            REV 02   710-023792   DS4564            TXP CIP
PEM 0            Rev 07   740-027463   UM26360           Power Entry Module
Routing Engine 0 REV 01   740-026942   737A-1024         SFC RE
  ad0    3887 MB  SMART CF             200811050193CEB1CEB1 Compact Flash
  ad1   30533 MB  SAMSUNG MCBQE32G8MPP-0V SY814A0762     Disk 1
Routing Engine 1 REV 01   740-026942   737A-1024         SFC RE
  ad0    3887 MB  SMART CF             20081105004C19A019A0 Compact Flash
  ad1   30533 MB  SAMSUNG MCBQE32G8MPP-0V SY814A0794     Disk 1
CB 0             REV 03   710-022606   DR7134            SFC Control Board
CB 1             REV 01   710-022606   DP8890            SFC Control Board
SPMB 0                    BUILTIN                        SFC Switch CPU
SPMB 1                    BUILTIN                        SFC Switch CPU
SIB F13 0        REV 03   750-024564   DT9478            F13 SIB
  B Board        REV 02   710-023431   DT6554            F13 SIB
SIB F13 1        REV 03   750-024564   DT9454            F13 SIB
  B Board        REV 02   710-023431   DT6551            F13 SIB
SIB F2S 0/0      REV 02   710-022603   DT2838            F2S SIB
  B Board        REV 02   710-023787   DT1725            NEO PMB
SIB F2S 0/2      REV 02   710-022603   DT2824            F2S SIB
  B Board        REV 02   710-023787   DT1706            NEO PMB
SIB F2S 0/4      REV 02   710-022603   DT2822            F2S SIB
  B Board        REV 02   710-023787   DT1696            NEO PMB
SIB F2S 0/6      REV 02   710-022603   DT2823            F2S SIB
  B Board        REV 02   710-023787   DT1717            NEO PMB
SIB F2S 1/0      REV 03   710-022603   DV0059            F2S SIB
  B Board        REV 03   710-023787   DT9942            NEO PMB
SIB F2S 1/2      REV 02   710-022603   DT2826            F2S SIB
  B Board        REV 02   710-023787   DT1713            NEO PMB
SIB F2S 1/4      REV 03   710-022603   DV0092            F2S SIB
  B Board        REV 03   710-023787   DV0000            NEO PMB
SIB F2S 1/6      REV 03   710-022603   DV0079            F2S SIB
  B Board        REV 03   710-023787   DT9972            NEO PMB
SIB F2S 2/0      REV 03   710-022603   DV0100            F2S SIB
  B Board        REV 03   710-023787   DT9925            NEO PMB
SIB F2S 2/2      REV 03   710-022603   DV0050            F2S SIB
  B Board        REV 03   710-023787   DV0005            NEO PMB
SIB F2S 2/4      REV 03   710-022603   DV0097            F2S SIB
  B Board        REV 03   710-023787   DT9936            NEO PMB
Fan Tray 0       REV 02   760-024497   DR8286            Front Fan Tray
Fan Tray 1       REV 06   760-024497   DV9624            Front Fan Tray
Fan Tray 2       REV 02   760-024502   DR8259            Rear Fan Tray
Fan Tray 3       REV 02   760-024502   DR8270            Rear Fan Tray
Fan Tray 4       REV 02   760-024502   DR8284            Rear Fan Tray
Fan Tray 5       REV 06   760-024502   DV7813            Rear Fan Tray

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.
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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
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show chassis hardware models (TX Matrix Plus Router)

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user@host> show chassis hardware models
sfc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
FPM Display      REV 03   710-024027   DX0282           CRAFT-TXP
CIP 0            REV 04   710-023792   DW4889           CIP-TXP
CIP 1            REV 04   710-023792   DW4887           CIP-TXP
PEM 0            Rev 07   740-027463   UM26368          ÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿÿ
Routing Engine 0 REV 01   740-026942   737A-1064        RE-TXP-SFC-DUO-2600-16G
Routing Engine 1 REV 01   740-026942   737A-1082        RE-TXP-SFC-DUO-2600-16G
CB 0             REV 09   710-022606   DW6099           CB-TXP
CB 1             REV 09   710-022606   DW6096           CB-TXP
SIB F13 1        REV 04   750-024564   DW5776           SIB-TXP-F13
SIB F13 3        REV 04   750-024564   DW5762           SIB-TXP-F13
SIB F13 4        REV 04   750-024564   DW5797           SIB-TXP-F13
SIB F13 6        REV 04   750-024564   DW5770           SIB-TXP-F13
SIB F13 7        REV 04   750-024564   DW5758           SIB-TXP-F13
SIB F13 8        REV 04   750-024564   DW5761           SIB-TXP-F13
SIB F13 9        REV 04   750-024564   DW5754           SIB-TXP-F13
SIB F13 12       REV 04   750-024564   DW5794           SIB-TXP-F13
SIB F2S 0/0      REV 05   710-022603   DW7897
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SIB F2S 0/2      REV 05   710-022603   DW7833
SIB F2S 0/4      REV 05   710-022603   DW7875
SIB F2S 0/6      REV 05   710-022603   DW7860
SIB F2S 1/0      REV 04   710-022603   DW4820
SIB F2S 1/2      REV 05   710-022603   DW7849
SIB F2S 1/4      REV 05   710-022603   DW7927           SIB-TXP-F2S
SIB F2S 1/6      REV 05   710-022603   DW7866
SIB F2S 2/0      REV 05   710-022603   DW7880
SIB F2S 2/2      REV 05   710-022603   DW7895
SIB F2S 2/4      REV 05   710-022603   DW7907
SIB F2S 2/6      REV 05   710-022603   DW7785
SIB F2S 3/0      REV 05   710-022603   DW7782
SIB F2S 3/2      REV 05   710-022603   DW7793
SIB F2S 3/4      REV 05   710-022603   DW7779
SIB F2S 3/6      REV 05   710-022603   DW7930
SIB F2S 4/0      REV 05   710-022603   DW7867
SIB F2S 4/2      REV 05   710-022603   DW7917
SIB F2S 4/4      REV 05   710-022603   DW7929
SIB F2S 4/6      REV 05   710-022603   DW7870
Fan Tray 0       REV 06   760-024497   DV7831           FANTRAY-TXP-F
Fan Tray 1       REV 06   760-024497   DV9614           FANTRAY-TXP-F
Fan Tray 2       REV 06   760-024502   DV9618           FANTRAY-TXP-R
Fan Tray 3       REV 06   760-024502   DV9616           FANTRAY-TXP-R
Fan Tray 4       REV 06   760-024502   DV7807           FANTRAY-TXP-R
Fan Tray 5       REV 06   760-024502   DV7828           FANTRAY-TXP-R

lcc0-re0:
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Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
Midplane         REV 03   710-017247   RC3765           CHAS-BP-T1600-S
FPM Display      REV 01   710-021387   DN5441           CRAFT-T1600-S
CIP              REV 06   710-002895   DP6021           CIP-L-T640-S
PEM 0            Rev 07   740-017906   UA26384          PWR-T1600-3-80-DC-S
PEM 1            Rev 07   740-017906   UA26296          PWR-T1600-3-80-DC-S
SCG 0            REV 15   710-003423   DR0875           SCG-T-S
CB 0             REV 06   710-022597   DW8534           CB-LCC
CB 1             REV 06   710-022597   DW8527           CB-LCC
FPC 4            REV 12   710-013037   DJ8717           T1600-FPC4-ES
  PIC 0          REV 11   750-017405   DP8795           PD-4XGE-XFP
  PIC 1          REV 11   750-017405   DP8794           PD-4XGE-XFP
FPC 6            REV 14   710-013037   DS5335           T1600-FPC4-ES
  PIC 0          REV 13   750-017405   DS7634           PD-4XGE-XFP
  PIC 1          REV 13   750-017405   DS7637           PD-4XGE-XFP
FPC 7            REV 07   710-013035   DM0990           T1600-FPC3-ES
  PIC 0          REV 16   750-007141   JJ8067           PC-10GE-SFP
  PIC 1          REV 08   750-015749   WE9598           PC-1OC192-SON-XFP
  PIC 2          REV 10   750-009450   HX6466           PC-1OC192-SON-SR2
SIB 0            REV 08   710-022594   DW8033           SIB-TXP-T1600-S
SIB 1            REV 08   710-022594   DW8044           SIB-TXP-T1600-S
SIB 2            REV 08   710-022594   DW8020           SIB-TXP-T1600-S
SIB 3            REV 08   710-022594   DW8063           SIB-TXP-T1600-S
SIB 4            REV 08   710-022594   DW8064           SIB-TXP-T1600-S
Fan Tray 0                                             FANTRAY-T-S
Fan Tray 1                                             FANTRAY-T-S
Fan Tray 2                                             FANTRAY-TXP-R-S

lcc1-re0:
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Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
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Midplane         REV 04   710-017247   RC5361           CHAS-BP-T1600-S
FPM Display      REV 01   710-021387   DS6430           CRAFT-T1600-S
CIP              REV 06   710-002895   DS4239           CIP-L-T640-S
PEM 0            Rev 08   740-017906   UD26649          PWR-T1600-3-80-DC-S
SCG 0            REV 15   710-003423   DP5820           SCG-T-S
CB 0             REV 06   710-022597   DW8523           CB-LCC
CB 1             REV 06   710-022597   DW8528           CB-LCC
FPC 4            REV 12   710-013037   DP8509           T1600-FPC4-ES
  PIC 0          REV 11   750-017405   DP8808           PD-4XGE-XFP
  PIC 1          REV 11   750-017405   DP7263           PD-4XGE-XFP
FPC 6            REV 14   710-013037   DS9961           T1600-FPC4-ES
  PIC 0          REV 13   750-017405   DS5532           PD-4XGE-XFP
  PIC 1          REV 13   750-017405   DS7639           PD-4XGE-XFP
FPC 7            REV 03   710-013035   DF5564           T1600-FPC3-ES
  PIC 0          REV 16   750-007141   JJ8063           PC-10GE-SFP
SIB 0            REV 08   710-022594   DW8035           SIB-TXP-T1600-S
SIB 1            REV 10   710-022594   DX7672           SIB-TXP-T1600-S
SIB 2            REV 08   710-022594   DW8060           SIB-TXP-T1600-S
SIB 3            REV 08   710-022594   DW8072           SIB-TXP-T1600-S
SIB 4            REV 08   710-022594   DW8043           SIB-TXP-T1600-S
Fan Tray 0                                               FANTRAY-T-S
Fan Tray 1                                               FANTRAY-T-S
Fan Tray 2                                               FANTRAY-TXP-R-S

lcc2-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
Midplane         REV 03   710-017247   RC3956           CHAS-BP-T1600-S
FPM Display      REV 01   710-021387   DN7030           CRAFT-T1600-S
CIP              REV 06   710-002895   DM3962           CIP-L-T640-S
PEM 0            Rev 08   740-017906   UD26519          PWR-T1600-3-80-DC-S
PEM 1            Rev 07   740-017906   UC26601          PWR-T1600-3-80-DC-S
SCG 0            REV 15   710-003423   DP0277           SCG-T-S
CB 0             REV 06   710-022597   DW8524           CB-LCC
CB 1             REV 06   710-022597   DW8536           CB-LCC
FPC 4            REV 12   710-013037   DR1194           T1600-FPC4-ES
  PIC 0          REV 11   750-017405   DP8811           PD-4XGE-XFP
  PIC 1          REV 11   750-017405   DP8823           PD-4XGE-XFP
FPC 5            REV 12   710-013037   DR1184           T1600-FPC4-ES
  PIC 1          REV 11   750-017405   DP4744           PD-4XGE-XFP
FPC 6            REV 12   710-013037   DN8622           T1600-FPC4-ES
  PIC 0          REV 14   750-012518   JY9924           PD-4OC192-SON-XFP
  PIC 1          REV 11   750-017405   DP8776           PD-4XGE-XFP
FPC 7            REV 04   710-013560   JR3968           T640-FPC3-E2
  PIC 0          REV 16   750-007141   NC9330           PC-10GE-SFP
SIB 0            REV 07   710-022594   DW4217           SIB-TXP-T1600-S
SIB 1            REV 07   710-022594   DW4213           SIB-TXP-T1600-S
SIB 2            REV 07   710-022594   DW4189           SIB-TXP-T1600-S
SIB 3            REV 07   710-022594   DW4173           SIB-TXP-T1600-S
SIB 4            REV 07   710-022594   DW4201           SIB-TXP-T1600-S
Fan Tray 0                                               FANTRAY-T-S
Fan Tray 1                                               FANTRAY-T-S
Fan Tray 2                                               FANTRAY-TXP-R-S

lcc3-re0:
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Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
Midplane         REV 04   710-017247   RC5319           CHAS-BP-T1600-S
FPM Display      REV 01   710-021387   DS6402           CRAFT-T1600-S
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CIP              REV 06   710-002895   DR9973           CIP-L-T640-S
PEM 0            Rev 07   740-017906   UC26496          PWR-T1600-3-80-DC-S
PEM 1            Rev 07   740-017906   UC26599          PWR-T1600-3-80-DC-S
SCG 0            REV 15   710-003423   DP5831           SCG-T-S
CB 0             REV 06   710-022597   DW8533           CB-LCC
CB 1             REV 06   710-022597   DW8538           CB-LCC
FPC 0            REV 14   710-013037   DS5345           T1600-FPC4-ES
  PIC 0          REV 13   750-017405   DS7641           PD-4XGE-XFP
  PIC 1          REV 13   750-017405   DS5479           PD-4XGE-XFP
FPC 1            REV 14   710-013037   DS7338           T1600-FPC4-ES
  PIC 0          REV 13   750-017405   DS7631           PD-4XGE-XFP
  PIC 1          REV 13   750-017405   DS7632           PD-4XGE-XFP
FPC 2            REV 14   710-013037   DS9962           T1600-FPC4-ES
  PIC 0          REV 13   750-017405   DS7581           PD-4XGE-XFP
  PIC 1          REV 13   750-017405   DS7627           PD-4XGE-XFP
FPC 4            REV 10   710-010845   JZ6573           T640-FPC4-ES
  PIC 0          REV 14   750-012518   JT5124           PD-4OC192-SON-XFP
FPC 5            REV 14   710-013037   DT0016           T1600-FPC4-ES
  PIC 0          REV 14   750-012518   JY9918           PD-4OC192-SON-XFP
FPC 7            REV 07   710-013035   DM0967           T1600-FPC3-ES
  PIC 0          REV 16   750-007141   JJ8059           PC-10GE-SFP
  PIC 1          REV 13   750-004695   DM5712           PC-TUNNEL
SIB 0            REV 07   710-022594   DW4174           SIB-TXP-T1600-S
SIB 1            REV 07   710-022594   DW4207           SIB-TXP-T1600-S
SIB 2            REV 06   710-022594   DT8231           SIB-TXP-T1600-S
SIB 3            REV 07   710-022594   DW4175           SIB-TXP-T1600-S
SIB 4            REV 07   710-022594   DW4209           SIB-TXP-T1600-S
Fan Tray 0                                               FANTRAY-T-S
Fan Tray 1                                               FANTRAY-T-S
Fan Tray 2                                               FANTRAY-TXP-R-S
```

show chassis hardware (TX Matrix Plus router with 3D SIBs)

```
user@host> show chassis hardware
sfc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11CAAA4AHB      TXP
Midplane         REV 05   710-022574   ABAC4696          SFC Midplane
FPM Display      REV 09   710-024027   EH3138            TXP FPM Display
CIP 0            REV 12   710-023792   EF6349            TXP CIP
CIP 1            REV 12   710-023792   EG5294            TXP CIP
PEM 0            Rev 06   740-027463   XH04595           Power Entry Module
PEM 1            Rev 06   740-027463   XH04592           Power Entry Module
Routing Engine 0 REV 07   740-026942   P737A-002541      RE-DUO-2600
Routing Engine 1 REV 07   740-026942   P737A-002602      RE-DUO-2600
CB 0             REV 15   710-022606   EH4376            SFC Control Board
CB 1             REV 15   710-022606   EH4379            SFC Control Board
SPMB 0                    BUILTIN                        SFC Switch CPU
SPMB 1                    BUILTIN                        SFC Switch CPU
SIB F13 0        REV 10   750-035002   EM9305            F13 SIB 3D
  B Board        REV 06   711-035082   EM9667            F13 SIB 3D Mezz
  P Board        REV 05   711-043544   EM9708            F13 SIB 3D Power
  Xcvr 0         REV 01   740-047547   XB34FB00S         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB01H         CXP Module
  Xcvr 4         REV 01   740-047547   XB34FB02W         CXP Module
  Xcvr 6         REV 01   740-047547   XB34FB01T         CXP Module
  Xcvr 8         REV 01   740-047547   XB48FB00W         CXP Module
  Xcvr 10        REV 01   740-047547   XB34FB01S         CXP Module
  Xcvr 12        REV 01   740-047547   XB34FB03H         CXP Module
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  Xcvr 14          REV 01   740-047547   XB34FB023          CXP Module
SIB F13 3          REV 01   710-035001   EJ2612             F13 SIB 3D
  B Board          REV 01   711-035082   EJ3815             F13 SIB 3D Mezz
  P Board          REV 01   711-043544   EJ2678             F13 SIB 3D Power
  Xcvr 0           REV 01   740-047547   XB48FB04C          CXP Module
  Xcvr 2           REV 01   740-047547   XB48FB00Z          CXP Module
  Xcvr 4           REV 01   740-047547   XB47FB036          CXP Module
  Xcvr 6           REV 01   740-047547   XB47FB029          CXP Module
  Xcvr 8           REV 01   740-047547   XB48FB02N          CXP Module
  Xcvr 10          REV 01   740-047547   XB42FB0CS          CXP Module
  Xcvr 12          REV 01   740-047547   XB47FB01X          CXP Module
  Xcvr 14          REV 01   740-047547   XB48FB02F          CXP Module
SIB F13 6          REV 05   750-035002   EK2675             F13 SIB 3D
  B Board          REV 03   711-035082   EK2612             F13 SIB 3D Mezz
  P Board          REV 04   711-043544   EK1179             F13 SIB 3D Power
  Xcvr 0           REV 01   740-047547   XB48FB01T          CXP Module
  Xcvr 2           REV 01   740-047547   XB48FB02M          CXP Module
  Xcvr 4           REV 01   740-047547   XB48FB031          CXP Module
  Xcvr 6           REV 01   740-047547   XB48FB04P          CXP Module
  Xcvr 8           REV 01   740-047547   XB48FB02T          CXP Module
  Xcvr 10          REV 01   740-047547   XB34FB01V          CXP Module
  Xcvr 12          REV 01   740-047547   XB48FB02C          CXP Module
  Xcvr 14                   NON-JNPR                        No Module
SIB F13 12         REV 01   710-035001   EJ2631             F13 SIB 3D
  B Board          REV 01   711-035082   EJ3808             F13 SIB 3D Mezz
  P Board          REV 01   711-043544   EJ2676             F13 SIB 3D Power
SIB F2S 0/0        REV 01   711-034977   EH9829             F2S SIB 3D
  B Board          REV 01   711-034979   EH9927             F2S SIB 3D Mezz
SIB F2S 0/2        REV 01   711-034977   EH9791             F2S SIB 3D
  B Board          REV 01   711-034979   EH9852             F2S SIB 3D Mezz
SIB F2S 0/4        REV 01   711-034977   EH9803             F2S SIB 3D
  B Board          REV 01   711-034979   EH9915             F2S SIB 3D Mezz
SIB F2S 0/6        REV 01   711-034977   EH9763             F2S SIB 3D
  B Board          REV 01   711-034979   EH9880             F2S SIB 3D Mezz
SIB F2S 1/0        REV 01   711-034977   EH9757             F2S SIB 3D
  B Board          REV 01   711-034979   EH9889             F2S SIB 3D Mezz
SIB F2S 1/2        REV 01   711-034977   EH9815             F2S SIB 3D
  B Board          REV 01   711-034979   EH9890             F2S SIB 3D Mezz
SIB F2S 1/4        REV 08   750-034978   EN1954             F2S SIB 3D
  B Board          REV 02   711-034979   EN1436             F2S SIB 3D Mezz
SIB F2S 1/6        REV 01   711-034977   EJ7054             F2S SIB 3D
  B Board          REV 01   711-034979   EJ8238             F2S SIB 3D Mezz
SIB F2S 2/0        REV 01   711-034977   EH9830             F2S SIB 3D
  B Board          REV 01   711-034979   EH9844             F2S SIB 3D Mezz
SIB F2S 2/2        REV 01   711-034977   EH9818             F2S SIB 3D
  B Board          REV 01   711-034979   EH9888             F2S SIB 3D Mezz
SIB F2S 2/4        REV 01   711-034977   EH9795             F2S SIB 3D
  B Board          REV 01   711-034979   EH9869             F2S SIB 3D Mezz
SIB F2S 2/6        REV 01   711-034977   EJ7026             F2S SIB 3D
  B Board          REV 01   711-034979   EJ8273             F2S SIB 3D Mezz
SIB F2S 3/0        REV 01   711-034977   EH9811             F2S SIB 3D
  B Board          REV 01   711-034979   EH9892             F2S SIB 3D Mezz
SIB F2S 3/2        REV 01   711-034977   EH9812             F2S SIB 3D
  B Board          REV 01   711-034979   EH9877             F2S SIB 3D Mezz
SIB F2S 3/4        REV 08   750-034978   EN1947             F2S SIB 3D
  B Board          REV 02   711-034979   EN1471             F2S SIB 3D Mezz
Fan Tray 0         REV 10   760-024497   EH3313             Front Fan Tray
Fan Tray 1         REV 10   760-024497   EH3290             Front Fan Tray
Fan Tray 2         REV 10   760-024502   EH3292             Rear Fan Tray
Fan Tray 3         REV 10   760-024502   EH3287             Rear Fan Tray
Fan Tray 4         REV 10   760-024502   EH3286             Rear Fan Tray
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Fan Tray 5       REV 10   760-024502   EH3285           Rear Fan Tray

lcc0-re0:
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Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11B23FEAHA      T1600
Midplane         REV 01   710-027486   RC9787           T-series Backplane
FPM GBUS         REV 13   710-002901   BBAG5132         T640 FPM Board
FPM Display      REV 04   710-021387   BBAL9612         T1600 FPM Display
CIP              REV 06   710-002895   BBAN0605         T-series CIP
PEM 0            REV 05   740-036442   1G022060143      Power Entry Module 6x60
PEM 1            REV 05   740-036442   1G022060011      Power Entry Module 6x60
SCG 0            REV 18   710-003423   BBAL7318         T640 Sonet Clock Gen.
SCG 1            REV 18   710-003423   BBAL7255         T640 Sonet Clock Gen.
Routing Engine 0 REV 07   740-026941   P737F-002933     RE-DUO-1800
Routing Engine 1 REV 06   740-026941   P737F-002749     RE-DUO-1800
CB 0             REV 11   710-022597   EH3611           LCC Control Board
CB 1             REV 11   710-022597   EH4798           LCC Control Board
FPC 5            REV 17   710-013037   BBAC5333         FPC Type 4-ES
  CPU            REV 10   710-016744   BBAB7619         ST-PMB2
  PIC 0          REV 18   750-017405   BBAE3420         4x 10GE (LAN/WAN) XFP
    Xcvr 0       REV 03   740-014289   T10C90659        XFP-10G-SR
  MMB 0          REV 05   710-025563   BBAB9538         ST-MMB2
  MMB 1          REV 05   710-025563   BBAB9502         ST-MMB2
FPC 7            REV 01   750-045173   BBAV0032         FPC Type 5-3D
  CPU
SPMB 0           REV 05   710-023321   EG9434           LCC Switch CPU
SPMB 1           REV 05   710-023321   EH3878           LCC Switch CPU
SIB 0            REV 01   750-041657   EH7997           LCC SIB 3D
  B Board        REV 01   711-042424   EH7674           LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB014        CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB05A        CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB052        CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB01B        CXP Module
SIB 1            REV 01   750-041657   EH8023           LCC SIB 3D
  B Board        REV 01   711-042424   EH7659           LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB05J        CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB01E        CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB01J        CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB02S        CXP Module
SIB 2            REV 03   750-041657   EJ6554           LCC SIB 3D
  B Board        REV 02   711-042424   EJ5756           LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB34FB01Z        CXP Module
  Xcvr 2         REV 01   740-047547   XB34FB013        CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB04Z        CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB05N        CXP Module
Fan Tray 0                                             Front Top Fan Tray
Fan Tray 1                                             Front Bottom Fan Tray
Fan Tray 2                                             Rear Fan Tray -- Rev 4

lcc2-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11B3975AHA      T1600
Midplane         REV 01   710-027486   RC9826           T-series Backplane
FPM GBUS         REV 13   710-002901   BBAG5124         T640 FPM Board
FPM Display      REV 03   710-021387   BBAJ1112         T1600 FPM Display
CIP              REV 06   710-002895   BBAL3744         T-series CIP
PEM 0            REV 05   740-036442   1G022060081      Power Entry Module 6x60
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PEM 1            REV 05   740-036442   1G022060188       Power Entry Module 6x60
SCG 0            REV 18   710-003423   BBAH8775          T640 Sonet Clock Gen.
SCG 1            REV 18   710-003423   BBAL7272          T640 Sonet Clock Gen.
Routing Engine 0 REV 07   740-026941   P737F-002992      RE-DUO-1800
Routing Engine 1 REV 07   740-026941   P737F-002938      RE-DUO-1800
CB 0             REV 11   710-022597   EH4805            LCC Control Board
CB 1             REV 11   710-022597   EH4786            LCC Control Board
FPC 1            REV 01   710-033873   BBAH0320          FPC Type 3-ES
  CPU            REV 11   710-016744   BBAF3281          ST-PMB2
  MMB 0          REV 06   710-025563   BBAF5061          ST-MMB2
FPC 5            REV 04   710-033871   BBAM5070          FPC Type 4-ES
  CPU            REV 11   710-016744   BBAM6653          ST-PMB2
  PIC 1          REV 20   750-017405   BBAM1296          4x 10GE (LAN/WAN) XFP
    Xcvr 0       REV 03   740-014289   T10B42981         XFP-10G-SR
  MMB 0          REV 07   710-025563   BBAN2631          ST-MMB2
  MMB 1          REV 07   710-025563   BBAN2538          ST-MMB2
SPMB 0           REV 05   710-023321   EH3903            LCC Switch CPU
SPMB 1           REV 05   710-023321   EH3902            LCC Switch CPU
SIB 0            REV 01   750-041657   EH8019            LCC SIB 3D
  B Board        REV 01   711-042424   EH7680            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB04F         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB04S         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB04B         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB043         CXP Module
SIB 1            REV 01   750-041657   EH8012            LCC SIB 3D
  B Board        REV 01   711-042424   EH7658            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB05E         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB01Z         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB018         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB054         CXP Module
SIB 2            REV 01   750-041657   EH7993            LCC SIB 3D
  B Board        REV 01   711-042424   EH7678            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB05C         CXP Module
  Xcvr 2         REV 01   740-047547   XB47FB00N         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB05U         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB05L         CXP Module
Fan Tray 0                                              Front Top Fan Tray
Fan Tray 1                                              Front Bottom Fan Tray
Fan Tray 2                                              Rear Fan Tray -- Rev 4
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show chassis hardware clei-models (TX Matrix Plus router with 3D SIBs)

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user@host> show chassis hardware clei-models
sfc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Midplane         REV 05   710-022574                     CHAS-BP-TXP-S
FPM Display      REV 09   710-024027                     CRAFT-TXP-S
CIP 0            REV 12   710-023792                     CIP-TXP-S
CIP 1            REV 12   710-023792                     CIP-TXP-S
PEM 0            Rev 06   740-027463   IPUPAFGKTA        PWR-TXP-7-60-DC-S
Routing Engine 0 REV 07   740-026942                     RE-DUO-C2600-16G-S
Routing Engine 1 REV 07   740-026942                     RE-DUO-C2600-16G-S
CB 0             REV 13   710-022606                     CB-TXP-S
CB 1             REV 14   710-022606                     CB-TXP-S
SIB F13 0        REV 10   750-035002   PROTOXCLEI        SIB-TXP-3D-F13-S
  Xcvr 0         REV 01   740-048813
  Xcvr 1         REV 01   740-048813
  Xcvr 2         REV 01   740-048813
  Xcvr 3         REV 01   740-048813
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  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-048813
  Xcvr 7          REV 01   740-048813
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 10         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
SIB F13 1         REV 10   750-035002   PROTOXCLEI       SIB-TXP-3D-F13-S
  Xcvr 0          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 1          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 2          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 3          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 4          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 5          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 6          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 7          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 10         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 0          REV 01   740-048813
  Xcvr 1          REV 01   740-048813
  Xcvr 2          REV 01   740-048813
  Xcvr 3          REV 01   740-048813
  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-048813
  Xcvr 7          REV 01   740-048813
  Xcvr 8          REV 01   740-048813
  Xcvr 10         REV 01   740-048813
  Xcvr 12         REV 01   740-048813
  Xcvr 14         REV 01   740-048813
  Xcvr 0          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 1          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 2          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 3          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 4          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 5          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 6          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 7          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 10         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
SIB F13 6         REV 16   750-035002   PROTOXCLEI       SIB-TXP-3D-F13
  Xcvr 0          REV 01   740-048813
  Xcvr 1          REV 01   740-048813
  Xcvr 2          REV 01   740-048813
  Xcvr 3          REV 01   740-048813
  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-048813
  Xcvr 7          REV 01   740-048813
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 10         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
SIB F13 7         REV 10   750-035002   PROTOXCLEI       SIB-TXP-3D-F13-S
  Xcvr 0          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 1          REV 01   740-047547                    CXP-TXP-3D
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  Xcvr 2          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 3          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 4          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 5          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 6          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 7          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 10         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 0          REV 01   740-048813
  Xcvr 1          REV 01   740-048813
  Xcvr 2          REV 01   740-048813
  Xcvr 3          REV 01   740-048813
  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 6          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 7          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 10         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
SIB F13 9         REV 16   750-035002   PROTOXCLEI       SIB-TXP-3D-F13
  Xcvr 0          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 1          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 2          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 3          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 4          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 5          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 6          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 7          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 10         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
SIB F13 11        REV 10   750-035002   PROTOXCLEI       750-035002
  Xcvr 0          REV 01   740-048813
  Xcvr 1          REV 01   740-048813
  Xcvr 2          REV 01   740-048813
  Xcvr 3          REV 01   740-048813
  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 7          REV 01   740-048813
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
SIB F13 12        REV 16   750-035002   PROTOXCLEI       SIB-TXP-3D-F13
  Xcvr 0          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 1          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 2          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 3          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 4          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 5          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 6          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 7          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 8          REV 01   740-047547                    CXP-TXP-3D
  Xcvr 10         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 12         REV 01   740-047547                    CXP-TXP-3D
  Xcvr 14         REV 01   740-047547                    CXP-TXP-3D
SIB F2S 0/0       REV 06   750-034978   PROTOXCLEI       SIB-TXP-3D-F2S
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SIB F2S 0/2      REV 07   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 0/4      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 0/6      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 1/0      REV 07   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 1/2      REV 07   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 1/4      REV 07   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 1/6      REV 08   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 2/0      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 2/2      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 2/4      REV 07   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 2/6      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 3/0      REV 07   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 3/2      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 3/4      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 3/6      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 4/0      REV 07   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 4/2      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 4/4      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
SIB F2S 4/6      REV 06   750-034978   PROTOXCLEI        SIB-TXP-3D-F2S
Fan Tray 0       REV 10   760-024497                     FANTRAY-TXP-H-S
Fan Tray 1       REV 10   760-024497                     FANTRAY-TXP-H-S
Fan Tray 2       REV 10   760-024502                     FANTRAY-TXP-V-S
Fan Tray 3       REV 10   760-024502                     FANTRAY-TXP-V-S
Fan Tray 4       REV 10   760-024502                     FANTRAY-TXP-V-S
Fan Tray 5       REV 10   760-024502                     FANTRAY-TXP-V-S

lcc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Midplane         REV 01   710-027486   IPMJ700DRD        CHAS-BP-T1600-S
FPM Display      REV 04   710-021387                     CRAFT-T1600-S
CIP              REV 06   710-002895                     CIP-L-T640-S
PEM 0            REV 05   740-036442   IPUPAG6KAA        PWR-T-6-60-DC-S
PEM 1            REV 05   740-036442   IPUPAG6KAA        PWR-T-6-60-DC-S
SCG 0            REV 18   710-003423                     SCG-T-S
SCG 1            REV 18   710-003423                     SCG-T-S
Routing Engine 0 REV 10   740-026941                     RE-DUO-C1800-8G-S
Routing Engine 1 REV 07   740-026941                     RE-DUO-C1800-8G-S
CB 0             REV 11   710-022597                     CB-LCC-S
CB 1             REV 11   710-022597                     CB-LCC-S
FPC 0            REV 01   750-045173   IP9IAL4DAB        T4000-FPC5-3D
  PIC 0          REV 17   750-034624   IP9IAL2DAA        PF-12XGE-SFPP
  PIC 1          REV 17   750-034624   IP9IAL2DAA        PF-12XGE-SFPP
FPC 3            REV 01   750-045173   IP9IAL4DAB        T4000-FPC5-3D
  PIC 0          REV 13   750-033423   XXXXXXXXDD        PF-12-24XGE-SFPP
FPC 4            REV 02   750-045173   IP9IAL4DAC        T4000-FPC5-3D
  PIC 0          REV 17   750-034624   IP9IAL2DAA        PF-12XGE-SFPP
  PIC 1          REV 17   750-034624   IP9IAL2DAA        PF-12XGE-SFPP
FPC 5            REV 01   750-045173   IP9IAL4DAB        T4000-FPC5-3D
  PIC 0          REV 17   750-034624   IP9IAL2DAA        PF-12XGE-SFPP
  PIC 1          REV 17   750-034624   IP9IAL2DAA        PF-12XGE-SFPP
FPC 6            REV 01   750-045173   IP9IAL4DAB        T4000-FPC5-3D
  PIC 0          REV 17   750-034624   IP9IAL2DAA        PF-12XGE-SFPP
  PIC 1          REV 10   750-035293   IP9IAL3DAA        PF-1CGE-CFP
SIB 0            REV 06   750-041657   PROTOXCLEI        SIB-TXP-3D-LCC
  Xcvr 0         REV 01   740-048813
  Xcvr 1         REV 01   740-048813
  Xcvr 2         REV 01   740-048813
  Xcvr 3         REV 01   740-048813
  Xcvr 4         REV 01   740-048813
```


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```
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-048813
  Xcvr 7          REV 01   740-048813
SIB 1             REV 06   750-041657   PROTOXCLEI        SIB-TXP-3D-LCC
  Xcvr 0          REV 01   740-048813
  Xcvr 1          REV 01   740-048813
  Xcvr 2          REV 01   740-048813
  Xcvr 3          REV 01   740-048813
  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-048813
  Xcvr 7          REV 01   740-048813
SIB 2             REV 06   750-041657   PROTOXCLEI        SIB-TXP-3D-LCC
  Xcvr 0          REV 01   740-048813
  Xcvr 1          REV 01   740-048813
  Xcvr 2          REV 01   740-048813
  Xcvr 3          REV 01   740-048813
  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-048813
  Xcvr 7          REV 01   740-048813
SIB 3             REV 07   750-041657   PROTOXCLEI        SIB-TXP-3D-LLC
  Xcvr 0          REV 01   740-048813
  Xcvr 1          REV 01   740-048813
  Xcvr 2          REV 01   740-048813
  Xcvr 3          REV 01   740-048813
  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-048813
  Xcvr 7          REV 01   740-048813
SIB 4             REV 06   750-041657   PROTOXCLEI        SIB-TXP-3D-LCC
  Xcvr 0          REV 01   740-048813
  Xcvr 1          REV 01   740-048813
  Xcvr 2          REV 01   740-048813
  Xcvr 3          REV 01   740-048813
  Xcvr 4          REV 01   740-048813
  Xcvr 5          REV 01   740-048813
  Xcvr 6          REV 01   740-048813
  Xcvr 7          REV 01   740-048813
Fan Tray 0                                          FANTRAY-T-S
Fan Tray 1                                          FANTRAY-T-S
Fan Tray 2                                          FANTRAY-TXP3D-LCC-R-S
[Output Truncated]
```

show chassis hardware detail (TX Matrix Plus router with 3D SIBs)

```
user@host> show chassis hardware detail
sfc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11CAAA4AHB      TXP
Midplane         REV 05   710-022574   ABAC4696          SFC Midplane
FPM Display      REV 09   710-024027   EH3138            TXP FPM Display
CIP 0            REV 12   710-023792   EF6349            TXP CIP
CIP 1            REV 12   710-023792   EG5294            TXP CIP
PEM 0            Rev 06   740-027463   XH04595           Power Entry Module
PEM 1            Rev 06   740-027463   XH04592           Power Entry Module
Routing Engine 0 REV 07   740-026942   P737A-002541      RE-DUO-2600
  ad0    3823 MB  SMART CF             2011030400062C132C13 Compact Flash
  ad1   62720 MB  SMART Lite SATA Drive 201105100009A452A452 Disk 1
```

```
Routing Engine 1 REV 07   740-026942   P737A-002602      RE-DUO-2600
  ad0    3823 MB  SMART CF             20110508085EE471E471 Compact Flash
  ad1   62720 MB  SMART Lite SATA Drive 201110210089DF39DF39 Disk 1
CB 0             REV 15   710-022606   EH4376            SFC Control Board
CB 1             REV 15   710-022606   EH4379            SFC Control Board
SPMB 0                    BUILTIN                        SFC Switch CPU
SPMB 1                    BUILTIN                        SFC Switch CPU
SIB F13 0        REV 10   750-035002   EM9305            F13 SIB 3D
  B Board        REV 06   711-035082   EM9667            F13 SIB 3D Mezz
  P Board        REV 05   711-043544   EM9708            F13 SIB 3D Power
  Xcvr 0         REV 01   740-047547   XB34FB00S         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB01H         CXP Module
  Xcvr 4         REV 01   740-047547   XB34FB02W         CXP Module
  Xcvr 6         REV 01   740-047547   XB34FB01T         CXP Module
  Xcvr 8         REV 01   740-047547   XB48FB00W         CXP Module
  Xcvr 10        REV 01   740-047547   XB34FB01S         CXP Module
  Xcvr 12        REV 01   740-047547   XB34FB03H         CXP Module
  Xcvr 14        REV 01   740-047547   XB34FB023         CXP Module
SIB F13 3        REV 01   710-035001   EJ2612            F13 SIB 3D
  B Board        REV 01   711-035082   EJ3815            F13 SIB 3D Mezz
  P Board        REV 01   711-043544   EJ2678            F13 SIB 3D Power
  Xcvr 0         REV 01   740-047547   XB48FB04C         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB00Z         CXP Module
  Xcvr 4         REV 01   740-047547   XB47FB036         CXP Module
  Xcvr 6         REV 01   740-047547   XB47FB029         CXP Module
  Xcvr 8         REV 01   740-047547   XB48FB02N         CXP Module
  Xcvr 10        REV 01   740-047547   XB42FB0CS         CXP Module
  Xcvr 12        REV 01   740-047547   XB47FB01X         CXP Module
  Xcvr 14        REV 01   740-047547   XB48FB02F         CXP Module
SIB F13 6        REV 05   750-035002   EK2675            F13 SIB 3D
  B Board        REV 03   711-035082   EK2612            F13 SIB 3D Mezz
  P Board        REV 04   711-043544   EK1179            F13 SIB 3D Power
  Xcvr 0         REV 01   740-047547   XB48FB01T         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB02M         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB031         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB04P         CXP Module
  Xcvr 8         REV 01   740-047547   XB48FB02T         CXP Module
  Xcvr 10        REV 01   740-047547   XB34FB01V         CXP Module
  Xcvr 12        REV 01   740-047547   XB48FB02C         CXP Module
  Xcvr 14                 NON-JNPR                       No Module
SIB F13 12       REV 01   710-035001   EJ2631            F13 SIB 3D
  B Board        REV 01   711-035082   EJ3808            F13 SIB 3D Mezz
  P Board        REV 01   711-043544   EJ2676            F13 SIB 3D Power
SIB F2S 0/0      REV 01   711-034977   EH9829            F2S SIB 3D
  B Board        REV 01   711-034979   EH9927            F2S SIB 3D Mezz
SIB F2S 0/2      REV 01   711-034977   EH9791            F2S SIB 3D
  B Board        REV 01   711-034979   EH9852            F2S SIB 3D Mezz
SIB F2S 0/4      REV 01   711-034977   EH9803            F2S SIB 3D
  B Board        REV 01   711-034979   EH9915            F2S SIB 3D Mezz
SIB F2S 0/6      REV 01   711-034977   EH9763            F2S SIB 3D
  B Board        REV 01   711-034979   EH9880            F2S SIB 3D Mezz
SIB F2S 1/0      REV 01   711-034977   EH9757            F2S SIB 3D
  B Board        REV 01   711-034979   EH9889            F2S SIB 3D Mezz
SIB F2S 1/2      REV 01   711-034977   EH9815            F2S SIB 3D
  B Board        REV 01   711-034979   EH9890            F2S SIB 3D Mezz
SIB F2S 1/4      REV 08   750-034978   EN1954            F2S SIB 3D
  B Board        REV 02   711-034979   EN1436            F2S SIB 3D Mezz
SIB F2S 1/6      REV 01   711-034977   EJ7054            F2S SIB 3D
  B Board        REV 01   711-034979   EJ8238            F2S SIB 3D Mezz
SIB F2S 2/0      REV 01   711-034977   EH9830            F2S SIB 3D
  B Board        REV 01   711-034979   EH9844            F2S SIB 3D Mezz
```


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SIB F2S 2/2      REV 01   711-034977   EH9818           F2S SIB 3D
  B Board        REV 01   711-034979   EH9888           F2S SIB 3D Mezz
SIB F2S 2/4      REV 01   711-034977   EH9795           F2S SIB 3D
  B Board        REV 01   711-034979   EH9869           F2S SIB 3D Mezz
SIB F2S 2/6      REV 01   711-034977   EJ7026           F2S SIB 3D
  B Board        REV 01   711-034979   EJ8273           F2S SIB 3D Mezz
SIB F2S 3/0      REV 01   711-034977   EH9811           F2S SIB 3D
  B Board        REV 01   711-034979   EH9892           F2S SIB 3D Mezz
SIB F2S 3/2      REV 01   711-034977   EH9812           F2S SIB 3D
  B Board        REV 01   711-034979   EH9877           F2S SIB 3D Mezz
SIB F2S 3/4      REV 08   750-034978   EN1947           F2S SIB 3D
  B Board        REV 02   711-034979   EN1471           F2S SIB 3D Mezz
Fan Tray 0       REV 10   760-024497   EH3313           Front Fan Tray
Fan Tray 1       REV 10   760-024497   EH3290           Front Fan Tray
Fan Tray 2       REV 10   760-024502   EH3292           Rear Fan Tray
Fan Tray 3       REV 10   760-024502   EH3287           Rear Fan Tray
Fan Tray 4       REV 10   760-024502   EH3286           Rear Fan Tray
Fan Tray 5       REV 10   760-024502   EH3285           Rear Fan Tray

lcc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11B23FEAHA      T1600
Midplane         REV 01   710-027486   RC9787           T-series Backplane
FPM GBUS         REV 13   710-002901   BBAG5132         T640 FPM Board
FPM Display      REV 04   710-021387   BBAL9612         T1600 FPM Display
CIP              REV 06   710-002895   BBAN0605         T-series CIP
PEM 0            REV 05   740-036442   1G022060143      Power Entry Module 6x60
PEM 1            REV 05   740-036442   1G022060011      Power Entry Module 6x60
SCG 0            REV 18   710-003423   BBAL7318         T640 Sonet Clock Gen.
SCG 1            REV 18   710-003423   BBAL7255         T640 Sonet Clock Gen.
Routing Engine 0 REV 07   740-026941   P737F-002933     RE-DUO-1800
  ad0    3823 MB  SMART CF             201103030490604E604E Compact Flash
  ad1   62720 MB  SMART Lite SATA Drive 20110729028B11D411D4 Disk 1
Routing Engine 1 REV 06   740-026941   P737F-002749     RE-DUO-1800
  ad0    3823 MB  SMART CF             2011010504EB99649964 Compact Flash
  ad1   62720 MB  SMART Lite SATA Drive 201102140058934A934A Disk 1
CB 0             REV 11   710-022597   EH3611           LCC Control Board
CB 1             REV 11   710-022597   EH4798           LCC Control Board
FPC 5            REV 17   710-013037   BBAC5333         FPC Type 4-ES
  CPU            REV 10   710-016744   BBAB7619         ST-PMB2
  PIC 0          REV 18   750-017405   BBAE3420         4x 10GE (LAN/WAN) XFP
    Xcvr 0       REV 03   740-014289   T10C90659        XFP-10G-SR
  MMB 0          REV 05   710-025563   BBAB9538         ST-MMB2
  MMB 1          REV 05   710-025563   BBAB9502         ST-MMB2
FPC 7            REV 01   750-045173   BBAV0032         FPC Type 5-3D
  CPU
SPMB 0           REV 05   710-023321   EG9434           LCC Switch CPU
SPMB 1           REV 05   710-023321   EH3878           LCC Switch CPU
SIB 0            REV 01   750-041657   EH7997           LCC SIB 3D
  B Board        REV 01   711-042424   EH7674           LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB014        CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB05A        CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB052        CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB01B        CXP Module
SIB 1            REV 01   750-041657   EH8023           LCC SIB 3D
  B Board        REV 01   711-042424   EH7659           LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB05J        CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB01E        CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB01J        CXP Module
```

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  Xcvr 6         REV 01   740-047547   XB48FB02S         CXP Module
SIB 2            REV 03   750-041657   EJ6554            LCC SIB 3D
  B Board        REV 02   711-042424   EJ5756            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB34FB01Z         CXP Module
  Xcvr 2         REV 01   740-047547   XB34FB013         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB04Z         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB05N         CXP Module
Fan Tray 0                                               Front Top Fan Tray
Fan Tray 1                                               Front Bottom Fan Tray
Fan Tray 2                                               Rear Fan Tray -- Rev 4

lcc2-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11B3975AHA      T1600
Midplane         REV 01   710-027486   RC9826            T-series Backplane
FPM GBUS         REV 13   710-002901   BBAG5124          T640 FPM Board
FPM Display      REV 03   710-021387   BBAJ1112          T1600 FPM Display
CIP              REV 06   710-002895   BBAL3744          T-series CIP
PEM 0            REV 05   740-036442   1G022060081       Power Entry Module 6x60
PEM 1            REV 05   740-036442   1G022060188       Power Entry Module 6x60
SCG 0            REV 18   710-003423   BBAH8775          T640 Sonet Clock Gen.
SCG 1            REV 18   710-003423   BBAL7272          T640 Sonet Clock Gen.
Routing Engine 0 REV 07   740-026941   P737F-002992      RE-DUO-1800
  ad0    3823 MB  SMART CF             20110303035632 9E329E Compact Flash
  ad1   62720 MB  SMART Lite SATA Drive 2011051000488D8B8D8B Disk 1
Routing Engine 1 REV 07   740-026941   P737F-002938      RE-DUO-1800
  ad0    3823 MB  SMART CF             20110304000F02680268 Compact Flash
  ad1   62720 MB  SMART Lite SATA Drive 201105300A70F325F325 Disk 1
CB 0             REV 11   710-022597   EH4805            LCC Control Board
CB 1             REV 11   710-022597   EH4786            LCC Control Board
FPC 1            REV 01   710-033873   BBAH0320          FPC Type 3-ES
  CPU            REV 11   710-016744   BBAF3281          ST-PMB2
  MMB 0          REV 06   710-025563   BBAF5061          ST-MMB2
FPC 5            REV 04   710-033871   BBAM5070          FPC Type 4-ES
  CPU            REV 11   710-016744   BBAM6653          ST-PMB2
  PIC 1          REV 20   750-017405   BBAM1296          4x 10GE (LAN/WAN) XFP
    Xcvr 0       REV 03   740-014289   T10B42981         XFP-10G-SR
  MMB 0          REV 07   710-025563   BBAN2631          ST-MMB2
  MMB 1          REV 07   710-025563   BBAN2538          ST-MMB2
SPMB 0           REV 05   710-023321   EH3903            LCC Switch CPU
SPMB 1           REV 05   710-023321   EH3902            LCC Switch CPU
SIB 0            REV 01   750-041657   EH8019            LCC SIB 3D
  B Board        REV 01   711-042424   EH7680            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB04F         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB04S         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB04B         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB043         CXP Module
SIB 1            REV 01   750-041657   EH8012            LCC SIB 3D
  B Board        REV 01   711-042424   EH7658            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB05E         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB01Z         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB018         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB054         CXP Module
SIB 2            REV 01   750-041657   EH7993            LCC SIB 3D
  B Board        REV 01   711-042424   EH7678            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB05C         CXP Module
  Xcvr 2         REV 01   740-047547   XB47FB00N         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB05U         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB05L         CXP Module
```


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```
Fan Tray 0                                                    Front Top Fan Tray
Fan Tray 1                                                    Front Bottom Fan Tray
Fan Tray 2                                                    Rear Fan Tray -- Rev 4
```

show chassis hardware lcc (TX Matrix Plus router with 3D SIBs)

```
user@host> show chassis hardware lcc 0
lcc0-re0:
--------------------------------------------------------------------------
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11B23FEAHA      T1600
Midplane         REV 01   710-027486   RC9787            T-series Backplane
FPM GBUS         REV 13   710-002901   BBAG5132          T640 FPM Board
FPM Display      REV 04   710-021387   BBAL9612          T1600 FPM Display
CIP              REV 06   710-002895   BBAN0605          T-series CIP
PEM 0            REV 05   740-036442   1G022060143       Power Entry Module 6x60
PEM 1            REV 05   740-036442   1G022060011       Power Entry Module 6x60
SCG 0            REV 18   710-003423   BBAL7318          T640 Sonet Clock Gen.
SCG 1            REV 18   710-003423   BBAL7255          T640 Sonet Clock Gen.
Routing Engine 0 REV 07   740-026941   P737F-002933      RE-DUO-1800
Routing Engine 1 REV 06   740-026941   P737F-002749      RE-DUO-1800
CB 0             REV 11   710-022597   EH3611            LCC Control Board
CB 1             REV 11   710-022597   EH4798            LCC Control Board
FPC 5            REV 17   710-013037   BBAC5333          FPC Type 4-ES
  CPU            REV 10   710-016744   BBAB7619          ST-PMB2
  PIC 0          REV 18   750-017405   BBAE3420          4x 10GE (LAN/WAN) XFP
    Xcvr 0       REV 03   740-014289   T10C90659         XFP-10G-SR
  MMB 0          REV 05   710-025563   BBAB9538          ST-MMB2
  MMB 1          REV 05   710-025563   BBAB9502          ST-MMB2
FPC 7            REV 01   750-045173   BBAV0032          FPC Type 5-3D
  CPU
SPMB 0           REV 05   710-023321   EG9434            LCC Switch CPU
SPMB 1           REV 05   710-023321   EH3878            LCC Switch CPU
SIB 0            REV 01   750-041657   EH7997            LCC SIB 3D
  B Board        REV 01   711-042424   EH7674            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB014         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB05A         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB052         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB01B         CXP Module
SIB 1            REV 01   750-041657   EH8023            LCC SIB 3D
  B Board        REV 01   711-042424   EH7659            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB48FB05J         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB01E         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB01J         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB02S         CXP Module
SIB 2            REV 03   750-041657   EJ6554            LCC SIB 3D
  B Board        REV 02   711-042424   EJ5756            LCC SIB 3D Mezz
  Xcvr 0         REV 01   740-047547   XB34FB01Z         CXP Module
  Xcvr 2         REV 01   740-047547   XB34FB013         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB04Z         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB05N         CXP Module
Fan Tray 0                                                Front Top Fan Tray
Fan Tray 1                                                Front Bottom Fan Tray
Fan Tray 2                                                Rear Fan Tray -- Rev 4
```

show chassis hardware sfc (TX Matrix Plus router with 3D SIBs)

```
user@host> show chassis hardware sfc 0
sfc0-re0:
--------------------------------------------------------------------------
```

```
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN11CAAA4AHB      TXP
Midplane         REV 05   710-022574   ABAC4696          SFC Midplane
FPM Display      REV 09   710-024027   EH3138            TXP FPM Display
CIP 0            REV 12   710-023792   EF6349            TXP CIP
CIP 1            REV 12   710-023792   EG5294            TXP CIP
PEM 0            Rev 06   740-027463   XH04595           Power Entry Module
PEM 1            Rev 06   740-027463   XH04592           Power Entry Module
Routing Engine 0 REV 07   740-026942   P737A-002541      RE-DUO-2600
Routing Engine 1 REV 07   740-026942   P737A-002602      RE-DUO-2600
CB 0             REV 15   710-022606   EH4376            SFC Control Board
CB 1             REV 15   710-022606   EH4379            SFC Control Board
SPMB 0                    BUILTIN                        SFC Switch CPU
SPMB 1                    BUILTIN                        SFC Switch CPU
SIB F13 0        REV 10   750-035002   EM9305            F13 SIB 3D
  B Board        REV 06   711-035082   EM9667            F13 SIB 3D Mezz
  P Board        REV 05   711-043544   EM9708            F13 SIB 3D Power
  Xcvr 0         REV 01   740-047547   XB34FB00S         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB01H         CXP Module
  Xcvr 4         REV 01   740-047547   XB34FB02W         CXP Module
  Xcvr 6         REV 01   740-047547   XB34FB01T         CXP Module
  Xcvr 8         REV 01   740-047547   XB48FB00W         CXP Module
  Xcvr 10        REV 01   740-047547   XB34FB01S         CXP Module
  Xcvr 12        REV 01   740-047547   XB34FB03H         CXP Module
  Xcvr 14        REV 01   740-047547   XB34FB023         CXP Module
SIB F13 3        REV 01   710-035001   EJ2612            F13 SIB 3D
  B Board        REV 01   711-035082   EJ3815            F13 SIB 3D Mezz
  P Board        REV 01   711-043544   EJ2678            F13 SIB 3D Power
  Xcvr 0         REV 01   740-047547   XB48FB04C         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB00Z         CXP Module
  Xcvr 4         REV 01   740-047547   XB47FB036         CXP Module
  Xcvr 6         REV 01   740-047547   XB47FB029         CXP Module
  Xcvr 8         REV 01   740-047547   XB48FB02N         CXP Module
  Xcvr 10        REV 01   740-047547   XB42FB0CS         CXP Module
  Xcvr 12        REV 01   740-047547   XB47FB01X         CXP Module
  Xcvr 14        REV 01   740-047547   XB48FB02F         CXP Module
SIB F13 6        REV 05   750-035002   EK2675            F13 SIB 3D
  B Board        REV 03   711-035082   EK2612            F13 SIB 3D Mezz
  P Board        REV 04   711-043544   EK1179            F13 SIB 3D Power
  Xcvr 0         REV 01   740-047547   XB48FB01T         CXP Module
  Xcvr 2         REV 01   740-047547   XB48FB02M         CXP Module
  Xcvr 4         REV 01   740-047547   XB48FB031         CXP Module
  Xcvr 6         REV 01   740-047547   XB48FB04P         CXP Module
  Xcvr 8         REV 01   740-047547   XB48FB02T         CXP Module
  Xcvr 10        REV 01   740-047547   XB34FB01V         CXP Module
  Xcvr 12        REV 01   740-047547   XB48FB02C         CXP Module
  Xcvr 14                 NON-JNPR                       No Module
SIB F13 12       REV 01   710-035001   EJ2631            F13 SIB 3D
  B Board        REV 01   711-035082   EJ3808            F13 SIB 3D Mezz
  P Board        REV 01   711-043544   EJ2676            F13 SIB 3D Power
SIB F2S 0/0      REV 01   711-034977   EH9829            F2S SIB 3D
  B Board        REV 01   711-034979   EH9927            F2S SIB 3D Mezz
SIB F2S 0/2      REV 01   711-034977   EH9791            F2S SIB 3D
  B Board        REV 01   711-034979   EH9852            F2S SIB 3D Mezz
SIB F2S 0/4      REV 01   711-034977   EH9803            F2S SIB 3D
  B Board        REV 01   711-034979   EH9915            F2S SIB 3D Mezz
SIB F2S 0/6      REV 01   711-034977   EH9763            F2S SIB 3D
  B Board        REV 01   711-034979   EH9880            F2S SIB 3D Mezz
SIB F2S 1/0      REV 01   711-034977   EH9757            F2S SIB 3D
  B Board        REV 01   711-034979   EH9889            F2S SIB 3D Mezz
```


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```
SIB F2S 1/2      REV 01   711-034977   EH9815           F2S SIB 3D
  B Board        REV 01   711-034979   EH9890           F2S SIB 3D Mezz
SIB F2S 1/4      REV 08   750-034978   EN1954           F2S SIB 3D
  B Board        REV 02   711-034979   EN1436           F2S SIB 3D Mezz
SIB F2S 1/6      REV 01   711-034977   EJ7054           F2S SIB 3D
  B Board        REV 01   711-034979   EJ8238           F2S SIB 3D Mezz
SIB F2S 2/0      REV 01   711-034977   EH9830           F2S SIB 3D
  B Board        REV 01   711-034979   EH9844           F2S SIB 3D Mezz
SIB F2S 2/2      REV 01   711-034977   EH9818           F2S SIB 3D
  B Board        REV 01   711-034979   EH9888           F2S SIB 3D Mezz
SIB F2S 2/4      REV 01   711-034977   EH9795           F2S SIB 3D
  B Board        REV 01   711-034979   EH9869           F2S SIB 3D Mezz
SIB F2S 2/6      REV 01   711-034977   EJ7026           F2S SIB 3D
  B Board        REV 01   711-034979   EJ8273           F2S SIB 3D Mezz
SIB F2S 3/0      REV 01   711-034977   EH9811           F2S SIB 3D
  B Board        REV 01   711-034979   EH9892           F2S SIB 3D Mezz
SIB F2S 3/2      REV 01   711-034977   EH9812           F2S SIB 3D
  B Board        REV 01   711-034979   EH9877           F2S SIB 3D Mezz
SIB F2S 3/4      REV 08   750-034978   EN1947           F2S SIB 3D
  B Board        REV 02   711-034979   EN1471           F2S SIB 3D Mezz
Fan Tray 0       REV 10   760-024497   EH3313           Front Fan Tray
Fan Tray 1       REV 10   760-024497   EH3290           Front Fan Tray
Fan Tray 2       REV 10   760-024502   EH3292           Rear Fan Tray
Fan Tray 3       REV 10   760-024502   EH3287           Rear Fan Tray
Fan Tray 4       REV 10   760-024502   EH3286           Rear Fan Tray
Fan Tray 5       REV 10   760-024502   EH3285           Rear Fan Tray
```

show chassis hardware (16-Port 10-Gigabit Ethernet MPC with SFP+ Optics [MX Series Routers])

```
user@host> show chassis hardware
Hardware inventory:
    Item             Version  Part number  Serial number     Description
    Chassis                                JN112D865AFA      MX960
    Midplane         REV 03   710-013698   TS3339            MX960 Backplane
    FPM Board        REV 03   710-014974   WW6267            Front Panel Display

    PDM              Rev 03   740-013110   QCS12485026       Power Distribution
Module
    PEM 0            Rev 04   740-013682   QCS12434086       PS 1.7kW; 200-240VAC
 in
    PEM 1            Rev 04   740-013682   QCS1243408Z       PS 1.7kW; 200-240VAC
 in
    PEM 2            Rev 04   740-013682   QCS1243407X       PS 1.7kW; 200-240VAC
 in
    Routing Engine 0 REV 07   740-015113   9009009677        RE-S-1300
    Routing Engine 1 REV 07   740-015113   9009011510        RE-S-1300
    CB 0             REV 03   710-021523   XF0394            MX SCB
    CB 1             REV 03   710-021523   XF0550            MX SCB
    CB 2             REV 03   710-021523   XD7455            MX SCB
    FPC 4            REV 02   750-028467   JR6127            MPC M 16x 10GE
      CPU            REV 02   711-029089   JX0129            AS PMB
      PIC 0                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
      PIC 1                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
      PIC 2                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
      PIC 3                   BUILTIN      BUILTIN           4x 10GE(LAN) SFP+
    Fan Tray 0       REV 05   740-014971   TP9990            Fan Tray
    Fan Tray 1       REV 05   740-014971   VS1709            Fan Tray
```

show chassis hardware (MPC3E [MX Series Routers])

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

```
Hardware inventory:
   Item             Version  Part number   Serial number     Description
   Chassis                                  JN1101AFEAFB      MX480
   Midplane         REV 05   710-017414    TR4444            MX480 Midplane
   FPM Board        REV 02   710-017254    KG6056            Front Panel Display

   PEM 0           Rev 03   740-017330    QCS082090FC       PS 1.2-1.7kW; 100-240V

   PEM 1           Rev 03   740-017330    QCS082090FD       PS 1.2-1.7kW; 100-240V

   Routing Engine 0 REV 07   740-013063    9009004124        RE-S-2000
   Routing Engine 1 REV 07   740-013063    9009005569        RE-S-2000
   CB 0             REV 07   710-021523    XZ3587            MX SCB
   CB 1             REV 03   710-021523    KH8306            MX SCB
   FPC 1            REV 04.1.07 750-033205 P1240            MPC Type 3
    CPU             REV 01   711-035209    YL0504            HMPC PMB 2G
    MIC 1           REV 10   750-033199    YX4495            1X100GE CFP
     PIC 2                   BUILTIN       BUILTIN           1X100GE CFP
      Xcvr 0        REV 01   740-032210    C22CQNE           CFP-100G-LR4
   FPC 2            REV 26   750-016670    KH0045            DPCE 40x 1GE R EQ
    CPU             REV 07   710-013713    KF5448            DPC PMB
    PIC 0                    BUILTIN       BUILTIN           10x 1GE(LAN) EQ
     Xcvr 0         REV 01   740-011613    PF21JHU           SFP-SX
    PIC 1                    BUILTIN       BUILTIN           10x 1GE(LAN) EQ
     Xcvr 9         REV 01   740-011613    AM0813S8ZL6       SFP-SX
    PIC 2                    BUILTIN       BUILTIN           10x 1GE(LAN) EQ
     Xcvr 0         REV 02   740-011613    PGL2KYF           SFP-SX
     Xcvr 2         REV 01   740-011613    AM0806S8N4P       SFP-SX
    PIC 3                    BUILTIN       BUILTIN           10x 1GE(LAN) EQ
     Xcvr 5         REV 01   740-011613    AM0815S967N       SFP-SX
     Xcvr 7         REV 01   740-011613    AM0806S8N1X       SFP-SX
     Xcvr 8         REV 01   740-011613    AM0815S967J       SFP-SX
     Xcvr 9         REV 01   740-011613    AM0815S967M       SFP-SX
   FPC 3            REV 12.2.09 750-033205 YR9443           MPC Type 3
    CPU             REV 03   711-035209    YL6931            HMPC PMB 2G
    MIC 0           REV 05   750-033199    YR3269            1X100GE CFP
     PIC 0                   BUILTIN       BUILTIN           1X100GE CFP
      Xcvr 0        REV 01   740-032210    ULH0KG3           CFP-100G-LR4
    MIC 1           REV 02   750-033199    YG3245            1X100GE CFP
     PIC 2                   BUILTIN       BUILTIN           1X100GE CFP
      Xcvr 0        REV 01   740-032210    ULH0KGF           CFP-100G-LR4
  FPC 4             REV 12.3.09 750-033205 YR9437           MPC Type 3
   CPU              REV 03   711-035209    YT5857            HMPC PMB 2G
   MIC 0            REV 05   750-033199    YR3295            1X100GE CFP
    PIC 0                   BUILTIN       BUILTIN           1X100GE CFP
     Xcvr 0                 NON-JNPR      X12000187         CFP-100G-SR10
   MIC 1            REV 10   750-033199    YX4518            1X100GE CFP
    PIC 2                   BUILTIN       BUILTIN           1X100GE CFP
     Xcvr 0         REV 01   740-035329    X12J00008         CFP-100G-SR10
  FPC 5             REV 06   750-024884    JW9769            MPC Type 2 3D EQ
  CPU               REV 02   711-028401    JR6158            MPC PMB 2G Proto
  MIC 0             REV 05   750-028387    JR6197            3D 4x 10GE  XFP
   PIC 0                    BUILTIN       BUILTIN           2x 10GE  XFP
    Xcvr 0          REV 01   740-014289    T07M71112         XFP-10G-SR
    Xcvr 1          REV 02   740-014289    T08L85610         XFP-10G-SR
    PIC 1                    BUILTIN       BUILTIN           2x 10GE  XFP
  MIC 1             REV 22   750-028392    YM0053            3D 20x 1GE(LAN) SFP

   PIC 2                    BUILTIN       BUILTIN           10x 1GE(LAN) SFP
    Xcvr 0          REV 01   740-011613    AM0703S005B       SFP-SX
    Xcvr 1          REV 01   740-011613    E07L01352         SFP-SX
```


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```
  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 Airlfow
Fan Tray 1                                               QFX Fan Tray, Back to
Front Airlfow
Fan Tray 2                                               QFX Fan Tray, Back to
Front Airlfow
```

show chassis hardware detail (QFX3500 Switches)

```
user@switch> show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               JN000TEST5        QFX3500
Routing Engine 0          BUILTIN      BUILTIN           QFX Routing Engine
FPC 0            REV 05   750-036931   EE0823            QFX3500-48S4Q-AFI


  CPU                     BUILTIN      BUILTIN           FPC CPU
  PIC 0                   BUILTIN      BUILTIN           48x 10G-SFP+
    Xcvr 0       REV 01   740-030589   S99E270079        SFP+-10G-LPBK
    Xcvr 1       REV 01   740-030589   S9AK450099        SFP+-10G-LPBK
    Xcvr 2       REV 01   740-030589   S99E270078        SFP+-10G-LPBK
    Xcvr 3       REV 01   740-030589   S9AK450098        SFP+-10G-LPBK
    Xcvr 4       REV 01   740-030589   S99E270075        SFP+-10G-LPBK
    Xcvr 5       REV 01   740-030589   S9AK450093        SFP+-10G-LPBK
    Xcvr 6       REV 01   740-030589   S9AK450097        SFP+-10G-LPBK
    Xcvr 7       REV 01   740-030589   S9AK450095        SFP+-10G-LPBK
    Xcvr 8       REV 01   740-030589   S99E270072        SFP+-10G-LPBK
    Xcvr 9       REV 01   740-030589   S99E270073        SFP+-10G-LPBK
    Xcvr 10      REV 01   740-030589   S99E270080        SFP+-10G-LPBK
    Xcvr 11      REV 01   740-030589   S9AK450169        SFP+-10G-LPBK
    Xcvr 12      REV 01   740-030589   S99E270076        SFP+-10G-LPBK
    Xcvr 13      REV 01   740-030589   S9AK450167        SFP+-10G-LPBK
    Xcvr 14      REV 01   740-030589   S9AK450170        SFP+-10G-LPBK
    Xcvr 15      REV 01   740-030589   S9AK450166        SFP+-10G-LPBK
    Xcvr 16      REV 01   740-030589   S9AK450092        SFP+-10G-LPBK
    Xcvr 17      REV 01   740-030589   S9AK450163        SFP+-10G-LPBK
```

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```
    Xcvr 18      REV 01   740-030589   S9AK450094        SFP+-10G-LPBK
    Xcvr 19      REV 01   740-030589   S9AK450100        SFP+-10G-LPBK
    Xcvr 20      REV 01   740-030589   S9AK450168        SFP+-10G-LPBK
    Xcvr 21      REV 01   740-030589   S9AK450165        SFP+-10G-LPBK
    Xcvr 22      REV 01   740-030589   S9AK450073        SFP+-10G-LPBK
    Xcvr 23      REV 01   740-030589   S9AK450164        SFP+-10G-LPBK
    Xcvr 24      REV 01   740-030589   S9AK450074        SFP+-10G-LPBK
    Xcvr 25      REV 01   740-030589   SA62270195        SFP+-10G-LPBK
    Xcvr 26      REV 01   740-030589   S9AK450078        SFP+-10G-LPBK
    Xcvr 27      REV 01   740-030589   S9AK450024        SFP+-10G-LPBK
    Xcvr 28      REV 01   740-030589   S9AK450027        SFP+-10G-LPBK
    Xcvr 29      REV 01   740-030589   S9AK450080        SFP+-10G-LPBK
    Xcvr 30      REV 01   740-030589   S9AK450030        SFP+-10G-LPBK
    Xcvr 31      REV 01   740-030589   S9AK450025        SFP+-10G-LPBK
    Xcvr 32      REV 01   740-030589   S9AK450023        SFP+-10G-LPBK
    Xcvr 33      REV 01   740-030589   S9AK450075        SFP+-10G-LPBK
    Xcvr 34      REV 01   740-030589   S9AK450161        SFP+-10G-LPBK
    Xcvr 35      REV 01   740-030589   S9AK450071        SFP+-10G-LPBK
    Xcvr 36      REV 01   740-030589   S9AK450072        SFP+-10G-LPBK
    Xcvr 37      REV 01   740-030589   S9AK450022        SFP+-10G-LPBK
    Xcvr 38      REV 01   740-030589   S9AK450021        SFP+-10G-LPBK
    Xcvr 39      REV 01   740-030589   S9AK450175        SFP+-10G-LPBK
    Xcvr 40      REV 01   740-030589   S9AK450162        SFP+-10G-LPBK
    Xcvr 41      REV 01   740-030589   S99E270074        SFP+-10G-LPBK
    Xcvr 42      REV 01   740-030589   S9AK450174        SFP+-10G-LPBK
    Xcvr 43      REV 01   740-030589   S9AK450077        SFP+-10G-LPBK
    Xcvr 44      REV 01   740-030589   S9AK450076        SFP+-10G-LPBK
    Xcvr 45      REV 01   740-030589   S9AK450026        SFP+-10G-LPBK
    Xcvr 46      REV 01   740-030589   S9AK450079        SFP+-10G-LPBK
    Xcvr 47      REV 01   740-030589   S9AK450029        SFP+-10G-LPBK
  PIC 1                   BUILTIN      BUILTIN           15x 10G-SFP+
    Xcvr 1       REV 01   740-032986   QA170087          QSFP+-40G-SR4
    Xcvr 4       REV 01   740-032986   QA360442          QSFP+-40G-SR4
    Xcvr 8       REV 01   740-032986   QA170091          QSFP+-40G-SR4
    Xcvr 12      REV 01   740-032986   QA170042          QSFP+-40G-SR4
MGMT BRD       REV 08   750-036946   EE0731            QFX3500-MB
Power Supply 0   Rev 04   740-032091   UI00690           QFX PS 650W AC
Power Supply 1   Rev 04   740-032091   UI00679           QFX PS 650W AC
Fan Tray 0                                              QFX Fan Tray
Fan Tray 1                                              QFX Fan Tray
```

show chassis hardware models (QFX3500 Switches)

```
user@switch> show chassis hardware models
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
Routing Engine 0          BUILTIN      BUILTIN
FPC 0            REV 02   711-032234   EC4074
Power Supply 0   PSMI 2C  11-d65800    --
```

show chassis hardware clei-models (QFX3500 Switches)

```
user@switch> show chassis hardware clei-models
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Routing Engine 0          BUILTIN
FPC 0            REV 02   711-032234
Power Supply 0   PSMI 2C  11-d65800
```


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show chassis hardware clei-models (QFX5100 Switches)

```
user@switch> show chassis hardware clei-models
Hardware inventory:
Item             Version  Part number  CLEI code         FRU model number
Routing Engine 0          BUILTIN      CMMNV10BRA
FPC 0            REV 01   611-053010   CMMNV10BRA
  PIC 0                   BUILTIN      CMMNV10BRA
Power Supply 0   REV 03   740-053352   MUPABHBAA         JPSU-850W-AC-AFO
Power Supply 1   REV 03   740-053352   MUPABHBAA         JPSU-850W-AC-AFO
Fan Tray 0                                              QFX5100-96S-FANAFO
Fan Tray 1                                              QFX5100-96S-FANAFO
Fan Tray 2                                              QFX5100-96S-FANAFO
```

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                                  QFX_olive
Midplane         REV 07   750-021261   BH0208188289      QFX Midplane
CB 0             REV 07   750-021261   BH0208188289      QFXIC08-CB4S
```

show chassis hardware node-device (QFabric Systems)

```
user@switch> show chassis hardware node-device node1
Routing Engine 0   BUILTIN      BUILTIN           QFX Routing Engine
node1            REV 05   711-032234   ED3694            QFX3500-48S4Q-AFI


  CPU                     BUILTIN      BUILTIN           FPC CPU
  PIC 0                   BUILTIN      BUILTIN           48x 10G-SFP+
    Xcvr 8         REV 01   740-030658   AD0946A028B       SFP+-10G-USR
...
```

show chassis hardware (PTX5000 Packet Transport Router)

```
user@host> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               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
Routing Engine 1 REV 06   740-026942   P737A-002438      RE-DUO-2600
CB 0             REV 08   750-030625   EG5519            Control Board
CB 1             REV 08   750-030625   EG5516            Control Board
FPC 0            REV 18   750-036844   EJ3080            FPC
  CPU            REV 12   711-030686   EJ3260            SNG PMB
FPC 2            REV 13   750-036844   EG5065            FPC
  CPU            REV 09   711-030686   EG4082            SNG PMB
  PIC 0          REV 14   750-031913   EG5127            24x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   143363A00240      SFP+-10G-SR
```

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    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
    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
```


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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
```

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```
  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
```


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```
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
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    Xcvr 21      REV 01   740-031980   AK80KCT          SFP+-10G-SR
    Xcvr 22      REV 01   740-031981   UK90PZL          SFP+-10G-LR
    Xcvr 23      REV 01   740-031980   AK80N1V          SFP+-10G-SR
FPC 3            REV 13   750-036844   EG5074           FPC
  CPU            REV 09   711-030686   EG4064           SNG PMB
  PIC 1          REV 10   750-031903   EG0325           SNG Load
FPC 5            REV 06   750-036844   EH3198           FPC
  CPU
  PIC 0          REV 14   750-031913   EG5134           24x 10GE(LAN) SFP+
    Xcvr 0       REV 01   740-031980   AK80LBH          SFP+-10G-SR
    Xcvr 1       REV 01   740-031980   B11B03724        SFP+-10G-SR
    Xcvr 2       REV 01   740-031980   AK80FMH          SFP+-10G-SR
    Xcvr 5       REV 01   740-031980   B11J00818        SFP+-10G-SR
    Xcvr 6       REV 01   740-031980   193363A00743     SFP+-10G-SR
    Xcvr 7       REV 01   740-031980   B11B06125        SFP+-10G-SR
    Xcvr 10      REV 01   740-031980   B11H02529        SFP+-10G-SR
    Xcvr 11      REV 01   740-031980   AK80LFB          SFP+-10G-SR
    Xcvr 12      REV 01   740-031980   193363A01061     SFP+-10G-SR
    Xcvr 15      REV 01   740-031980   B11J00687        SFP+-10G-SR
    Xcvr 16      REV 01   740-031980   193363A00738     SFP+-10G-SR
    Xcvr 18      REV 01   740-031980   AK80MQX          SFP+-10G-SR
    Xcvr 19      REV 01   740-021309   J08C17257        SFP+-10G-LR
    Xcvr 22      REV 01   740-031980   B11J00730        SFP+-10G-SR
    Xcvr 23      REV 01   740-031980   AK80KEE          SFP+-10G-SR
  PIC 1          REV 08   750-036710   EG3105           2x 40GE CFP
    Xcvr 0       REV 01   740-034554   B260HLT          CFP-40G-LR4
    Xcvr 1       REV 01   740-034554   B11C02847        CFP-40G-LR4
FPC 6            REV 18   750-036844   EJ4391           FPC
  CPU            REV 12   711-030686   EJ3257           SNG PMB
FPC 7            REV 18   750-036844   EJ4382           FPC
  CPU            REV 12   711-030686   EJ3238           SNG PMB
SPMB 0           REV 10   711-030686   EG5418           SNG PMB
SPMB 1           REV 09   711-030686   EG5373           SNG PMB
SIB 0            REV 07   750-030631   EG4858           SIB-I-8S
SIB 1            REV 07   750-030631   EG4872           SIB-I-8S
SIB 2            REV 07   750-030631   EG4866           SIB-I-8S
SIB 3            REV 07   750-030631   EG6011           SIB-I-8S
SIB 4            REV 07   750-030631   EG4907           SIB-I-8S
SIB 5            REV 07   750-030631   EG4879           SIB-I-8S
SIB 6            REV 07   750-030631   EG4864           SIB-I-8S
SIB 7            REV 07   750-030631   EG4899           SIB-I-8S
SIB 8            REV 07   750-030631   EG4880           SIB-I-8S
Fan Tray 0       REV 04   760-032784   EG1496           Vertical Fan Tray
Fan Tray 1       REV 04   760-030642   EG1335           Horizontal Fan Tray
Fan Tray 2       REV 02   760-030642   ED4952           Horizontal Fan Tray
```

show chassis hardware detail (PTX5000 Packet Transport Router with AC PSM and PDU)

```
user@host> show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               JN12223A6AJA      PTX5000
Midplane         REV 16   750-035893   ACRA1350          Midplane-8S
FPM              REV 12   760-030647   BBBD5625          Front Panel Display
PDU 0           Rev 01   740-048338   1GB83360005       High Capacity AC WYE PDU

  PSM 0          Rev 01   740-048334   1GB43360074       High Capacity AC PSM
  PSM 1          Rev 01   740-048334   1GB43360001       High Capacity AC PSM
  PSM 2          Rev 01   740-048334   1GB43360104       High Capacity AC PSM
  PSM 3          Rev 01   740-048334   1GB43360042       High Capacity AC PSM
  PSM 4          Rev 01   740-048334   1GB43360068       High Capacity AC PSM
```


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```
  PSM 5          Rev 01   740-048334   1GB43360080       High Capacity AC PSM
  PSM 6          Rev 01   740-048334   1GB43360046       High Capacity AC PSM
  PSM 7          Rev 01   740-048334   1GB43360100       High Capacity AC PSM
PDU 1           Rev 01   740-048338   1GB83360006       High Capacity AC WYE PDU

  PSM 0          Rev 01   740-048334   1GB43360069       High Capacity AC PSM
  PSM 1          Rev 01   740-048334   1GB43360099       High Capacity AC PSM
  PSM 2          Rev 01   740-048334   1GB43360050       High Capacity AC PSM
  PSM 3          Rev 01   740-048334   1GB43360095       High Capacity AC PSM
  PSM 4          Rev 01   740-048334   1GB43360101       High Capacity AC PSM
  PSM 5          Rev 01   740-048334   1GB43360075       High Capacity AC PSM
  PSM 6          Rev 01   740-048334   1GB43360047       High Capacity AC PSM
  PSM 7          Rev 01   740-048334   1GB43360019       High Capacity AC PSM
CCG 0            REV 09   750-030653   BBAZ5345          Clock Generator
```

show chassis hardware detail (PTX5000 Packet Transport Router with FPC2-PTX-P1A)

```
user@host> show chassis hardware detail
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                                JN1204FC0AJA      PTX5000
Midplane         REV 11   750-035893   ACAB8038          Midplane-8S
FPM              REV 12   760-030647   BBBD5619          Front Panel
Display
PDU 0            Rev 04   740-048336   1GB93470043       High Capacity DC PDU
  PSM 0          Rev 04   740-046988   1GB63500184       High Capacity DC PSM
  PSM 2          Rev 04   740-046988   1GB63500169       High Capacity DC PSM
  PSM 4          Rev 04   740-046988   1GB63500306       High Capacity DC PSM
  PSM 6          Rev 04   740-046988   1GB63500074       High Capacity DC PSM
PDU 1            Rev 04   740-048336   1GB93470045       High Capacity DC PDU
  PSM 1          Rev 04   740-046988   1GB63500193       High Capacity DC PSM
  PSM 3          Rev 04   740-046988   1GB63500143       High Capacity DC PSM
  PSM 5          Rev 04   740-046988   1GB63500146       High Capacity DC PSM
  PSM 7          Rev 04   740-046988   1GB63500192       High Capacity DC PSM
CCG 0            REV 09   750-030653   BBBC1909          Clock Generator
CCG 1            REV 09   750-030653   BBBD2970          Clock Generator
...
```

show chassis hardware models (PTX5000 Packet Transport Router)

```
user@host> show chassis hardware models
Hardware inventory:
Item             Version  Part number  Serial number     FRU model number
FPM              REV 08   760-030647   EG1679            CRAFT-PTX5000-S
PDU 0            Rev 05   740-032019   ZE00006           PWR-SAN-PDU-DC
  PSM 0          Rev 05   740-032022   ZJ00018           PSM-PTX-DC-120-S
  PSM 1          Rev 04   740-032022   ZC00052           PWR-SAN-12-DC
  PSM 2          Rev 04   740-032022   ZD00051           PWR-SAN-12-DC
  PSM 3          Rev 05   740-032022   ZJ00060           PSM-PTX-DC-120-S
CCG 0            REV 04   750-030653   EG3703            CCG-PTX-S
CCG 1            REV 04   750-030653   EG3698            CCG-PTX-S
Routing Engine 0 REV 05   740-026942   P737A-002231      RE-DUO-C2600-16G-S
Routing Engine 1 REV 06   740-026942   P737A-002438      RE-DUO-C2600-16G-S
CB 0             REV 08   750-030625   EG5519            CB-PTX-S
CB 1             REV 08   750-030625   EG5516            CB-PTX-S
FPC 0            REV 18   750-036844   EJ3080            FPC-PTX-P1-A
FPC 2            REV 13   750-036844   EG5065            FPC-PTX-P1-A
  PIC 0          REV 14   750-031913   EG5127            P1-PTX-24-10GE-SFPP
FPC 3            REV 13   750-036844   EG5074            FPC-PTX-P1-A
FPC 5
  PIC 0          REV 14   750-031913   EG5134            P1-PTX-24-10GE-SFPP
```

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```
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
...
```


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show chassis hardware extensive (PTX5000 Packet Transport Router)

```
user@host> show chassis hardware extensive
Hardware inventory:
Item             Version  Part number  Serial number     Description
...............
PDU 0            Rev 04   740-032019   UE0003            DC Power Dist Unit
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-032019        S/N:               UE0003
 Assembly ID:  0x043d            Assembly Version:  04.00
 Date:         11-29-2010        Assembly Flags:    0x00
 Version:      Rev 04            CLEI Code:         032022XXXX
 ID: DC Power Dist Unit          FRU Model Number:  PWR-SAN-PDU-DC
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 3d 04 00 52 65 76 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 33 32 30 31 39 00 00
  Address 0x20: 53 2f 4e 20 55 45 30 30 30 33 00 00 00 1d 0b 07
  Address 0x30: da ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 30 33 32 30 32 32 58 58 58 58 50
  Address 0x50: 57 52 2d 53 41 4e 2d 50 44 55 2d 44 43 00 00 00
  Address 0x60: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
  Address 0x70: 00 00 00 a3 ff ff ff ff ff ff ff ff ff ff ff ff
  PSM 0          Rev 04   740-032022   YG00065           DC 12V Power Supply
Module
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          740-032022        S/N:               YG00065
 Assembly ID:  0x0440            Assembly Version:  04.00
 Date:         07-30-2010        Assembly Flags:    0x00
 Version:      Rev 04            CLEI Code:         032022XXXX
 ID: DC 12V Power Supply Module  FRU Model Number:  PWR-SAN-12-DC
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 04 40 04 00 52 65 76 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 34 30 2d 30 33 32 30 32 32 00 00
  Address 0x20: 53 2f 4e 20 59 47 30 30 30 36 35 00 00 1e 07 07
  Address 0x30: da ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 30 33 32 30 32 32 58 58 58 58 50
  Address 0x50: 57 52 2d 53 41 4e 2d 31 32 2d 44 43 20 20 20 20
  Address 0x60: 20 20 20 20 20 20 01 00 ff ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 0c ff ff ff ff ff ff ff ff ff ff ff ff
```

show chassis hardware (MX Routers with Media Services Blade [MSB])

```
user@switch> show chassis hardware
Hardware inventory:
Item             Version  Part number  Serial number     Description
Chassis                               JN1100FB1AFB      MX480
Midplane         REV 05   710-017414   TR3310            MX480 Midplane
FPM Board        REV 02   710-017254   KG1872            Front Panel Display
PEM 2            Rev 02   740-017343   QCS0812A00N       DC Power Entry Module
PEM 3            Rev 02   740-017343   QCS0812A00U       DC Power Entry Module
Routing Engine 0 REV 07   740-015113   1000740938        RE-S-1300
CB 0             REV 03   710-021523   KF4630            MX SCB
FPC 1            REV 11   750-037207   ZW9726            AS-MCC
  CPU            REV 04   711-038173   ZW4819            AS-MCC PMB
  MIC 0          REV 06   750-037214   ZW3574            AS-MSC
    PIC 0                 BUILTIN      BUILTIN           AS-MSC
  MIC 1          REV 00   750-037211                     AS-MXC
```

```
    PIC 2                 BUILTIN      BUILTIN           AS-MXC
```

show chassis hardware extensive (MX Routers with Media Services Blade [MSB])

```
user@switch> show chassis hardware extensive
FPC 1            REV 11   750-037207   ZW9726           AS-MCC
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          750-037207        S/N:               ZW9726
 Assembly ID:  0x0b37            Assembly Version:  01.11
 Date:         02-17-2012        Assembly Flags:    0x00
 Version:      REV 11            CLEI Code:         PROTOXCLEI
 ID: AS-MCC          FRU Model Number:  750-037207
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 37 01 0b 52 45 56 20 31 31 00 00
  Address 0x10: 00 00 00 00 37 35 30 2d 30 33 37 32 30 37 00 00
  Address 0x20: 53 2f 4e 20 5a 57 39 37 32 36 00 00 00 11 02 07
  Address 0x30: dc ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 01 50 52 4f 54 4f 58 43 4c 45 49 37
  Address 0x50: 35 30 2d 30 33 37 32 30 37 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 31 31 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 5e ff ff ff ff ff ff ff ff ff ff ff ff
  CPU            REV 04   711-038173   ZW4819           AS-MCC-PMB
 Jedec Code:   0x7fb0            EEPROM Version:    0x02
 P/N:          711-038173        S/N:               ZW4819
 Assembly ID:  0x0b38            Assembly Version:  01.04
 Date:         12-30-2011        Assembly Flags:    0x00
 Version:      REV 04
 ID: AS-MCC PMB
 Board Information Record:
  Address 0x00: ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
 I2C Hex Data:
  Address 0x00: 7f b0 02 ff 0b 38 01 04 52 45 56 20 30 34 00 00
  Address 0x10: 00 00 00 00 37 31 31 2d 30 33 38 31 37 33 00 00
  Address 0x20: 53 2f 4e 20 5a 57 34 38 31 39 00 00 00 1e 0c 07
  Address 0x30: db ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
  Address 0x40: ff ff ff ff 00 50 52 4f 54 4f 58 43 4c 45 49 37
  Address 0x50: 31 31 2d 30 33 38 31 37 33 00 00 00 00 00 00 00
  Address 0x60: 00 00 00 00 00 00 30 34 00 ff ff ff ff ff ff ff
  Address 0x70: ff ff ff 60 00 00 00 00 00 00 00 00 00 00 00 00
  MIC 0          REV 06   750-037214   ZW3574           AS-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 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
```


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```
 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 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          BUILTIN      BUILTIN           QFX Routing Engine
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          BUILTIN      BUILTIN           QFX Routing Engine
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
```

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```
    Xcvr 1       REV 01   740-032986   QB240154          QSFP+-40G-SR4
    Xcvr 2       REV 01   740-035085   018110105         QSFP+-40G-LPBK
  PIC 2          REV 02   611-049555   RR3113310209      QFX-EM-4Q
    Xcvr 0       REV 01   740-032986   QB190270          QSFP+-40G-SR4
    Xcvr 1       REV 01   740-035085   018110063         QSFP+-40G-LPBK
    Xcvr 2       REV 01   740-032986   QB210034          QSFP+-40G-SR4
Power Supply 0   REV 03   740-041741   1GA23110973       JPSU-650W-AC-AFO
Power Supply 1   REV 03   740-041741   1GA23090878       JPSU-650W-AC-AFO
Fan Tray 0                                              QFX5100 Fan Tray 0, Front
 to Back Airflow - AFO
Fan Tray 1                                              QFX5100 Fan Tray 1, Front
 to Back Airflow - AFO
Fan Tray 2                                              QFX5100 Fan Tray 2, Front
 to Back Airflow - AFO
Fan Tray 3                                              QFX5100 Fan Tray 3, Front
 to Back Airflow - AFO
Fan Tray 4                                              QFX5100 Fan Tray 4, Front
 to Back Airflow - AFO
```


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show chassis pic

List of Syntax

Syntax on page 369
Syntax (TX Matrix and TX Matrix Plus Routers) on page 369
Syntax (MX Series Routers) on page 369
Syntax (MX104, MX2010 and MX2020 3D Universal Edge Routers) on page 369
Syntax (PTX Series Packet Transport Router) on page 369
Syntax (QFX Series) on page 369
Syntax (OCX Series) on page 369
Syntax (ACX Series Universal Access Routers) on page 369

Syntax

```
show chassis pic fpc-slot slot-number pic-slot slot-number
```

Syntax (TX Matrix and TX Matrix Plus Routers)

```
show chassis pic fpc-slot slot-number pic-slot slot-number
<lcc number>
```

Syntax (MX Series Routers)

```
show chassis pic fpc-slot slot-number  pic-slot slot-number
<all-members>
<local>
<member member-id>
```

Syntax (MX104, MX2010 and MX2020 3D Universal Edge Routers)

```
show chassis pic fpc-slot slot-number  pic-slot slot-number
```

Syntax (PTX Series Packet Transport Router)

```
show chassis pic transport fpc-slot  slot-number pic-slot slot-number
```

Syntax (QFX Series)

```
show chassis pic fpc-slot slot-number pic-slot slot-number
<interconnect-device name (fpc-slot slot-number | pic-slot slot-number)>
<node-device name pic-slot slot-number>
```

Syntax (OCX Series)

```
show chassis pic fpc-slot slot-number pic-slot slot-number
```

Syntax (ACX Series Universal Access Routers)

```
show chassis pic fpc-slot slot-number  pic-slot slot-number
```

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 12.2 for ACX Series Universal Access Routers.
Command introduced in Junos OS Release 12.3 for MX2020 3D Universal Edge Routers.
Command introduced in Junos OS Release 12.3 for MX2010 3D Universal Edge Routers.
Command introduced in Junos OS Release 13.2 for PTX Series Packet Transport Routers.
Command introduced in Junos OS Release 13.2 for MX104 3D Universal Edge Routers.
Command introduced in Junos OS Release 14.1X53-D20 for the OCX Series.

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Description Display status information about the PIC installed in the specified Flexible PIC Concentrator (FPC) and PIC slot.

Options **fpc-slot *slot-number***—Display information about the PIC in this particular FPC slot:

- On a TX Matrix router, if you specify the number of the T640 router by using the **lcc *number*** option (the recommended method), replace ***slot-number*** with a value from **0** through **7**. Otherwise, replace ***slot-number*** with a value from **0** through **31**.

  Likewise, on a TX Matrix Plus router, if you specify the number of the T1600 router by using the **lcc *number*** option (the recommended method), replace ***slot-number*** with a value from **0** through **7**. Otherwise, replace ***slot-number*** with a value from **0** through **31**. For example, the following commands have the same result:

  ```
  user@host> show chassis pic fpc-slot 1 lcc 1 pic-slot 1
  user@host> show chassis pic fpc-slot 9 pic-slot 1
  ```

- M120 routers only—Replace ***slot-number*** with a value from **0** through **5**.
- MX80 routers only—Replace ***slot-number*** with a value from **0** through **1**.
- MX104 routers only—Replace ***slot-number*** with a value from **0** through **2**.
- MX240 routers only—Replace ***slot-number*** with a value from **0** through **2**.
- MX480 routers only—Replace ***slot-number*** with a value from **0** through **5**.
- MX960 routers only—Replace ***slot-number*** with a value from **0** through **11**.
- MX2010 routers only—Replace ***slot-number*** with a value from **0** through **9**.
- MX2020 routers only—Replace ***slot-number*** with a value from **0** through **19**.
- Other routers—Replace ***slot-number*** with a value from **0** through **7**.
- EX Series switches:
  - EX3200 switches and EX4200 standalone switches—Replace ***slot-number*** with 0.
  - EX4200 switches in a Virtual Chassis configuration—Replace ***slot-number*** with a value from 0 through 9 (switch's member ID).
  - EX8208 switches—Replace ***slot-number*** with a value from 0 through 7 (line card).
  - EX8216 switches—Replace ***slot-number*** with a value from 0 through 15 (line card).
- QFX Series:
  - QFX3500,QFX3600, QFX5100, and OCX Series standalone switches—Replace ***slot-number*** with 0. In the command output, FPC refers to a line card. The FPC number equals the slot number for the line card.
  - QFabric systems—Replace ***slot-number*** with any number between 0 and 15. In the command output, FPC refers to a line card. The FPC number equals the slot number for the line card.

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all-members—(MX Series routers and EX Series switches only) (Optional) Display PIC information for all member routers in the Virtual Chassis configuration.

interconnect-device *name*—(QFabric systems only) (Optional) Display PIC information for a specified Interconnect device.

lcc *number*—(TX Matrix and TX Matrix Plus routers only) (Optional) On a TX Matrix router, display PIC information for a specified T640 router (line-card chassis) that is connected to the TX Matrix router. On a TX Matrix Plus router, display PIC information for a specified router (line-card chassis) that is connected to the TX Matrix Plus router.

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

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

local—(MX Series routers and EX Series switches only) (Optional) Display PIC information for the local Virtual Chassis member.

member *member-id*—(MX Series routers and EX Series switches only) (Optional) Display PIC information for the specified member of the Virtual Chassis configuration. Replace ***member-id*** with a value of 0 or 1.

node-device *name*—(QFabric systems only) (Optional) Display PIC information for a specified Node device.

pic-slot *slot-number*—Display information about the PIC in this particular PIC slot. For routers, replace ***slot-number*** with a value from **0** through **3**. For EX3200 and EX4200 switches, replace ***slot-number*** with 0 for built-in network interfaces and 1 for interfaces on uplink modules. For EX8208 and EX8216 switches, replace ***slot-number*** with 0. For the QFX3500, QFX3600, QFX5100, and OCX Series standalone switches , replace ***slot-number*** with 0.

transport—Display PIC information for optical transport network.

Required Privilege Level

view

Related Documentation

- *request chassis pic*
- show chassis hardware on page 193
- *Configuring the 12-Port Channelized T1/E1 Circuit Emulation PIC*

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- *100-Gigabit Ethernet Type 4 PIC with CFP Overview*

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Output Fields Table 10 on page 373 lists the output fields for the **show chassis pic** command. Output fields are listed in the approximate order in which they appear.

Table 10: show chassis pic Output Fields

Field Name	Field Description
Type	PIC type. NOTE: On the 1-port OC192/STM64 MICs with the SDH framing mode, the type is displayed as **MIC-3D-1STM64-XFP** and with the SONET framing mode, the type is displayed as **MIC-3D-1OC192-XFP**. By default, the 1-port OC192/STM64 MICs displays the type as **MIC-3D-1OC192-XFP**.
Account Layer2 Overhead	(MX Series routers) Indicates whether functionality to count the Layer 2 overhead bytes in the interface statistics at the PIC level is enabled or disabled.
ASIC type	Type of ASIC on the PIC.
State	Status of the PIC. State is displayed only when a PIC is in the slot. • **Online**— PIC is online and running. • **Offline**—PIC is powered down.
PIC version	PIC hardware version.
Uptime	How long the PIC has been online.
Package	(Multiservices PICs only) Services package supported: **Layer-2** or **Layer-3**.
Port Number	Port number for the PIC.
Cable Type	Type of cable connected to the port: **LH**, **LX**, or **SX.**
PIC Port Information (MX480 Router 100-Gigabit Ethernet CFP)	Port-level information for the PIC. • Port—Port number • Cable type—Type of optical transceiver installed. • Fiber type—Type of fiber. SM is single-mode. • Xcvr vendor—Transceiver vendor name. • Xcvr vendor part number—Transceiver vendor part number. • Wavelength—Wavelength of the transmitted signal. Uplinks and downlinks are always 1550 nm. There is a separate fiber for each direction

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Table 10: show chassis pic Output Fields *(continued)*

Field Name	Field Description

PIC Port Information (MX960 Router Bidirectional Optics)	Port-level information for the PIC.
	• Port—Port number
	• Cable type—Type of small form-factor pluggable (SFP) optical transceiver installed. Uplink interfaces display -U. Down link interfaces display -D.
	• Fiber type—Type of fiber. SM is single-mode.
	• Xcvr vendor—Transceiver vendor name.
	• Xcvr vendor part number—Transceiver vendor part number.
	  ◦ BX10-10-km bidirectional optics.
	  ◦ BX40-40-km bidirectional optics.
	  ◦ SFP-LX-40-km SFP optics.
	• Wavelength—Wavelength of the transmitted signal. Uplinks are always 1310 nm. Downlinks are either 1490 nm or 1550 nm.

PIC Port Information (Next-Generation SONET/SDH SFP)	Port-level information for the next-generation SONET/SDH SFP PIC. • Port—Port number. • Cable type—Type of small form-factor pluggable (SFP) optical transceiver installed. • Fiber type—Type of fiber: **SM** (single-mode) or **MM** (multimode). • Xcvr vendor—Transceiver vendor name. • Xcvr vendor part number—Transceiver vendor part number. • Wavelength—Wavelength of the transmitted signal. Next-generation SONET/SDH SFPs use 1310 nm.
Pic port information (MX104 router)	Port-level information for the PIC. • Port—Port number • Cable type—Type of optical transceiver installed. • Fiber type—Type of fiber. SM is single-mode. • Xcvr vendor—Transceiver vendor name. • Xcvr vendor part number—Transceiver vendor part number. • Wavelength—Wavelength of the transmitted signal. • Xcvr Firmware—Firmware version of the transceiver.
Multirate Mode	Rate-selectabilty status for the MIC: **Enabled** or **Disabled**.
Channelization	Indicates whether channelization is enabled or disabled on the DS3/E3 MIC.

Sample Output

show chassis pic fpc-slot pic-slot

```
user@host> show chassis pic fpc-slot 2 pic-slot 0
PIC fpc slot 2 pic slot 0 information:
  Type                            10x 1GE(LAN), 1000 BASE
```


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```
  ASIC type                       H chip
  State                           Online
  PIC version                     1.1
  Uptime                          1 day, 50 minutes, 58 seconds
PIC Port Information:
  Port         Cable          Xcvr              Xcvr Vendor
  Number       Type           Vendor Name       Part Number
  0            GIGE 1000EX    FINISAR CORP.     FTRJ8519P1BNL-J3
  1            GIGE 1000EX    FINISAR CORP.     FTRJ-8519-7D-JUN
```

show chassis pic fpc-slot pic-slot (PIC Offline)

```
user@host> show chassis pic fpc-slot 1 pic-slot 0
PIC fpc slot 1 pic slot 0 information:
  State                           Offline
```

show chassis pic fpc-slot pic-slot (FPC Offline)

```
user@host> show chassis pic fpc-slot 1 pic-slot 0
FPC 1 is not online
```

show chassis pic fpc-slot pic-slot (FPC Not Present)

```
user@host> show chassis pic fpc-slot 4 pic-slot 0
FPC slot 4 is empty
```

show chassis pic fpc-slot pic-slot (PIC Not Present)

```
user@host> show chassis pic fpc-slot 5 pic-slot 2
FPC 5, PIC 2 is empty
```

show chassis pic fpc-slot pic-slot (M120 Router)

```
user@host> show chassis pic fpc-slot 3 pic-slot 0
PC slot 3, PIC slot 0 information:
  Type                            2x G/E IQ, 1000 BASE
  ASIC type                       IQ GE 2 VLAN-TAG FPGA
  State                           Online
  PIC version                  1.16
  Uptime                          3 hours, 3 minutes

PIC Port Information:
  Port         Cable            Xcvr              Xcvr Vendor
  Number       Type             Vendor Name       Part Number
  0            GIGE 1000SX      FINISAR CORP.     FTRJ8519P1BNL-J3
  1            GIGE 1000SX      FINISAR CORP.     FTRJ-8519-7D-JUN
```

show chassis pic fpc-slot pic-slot (MX104 Router)

```
user@host> show chassis pic fpc-slot 1 pic-slot 1
FPC slot 1, PIC slot 1 information:
  Type                            10x 1GE(LAN) -E  SFP
  State                           Online
  PIC version                  1.1
  Uptime                          1 hour, 30 minutes, 59 seconds

PIC port information:
                          Fiber                  Xcvr vendor       Wave-    Xcvr

  Port Cable type         type  Xcvr vendor        part number       length
Firmware
  3    GIGE 1000T         n/a   Methode Elec.      SP7041-M1-JN      n/a      0.0
```

```
  6    GIGE 1000LX10     SM    FINISAR CORP.      FTLF1318P2BTL-J1  1310 nm  0.0

  8    GIGE 1000T        n/a   Methode Elec.      SP7041-M1-JN      n/a      0.0

  9    GIGE 1000T        n/a   Methode Elec.      SP7041-M1-JN      n/a      0.0
```

show chassis pic fpc-slot pic-slot (MX960 Router with Bidirectional Optics)

```
user@host> show chassis pic fpc-slot 4 pic-slot 1
FPC slot 4, PIC slot 1 information:
  Type                            10x 1GE(LAN)
  Account Layer2 Overhead         Enabled
  State                           Online
  PIC version                     0.0
  Uptime                          18 days, 5 hours, 41 minutes, 54 seconds

PIC port information:
                          Fiber                     Xcvr vendor
  Port  Cable type        type  Xcvr vendor         part number       Wavelength
  0     SFP-1000BASE-BX10-D SM  SumitomoElectric    SBP6H44-J3-BW-49  1490 nm
  1     SFP-1000BASE-BX10-D SM  SumitomoElectric    SBP6H44-J3-BW-49  1490 nm
  2     SFP-1000BASE-BX10-D SM  SumitomoElectric    SBP6H44-J3-BW-49  1490 nm
  3     SFP-1000BASE-BX10-D SM  OCP                 TRXBG1LXDBVM2-JW  1490 nm
  4     SFP-1000BASE-BX10-D SM  OCP                 TRXBG1LXDBVM2-JW  1490 nm
  5     SFP-1000BASE-BX10-U SM  SumitomoElectric    SBP6H44-J3-BW-31  1310 nm
  6     SFP-1000BASE-BX10-U SM  SumitomoElectric    SBP6H44-J3-BW-31  1310 nm
  7     SFP-1000BASE-BX10-U SM  OCP                 TRXBG1LXDBBMH-J1  1310 nm
  8     SFP-1000BASE-BX10-U SM  OCP                 TRXBG1LXDBBMH-J1  1310 nm
  9     SFP-1000BASE-BX10-U SM  SumitomoElectric    SBP6H44-J3-BW-31  1310 nm
```

show chassis pic fpc-slot pic-slot (MX480 Router with 100-Gigabit Ethernet MIC)

```
user@host> show chassis pic fpc-slot 1 pic-slot 2
FPC slot 1, PIC slot 2 information:
  Type                        1X100GE CFP
  State                       Online
  PIC version                 2.10
  Uptime                      4 minutes, 48 seconds

PIC port information:
        Fiber                   Xcvr vendor
  Port  Cable type        type  Xcvr vendor         part number       Wavelength
  0     100GBASE LR4      SM    FINISAR CORP.       FTLC1181RDNS-J3   1310 nm

        Xcvr vendor
        firmware version
        1.8
```

show chassis pic fpc-slot pic-slot (MX240, MX480, MX960 Routers with Application Services Modular Line Card)

```
user@host> show chassis pic fpc-slot 1 pic-slot 2
FPC slot 1, PIC slot 2 information:
  Type                            AS-MXC
  State                           Online
  PIC version                   1.0
  Uptime                          11 hours, 18 minutes, 3 seconds
```


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show chassis pic fpc-slot pic-slot (MX960 Router with MPC5EQ)

```
user@host> show chassis pic fpc-slot 0 pic-slot 3
FPC slot 0, PIC slot 3 information:
  Type                            1X100GE CFP2 OTN
  State                           Online
  PIC version                 0.0
  Uptime                            1 hour, 22 minutes, 42 seconds

PIC port information:
                          Fiber                   Xcvr vendor       Wave-    Xcvr
  Port Cable type         type  Xcvr vendor        part number       length
Firmware
  0    100GBASE LR4       n/a   Oclaro Inc.       TRB5E20FNF-LF150  1309 nm  1.0
```

show chassis pic fpc-slot pic-slot (MX480 Router with MPC4E)

```
user@host> show chassis pic fpc-slot 3 pic-slot 0
FPC slot 3, PIC slot 0 information:
  Type                            4x10GE SFPP
  State                           Online
  PIC version                 0.0
  Uptime                            41 seconds

PIC port information:
                          Fiber                   Xcvr vendor       Wave-    Xcvr
  Port Cable type         type  Xcvr vendor        part number       length
Firmware
  0    10GBASE SR         MM    OPNEXT, INC.      TRS2001EM-0014    850 nm   0.0

  1    10GBASE SR         MM    OPNEXT, INC.      TRS2001EM-0014    850 nm   0.0
```

show chassis pic fpc-slot pic-slot (MX480 router with OTN Interface)

```
user@host> show chassis pci fpc-slot 4 pic-slot 0
FPC slot 4, PIC slot 0 information:
  Type                            12X10GE SFPP OTN
  State                           Online
  PIC version                 0.0
  Uptime                            5 hours, 28 minutes, 23 seconds

PIC port information:
                          Fiber                   Xcvr vendor       Wave-    Xcvr
  Port Cable type         type  Xcvr vendor        part number       length
Firmware
  0    10GBASE SR         MM    FINISAR CORP.     FTLX8571D3BNL-J1  850 nm   0.0

  1    10GBASE SR         MM    FINISAR CORP.     FTLX8571D3BCL-J1  850 nm   0.0

  2    10GBASE SR         MM    OPNEXT, INC.      TRS2001EM-0014    850 nm   0.0
```

show chassis pic fpc-slot pic-slot (MX2010 Router with OTN Interfaces)

```
user@host> show chassis pic fpc-slot 9 pic-slot 0
```

```
FPC slot 9, PIC slot 0 information:
  Type                            2X100GE CFP2 OTN
  State                           Online
  PIC version                 1.9
  Uptime                        3 hours, 56 minutes, 16 seconds

PIC port information:
                          Fiber                   Xcvr vendor       Wave-    Xcvr

  Port Cable type         type  Xcvr vendor        part number       length
Firmware
  0    100GBASE LR4-D     SM    FUJITSU           FIM37300/222      1310 nm  1.3

  1    100GBASE SR10      MM    AVAGO             AFBR-8420Z        n/a      1.0
```

show chassis pic fpc-slot pic-slot (MX2010 Router)

```
user@host> show chassis pic fpc-slot 9 pic-slot 3
FPC slot 9, PIC slot 3 information:
  Type                            1X100GE CFP
  Account Layer2 Overhead         Enabled
  State                           Online
  PIC version                     0.0
  Uptime                          14 hours, 51 seconds
```

show chassis pic fpc-slot pic-slot (MX2020 Router)

```
user@host> show chassis pic fpc-slot 19 pic-slot 3
FPC slot 19, PIC slot 3 information:
  Type                            4x 10GE(LAN) SFP+
  Account Layer2 Overhead         Enabled
  State                           Online
  PIC version                 0.0
  Uptime                        1 day, 11 hours, 26 minutes, 36 seconds

PIC port information:
                          Fiber                   Xcvr vendor       Wave-    Xcvr

  Port Cable type         type  Xcvr vendor        part number       length
Firmware
  0    10GBASE SR         MM    SumitomoElectric  SPP5200SR-J6-M    850 nm   0.0

  1    10GBASE SR         MM    SumitomoElectric  SPP5200SR-J6-M    850 nm   0.0

  2    10GBASE SR         MM    SumitomoElectric  SPP5200SR-J6-M    850 nm   0.0

  3    10GBASE SR         MM    SumitomoElectric  SPP5200SR-J6-M    850 nm   0.0
```

show chassis pic fpc-slot pic-slot (MX2020 Router with MPC5EQ and MPC6E)

```
user@host> show chassis pic fpc-slot 18 pic-slot 2
FPC slot 18, PIC slot 2 information:
  Type                            3X40GE QSFPP
  State                           Online
  PIC version                 0.0
  Uptime                        6 minutes, 31 seconds

PIC port information:
                          Fiber                   Xcvr vendor       Wave-    Xcvr

  Port Cable type         type  Xcvr vendor        part number       length
```


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```
Firmware
  0    40GBASE SR4       MM    AVAGO             AFBR-79E4Z-D-JU2  850 nm   0.0

  1    40GBASE SR4       MM    AVAGO             AFBR-79E4Z-D-JU2  850 nm   0.0

  2    40GBASE SR4       MM    AVAGO             AFBR-79E4Z-D-JU2  850 nm   0.0
```

show chassis pic fpc-slot pic-slot (MX2020 Router with MPC6E and OTN MIC)

```
user@host> show chassis pic fpc-slot 3 pic-slot 0
FPC slot 0, PIC slot 1 information:
  Type                            24X10GE SFPP OTN
  State                           Online
  PIC version                  1.1
  Uptime                          1 hour, 33 minutes, 59 seconds

PIC port information:
                         Fiber                   Xcvr vendor       Wave-    Xcvr

  Port Cable type        type  Xcvr vendor        part number       length
Firmware
  7    10GBASE SR        MM    SumitomoElectric   SPP5200SR-J6-M    850 nm   0.0

  9    10GBASE SR        MM    FINISAR CORP.      FTLX8571D3BNL-J1  850 nm   0.0

  12   10GBASE LR        SM    FINISAR CORP.      FTLX1472M3BNL-J3  1310 nm  0.0

  20   10GBASE ZR        SM    FINISAR CORP.      FTLX1871M3BNL-J3  1550 nm  0.0

  21   10GBASE ER        SM    FINISAR CORP.      FTLX1671D3BTL-J4  1550 nm  0.0

  22   10GBASE LR        SM    SOURCEPHOTONICS    SPP10SLREDFCJNP   1310 nm  0.0

  23   10GBASE LR        SM    FINISAR CORP.      FTLX1471D3BNL-J1  1310 nm  0.0
```

show chassis pic fpc-slot pic-slot (MX2020 Router with MPC4E)

```
user@host> show chassis pic fpc-slot 14 pic-slot 0
FPC slot 14, PIC slot 2 information:
  Type                            4x10GE SFPP
  State                           Online
  PIC version                  0.0
  Uptime                          1 day, 14 hours, 49 minutes, 9 seconds

PIC port information:
                         Fiber                   Xcvr vendor       Wave-    Xcvr

  Port Cable type        type  Xcvr vendor        part number       length
Firmware
  0    10GBASE SR        MM    SumitomoElectric   SPP5100SR-J3      850 nm   0.0

  1    10GBASE SR        MM    SumitomoElectric   SPP5100SR-J3      850 nm   0.0

  3    10GBASE SR        MM    SumitomoElectric   SPP5100SR-J3      850 nm   0.0
```

show chassis pic fpc-slot pic-slot (T1600 Router with 100-Gigabit Ethernet PIC)

```
user@host> run show chassis pic fpc-slot 3 pic-slot 1
FPC slot 3, PIC slot 1 information:
  Type                            100GE SLOT1
```

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```
  ASIC type                        Brooklyn 100GE FPGA
  State                            Online
  PIC version                  1.3
  Uptime                         10 minutes, 44 seconds

PIC port information:
                          Fiber                    Xcvr vendor
  Port  Cable type        type  Xcvr vendor        part number       Wavelength
  0     100GBASE LR4      SM    Opnext Inc.        TRC5E20ENFSF000F  1310 nm
```

show chassis pic fpc-slot pic-slot lcc (TX Matrix Router)

```
user@host> show chassis pic fpc-slot 1 pic-slot 1 lcc 0
lcc0-re0:
--------------------------------------------------------------------------
PIC fpc slot 1 pic slot 1 information:
  Type                             4x OC-3 SONET, SMIR
  ASIC type                        D chip
  State                            Online
  PIC version                  1.2
  Uptime                          5 days, 2 hours, 12 minutes, 8 seconds
```

show chassis pic fpc-slot pic-slot lcc (TX Matrix Plus Router)

```
user@host> show chassis pic pic-slot 0 fpc-slot 8
lcc0-re0:
--------------------------------------------------------------------------
FPC slot 8, PIC slot 0 information:
  Type                             1x 10GE(LAN/WAN)
  State                            Online
  Uptime                          2 hours, 46 minutes, 23 seconds

PIC port information:
                          Fiber
  Port  Cable type        type  Xcvr vendor         part number       Wavelength

  0     10GBASE ZR        SM    Opnext Inc.         TRF7061BN-LF150   1550 nm
  0     10GBASE ZR        SM    FINISAR CORP.       FTRX-1811-3-J2    1550 nm
```

show chassis pic fpc-slot pic-slot (Next-Generation SONET/SDH SFP)

```
user@host> show chassis pic fpc-slot 4 pic-slot 0
FPC slot 4, PIC slot 0 information:
   Type                             4x OC-3 1x OC-12 SFP
   ASIC type                        D FPGA
   State                            Online
   PIC version                  1.3
   Uptime                          1 day, 50 minutes, 4 seconds

 PIC port information:
                           Fiber                    Xcvr vendor
   Port  Cable type        type  Xcvr vendor        part number       Wavelength

   0     OC48 short reach  SM    FINISAR CORP.      FTRJ1321P1BTL-J2  1310 nm
   1     OC3 short reach   MM    OCP                TRPA03MM3BAS-JE   1310 nm
   2     OC3 short reach   MM    OCP                TRXA03MM3BAS-JW   1310 nm
   3     OC12 inter reach  SM    FINISAR CORP.      FTLF1322P1BTR     1310 nm
```

show chassis pic fpc-slot pic-slot (12-Port T1/E1)

```
user@host> show chassis pic fpc-slot 0 pic-slot 3
```


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```
FPC slot 0, PIC slot 3 information:
  Type                            12x T1/E1 CE
  State                           Online
  PIC version                  1.1
  CPU load average               1 percent
  Interrupt load average         0 percent
  Total DRAM size              128 MB
  Memory buffer utilization    100 percent
  Memory heap utilization        4 percent
  Uptime                         1 day, 22 hours, 28 minutes, 12 seconds
  Internal Clock Synchronization   Normal
```

show chassis pic fpc-slot pic-slot (4x CHOC3 SONET CE SFP)

```
user@host> show chassis pic fpc-slot 0 pic-slot 1
FPC slot 0, PIC slot 1 information:
  Type                            4x CHOC3 SONET CE SFP
  State                           Online
  PIC version                  1.3
  CPU load average               1 percent
  Interrupt load average         0 percent
  Total DRAM size              128 MB
  Memory buffer utilization     99 percent
  Memory heap utilization        4 percent
  Uptime                         1 day, 22 hours, 55 minutes, 37 seconds
  Internal Clock Synchronization   Normal

PIC port information:
                         Fiber                   Xcvr vendor
  Port  Cable type       type  Xcvr vendor       part number       Wavelength
  0     OC3 short reach  MM    AVAGO             HFBR-57E0P-JU2    n/a
  1     OC3 short reach  MM    AVAGO             HFBR-57E0P-JU2    n/a
  3     OC3 long reach   SM    OPNEXT INC        TRF5456AVLB314    1310 nm
```

show chassis pic fpc-slot pic-slot (SONET/SDH OC3/STM1 [Multi-Rate] MIC with SFP)

```
user@host> show chassis pic fpc-slot 0 pic-slot 0
FPC slot 0, PIC slot 0 information:
  Type                            MIC-3D-8OC3OC12-4OC48
  State                           Online
  PIC version                  1.8
  Uptime                         3 days, 22 hours, 3 minutes, 50 seconds

PIC port information:
                         Fiber                   Xcvr vendor
  Port  Cable type       type  Xcvr vendor       part number       Wavelength
  1     OC12 inter reach  SM   FINISAR CORP      FTRJ1322P1BTR-J3  1310 nm
  7     OC12 inter reach  SM   FINISAR CORP      FTRJ1322P1BTR-J3  1310 nm
Multirate Mode                  Enabled
```

show chassis pic fpc-slot pic-slot (8-Port Channelized SONET/SDH OC3/STM1 [Multi-Rate] MIC with SFP)

```
user@host> show chassis pic fpc-slot 3 pic-slot 0
FPC slot 3, PIC slot 0 information:
  Type                            MIC-3D-8CHOC3-4CHOC12
  State                           Online
  PIC version                    1.9
  Uptime                           1 hour, 21 minutes, 24 seconds

PIC port information:
                         Fiber                   Xcvr vendor
  Port  Cable type       type  Xcvr vendor       part number       Wavelength
```

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```
  0     OC12 short reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
  1     OC12 short reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
  2     OC12 inter reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J2  1310 nm
  4     OC12 short reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
  5     OC12 short reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
  6     OC12 short reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
  7     OC12 short reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
```

show chassis pic fpc-slot pic-slot (4-Port Channelized SONET/SDH OC3/STM1 [Multi-Rate] MIC with SFP)

```
user@host> show chassis pic fpc-slot 5 pic-slot 0
FPC slot 5, PIC slot 0 information:
  Type                        MIC-3D-4CHOC3-2CHOC12
  State                       Online
  PIC version                 1.9
  Uptime                      1 hour, 21 minutes

PIC port information:
                         Fiber                    Xcvr vendor
  Port  Cable type       type  Xcvr vendor        part number       Wavelength
  1     OC12 inter reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
  2     OC12 inter reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
  3     OC12 short reach  SM    FINISAR CORP.      FTRJ1322P1BTR-J3  1310 nm
```

show chassis pic fpc-slot pic-slot (1-Port OC192/STM64 MIC with XFP)

```
user@host> show chassis pic fpc-slot 1 pic-slot 0
FPC slot 1, PIC slot 0 information:
  Type                            MIC-3D-1OC192-XFP
  State                           Online
  PIC version                     1.2
  Uptime                          1 day, 11 hours, 4 minutes, 6 seconds

PIC port information:
                         Fiber                    Xcvr vendor
  Port  Cable type       type  Xcvr vendor        part number       Wavelength
  0     OC192 short reach n/a   FINISAR CORP.      FTLX1412M3BCL-J3  1310 nm
```

show chassis pic fpc-slot 1 pic-slot 2 (8-Port DS3/E3 MIC)

```
user@host> show chassis pic fpc-slot 1 pic-slot 2
FPC slot 1, PIC slot 2 information:
  Type                            MIC-3D-8DS3-E3
  State                           Online
  PIC version                     1.10
  Uptime                          4 days, 1 hour, 29 minutes, 19 seconds
  Channelization Mode             Disabled
```

show chassis pic fpc-slot pic-slot (OTN)

```
user@host> show chassis pic fpc-slot 5 pic-slot 0
PIC fpc slot 5 pic slot 0 information:
     Type                             1x10GE(LAN),OTN
     ASIC type                        H chip
     State                            Online
     PIC version                 1.0
     Uptime                      5 minutes, 50 seconds
```

show chassis pic fpc-slot pic-slot (QFX3500 Switch)

```
user@switch> show chassis pic fpc-slot 0 pic-slot 0
```


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```
FPC slot 0, PIC slot 0 information:
Type 48x 10G-SFP+ Builtin
State Online
Uptime 3 days, 3 hours, 5 minutes, 20 seconds
```

show chassis pic fpc-slot pic-slot (QFX5100 Switches and OCX Series)

```
user@switch> show chassis pic fpc-slot 0 pic-slot 0
FPC slot 0, PIC slot 0 information:
  Type                            Unknown Builtin
  State                           Online
  Uptime                        1 day, 17 hours, 5 minutes, 9 seconds
```

show chassis pic interconnect-device fpc-slot pic-slot (QFabric Systems)

```
user@switch> show chassis pic interconnect-device interconnect1 fpc-slot 9 pic-slot 0
FPC slot 9, PIC slot 0 information:
  Type                            16x 40G-GEBuiltin
  State                           Online
  Uptime                        2 hours, 47 minutes, 40 seconds
```

show chassis pic node-device fpc-slot pic-slot (QFabric Systems)

```
user@switch> show chassis pic node-device node1 pic-slot 0
FPC slot node1, PIC slot 0 information:
  Type                            48x 10G-SFP+Builtin
  State                           Online
  Uptime                        2 hours, 52 minutes, 37 seconds

PIC port information:
                        Fiber                   Xcvr vendor
  Port  Cable type      type  Xcvr vendor       part number       Wavelength
  0     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  1     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  2     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  3     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  4     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  5     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  6     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  7     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  8     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  9     10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  10    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  11    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  12    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  13    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  14    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  15    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  16    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  17    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  18    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  19    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  20    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  21    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  22    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  23    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  24    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  25    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  26    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  27    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  28    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
  29    10GBASE SR      MM    SumitomoElectric  SPP5101SR-J3      850 nm
```

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```
  30    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  31    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  32    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  33    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  34    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  35    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  36    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  37    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  38    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  39    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  40    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  41    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  42    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  43    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  44    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  45    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  46    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
  47    10GBASE SR        MM    SumitomoElectric   SPP5101SR-J3      850 nm
```

show chassis pic fpc-slot pic-slot (ACX2000 Universal Access Router)

```
user@host> show chassis pic fpc-slot 0 pic-slot 1
FPC slot 0, PIC slot 1 information:
  Type                            8x 1GE(LAN) RJ45 Builtin
  State                           Online
  Uptime                          6 days, 2 hours, 51 minutes, 11 seconds
```

show chassis pic fpc-slot pic-slot (MX Series Routers with Media Services Blade [MSB])

```
user@switch> show chassis pic fpc-slot 1 pic-slot 0
FPC slot 1, PIC slot 0 information:
  Type                            AS-MSC
  State                           Online
  PIC version                  1.6
  Uptime                          11 hours, 17 minutes, 56 seconds
```

show chassis pic FPC slot PIC slot (MX Series Routers with Media Services Blade [MSB])

```
user@switch> show chassis pic fpc-slot 1 pic-slot 2
Type                            AS-MXC
  State                           Online
  PIC version                  1.0
  Uptime                          11 hours, 18 minutes, 3 seconds
```

show chassis pic transport fpc-slot pic-slot (PTX Series Packet Transport Routers)

```
user@host> show chassis pic transport fpc-slot 2 pic-slot 0
Administrative State:      In Service
Operational    State:      Normal
```


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CHAPTER 14

Operational Commands: Layer 2 Port-Mirroring Instances

- show forwarding-options port-mirroring

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show forwarding-options port-mirroring

Syntax **show forwarding-options port-mirroring**
<terse | detail>
<instance-name>

Release Information Command introduced in Junos OS Release 9.6.
Command introduced in Junos OS Release 12.3R2 for EX Series switches.

Description Display current state of port-mirroring instances.

Options **terse | detail**—(Optional) Display the specified level of output.

instance-name—(Optional) Display a single port-mirroring instance.

Required Privilege Level view

Related Documentation

List of Sample Output show forwarding-options port-mirroring terse on page 387
show forwarding-options port-mirroring detail on page 387

Output Fields Table 11 on page 386 lists the output fields for the **show forwarding-options port-mirroring** command. Output fields are listed in the approximate order in which they appear.

Table 11: show forwarding-options port-mirroring Output Fields

Field Name	Field Description	Level of Output
Instance Name	Name of port-mirroring instance.	All levels
Instance Id	Instance identification number.	All levels
State	Instance state, either **up** or **down**.	All levels
Input parameters		
Rate	Rate (ratio of packets sampled).	**detail**
Run-length	Run length (number of consecutive packets sampled).	**detail**
Maximum-packet-length	Maximum packet length.	**detail**
Output parameters		
Family	Protocol family.	**detail**
State	Instance state, either **up** or **down**.	**detail**
Destination	Destination (next-hop group name).	**detail**

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Sample Output

show forwarding-options port-mirroring terse

```
user@host> show forwarding-options port-mirroring terse
Instance Name         Instance Id     State
&global_instance        1       up
inst1          2       up
```

show forwarding-options port-mirroring detail

```
user@host> show forwarding-options port-mirroring detail
Instance Name: &global_instance
Instance Id: 1      State: up
  Input parameters:
     Rate:      10
     Run-length:     4
     Maximum-packet-length: 0
  Output parameters:
     Family: inet   State: up Destination: inet_nhg
     Family: vpls/eth-switch  State: up     Destination: vpls_nhg

Instance Name: inst1
Instance Id: 2      State: up
  Input parameters:
     Rate:      1
     Run-length:     0
     Maximum-packet-length: 200
  Output parameters:
     Family: inet         State: up     Destination: inet_nhg
     Family: vpls/eth-switch  State: down   Destination: vpls_nhg_2
```

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CHAPTER 15

Operational Commands: Firewall Filter Statistics and Logs

- clear firewall
- show firewall
- show firewall log

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clear firewall

List of Syntax

Syntax on page 390
Syntax (EX Series Switches) on page 390

Syntax

clear firewall (all | counter *counter-name* | filter *filter-name* | log (all | *logical-system-name*) | logical-system *logical-system-name*)

Syntax (EX Series Switches)

clear firewall (all | counter *counter-name* | filter *filter-name* | log (all | *logical-system-name*) | policer counter (all | counter-id *counter-index*))

Release Information

Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
logical-system option introduced in Junos OS Release 9.3.
log option introduced before Junos OS Release 11.4.

Description

Clear statistics about configured firewall filters.

When you clear the counters of a filter, this impacts not only the counters shown by the CLI, but also the ones tracked by SNMP2.

Subscriber management uses firewall filters to capture and report the volume-based service accounting counters that are used for subscriber billing. The **clear firewall** command also clears the service accounting counters that are reported to the RADIUS accounting server. For this reason, you must be cautious in specifying which firewall statistics you want to clear.

NOTE: The clear firewall command cannot be used to clear the Routing Engine filter counters on a backup Routing Engine that is enabled for graceful Routing Engine switchover (GRES).

If you clear statistics for firewall filters that are applied to Trio-based DPCs and that also use the **prefix-action** action on matched packets, wait at least 5 seconds before you enter the **show firewall prefix-action-stats** command. A 5-second pause between issuing the **clear firewall** and **show firewall prefix-action-stats** commands avoids a possible timeout of the **show firewall prefix-action-stats** command.

Options

all—Clear the packet and byte counts for all filters. On EX Series switches, this option also clears the packet counts for all policer counters.

counter *counter-name*—Clear the packet and byte counts for a filter counter that has been configured with the counter firewall filter action.

filter *filter-name*—Clear the packet and byte counts for the specified firewall filter.

log (all | *logical-system-name*)—Clear log entries for IPv4 firewall filters that have **then log** as an action. Use **log all** to clear all log entries or **log *logical-system-name*** to clear log entries for the specified logical system.

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logical-system ***logical-system-name***—Clear the packet and byte counts for the specified logical system.

policer counter (all | counter-id ***counter-index*****)**—(EX8200 switches only) Clear all policer counters using the **policer counter all** command, or clear a specific policer counter using the **policer counter counter-id** ***counter-index*** command. The value of *counter-index* can be 0, 1, or 2.

Required Privilege Level clear

Related Documentation
- show firewall on page 392

List of Sample Output
clear firewall all on page 391
clear firewall (counter counter-name) on page 391
clear firewall (filter filter-name) on page 391
clear firewall (policer counter all) (EX8200 Switch) on page 391
clear firewall (policer counter counter-id counter-index) (EX8200 Switch) on page 391

Sample Output

clear firewall all

```
user@host> clear firewall all
```

clear firewall (counter counter-name)

```
user@host> clear firewall counter port-filter-counter
```

clear firewall (filter filter-name)

```
user@host> clear firewall filter ingress-port-filter
```

clear firewall (policer counter all) (EX8200 Switch)

```
user@switch> clear firewall policer counter all
```

clear firewall (policer counter counter-id counter-index) (EX8200 Switch)

```
user@switch> clear firewall policer counter counter-id 0
```

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show firewall

List of Syntax

Syntax on page 392
Syntax (EX Series Switches) on page 392

Syntax

show firewall
<counter *counter-name*>
<detail>
<filter (*filter-name* | regex *regular-expression*)>
<log>
<logical-system (all | *logical-system-name*)>
<terse>

Syntax (EX Series Switches)

show firewall
<counter *counter-name*>
<detail>
<filter *filter-name*>
<log <(detail | interface *interface-name*)>>
<policer counters <(detail | counter-id *counter-index* <detail>)>>
<terse>

Release Information

Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
Option **logical-system** introduced in Junos OS Release 9.3.
Option **terse** introduced in Junos OS Release 9.4.
Option **policer counters** introduced in Junos OS Release 12.2 for EX Series switches.
Option **detail** introduced in Junos OS Release 12.3 for EX Series switches.
Option **detail** introduced in Junos OS Release 14.1 for MX Series routers.
Option **regex *regular-expression*** introduced in Junos OS Release 14.2.

Description

Display enhanced statistics and counters for all configured firewall filters.

Options

none—(Optional) Display statistics and counters for all configured firewall filters and counters. For EX Series switches, this command also displays statistics about all configured policers.

counter *counter-name*—(Optional) Name of a filter counter.

detail—(EX Series switches and MX Series routers only) (Optional) Display firewall filter statistics and enhanced policer statistics and counters.

filter *filter-name*—(Optional) Name of a configured filter.

filter regex *regular-expression*—(Optional) Regular expression that matches the names of a subset of filters.

logical-system (all | *logical-system-name*)—(Optional) Perform this operation on all logical systems or on a particular logical system.

log—(Optional) Display log entries for firewall filters.

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log <(detail | interface *interface-name*)>—(EX Series switches only) (Optional) Display detailed log entries of firewall activity or log information about a specific interface.

policer counters <(detail | counter-id *counter-index* <detail>)>—(EX8200 switches only) (Optional) Display policer counter statistics in brief or in detail.

terse—(Optional) Display firewall filter names only.

Required Privilege Level

view

Related Documentation

- clear firewall on page 390
- show firewall log on page 399
- *Verifying That Firewall Filters Are Operational*
- *Verifying That Policers Are Operational*
- *show policer*
- *Enhanced Policer Statistics Overview*
- *enhanced-policer*

List of Sample Output

show firewall filter (MX Series Router and EX Series Switch) on page 396
show firewall filter (non MX Series Router and EX Series Switch) on page 396
show firewall filter (Dynamic Input Filter) on page 396
show firewall (Logical Systems) on page 396
show firewall (counter counter-name) on page 397
show firewall log on page 397
show firewall policer counters (EX8200 Switch) on page 397
show firewall policer counters (detail) (EX8200 Switch) on page 397
show firewall policer counters (counter-id counter-index) (EX8200 Switch) on page 398
show firewall policer counters (counter-id counter-index detail) (EX8200 Switch) on page 398
show firewall detail on page 398

Output Fields

Table 12 on page 394 lists the output fields for the **show firewall** command. Output fields are listed in the approximate order in which they appear.

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Table 12: show firewall Output Fields

Field Name	Field Description
Filter	Name of a filter that has been configured with the **filter** statement at the **[edit firewall]** hierarchy level. Except on EX Series switches: • When an interface-specific filter is displayed, the name of the filter is followed by the full interface name and by either **-i** for an input filter or **-o** for an output filter. • When dynamic filters are displayed, the name of the filter is followed by the full interface name and by either **-in** for an input filter or **-out** for an output filter. When a logical system–specific filter is displayed, the name of the filter is prefixed with two underscore (__) characters and the name of the logical system (for example, **__ls1/filter1**). • When a service filter is displayed that uses a service set, the separator between the service-set name and the service-filter name is a semicolon (:). NOTE: For **bridge family filter**, the **ip-protocol** match criteria is supported only for IPv4 and not for IPv6. This is applicable for line cards that support the Junos Trio chipset, such as the MX 3D MPC line cards.
Counters	Display filter counter information: • **Name**—Name of a filter counter that has been configured with the **counter** firewall filter action. • **Bytes**—Number of bytes that match the filter term under which the **counter** action is specified. • **Packets**—Number of packets that matched the filter term under which the **counter** action is specified. NOTE: On M and T series routers, firewall filters cannot count **ip-options** packets on a per option type and per interface basis. A limited work around is to use the **show pfe statistics ip options** command to see **ip-options** statistics on a per Packet Forwarding Engine (PFE) basis. See *show pfe statistics ip* for sample output.
Policers	Display policer information: • **Name**—Name of policer. • **Bytes**—(For two-color policers on MX Series routers and EX Series switches, and for hierarchical policers on MS-DPC, MIC, and MPC interfaces on MX Series routers) Number of bytes that match the filter term under which the policer action is specified. This is only the number out-of-specification (out-of-spec) byte counts, not all the bytes in all packets policed by the policer. For other combinations of policer type, device, and line card type, this field is blank. • **Packets**—Number of packets that matched the filter term under which the policer action is specified. This is only the number of out-of-specification (out-of-spec) packet counts, not all packets policed by the policer.
Policer Counter Index	(EX8200 switch only) Global management counter ID. The counter ID value (*counter-index*) can be 0, 1, or 2.
Green	(EX8200 switch only) Number of packets within the limits. The number of packets is smaller than the committed information rate (CIR).
Yellow	(EX8200 switch only) Number of packets partially within the limits. The number of packets is greater than the CIR, but the burst size is within the excess burst size (EBS) limit.

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Table 12: show firewall Output Fields *(continued)*

Field Name	Field Description
Discard	(EX8200 switch only) Number of discarded packets.
Bytes	(EX8200 switch only) Number of green, yellow, red, or discarded packets in bytes.
Packets	(EX8200 switch only) Number of green, yellow, red, or discarded packets.
Filter name	(EX8200 switch only) Name of the filter with a term associated to a policer.
Term name	(EX8200 switch only) Name of the term associated with a policer.
Policer name	(EX8200 switch only) Name of the policer that is associated with a global management counter.
P1-t1	• OOS packet statistics for packets that are marked out-of-specification (out-of-spec) by the policer. Changes to all packets that have out-of-spec actions, such as discard, color marking, or forwarding-class, are included in this counter. • Offered packet statistics for traffic subjected to policing. • Transmitted packet statistics for traffic that is not discarded by the policer. When the policer action is discard, the statistics are the same as the in-spec statistics; when the policer action is non-discard (loss-priority or forwarding-class), the statistics are included in this counter.

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Sample Output

show firewall filter (MX Series Router and EX Series Switch)

```
user@host> show firewall filter test
Filter: test
Counters:
Name                                Bytes              Packets
Counter-1                               0                    0
Counter-2                               0                    0
Policers:
Name                                Bytes              Packets
Policer-1                            2770                   70
```

show firewall filter (non MX Series Router and EX Series Switch)

```
user@host> show firewall filter test
Filter: test
Counters:
Name                                Bytes              Packets
Counter-1                               0                    0
Counter-2                               0                    0
Policers:
Name                                Bytes              Packets
Policer-1                                                   70
```

show firewall filter (Dynamic Input Filter)

```
user@host> show firewall filter dfwd-ge-5/0/0.1-in
Filter: dfwd-ge-5/0/0.1-in
Counters:
Name                                                  Bytes              Packets
c1-ge-5/0/0.1-in                                          0                    0
```

show firewall (Logical Systems)

```
user@host> show firewall

Filter: __lr1/test
Counters:
Name                                                  Bytes              Packets
icmp                                                    420                    5
Filter: __default_bpdu_filter__
Filter: __lr1/inet_filter1
Counters:
Name                                                  Bytes              Packets
inet_tcp_count                                            0                    0
inet_udp_count                                            0                    0
Filter: __lr1/inet_filter2
Counters:
Name                                                  Bytes              Packets
inet_icmp_count                                           0                    0
inet_pim_count                                            0                    0
Filter: __lr2/inet_filter1
Counters:
Name                                                  Bytes              Packets
inet_tcp_count                                            0                    0
inet_udp_count                                            0                    0
```


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show firewall (counter counter-name)

```
user@host> show firewall counter icmp-counter
Filter: ingress-port-voip-class-filter
Counters:
Name                                                Bytes              Packets
icmp-counter                                            0                    0
```

show firewall log

```
user@host> show firewall log
Log :

Time      Filter    Action Interface     Protocol        Src Addr
          Dest Addr
08:00:53  pfe       R      ge-1/0/1.0    ICMP            192.168.3.5
        192.168.3.4
08:00:52  pfe       R      ge-1/0/1.0    ICMP            192.168.3.5
        192.168.3.4
08:00:51  pfe       R      ge-1/0/1.0    ICMP            192.168.3.5
        192.168.3.4
08:00:50  pfe       R      ge-1/0/1.0    ICMP            192.168.3.5
        192.168.3.4
08:00:49  pfe       R      ge-1/0/1.0    ICMP            192.168.3.5
        192.168.3.4
08:00:48  pfe       R      ge-1/0/1.0    ICMP            192.168.3.5
        192.168.3.4
08:00:47  pfe       R      ge-1/0/1.0    ICMP            192.168.3.5
        192.168.3.4
```

show firewall policer counters (EX8200 Switch)

```
user@switch> show firewall policer counters
Policer Counter Index 0:
                           Bytes            Packets
Green:                        73              15914
Yellow:                        9               1962
Discard:                     119              25942

Policer Counter Index 1:
                            Bytes            Packets
Green:                          0                  0
Yellow:                         0                  0
Discard:                        0                  0

Policer Counter Index 2:
                            Bytes            Packets
Green:                          0                  0
Yellow:                         0                  0
Discard:                        0                  0
```

show firewall policer counters (detail) (EX8200 Switch)

```
user@switch> show firewall policer counters detail
Policer Counter Index 0:
                           Bytes            Packets
Green:                        73              15914
Yellow:                        9               1962
Discard:                     119              25942
```

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```
Filter name               Term name          Policer name
myfilter                  polcr-term-1       myfilter-polcr-1
inet-filter-ae            ae-snmp            policer-1
inet-filter-ae            ae-ssh             policer-2

Policer Counter Index 1:
                          Bytes           Packets
Green:                        0                 0
Yellow:                       0                 0
Discard:                      0                 0

Filter name               Term name          Policer name

Policer Counter Index 2:
                          Bytes           Packets
Green:                        0                 0
Yellow:                       0                 0
Discard:                      0                 0

Filter name               Term name          Policer name
```

show firewall policer counters (counter-id counter-index) (EX8200 Switch)

```
user@switch> show firewall policer counters counter-id 0
Policer Counter Index 0:
                          Bytes           Packets
Green:                       73             15914
Yellow:                       9              1962
Discard:                    119             25942
```

show firewall policer counters (counter-id counter-index detail) (EX8200 Switch)

```
user@switch> show firewall policer counters counter-id 0 detail
Policer Counter Index 0:
                          Bytes           Packets
Green:                       73             15914
Yellow:                       9              1962
Discard:                    119             25942

Filter name               Term name          Policer name
myfilter                  polcr-term-1       myfilter-polcr-1
inet-filter-ae            ae-snmp            policer-1
inet-filter-ae            ae-ssh             policer-2
```

show firewall detail

```
user@host> show firewall detail
Filter: __default_bpdu_filter__

Filter: foo
Counters:
Name                                                Bytes              Packets
c1                                              17652140               160474
Policers:
Name                                                Bytes              Packets
P1-t1
    OOS                                                 0                18286
    Offered                                             0 18446744073709376546
    Transmitted                                         0 18446744073709358260
```


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show firewall log

List of Syntax

Syntax on page 399
Syntax (EX Series Switches) on page 399

Syntax

show firewall log
<detail>
<interface *interface-name*>
<logical-system (*logical-system-name* | all)>

Syntax (EX Series Switches)

show firewall log
<detail>
<interface *interface-name*>

Release Information

Command introduced before Junos OS Release 7.4.
Command introduced in Junos OS Release 9.0 for EX Series switches.
logical-system option introduced in Junos OS Release 9.3.

Description

Display log information about firewall filters.

Options

none—Display log information about firewall filters.

detail—(Optional) Display detailed information.

interface *interface-name*—(Optional) Display log information about a specific interface.

logical-system (*logical-system-name* | all)—(Optional) Perform this operation on all logical systems or on a particular system.

Required Privilege Level

view

List of Sample Output

show firewall log on page 400
show firewall log detail on page 400

Output Fields

Table 13 on page 399 lists the output fields for the **show firewall log** command. Output fields are listed in the approximate order in which they appear.

Table 13: show firewall log Output Fields

Field Name	Field Description
Time of Log	Time that the event occurred.
Filter	• Displays the name of a configured firewall filter or service filter only if the packet hit the filter's **log** action in a kernel filter (in the control plane). For any traffic that reaches the Routing Engine, the packets hit the **log** action in the kernel. • For all other logged packets (packet hit the filter's **log** action in the Packet Forwarding Engine), this field displays **pfe** instead of a configured filter name.

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Table 13: show firewall log Output Fields *(continued)*

Field Name	Field Description
Filter Action	Filter action: • **A**—Accept • **D**—Discard • **R**—Reject
Name of Interface	• Displays a physical interface name if the packet arrived at a port on a line card. • Displays **local** if the packet was generated by the device's internal Ethernet interface, **em1** or **fxp1**, which connects the Routing Engine with the router's packet-forwarding components.
Name of protocol	Packet's protocol name: **egp**, **gre**, **icmp**, **ipip**, **ospf**, **pim**, **rsvp**, **tcp**, or **udp**.
Packet length	Length of the packet.
Source address	Packet's source address.
Destination address	Packet's destination address and port.

Sample Output

show firewall log

```
user@host>show firewall log
Time      Filter    Action Interface     Protocol  Src Addr      Dest Addr

13:10:12  pfe       D      rlsq0.902     ICMP      180.1.177.2   180.1.177.1

13:10:11  pfe       D      rlsq0.902     ICMP      180.1.177.2   180.1.177.1
```

show firewall log detail

```
user@host> show firewall log detail
Time of Log: 2004-10-13 10:37:17 PDT, Filter: f, Filter action: accept, Name of
interface: fxp0.0Name of protocol: TCP, Packet Length: 50824, Source address:
172.17.22.108:829,
Destination address: 192.168.70.66:513
Time of Log: 2004-10-13 10:37:17 PDT, Filter: f, Filter action: accept, Name of
interface: fxp0.0
Name of protocol: TCP, Packet Length: 1020, Source address: 172.17.22.108:829,
Destination address: 192.168.70.66:513
Time of Log: 2004-10-13 10:37:17 PDT, Filter: f, Filter action: accept, Name of
interface: fxp0.0
Name of protocol: TCP, Packet Length: 49245, Source address: 172.17.22.108:829,
Destination address: 192.168.70.66:513
Time of Log: 2004-10-13 10:37:17 PDT, Filter: f, Filter action: accept, Name of
interface: fxp0.0
Name of protocol: TCP, Packet Length: 49245, Source address: 172.17.22.108:829,
Destination address: 192.168.70.66:513
Time of Log: 2004-10-13 10:37:17 PDT, Filter: f, Filter action: accept, Name of
interface: fxp0.0
```


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```
Name of protocol: TCP, Packet Length: 49245, Source address: 172.17.22.108:829,
Destination address: 192.168.70.66:513
Time of Log: 2004-10-13 10:37:17 PDT, Filter: f, Filter action: accept, Name of
interface: fxp0.0
Name of protocol: TCP, Packet Length: 49245, Source address: 172.17.22.108:829,
Destination address: 192.168.70.66:513
....
```

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CHAPTER 16

Operational Commands: Next-Hop Groups for Layer 2 Port Mirroring

- show forwarding-options port-mirroring
- show forwarding-options next-hop-group

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show forwarding-options port-mirroring

Syntax
show forwarding-options port-mirroring
<terse | detail>
<instance-name>

Release Information
Command introduced in Junos OS Release 9.6.
Statement introduced in Junos OS Release 12.3R2 for EX Series switches.
Hierarchy level **[edit forwarding-options]** introduced in Junos OS Release 13.2X50-D10 (ELS).

Description
Display current state of port-mirroring instances.

Options
terse | detail—(Optional) Display the specified level of output.

instance-name—(Optional) Display a single port-mirroring instance.

Required Privilege Level
view

Related Documentation
- *[edit forwarding-options port-mirroring] Configuration Statement Hierarchy*

List of Sample Output
show forwarding-options port-mirroring terse on page 405
show forwarding-options port-mirroring detail on page 405

Output Fields
Table 11 on page 386 lists the output fields for the **show forwarding-options port-mirroring** command. Output fields are listed in the approximate order in which they appear.

Table 14: show forwarding-options port-mirroring Output Fields

Field Name	Field Description	Level of Output
Instance Name	Name of port-mirroring instance.	All levels
Instance Id	Instance identification number.	All levels
State	Instance state, either **up** or **down**.	All levels
Input parameters		
Rate	Rate (ratio of packets sampled).	**detail**
Run-length	Run length (number of consecutive packets sampled).	**detail**
Maximum-packet-length	Maximum packet length.	**detail**
Output parameters		
Family	Protocol family.	**detail**
State	Instance state, either **up** or **down**.	**detail**

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Table 14: show forwarding-options port-mirroring Output Fields *(continued)*

Field Name	Field Description	Level of Output
Destination	Destination (next-hop group name).	**detail**

Sample Output

show forwarding-options port-mirroring terse

```
user@switch> show forwarding-options port-mirroring terse
Instance Name         Instance Id    State
&global_instance        1      up
inst1          2      up
```

show forwarding-options port-mirroring detail

```
user@switch> show forwarding-options port-mirroring detail
Instance Name: &global_instance
Instance Id: 1      State: up
  Input parameters:
     Rate:      1
     Run-length:     0
     Maximum-packet-length: 0
  Output parameters:
     Family: ethernet-switching  State: up     Destination: ge-0/0/10.0

Instance Name: inst1
Instance Id: 2      State: up
  Input parameters:
     Rate:      1
     Run-length:     0
     Maximum-packet-length: 0
  Output parameters:
     Family: ethernet-switching  State: down   Destination: ge-0/0/10.0
```

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show forwarding-options next-hop-group

Syntax **show forwarding-options next-hop-group**
<terse | brief | detail>
<group-name>

Release Information Command introduced in Junos OS Release 9.6.
Command introduced in Junos OS Release 12.3R2 for EX Series switches.
Support for IPv6 introduced in Junos OS Release 14.2 for the MX Series routers.

Description Display current state of next-hop groups.

Options **terse | brief | detail**—(Optional) Display the specified level of output.

group-name—(Optional) Display a single next-hop group.

Required Privilege Level view

Related Documentation
- show forwarding-options port-mirroring on page 386

List of Sample Output
show forwarding-options next-hop-group terse on page 407
show forwarding-options next-hop-group brief on page 407
show forwarding-options next-hop-group detail on page 407

Output Fields Table 15 on page 406 lists the output fields for the **show forwarding-options next-hop-group** command. Output fields are listed in the approximate order in which they appear.

Table 15: show forwarding-options next-hop-group Output Fields

Field Name	Field Description	Level of Output
Next-hop-group	Name of next-hop group.	All levels
Type	Next-hop group type, such as **inet**, **inet6** or **layer-2**.	All levels
State	Next-hop group state, either **up** or **down**.	All levels
Members Interfaces	Names of interfaces to which next-hop group members belong.	**brief detail**
Member Subgroup	Names of subgroups to which next-hop group members belong.	**brief detail**
Number of members configured	Number of next-hop group members configured.	**detail**
Number of members that are up	Number of next-hop group members that are up.	**detail**

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Table 15: show forwarding-options next-hop-group Output Fields *(continued)*

Field Name	Field Description	Level of Output
Number of subgroups configured	Number of subgroups configured.	**detail**
Number of subgroups that are up	Number of subgroups that are up.	**detail**

Sample Output

show forwarding-options next-hop-group terse

```
user@host> show forwarding-options next-hop-group terse
Next-hop-group                 Type              State
  nhg                            inet              up
  nhg6                           inet6             up
  vpls_nhg_2                   layer-2           down
```

show forwarding-options next-hop-group brief

```
user@host> show forwarding-options next-hop-group brief

Next-hop-group: nhg
      Type:  inet
      State: up
      Members Interfaces:
        ge-0/2/8.0             next-hop  30.1.1.10
        ge-5/1/8.0             next-hop  10.1.1.10
        ge-5/1/9.0             next-hop  20.1.1.10

Next-hop-group: nhg6
      Type:  inet6
      State: up
      Members Interfaces:
        ge-5/1/5.0             next-hop  10::1:1:10
        ge-5/1/6.0             next-hop  20::1:1:10
        Member Subgroup: nhsg6
          Members Interfaces:
            ge-5/0/4.0             next-hop  3::1:1:1
            ge-5/1/4.0             next-hop  4::1:1:1

Next-hop-group: vpls_nhg_2
Type: layer-2        State: down
```

show forwarding-options next-hop-group detail

```
user@host> show forwarding-options next-hop-group detail

Next-hop-group: nhg
Type: inet
State: up
Number of members configured    : 3
Number of members that are up   : 3
Number of subgroups configured  : 0
Number of subgroups that are up : 0
```

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```
Members Interfaces:                                  State
  ge-0/2/8.0             next-hop  30.1.1.10        up
  ge-5/1/8.0             next-hop  10.1.1.10        up
  ge-5/1/9.0             next-hop  20.1.1.10        up

Next-hop-group: nhg6
Type: inet6
State: up
Number of members configured    : 2
Number of members that are up   : 2
Number of subgroups configured  : 1
Number of subgroups that are up : 1
Members Interfaces:                                  State
ge-5/1/5.0             next-hop  10::1:1:10       up
ge-5/1/6.0             next-hop  20::1:1:10       up
Member Subgroup: nhsg6                               up
       Number of members configured    : 2
       Number of members that are up   : 2
       Members Interfaces:                             State
           ge-5/0/4.0             next-hop  3::1:1:1   up
           ge-5/1/4.0             next-hop  4::1:1:1   up

Next-hop-group: vpls_nhg_2
Number of members configured    : 2
Number of members that are up   : 0
Number of subgroups configured  : 0
Number of subgroups that are up : 0
Type: layer-2        State: down
Members Interfaces:       State
   ge-2/2/1.100        down
   ge-2/3/9.0        down
```


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