

Show Commands

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show version

To display the configuration of the system hardware, the software version, the names and sources of configuration files, and the boot images, use the **show version** command in appropriate configuration mode.

show version [**brief**]

Syntax Description

brief	It displays detail summary of system information and hardware details.

Command Default

No default behavior or values

Command Modes

EXEC

XR EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

Note The **brief** keyword can be used during command execution on Cisco IOS XR 32 bit routers.

The command is applicable for IOS XR 64 Bit software on ASR 9000 Enhanced XR (eXR).

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

The **show version** command displays a variety of system information, including hardware and software version, router uptime, boot settings (configuration register), and active software.

Task ID

Task ID	Operations
basic-services	read

This example shows partial output from the **show version** command:

```
RP/0/RSP0/CPU0:router# show version

Tue Jul 28 05:14:13.670 DST

Cisco IOS XR Software, Version 3.9.0.14I
Copyright (c) 2009 by Cisco Systems, Inc.

ROM: System Bootstrap, Version 1.1(20090521:183759) [ASR9K ROMMON],

PE44_ASR-9010 uptime is 1 week, 6 days, 13 hours, 52 minutes
```

```
System image file is "bootflash:disk0/asr9k-os-mbi-3.9.0.14I/mbiasr9k-rp.vm"

cisco ASR9K Series (MPC8641D) processor with 4194304K bytes of memory.
MPC8641D processor at 1333MHz, Revision 2.2

2 Management Ethernet
12 TenGigE
40 GigabitEthernet
219k bytes of non-volatile configuration memory.
975M bytes of compact flash card.
33994M bytes of hard disk.
1605616k bytes of disk0: (Sector size 512 bytes).
1605616k bytes of disk1: (Sector size 512 bytes).

Configuration register on node 0/RSP0/CPU0 is 0x102
Boot device on node 0/RSP0/CPU0 is disk0:
Package active on node 0/RSP0/CPU0:
asr9k-scfclient, V 3.9.0.14I, Cisco Systems, at disk0:asr9k-scfclient-3.9.0.14I
    Built on Mon Jul 13 08:28:45 DST 2009
    By sjc-lds-208 in /auto/ioxbuild7/production/3.9.0.14I/asr9k/workspace for c4.2.1-p0

asr9k-adv-video, V 3.9.0.14I, Cisco Systems, at disk0:asr9k-adv-video-3.9.0.14I
    Built on Mon Jul 13 10:13:23 DST 2009
    By sjc-lds-208 in /auto/ioxbuild7/production/3.9.0.14I/asr9k/workspace for c4.2.1-p0

asr9k-fpd, V 3.9.0.14I, Cisco Systems, at disk0:asr9k-fpd-3.9.0.14I
    Built on Mon Jul 13 08:44:47 DST 2009
    By sjc-lds-208 in /auto/ioxbuild7/production/3.9.0.14I/asr9k/workspace for c4.2.1-p0

asr9k-diags, V 3.9.0.14I, Cisco Systems, at disk0:asr9k-diags-3.9.0.14I
    Built on Mon Jul 13 08:28:48 DST 2009
    By sjc-lds-208 in /auto/ioxbuild7/production/3.9.0.14I/asr9k/workspace for c4.2.1-p0

asr9k-k9sec, V 3.9.0.14I, Cisco Systems, at disk0:asr9k-k9sec-3.9.0.14I
    Built on Mon Jul 13 08:43:40 DST 2009
    By sjc-lds-208 in /auto/ioxbuild7/production/3.9.0.14I/asr9k/workspace for c4.2.1-p0

asr9k-mgbl, V 3.9.0.14I, Cisco Systems, at disk0:asr9k-mgbl-3.9.0.14I
    Built on Mon Jul 13 10:11:41 DST 2009
    By sjc-lds-208 in /auto/ioxbuild7/production/3.9.0.14I/asr9k/workspace for c4.2.1-p0

asr9k-mcast, V 3.9.0.14I, Cisco Systems, at disk0:asr9k-mcast-3.9.0.14I
    Built on Mon Jul 13 08:40:57 DST 2009
    By sjc-lds-208 in /auto/ioxbuild7/production/3.9.0.14I/asr9k/workspace for c4.2.1-p0

 --More--
```

Table 1: show version Field Descriptions

Field	Description
Cisco IOS XR Software, Version #	Cisco IOS XR software version number currently running on the router.
ROM	System bootstrap version number currently running on the router.
router uptime	Number of uninterrupted days, hours, minutes, and seconds the system has been up and running.
System image file is	Location and name of the system image file currently running on the router.

Field	Description
Packet over SONET/SDH network interface(s)	Number of Packet-over-SONET/SDH interfaces available on the current router.
SONET/SDH Port controller(s)	Number of SONET or SDH[1] interfaces available on the current router.
Ethernet/IEEE 802.3 interface(s)	Number of Ethernet or IEEE 802.3 interfaces available on the current router.
GigabitEthernet/IEEE interface(s)	Number of Gigabit Ethernet or IEEE 802.3 interfaces available on the current router.
bytes of non-volatile configuration memory	Available volatile configuration memory, in bytes.
bytes of ATA PCMCIA card at disk 0	ATA PCMCIA[2] available on the card in disk 0, in bytes.
Package active on node 0/1/SP	Details about the current software package that is running on the SP node in slot 1.

[1] SDH = Synchronous Digital Hierarchy
[2] ATA PCMCIA = AT Attachment Personal Computer Memory Card Industry Association

This example shows partial output from the **show version** command for for IOS XR 64 Bit version:

```
RP/0/RSP0/CPU0:ASR-9906-C-LS#show version

Wed Mar 29 11:45:24.914 UTC
Cisco IOS XR Software, Version 7.5.2
Copyright (c) 2013-2022 by Cisco Systems, Inc.

Build Information:
 Built By     : ingunawa
 Built On     : Tue Apr 26 18:26:36 PDT 2022
 Built Host   : iox-ucs-055
 Workspace    : /auto/srcarchive14/prod/7.5.2/asr9k-x64/ws
 Version      : 7.5.2
 Location     : /opt/cisco/XR/packages/
 Label        : 7.5.2

cisco ASR9K () processor
System uptime is 5 weeks 5 days 16 hours 13 minutes
```

show platform

To display information and status for each node in the system, use the **show platform** command in EXEC or administration EXEC mode.

show platform [*node-id*]
System admin EXEC Mode:
show platform [*location*]

Syntax Description

node-id	(Optional) Node for which to display information. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

Status and information are displayed for all nodes in the system.

Command Modes

Administration EXEC

EXEC

System Admin EXEC mode on 64-bit IOS-XR

Command History

Release	Modification
Release 3.7.2	This command was introduced.
Release 3.9.0	Support was added for the 2-Port Channelized OC-12/DS0 SPA.

Usage Guidelines

The **show platform** command provides a summary of the nodes in the system, including node type and status.

Enter the **show platform** command in administration EXEC mode to display output for the entire system. Enter the **show platform** command in EXEC mode to display output for only those nodes that belong to the SDR on which the command is executed.

For ASR-9001-S, EP1 will be displayed as, **Not allowed online**, until the required license is bought.

This example shows the sample display output for ASR9912 and ASR9922:

```
RP/0/RSP0/CPU0:router:router(admin) # show platform
Wed Jul  3 11:34:18.487 UTC
Node            Type                        State            Config State
--------------------------------------------------------------------------------
0/RP0/CPU0      ASR-9922-RP-SE(Active)      IOS XR RUN       PWR,NSHUT,MON
0/RP1/CPU0      ASR-9922-RP-TR(Standby)     IOS XR RUN       PWR,NSHUT,MON
0/FT0/SP        FAN TRAY                    READY
0/FT1/SP        FAN TRAY                    READY
0/0/CPU0        A9K-36x10GE-TR              IOS XR RUN       PWR,NSHUT,MON
0/1/CPU0        A9K-36x10GE-SE              IOS XR RUN       PWR,NSHUT,MON
0/2/CPU0        A9K-36x10GE-TR              IOS XR RUN       PWR,NSHUT,MON
0/3/CPU0        A9K-36x10GE-SE              IOS XR RUN       PWR,NSHUT,MON
0/4/CPU0        A9K-36x10GE-SE              IOS XR RUN       PWR,NSHUT,MON
0/5/CPU0        A9K-36x10GE-SE              IOS XR RUN       PWR,NSHUT,MON
0/6/CPU0        A9K-36x10GE-SE              IOS XR RUN       PWR,NSHUT,MON
0/7/CPU0        A9K-36x10GE-TR              IOS XR RUN       PWR,NSHUT,MON
0/8/CPU0        A9K-24x10GE-SE              IOS XR RUN       PWR,NSHUT,MON
0/9/CPU0        A9K-24x10GE-TR              IOS XR RUN       PWR,NSHUT,MON
```

```
0/PM0/SP         PWR-3KW-AC-V2             READY            PWR,NSHUT,MON
0/PM1/SP         PWR-3KW-AC-V2             READY            PWR,NSHUT,MON
0/PM2/SP         PWR-3KW-AC-V2             READY            PWR,NSHUT,MON
0/PM3/SP         PWR-3KW-AC-V2             READY            PWR,NSHUT,MON
0/PM4/SP         PWR-3KW-AC-V2             READY            PWR,NSHUT,MON
0/PM5/SP         PWR-3KW-AC-V2             READY            PWR,NSHUT,MON
0/FC0/SP         ASR-9912-SFC110           OK               PWR,NSHUT,MON
0/FC1/SP         ASR-9912-SFC110           OK               PWR,NSHUT,MON
0/FC2/SP         ASR-9912-SFC110           OK               PWR,NSHUT,MON
0/FC3/SP         ASR-9912-SFC110           OK               PWR,NSHUT,MON
0/FC4/SP         ASR-9912-SFC110           OK               PWR,NSHUT,MON
0/FC5/SP         ASR-9912-SFC110           OK               PWR,NSHUT,MON
0/FC6/SP         ASR-9912-SFC110           OK               PWR,NSHUT,MON
```

The following example shows sample output from the **show platform** command:

```
RP/0/RP0/CPU0:router# show platform

Thu Nov 19 21:44:49.274 UTC
Node             Type                      State            Config State
--------------------------------------------------------------------------------
0/RSP0/CPU0      A9K-RSP-4G(Active)        IOS XR RUN       PWR,NSHUT,MON
0/RSP1/CPU0      A9K-RSP-4G(Standby)       IN-RESET         PWR,NSHUT,MON
0/1/CPU0         A9K-SIP-700               IOS XR RUN       PWR,NSHUT,NMON
0/1/0            SPA-10X1GE-V2             OK               PWR,NSHUT,MON
0/1/1            SPA-1X10GE-L-V2           OK               PWR,NSHUT,MON
0/3/CPU0         A9K-40GE-B                IOS XR RUN       PWR,NSHUT,MON
0/4/CPU0         A9K-SIP-700               IOS XR RUN       PWR,NSHUT,MON
0/4/1            SPA-2XCHOC12/DS0          OK               PWR,NSHUT,MON
```

The following is sample output for the **show platform** command with the *node-id* argument:

```
RP/0/RSP0/CPU0:router# show platform 0/1/cpu0

Mon Jul 27 22:30:04.752 DST
Node             Type                      State            Config State
--------------------------------------------------------------------------------
0/1/CPU0         A9K-40GE-B                IOS XR RUN       PWR,NSHUT,MON
```

This table describes the significant fields shown in the display.

Table 2: show platform Field Descriptions

Field	Description
Node	Identifier of the node in the *rack/slot/module* notation.
Type	Type of node.
State	Current state of the specified node.
Config State	Current status of the specified node.

The following is sample output for the **show platform** command with the location argument:

Note The location argument is only applicable for IOS XR 64 Bit version on ASR 9000 Enhanced XR (eXR).

```
sysadmin-vm:0_RSP0# show platform

Thu Jun  15 06:14:46.667 UTC+00:00
Location  Card Type                HW State      SW State      Config State
------------------------------------------------------------------------------
0/0       A99-32X100GE-TR          OPERATIONAL   OPERATIONAL   NSHUT
0/RSP0    A9K-RSP5-64G             OPERATIONAL   OPERATIONAL   NSHUT
```

show install

To display active packages, use the **show install** command in EXEC or administration EXEC mode.

Administration EXEC Mode
show install [**detail** | **summary** | **verbose**] [**sdr** *sdr-name* | **location** *node-id*]

EXEC Mode
show install [**detail** | **summary** | **verbose**] [**location** *node-id*]

Syntax Description

detail	(Optional) Displays a detailed summary of the active packages for a system, secure domain router (SDR), or node.
summary	(Optional) Displays a summary of the active packages in a system or SDR. Use this command to display the default software profile for SDRs
verbose	(Optional) Displays a detailed summary of the active packages for a system, SDR, or node, including component and file information for each package.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Displays the active packages for a specific SDR. The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.
location *node-id*	(Optional) Displays the active packages for a designated node. The *node-id* argument is expressed in *rack*/*slot*/*module* notation.

Command Default

No default behavior or values

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.



Note This command displays output that is similar to the **show install active** command.

Use the **show install** command to display the active software set for all nodes, or for specific nodes. Enter the command in administration EXEC mode to display information for all nodes in all SDRs.

Displaying Information for a Specific SDR

- To display information for a specific SDR from administration EXEC mode, use the **sdr** *sdr-name* keyword and argument.
- To display information for an SDR when logged into that SDR, enter the command in EXEC mode.

Displaying Information for a Specific Node

Use the **location** *node-id* keyword and argument to display information for a specific node. If you do not specify a location with the **location** *node-id* keyword and argument, this command displays information from all nodes.

Summary, Detailed, and Verbose Information

Use the **summary** keyword to display a summary of the active packages in a system or SDR. Use the **detail** keyword to display the active packages for each node in an SDR, or in all SDRs. Use the **verbose** keyword to display additional information, including component and file information for each package.

Note This command displays output that is similar to the **show install active** command.

Displaying the Default SDR Software Profile

When an SDR is created, the nodes assigned to that SDR are configured with the default software profile. To view a summary of the default SDR software configuration, enter the **show install summary** command in administration EXEC mode. Any new nodes that are configured to become a part of an SDR boot with the default software profile listed in the output of this command.

Task ID

Task ID	Operations
pkg-mgmt	read

Use the **location** *node-id* keyword and argument to display the active packages for a designated node:

```
RP/0/RSP0/CPU0:router# show install location 0/rp0/cpu0
Thu May 20 10:08:54.666 DST
  Node 0/RP0/CPU0 [HRP] [SDR: Owner]
    Boot Device: disk0:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0/mbi-rp.vm
    Active Packages:
      disk0:asr9k-k9sec-p-3.9.0
      disk0:asr9k-mpls-p-3.9.0
      disk0:asr9k-mgbl-p-3.9.0
      disk0:asr9k-mcast-p-3.9.0
      disk0:asr9k-doc-p-3.9.0
      disk0:comp-asr9k-mini-3.9.0
      disk0:asr9k-fpd-3.9.0
      disk0:asr9k-diags-p-3.9.0
```

Use the **summary** keyword to display a summary of the active packages in the system. This command also shows the default software profile used for new SDRs.

```
RP/0/RSP0/CPU0:router# show install summary

Thu May 20 10:14:38.919 DST
  Active Packages:
    disk0:asr9k-upgrade-p-3.9.0
    disk0:asr9k-k9sec-p-3.9.0
    disk0:asr9k-mpls-p-3.9.0
    disk0:asr9k-mgbl-p-3.9.0
    disk0:asr9k-mcast-p-3.9.0
    disk0:asr9k-doc-p-3.9.0
    disk0:comp-asr9k-mini-3.9.0
    disk0:asr9k-fpd-3.9.0
    disk0:asr9k-diags-p-3.9.0
```

Table 3: show install Field Descriptions

Field	Description
Boot Device	Device where the node stores the active software.
Boot Image	Location on the DSC of the active minimum boot image (MBI) used to boot the node.
Active Packages	Active packages loaded on the node.

show install active

To display active packages, use the **show install active** command in EXEC or administration EXEC mode.

Administration EXEC Mode
show install active [**detail** | **summary** | **verbose**] [**location** *node-id*]

EXEC Mode
show install active [**detail** | **summary** | **verbose**] [**location** *node-id*]

Syntax Description

detail	(Optional) Displays a detailed summary of the active packages for a system, secure domain router (SDR), or node.
summary	(Optional) Displays a summary of the active packages in a system or SDR.
verbose	(Optional) Displays a detailed summary of the active packages for a system, SDR, or node, including component information for each package.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Displays the active packages for a specific SDR. The *sdr-name* argument is the name assigned to the SDR.
location *node-id*	(Optional) Displays the active packages for a designated node. The *node-id* argument is expressed in *rack/slot/module* notation.

Command Default

None

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

Note This command displays output that is similar to the **show install** command.

Use the **show install active** command to display the active software set for all nodes, or for specific nodes.

Displaying Information for a Specific Node

Use the **location** *node-id* keyword and argument to display information for a specific node. If you do not specify a location with the **location** *node-id* keyword and argument, this command displays information from all nodes.

Summary, Detailed, and Verbose Information

Use the **summary** keyword to display a summary of the active packages in a system or SDR. Use the **detail** keyword to display the active packages for each node in an SDR, or in all SDRs. Use the **verbose** keyword to display additional information, including component and file information for each package.

For Superceded SMUs

The **show install active** command doesnot display superceded SMUs. To get details of the superceded SMUs, use the **show install superceded** command.

The following example illustrates sample output from the **show install active** command with the **location** *node-id* keyword and argument specified:

```
RP/0/RSP0/CPU0:router# show install active location 0/1/cpu0

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.30I/mbiasr9k-lc.vm
    Active Packages:
      disk0:asr9k-adv-video-3.9.0.14I
      disk0:asr9k-fpd-3.9.0.30I
      disk0:asr9k-diags-3.9.0.30I
      disk0:asr9k-k9sec-3.9.0.30I
      disk0:asr9k-mcast-3.9.0.30I
      disk0:asr9k-mpls-3.9.0.30I
      disk0:comp-
asr9k-mini-3.9.0.30I
```

The following example illustrates sample output from the **show install active** command with the **summary** keyword specified:

```
RP/0/RSP0/CPU0:router(admin)# show install active summary

Wed May 26 12:01:27.993 PST
Default Profile:
  Admin Resources
  SDRs:
    Owner
  Active Packages:

    disk0:asr9k-doc-3.9.0.03I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.03I
    disk0:asr9k-diags-3.9.0.03I
    disk0:asr9k-k9sec-3.9.0.03I
    disk0:asr9k-mgbl-3.9.0.03I
    disk0:asr9k-mcast-3.9.0.03I
    disk0:asr9k-mpls-3.9.0.03I
    disk0:comp-
asr9k-mini-3.9.0.03I
```

Table 4: show install active Field Descriptions

Field	Description
Boot Device	Device where the node stores the active software.
Boot Image	Location on the DSC of the active minimum boot image (MBI) used to boot the node.
Active Packages	Active packages loaded on the node.

show install active

To display active packages, use the **show install active** command in EXEC or administration EXEC mode.

Administration EXEC Mode
show install active [**detail** | **summary** | **verbose**] [**location** *node-id*]

EXEC Mode
show install active [**detail** | **summary** | **verbose**] [**location** *node-id*]

Syntax Description

detail	(Optional) Displays a detailed summary of the active packages for a system, secure domain router (SDR), or node.
summary	(Optional) Displays a summary of the active packages in a system or SDR.
verbose	(Optional) Displays a detailed summary of the active packages for a system, SDR, or node, including component information for each package.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Displays the active packages for a specific SDR. The *sdr-name* argument is the name assigned to the SDR.
location *node-id*	(Optional) Displays the active packages for a designated node. The *node-id* argument is expressed in *rack*/*slot*/*module* notation.

Command Default

None

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

Note This command displays output that is similar to the **show install** command.

Use the **show install active** command to display the active software set for all nodes, or for specific nodes.

Displaying Information for a Specific Node

Use the **location** *node-id* keyword and argument to display information for a specific node. If you do not specify a location with the **location** *node-id* keyword and argument, this command displays information from all nodes.

Summary, Detailed, and Verbose Information

Use the **summary** keyword to display a summary of the active packages in a system or SDR. Use the **detail** keyword to display the active packages for each node in an SDR, or in all SDRs. Use the **verbose** keyword to display additional information, including component and file information for each package.

For Superceded SMUs

The **show install active** command doesnot display superceded SMUs. To get details of the superceded SMUs, use the **show install superceded** command.

The following example illustrates sample output from the **show install active** command with the **location** *node-id* keyword and argument specified:

```
RP/0/RSP0/CPU0:router# show install active location 0/1/cpu0

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.30I/mbiasr9k-lc.vm
    Active Packages:
      disk0:asr9k-adv-video-3.9.0.14I
      disk0:asr9k-fpd-3.9.0.30I
      disk0:asr9k-diags-3.9.0.30I
      disk0:asr9k-k9sec-3.9.0.30I
      disk0:asr9k-mcast-3.9.0.30I
      disk0:asr9k-mpls-3.9.0.30I
      disk0:comp-
asr9k-mini-3.9.0.30I
```

The following example illustrates sample output from the **show install active** command with the **summary** keyword specified:

```
RP/0/RSP0/CPU0:router(admin)# show install active summary

Wed May 26 12:01:27.993 PST
Default Profile:
  Admin Resources
  SDRs:
    Owner
  Active Packages:

    disk0:asr9k-doc-3.9.0.03I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.03I
    disk0:asr9k-diags-3.9.0.03I
    disk0:asr9k-k9sec-3.9.0.03I
    disk0:asr9k-mgbl-3.9.0.03I
    disk0:asr9k-mcast-3.9.0.03I
    disk0:asr9k-mpls-3.9.0.03I
    disk0:comp-
asr9k-mini-3.9.0.03I
```

Table 5: show install active Field Descriptions

Field	Description
Boot Device	Device where the node stores the active software.
Boot Image	Location on the DSC of the active minimum boot image (MBI) used to boot the node.
Active Packages	Active packages loaded on the node.

show install committed

To display committed software packages, use the **show install committed** command in EXEC or administration EXEC mode.

Administration EXEC Mode
show install committed [**detail** | **summary** | **verbose**] [**sdr** *sdr-name* | **location** *node-id*]

EXEC Mode
show install committed [**detail** | **summary** | **verbose**] [**location** *node-id*]

Syntax Description

detail	(Optional) Displays a detailed summary of the committed packages for a system, secure domain router (SDR), or node.
summary	(Optional) Displays a summary of the committed packages in a system or SDR.
verbose	(Optional) Displays a detailed summary of the committed packages for a system, SDR, or node, including component and file information for each package.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Displays the committed packages for a specific SDR. The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.
location *node-id*	(Optional) Displays the committed packages for a designated node. The *node-id* argument is expressed in *rack/slot/module* notation.

Command Default

Displays detailed information for all nodes in the SDR or system.

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

When a software package is activated, it remains active only until the next router reload. To save the active software to be persistent across router reloads, use the **install commit** command.

Use the **show install committed** command to display the packages included in the committed software set. This is useful for verifying that the desired set of packages is committed.

Use the **show install** command to display the committed software packages for all nodes, or for specific nodes.

Displaying Information for a Specific SDR

- To display information for a specific SDR from EXEC or administration EXEC mode, use the **sdr** *sdr-name* keyword and argument.
- To display information for an SDR when logged into that SDR, enter the **show install committed** command in EXEC or administration EXEC mode.

Displaying Information for a Specific Node

Use the **location** *node-id* keyword and argument to display information for a specific node. If you do not specify a location with the **location** *node-id* keyword and argument, this command displays information from all nodes.

Summary, Detailed, and Verbose Information

Use the **summary** keyword to display summary of packages in a system or SDR. Use the **detail** keyword to display the packages for each node in an SDR, or in all SDRs. Use the **verbose** keyword to display additional information, including component and file information for each package.

Task ID

Task ID	Operations
pkg-mgmt	read

The following shows sample output from the **show install committed** command with the **summary** keyword:

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# show install committed summary

Thu May 27 00:06:11.155 DST
  Committed Packages:
    disk0:asr9k-doc-3.9.0.04I
    disk0:asr9k-fpd-3.9.0.04I
    disk0:asr9k-adv-video-3.9.0.04I
    disk0:asr9k-diags-3.9.0.04I
    disk0:asr9k-k9sec-3.9.0.04I
    disk0:asr9k-mgbl-3.9.0.04I
    disk0:asr9k-mcast-3.9.0.04I
    disk0:asr9k-mpls-3.9.0.04I
    disk0:comp-
asr9k-mini-3.9.0.04I
```

The following shows sample output from the command. Enter the **show install committed** command without keywords or arguments to display detailed information for all nodes in the SDR or system:

```
RP/0/RSP0/CPU0:router# show install committed

Tue Jul 28 01:50:32.337 DST
Secure Domain Router: Owner

  Node 0/RSP0/CPU0 [RP] [SDR: Owner]
    Boot Device: disk0:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/mbiasr9k-rp.vm
    Committed Packages:
```

```
    disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.14I
    disk0:asr9k-k9sec-3.9.0.14I
    disk0:asr9k-mgbl-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I

Node 0/1/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
  Committed Packages:
    disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I

Node 0/4/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
  Committed Packages:
    disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I

Node 0/6/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
  Committed Packages:
    disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I
```

Table 6: show install committed Field Descriptions

Field	Description
Boot Image	Location on the DSC of the active minimum boot image (MBI) used to boot the node.
Committed Packages	Active packages committed on the node.

show install inactive

To display the inactive packages on the designated shelf controller (DSC) for one or more secure domain routers (SDRs), use the **show install inactive** command in EXEC or administration EXEC mode.

Administration EXEC Mode
show install inactive [**detail** | **summary** | **verbose**] [**sdr** *sdr-name* | **location** *node-id*]

EXEC Mode
show install inactive [**detail** | **summary** | **verbose**] [**location** *node-id*]

Syntax Description

detail	(Optional) Displays summary and component information for inactive packages.
summary	(Optional) Displays a summary of inactive packages.
verbose	(Optional) Displays summary, component, and file information for inactive packages.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Displays the inactive packages for a the boot device in a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.
location *node-id*	(Optional) Displays the inactive software set from a designated node. The *node-id* argument is expressed in *rack/slot/module* notation.

Command Default

None

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

Use the **show install inactive** command to display the inactive packages for the DSC.

Note Use the **show version**, **show install active**, **or show install committed** command to determine the device used as the boot device.

Enter the command in administration EXEC mode to display information for the DSDRSC in all SDRs.

Displaying Information for a Specific SDR

- To display information for a specific SDR from administration EXEC mode, use the **sdr** *sdr-name* keyword and argument.
- To display information for an SDR when logged into that SDR, enter the command in EXEC mode.

Displaying Information for a Specific Node

Use the **location** *node-id* keyword and argument to display information for a specific node. If you do not specify a location with the **location** *node-id* keyword and argument, this command displays information from all nodes.

Summary, Detailed, and Verbose Information

Use the **summary** keyword to display summary of inactive packages in a system or SDR. Use the **detail** keyword to display the packages for each node in an SDR, or in all SDRs. Use the **verbose** keyword to display additional information, including component and file information for each package.

The following example shows sample output from the **show install inactive** command:

```
RP/0/RP0/CPU0:router# show install inactive

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
      disk0:asr9k-base-3.7.2
      disk0:asr9k-os-mbi-3.7.2

  Node 0/4/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
      disk0:asr9k-base-3.7.2
      disk0:asr9k-os-mbi-3.7.2

  Node 0/6/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
      disk0:asr9k-base-3.7.2
      disk0:asr9k-os-mbi-3.7.2

  Node 0/RSP0/CPU0 [HRP] [SDR: Owner]
```

```
    Boot Device: disk0:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-doc-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mgbl-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
      disk0:asr9k-rout-3.7.2
      disk0:asr9k-base-3.7.2
      disk0:asr9k-os-mbi-3.7.2
```

The following example shows sample output from the **show install inactive** command with the **summary** keyword:

```
RP/0/RSP0/CPU0:router# show install inactive summary

Tue Feb  3 02:09:21.359 PST
  Inactive Packages:
    disk0:comp-asr9k-mini-3.7.2
    disk0:asr9k-infra-test-3.7.2
    disk0:asr9k-fpd-3.7.2
    disk0:asr9k-doc-3.7.2
    disk0:asr9k-diags-3.7.2
    disk0:asr9k-mgbl-3.7.2
    disk0:asr9k-mcast-3.7.2
    disk0:asr9k-mpls-3.7.2
    disk0:asr9k-rout-3.7.2
    disk0:asr9k-base-3.7.2
    disk0:asr9k-os-mbi-3.7.2
```

The following example shows sample output from the **show install inactive** command with the **detail** and **location** keywords:

```
RP/0/RSP0/CPU0:router# show install inactive detail location 0/1/cpu0

Tue Feb  3 02:14:31.299 PST
  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
        disk0:asr9k-lc-3.7.2
        disk0:asr9k-fwdg-3.7.2
        disk0:asr9k-admin-3.7.2
        disk0:asr9k-base-3.7.2
        disk0:asr9k-os-mbi-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
```

Table 7: show install inactive Field Descriptions

Field	Description
disk0:asr9k-mgbl-3.8.0	Storage device and the name of the package that is inactive.
asr9k-mgbl V3.8.0 Manageability Package	Name of the package that is inactive.
Vendor	Name of the manufacturer.
Desc	Name of the package.
Build	The date and time when the inactive package was built.
Source	The source directory where the inactive package was built.

show install package

To display information about a package, use the **show install package** command in EXEC or administration EXEC mode.

show install package {*device*:*package* | **all**} [**brief** | **detail** | **verbose**]

Syntax Description

device **:** *package*	Device and package, expressed in concatenated form (for example, disk0:asr9k-mgbl-3.8.0). For the *device:* argument, the value is a specified storage device, typically **disk0:**.
all	Displays all installed packages on the system or SDR.
brief	(Optional) Displays only the name and version of packages.
detail	(Optional) Displays detailed information including impact to processes and nodes, vendor information, card support, and component information.
verbose	(Optional) Displays the information included in the keyword, plus information about dynamic link libraries (DLLs).

Command Default

None

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

Use the **show install package** command with the **all** keyword to display a list of the packages on the router or SDR.

Use the **show install package** command with the **detail** keyword to display the version of the package, name of the manufacturer, name of the package, date and time when the package was built, and source directory where the package was built.

Use the **show install package** command with the **verbose** keyword to display the same information as the **detail** keyword, plus additional information about DLLs.

Note This command returns the same data in EXEC mode and administration EXEC mode. In EXEC mode, only the information for the current SDR is displayed.

For additional information about the status of installed software packages, use the **show install active** and **show install inactive** commands.

The following sample output from the **show install package** command lists all packages that are available on the router:

```
RP/0/RSP0/CPU0:router(admin)# show install package all

Tue Jul 28 05:02:53.578 DST
disk0:asr9k-fpd-3.9.0.14I

disk0:asr9k-mgbl-3.9.0.14I

disk0:asr9k-mpls-3.9.0.14I

disk0:asr9k-k9sec-3.9.0.14I

disk0:asr9k-mcast-3.9.0.14I

disk0:asr9k-adv-video-3.9.0.14I

disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-scfclient-3.9.0.14I
    disk0:asr9k-diags-3.9.0.14I
    disk0:asr9k-rout-3.9.0.14I
    disk0:asr9k-lc-3.9.0.14I
    disk0:asr9k-fwdg-3.9.0.14I
    disk0:asr9k-admin-3.9.0.14I
    disk0:asr9k-base-3.9.0.14I
    disk0:asr9k-os-mbi-3.9.0.14I
```

The following sample output from the **show install package** command lists all the packages contained in a composite package:

```
RP/0/RSP0/CPU0:router(admin)# show install package disk0:comp-asr9k-mini-3.8.0

Tue Feb  3 04:01:55.015 PST
disk0:comp-asr9k-mini-3.8.0
    disk0:asr9k-rout-3.8.0
    disk0:asr9k-lc-3.8.0
    disk0:asr9k-fwdg-3.8.0
    disk0:asr9k-admin-3.8.0
    disk0:asr9k-base-3.8.0
    disk0:asr9k-os-mbi-3.8.0
```

Table 8: show install package Field Descriptions

Field	Description
disk0:asr9k-rout-3.8.0	Storage device and the name of the package that has been installed.
asr9k-rout V3.8.0 Routing Package	Name of the package.
Vendor	Name of the manufacturer.
Desc	Name of the package.
Build	Date and time the package was built.
Source	Source directory where the package was built.

Field	Description
Card(s)	Card types supported by the package.
Restart information	Restart impact on processes or nodes.
Components in package	Components included in the package.

show fpd package

To display which shared port adapters (SPA) and SPA interface processors (SIPs) are supported with your current Cisco IOS XR software release, which field-programmable device (FPD) image you need for each SPA and SIP, and what the minimum hardware requirements are for the SPA and SIP modules, use the **show fpd package** command in administration EXEC mode.

show fpd package

Syntax Description

This command has no keywords or arguments.

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

If there are multiple FPD images for your card, use the **show fpd package** command to determine which FPD image to use if you only want to upgrade a specific FPD type.

Task ID

Task ID	Operations
sysmgr	read

The following example shows sample output from the **show fpd package** command:

```
show fpd package
Tue Jan 22 13:56:00.212 UTC

================================ ================================================
                                        Field Programmable Device Package
                                 ================================================
                                                  Req     SW      Min Req   Min Req
Card Type            FPD Description              Reload  Ver     SW Ver  Board Ver
================== ========================== ====== ======= ======== =========
--------------------------------------------------------------------------------
NC55-1200W-ACFW      LIT-PriMCU-ACFW(A)           NO      2.09    2.09    0.0
--------------------------------------------------------------------------------
NC55-900W-ACFW-I     LIT-PriMCU-ACFW-I(A)         NO      1.04    1.04    0.0
--------------------------------------------------------------------------------
NC55-900W-DCFW-I     LIT-PriMCU-DCFW-I(A)         NO      2.260   2.260   0.0
--------------------------------------------------------------------------------
NC55-930W-DCFW-C     LIT-PriMCU-DCFW-C(A)         NO      2.259   2.259   0.0
--------------------------------------------------------------------------------
NC55-MPA-12T-S       MPAFPGA                      YES     0.27    0.27    0.0
--------------------------------------------------------------------------------
NC55-MPA-1TH2H-S     -WDM-D-1HL_DCO_2             NO     38.518  38.518   0.1
```

```
                    MPAFPGA                   YES      0.53    0.53    0.0
                    WDM-DE-1HL_DCO_2          NO     38.518  38.518   0.1
                    WDM-DS-1HL_DCO_2          NO     38.268  38.268   0.1
-------------------------------------------------------------------------------
NC55-MPA-2TH-HX-S   -WDM-D-1HL_DCO_0          NO     38.518  38.518   0.1
                    -WDM-D-1HL_DCO_1          NO     38.518  38.518   0.1
                    MPAFPGA                   YES      0.53    0.53    0.0
                    WDM-DE-1HL_DCO_0          NO     38.518  38.518   0.1
                    WDM-DE-1HL_DCO_1          NO     38.518  38.518   0.1
                    WDM-DS-1HL_DCO_0          NO     38.268  38.268   0.1
                    WDM-DS-1HL_DCO_1          NO     38.268  38.268   0.1
-------------------------------------------------------------------------------
NC55-MPA-2TH-S      -WDM-D-1HL_DCO_0          NO     38.518  38.518   0.1
                    -WDM-D-1HL_DCO_1          NO     38.518  38.518   0.1
                    MPAFPGA                   YES      0.53    0.53    0.0
                    WDM-DE-1HL_DCO_0          NO     38.518  38.518   0.1
                    WDM-DE-1HL_DCO_1          NO     38.518  38.518   0.1
                    WDM-DS-1HL_DCO_0          NO     38.268  38.268   0.1
                    WDM-DS-1HL_DCO_1          NO     38.268  38.268   0.1
-------------------------------------------------------------------------------
NC55-MPA-4H-HD-S    MPAFPGA                   YES      0.53    0.53    0.0
-------------------------------------------------------------------------------
NC55-MPA-4H-HX-S    MPAFPGA                   YES      0.53    0.53    0.0
-------------------------------------------------------------------------------
NC55-MPA-4H-S       MPAFPGA                   YES      0.53    0.53    0.0
-------------------------------------------------------------------------------
NC55A2-MOD-SE-H-S   Bootloader(A)             YES      1.11    1.11    0.0
                    CPU-IOFPGA(A)             YES      1.18    1.18    0.1
                    MB-IOFPGA(A)              YES      0.18    0.18    0.1
                    MB-MIFPGA                 YES      0.19    0.19    0.0
                    SATA(A)                   NO       5.00    5.00    0.0
-------------------------------------------------------------------------------
NCS-55A2-MOD-HD-S   Bootloader(A)             YES      1.11    1.11    0.0
                    CPU-IOFPGA(A)             YES      1.18    1.18    0.1
                    MB-IOFPGA(A)              YES      0.18    0.18    0.1
                    MB-MIFPGA                 YES      0.19    0.19    0.0
                    SATA(A)                   NO       5.00    5.00    0.0
-------------------------------------------------------------------------------
NCS-55A2-MOD-HX-S   Bootloader(A)             YES      1.11    1.11    0.0
                    CPU-IOFPGA(A)             YES      1.18    1.18    0.1
                    MB-IOFPGA(A)              YES      0.18    0.18    0.1
                    MB-MIFPGA                 YES      0.19    0.19    0.0
                    SATA(A)                   NO       5.00    5.00    0.0
-------------------------------------------------------------------------------
NCS-55A2-MOD-S      Bootloader(A)             YES      1.11    1.11    0.0
                    CPU-IOFPGA(A)             YES      1.18    1.18    0.1
                    MB-IOFPGA(A)              YES      0.18    0.18    0.1
                    MB-MIFPGA                 YES      0.19    0.19    0.0
                    SATA(A)                   NO       5.00    5.00    0.0
-------------------------------------------------------------------------------
NCS-55A2-MOD-SE-S   Bootloader(A)             YES      1.11    1.11    0.0
                    CPU-IOFPGA(A)             YES      1.18    1.18    0.1
                    MB-IOFPGA(A)              YES      0.18    0.18    0.1
                    MB-MIFPGA                 YES      0.19    0.19    0.0
                    SATA(A)                   NO       5.00    5.00    0.0
                    STATSFPGA                 YES      0.01    0.01    0.0
```

This table describes the significant fields shown in the display:

Table 9: show fpd package Field Descriptions

Field	Description
Card Type	Module part number.
FPD Description	Description of all FPD images available for the line card.
Type	Hardware type. Possible types can be: • spa—Shared port adapter • lc—Line card
Subtype	FPD subtype. These values are used in the **upgrade hw-module fpd** command to indicate a specific FPD image type to upgrade.
SW Version	FPD software version recommended for the associated module running the current Cisco IOS XR software.
Min Req SW Vers	Minimum required FPD image software version to operate the card. Version 0.0 indicates that a minimum required image was not programmed into the card.
Min Req HW Vers	Minimum required hardware version for the associated FPD image. A minimum hardware requirement of version 0.0 indicates that all hardware can support this FPD image version.

Note In the **show fpd package** command output, the "subtype" column shows the FPDs that correspond with each line card image. To upgrade a specific FPD with the **upgrade hw-module fpd** command, replace the *fpga-type* argument with the appropriate FPD from the "subtype" column, as shown in the following example:

```
RP/0/RSP0/CPU0:router(admin)# upgrade hw-module fpd fpga2 location 0/3/1 reload
```

show hw-module fpd

To display field-programmable device (FPD) compatibility for all modules or a specific module, use the **show hw-module fpd** command in the EXEC or administration EXE mode.

show hw-module fpd location {*node-id* | **all**}

Syntax Description

location {*node-id* | **all**}	Specifies the location of the module. The *node-id* argument is expressed in the *rack*/*slot*/*module* notation. Use the **all** keyword to indicate all nodes.

Command Default

No default behavior or values

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.
Release 3.9.0	Support was added for the 2-port channelized OC-12/DS0 SPA.
Release 4.3.2	Support for Back-plane identification (BPID) nodes.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operations
sysmgr	read
root-lr	read

The following example shows how to display FPD compatibility for all modules in the router:

```
RP/0/RSP0/CPU0:router# ios#show hw-module fpd
Tue Jan 22 13:56:55.082 UTC
                                                                    FPD Versions
                                                                    ================
Location   Card type        HWver FPD device       ATR Status   Running Programd
-----------------------------------------------------------------------------
0/RP0      NCS-55A2-MOD-S    0.3   MB-MIFPGA            CURRENT    0.19    0.19
0/RP0      NCS-55A2-MOD-S    0.3   Bootloader           CURRENT    1.10    1.10
0/RP0      NCS-55A2-MOD-S    0.3   CPU-IOFPGA           CURRENT    1.18    1.18
0/RP0      NCS-55A2-MOD-S    0.3   MB-IOFPGA            CURRENT    0.18    0.18
0/PM0      NC55-1200W-ACFW   1.0   LIT-PriMCU-ACFW      NEED UPGD  2.08    2.08
0/PM1      NC55-1200W-ACFW   1.0   LIT-PriMCU-ACFW      NEED UPGD  2.08    2.08
RP/0/RP0/CPU0:ios#.
```

Note After Release 5.3.x, Upg/Dng? will display Yes only for upgrade.

The following example shows the FPD for which upgrage will be skipped.

```
RP/0/RSP1/CPU0:router# show hw-module fpd location all

Mon Jun 29 05:38:50.332 PST

==================================== ========================================
                                     Existing Field Programmable Devices
                                     ========================================
                                       HW                          Current SW Upg/
Location     Card Type               Version Type Subtype Inst   Version    Dng?
============ ======================= ======= ==== ======= ==== =========== ====
0/RSP0/CPU0  A9K-RSP-4G                4.8   lc   fpga3   0       1.13     No
                                             lc   fpga1   0       1.5      No
                                             lc   fpga2   0       1.14     No
                                             lc   cbc     0       1.2      No
                                             lc   fpga4   0       1.6      No
                                             lc   rommon  0       1.0      No
-------------------------------------------------------------------------------
0/RSP0/CPU0  ASR-9010-FAN              1.0   lc   cbc     1       4.0      No
-------------------------------------------------------------------------------
0/RSP0/CPU0  ASR-9010-FAN              1.0   lc   cbc     2       4.0      No
-------------------------------------------------------------------------------
0/1/CPU0     A9K-40GE-B                1.0   lc   fpga1   0       0.38     No
                                             lc   fpga2   0       0.8      No
                                             lc   cbc     0       2.2      No
                                             lc   cpld1   0       0.15     No
                                             lc   rommon  0       1.0      No
-------------------------------------------------------------------------------
0/1/CPU0     A9K-40GE-B                1.0   lc   fpga1   1       0.38     No
-------------------------------------------------------------------------------
0/4/CPU0     A9K-8T/4-B                1.0   lc   fpga1   0       0.38     No
                                             lc   fpga2   0       0.10     No
                                             lc   cbc     0       2.2      No
                                             lc   cpld2   0       0.7      No
                                             lc   cpld1   0       0.15     No
                                             lc   cpld3   0       0.3      No
                                             lc   rommon  0       1.0      No
                                             lc   fpga3   0      14.42     No
-------------------------------------------------------------------------------
0/4/CPU0     A9K-8T/4-B                1.0   lc   fpga1   1       0.38     No
-------------------------------------------------------------------------------
0/6/CPU0     A9K-4T-B                  1.0   lc   fpga1   0       0.38     No
                                             lc   fpga2   0       0.10     No
                                             lc   cbc     0       2.2      No
                                             lc   cpld2   0       0.7      No
                                             lc   cpld1   0       0.15     No
                                             lc   cpld3   0       0.3      No
                                             lc   rommon  0       1.0      No
                                             lc   fpga3   0      14.42     No
-------------------------------------------------------------------------------
0/6/CPU0     A9K-4T-B                  1.0   lc   fpga1   1       0.38     No
-------------------------------------------------------------------------------
```

The following example shows how to display FPD compatibility for a specific module in the router:

Table 10: show hw-module fpd Field Descriptions

Field	Description
Location	Location of the module in the *rack*/*slot*/*module* notation.
Card Type	Module part number.
HW Version	Hardware model version for the module.
Type	Hardware type. Can be one of the following types: • spa—Shared port adapter • lc—Line card
Subtype	FPD type. Can be one of the following types: • fabldr—Fabric downloader • fpga1—Field-programmable gate array • fpga2—Field-programmable gate array 2 • fpga3—Field-programmable gate array 3 • fpga4—Field-programmable gate array 4 • fpga5—Field-programmable gate array 5 • rommonA—Read-only memory monitor A • rommon—Read-only memory monitor B
Inst	FPD instance. The FPD instance uniquely identifies an FPD and is used by the FPD process to register an FPD.
Current SW Version	Currently running FPD image version.
Upg/Dng?	Specifies whether an FPD upgrade or downgrade is required. A downgrade is required in rare cases when the version of the FPD image has a higher major revision than the version of the FPD image in the current Cisco IOS XR software package.

show interfaces (frame relay)

To display statistics about Frame Relay interfaces, use the **show interfaces** command in EXEC mode.

show interfaces [**summary** | [*type interface-path-id*] [**brief** | **description** | **detail** | **accounting** [**rates**]]] [**location** *node-id*]

Syntax Description

summary	(Optional) Displays a summary of interface information by interface type.
type	(Optional) Interface type. For more information, use the question mark (**?**) online help function.
interface-path-id	(Optional) Physical interface or virtual interface. **Note** Use the **show interfaces** command to see a list of all interfaces currently configured on the router. For more information about the syntax for the router, use the question mark (**?**) online help function.
brief	(Optional) Displays brief information about each interface (one line per interface).
description	(Optional) Displays an interface description.
detail	(Optional) Displays detailed information about each interface. This is the default.
accounting	(Optional) Displays the number of packets of each protocol type that have been sent through the interface.
rates	(Optional) Displays interface accounting rates.
location *node-id*	(Optional) Displays information about all interfaces on the specified node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

EXEC mode

Command History

Release	Modification
Release 4.0.0	This command was introduced

Usage Guidelines

The **show interfaces** (Frame Relay) command is available on Packet-over-SONET/SDH (POS), serial, and multilink interfaces.

Task ID

Task ID	Operations
fr	read, write

Examples

The following example shows the output from the **show interfaces** command when the interface is configured with Frame Relay encapsulation:

```
RP/0/RSP0/CPU0:router# show interfaces pos 0/1/0/0

POS0/1/0/0 is up, line protocol is up
  Hardware is Packet over SONET/SDH
  Internet address is Unknown
  MTU 4474 bytes, BW 622080 Kbit
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation FRAME-RELAY, crc 32, controller loopback not set,
  LMI enq sent  0, LMI stat recvd 0, LMI upd recvd 0
  LMI enq recvd 9463, LMI stat sent  9463, LMI upd sent  0, DCE LMI up
  LMI DLCI 0  LMI type is ANSI Annex D  frame relay DCE
  Last clearing of "show interface" counters never
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     20934 packets input, 1508069 bytes, 1151 total input drops
     0 drops for unrecognized upper-level protocol
     Received 0 broadcast packets, 0 multicast packets
              0 runts, 0 giants, 0 throttles, 0 parity
     1151 input errors, 1058 CRC, 0 frame, 0 overrun, 93 ignored, 0 abort
     19590 packets output, 990924 bytes, 0 total output drops
     Output 0 broadcast packets, 0 multicast packets
     0 output errors, 0 underruns, 0 applique, 0 resets
     0 output buffer failures, 0 output buffers swapped out
```

Table 11: show interfaces Field Descriptions

Field	Description
Interface name	Displays the name of the current interface. In the example, the interface name is POS0/1/0/0.
Interface state	Displays the state of the interface. In the example, the interface is in the administratively up state.
Line protocol state	Displays the state of the Layer 2 line protocol. This field may be different from the interface state if, for example, a keepalive failure has brought down the Layer 2. **Note** The line protocol state is not the same as the protocol state displayed in the **show ip interfaces** command, because it is the state of Layer 2 (media) rather than Layer 3 (IP protocol).
Hardware	Displays the current hardware type.

Field	Description
Internet address is *n.n.n.n/n*	Displays the Layer 2 address (MAC address for Ethernet interfaces). **Note** Enter the **mac-address** command to configure the hardware address.
MTU	Displays the maximum transmission unit (MTU) for the interface. The MTU is the maximum packet size that can be transmitted over the interface. **Note** The MTU field indicates the interface MTU. Enter the **mtu** command to configure a lower MTU value at the layer 3 level.
BW	Displays the bandwidth of the interface in kbps.
reliability	Displays the proportion of packets that are not dropped and do not have errors. **Note** The reliability is shown as a fraction of 255.
txload	Indicates the traffic flowing out of the interface as a proportion of the bandwidth. **Note** The txload is shown as a fraction of 255.
rxload	Indicates the traffic flowing into the interface as a proportion of the bandwidth. **Note** The rxload is shown as a fraction of 255.
Encapsulation	Layer 2 encapsulation installed on the interface.
CRC	Indicates the length of the cyclic redundancy check (CRC), in bytes. **Note** Enter the **pos crc** command to configure the CRC.
controller loopback	Indicates that the hardware was configured as controller loopback.
LMI enq sent	Number of LMI enquiry messages sent.
LMI stat recvd	Number of LMI status messages received.
LMI upd recvd	Number of LMI updated messages received.
LMI enq recvd	Number of LMI enquiry messages received.
LMI stat sent	Number of LMI status messages sent.
LMI upd sent	Number of LMI updated messages sent.
DCE LMI	Displays the state of the DCE LMI.
LMI DLCI	Displays the LMI DLCI identifier.

Field	Description
LMI type	Displays the LMI type.
Last clearing	Time at which the counters that measure cumulative statistics (such as number of bytes transmitted and received) shown in this report were last reset to zero. Note that variables that might affect routing for example, load and reliability) are not cleared when the counters are cleared.
5 minute input rate5 minute output rate	Average number of bits and packets transmitted per second in the last 5 minutes. The 5-minute input and output rates should be used only as an approximation of traffic per second during a given 5-minute period. These rates are exponentially weighted averages with a time constant of 5 minutes. A period of four time constants must pass before the average is within two percent of the instantaneous rate of a uniform stream of traffic over that period.
packets input	Total number of error-free packets received by the system.
bytes	Total number of bytes, including data and MAC encapsulation, in the error-free packets received by the system.
Received...broadcasts	Total number of broadcast or multicast packets received by the interface
runts	Number of packets that are discarded because they are smaller than the minimum packet size of the medium.
giants	Number of packets that are discarded because they exceed the maximum packet size of the medium
input errors	Total number of no buffer, runts, giants, CRCs, frame, overrun, ignored, and terminated counts. Other input-related errors can also increment the count, so that this sum might not balance with the other counts.
CRC	Cyclic redundancy checksum generated by the originating station or far-end device does not match the checksum calculated from the data received. On a serial link, CRCs usually indicate noise, gain hits, or other transmission problems on the data link.
frame	Number of packets received incorrectly having a CRC error and a noninteger number of octets. On a serial line, this is usually the result of noise or other transmission problems.
overrun	Number of times the serial receiver hardware was unable to hand received data to a hardware buffer because the input rate exceeded the receiver's ability to handle the data.
ignored	Number of received packets ignored by the interface because the interface hardware ran low on internal buffers. Broadcast storms and bursts of noise can cause the ignored count to be increased.
abort	Illegal sequence of one bits on a serial interface. This usually indicates a clocking problem between the serial interface and the data link equipment.

Field	Description
carrier transitions	Number of times the carrier detect signal of a serial interface has changed state. For example, if data carrier detect (DCD) goes down and comes up, the carrier transition counter will increment two times. Indicates modem or line problems if the carrier detect line is changing state often.

show inventory (Cisco IOS XR 64-bit)

To retrieve and display information about all the Cisco products that are installed in the router, use the **showinventory** command in EXEC or System Admin EXEC mode.

EXEC Mode
show inventory [*node-id* | **all** | **location** { *node-id* | **all** } | **raw**]

System Admin EXEC Mode
show inventory [**all** | **chassis** | **fan** | **location** { *node-id* } | **power** | **raw**]

Syntax Description

node-id	(Optional) Location for which to display the specified information. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Displays inventory information for all the physical entities in the chassis.
location	(Optional) Displays inventory information for a specific node or for all nodes in the chassis.
raw	(Optional) Displays raw information about the chassis for diagnostic purposes.
chassis	(Optional) Displays inventory information for the entire chassis.
fans	(Optional) Displays inventory information for the fans.
power	(Optional) Displays inventory information for the power supply.

Command Default

All inventory information for the entire chassis is displayed.

Command Modes

EXEC

System Admin EXEC mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

This command is supported on Cisco IOS XR 64-bit software.

If a Cisco entity is not assigned a product ID (PID), that entity is not retrieved or displayed.

Enter the **show inventory** command with the **raw** keyword to display every RFC 2737 entity installed in the router, including those without a PID, unique device identifier (UDI), or other physical identification.

Note The **raw** keyword is primarily intended for troubleshooting problems with the **show inventory** command itself.

If any of the Cisco products do not have an assigned PID, the output displays incorrect PIDs, and version ID (VID) and serial number (SN) elements may be missing.

For UDI compliance products, the PID, VID, and SN are stored in EEPROM and NVRAM. Use the **show inventory** command to display this information.

Task ID

Task ID	Operations
sysmgr	read

The following example shows partial sample output from the **show inventory** command in EXEC mode:

```
RP/0/RSP0/CPU0:ASR-9906-C-LS#show inventory

Wed Mar 29 11:46:26.707 UTC
NAME: "0/RSP0", DESCR: "ASR 9000 Route Switch Processor 5 for Service Edge 40G"
PID: A9K-RSP5-SE       , VID: V01, SN: FOC2246NLGP

NAME: "0/1", DESCR: "ASR 9000 16-port 100GE TR linecard"
PID: A9K-16X100GE-TR   , VID: V01, SN: FOC2249PA5Z

NAME: "HundredGigE0/1/0/14", DESCR: "100GE-SR4-S QSFP Module"
PID: QSFP-100G-SR4-S   , VID: V02, SN: AVF2212S1FV

NAME: "HundredGigE0/1/0/15", DESCR: "100GE-SR4-S QSFP Module"
PID: QSFP-100G-SR4-S   , VID: V03, SN: INL23120234

NAME: "0/2", DESCR: "48X10G/1G Packet Transport Optimized LC"
PID: A9K-48X10GE-1G-TR , VID: V01, SN: FOC2106NT5R

NAME: "TenGigE0/2/0/7", DESCR: "10GBASE-SR SFP Module, Enterprise-Class"
PID: SFP-10G-SR-S      , VID: V01, SN: AVD2206D0YL

NAME: "TenGigE0/2/0/9", DESCR: "10GBASE-SR SFP Module, Enterprise-Class"
PID: SFP-10G-SR-S      , VID: V01, SN: AVD1912DJMD

NAME: "TenGigE0/2/0/10", DESCR: "10GBASE-SR SFP+ Module for MMF"
PID: SFP-10G-SR        , VID: V03, SN: AVD233691HD

NAME: "TenGigE0/2/0/11", DESCR: "10GBASE-LR SFP+ Module for SMF"
PID: SFP-10G-LR        , VID: V02, SN: SPC182007JY

NAME: "TenGigE0/2/0/12", DESCR: "10GBASE-SR SFP Module, Enterprise-Class"
PID: SFP-10G-SR-S      , VID: V01, SN: ACW223506YD

NAME: "TenGigE0/2/0/13", DESCR: "10GBASE-LR SFP Module, Enterprise-Class"
PID: SFP-10G-LR-S      , VID: V01, SN: AVD2002T02B

NAME: "TenGigE0/2/0/14", DESCR: "10GBASE-LR SFP+ Module for SMF"
PID: SFP-10G-LR        , VID: V02, SN: ACW24151C0F

NAME: "TenGigE0/2/0/15", DESCR: "10GBASE-LR SFP+ Module for SMF"
PID: SFP-10G-LR        , VID: V02, SN: AVD1951R1NG

NAME: "TenGigE0/2/0/17", DESCR: "10GBASE-LR SFP Module, Enterprise-Class"
PID: SFP-10G-LR-S      , VID: V01, SN: AVD2303K0FU

NAME: "TenGigE0/2/0/18", DESCR: "10GBASE-LR SFP Module, Enterprise-Class"
PID: SFP-10G-LR-S      , VID: V01, SN: FNS223007XW

NAME: "TenGigE0/2/0/20", DESCR: "10GBASE-SR SFP+ Module for MMF"
PID: SFP-10G-SR        , VID: V03, SN: AVD1905A4SP
```

```
NAME: "TenGigE0/2/0/21", DESCR: "10GBASE-SR SFP+ Module for MMF"
PID: SFP-10G-SR        , VID: V02, SN: AGD14063DAL

NAME: "TenGigE0/2/0/22", DESCR: "10GBASE-SR SFP+ Module for MMF"
PID: SFP-10G-SR        , VID: V03, SN: FNS172421U9

NAME: "TenGigE0/2/0/38", DESCR: "10GBASE-SR SFP+ Module for MMF"
PID: SFP-10G-SR        , VID: V03, SN: OPM22320KUR

NAME: "0/FC0", DESCR: "ASR 9906 Switch Fabric Card 3"
PID: A99-SFC3-T        , VID: V01, SN: FOC2242N2MJ

NAME: "0/FC2", DESCR: "ASR 9906 Switch Fabric Card 3"
PID: A99-SFC3-T        , VID: V01, SN: FOC2245N5W6

NAME: "0/FC4", DESCR: "ASR 9906 Switch Fabric Card 3"
PID: A99-SFC3-T        , VID: V01, SN: FOC2245N5UD

NAME: "Rack 0", DESCR: "ASR 9906 4 Line Card Slot Chassis"
PID: ASR-9906          , VID: V01, SN: FOX2434P3J4

NAME: "0/FT0", DESCR: "ASR 9906 Fan Tray"
PID: ASR-9906-FAN      , VID: V01, SN: FOC2323NBSM

NAME: "0/FT1", DESCR: "ASR 9906 Fan Tray"
PID: ASR-9906-FAN      , VID: V01, SN: FOC2323NBSF

NAME: "0/PT0", DESCR: "Simulated Power Tray IDPROM"
PID: A9K-AC-PEM-V3     , VID: V03, SN: FOT1981P81A

NAME: "0/PT0-PM0", DESCR: "6kW AC Power Module"
PID: PWR-6KW-AC-V3     , VID: V02, SN: DTM2013002M

NAME: "0/PT0-PM1", DESCR: "6kW AC Power Module"
PID: PWR-6KW-AC-V3     , VID: V02, SN: DTM19270369

NAME: "0/PT0-PM2", DESCR: "6kW AC Power Module"
PID: PWR-6KW-AC-V3     , VID: V02, SN: DTM1927035H
```

The following example shows partial sample output from the **show inventory** command in System Admin EXEC mode:

```
sysadmin-vm:0_RSP0#show inventory

Wed Mar  29 11:46:49.238 UTC+00:00

 Name: Rack 0               Descr: ASR 9906 4 Line Card Slot Chassis

 PID: ASR-9906              VID: V01                  SN: FOX2434P3J4

 Name: 0/1                  Descr: ASR 9000 16-port 100GE TR linecard

 PID: A9K-16X100GE-TR       VID: V01                  SN: FOC2249PA5Z

 Name: 0/2                  Descr: 48X10G/1G Packet Transport Optimized LC

 PID: A9K-48X10GE-1G-TR     VID: V01                  SN: FOC2106NT5R

 Name: 0/RSP0               Descr: ASR 9000 Route Switch Processor 5 for Service Edge 40G

 PID: A9K-RSP5-SE           VID: V01                  SN: FOC2246NLGP

 Name: 0/FC0                Descr: ASR 9906 Switch Fabric Card 3
```

```
PID: A99-SFC3-T            VID: V01                  SN: FOC2242N2MJ

Name: 0/FC2                Descr: ASR 9906 Switch Fabric Card 3

PID: A99-SFC3-T            VID: V01                  SN: FOC2245N5W6

Name: 0/FC4                Descr: ASR 9906 Switch Fabric Card 3

PID: A99-SFC3-T            VID: V01                  SN: FOC2245N5UD

Name: 0/FT0                Descr: ASR 9906 Fan Tray

PID: ASR-9906-FAN          VID: V01                  SN: FOC2323NBSM

Name: 0/FT1                Descr: ASR 9906 Fan Tray

PID: ASR-9906-FAN          VID: V01                  SN: FOC2323NBSF

Name: 0/PT0                Descr: Simulated Power Tray IDPROM

PID: A9K-AC-PEM-V3         VID: V03                  SN: FOT1981P81A

Name: 0/PT0-PM0            Descr: 6kW AC Power Module

PID: PWR-6KW-AC-V3         VID: V02                  SN: DTM2013002M

Name: 0/PT0-PM1            Descr: 6kW AC Power Module

PID: PWR-6KW-AC-V3         VID: V02                  SN: DTM19270369

Name: 0/PT0-PM2            Descr: 6kW AC Power Module

PID: PWR-6KW-AC-V3         VID: V02                  SN: DTM1927035H
```

show ipv4 interface

To display the usability status of interfaces configured for IPv4, use the **show ipv4 interface** command in the EXEC mode.

show ipv4 [**vrf** *vrf-name*] **interface** [*type interface-path-id* | **brief** | **summary**]

Syntax Description

vrf	(Optional) Displays VPN routing and forwarding (VRF) instance information.
vrf-name	(Optional) Name of a VRF.
type	Interface type. For more information, use the question mark (?) online help function.

interface-path-id	Either a physical interface instance or a virtual interface instance as follows:
	• Physical interface instance. Naming notation is *rack/slot/module/port* and a slash between values is required as part of the notation.
	  • *rack*: Chassis number of the rack.
	  • *slot*: Physical slot number of the modular services card or line card.
	  • *module*: Module number. A physical layer interface module (PLIM) is always 0.
	  • *port*: Physical port number of the interface.
	Note In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RSP0) and the module is CPU0. Example: interface MgmtEth0/RSP0 /CPU0/0.
	• Virtual interface instance. Number range varies depending on interface type.
	For more information about the syntax for the router, use the question mark (?) online help function.

brief	(Optional) Displays the primary IPv4 addresses configured on the router's interfaces and their protocol and line states.
summary	(Optional) Displays the number of interfaces on the router that are assigned, unassigned, or unnumbered.

Command Default

If VRF is not specified, the software displays the default VRF.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.7.2	This command was introduced.
Release 4.2.0	This command was supported for BNG.

Usage Guidelines

The **show ipv4 interface** command provides output similar to the **show ipv6 interface** command, except that it is IPv4-specific.

The interface name will be displayed only if the name belongs to the VRF instance. If the *vrf-name* is not specified then the interface instance will be displayed only if the interface belongs to the default VRF.

Task ID

Task ID	Operations
ipv4	read
network	read

Examples

This is the sample output of the **show ipv4 interface** command:

```
RP/0/RSP0/CPU0:router# show ipv4 interface

Loopback0 is Up, line protocol is Up
  Internet address is 10
.0.0.1/8

  Secondary address 10.0.0.2/8
  MTU is 1514 (1514 is available to IP)
  Multicast reserved groups joined: 10.0.0.1
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  ICMP redirects are always sent
  ICMP unreachables are always sent
gigabitethernet0/0/0/0 is Up, line protocol is Up
  Internet address is 10.25.58.1/16
  MTU is 1514 (1500 is available to IP)
  Multicast reserved groups joined: 10.0.224.1
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
  ICMP redirects are always sent
  ICMP unreachables are always sent
gigabitethernet0/0/0/0 is Shutdown, line protocol is Down
  Vrf is default (vrfid 0x60000000)
  Internet protocol processing disabled
```

This table describes the significant fields shown in the display.

Table 12: show ipv4 interface Command Field Descriptions

Field	Description
Loopback0 is Up	If the interface hardware is usable, the interface is marked “Up.” For an interface to be usable, both the interface hardware and line protocol must be up.
line protocol is Up	If the interface can provide two-way communication, the line protocol is marked “Up.” For an interface to be usable, both the interface hardware and line protocol must be up.

Field	Description
Internet address	IPv4 Internet address and subnet mask of the interface.
Secondary address	Displays a secondary address, if one has been set.
MTU	Displays the IPv4 MTU[3] value set on the interface.
Multicast reserved groups joined	Indicates the multicast groups this interface belongs to.
Directed broadcast forwarding	Indicates whether directed broadcast forwarding is enabled or disabled.
Outgoing access list	Indicates whether the interface has an outgoing access list set.
Inbound access list	Indicates whether the interface has an incoming access list set.
Proxy ARP	Indicates whether proxy ARP[4] is enabled or disabled on an interface.
ICMP redirects	Specifies whether ICMPv4[5] redirects are sent on this interface.
ICMP unreachables	Specifies whether unreachable messages are sent on this interface.
Internet protocol processing disabled	Indicates an IPv4 address has not been configured on the interface.

[3] MTU = maximum transmission unit
[4] ARP = Address Resolution Protocoladdress resolution protocol
[5] ICMPv4 = Internet Control Message Protocol internet control message protocol version 4

show ipv6 interface

To display the usability status of interfaces configured for IPv6, use the **show ipv6 interface** command in the EXEC mode.

show ipv6 [**vrf** *vrf-name*] **interface** [**summary** | [*type interface-path-id*][**brief** [**link-local** | **global**]]]

Syntax Description

vrf	(Optional) Displays VPN routing and forwarding (VRF) instance information.
vrf-name	(Optional) Name of a VRF.
type	(Optional) Interface type. For more information, use the question mark (?) online help function.
interface-path-id	(Optional) Either a physical interface instance or a virtual interface instance as follows: • Physical interface instance. Naming notation is *rack/slot/module/port* and a slash between values is required as part of the notation. • *rack*: Chassis number of the rack. • *slot*: Physical slot number of the modular services card or line card. • *module*: Module number. A physical layer interface module (PLIM) is always 0. • *port*: Physical port number of the interface. **Note** In references to a Management Ethernet interface located on a route processor card, the physical slot number is alphanumeric (RSP0) and the module is CPU0. Example: interface MgmtEth0/RSP0 /CPU0/0. • Virtual interface instance. Number range varies depending on interface type. For more information about the syntax for the router, use the question mark (?) online help function.
brief	(Optional) Displays the primary IPv6 addresses configured on the router interfaces and their protocol and line states.
link-local	(Optional) Displays the link local IPv6 address.
global	(Optional) Displays the global IPv6 address.
summary	(Optional) Displays the number of interfaces on the router that are assigned, unassigned, or unnumbered.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.7.2	This command was introduced.
Release 4.3.0	This command was supported for BNG.
Release 5.1.2	The **link-local** and **global** keywords were added to the command.

Usage Guidelines

The **show ipv6 interface** command provides output similar to the **show ipv4 interface** command, except that it is IPv6-specific.

Use the **link-local** or **global** keywords along with the **brief** keyword to view the link local or global IPv6 addresses.

Task ID

Task ID	Operations
ipv6	read

Examples

This is the sample output of the **show ipv6 interface** command:

```
RP/0/RSP0/CPU0:router# show ipv6 interface

GigabitEthernet0/2/0/0 is Up, line protocol is Up, Vrfid is default (0x60000000)
  IPv6 is enabled, link-local address is fe80::212:daff:fe62:c150
  Global unicast address(es):
    202::1, subnet is 202::/64
  Joined group address(es): ff02::1:ff00:1 ff02::1:ff62:c150 ff02::2
      ff02::1
  MTU is 1514 (1500 is available to IPv6)
  ICMP redirects are disabled
  ICMP unreachables are enabled
  ND DAD is enabled, number of DAD attempts 1
  ND reachable time is 0 milliseconds
  ND advertised retransmit interval is 0 milliseconds
  ND router advertisements are sent every 200 seconds
  ND router advertisements live for 1800 seconds
  Hosts use stateless autoconfig for addresses.
  Outgoing access list is not set
  Inbound  access list is not set
```

This table describes the significant fields shown in the display.

Table 13: show ipv6 interface Command Field Descriptions

Field	Description
GigabitEthernet0 /3/0/0 is Shutdown, line protocol is Down	Indicates whether the interface hardware is currently active (whether line signal is present) and whether it has been taken down by an administrator. If the interface hardware is usable, the interface is marked “Up.” For an interface to be usable, both the interface hardware and line protocol must be up.

Field	Description
line protocol is Up (or down)	Indicates whether the software processes that handle the line protocol consider the line usable (that is, whether keepalives are successful). If the interface can provide two-way communication, the line protocol is marked "Up." For an interface to be usable, both the interface hardware and line protocol must be up.
IPv6 is enabled, stalled, disabled (stalled and disabled are not shown in sample output)	Indicates that IPv6 is enabled, stalled, or disabled on the interface. If IPv6 is enabled, the interface is marked "enabled." If duplicate address detection processing identified the link-local address of the interface as being a duplicate address, the processing of IPv6 packets is disabled on the interface and the interface is marked "stalled." If IPv6 is not enabled, the interface is marked "disabled."
link-local address	Displays the link-local address assigned to the interface.
TENTATIVE	The state of the address in relation to duplicate address detection. States can be any of the following: • duplicate—The address is not unique and is not being used. If the duplicate address is the link-local address of an interface, the processing of IPv6 packets is disabled on that interface. • tentative—Duplicate address detection is either pending or under way on this interface. **Note** If an address does not have one of these states (the state for the address is blank), the address is unique and is being used.
Global unicast addresses	Displays the global unicast addresses assigned to the interface.
ICMP redirects	State of Internet Control Message Protocol (ICMP) IPv6 redirect messages on the interface (the sending of the messages is enabled or disabled).
ND DAD	State of duplicate address detection on the interface (enabled or disabled).
number of DAD attempts	Number of consecutive neighbor solicitation messages that are sent on the interface while duplicate address detection is performed.
ND reachable time	Displays the neighbor discovery reachable time (in milliseconds) assigned to this interface.

This is the sample output of the **show ipv6 interface brief link-local** command:

```
RP/0/RSP0/CPU0:router#show ipv6 interface brief link-local

Interface                  IPv6-Address                  Status     Protocol
GigabitEthernet0/0/0/0     fe80::fe:8ff:fecb:26c5        Up         Up
GigabitEthernet0/0/0/1     fe80::4f:88ff:fea0:8c9d       Up         Up
GigabitEthernet0/0/0/3     unassigned                    Shutdown   Down
GigabitEthernet0/0/0/4     unassigned                    Shutdown   Down
```

This is the sample output of the **show ipv6 interface brief global** command:

```
RP/0/RSP0/CPU0:router#show ipv6 interface brief global

Interface                  IPv6-Address                  Status     Protocol
GigabitEthernet0/0/0/0     2001:db8::1                   Up         Up
GigabitEthernet0/0/0/1     2001:db8::2                   Up         Up
GigabitEthernet0/0/0/3     unassigned                    Shutdown   Down
GigabitEthernet0/0/0/4     unassigned                    Shutdown   Down
```

This is the sample output of the **show ipv6 interface** *type interface-path-id* **brief link-local** command:

```
RP/0/RSP0/CPU0:router#show ipv6 interface gigabitEthernet 0/0/0/0 brief link-local

Interface                  IPv6-Address                  Status     Protocol
GigabitEthernet0/0/0/0     fe80::fe:8ff:fecb:26c5        Up         Up
```

This is the sample output of the **show ipv6 interface** *type interface-path-id* **brief global** command:

```
RP/0/RSP0/CPU0:router#show ipv6 interface gigabitEthernet 0/0/0/0 brief global

Interface                  IPv6-Address                  Status     Protocol
GigabitEthernet0/0/0/0     2001:db8::1                   Up         Up
```

This is the sample output of the **show ipv6 vrf** *vrf-name* **interface brief link-local** command:

```
RP/0/RSP0/CPU0:router#show ipv6 vrf vrf1 interface brief link-local

Interface                  IPv6-Address                  Status     Protocol
GigabitEthernet0/0/0/2     fe80::46:c8ff:fe22:daae       Up         Up
```

This is the sample output of the **show ipv6 vrf** *vrf-name* **interface brief global** command:

```
RP/0/RSP0/CPU0:router#show ipv6 vrf vrf1 interface brief global

Interface                  IPv6-Address                  Status     Protocol
GigabitEthernet0/0/0/2     2001:db8::2                   Up         Up
```

This is the sample output of the **show ipv6 vrf** *vrf-name* **interface** *type interface-path-id* **brief link-local** command:

```
RP/0/RSP0/CPU0:router#show ipv6 vrf vrf1 interface gigabitEthernet 0/0/0/2 brief link-local

Interface                  IPv6-Address                  Status     Protocol
GigabitEthernet0/0/0/2     fe80::46:c8ff:fe22:daae       Up         Up
```

This is the sample output of the **show ipv6 vrf** *vrf-name* **interface** *type interface-path-id* **brief global** command:

```
RP/0/RSP0/CPU0:router#show ipv6 vrf vrf1 interface gigabitEthernet 0/0/0/2 brief global

Interface                  IPv6-Address                  Status     Protocol
GigabitEthernet0/0/0/2     2001:db8::2                  Up         Up
```

Related Commands

Command	Description
show ipv4 interface , on page 42	Displays the usability status of interfaces configured for IPv4.

show install boot-options

To display the boot options set for a specified location or for all locations, use the **show install boot-options** command in administration EXEC mode or EXEC mode.

show install boot-options [**location** *node-id* | **all**]

Syntax Description

location {*node-id* | **all**}	(Optional) Specifies a node. The *node-id* argument is expressed in *rack/slot/module* notation. The **all** keyword specifies all nodes.

Command Default

If no location is specified, the **show install boot-options** command displays boot options for all locations.

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Use the **show install boot-options** command to display boot options that were set using the **install boot-options** command.

Task ID

Task ID	Operations
pkg-mgmt	read

The following example shows how to display the boot options for all locations:

```
RP/0/RSP0/CPU0:router# show install boot-options

Thu Jul 30 05:00:30.652 DST
Node                              Boot Options
----------------------------------+-------------------
0/RSP0/CPU0                       no boot options set.
0/1/CPU0                          no boot options set.
0/4/CPU0                          no boot options set.
0/6/CPU0                          no boot options set.
```

show running-config

To display the contents of the currently running configuration or a subset of that configuration, use the **show running-config** command in the appropriate mode.

show running-config [[**exclude**] *command*] [**sanitized**]

Syntax Description

exclude	(Optional) Excludes a specific configuration from the display.
command	(Optional) Command for which to display the configuration.
sanitized	(Optional) Displays a sanitized configuration for safe distribution and analysis.

Command Default

The **show running-config** command without any arguments or keywords displays the entire contents of the running configuration file.

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

You can display either the entire running configuration, or a subset of the running configuration. The subset may be all the commands within a specified command mode.

Note In Cisco IOS XR software, the running configuration is automatically used at system startup, reset, or power cycle. The running configuration is the committed configuration.

Sanitized Output

Use the **show running-config** command with the **sanitized** keyword to display the contents of the active running configuration without installation-specific parameters. Some configuration details, such as IP addresses, are replaced with different addresses. The sanitized configuration can be used to share a configuration without exposing the configuration details.

Command Modes

When the **show running-config** command is entered in administration configuration mode, the configuration for the administration plane is displayed, including the configured logical routers for the system. When the **show running-config** command is entered in any global configuration mode, or in EXEC mode, the configuration for the specific secure domain router (SDR) is displayed.

The **inheritance** and **no-annotations** keywords are not supported in administration EXEC or configuration modes.

Excluding Parts of the Display

Use the **exclude** keyword followed by a *command* argument to exclude a specific configuration from the display.

Task ID

Task ID	Operations
config-services	read

This example shows how to enter the **show running-config** command with the question mark (?) online help function to display the available subsets of the running configuration that can be entered to display a subset of the running configuration:

```
RP/0/RSP0/CPU0:router# show running-config ?

aaa                Authentication, Authorization and Accounting
alias              Create an alias for entity
aps                Configure SONET Automatic Protection Switching (APS)
arp                Global ARP configuration subcommands
as-path            BGP autonomous system path filter
as-path-set        Define an AS-path set
banner             Define a login banner
cdp                Enable CDP, or configure global CDP subcommands
cef                CEF configuration commands
cinetd             Global Cisco inetd configuration commands
class-map          Configure QoS Class-map command
clock              Configure time-of-day clock
community-list     Add a community list entry
community-set      Define a community set
controller         Controller configuration subcommands
dhcp               Dynamic Host Configuration Protocol
domain             Domain service related commands
exception          Coredump configuration commands
exclude            Exclude a feature or configuration item from display
explicit-path      Explicit-path config commands
extcommunity-set   Define an extended communitiy set
fault              Fault related commands
forward-protocol   Controls forwarding of physical and directed IP broadcasts
ftp                Global FTP configuration commands
--More--
```

In this example, the **show running-config** command is used to display the running configuration for Packet-over-SONET/SDH (POS) interface 0/2/0/1:

```
RP/0/RSP0/CPU0:router# show running-config interface pos 0/2/0/1

interface POS0/2/0/1
ipv4 address 10.0.0.0 255.0.0.0
```

This example shows sample output from the **show running-config** command with the **sanitized** keyword displays a sanitized version of the running configuration. The sanitized configuration can be used to share a configuration without exposing specific configuration details.

```
RP/0/RSP0/CPU0:router# show running-config sanitized


Building configuration...

!! Last configuration change at 05:26:50 UTC Thu Jan 19 2009 by <removed>
!
snmp-server traps fabric plane
snmp-server traps fabric bundle state
hostname <removed>
line console
exec-timeout 0 0
!
exception choice 1 compress off filepath <removed>
logging console debugging
telnet vrf <removed> ipv4 server max-servers no-limit
snmp-server ifindex persist
snmp-server host 10.0.0.1 traps version <removed> priv <removed> udp-port 2555
snmp-server view <removed> <removed> included
snmp-server community <removed> RO LROwner
snmp-server community <removed> RO LROwner
snmp-server group <removed> v3 priv read <removed> write <removed>
snmp-server traps snmp
snmp-server traps syslog
interface Loopback10
!
interface Loopback1000
!
 --More--
```

show redundancy

To display the status of route processor redundancy, use the **show redundancy** command in EXEC mode.

show redundancy [**location** {*node-id* | **all**} | **statistics** | **summary**]

Syntax Description

location {*node-id* | **all**}	(Optional) Specifies the node for which to display LED information. The *node-id* argument is expressed in the *rack/slot/module* notation. Use the **all** keyword to indicate all nodes.
statistics	(Optional) Displays redundancy statistics information.
summary	(Optional) Displays a summary of all redundant node pairs in the router.

Command Default

Route processor redundancy information is displayed for all nodes in the system.

Command Modes

EXEC mode

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Use the **show redundancy** command to display the redundancy status of the route switch processors (RSPs). The **show redundancy** command also displays the boot and switchover history for the RSPs. To view the nonstop routing (NSR) status of the standby RSPs in the system, use the **summary** keyword.

Task ID

Task ID	Operations
system	read
basic-services	read (for **statistics** keyword)

The following example shows sample output from the **show redundancy** command:

```
RP/0/RSP0/CPU0:router# show redundancy location 0/rsp0/cpu0
Thu Jul 30 05:47:12.155 DST
Node 0/RSP0/CPU0 is in ACTIVE role
Node 0/RSP0/CPU0 has no valid partner

Reload and boot info
----------------------
A9K-RSP-4G reloaded Tue Jul 14 15:21:30 2009: 2 weeks, 1 day,
14 hours, 25 minutes ago
Active node booted Tue Jul 14 15:21:30 2009: 2 weeks, 1 day,
```

```
14 hours, 25 minutes ago

Active node reload "Cause: User initiated forced reload all"
```

Table 14: show redundancy Field Descriptions

Field	Description
Node */*/* is in *XXX* role	Current role of the primary route processor, where (*/*/*) is the route processor ID in the format *rack*/*slot*/*module*, and *XXX* is the role of the route processor (active or standby). In the example, this field shows that the node with the ID 0/RP0/CPU0 is in active role.
Partner node (*/*/*) is in *XXX* role	Current role of the secondary (or partner) route processor, where (*/*/*) is the route processor ID in the *rack*/*slot*/*module* format, and *XXX* is the role of the route processor (active or standby). In the example, this field shows that the node with the ID 0/RP1/CPU0 is in standby role.
Standby node in (*/*/*) is ready	Current state of the standby node, where (*/*/*) is the standby route processor ID. In the example, the standby node is ready.
Standby node in (*/*/*) is NSR-ready	Current state of the standby node regarding nonstop routing (NSR), where (*/*/*) is the standby route processor ID. In the example, the standby node is NSR-ready.
Reload and boot info	General overview of the active and standby route processors' reload and boot history.

show media

To display the current state of the disk storage media, use the **show media** command in EXEC or Administration EXEC mode.

show media location {*node-id* | **all**}

Syntax Description

location {*node-id* | **all**}	(Optional) Specifies the node where the file system is located. The *node-id* argument is expressed in the *rack/slot/module* notation. Use the **all** keyword to indicate all nodes.

Command Default

The disk storage media for the active RP is displayed.

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

Use the **show media** command to view the status of the storage media on your system.

The following example displays the output of the **show media** command:.

```
sysadmin-vm:0_RP0 #show media
Thu Nov 30 14:57:14.002 WET
Media Information for local node.
-----------------------------------------------
Partition                    Size     Used  Percent    Avail
rootfs:                      2.7G     1.5G      59%     1.1G
apphost:                     1.9G      61M       4%     1.7G
/dev/sde                     870M     401M      50%     409M
harddisk:                    2.4G     966M      43%     1.3G
log:                         459M      67M      16%     359M
config:                      159M     2.5M       2%     144M
disk0:                       1.3G     108M       9%     1.1G
-------------------------------------------------
rootfs: = root file system (read-only)
log: = system log files (read-only)
config: = configuration storage (read-only)
```

Table 15: show media Field Descriptions

Field	Description
Partition	Partition on the disk.
Size	Size of the partition.
Used	Partition size used.
Percent	Percentage used.

Field	Description
Avail	Available free partition space.