show protocols through showmon

- show protocols through showmon , page 1

show protocols through showmon

show protocols

To display the configured protocols, use the **show protocols** command in user EXEC or privileged EXEC mode.

show protocols [*interface-name interface-number*]

Syntax Description

interface-name				• **voaBypassIn** --VOA-Bypass-In interface
				• **voaBypassOut** --VOA-Bypass-Out interface
				• **voaFilterIn** --VOA-Filter-In interface
				• **voaFilterOut** --VOA-Filter-Out interface
				• **voaIn** --VOA-In interface
				• **voaOut** --VOA-Out interface
			interface-number	(Optional) Interface number.

(Optional) The type of interfaces. It can be one of the following values:

- **ATM** --ATM interface

- **Async** --Async interface

- **Auto-Template** --Auto-Template interface

- **BVI** --Bridge-Group Virtual Interface

- **CDMA-Ix** --CDMA Ix interface

- **Container** --Container interface

- **CTunnel** --CTunnel interface

- **Dialer** --Dialer interface

- **Ethernet** --Institute of Electriacl Electronics Engineers (IEEE) 802.3

- **FastEthernet** --FastEthernet IEEE 802.3

- **EsconPhy** --ESCON interface

- **fcpa** --Fiber Channel

- **Filter** --Filter interface

- **multiservice** --Multiservice interface

- **Pos-channel** --POS Channel interfaces

- **SBC** --Session

	Border Controller		
	• **SYSCLOCK** --Telecom-Bus Clock Controller		
	• **Tunnel** --Tunnel interface		
	• **Vif** --PGM Multicast Host interface		
	• **Virtual-Access** --Virtual access interface		
	• **Virtual-PPP** --Virtual PPP interface		
	• **Virtual-Template** --Virtual template interface		
	• **Virtual-TokenRing** --Virtual TokenRing		
	• **Vlan** --Catalyst VLANs		
	• **vmi** --Virtual Multipoint Interface		

Command Modes   User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
10.0	This command was introduced.
12.0(3)T	The command was integrated in a release earlier than Cisco IOS Release 12.0(3)T.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
Cisco IOS XE Release 2.1	This command was integrated into Cisco IOS XE Release 2.1.

Usage Guidelines   The **show protocols** command shows the global and interface-specific status of any configured Level 3 protocol.

Examples   The following is sample output from the **show protocols** command. The field names are self-explanatory.

```
Router# show protocols
Global values:
  Internet Protocol routing is enabled
FastEthernet0/0 is up, line protocol is up
  Internet address is 10.4.9.14/24
vmi1 is down, line protocol is down
FastEthernet0/1 is up, line protocol is up
  Internet address is 10.4.8.14/24
ATM2/0 is administratively down, line protocol is down
ATM2/0.1 is administratively down, line protocol is down
ATM2/0.2 is administratively down, line protocol is down
ATM2/0.200 is administratively down, line protocol is down
Ethernet3/0 is administratively down, line protocol is down
Ethernet3/0.1 is administratively down, line protocol is down
Ethernet3/1 is administratively down, line protocol is down
Ethernet3/2 is administratively down, line protocol is down
Ethernet3/3 is administratively down, line protocol is down
ATM6/0 is administratively down, line protocol is down
SSLVPN-VIF0 is up, line protocol is up
  Interface is unnumbered. Using address of SSLVPN-VIF0 (0.0.0.0)
Virtual-Access1 is down, line protocol is down
Virtual-Template1 is down, line protocol is down
Virtual-Access2 is up, line protocol is up
Port-channel5 is down, line protocol is down
Port-channel5.1 is down, line protocol is down
Port-channel15 is down, line protocol is down
Virtual-Template100 is down, line protocol is down
  Interface is unnumbered. Using address of vmi1 (0.0.0.0)
Dialer3 is up, line protocol is up
```

For more information on the parameters or protocols shown in this sample output, see the *Cisco IOS IP Addressing Services Configuration Guide* and the *Cisco IOS IP Routing Protocols Configuration Guide*.

show region

To display valid memory regions (memory mapping) in use on your system, use the **show region** command in privileged EXEC mode.

show region [**address** *hex-address*]

Syntax Description

address *hex-address*	(Optional) If a hexadecimal address is specified, this command will search the region list for the specified address.

Command Default

All memory regions are displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(13)	This command was introduced.
12.0(23)S	This command was integrated into Cisco IOS Release 12.0(23)S.
12.2(25)S	This command was modified. The command output was updated to display information about free regions.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SRE	This command was modified. The output was updated to display heap region memory size in chunks of 16 MB.

Usage Guidelines

This command can be useful for troubleshooting system bus errors. The system encounters a bus error when the processor tries to access a memory location that either does not exist (a software error) or does not respond properly (a hardware problem).

To use the **show region** command to troubleshoot a bus error, note the memory location address from the **show version** command, the **show context** command, or from the system error message that alerted you to the bus error. The **show region** command can then be used to determine if that address is a valid memory location.

For example, in the output of the **show version** command after a system restart caused by a bus error, you will see output similar to "System restarted by bus error at PC 0x30EE546, address 0xBB4C4." In this case, the memory location that the router tried to access is 0xBB4C4. If the address falls within one of the ranges in the **show region** output, it means that the router was accessing a valid memory address, but the hardware corresponding to that address is not responding properly. This indicates a hardware problem.

If the address reported by the bus error does not fall within the ranges displayed in the **show region** output, this error means that the router was trying to access an address that is not valid, which indicates that it is a Cisco IOS software problem.

More detailed information is available on Cisco.com in Tech Note #7949, "Troubleshooting Bus Error Crashes".

Transient Memory Allocation

The Transient Memory Allocation feature is enabled on platforms like the Cisco 7200 series router and the Cisco 10000 series router. This feature allocates all transient memory in a separate memory address space (separate region), so that there is no interleaving of static and transient memory blocks. Hence, the output of the **show region** command will have heap region memory size in chunks of 16 MB.

Examples

The following is sample output from the **show region** command:

```
Router# show region
Region Manager:
      Start         End       Size(b)  Class  Media   Name
 0x0C000000  0x0FFFFFFF    67108864  Iomem  R/W     iomem
 0x20000000  0x2FFFFFFF   268435456  Local  R/W     extended_2
 0x50000000  0x5FFFFFFF   268435456  Local  R/W     extended_1
 0x60000000  0x7BFFFFFF   469762048  Local  R/W     main
 0x600090F8  0x6200A807    33560336  IText  R/O     main:text
 0x62014C50  0x62F5B1EF    16016800  IData  R/W     main:data
 0x62F5B1F0  0x6333500F     4038176  IBss   R/W     main:bss
 0x63335010  0x6359A0D3     2511044  Local  R/W     main:saved-data
 0x6359A0D4  0x6459A0D3    16777216  Local  R/W     main:heap
 0x7B000000  0x7BFFFFFF    16777216  Local  R/W     main:heap
 0x80000000  0x8BFFFFFF   201326592  Local  R/W     main:(main_k0)
 0xA0000000  0xABFFFFFF   201326592  Local  R/W     main:(main_k1)
Free Region Manager:

      Start         End       Size(b)  Class  Media   Name
 0x6459A12C  0x7AFFFFA7   380001916  Local  R/W     heap
```
The following table describes the significant fields shown in the display.

Table 1: show region Field Descriptions

Field	Description
Start	Start address of the memory block.
End	End address of the memory block.
Size(b)	Size of the memory block.
Class	Class of the memory.
Media	Type of the region media. Read-only (R/O), read-write (R/W), and so on.
Name	Name of the region.
Iomem	Input/output (I/O) memory. It is a type of packet memory.
Local	Local memory.

Field	Description
IText	Image text memory.
IData	Image data memory.
IBss	Image blind source separation (BSS) memory.
R/W	Read and write memory.
R/O	Read-only memory.

Related Commands

Command	Description
show context	Displays information stored in NVRAM when an unexpected system reload (system exception) occurs.
show memory	Displays detailed memory statistics for the system.
show version	Shows hardware and software information for the system.

show registry

To display the function registry information when Cisco IOS or Cisco IOS Software Modularity images are running, use the **show registry** command in user EXEC or privileged EXEC mode.

Cisco IOS Software

show registry [*registry-name* [*registry-number*]] [**brief**| **statistics**]

Cisco IOS Software Modularity

show registry [**name** [*registry-name* [*registry-number*]]] [**brief** [**name** [*registry-name* [*registry-number*]]]| **preemptions**| **rpcp status**| **statistics [brief]** [**name** [*registry-name* [*registry-number*]]] [**remote**]] [**process** {*process-name*| *process-id*}]

Syntax Description

Cisco IOS Software Syntax	
registry-name	(Optional) Name of the registry to display.
registry-number	(Optional) Number of the registry to display.
brief	(Optional) Displays limited functions and services information.
statistics	(Optional) Displays function registry statistics.
Cisco IOS Software Modularity Syntax	
name	(Optional) Displays information about a specific registry.
registry-name	(Optional) Name of the registry to examine.
registry-number	(Optional) Number of the registry to examine.
brief	(Optional) Displays limited functions and services information.
preemptions	(Optional) Displays registry preemptions information.
rpcp status	(Optional) Displays status of remote procedure call (RPC) proxy.
statistics	(Optional) Displays function registry statistics.
remote	(Optional) Displays name server interactions and call statistics.
process	(Optional) Displays process-specific information.

Cisco IOS Software Syntax	
process-name	(Optional) Process name.
process-id	(Optional) Process ID. Number in range from 1 to 4294967295.

Command Default

If no options are specified, registry information is displayed for all registries.

Command Modes

User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
11.1	This command was introduced.
12.2(18)SXF4	Keywords and arguments were added to support Software Modularity images and this command was integrated into Cisco IOS Release 12.2(18)SXF4.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Examples

Example output varies between Cisco IOS software images and Cisco IOS Software Modularity software images. To view the appropriate output, choose one of the following sections:

- Cisco IOS Software

- Cisco IOS Software Modularity

Examples

The following is sample output from the **show registry** command using the **brief** keyword:

```
Router# show registry atm 3/0/0 brief
Registry objects: 1799  bytes: 213412
--
Registry 23: ATM Registry
  Service 23/0:
  Service 23/1:
  Service 23/2:
  Service 23/3:
  Service 23/4:
  Service 23/5:
  Service 23/6:
  Service 23/7:
  Service 23/8:
  Service 23/9:
  Service 23/10:
  Service 23/11:
  Service 23/12:
  Service 23/13:
  Service 23/14:
.
.
```

```
                    .
            Registry 25: ATM routing Registry
              Service 25/0:
```
The following table describes the significant fields shown in the display.

Table 2: show registry brief (Cisco IOS) Field Descriptions

Field	Description
Registry objects	Number of objects in the registry.
bytes	Registry size, in bytes.
Registry	Displays the specified registry service number and type of registry service.

Examples   The following is partial sample output from the **show registry** command when running a software Modularity image:

```
Router# show registry
Registry information for ios-base:1:
====================================================
---------------------------
AAA_ACCOUNTING :   11 services
                /    1 :  List    list[000]
                /    2 :  List    list[000]
                /    3 :  Case    size[020] list[000] default=0x7267C5D0  returnd
                /    4 :  Case    size[020] list[000] default=0x7267C5D0  returnd
                      16  0x72779400
                /    5 :  Case    size[020] list[000] default=0x7267C5D0  returnd
                /    6 :  Case    size[020] list[000] default=0x7267C5D0  returnd
                      16  0x7277915C
                /    7 :  Retval  size[020] list[000] default=0x7267C5E4  returno
                /    8 :  Retval  size[020] list[000] default=0x7267C5E4  returno
                /    9 :  Retval  size[020] list[000] default=0x7267C5E4  returno
                /   10 :  Stub    0x7267C5E4  return_zero
                /   11 :  Stub    0x76545BA0
AAA_ACCOUNTING :   11 services,   140 global bytes,   160 heap bytes
                    .
                    .
                    .
```
The following table describes the significant fields shown in the display.

Table 3: show registry (Software Modularity) Field Descriptions

Field	Description
Registry information	Displays the registry information by process name.
services	Number of services displayed.
global bytes	Number of bytes for the service,
heap bytes	Size of the service heap, in bytes,

show reload

To display the reload status on the router, use the **show reload** command in EXEC mode.

show reload

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Usage Guidelines

You can use the **show reload** command to display a pending software reload. To cancel the reload, use the **reload cancel** privileged EXEC command.

Examples

The following sample output from the **show reload** command shows that a reload is schedule for 12:00 a.m. (midnight) on Saturday, April 20:

```
Router# show reload
Reload scheduled for 00:00:00 PDT Sat April 20 (in 12 hours and 12 minutes)
Router#
```

Related Commands

Command	Description
reload	Reloads the operating system.

show resource-pool queue

To display resource pool and queue information about the router, use the **show resource-pool queue** command in user EXEC or privileged EXEC mode.

show resource-pool queue {**description**| **statistics**}

Syntax Description

description	Displays information about the resource-pool queue description.
statistics	Displays information about the resource-pool queue statistics.

Command Modes

User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
15.0(1)M	This command was introduced in a release earlier than Cisco IOS Release 15.0(1)M.

Usage Guidelines

Use the **show resource-pool queue** command to display the resource pool and queue information on the router.

Examples

The following is sample output from the **show resource-pool queue description** command. The field descriptions are self-explanatory.

```
Router# show resource-pool description
Resource-management call state description
State Description
-------------------------- -----------
RM_DNIS_AUTHOR : Waiting for DNIS author
RM_DNIS_AUTH_SUCCEEDED : Waiting for resource alloc
RM_DNIS_RES_ALLOCATED : Call established
RM_DNIS_REQ_IDLE : Disc while in RM_DNIS_AUTHOR/RM_DNIS_AUTH_SUCCEEDED
/RM_DNIS_REQ_IDLE_AUTHOR
RM_DNIS_REQ_IDLE_AUTHOR : New call while in RM_DNIS_REQ_IDLE
RM_RPM_RES_AUTHOR : Waiting for RPM author
RM_RPM_RES_ALLOCATING : Waiting for resource alloc
RM_RPM_RES_ALLOCATED : RPM call established
RM_RPM_AUTH_REQ_IDLE : Disc while in RM_RPM_RES_AUTHOR
/RM_RPM_AUTH_REQ_IDLE_AUTHOR
RM_RPM_RES_REQ_IDLE : Disc while in RM_RPM_RES_ALLOCATING
/RM_RPM_RES_REQ_IDLE_AUTHOR
RM_RPM_AUTH_REQ_IDLE_AUTHOR: New call while in RM_RPM_AUTH_REQ_IDLE
RM_RPM_RES_REQ_IDLE_AUTHOR : New call while in RM_RPM_RES_REQ_IDLE
RM_RPM_DISCONNECTING : RPM initiates disconnect and is waiting for ack
RM_RPM_DISCONNECTING_AUTHOR: New call while in RM_RPM_DISCONNECTING
5400-XM-1#sh resource-pool queue stat
```

The following is sample output from the **show resource-pool queue statistics**command:

Router# **show resource-pool statistics**

```
Resource-management event queue information (queue depth 0)
Event In queue Total
------------------------- ---------- ----------
DIALER_INCALL : 0 0
DIALER_DISCON : 0 0
GUARDTIMER_EXPIRY_EVENT : 0 0
RM_DNIS_AUTHOR_SUCCESS : 0 0
RM_DNIS_AUTHOR_FAIL : 0 0
RM_DNIS_RES_ALLOC_SUCCESS : 0 0
RM_DNIS_RES_ALLOC_FAIL : 0 0
RM_DNIS_RPM_REQUEST : 0 0
RM_RPM_RES_AUTHOR_SUCCESS : 0 0
RM_RPM_RES_AUTHOR_FAIL : 0 0
RM_RPM_RES_ALLOC_SUCCESS : 0 0
RM_RPM_RES_ALLOC_FAIL : 0 0
RM_RPM_DISC_ACK : 0 0
------------------------- ---------- ----------
SUM : 0 0
Resource-management call information (0 active calls)
State Active Total
------------------------- ---------- ----------
RM_DNIS_AUTHOR : 0 0
RM_DNIS_AUTH_SUCCEEDED : 0 0
RM_DNIS_RES_ALLOCATED : 0 0
RM_DNIS_REQ_IDLE : 0 0
RM_DNIS_REQ_IDLE_AUTHOR : 0 0
RM_RPM_RES_AUTHOR : 0 0
RM_RPM_RES_ALLOCATING : 0 0
RM_RPM_RES_ALLOCATED : 0 0
RM_RPM_AUTH_REQ_IDLE : 0 0
RM_RPM_RES_REQ_IDLE : 0 0
RM_RPM_AUTH_REQ_IDLE_AUTHOR: 0 0
RM_RPM_RES_REQ_IDLE_AUTHOR : 0 0
RM_RPM_DISCONNECTING : 0 0
RM_RPM_DISCONNECTING_AUTHOR: 0 0
------------------------- ---------- ----------
SUM : 0 0
00:03:34 since last clear command
Other resource-management info:
Active Processes 4
Throttle limit 4 (0 calls rejected)
Event queue depth 0 (peak 0)
Pending calls 0 (peak 0)
Buffer queue depth 648 (low watermark 648)
```

show rhosts

To display information about current remote hosts, use the **show rhosts**command in privileged EXEC mode.

show rhosts

Syntax Description   This command has no arguments or keywords.

Command Modes   Privileged EXEC (#)

Command History

Release	Modification
12.4(22)T	This command was introduced in a release earlier than Cisco IOS Release 12.4(22)T.
12.2(33)SRC	This command was integrated into a release earlier than Cisco IOS Release 12.2(33)SRC.
12.2(33)SXI	This command was integrated into a release earlier than Cisco IOS Release 12.2(33)SXI.
Cisco IOS 2.1 XE	This command was integrated into Cisco IOS XE Release 2.1.

Examples   The following is sample output from the **show rhosts** command.

```
Router# show rhosts
Local user      Host/Access list      Remote user
tcp-scale-mcp1    12                   tcp-scale-mcp2
tcp-scale-mcp1    12                   tcp-scale-3
```

The following table describes the significant fields shown in the display.

Table 4: show rhosts Field Descriptions

Field	Description
Local user	Displays the name of the user on the local router. This name gets communicated to the network administrator or to the user on the remote system.
Host/Access list	Displays the name or the IP address of the remote host from which the local router will accept remotely executed commands.

Field	Description
Remote user	Displays the name of the user on the remote host from which the router will accept remotely executed commands.

Related Commands

Command	Description
ip rcmd remote-host	Creates an entry for the remote user in a local authentication database so that remote users can execute commands on the router using RSH or RCP.

show rom-monitor

To show both the read-only and the upgrade ROM monitor (ROMMON) image versions and also the ROMMON image running on the Cisco 7200 VXR or Cisco 7301 router, use the **show rom-monitor**command in user EXEC, privileged EXEC, or diagnostic mode.

Supported Platforms Other than the Cisco ASR1000 Series Routers

show rom-monitor

Cisco ASR 1000 Series Routers

show rom-monitor *slot*

Syntax Description

slot	Specifies the slot that contains the ROMMON. Options include: • *number* --The number of the SIP slot that requires the ROMMON upgrade. • **F0** --Embedded Service Processor slot 0. • **F1** --Embedded Service Processor slot 1. • **FP active** --Active Embedded Service Processor. • **FP standby** --Sstandby Embedded Service Processor. • **R0** --Route Processor slot 0. • **R1** --Route Processor slot 1. • **RP active** --Active Route Processor. • **RP standby** --Standby Route Processor.

Command Modes

User EXEC (>) Privileged EXEC (#) Diagnostic (diag)

Command History

Release	Modification
12.0(28)S	This command was introduced on the Cisco 7200 VXR router.
12.3(9)	This command was integrated into Cisco IOS Release 12.3(9) and implemented on the Cisco 7301 router.
12.3(8)T	This command was integrated into Cisco IOS Release 12.3(8)T.

Release	Modification
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.
Cisco IOS XE Release 2.1	This command was introduced on the Cisco ASR 1000 Series Routers and the following enhancements were introduced: - This command was introduced in diagnostic mode. The command can be entered in both privileged EXEC and diagnostic mode on the Cisco ASR 1000 Series Routers. - The *slot* argument was introduced.
15.0(1)M	The command was modified on Cisco 1800 series routers. The output of the command was modified to let you know that the upgradable ROMMON version is not visible due to the license activity and reload is required.

Usage Guidelines

Use the show rom-monitor command when the router boots a Cisco IOS software iamge. In this case, the device prompt will be something like "Router>". Use the showmon command when the device boot to Rom Monitor mode instead of booting a Cisco IOS image. In this case, the device prompt will be something like "rommon n >" where "n" is a number.

Note

On Cisco 1800 series routers, the **show rom-monitor** command does not show the version of the upgradable ROMMON. To view the version of the upgradable ROMMON, you may need to reload the router while using the upgradable ROMMON image. If you are using the read-only ROMMON, then the upgradable ROMMON disappears. You need to run the **upgrade rom-monitor file** command for the upgradable ROMMON. Otherwise, the **upgrade rom-monitor preference upgrade** command is rejected with the message "No Upgrade ROMMON present, cannot select it." During ROMMON bootup, if you are running upgradable ROMMON, then the ROMMON first displays the read-only ROMMON message, "Running new upgrade for first time." This message is followed by the upgradable ROMMON message.

Examples

The following sample output from the show rom-monitor command, applicable to both the Cisco 7200 VXR and Cisco 7301 routers, displays both the ROMMON images and verifies that the upgrade ROMMON image is running:

```
Router> show rom-monitor
ReadOnly ROMMON version:
System Bootstrap, Version 12.2(20031011:151758)
Copyright (c) 2004 by Cisco Systems, Inc.
Upgrade ROMMON version:
System Bootstrap, Version 12.2(20031011:151758)
Copyright (c) 2004 by Cisco Systems, Inc.
Currently running ROMMON from Upgrade region
ROMMON from Upgrade region is selected for next boot


The following is sample output from the show rom-monitor command in on Cisco 1800 series
routers. To view the version of the upgradable ROMMON, you may need to reload the router
```

```
while using the upgradable ROMMON image.
Router# show rom-monitor
ReadOnly ROMMON version:
System Bootstrap, Version 12.3(8r)YH3, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2005 by cisco Systems, Inc.
Upgrade ROMMON version is not visible due to recent license activity,
such as license installation, removal, or the use of evaluation license
Reload is required to show the upgrade ROMMON version
Currently running ROMMON from Upgrade region
ROMMON from Upgrade region is selected for next boot


Router# reload
Proceed with reload? [confirm]
*Apr 13 18:44:08.583: %SYS-5-RELOAD: Reload requested  by console. Reload Reason: Reload
Command.
System Bootstrap, Version 12.3(8r)YH3, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2005 by cisco Systems, Inc.
 Running new upgrade for first time
System Bootstrap, Version 12.3(8r)YH13, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2008 by cisco Systems, Inc.
C1800 platform with 262144 Kbytes of main memory with parity disabled
Upgrade ROMMON initialized
```

In the following example, the ROMMON image in RP 0 of a Cisco ASR 1006 router is verified using the **show rom-monitor** command:

```
Router# show rom-monitor r0
System Bootstrap, Version 12.2(33r)XN1, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2007 by cisco Systems, Inc.
```

The fields in the examples are self-explanatory.

show rom-monitor slot

To display the ROM monitor (ROMMON) status, use the **show rom-monitor** command in user EXEC or privileged EXEC mode.

show rom-monitor slot *num* {**sp**| **rp**}

Syntax Description

num	Displays the slot number of the ROMMON for which the status is to be displayed.
sp	Displays the ROMMON status of the switch processor.
rp	Displays the ROMMON status of the route processor.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was integrated into Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Usage Guidelines

When you enter the **show rom-monitor slot** command, the output displays the following:

- Region region1 and region2--Displays the status of the ROMMON image and the order of preference from which the region1 or region2 images should be booted. The ROMMON image status values are as follows:

    - First run--Indicates that a check of the new image is being run.

    - Invalid--Indicates that the new image has been checked and the upgrade process has started.

    - Approved--Indicates that the ROMMON field upgrade process has completed.

- Currently running--This field displays the currently running image and the region.

The **sp** or **rp** keyword is required only if a supervisor engine is installed in the specified slot.

Examples

This example shows how to display ROMMON information:

```
Router# show rom-monitor slot 1 sp
   Region F1:APPROVED
   Region F2:FIRST_RUN, preferred
   Currently running ROMMON from F1 region
Router#
```

Related Commands

Command	Description
upgrade rom-monitor	Sets the execution preference on a ROMMON.

show running identity policy

To display identity policy information, use the **show running identity policy** command in privileged EXEC mode.

show running identity policy [*name*]

Syntax Description

name	(Optional) Name of the identity policy.

Command Modes   Privileged EXEC (#)

Command History

Release	Modification
12.2(18)SX	This command was introduced.

Examples   The following is output from the **show running identity policy** command:

```
Router# show running identity policy
Building configuration...
Current configuration:
identity policy p1
  access-group some-acl
identity policy p2
  access-group another-acl
  redirect url http://www.foo.com/bar.html match redirect-acl
end
```

Related Commands

Command	Description
show running-configuration	Displays the running configuration for a router.

show running identity profile

To display identity profile information, use the **show running identity profile** command in privileged EXEC mode.

show running identity profile [**default**| **dot1x**| **eapoudp**]

Syntax Description

default	(Optional) Displays default identity profile information.
dot1x	(Optional) Displays 802.1x identity profile information.
eapoudp	(Optional) Displays EAPoUDP identity profile information.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(18)SX	This command was introduced.

Examples

The following is output from the **show running identity profile** command:

```
Router# show running identity profile
Building configuration...
Current configuration:
identity profile default
  device authorize type cisco ip phone
identity profile eapoudp
  device authorize ip-address 10.0.0.0 255.0.0.0 policy p1
identity profile dot1x
  device authorize mac-address 0001.0203.0405 ffff.ffff.ffff policy p2
end
```

Related Commands

Command	Description
show running-configuration	Displays the running configuration for a router.

show running-config

To display the contents of the current running configuration file or the configuration for a specific module, Layer 2 VLAN, class map, interface, map class, policy map, or virtual circuit (VC) class, use the **show running-config** command in privileged EXEC mode.

show running-config [*options*]

Syntax Description

options	(Optional) Keywords used to customize output. You can enter more than one keyword.
	• **all** --Expands the output to include the commands that are configured with default parameters. If the **all** keyword is not used, the output does not display commands configured with default parameters.
	• **brief** --Displays the configuration without certification data and encrypted filter details. The **brief** keyword can be used with the **linenum** keyword.
	• **class-map** [*name*][**linenum**]--Displays class map information. The **linenum** keyword can be used with the **class-map** *name* option.
	• **control-plane** [**cef-exception**| **host**| **transit**]--Displays control-plane information. The **cef-exception**, **host**, and **transit** keywords can be used with the **control-plane** option.
	• **flow** {**exporter** | **monitor** | **record**}--Displays global flow configuration commands. The **exporter**, **monitor**, and **record**keywords can be used with the **flow** option.
	• **full** --Displays the full configuration.
	• **interface** *type number* -- Displays interface-specific configuration information. If you use the **interface** keyword, you must specify the interface type and the interface number (for example, **interface ethernet 0**). Keywords for common interfaces include **async**, **ethernet**, **fastEthernet**, **group-async**, **loopback**, **null**, **serial**, and **virtual-template**. Use the **show run interface ?**command to determine the interfaces available on your system.
	• **linenum** --Displays line numbers in the output. The **brief** or **full** keyword can be used with the **linenum** keyword. The **linenum**keyword can be used with the **class-map**, **interface**, **map-class**, **policy-map**, and **vc-class** keywords.
	• **map-class** [**atm** | **dialer** | **frame-relay**] [**name**] [**linenum**]--Displays map class information. This option is described separately; see the **show running-config map-class** command page.

	• **partition types** -- Displays the configuration corresponding to a partition. The **types** keyword can be used with the **partition**option. • **policy-map** [*name*][**linenum**]--Displays policy map information. The **linenum** keyword can be used with the **policy-map** *name* option. • **vc-class** [*name*] [**linenum**]--Displays VC-class information (the display is available only on certain routers such as the Cisco 7500 series routers). The **linenum** keyword can be used with the **vc-class** *name* option.
	• **view full** --Enables the display of a full running configuration. This is for view-based users who typically can only view the configuration commands that they are entitled to access for that particular view. • **vrf** *name* --Displays the Virtual routing and forwarding (VRF)-aware configuration module number . • **vlan** [*vlan-id*]--Displays the specific VLAN information ; valid values are from 1 to 4094.

Command Default   The default syntax, **show running-config**, displays the contents of the running configuration file, except commands configured using the default parameters.

Command Modes   Privileged EXEC (#)

Command History

Release	Modification
11.0	This command was introduced.
12.0	This command was replaced by the **more system:running-config** command.
12.0(1)T	This command was integrated into Cisco IOS Release 12.0(1)T, and the output modifier (|) was added.
12.2(4)T	This command was modified. The **linenum** keyword was added.
12.3(8)T	This command was modified. The **view full**option was added.

Release	Modification
12.2(14)SX	This command was integrated into Cisco IOS Release 12.2(14)SX. The **module** *number* and **vlan** *vlan-id* keywords and arguments were added for the Supervisor Engine 720.
12.2(17d)SXB	This command was integrated into Release 12.2(17d)SXB and implemented on the Supervisor Engine 2.
12.2(33)SXH	This command was modified. The **all**keyword was added.
12.2(31)SB2	This command was integrated into Cisco IOS Release 12.2(31)SB2. This command was enhanced to display the configuration information for traffic shaping overhead accounting for ATM and was implemented on the Cisco 10000 series router for the PRE3.
12.2(33)SRC	This command was integrated into Cisco IOS Release 12.2(33)SRC.
12.2(33)SB	This command was modified. Support for the Cisco 7300 series router was added.
12.4(24)T	This command was modified in a release earlier than Cisco IOS Release 12.4(24)T. The **partition** and **vrf** keywords were added. The **module** and **vlan** keywords were removed.
15.0(1)M	This command was modified. The output was modified to include encrypted filter information.
12.2(33)SXI	This command was modified. The output was modified to display Access Control List (ACL) information.

Usage Guidelines

The **show running-config** command is technically a command alias (substitute or replacement syntax) of the **more system:running-config** command. Although the use of more commands is recommended (because of their uniform structure across platforms and their expandable syntax), the **show running-config** command remains enabled to accommodate its widespread use, and to allow typing shortcuts such as **show run**.

The **show running-config interface** command is useful when there are multiple interfaces and you want to look at the configuration of a specific interface.

The **linenum** keyword causes line numbers to be displayed in the output. This option is useful for identifying a particular portion of a very large configuration.

You can enter additional output modifiers in the command syntax by including a pipe character (|) after the optional keyword. For example, **show running-config interface serial 2/1 linenum | begin 3**. To display the output modifiers that are available for a keyword, enter | **?** after the keyword. Depending on the platform you are using, the keywords and the arguments for the *options* argument may vary.

Prior to Cisco IOS Release 12.2(33)SXH, the **show running-config**command output omitted configuration commands set with default values. Effective with Cisco IOS Release 12.2(33)SXH, the **show running-config all** command displays complete configuration information, including the default settings and values. For example, if the Cisco Discovery Protocol (abbreviated as CDP in the output) hold-time value is set to its default of 180:

- The **show running-config** command does not display this value.

- The **show running-config all** displays the following output: cdp holdtime 180.

If the Cisco Discovery Protocol holdtime is changed to a nondefault value (for example, 100), the output of the **show running-config** and **show running-config all**commands is the same; that is, the configured parameter is displayed.

Note In Cisco IOS Release 12.2(33)SXH, the **all**keyword expands the output to include some of the commands that are configured with default values. In subsequent Cisco IOS releases, additional configuration commands that are configured with default values will be added to the output of the **show running-config all**command.

Effective with Cisco IOS Release 12.2(33)SXI, the **show running-config** command displays ACL information. To exclude ACL information from the output, use the **show running** | **section exclude ip access** | **access list**command.

Cisco 7600 Series Router

In some cases, you might see a difference in the duplex mode that is displayed between the **show interfaces** command and the **show running-config** command. The duplex mode that is displayed in the **show interfaces** command is the actual duplex mode that the interface is running. The **show interfaces** command displays the operating mode of an interface, and the **show running-config** command displays the configured mode of the interface.

The **show running-config** command output for an interface might display the duplex mode but no configuration for the speed. This output indicates that the interface speed is configured as auto and that the duplex mode that is displayed becomes the operational setting once the speed is configured to something other than auto. With this configuration, it is possible that the operating duplex mode for that interface does not match the duplex mode that is displayed with the **show running-config** command.

Examples The following example shows the configuration for serial interface 1. The fields are self-explanatory.

```
Router# show running-config interface serial 1
Building configuration...
Current configuration:
!
interface Serial1
 no ip address
 no ip directed-broadcast
 no ip route-cache
 no ip mroute-cache
 shutdown
end
```

The following example shows the configuration for Ethernet interface 0/0. Line numbers are displayed in the output. The fields are self-explanatory.

```
Router# show running-config interface ethernet 0/0 linenum
Building configuration...
Current configuration : 104 bytes
 1 : !
 2 : interface Ethernet0/0
 3 :  ip address 10.4.2.63 255.255.255.0
 4 :  no ip route-cache
 5 :  no ip mroute-cache
 6 : end
```

The following example shows how to set line numbers in the command output and then use the output modifier to start the display at line 10. The fields are self-explanatory.

```
Router# show running-config linenum | begin 10

  10 : boot-start-marker
  11 : boot-end-marker
  12 : !
  13 : no logging buffered
  14 : enable password #####
  15 : !
  16 : spe 1/0 1/7
  17 :   firmware location bootflash:mica-modem-pw.172.16.0.0.bin
  18 : !
  19 : !
  20 : resource-pool disable
  21 : !
  22 : no aaa new-model
  23 : ip subnet-zero
  24 : ip domain name cisco.com
  25 : ip name-server 172.16.11.48
  26 : ip name-server 172.16.2.133
  27 : !
  28 : !
  29 : isdn switch-type primary-5ess
  30 : !
  .
  .
  .
  126 : end
```

The following example shows how to display the module and status configuration for all modules on a Cisco 7600 series router. The fields are self-explanatory.

```
Router#
show running-config
Building configuration...
Current configuration:
!
version 12.0
service timestamps debug datetime localtime
service timestamps log datetime localtime
no service password-encryption
!
hostname Router
!
boot buffersize 126968
boot system flash slot0:7600r
boot bootldr bootflash:c6msfc-boot-mz.120-6.5T.XE1.0.83.bin
enable password lab
!
clock timezone Pacific -8
clock summer-time Daylight recurring
redundancy
 main-cpu
  auto-sync standard
!
ip subnet-zero
!
ip multicast-routing
ip dvmrp route-limit 20000
ip cef
mls flow ip destination
mls flow ipx destination
cns event-service server
!
spanning-tree portfast bpdu-guard
spanning-tree uplinkfast
spanning-tree vlan 200 forward-time 21
port-channel load-balance sdip
```

```
!
!
!
 shutdown
!
!
.
.
.
```

In the following sample output from the **show running-config** command, the **shape average**command indicates that the traffic shaping overhead accounting for ATM is enabled. The BRAS-DSLAM encapsulation type is qinq and the subscriber line encapsulation type is snap-rbe based on the ATM adaptation layer 5 (AAL5) service. The fields are self-explanatory

```
Router# show running-config
.
.
.
subscriber policy recording rules limit 64
no mpls traffic-eng auto-bw timers frequency 0
call rsvp-sync
!
controller T1 2/0
framing sf
linecode ami
!
controller T1 2/1
framing sf
linecode ami
!
!
policy-map unit-test
class class-default
shape average percent 10 account qinq aal5 snap-rbe
!
```

The following is sample output from the **show running-config class-map** command. The fields in the display are self-explanatory.

```
Router# show running-config class-map
Building configuration...
Current configuration : 2910 bytes
!
class-map type stack match-all ip_tcp_stack
 match field IP protocol eq 0x6 next TCP
class-map type access-control match-all my
 match field UDP dest-port eq 1111
 match encrypted
  filter-version 0.1, Dummy Filter 2
  filter-id      123
  filter-hash    DE0EB7D3C4AFDD990038174A472E4789
  algorithm      aes256cbc
  cipherkey      realm-cisco.sym
  ciphervalue    #
oeahb4L6JK+XuC0q8k9AqXvBeQWzVfdg8WV67WEXbiWdXGQs6BEXqQeb4Pfow570zM4eDw0gxlp/Er8w
/lXsmolSgYpYuxFMYb1KX/H2iCXvA76VX7w5TElb/+6ekgbfP/d5ms6DEzKa8DlOpl+Q95lP194PsIlU
wCyfVCwLS+T8p3RDLi8dKBgQMcDW4Dha1ObBJTpV4zpwhEdMvJDu5PATtEQhFjhN/UYeyQiPRthjbkJn
LzT8hQFxwYwVW8PCjkyqEwYrr+R+mFG/C7tFRiooaW9MU9PCpFd95FARvlU=#
  exit
class-map type stack match-all ip_udp_stack
 match field IP protocol eq 0x11 next UDP
class-map type access-control match-all psirt1
 match encrypted
  filter-version 0.0_DummyVersion_20090101_1830
  filter-id      cisco-sa-20090101-dummy_ddts_001
  filter-hash    FC50BED10521002B8A170F29AF059C53
  algorithm      aes256cbc
  cipherkey      realm-cisco.sym
  ciphervalue    #
DkGbVq0FPAsVJKguU15lQPDfZyTcHUXWsj8+tD+dCSYW9cjkRU9jyST4vO4u69/L62QlbyQuKdyQmb10
```

```
     6sAeY5vDsDfDV05k4o5eD+j8cMt78iZT0Qg7uGiBSYBbak3kKn/5w2gDd1vnivyQ7g4Ltd9+XM+GP6XL
     27RrXeP5A5iGbzC7KI9t6riZXk0gmR/vFw1a5wck0D/iQHIlFa/yRPoKMSFlqfIlLTe5NM7JArSTKET2
     pu7wZammTz4FF6rY#
       exit
  match start TCP payload-start offset 0 size 10 regex "abc.*def"
  match field TCP source-port eq 1234
 class-map type access-control match-all psirt2
  match encrypted
    filter-version 0.0_DummyVersion_20090711_1830
    filter-id      cisco-sa-20090711-dummy_ddts_002
    filter-hash    DE0EB7D3C4AFDD990038174A472E4789
    algorithm      aes256cbc
    cipherkey      realm-cisco.sym
```

Related Commands

Command	Description
bandwidth	Specifies or modifies the bandwidth allocated for a class belonging to a policy map, and enables ATM overhead accounting.
boot config	Specifies the device and filename of the configuration file from which the router configures itself during initialization (startup).
configure terminal	Enters global configuration mode.
copy running-config startup-config	Copies the running configuration to the startup configuration. (Command alias for the **copy system:running-config nvram:startup-config** command.)
shape	Shapes traffic to the indicated bit rate according to the algorithm specified, and enables ATM overhead accounting.
show interfaces	Displays statistics for all interfaces configured on the router or access server.
show policy-map	Displays the configuration of all classes for a specified service policy map or all classes for all existing policy maps, and displays ATM overhead accounting information, if configured.
show startup-config	Displays the contents of NVRAM (if present and valid) or displays the configuration file pointed to by the CONFIG_FILE environment variable. (Command alias for the **more:nvram startup-config** command.)

show running-config control-plane

To display the control plane information for the running configuration, use the **show running-config control-plane** command in privileged EXEC mode.

show running-config control-plane [**cef-exception**| **host**| **transit**]

Syntax Description

cef-exception	(Optional) Displays information about control plane Cisco Express Forwarding exceptions.
host	(Optional) Displays information about the control plane host.
transit	(Optional) Displays information about control plane transit.

Command Default   If no keyword is specified, all information about the control plane is displayed.

Command Modes   Privileged EXEC (#)

Command History

Release	Modification
12.4(24)T	This command was introduced in a release earlier than Cisco IOS Release 12.4(24)T.

Examples   The following is sample output from the **show running-config control-plane** command. The field descriptions are self-explanatory.

```
Router# show running-config control-plane

Building configuration...
Current configuration : 14 bytes
!
control-plane
!
end
```

Related Commands

Command	Description
show running-config	Displays the contents of the current running configuration file or the configuration for a specific module.

show running-config map-class

To display only map-class configuration information from the running configuration file, use the **show running-config map-class** command in privileged EXEC mode.

show running-config map-class [**atm** [*map-class-name*]| **dialer** [*map-class-name*]| **frame-relay** [*map-class-name*]] **[linenum]**

Syntax Description

atm	(Optional) Displays only ATM map-class configuration lines.
dialer	(Optional) Displays only dialer map-class configuration lines.
frame-relay	(Optional) Displays only Frame Relay map-class configuration lines.
map-class-name	(Optional) Displays only configuration lines for the specified map-class.
linenum	(Optional) Displays line numbers in the output.

Command Default　　Displays all map-class configuration in the running configuration file.

Command Modes　　Privileged EXEC

Command History

Release	Modification
12.1	The **map-class** extension to the **show running-config** command was introduced to show only lines pertaining to dialer or Frame Relay map classes.
12.1(2)T	The **atm**, **dialer**, and **frame-relay** keywords and *map-class-name* argument were introduced.
12.2(4)T	The **linenum** keyword was added.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Usage Guidelines　　Use the **show running-config map-class** command to display the following information from the running configuration file:

- All map classes configured on the router.

• Map classes configured specifically for ATM, Frame Relay, or dialer.

• A specific ATM, Frame Relay, or dialer map class.

Use the **linenum** keyword to display line numbers in the output. This option is useful for identifying a particular portion of a very large configuration.

Examples

Examples The following example displays all map classes configured on the router:

```
Router# show running-config map-class

Building configuration...
Current configuration:
!
map-class frame-relay cir60
 frame-relay bc 16000
 frame-relay adaptive-shaping becn
!
map-class frame-relay cir70
 no frame-relay adaptive-shaping
 frame-relay priority-group 2
!
map-class atm vc100
 atm aal5mux
!
map-class dialer dialer1
 dialer idle-timeout 10
end
```

Examples The following example displays all Frame Relay map classes on the router:

```
Router# show running-config map-class frame-relay

Building configuration...
Current configuration:
!
map-class frame-relay cir60
 frame-relay bc 16000
 frame-relay adaptive-shaping becn
!
map-class frame-relay cir70
 no frame-relay adaptive-shaping
 frame-relay priority-group 2
end
```

Examples The following example displays a specific map class called class1. Line numbers are displayed in the output.

```
Router# show running-config map-class frame-relay class1 linenum

Building configuration...
Current configuration:
1 : !
2 : map-class frame-relay boy
3 :  no frame-relay adaptive-shaping
4 :  frame-relay cir 1000
5 : end
```

Related Commands

Command	Description
map-class atm	Specifies the ATM map class for an SVC.
map-class dialer	Defines a class of shared configuration parameters associated with the dialer map command for outgoing calls from an ISDN interface and for PPP callback.
map-class frame-relay	Specifies a map class to define QoS values for a Frame Relay VC.
more system:running-config	Displays contents of the currently running configuration file (equivalent to the **show running-config** command.)

show running-config partition

To display the list of commands that make up the current running configuration for a specific part of the system's global running configuration, use the **show running-config partition** command in privileged EXEC mode.

show running-config partition *part*

Syntax Description

part	

The *part*argument will consist of one or more keyword options. These keywords represent a partition of the system's running configuration state, as a major-descriptor and, in some cases, one or more minor-descriptors.

For example, in the command **show running-config partition router eigrp 1**, the major-descriptor for the *part* argument is the **router** keyword, and the minor-descriptors for the *part* argument are the **eigrp 1** keywords.

The actual list of *part* keyword options will depend on your system hardware, what feature set you are running, and what features are currently configured on your system.

Some examples of command *part*keyword options are provided here for reference. Use the **show running-config partition ?** command on your system to view the list of command options available on your system.

- **access-list** --Displays all running configuration commands that make up the access-list configuration partition.

- **boot** --Displays all running configuration commands that make up the boot configuration partition.

- **class-map** --Displays all running configuration commands that make up the class-map configuration partition.

- **global-cdp** --Displays all running configuration commands that make up the global CDP configuration partition.

- **interface** [**type** *slot*/*port*/*number*]--Displays all running configuration commands that make up the interfaces configuration partition or the configuration commands that are applied to the specified interface.

- **line** --Displays all running configuration commands that make up the line command configuration partition.

- **policy-map** --Displays all running configuration commands that make up the policy-map configuration partition.

- **route-map** --Displays all running configuration commands that make up the route-map configuration partition.

- **router** [*protocol*]--Displays all running configuration commands that make up the router configuration partition, or the configuration commands for the specified routing protocol.

- **service** --Displays all running configuration commands that make up the services (small server) configuration partition.

- **snmp** --Displays all running configuration commands that make up the SNMP configuration partition.

- **|** - Allows for the addition of output modifiers.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(33)SRB	This command was introduced for Cisco 7600 series images in Cisco IOS Release 12.2SR as part of the "Configuration Partitioning" feature.
12.2(33)SB	This command was integrated into Cisco IOS Release 12.2(33)SB and implemented on the Cisco 10000 series.
12.2(33)SXI	This command was integrated into Cisco IOS Release 12.2(33)SXI.

Usage Guidelines

When the Configuration Partitioning feature is enabled, the system groups the configuration state of the device into parts (called "partitions") for the purpose of generating the virtual running configuration file (the list of configuration commands). The selective processing of the system's configuration state for the purpose of generating a partial running configuration is called "configuration partitioning."

Note   This command is not related to hard drive or flash drive partitioning.

This granular access to configuration information offers important performance benefits for high-end routing platforms with very large configuration files, as the system wide generation of a complete virtual configuration file from all components on systems with large and complex configurations can become overly resource intensive and be unacceptably slow.

The **show running-config partition** command allows you to display only the part of the running configuration that you want to examine, while also allowing the system to process only the collection of system components (such as specific interfaces) that you need to display. This is in contrast to other existing extensions to the

show running-config command, which only filter the generated list after all system components have been processed.

The Configuration Partitioning feature is enabled by default in Cisco IOS software images that support the feature. To disable the feature, use the **no parser config partition** command.

Examples

In the following example, the system generates a view of the running configuration by polling only the components associated with the access-list parts of the running configuration state, and then displays only those access-list-related configuration commands.

```
Router# show running-config partition access-list
        Building configuration...
Current configuration : 127 bytes
!
Configuration of Partition access-list
!
access-list 90 permit 0.0.0.0 1.2.3.5
access-list 100 permit 10 any any
!
end
```

In the following example, only the main configuration partition associated with the interface configuration is queried, and only the configuration commands associated with Fast Ethernet interface 0/1 are displayed.

```
Router# show running-config partition interface fastethernet0/1
Building configuration...
Current configuration : 213 bytes
!
Configuration of Partition interface FastEthernet0/1
!
!
interface FastEthernet0/1
 ip address 10.4.2.39 255.255.255.0
 no ip route-cache cef
 no ip route-cache
 duplex half
 ipv6 enable
 no cdp enable
!
!
end
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the default startup configuration file.
show interfaces	Displays statistics for all interfaces configured on the router or access server.
show running-config	Generates and displays a virtual configuration file that lists all configuration commands that are in effect on the system.
show startup-config	Displays the contents of NVRAM (if present and valid) or displays the configuration file pointed to by the CONFIG_FILE environment variable. (Command alias for the **more:nvram startup-config** command.)

show scp

To display Switch-Module Configuration Protocol (SCP) information, use the **show scp** in privileged EXEC mode on the Switch Processor.

show scp {**accounting**| **counters**| **linecards [details]**| **mcast** {**group** *group-id*| **inst**}| **process** *id*| **status**}

Syntax Description

accounting	Displays information about the SCP accounting.
counters	Displays information about the SCP counter.
linecards	Displays information about the Optical Services Module (OSM) wide area network (WAN) modules in the chassis.
details	(Optional) Displays detailed information about the OSM WAN module.
mcast	Displays information about the SCP multicast.
group *group-id*	(Optional) Displays information for a specific group and group ID; valid values are from 1 to 127.
inst	(Optional) Displays information for an instance.
process *id*	Displays all the processes that have registered an SAP with SCP.
status	Displays information about the local SCP server status.

Command Default This command has no default settings.

Command Modes Privileged EXEC on the Switch Processor

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.

Release	Modification
12.2(18)SXE	The output of the **show scp process** command was changed to display all the processes that have registered an SAP with SCP on the Supervisor Engine 720 only.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
15.0(1)S	The output of the **show scp status** command was changed to additionally display the Flow Control State (FC-State) and the Flow Control Count (FC-Count)

Examples

This example displays the SCP flow control status:

```
Router# show scp status
Rx 185,  Tx 181,  scp_my_addr 0x14
Id Sap   Channel name      current/peak/retry/dropped/totaltime(queue/process/ack) FC-state
   FC-count
-----------------------------------------------------------------  --------- ---- -------
0  18   SCP Unsolicited:18   801/   0/   0/    0/    0     0/   0/   0 off          0
1  80   SCP Unsolicited:80     0/   0/   0/    0/    0     0/   0/   0 off          0
2  23   SCP async: LCP#5       0/   0/   0/    0/    0     0/   0/   0 off          0
3  0    SCP Unsolicited:0      0/   1/   0/    0/    5     0/   0/   0 off          0
--------------------------------------------------------------------------------------------
```

FC-state indicates the flow control state and FC-count indicates the number of times flow control has been turned on.

This example shows how to display all the processes that have registered an SAP with SCP:

```
Router# show module
Mod Ports Card Type                               Model              Serial No.
--- ----- ------------------------------------- ------------------ -----------
  1   48  48-port 10/100 mb RJ45                  WS-X6148-RJ-45     SAL091800RY
  2    0  2 port adapter Enhanced FlexWAN         WS-X6582-2PA       JAE0940MH7Z
  3    8  8 port 1000mb GBIC Enhanced QoS         WS-X6408A-GBIC     SAL09391KZH
  5    2  Supervisor Engine 720 (Active)          WS-SUP720-3BXL     SAL09337UE6
  6    2  Supervisor Engine 720 (Hot)             WS-SUP720-3BXL     SAL09148P59
Mod MAC addresses                       Hw     Fw           Sw           Status
--- ------------------------------------ ------ ------------ ------------ -------
  1  0013.c3f8.d2c4 to 0013.c3f8.d2f3   5.0    8.3(1)       8.6(0.366)TA Ok
  2  0015.2bc3.5b40 to 0015.2bc3.5b7f   2.1    12.2(nightly 12.2(nightly Ok
  3  0015.6324.ed48 to 0015.6324.ed4f   3.1    5.4(2)       8.6(0.366)TA Ok
  5  0014.a97d.b0ac to 0014.a97d.b0af   4.3    8.4(2)       12.2(nightly Ok
  6  0013.7f0d.0660 to 0013.7f0d.0663   4.3    8.4(2)       12.2(nightly Ok
Mod  Sub-Module                 Model              Serial        Hw     Status
---- -------------------------- ------------------ ----------- ------- -------
  5  Policy Feature Card 3      WS-F6K-PFC3BXL     SAL09337NVE  1.6     Ok
  5  MSFC3 Daughterboard        WS-SUP720          SAL09327AU6  2.3     Ok
  6  Policy Feature Card 3      WS-F6K-PFC3BXL     SAL1033Y0YK  1.8     Ok
  6  MSFC3 Daughterboard        WS-SUP720          SAL09158XB3  2.3     Ok
Mod  Online Diag Status
---- -------------------
  1  Pass
  2  Pass
  3  Pass
  5  Pass
  6  Pass
Router# attach 5
Trying Switch ...
Entering CONSOLE for Switch
Type "^C^C^C" to end this session
```

```
Switch-sp#
show scp process
Sap Pid Name
=== === ====
0 180 CWAN-RP SCP Input Process
18 42 itasca
20 3 Exec
21 3 Exec
22 180 CWAN-RP SCP Input Process
Total number of SAP registered = 5
Router#
```

show slot

To display information about the PCMCIA flash memory cards file system, use the **show slot**command in user EXEC or privileged EXEC mode.

show slot [**all**| **chips**| **detailed**| **err**| **summary**]

Syntax Description

all	(Optional) Displays all possible flash system information for all PCMCIA flash cards in the system.
chips	(Optional) Displays flash chip information.
detailed	(Optional) Displays the flash detailed directory.
err	(Optional) Displays the flash chip erase and write retries.
summary	(Optional) Displays the flash partition summary.

Command Modes   User EXEC Privileged EXEC

Command History

Release	Modification
12.0	This command was introduced.

Usage Guidelines   Use the **show slot** command to display details about the files in a particular linear PCMCIA flash memory card of less than 20 MB and some 32 MB linear PCMCIA cards.

Note   Use the **show disk** command for ATA PCMCIA cards. Other forms of this commands are **show disk0:** and **show disk1:**.

For more information regarding file systems and flash cards, access the *PCMCIA Filesystem Compatibility Matrix and Filesystem Information* document at the following URL:

http://www.cisco.com/en/US/partner/products/hw/routers/ps341/products_tech_note09186a00800a7515.shtml

To see which flash cards are used in your router, use the **show version** command and look at the bottom portion of the output.

The following display indicates an ATA PCMCIA flash disk.

```
Router# show version
.
```

.
```
46976K bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes).
```
The following display indicates a linear PCMCIA flash card with 20480K bytes of flash memory in card at slot 1 with a sector size of 128K.

```
Router# show version
.
.
20480K bytes of Flash PCMCIA card at slot 1 (Sector size 128K).
```

Note   In some cases the **show slot** command will not display the file systems, use **show slot0:** or **show slot1:**.

Examples   The following example displays information about slot 0. The output is self-explanatory.

```
Router# show slot
PCMCIA Slot0 flash directory:
File  Length    Name/status
  1   11081464  c3660-bin-mz.123-9.3.PI5b
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
```
The following example shows all possible flash system information for all PCMCIA flash cards in the system.

```
Router# show slot all
Partition   Size      Used      Free      Bank-Size   State        Copy Mode
  1         20223K    10821K    9402K     4096K       Read/Write   Direct
PCMCIA Slot0 flash directory:
File  Length    Name/status
        addr       fcksum  ccksum
  1   11081464  c3660-bin-mz.123-9.3.PI5b
        0x40       0x5EA3  0x5EA3
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
    Chip    Bank    Code      Size       Name
     1       1      89A0      2048KB     INTEL 28F016SA
     2       1      89A0      2048KB     INTEL 28F016SA
     1       2      89A0      2048KB     INTEL 28F016SA
     2       2      89A0      2048KB     INTEL 28F016SA
     1       3      89A0      2048KB     INTEL 28F016SA
     2       3      89A0      2048KB     INTEL 28F016SA
     1       4      89A0      2048KB     INTEL 28F016SA
     2       4      89A0      2048KB     INTEL 28F016SA
     1       5      89A0      2048KB     INTEL 28F016SA
     2       5      89A0      2048KB     INTEL 28F016SA
The following example shows flash chip information
Router# show slot chips

20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
    Chip    Bank    Code      Size       Name
     1       1      89A0      2048KB     INTEL 28F016SA
     2       1      89A0      2048KB     INTEL 28F016SA
     1       2      89A0      2048KB     INTEL 28F016SA
     2       2      89A0      2048KB     INTEL 28F016SA
     1       3      89A0      2048KB     INTEL 28F016SA
     2       3      89A0      2048KB     INTEL 28F016SA
     1       4      89A0      2048KB     INTEL 28F016SA
     2       4      89A0      2048KB     INTEL 28F016SA
     1       5      89A0      2048KB     INTEL 28F016SA
     2       5      89A0      2048KB     INTEL 28F016SA
```
The following example show the flash detailed directory.

```
Router# show slot detailed
PCMCIA Slot0 flash directory:
File  Length    Name/status
```

```
         addr      fcksum  ccksum
   1   11081464  c3660-bin-mz.123-9.3.PI5b
         0x40       0x5EA3  0x5EA3
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
```

The following example shows the flash chip erase and write retries.

```
Router# show slot err

PCMCIA Slot0 flash directory:
File   Length   Name/status
   1   11081464  c3660-bin-mz.123-9.3.PI5b
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
   Chip    Bank    Code     Size       Name              erase  write
    1       1      89A0    2048KB    INTEL 28F016SA       0      0
    2       1      89A0    2048KB    INTEL 28F016SA       0      0
    1       2      89A0    2048KB    INTEL 28F016SA       0      0
    2       2      89A0    2048KB    INTEL 28F016SA       0      0
    1       3      89A0    2048KB    INTEL 28F016SA       0      0
    2       3      89A0    2048KB    INTEL 28F016SA       0      0
    1       4      89A0    2048KB    INTEL 28F016SA       0      0
    2       4      89A0    2048KB    INTEL 28F016SA       0      0
    1       5      89A0    2048KB    INTEL 28F016SA       0      0
    2       5      89A0    2048KB    INTEL 28F016SA       0      0
```

The following example shows the flash partition summary.

```
Router# show
 slot summary

Partition   Size    Used      Free      Bank-Size  State         Copy Mode
   1       20223K  10821K    9402K      4096K      Read/Write    Direct
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
```

Related Commands

Command	Description
dir slot0:	Directory listing of files on a PCMCIA Flash card located in slot0.
dir slot1:	Directory listing of files on a PCMCIA Flash card located in slot1.
show slot0:	Displays information about the PCMCIA flash memory card's file system located in slot 0.
show slot1:	Displays information about the PCMCIA flash memory card's file system located in slot 1.

show slot0:

To display information about the PCMCIA flash memory card's file system located in slot 0, use the **show slot0:**command in user EXEC or privileged EXEC mode.

show slot0:[**all**| **chips**| **detailed**| **err**| **summary**]

Syntax Description

all	(Optional) Displays all possible flash system information for all PCMCIA flash cards in the system.
chips	(Optional) Displays flash chip information.
detailed	(Optional) Displays the flash detailed directory.
err	(Optional) Displays the flash chip erase and write retries.
summary	(Optional) Displays the flash partition summary.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.0	This command was introduced.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

Use the **show slot0:** command to display details about the files in a particular linear PCMCIA flash memory card of less than 20 MB and some 32 MB linear PCMCIA cards.

Note Use the **show disk** command for ATA PCMCIA cards. Other forms of this commands are **show disk0:** and **show disk1:**.

For more information regarding file systems and flash cards, access the *PCMCIA Filesystem Compatibility Matrix and Filesystem Information* document at the following URL:

http://www.cisco.com/en/US/partner/products/hw/routers/ps341/products_tech_note09186a00800a7515.shtml

To see which flash cards are used in your router, use the **show version** command and look at the bottom portion of the output.

The following display indicates an ATA PCMCIA flash disk.

```
Router# show version
.
.
46976K bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes).
```

The following display indicates a linear PCMCIA flash card with 20480K bytes of flash memory in card at slot 1 with a sector size of 128K.

```
Router# show version
.
.
20480K bytes of Flash PCMCIA card at slot 1 (Sector size 128K).
```

Note   In some cases the **show slot** command will not display the file systems, use **show slot0:** or **show slot1:**.

Examples   The following example displays information about slot 0. The output is self-explanatory.

```
Router# show slot0:
PCMCIA Slot0 flash directory:
File   Length   Name/status
  1   11081464  c3660-bin-mz.123-9.3.PI5b
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
Router# show slot0: all
Partition   Size     Used      Free       Bank-Size  State        Copy Mode
  1         20223K   10821K    9402K      4096K      Read/Write   Direct
PCMCIA Slot0 flash directory:
File  Length   Name/status
        addr      fcksum  ccksum
  1   11081464  c3660-bin-mz.123-9.3.PI5b
        0x40      0x5EA3  0x5EA3
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
   Chip    Bank    Code     Size      Name
    1       1      89A0     2048KB    INTEL 28F016SA
    2       1      89A0     2048KB    INTEL 28F016SA
    1       2      89A0     2048KB    INTEL 28F016SA
    2       2      89A0     2048KB    INTEL 28F016SA
    1       3      89A0     2048KB    INTEL 28F016SA
    2       3      89A0     2048KB    INTEL 28F016SA
    1       4      89A0     2048KB    INTEL 28F016SA
    2       4      89A0     2048KB    INTEL 28F016SA
    1       5      89A0     2048KB    INTEL 28F016SA
    2       5      89A0     2048KB    INTEL 28F016SA
The following example shows flash chip information.
Router# show slot0: chips

20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
   Chip    Bank    Code     Size      Name
    1       1      89A0     2048KB    INTEL 28F016SA
    2       1      89A0     2048KB    INTEL 28F016SA
    1       2      89A0     2048KB    INTEL 28F016SA
    2       2      89A0     2048KB    INTEL 28F016SA
    1       3      89A0     2048KB    INTEL 28F016SA
    2       3      89A0     2048KB    INTEL 28F016SA
    1       4      89A0     2048KB    INTEL 28F016SA
    2       4      89A0     2048KB    INTEL 28F016SA
    1       5      89A0     2048KB    INTEL 28F016SA
    2       5      89A0     2048KB    INTEL 28F016SA
```

The following example show the flash detailed directory.

```
Router# show slot0: detailed
```

```
PCMCIA Slot0 flash directory:
File   Length   Name/status
          addr      fcksum   ccksum
  1   11081464   c3660-bin-mz.123-9.3.PI5b
          0x40      0x5EA3   0x5EA3
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
```

The following example shows the flash chip erase and write retries.

```
Router# show slot0: err

PCMCIA Slot0 flash directory:
File   Length   Name/status
  1   11081464   c3660-bin-mz.123-9.3.PI5b
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
    Chip    Bank    Code    Size    Name              erase   write
     1       1      89A0    2048KB  INTEL 28F016SA      0       0
     2       1      89A0    2048KB  INTEL 28F016SA      0       0
     1       2      89A0    2048KB  INTEL 28F016SA      0       0
     2       2      89A0    2048KB  INTEL 28F016SA      0       0
     1       3      89A0    2048KB  INTEL 28F016SA      0       0
     2       3      89A0    2048KB  INTEL 28F016SA      0       0
     1       4      89A0    2048KB  INTEL 28F016SA      0       0
     2       4      89A0    2048KB  INTEL 28F016SA      0       0
     1       5      89A0    2048KB  INTEL 28F016SA      0       0
     2       5      89A0    2048KB  INTEL 28F016SA      0       0
```

The following example shows the flash partition summary.

```
Router# show
 slot0: summary

Partition   Size     Used      Free      Bank-Size   State          Copy Mode
  1        20223K   10821K    9402K      4096K       Read/Write     Direct
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
```

Related Commands

Command	Description
dir slot0:	Directory listing of files on a PCMCIA Flash card located in slot0.
dir slot1:	Directory listing of files on a PCMCIA Flash card located in slot1.
show slot1:	Displays information about the PCMCIA flash memory card's file system located in slot 1.
show slot	Displays information about the PCMCIA flash memory cards.

show slot1:

To display information about the PCMCIA flash memory card's file system located in slot 1, use the **show slot1:**command in user EXEC or privileged EXEC mode.

show slot1:[**all**| **chips**| **detailed**| **err**| **summary**]

Syntax Description

all	(Optional) Displays all possible flash system information for all PCMCIA flash cards in the system.
chips	(Optional) Displays flash chip information.
detailed	(Optional) Displays the flash detailed directory.
err	(Optional) Displays the flash chip erase and write retries.
summary	(Optional) Displays the flash partition summary.

Command Modes   User EXEC Privileged EXEC

Command History

Release	Modification
12.0	This command was introduced.

Usage Guidelines   Use the **show slot1:** command to display details about the files in a particular linear PCMCIA flash memory card of less than 20 MB and some 32 MB linear PCMCIA cards located in slot 1.

Note   Use the **show disk** command for ATA PCMCIA cards. Other forms of this commands are **show disk0:** and **show disk1:**.

For more information regarding file systems and flash cards, access the *PCMCIA Filesystem Compatibility Matrix and Filesystem Information* document at the following URL:

http://www.cisco.com/en/US/partner/products/hw/routers/ps341/products_tech_note09186a00800a7515.shtml

To see which flash cards are used in your router, use the **show version** command and look at the bottom portion of the output.

The following display indicates an ATA PCMCIA flash disk.

```
Router# show version
.
```

```
.
46976K bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes).
```

The following display indicates a linear PCMCIA flash card with 20480K bytes of flash memory in card at slot 1 with a sector size of 128K.

```
Router# show version
.
.
20480K bytes of Flash PCMCIA card at slot 1 (Sector size 128K).
```

Note   In some cases the **show slot** command will not display the file systems. Use **show slot0:** or **show slot1:**.

Examples

The following example displays information about slot 0 using the **slot0:** command form. The output is self-explanatory.

```
Router# show slot1
:
PCMCIA Slot1 flash directory:
File  Length   Name/status
  1   10907068  c3660-bin-mz.123-7.9.PI4
[10907132 bytes used, 5739008 available, 16646140 total]
16384K bytes of processor board PCMCIA Slot1 flash (Read/Write)
Router# show slot1: all
Partition   Size    Used      Free       Bank-Size  State        Copy Mode
  1         20223K  10821K    9402K      4096K      Read/Write   Direct
PCMCIA Slot0 flash directory:
File  Length   Name/status
        addr      fcksum  ccksum
  1   11081464  c3660-bin-mz.123-9.3.PI5b
        0x40      0x5EA3  0x5EA3
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
   Chip   Bank    Code       Size       Name
    1      1      89A0      2048KB      INTEL 28F016SA
    2      1      89A0      2048KB      INTEL 28F016SA
    1      2      89A0      2048KB      INTEL 28F016SA
    2      2      89A0      2048KB      INTEL 28F016SA
    1      3      89A0      2048KB      INTEL 28F016SA
    2      3      89A0      2048KB      INTEL 28F016SA
    1      4      89A0      2048KB      INTEL 28F016SA
    2      4      89A0      2048KB      INTEL 28F016SA
    1      5      89A0      2048KB      INTEL 28F016SA
    2      5      89A0      2048KB      INTEL 28F016SA
The following example shows flash chip information.
Router# show slot1: chips

20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
   Chip   Bank    Code       Size       Name
    1      1      89A0      2048KB      INTEL 28F016SA
    2      1      89A0      2048KB      INTEL 28F016SA
    1      2      89A0      2048KB      INTEL 28F016SA
    2      2      89A0      2048KB      INTEL 28F016SA
    1      3      89A0      2048KB      INTEL 28F016SA
    2      3      89A0      2048KB      INTEL 28F016SA
    1      4      89A0      2048KB      INTEL 28F016SA
    2      4      89A0      2048KB      INTEL 28F016SA
    1      5      89A0      2048KB      INTEL 28F016SA
    2      5      89A0      2048KB      INTEL 28F016SA
```

The following example show the flash detailed directory.

```
Router# show slot1: detailed
PCMCIA Slot0 flash directory:
File  Length   Name/status
        addr      fcksum  ccksum
  1   11081464  c3660-bin-mz.123-9.3.PI5b
```

```
        0x40      0x5EA3  0x5EA3
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
```

The following example shows the flash chip erase and write retries.

```
Router# show slot1: err

PCMCIA Slot0 flash directory:
File  Length    Name/status
  1   11081464  c3660-bin-mz.123-9.3.PI5b
[11081528 bytes used, 9627844 available, 20709372 total]
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
    Chip    Bank    Code      Size      Name               erase   write
     1       1      89A0      2048KB    INTEL 28F016SA      0       0
     2       1      89A0      2048KB    INTEL 28F016SA      0       0
     1       2      89A0      2048KB    INTEL 28F016SA      0       0
     2       2      89A0      2048KB    INTEL 28F016SA      0       0
     1       3      89A0      2048KB    INTEL 28F016SA      0       0
     2       3      89A0      2048KB    INTEL 28F016SA      0       0
     1       4      89A0      2048KB    INTEL 28F016SA      0       0
     2       4      89A0      2048KB    INTEL 28F016SA      0       0
     1       5      89A0      2048KB    INTEL 28F016SA      0       0
     2       5      89A0      2048KB    INTEL 28F016SA      0       0
```

The following example shows the flash partition summary.

```
Router# show
 slot1: summary

Partition   Size    Used     Free      Bank-Size  State         Copy Mode
  1       20223K  10821K   9402K      4096K      Read/Write    Direct
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
```

Related Commands

Command	Description
dir slot0:	Directory listing of files on a PCMCIA Flash card located in slot0.
dir slot1:	Directory listing of files on a PCMCIA Flash card located in slot1.
show slot0:	Displays information about the PCMCIA flash memory card's file system located in slot 0.
show slot	Displays information about the PCMCIA flash memory cards.

show software authenticity file

To display information related to software authentication for a specific image file, use the **show software authenticity file** command in privileged EXEC mode.

show software authenticity file {**flash0:filename**| **flash1:filename**| **flash:filename**| **nvram:filename**| **usbflash0:filename**| **usbflash1:filename**}

Syntax Description

flash0:	Displays information related to software authentication for flash 0 resources.
filename	Name of the filename in memory.
flash1:	Displays information related to software authentication for flash 1 resources.
flash:	Displays information related to software authentication for flash resources.
nvram:	Displays information related to software authentication for NVRAM resources.
usbflash0:	Displays information related to software authentication for Universal Serial Bus (USB) flash 0 resources.
usbflash1:	Displays information related to software authentication for USB flash 1 resources.

Command Modes   Privileged EXEC (#)

Command History

Release	Modification
15.0(1)M	This command was introduced for the Cisco 1941, 2900, and 3900 routers.

Usage Guidelines   The show software authenticity file command allows you to display software authentication related information that includes image credential information, key type used for verification, signing information, and other attributes in the signature envelope, for a specific image file. The command handler will extract the signature envelope and its fields from the image file and dump the required information.

Examples

The following example displays software authentication related information for an image file named c3900-universalk9-mz.SSA:

```
Router# show software authenticity file flash0:c3900-universalk9-mz.SSA
File Name                  : flash0:c3900-universalk9-mz.SSA
Image type                 : Development
    Signer Information
        Common Name        : xxx
        Organization Unit  : xxx
        Organization Name  : xxx
    Certificate Serial Number : xxx
    Hash Algorithm         : SHA512
Signature Algorithm       : 2048-bit RSA
    Key Version            : A
```

The following table describes the significant fields shown in the display.

Table 5: show software authenticity file Field Descriptions

Field	Description
File Name	Name of the filename in the memory. For example, flash0:c3900-universalk9-mz.SSA refers to filename c3900-universalk9-mz.SSA in flash memory (flash0:).
Image type	Displays the type of image.
Signer Information	Signature information.
Common Name	Displays the name of the software manufacturer.
Organization Unit	Displays the hardware the software image is deployed on.
Organization Name	Displays the owner of the software image.
Certificate Serial Number	Displays the certificate serial number for the digital signature.
Hash Algorithm	Displays the type of hash algorithm used in digital signature verification.
Signature Algorithm	Displays the type of signature algorithm used in digital signature verification.
Key Version	Displays the key version used for verification.

Related Commands

Command	Description
show software authenticity keys	Displays the software public keys that are in the storage with the key types.

Command	Description
show software authenticity running	Displays information related to software authentication for the current ROMMON, monitor library (monlib), and Cisco IOS image used for booting.

show software authenticity keys

To display the software public keys that are in the storage with the key types, use the **show software authenticity keys**command in privileged EXEC mode.

show software authenticity keys

Syntax Description

This command has no argument or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.0(1)M	This command was introduced for the Cisco 1941, 2900, and 3900 routers.

Usage Guidelines

The display from this command includes the public keys that are in the storage with the key types.

Examples

The following is sample output from the show software authenticity keys command:

```
Router# show software authenticity keys
Public Key #1 Information
-------------------------
Key Type             : Release  (Primary)
Public Key Algorithm : RSA
Modulus :
      CC:CA:40:55:8C:71:E2:4A:3A:B6:9D:5C:94:1D:02:BA:
      .....
      26:04:6B:33:EB:70:2B:18:24:C7:D9:31:3E:77:24:85
Exponent : xxx
Key Version          : A
Public Key #2 Information
-------------------------
Key Type             : Development  (Primary)
Public Key Algorithm : RSA
Modulus :
      CC:CA:40:55:8C:71:E2:4A:3A:B6:9D:5C:94:1D:02:BA:
      .....
      26:04:6B:33:EB:70:2B:18:24:C7:D9:31:3E:77:24:85
Exponent : xxx
Key Version          : A
```
The following table describes the significant fields shown in the display.

Table 6: show software authenticity running Field Descriptions

Field	Description
Public Key #	Public key number.

Field	Description
Key Type	Displays the key type used for image verification.
Public Key Algorithm	Displays the name of the algorithm used for public key cryptography.
Modulus	Modulus of the public key algorithm.
Exponent	Exponent of the public key algorithm
Key Version	Displays the key version used for verification.

Related Commands

Command	Description
show software authenticity file	Displays information related to software authentication for the loaded image file.
show software authenticity running	Displays information related to software authentication for the current ROM monitor (ROMMON), monitor library (monlib), and Cisco IOS image used for booting.

show software authenticity running

To display information related to software authentication for the current ROM monitor (ROMMON), monitor library (monlib), and Cisco IOS image used for booting, use the **show software authenticity running** command in privileged EXEC mode.

show software authenticity running

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.0(1)M	This command was introduced for the Cisco 1941, 2900, and 3900 routers.

Usage Guidelines

The information displayed by the show software authenticity running command about the current ROMMON, monlib and Cisco IOS image used for booting includes:

- Image credential information

- Key type used for verification

- Signing information

- Any other attributes in the signature envelope

Examples

The following example displays software authentication related information for the current ROM monitor (ROMMON), monitor library (monlib), and Cisco IOS image used for booting:

```
Router(mode-prompt
)# show software authenticity running
SYSTEM IMAGE
------------------
Image type : Development
Signer Information
Common Name : xxx
Organization Unit : xxx
Organization Name : xxx
Certificate Serial Number : xxx
Hash Algorithm : xxx
Signature Algorithm : 2048-bit RSA
Key Version : xxx
Verifier Information
Verifier Name : ROMMON 2
Verifier Version : System Bootstrap, Version 12.4(20090409:084310)
ROMMON 2
---------------
Image type : Development
Signer Information
```

```
Common Name : xxx
Organization Unit : xxx
Organization Name : xxx
Certificate Serial Number : xxx
Hash Algorithm : xxx
Signature Algorithm : 2048-bit RSA
Key Version : xxx
Verifier Information
Verifier Name : ROMMON 2
Verifier Version : System Bootstrap, Version 12.4(20090409:084310)
```

The following table describes the significant fields shown in the display.

Table 7: show software authenticity running Field Descriptions

Field	Description
SYSTEM IMAGE	Section of the output displaying the system image information.
Image type	Displays the type of image.
Common Name	Displays the name of the software manufacturer.
Organization Unit	Displays the hardware the software image is deployed on.
Organization Name	Displays the owner of the software image.
Certificate Serial Number	Displays the certificate serial number for the digital signature.
Hash Algorithm	Displays the type of hash algorithm used in digital signature verification.
Signature Algorithm	Displays the type of signature algorithm used in digital signature verification.
Key Version	Displays the key version used for verification.
Verifier Name	Name of the program responsible for performing the digital signature verification.
Verifier Version	Version of the program responsible for performing the digital signature verification.
ROMMON 2	Section of the output displaying the current ROM monitor (ROMMON) information.

Related Commands

Command	Description
show software authenticity file	Displays the software authenticity related information for the loaded image file.
show software authenticity keys	Displays the software public keys that are in the storage with the key types.

show software package

To display information about a specific bundle or package file, use the **show software package** command in privileged EXEC mode.

show software package *bundle or package url* [**detail**][**verbose**]

Syntax Description

bundle or package url	Specify the name of the bundle or package file whose information should be displayed.
detail	(optional) This command option is intended to provide additional details about the specified package or bundle file. Currently, no additional information is displayed.
verbose	(optional) provides some additional info in the log files

Command Default   No default behavior or values.

Command Modes   User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
IOS XE 3.2.0 SE	Command introduced.
Cisco IOS XE Release 3.3 SE	This command was integrated.

Usage Guidelines   The 'show software package' command displays information about the specified bundle or package file.

If a package file is specified, this command displays information from its package metadata.

If a bundle file is specified, this command displays information from its bundle metadata, and also information from the package metadata of each package included in the bundle.

Examples   The following example shows the **show software package** output for a bundle file.

```
infra-p2-3#show software package flash:cat3k_caa-universalk9.SSA.03.09.19.
   EMP.150-9.19.EMP.bin
Package: cat3k_caa-universalk9.SSA.03.09.19.EMP.150-9.19.EMP.bin
  Size: 220766688
  Timestamp: 2012-11-15 11:53:50 UTC
  Canonical path: /flash/cat3k_caa-universalk9.SSA.03.09.19.EMP.150-9.19.EMP.bin
  Header size:    2928 bytes
```

```
Internal package information:
  Name: rp_super
  BuildTime: Thu Nov 15 01:55:09 PST 2012
  ReleaseDate: Thu Nov 15 01:55:09 PST 2012
  RouteProcessor: mips
  Platform: ng3k
  User: udonthi
  PackageName: cat3k_caa-universalk9
  Build: 03.09.19.EMP
  Dependencies: PROVIDES:cat3k_caa-base,03.09.19.EMP,mips;cat3k_caa-infra,03.09.19.EMP,
   mips;cat3k_caa-platform,03.09.19.EMP,mips;cat3k_caa-iosd-universalk9,150-9.19.EMP,
   mips;cat3k_caa-wcm,03.09.19.EMP,mips;cat3k_caa-drivers,03.09.19.EMP,mips;
  BuildType: Production

Package is bootable from media and tftp.
Package contents:

Package: cat3k_caa-base.SSA.03.09.19.EMP.pkg
  Size: 74390336
  Timestamp: 2012-11-15 11:55:30 UTC
  Header size:     412 bytes

  Internal package information:
    Name: rp_base
    BuildTime: Thu Nov 15 01:52:19 PST 2012
    ReleaseDate: Thu Nov 15 01:52:19 PST 2012
    RouteProcessor: mips
    Platform: ng3k
    User: udonthi
    PackageName: cat3k_caa-base
    Build: 03.09.19.EMP
    Dependencies: PROVIDES: nova-gold,03.09.19.EMP,mips; nova-goldlib,03.09.19.EMP,mips;

     nova-base,03.09.19.EMP,mips#REQUIRES:#WORKSWITH:#CONFLICTS:#
    BuildType: Production

  Package is not bootable.

Package: cat3k_caa-drivers.SSA.03.09.19.EMP.pkg
  Size: 2734772
  Timestamp: 2012-11-15 11:55:37 UTC
  Header size:     252 bytes

  Internal package information:
    Name: drivers
    BuildTime: Thu Nov 15 01:54:53 PST 2012
    ReleaseDate: Thu Nov 15 01:54:53 PST 2012
    RouteProcessor: mips
    Platform: ng3k
    User: udonthi
    PackageName: cat3k_caa-drivers
    Build: 03.09.19.EMP
    Dependencies: PROVIDES: ng3k-drivers,03.09.19.EMP,mips#REQUIRES:#WORKSWITH:
     #CONFLICTS:#
    BuildType: Production

  Package is not bootable.

Package: cat3k_caa-infra.SSA.03.09.19.EMP.pkg
  Size: 32465772
  Timestamp: 2012-11-15 11:55:32 UTC
  Header size:     436 bytes

  Internal package information:
    Name: rp_infra
    BuildTime: Thu Nov 15 01:53:08 PST 2012
    ReleaseDate: Thu Nov 15 01:53:08 PST 2012
    RouteProcessor: mips
    Platform: ng3k
    User: udonthi
    PackageName: cat3k_caa-infra
    Build: 03.09.19.EMP
```

```
        Dependencies: PROVIDES: nova-infra,03.09.19.EMP,mips;
         nova-infralibs,03.09.19.EMP,mips; nova-web,03.09.19.EMP,mips;
         nova-shell,03.09.19.EMP,mips; nova-console-relay,03.09.19.EMP,mips;
         nova-mgmte,03.09.19.EMP,mips; nova-ng3k-flash,03.09.19.EMP,mips#
EQUIRES:#WORKSWITH:#CONFLICTS:#
        BuildType: Production

    Package is not bootable.

  Package: cat3k_caa-iosd-universalk9.SSA.150-9.19.EMP.pkg
    Size: 30384940
    Timestamp: 2012-11-15 11:55:34 UTC
    Header size:     372 bytes

    Internal package information:
      Name: rp_iosd
      BuildTime: Thu Nov 15 01:54:09 PST 2012
      ReleaseDate: Thu Nov 15 01:54:09 PST 2012
      RouteProcessor: mips
      Platform: ng3k
      User: udonthi
      PackageName: cat3k_caa-iosd-universalk9
      Build: 150-9.19.EMP
      Dependencies: PROVIDES: iosd-stuff,03.09.19.EMP,mips; nova-ioslibs-required,
       03.09.19.EMP,mips; ioucon,150-9.19.EMP,mips;
       ng3k-iosd-universalk9,150-9.19.EMP,mips#REQUIRES:#WORKSWITH:#CONFLICTS:#
      BuildType: Production

    Package is not bootable.

  Package: cat3k_caa-platform.SSA.03.09.19.EMP.pkg
    Size: 18148064
    Timestamp: 2012-11-15 11:55:33 UTC
    Header size:     296 bytes

    Internal package information:
      Name: rp_platform
      BuildTime: Thu Nov 15 01:53:39 PST 2012
      ReleaseDate: Thu Nov 15 01:53:39 PST 2012
      RouteProcessor: mips
      Platform: ng3k
      User: udonthi
      PackageName: cat3k_caa-platform
      Build: 03.09.19.EMP
      Dependencies: PROVIDES: nova-platformlibs-required,03.09.19.EMP,mips;
       ng3k-platform,03.09.19.EMP,mips#REQUIRES:#WORKSWITH:#CONFLICTS:#
      BuildType: Production

    Package is not bootable.

  Package: cat3k_caa-wcm.SSA.03.09.19.EMP.pkg
    Size: 62638800
    Timestamp: 2012-11-15 11:55:37 UTC
    Header size:     280 bytes

    Internal package information:
      Name: rp_wcm
      BuildTime: Thu Nov 15 01:54:34 PST 2012
      ReleaseDate: Thu Nov 15 01:54:34 PST 2012
      RouteProcessor: mips
      Platform: ng3k
      User: udonthi
      PackageName: cat3k_caa-wcm
      Build: 03.09.19.EMP
      Dependencies: PROVIDES: wcm-ng3k,03.09.19.EMP,mips; nova-wcmlibs-required,
       03.09.19.EMP,mips#REQUIRES:#WORKSWITH:#CONFLICTS:#
      BuildType: Production

    Package is not bootable.


  infra-p2-3#
```

Related Commands

Command	Description
software clean	Use this command to remove any and all packages and provisioning files that are no longer in use.
software install file	Install Cisco IOS XE files.
software commit	Use this command to commit a package set that was installed using the **auto-rollback** command option of the **software install** command.
software install source switch	Use this command to install the running IOS XE software packages from one stack member to one or more other stack members.
software rollback	Use this command to roll back the committed Cisco IOS XE Software to a previous installation point.
show version	To display information about the currently loaded software along with hardware and device information, use the **show version** command.

show software installer rollback-timer

The **show software installer rollback-timer** command displays the current auto-rollback timer status for a standalone platform or all switches in a stacked system.

show software installer rollback-timer

Command Default   There are no command options.

Command Modes   User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
IOS XE 3.2.0 SE	Command introduced.
Cisco IOS XE Release 3.3 SE	This command was integrated.

Usage Guidelines   There are no command options.

Examples   To show the auto-rollback timer status for the current switch, perform the following.

```
infra-p2-3#show software installer rollback-timer
Switch#     Status      Duration
--------------------------------
1           active      00:31:28
2           active      00:31:43

infra-p2-3#

infra-p2-3#show software installer rollback-timer
Switch#     Status      Duration
--------------------------------
1           inactive    -
2           inactive    -

infra-p2-3#
```

Related Commands

Command	Description
software clean	Use this command to remove any and all packages and provisioning files that are no longer in use.
software install file	Install Cisco IOS XE files.

Command	Description
software commit	Use this command to commit a package set that was installed using the **auto-rollback** command option of the **software install** command.
software install source switch	Use this command to install the running IOS XE software packages from one stack member to one or more other stack members.
software rollback	Use this command to roll back the committed Cisco IOS XE Software to a previous installation point.
show version	To display information about the currently loaded software along with hardware and device information, use the **show version** command.

show stacks

To monitor the stack usage of processes and interrupt routines, use the **show stacks** command in EXEC mode.

show stacks

Syntax Description This command has no arguments or keywords.

Command Modes EXEC

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Usage Guidelines The display from this command includes the reason for the last system reboot. If the system was reloaded because of a system failure, a saved system stack trace is displayed. This information is of use only to your technical support representative in analyzing crashes in the field. It is included here in case you need to read the displayed statistics to an engineer over the phone.

Examples The following is sample output from the **show stacks** command following a system failure:

```
Router# show stacks
Minimum process stacks:
Free/Size  Name
 652/1000  Router Init
 726/1000  Init
 744/1000  BGP Open
 686/1200  Virtual Exec
Interrupt level stacks:
Level    Called Free/Size  Name
  1           0 1000/1000  env-flash
  3         738  900/1000  Multiport Communications Interfaces
  5         178  970/1000  Console UART
System was restarted by bus error at PC 0xAD1F4, address 0xD0D0D1A
GS Software (GS3), Version 9.1(0.16), BETA TEST SOFTWARE
Compiled Tue 11-Aug-92 13:27 by jthomas
Stack trace from system failure:
FP: 0x29C158, RA: 0xACFD4
FP: 0x29C184, RA: 0xAD20C
FP: 0x29C1B0, RA: 0xACFD4
FP: 0x29C1DC, RA: 0xAD304
FP: 0x29C1F8, RA: 0xAF774
FP: 0x29C214, RA: 0xAF83E
FP: 0x29C228, RA: 0x3E0CA
FP: 0x29C244, RA: 0x3BD3C
```

Related Commands

Command	Description
show processes	Displays information about the active processes.

show startup-config

The **more nvram:startup-config** command has been replaced by the **show startup-config** command. See the description of the **more** command in the "Cisco IOS File System Commands" chapter for more information.

show subsys

To display the subsystem information, use the **show subsys** command in privileged EXEC mode.

show subsys [**class** *class*| **name** *name*]

Syntax Description

class *class*	(Optional) Displays the subsystems of the specified class. Valid classes are **driver**, **ehsa**, **ifs**, **kernel**, **library**, **license**, **management**, **microcode**, **pre-ehsa**, **pre-driver**, **protocol**, **registry**,and **sysinit**.
name *name*	(Optional) Displays the specified subsystem. Use the asterisk character (*) as a wildcard at the end of the name to list all subsystems, starting with the specified characters.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
11.1	This command was introduced.
12.3	This command was modified. The **ehsa**, **ifs**, **microcode**, **pre-driver**, and **sysinit** classes were added.
12.3T	This command was modified The **pre-ehsa** class was added.
12.2(33)SRA	This command was modified. The **driver**, **ehsa**, **kernel**, **library**, **management**, **pre-driver**, **pre-ehsa**, **protocol**, and **registry** classes were added.
12.2(35)SE2	This command was modified. The **driver**, **ehsa**, **kernel**, **library**, **license**, **management**, **pre-driver**, **pre-ehsa**, **protocol**, and **registry** classes were added.

Usage Guidelines

Use the **show subsys** command to confirm that all required features are in the running image.

Examples

The following is sample output from the **show subsys** command:

```
Router# show subsys
Name            Class       Version
static_map      Kernel      1.000.001
arp             Kernel      1.000.001
ether           Kernel      1.000.001
compress        Kernel      1.000.001
```

```
alignment          Kernel     1.000.002
monvar             Kernel     1.000.001
slot               Kernel     1.000.001
oir                Kernel     1.000.001
atm                Kernel     1.000.001
ip_addrpool_sys    Library    1.000.001
chat               Library    1.000.001
dialer             Library    1.000.001
flash_services     Library    1.000.001
ip_localpool_sys   Library    1.000.001
nvram_common       Driver     1.000.001
ASP                Driver     1.000.001
sonict             Driver     1.000.001
oc3suni            Driver     1.000.001
oc12suni           Driver     1.000.001
ds3suni            Driver     1.000.001
```

The following is sample output from the **show subsys** command that includes the **license** class:

```
Router# show subsys name license
Name                 Class       Version
license_mgmt_local   Management  1.000.001
license_admin_local  Management  1.000.001
license_debug_core   Management  1.000.001
license_test_ui      Management  1.000.001
test_license_parser  Management  1.000.001
license_ui           Management  1.000.001
license_parser       Management  1.000.001
license_registry     Registry    1.000.001
license_client       License     1.000.001
```
The table below describes the fields shown in the display.

Table 8: show subsys Field Descriptions

Field	Description
Name	Name of the subsystem.
Class	Class of the subsystem. Possible classes include Driver, Ehsa, Ifs, Kernel, Library, License, Management, Microcode, Pre-Ehsa, Pre-driver, Protocol, Registry, and Sysinit.
Version	Version of the subsystem.

show sup-bootflash

To display information about the sup-bootflash file system, use the **show sup-bootflash** command in privileged EXEC mode.

show sup-bootflash [**all**| **chips**| **filesys**]

Syntax Description

all	(Optional) Displays all possible Flash information.
chips	(Optional) Displays information about the Flash chip.
filesys	(Optional) Displays information about the file system.

Command Default

This command has no default settings.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.217d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Examples

This example shows how to display a summary of bootflash information:

```
Router#
show sup-bootflash
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time------ name
1   .. image    EBC8FC4D  A7487C   6 10700796 Nov 19 1999 07:07:37 halley
2   .. unknown  C7EB077D  EE2620  25  4644130 Nov 19 1999 07:50:44 cat6000-sup_
5-3-3-CSX.bin
645600 bytes available (15345184 bytes used)
Router#
```

This example shows how to display all bootflash information:

```
Router#
show sup-bootflash all
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time------ name
1   .. image    EBC8FC4D  A7487C   6 10700796 Nov 19 1999 07:07:37 halley
2   .. unknown  C7EB077D  EE2620  25  4644130 Nov 19 1999 07:50:44 cat6000-sup_
5-3-3-CSX.bin
645600 bytes available (15345184 bytes used)
-------- F I L E   S Y S T E M   S T A T U S --------
```

```
     Device Number = 2
DEVICE INFO BLOCK: bootflash
 Magic Number         = 6887635    File System Vers = 10000    (1.0)
 Length               = 1000000    Sector Size      = 40000
 Programming Algorithm = 19        Erased State     = FFFFFFFF
 File System Offset   = 40000      Length = F40000
 MONLIB Offset        = 100        Length = F568
 Bad Sector Map Offset = 3FFF8     Length = 8
 Squeeze Log Offset   = F80000     Length = 40000
 Squeeze Buffer Offset = FC0000    Length = 40000
 Num Spare Sectors    = 0
   Spares:
STATUS INFO:
 Writable
 NO File Open for Write
 Complete Stats
 No Unrecovered Errors
 No Squeeze in progress
USAGE INFO:
 Bytes Used     = EA2620  Bytes Available = 9D9E0
 Bad Sectors    = 0       Spared Sectors  = 0
 OK Files       = 2       Bytes = EA2520
 Deleted Files  = 0       Bytes = 0
 Files w/Errors = 0       Bytes = 0
******** Intel SCS Status/Register Dump ********
COMMON MEMORY REGISTERS: Bank 0
 Intelligent ID Code  : 890089
 Compatible Status Reg: 800080
DEVICE TYPE:
 Layout               : Paired x16 Mode
 Write Queue Size     : 64
 Queued Erase Supported : No
Router#
```

This example shows how to display information about the Flash chip:

```
Router# show sup-bootflash chips
******** Intel SCS Status/Register Dump ********
COMMON MEMORY REGISTERS: Bank 0
 Intelligent ID Code  : 890089
 Compatible Status Reg: 800080
DEVICE TYPE:
 Layout               : Paired x16 Mode
 Write Queue Size     : 64
 Queued Erase Supported : No
Router#
```

This example shows how to display information about the file system:

```
Router# show sup-bootflash filesys
-------- F I L E   S Y S T E M   S T A T U S --------
 Device Number = 2
DEVICE INFO BLOCK: bootflash
 Magic Number         = 6887635    File System Vers = 10000    (1.0)
 Length               = 1000000    Sector Size      = 40000
 Programming Algorithm = 19        Erased State     = FFFFFFFF
 File System Offset   = 40000      Length = F40000
 MONLIB Offset        = 100        Length = F568
 Bad Sector Map Offset = 3FFF8     Length = 8
 Squeeze Log Offset   = F80000     Length = 40000
 Squeeze Buffer Offset = FC0000    Length = 40000
 Num Spare Sectors    = 0
   Spares:
STATUS INFO:
 Writable
 NO File Open for Write
 Complete Stats
 No Unrecovered Errors
 No Squeeze in progress
USAGE INFO:
 Bytes Used     = EA2620  Bytes Available = 9D9E0
 Bad Sectors    = 0       Spared Sectors  = 0
 OK Files       = 2       Bytes = EA2520
```

```
   Deleted Files  = 0      Bytes = 0
   Files w/Errors = 0      Bytes = 0
Router#
```

show system jumbomtu

To display the g lobal maximum transmission unit (MTU) setting, use the **show system jumbomtu** command in privileged EXEC mode.

show system jumbomtu

Syntax Description   This command has no arguments or keywords.

Command Default   This command has no default settings.

Command Modes   Privileged EXEC

Command History

Release	Modification
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Examples   This example shows how to display the global MTU setting:

```
Router# show system jumbomtu
Global Ethernet MTU is 1550 bytes.
Router#
```

Related Commands

Command	Description
system jumbomtu	Sets the maximum size of the Layer 2 and Layer 3 packets.

show tech-support

To display general information about the router when it reports a problem, use the **show tech-support** command in privileged EXEC mode.

show tech-support [page] [password] [**cef**| **ipc**| **ipmulticast** [**vrf** *vrf-name*]| **isis**| **mpls**| **ipsec** [**peer** *ipv4 address* | **vrf** *vrf-name*]| **ospf** [*process-id*| **detail**]| **rsvp**| **voice**| **wccp**]

Cisco 7600 Series

show tech-support [**cef**| **ipmulticast** [**vrf** *vrf-name*]| **isis**| **password [page]**| **platform**| **page**| **rsvp**]

Syntax Description

page	(Optional) Causes the output to display a page of information at a time.
password	(Optional) Leaves passwords and other security information in the output.
cef	(Optional) Displays **show** command output specific to Cisco Express Forwarding.
ipc	(Optional) Displays **show** command output specific to Inter-Process Communication (IPC).
ipmulticast	(Optional) Displays **show** command output related to the IP Multicast configuration, including Protocol Independent Multicast (PIM) information, Internet Group Management Protocol (IGMP) information, and Distance Vector Multicast Routing Protocol (DVMRP) information.
vrf *vrf-name*	(Optional) Specifies a multicast Virtual Private Network (VPN) routing and forwarding instance (VRF).
ipsec	(Optional) Displays **show** command output related to the IPsec configuration.
peer *ipv4 address*	(Optional) Specifies the IPv4 address of a peer.
isis	(Optional) Displays **show** command output specific to Connectionless Network Service (CLNS) and Intermediate System-to-Intermediate System Protocol (IS-IS).
mpls	(Optional) Displays **show** command output specific to Multiprotocol Label Switching (MPLS) forwarding and applications.

ospf [*process-id* | **detail**]	(Optional) Displays **show** command output specific to Open Shortest Path First Protocol (OSPF) networking.
rsvp	(Optional) Displays **show** command output specific to Resource Reservation Protocol (RSVP) networking.
voice	(Optional) Displays **show** command output specific to voice networking.
wccp	(Optional) Displays **show** command output specific to Web Cache Communication Protocol (WCCP).
platform	(Optional) Displays platform-specific **show** command output.

Command Default   The output scrolls without page breaks. Passwords and other security information are removed from the output.

Command Modes   Privileged EXEC (#)

Command History

Release	Modification
11.2	This command was introduced.
11.3(7), 11.2(16)	This command was modified. The output for this command was expanded to show additional information for **boot**, **bootflash**, **context**, and **traffic** for all enabled protocols.
12.0	This command was modified. The output for this command was expanded to show additional information for **boot**, **bootflash**, **context**, and **traffic** for all enabled protocols. The **cef**, **ipmulticast**, **isis**, **mlps**, and **ospf** keywords were added to this command.
12.2(13)T	This command was modified. Support for AppleTalk EIGRP, Apollo Domain, Banyan VINES, Novell Link-State Protocol, and XNS was removed from Cisco IOS software.
12.2(14)SX	Support for this command was added for the Supervisor Engine 720.
12.3(4)T	This command was modified. The output of this command was expanded to include the output from the **show inventory** command.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.

Release	Modification
12.2(30)S	This command was modified. The **show tech-support ipmulticast** command was changed as follows: • Support for bidirectional PIM and Multicast VPN (MVPN) was added. • The **vrf** *vrf-name* keyword and argument were added. The output of the **show tech-support ipmulticast** command (without the **vrf** *vrf-name* keyword and argument) was changed to include the output from these commands: • **show ip pim int df** • **show ip pim mdt** • **show ip pim mdt bgp** • **show ip pim rp metric**
12.3(16)	This command was integrated into Cisco IOS Release 12.3(16).
12.2(18)SXF	This command was modified. The **show tech-support ipmulticast** command was changed as follows: • Support for bidirectional PIM and MVPN was added. • The **vrf** *vrf-name* keyword and argument were added. The output of the **show tech-support ipmulticast vrf** command was changed to include the output from these commands: • **show mls ip multicast rp-mapping gm-cache** • **show mmls gc process** • **show mmls msc rpdf-cache** The output of the **show tech-support ipmulticast** command (without the **vrf** *vrf-name* keyword and argument) was changed to include the output from these commands: • **show ip pim int df** • **show ip pim mdt** • **show ip pim mdt bgp** • **show ip pim rp metric** Support to interrupt and terminate the **show tech-support** output was added.
12.4(7)	This command was integrated into Cisco IOS Release 12.4(7).
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Release	Modification
12.4(9)T	This command was modified. The output of this command was expanded to include partial **show dmvpn details** command output.
15.0(1)M	This command was modified. The **wccp** and **voice** keywords were added.
12.2(33)SRE	This command was modified. The **wccp** keyword was added.
Cisco IOS XE Release 2.5	This command was modified. The **wccp** keyword was added.
15.3(2)T	This command was modified. The output was extended to include select output for the Group Domain of Interpretation (GDOI) configuration on key servers and group members.
Cisco IOS XE Release 3.9S	This command was modified. The output was extended to include select output for the GDOI configuration on key servers and group members.
15.4(1)T	This command was modified. The output of the **ipsec** keyword was modified.

Usage Guidelines

To interrupt and terminate the **show tech-support** output, simultaneously press and release the **CTRL**, **ALT**, and **6** keys.

Press the **Return** key to display the next line of output, or press the **Spacebar** to display the next page of information. If you do not enter the **page** keyword, the output scrolls (that is, it does not stop for page breaks).

If you do not enter the **password** keyword, passwords and other security-sensitive information in the output are replaced with the label "<removed>."

The show tech-support command is useful for collecting a large amount of information about your routing device for troubleshooting purposes. The output of this command can be provided to technical support representatives when reporting a problem.

Note   This command can generate a very large amount of output. You may want to redirect the output to a file using the **show inventory | redirect** *url* command syntax extension. Redirecting the output to a file also makes sending this output to your technical support representative easier. For more information about this option, see the command documentation for **show <command> | redirect**.

The show tech-support command displays the output of a number of **show** commands at once. The output from this command varies depending on your platform and configuration. For example, access servers display voice-related **show** command output. Additionally, the show protocol traffic commands are displayed for only the protocols enabled on your device. For a sample display of the output of the **show tech-support** command, see the individual **show** command listed.

If you enter the **show tech-support** command without arguments, the output displays, but is not limited to, the equivalent of these **show** commands:

- **show appletalk traffic**
- **show bootflash**

- **show bootvar**
- **show buffers**
- **show cdp neighbors**
- **show cef**
- **show clns traffic**
- **show context**
- **show controllers**
- **show crypto gdoi**
- **show crypto gdoi gm**
- **show crypto gdoi gm acl**
- **show crypto gdoi gm pubkey**
- **show crypto gdoi gm rekey detail**
- **show crypto gdoi gm replay**
- **show crypto gdoi ipsec sa**
- **show crypto gdoi ks**
- **show crypto gdoi ks acl**
- **show crypto gdoi ks coop**
- **show crypto gdoi ks coop version**
- **show crypto gdoi ks identifier detail**
- **show crypto gdoi ks member**
- **show crypto gdoi ks policy**
- **show crypto gdoi ks rekey**
- **show crypto gdoi ks replay**
- **show decnet traffic**
- **show disk0: all**
- **show dmvpn details**
- **show environment**
- **show fabric channel-counters**
- **show file systems**
- **show interfaces**
- **show interfaces switchport**
- **show interfaces trunk**
- **show ip interface**

- **show ip traffic**

- **show logging**

- **show mac-address-table**

- **show module**

- **show power**

- **show processes cpu**

- **show processes memory**

- **show running-config**

- **show spanning-tree**

- **show stacks**

- **show version**

- **show vlan**

Note   Crypto information is not duplicated by the **show dmvpn details** command output.

When the **show tech-support** command is entered on a virtual switch (VS), the output displays the output of the **show module** command and the **show power** command for both the active and standby switches.

Use of the optional **cef**, **ipc**, **ipmulticast**, **isis**, **mpls**, **ospf**, or **rsvp** keywords provides a way to display a number of **show** commands specific to a particular protocol or process in addition to the show commands listed previously.

For example, if your Technical Assistance Center (TAC) support representative suspects that you have a problem in your Cisco Express Forwarding (CEF) configuration, you may be asked to provide the output of the **show tech-support cef command**. The **show tech-support** [**page**] [**password**] **cef** command will display the output from the following commands in addition to the output for the standard **show tech-support** command:

- **show adjacency summary**

- **show cef drop**

- **show cef events**

- **show cef interface**

- **show cef not-cef-switched**

- **show cef timers**

- **show interfaces stats**

- **show ip cef events summary**

- **show ip cef inconsistency records detail**

- **show ip cef summary**

If you enter the **ipmulticast** keyword, the output displays, but is not limited to, these **show** commands:

- **show ip dvmrp route**

- **show ip igmp groups**

- **show ip igmp interface**

- **show ip mcache**

- **show ip mroute**

- **show ip mroute count**

- **show ip pim interface**

- **show ip pim interface count**

- **show ip pim interface df**

- **show ip pim mdt**

- **show ip pim mdt bgp**

- **show ip pim neighbor**

- **show ip pim rp**

- **show ip pim rp metric**

- **show mls ip multicast rp-mapping gm-cache**

- **show mmls gc process**

- **show mmls msc rpdf-cache**

If you enter the **wccp** keyword, the output displays, but is not limited to, these **show** commands:

- **show ip wccp** *service-number*

- **show ip wccp interfaces cef**

Examples

For a sample display of the output from the **show tech-support** command, refer to the documentation for the **show** commands listed in the "Usage Guidelines" section.

Related Commands

Command	Description
dir	Displays a list of files on a file system.
show appletalk traffic	Displays statistics about AppleTalk traffic, including MAC IP traffic.
show bootflash	Displays the contents of boot flash memory.
show bootvar	Displays the contents of the BOOT environment variable, the name of the configuration file pointed to by the CONFIG_FILE environment variable, the contents of the BOOTLDR environment variable, and the configuration register setting.

Command	Description
show buffers	Displays statistics for the buffer pools on the network server.
show cdp neighbors	Displays detailed information about neighboring devices discovered using Cisco Discovery Protocol.
show cef	Displays information about packets forwarded by Cisco Express Forwarding.
show clns traffic	Displays a list of the CLNS packets this router has seen.
show < *command* **>	redirect**	Redirects the output of any **show** command to a file.
show context	Displays context data.
show controllers	Displays information that is specific to the hardware.
show controllers tech-support	Displays general information about a VIP card for problem reporting.
show crypto gdoi	Displays information about a GDOI configuration.
show disk:0	Displays flash or file system information for a disk located in slot 0:
show dmvpn details	Displays detail DMVPN information for each session, including Next Hop Server (NHS) and NHS status, crypto session information, and socket details.
show environment	Displays temperature, voltage, and blower information on the Cisco 7000 series routers, Cisco 7200 series routers, Cisco 7500 series routers, Cisco 7600 series routers, Cisco AS5300 series access servers, and the Gigabit Switch Router.
show fabric channel counters	Displays the fabric channel counters for a module.
show file system	Lists available file systems.
show interfaces	Displays statistics for all interfaces configured on the router or access server.
show interfaces switchport	Displays the administrative and operational status of a switching (nonrouting) port.
show interfaces trunk	Displays the interface-trunk information.

Command	Description
show inventory	Displays the product inventory listing and UDI of all Cisco products installed in the networking device.
show ip interface	Displays the usability status of interfaces configured for IP.
show ip traffic	Displays statistics about IP traffic.
show ip wccp	Displays global statistics related to WCCP.
show logging	Displays the state of syslog and the contents of the standard system logging buffer.
show mac-address table	Displays the MAC address table.
show module	Displays module status and information.
show power	Displays the current power status of system components.
show processes cpu	Displays information about the active processes.
show processes memory	Displays the amount of memory used.
show running-config	Displays the current configuration of your routing device.
show spanning-tree	Displays information about the spanning tree state.
show stacks	Displays the stack usage of processes and interrupt routines.
show version	Displays the configuration of the system hardware, the software version, the names and sources of configuration files, and the boot images.
show vlan	Displays VLAN information.

show template

To display template information, use the **show template** command in user EXEC or privileged EXEC mode.

show template [*template-name*]

Syntax Description

template-name	(Optional) The template name.

Command Modes

User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
12.2(33)SRE	This command was introduced in a release earlier than Cisco IOS Release 12.2(33)SRE.
12.2(33)SXI	This command was introduced in a release earlier than Cisco IOS Release 12.2(33)SXI.
12.4(24)T	This command was introduced in a release earlier than Cisco IOS Release 12.4(24)T.
Cisco IOS 2.1 XE	This command was integrated into Cisco IOS XE Release 2.1 on the Cisco ASR 1000 Series Aggregation Services Router.

Examples

The following is sample output from the **show template**command displaying template information. The fields are self-explanatory.

```
Router# show template
Template class/type Component(s)
template1 owner ppp peer dialer
```

Related Commands

Command	Description
template	Configures a particular customer profile template.

show usb controllers

To display USB host controller information, use the **show usb controllers**command in privileged EXEC mode.

show usb controllers [*controller-number*]

Syntax Description

controller-number	(Optional) Displays information only for the specified controller.

Command Default
Information about all controllers on the system are displayed.

Command Modes
Privileged EXEC

Command History

Release	Modification
12.3(14)T	This command was introduced.
12.4(11)T	This command was integrated into the Cisco 7200VXR NPE-G2 platform.

Usage Guidelines
Use the **show usb controllers**command to display content such as controller register specific information, current asynchronous buffer addresses, and period scheduling information. You can also use this command to verify that copy operations are occurring successfully onto a USB flash module.

Examples
The following example is sample output from the **show usb controllers** command:

```
Router# show usb controllers
Name:1362HCD
Controller ID:1
Controller Specific Information:
    Revision:0x11
    Control:0x80
    Command Status:0x0
    Hardware Interrupt Status:0x24
    Hardware Interrupt Enable:0x80000040
    Hardware Interrupt Disable:0x80000040
    Frame Interval:0x27782EDF
    Frame Remaining:0x13C1
    Frame Number:0xDA4C
    LSThreshold:0x628
    RhDescriptorA:0x19000202
    RhDescriptorB:0x0
    RhStatus:0x0
    RhPort1Status:0x100103
    RhPort2Status:0x100303
```

```
        Hardware Configuration:0x3029
        DMA Configuration:0x0
        Transfer Counter:0x1
        Interrupt:0x9
        Interrupt Enable:0x196
        Chip ID:0x3630
        Buffer Status:0x0
        Direct Address Length:0x80A00
        ATL Buffer Size:0x600
        ATL Buffer Port:0x0
        ATL Block Size:0x100
        ATL PTD Skip Map:0xFFFFFFFF
        ATL PTD Last:0x20
        ATL Current Active PTD:0x0
        ATL Threshold Count:0x1
        ATL Threshold Timeout:0xFF
Int Level:1
Transfer Completion Codes:
        Success           :920          CRC             :0
        Bit Stuff         :0            Stall           :0
        No Response       :0            Overrun         :0
        Underrun          :0            Other           :0
        Buffer Overrun    :0            Buffer Underrun :0
Transfer Errors:
        Canceled Transfers   :2         Control Timeout :0
Transfer Failures:
        Interrupt Transfer   :0         Bulk Transfer   :0
        Isochronous Transfer :0         Control Transfer:0
Transfer Successes:
        Interrupt Transfer   :0         Bulk Transfer   :26
        Isochronous Transfer :0         Control Transfer:894
USBD Failures:
        Enumeration Failures :0         No Class Driver Found:0
        Power Budget Exceeded:0
USB MSCD SCSI Class Driver Counters:
        Good Status Failures :3         Command Fail    :0
        Good Status Timed out:0         Device not Found:0
        Device Never Opened  :0         Drive Init Fail :0
        Illegal App Handle   :0         Bad API Command :0
        Invalid Unit Number  :0         Invalid Argument:0
        Application Overflow :0         Device in use   :0
        Control Pipe Stall   :0         Malloc Error    :0
        Device Stalled       :0         Bad Command Code:0
        Device Detached      :0         Unknown Error   :0
        Invalid Logic Unit Num:0
USB Aladdin Token Driver Counters:
        Token Inserted       :1         Token Removed   :0
        Send Insert Msg Fail :0         Response Txns   :434
        Dev Entry Add Fail   :0         Request Txns    :434
        Dev Entry Remove Fail:0         Request Txn Fail:0
        Response Txn Fail    :0         Command Txn Fail:0
        Txn Invalid Dev Handle:0
USB Flash File System Counters:
        Flash Disconnected   :0         Flash Connected :1
        Flash Device Fail    :0         Flash Ok        :1
        Flash startstop Fail :0         Flash FS Fail   :0
USB Secure Token File System Counters:
        Token Inserted       :1         Token Detached  :0
        Token FS success     :1         Token FS Fail   :0
        Token Max Inserted   :0         Create Talker Failures:0
        Token Event          :0         Destroy Talker Failures:0
        Watched Boolean Create Failures:0
```

show usb device

To display USB device information, use the **show usb device** command in privileged EXEC mode.

show usb device [*controller-ID* [*device-address*]]

Syntax Description

controller-ID	(Optional) Displays information only for the devices under the specified controller.
device-address	(Optional) Displays information only for the device with the specified address.

Command Default

Information for all devices attached to the system are displayed.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.3(14)T	This command was introduced.
12.4(11)T	This command was integrated into the Cisco 7200VXR NPE-G2 platform.

Usage Guidelines

Use the **show usb device** command to display information for either a USB flash drive or a USB eToken, as appropriate.

Examples

The following example is sample output from the **show usb device** command:

```
Router# show usb device

Host Controller:1
Address:0x1
Device Configured:YES
Device Supported:YES
Description:DiskOnKey
Manufacturer:M-Sys
Version:2.0
Serial Number:0750D84030316868
Device Handle:0x1000000
USB Version Compliance:2.0
Class Code:0x0
Subclass Code:0x0
Protocol:0x0
Vendor ID:0x8EC
Product ID:0x15
```

```
            Max. Packet Size of Endpoint Zero:64
            Number of Configurations:1
            Speed:Full
            Selected Configuration:1
            Selected Interface:0
            Configuration:
                Number:1
                Number of Interfaces:1
                Description:
                Attributes:None
                Max Power:140 mA
                Interface:
                    Number:0
                    Description:
                    Class Code:8
                    Subclass:6
                    Protocol:80
                    Number of Endpoints:2
                    Endpoint:
                        Number:1
                        Transfer Type:BULK
                        Transfer Direction:Device to Host
                        Max Packet:64
                        Interval:0
                    Endpoint:
                        Number:2
                        Transfer Type:BULK
                        Transfer Direction:Host to Device
                        Max Packet:64
                        Interval:0
        Host Controller:1
        Address:0x11
        Device Configured:YES
        Device Supported:YES
        Description:eToken Pro 4254
        Manufacturer:AKS
        Version:1.0
        Serial Number:
        Device Handle:0x1010000
        USB Version Compliance:1.0
        Class Code:0xFF
        Subclass Code:0x0
        Protocol:0x0
        Vendor ID:0x529
        Product ID:0x514
        Max. Packet Size of Endpoint Zero:8
        Number of Configurations:1
        Speed:Low
        Selected Configuration:1
        Selected Interface:0
        Configuration:
            Number:1
            Number of Interfaces:1
            Description:
            Attributes:None
            Max Power:60 mA
            Interface:
                Number:0
                Description:
                Class Code:255
                Subclass:0
                Protocol:0
                Number of Endpoints:0
```

The following table describes the significant fields shown in the display.

Table 9: show usb device Field Descriptions

Field	Description
Device handle	Internal memory handle allocated to the device.

Field	Description
Device Class code	The class code supported by the device.
	This number is allocated by the USB-IF. If this field is reset to 0, each interface within a configuration specifies its own class information, and the various interfaces operate independently. If this field is set to a value between 1 and FEH, the device supports different class specifications on different interfaces, and the interfaces may not operate independently. This value identifies the class definition used for the aggregate interfaces. If this field is set to FFH, the device class is vendor-specific.
Device Subclass code	The subclass code supported by the device. This number is allocated by the USB-IF.
Device Protocol	The protocol supported by the device. If this field is set to 0, the device does not use class-specific protocols on a device basis. If this field is set to 0xFF, the device uses a vendor-specific protocol on a device basis.
Interface Class code	The class code supported by the interface. If the value is set to 0xFF, the interface class is vendor specific. All other values are allocated by the USB-IF.
Interface Subclass code	The subclass code supported by the interface. All values are allocated by the USB-IF.
Interface Protocol	The protocol code supported by the interface. If this field is set to 0, the device does not use a class-specific protocol on this interface. If this field is set to 0xFF, the device uses a vendor-specific protocol for this interface.
Max Packet	Maximum data packet size, in bytes.

show usb driver

To display information about registered USB class drivers and vendor-specific drivers, use the **show usb driver**command in privileged EXEC mode.

show usb driver [*index*]

Syntax Description

index	(Optional) Displays information only for drivers on the specified index.

Command Default   Information about all drivers is displayed.

Command Modes   Privileged EXEC

Command History

Release	Modification
12.3(14)T	This command was introduced.
12.4(11)T	This command was integrated into the Cisco 7200VXR NPE-G2 platform.
Cisco IOS XE Release 3.6	This command was integrated into Cisco IOS XE Release 3.6.

Examples   The following example is sample output for the **show usb driver** command:

```
Router# show usb driver

Index:0
Owner Mask:0x6
Class Code:0x0
Subclass Code:0x0
Protocol:0x0
Interface Class Code:0x8
Interface Subclass Code:0x6
Interface Protocol Code:0x50
Product ID:0x655BD598
Vendor ID:0x64E90000
Attached Devices:
    Controller ID:1, Device Address:1
Index:1
Owner Mask:0x1
Class Code:0x0
Subclass Code:0x0
Protocol:0x0
Interface Class Code:0x0
Interface Subclass Code:0x0
Interface Protocol Code:0x0
Product ID:0x514
```

```
Vendor ID:0x529
Attached Devices:
    Controller ID:1, Device Address:17
Index:2
Owner Mask:0x5
Class Code:0x9
Subclass Code:0x6249BD58
Protocol:0x2
Interface Class Code:0x5DC0
Interface Subclass Code:0x5
Interface Protocol Code:0xFFFFFFFF
Product ID:0x2
Vendor ID:0x1
Attached Devices:
    None
Index:3
Owner Mask:0x10
Class Code:0x0
Subclass Code:0x0
Protocol:0x0
Interface Class Code:0x0
Interface Subclass Code:0x0
Interface Protocol Code:0x0
Product ID:0x0
Vendor ID:0x0
Attached Devices:
    None
```

The following table describes the significant field shown in the display.

Table 10: show usb driver Field Descriptions

Field	Description
Owner Mask	Indicates the fields that are used in enumeration comparison. The driver can own different devices on the basis of their product or vendor IDs and device or interface class, subclass, and protocol codes.

show usb port

To sisplay USB root hub port information, use the **show usb port**command in privileged EXEC mode.

show usb port [*port-number*]

Syntax Description

port-number	(Optional) Displays information only for a specified. If the *port-number* is not issued, information for all root ports will be displayed.

Command Modes   Privileged EXEC

Command History

Release	Modification
12.3(14)T	This command was introduced.

Examples   The following sample from the **show usb port** command shows the status of the port 1 on the router:

```
Router# show usb port
Port Number:0
Status:Enabled
Connection State:Connected
Speed:Full
Power State:ON
Port Number:1
Status:Enabled
Connection State:Connected
Speed:Low
Power State:ON
```

show usb tree

To display information about the port state and all attached devices, use the **show usb tree**command in privileged EXEC mode.

show usb tree

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
12.3(14)T	This command was introduced.

Examples

The following example is sample output from the **show usb tree** command. This output shows that both a USB flash module and a USB eToken are currently enabled.

```
Router# show usb tree

[Host Id:1, Host Type:1362HCD, Number of RH-Port:2]
<Root Port0:Power=ON      Current State=Enabled>
  Port0:(DiskOnKey) Addr:0x1 VID:0x08EC PID:0x0015 Configured (0x1000000)
<Root Port1:Power=ON      Current State=Enabled>
  Port1:(eToken Pro 4254) Addr:0x11 VID:0x0529 PID:0x0514 Configured (0x1010000)
```

show usbtoken

To display information about the USB eToken (such as the eToken ID), use the **show usbtoken**command in privileged EXEC mode.

show usbtoken [0-9]:{**all**|*filesystem*}

Syntax Description

0-9	(Optional) One of the ten available flash drives you can choose from; valid values: 0-9. If you do not specify a number, 0 is used by default
all	(Optional) All configuration files stored on the eToken.
filesystem	(Optional) Name of a configuration file.

Command Modes   Privileged EXEC

Command History

Release	Modification
12.3(14)T	This command was introduced.
12.4(11)T	This command was integrated into the Cisco 7200VXR NPE-G2 platform.
Cisco IOS XE Release 3.6	This command was integrated into Cisco IOS XE Release 3.6.

Usage Guidelines   Use the **show usbtoken** command to verify whether a USB eToken is inserted in the router.

Examples   The following example is sample output from the **show usbtoken** command:

```
Router# show usbtoken0
Token ID          :43353334
Token device name  : token0
Vendor name        : Vendor34
Product Name       :Etoken Pro
Serial number      : 22273a334353
Firmware version   :   4.1.3.2
Total memory size  : 32 KB
Free memory size   : 16 KB
FIPS version       :  Yes/No
Token state        :  "Active" | "User locked" | "Admin locked" | "System Error" | "Uknown"
ATR (Answer To Reset) :"3B F2 98 0  FF C1 10 31 FE 55 C8 3"
```

The following table describes the significant fields shown in the display.

Table 11: show usbtoken Field Descriptions

Field	Description
Token ID	Token identifier.
Token device name	A unique name derived by the token driver.
ATR (Answer to Reset)	Information replied by Smart cards when a reset command is issued.

show version

To display information about the currently loaded software along with hardware and device information, use the **show version** command in user EXEC, privileged EXEC, or diagnostic mode.

show version

Cisco Catalyst 3850 Series Switches and Cisco 5760 Series Wireless Controllers

show version[**switch***node*][**running**| **committed**| **provisioned**]

Cisco ASR 1000 Series Routers

show version [*rp-slot*] [**installed [user-interface]**| **provisioned**| **running**]

Cisco Catalyst 4500e Series Switches running IOS XE software

show version [*rp-slot*] [**running**]

Cisco Catalyst 6500 Series Routers

show version [**epld** *slot*]

Syntax Description

switch*node*	(optional) Only a single switch may be specified. Default is all switches in a stacked system.
running	(optional) Specifies information on the files currently running.
	cat3850 and ct5760: (optional) Displays information about the active package set currently running on the switch. When booted in installed mode, this is typically the set of packages listed in the booted provisioning file. When booted in bundle mode, this is typically the set of packages contained in the booted bundle.
committed	(optional) Displays information about the committed package set. If no installation operations have been performed since bootup, this output will be the same as **show version running**. If any installation operations have been performed since bootup, this output will display the set of packages that will be activated/running on the next reload. **Note** This command option is only applicable when running in installed mode.

provisioned	(optional)Specifies information on the software files that are provisioned.
	cat3850 and ct5760: (optional) Displays information about the provisioned package set. In most cases, the provisioned package set is the same as the committed package set. These package sets will differ if an installation was performed with the 'auto-rollback' option and the installed packages have not yet been committed using the 'software commit' command. This command option is only applicable when running in installed mode.
rp-slot	Specifies the software of the RP in a specific RP slot of a Cisco ASR 1000 Series Router. Options include: • **r0** --the RP in RP slot 0. • r1 --the RP in RP slot 1. • rp active --the active RP. • rp standby --the standby RP.
installed	Specifies information on the software installed on the RP
user-interface	Specifies information on the files related to the user-interface.
epld *slot*	(Optional) Specifies the software of the EPLD slot of a Cisco Catalyst 6500 Series Router.

Command Default No default behavior or values.

Command Modes User EXEC (>) Privileged EXEC (#) Diagnostic (diag)--Cisco ASR 1000 Series Routers only

Command History

Release	Modification
9.0	This command was introduced.
12.1EC	This command was integrated into Cisco IOS Release 12.1EC.
12.1(1a)T1	This command was modified to include information about the clock card on CMTS routers.
12.3BC	This command was integrated into Cisco IOS Release 12.3BC.

Release	Modification
12.3(4)T	The output format of this command was updated.
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to 12.2(17d)SXB.
12.2(25)S	The output format of this command was updated.
12.2(33)SCA	This command was integrated into Cisco IOS Release 12.2(33)SCA. Support for the Cisco uBR7225VXR router was added.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
Cisco IOS XE Release 2.1	This command was introduced on the Cisco ASR 1000 Series Routers, and the following enhancements were introduced: • the command became available in diagnostic mode. • the *rp-slot*, **installed**, **user-interface**, **provisioned**, and **running** options all became available for the first time.
12.2(18)SX	Added ELPD keyword and output for the Cisco Catalyst 6500 Series Router.
Cisco IOS XE Release 2.4	The output format of this command was updated.
Cisco IOS XE Release 3.1.0.SG	This command was introduced on the Cisco Catalyst 4500e Serfies Switches with support for the rp-slot parameter and running command option.
IOS XE 3.2.0 SE	Command introduced on the Cisco Catalyst 3850 Series Switches and Cisco 5760 Series Wireless Controllers with support for the switch keyword and running, provisioned and committed command options.
Cisco IOS XE Release 3.3 SE	This command was integrated.

Usage Guidelines   This command displays information about the Cisco IOS software version currently running on a routing device, the ROM Monitor and Bootflash software versions, and information about the hardware configuration, including the amount of system memory. Because this command displays both software and hardware information, the output of this command is the same as the output of the **show hardware** command. (The **show hardware** command is a command alias for the **show version** command.)

Specifically, the **show version** command provides the following information:

• Software information

    • Main Cisco IOS image version

    • Main Cisco IOS image capabilities (feature set)

    • Location and name of bootfile in ROM

- Bootflash image version (depending on platform)

- Device-specific information

  - Device name

  - System uptime

  - System reload reason

  - Config-register setting

  - Config-register settings for after the next reload (depending on platform)

- Hardware information

  - Platform type

  - Processor type

  - Processor hardware revision

  - Amount of main (processor) memory installed

  - Amount I/O memory installed

  - Amount of Flash memory installed on different types (depending on platform)

  - Processor board ID

The output of this command uses the following format:

```
Cisco IOS Software, <platform> Software (<image-id>), Version <software-version>,
  <software-type

Technical Support: http://www.cisco.com/techsupport
Copyright (c) <date-range> by Cisco Systems, Inc.
Compiled <day> <date> <time> by <compiler-id>

ROM: System Bootstrap, Version <software-version>,  <software-type>
BOOTLDR: <platform> Software (image-id), Version <software-version>,  <software-type>

<router-name> uptime is <w> weeks, <d> days, <h> hours,
<m> minutes
System returned to ROM by reload at <time> <day> <date>
System image file is "<filesystem-location>/<software-image-name>"
Last reload reason: <reload-reason>Cisco <platform-processor-type>
processor (revision <processor-revision-id>) with <free-DRAM-memory>
K/<packet-memory>K bytes of memory.
Processor board ID <ID-number

<CPU-type> CPU at <clock-speed>Mhz, Implementation <number>, Rev <
Revision-number>, <kilobytes-Processor-Cache-Memory>KB <cache-Level> Cache
```
See the Examples section for descriptions of the fields in this output.

Cisco ASR 1000 Series Routers

Entering **show version**without any of the options on the Cisco ASR 1000 Series Router will generate output similar to **show version** on other Cisco routers.

In order to understand the **show version**output on Cisco ASR 1000 Series Routers, it is important to understand that the individual sub-packages run the processes on the router. Among other things, the output of this command provides information on where various individual sub-packages are stored on the router, and which processes these individual sub-packages are and are not currently running.

More specifically, the command displays each individual sub-package file on the router, the hardware where the sub-package could be running, and whether the sub-package is currently being run on that hardware.

The **show version provisioned** command displays only the individual sub-packages that can be provisioned, which are the RP-specific sub-packages (RP Access, RP Base, RP Control, and RP IOS) and the provisioning file. The output includes the individual sub-package file, the hardware where the sub-package could be running, and whether the sub-package is currently being run on that hardware.

The command displays only the individual sub-packages that are currently active. The output includes the individual sub-package file and the hardware where the sub-package is running.

Cisco Catalyst 4500e Series Switches

Entering show version without any of the options on a Cisco Catalyst 4500e Series Switch running IOS XE software will generate output similar to **show version** on other Cisco platforms. One notable difference is that the output displays the IOS XE software version instead of the IOS image version.

The IOS XE software bundle includes a set of individual packages that comprise the complete set of software that runs on the switch. The **show version running** command displays the list individual packages that are currently active, that is, the set of packages included in the IOS XE software bundle currently running on the Cisco Catalyst 4500e Series Switch.

Cisco Catalyst 3850 Series Switches and Cisco 5760 Series Wireless Controllers

Entering **show version** without any of the options on a Cisco Catalyst 3850 Series Switch or Cisco 5760 Series Wireless Controller will generate output similar to **show version** on other Cisco platforms. One notable difference is that the output displays the IOS XE software version instead of the IOS image version.

The IOS XE software bundle includes a set of individual packages that comprise the complete set of software that runs on the switch or wireless controller.

The **show version running** command displays the list of individual packages that are currently running on the switch. When booted in installed mode, this is typically the set of packages listed in the booted provisioning file. When booted in bundle mode, this is typically the set of packages contained in the bundle.

The **show version committed** command displays information about the switch's or wireless controller's committed package set. If no installation operations have been performed since bootup, this output will be the same as **show version running**. If any installation operations have been performed since bootup, this output will display the set of packages that will be activated/running on the next reload. This command is not applicable when running in bundle mode.

The **show version provisioned** command displays information about the provisioned package set. In most cases, the provisioned package set is the same as the committed package set. These package sets will differ if an installation was performed with the **auto-rollback** option and the installed packages have not yet been committed by use of the **software commit** command. This command is not applicable when running in bundle mode.

Examples

Examples   The following is sample output from the **show version** command issued on a Cisco 3660 running Cisco IOS Release 12.3(4)T:

```
Router# show version

Cisco IOS Software, 3600 Software (C3660-I-M), Version 12.3(4)T
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2003 by Cisco Systems, Inc.
Compiled Thu 18-Sep-03 15:37 by ccai
ROM: System Bootstrap, Version 12.0(6r)T, RELEASE SOFTWARE (fc1)
```

```
ROM:
C3660-1 uptime is 1 week, 3 days, 6 hours, 41 minutes
System returned to ROM by power-on
System image file is "slot0:tftpboot/c3660-i-mz.123-4.T"
Cisco 3660 (R527x) processor (revision 1.0) with 57344K/8192K bytes of memory.
Processor board ID JAB055180FF
R527x CPU at 225Mhz, Implementation 40, Rev 10.0, 2048KB L2 Cache
3660 Chassis type: ENTERPRISE
2 FastEthernet interfaces
4 Serial interfaces
DRAM configuration is 64 bits wide with parity disabled.
125K bytes of NVRAM.
16384K bytes of processor board System flash (Read/Write)
Flash card inserted. Reading filesystem...done.
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)
Configuration register is 0x2102
```

Examples   The following is sample output from the **show version** command issued on a Cisco 7200 router running Cisco IOS Release 12.4(4)T. This output shows the total bandwidth capacity and the bandwith capacity that is configured on the Cisco 7200. Displaying bandwidth capacity is available in Cisco IOS Release 12.2 and later releases.

```
Router# show version
Cisco IOS Software, 7200 Software (C7200-JS-M), Version 12.4(4)T, RELEASE SOFTW)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Thu 27-Oct-05 05:58 by ccai
ROM: System Bootstrap, Version 12.1(20000710:044039) [nlaw-121E_npeb 117], DEVEE
BOOTLDR: 7200 Software (C7200-KBOOT-M), Version 12.3(16), RELEASE SOFTWARE (fc4)
router uptime is 5 days, 18 hours, 2 minutes
System returned to ROM by reload at 02:45:12 UTC Tue Feb 14 2006
System image file is "disk0:c7200-js-mz.124-4.T"
Last reload reason: Reload Command
Cisco 7206VXR (NPE400) processor (revision A) with 491520K/32768K bytes of memo.
Processor board ID 26793934
R7000 CPU at 350MHz, Implementation 39, Rev 3.2, 256KB L2 Cache
6 slot VXR midplane, Version 2.6
Last reset from power-on

PCI bus mb0_mb1 (Slots 0, 1, 3 and 5) has a capacity of 600 bandwidth points.
Current configuration on bus mb0_mb1 has a total of 440 bandwidth points.
This configuration is within the PCI bus capacity and is supported.
PCI bus mb2 (Slots 2, 4, 6) has a capacity of 600 bandwidth points.
Current configuration on bus mb2 has a total of 390 bandwidth points
This configuration is within the PCI bus capacity and is supported.
Please refer to the following document "Cisco 7200 Series Port Adaptor
Hardware Configuration Guidelines" on Cisco.com <http://www.cisco.com>
for c7200 bandwidth points oversubscription and usage guidelines.
4 Ethernet interfaces
2 FastEthernet interfaces
2 ATM interfaces
125K bytes of NVRAM.
62976K bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes).
125952K bytes of ATA PCMCIA card at slot 1 (Sector size 512 bytes).
8192K bytes of Flash internal SIMM (Sector size 256K).
Configuration register is 0x2002

Router#
```
For information about PCI buses and bandwidth calculation, go to the "Cisco 7200 Series Port Adapter Installation Requirements" chapter, of the *Cisco 7200 Series Port Adapter Hardware Configuration Guidelines* guide.

The following table describes the significant fields shown in the display.

Table 12: show version Field Descriptions

Field	Description
Cisco IOS Software, *platform* Software (*image-id*), Version *software-version*, *release-type* For example: Cisco IOS Software, 7200 Software (C7200-G4JS-M), Version 12.3(4)T	*platform* --Cisco hardware device name. *image-id* --The coded software image identifier, in the format *platform-features-format* (for example, "c7200-g4js-mz". *software-version* --The Cisco IOS software release number, in the format $x.y(z)A$, where $x.y$ is the main release identifier, z is the maintenance release number, and A, where applicable, is the special release train identifier. For example, 12.3(4)T indicates the fourth maintenance release of the 12.3T special technology release train. **Note**　In the full software image filename, 12.3(4)T appears as 123-4.T. In the IOS Upgrade Planner, 12.3(4)T appears as 12.3.4T (ED). *release-type* --The description of the release type. Possible values include MAINTENANCE [for example, 12.3(3)] or INTERIM [for example, 12.3(3.2)]. **Tip**　Refer to "The ABC's of Cisco IOS Networking" (available on Cisco.com) for more information on Cisco IOS software release numbering and software versions. Cisco IOS is a registered trademark (R) of Cisco Systems, Inc.
Technical Support: http://www.cisco.com/techsupport Copyright (c) *date-range* by Cisco Systems, Inc.	The Cisco Technical Support & Documentation website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content. Cisco IOS software, including the source code, user-help, and documentation, is copyrighted by Cisco Systems, Inc. It is Cisco's policy to enforce its copyrights against any third party who infringes on its copyright.
ROM: System Bootstrap, Version 12.0(6r)T, RELEASE SOFTWARE (fc1)	The system "bootstrap" software, stored in ROM memory.
BOOTFLASH:	The system "bootflash" software, stored in Flash memory (if applicable).

Field	Description
device uptime is ... For example: C3660-1 uptime is 1 week, 3 days, 6 hours, 41 minutes	The amount of time the system has been up and running.
System returned to ROM by *reload-reason* at *timedaydate* For example: System returned to ROM by reload at 20:56:53 UTC Tue Nov 4 2003	Shows the last recorded reason for a system reload, and time of last reload.
Last reload reason: *reload-reason* For example: Last reload reason: Reload command	Shows the last recorded reason for a system reload.
Last reset from *reset-reason* For example: Last reset from power-on	Shows the last recorded reason for a system reset. Possible *reset-reason* values include: • power-on--System was reset with the initial power on or a power cycling of the device. • s/w peripheral--System was reset due to a software peripheral. • s/w nmi--System was reset by a nonmaskable interrupt (NMI) originating in the system software. For example, on some systems, you can configure the device to reset automatically if two or more fans fail. • push-button--System was reset by manual activation of a RESET push-button (also called a hardware NMI). • watchdog--System was reset due to a watchdog process. • unexpected value--May indicate a bus error, such as for an attempt to access a nonexistent address (for example, "System restarted by bus error at PC 0xC4CA, address 0x210C0C0"). (This field was formerly labeled as the "System restarted by" field.)

Field	Description
System image file is "*file-location/ file-name* " For example: System image file is "slot0:tftpboot/c3660-i-mz.123-3.9.T2"	Displays the file location (local or remote filesystem) and the system image name.

SHOW protocols through showmon

Field	Description
Cisco *platform* (*processor-type*) processor (revision *processor-revision-id*) with *free -DRAM-memory* K/ *packet-memory* K bytes of memory. Example--Separate DRAM and Packet Memory: Cisco RSP4 (R5000) processor with 65536K/2072K bytes of memory Example--Combined DRAM and Packet Memory: Cisco 3660 (R527x) processor (revision 1.0) with 57344K/8192K bytes of memory.	

Field	Description
	This line can be used to determine how much Dynamic RAM (DRAM) is installed on your system, in order to determine if you meet the "Min. Memory" requirement for a software image. DRAM (including SDRAM) is used for system processing memory and for packet memory.
	Two values, separated by a slash, are given for DRAM: The first value tells you how DRAM is available for system processing, and the second value tells you how much DRAM is being used for Packet memory.
	The first value, Main Processor memory, is either:
	• The amount of DRAM available for the processor, or
	• The total amount of DRAM installed on the system.
	The second value, Packet memory, is either:
	• The total physical input/output (I/O) memory (or "Fast memory") installed on the router (Cisco 4000, 4500, 4700, and 7500 series), or
	• The amount of "shared memory" used for packet buffering. In the shared memory scheme (Cisco 2500, 2600, 3600, and 7200 Series), a percentage of DRAM is used for packet buffering by the router's network interfaces.
	Note The terms "I/O memory" or "iomem"; "shared memory"; "Fast memory" and "PCI memory" all refer to "Packet Memory". Packet memory is either separate physical RAM or shared DRAM.
	Separate DRAM and Packet Memory
	The 4000, 4500, 4700, and 7500 series routers have separate DRAM and Packet memory, so you only need to look at the first number to determine total DRAM. In the example to the left for the Cisco RSP4, the first value shows that the router has 65536K (65,536 kilobytes, or 64 megabytes) of DRAM. The second value, 8192K, is the Packet memory.
	Combined DRAM and Packet Memory
	The 2500, 2600, 3600, and 7200 series routers require a minimum amount of I/O memory to support certain interface processors.

Field	Description
	The 1600, 2500, 2600, 3600, and 7200 series routers use a fraction of DRAM as Packet memory, so you need to add both numbers to find out the real amount of DRAM. In the example to the left for the Cisco 3660, the router has 57,344 kilobytes (KB) of free DRAM and 8,192 KB dedicated to Packet memory. Adding the two numbers together gives you 57,344K + 8,192K = 65,536K, or 64 megabytes (MB) of DRAM.
	For more details on memeory requirements, see the document "How to Choose a Cisco IOS® Software Release" on Cisco.com.
Configuration register is *value* For example: Configuration register is 0x2142 (will be 0x2102 at next reload)	Shows the current configured hex value of the software configuration register. If the value has been changed with the **config-register** command, the register value that will be used at the next reload is displayed in parenthesis. The boot field (final digit) of the software configuration register dictates what the system will do after a reset. For example, when the boot field of the software configuration register is set to 00 (for example, 0x0), and you press the NMI button on a Performance Route Processor (PRP), the user-interface remains at the ROM monitor prompt (rommon>) and waits for a user command to boot the system manually. But if the boot field is set to 01 (for example, 0x1), the system automatically boots the first Cisco IOS image found in the onboard Flash memory SIMM on the PRP. The factory-default setting for the configuration register is 0x2102. This value indicates that the router will attempt to load a Cisco IOS software image from Flash memory and load the startup configuration file.

Examples   This example shows how to display the configuration of the system hardware, the software version, the names and sources of configuration files, and the boot images:

```
Router# show version
Cisco Internetwork Operating System Software
IOS (tm) c6sup2_rp Software (c6sup2_rp-JSV-M), Version 12.1 (nightly.E020626) NIG
HTLY BUILD
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Wed 26-Jun-02 06:20 by
Image text-base: 0x40008BF0, data-base: 0x419BA000
ROM: System Bootstrap, Version 12.1(11r)E1, RELEASE SOFTWARE (fc1)
```

```
Router uptime is 2 weeks, 8 hours, 48 minutes
Time since Router switched to active is 1 minute
System returned to ROM by power-on (SP by power-on)
System image file is "sup-bootflash:c6sup22-jsv-mz"
cisco Catalyst 6000 (R7000) processor with 112640K/18432K bytes of memory.
Processor board ID SAD06210067
R7000 CPU at 300Mhz, Implementation 39, Rev 3.3, 256KB L2, 1024KB L3 Cache
Last reset from power-on
Bridging software.
X.25 software, Version 3.0.0.
SuperLAT software (copyright 1990 by Meridian Technology Corp).
TN3270 Emulation software.
3 Virtual Ethernet/IEEE 802.3  interface(s)
48 FastEthernet/IEEE 802.3 interface(s)
381K bytes of non-volatile configuration memory.
16384K bytes of Flash internal SIMM (Sector size 512K).
Configuration register is 0x2102
Router#
```

The following table describes the fields that are shown in the example.

Table 13: show version Field Descriptions

Field	Description
IOS (tm) c6sup2_rp Software (c6sup2_rp-JSV-M), Version 12.1(nightly.E020626) NIGHTLY BUILD	Version number. Always specify the complete version number when reporting a possible software problem. In the example output, the version number is 12.1.
ROM: System Bootstrap, Version 12.1(11r)E1, RELEASE SOFTWARE (fc1)	Bootstrap version string.
BOOTFLASH: 7200 Software (C7200-BOOT-M), Version 11.1(472), RELEASE SOFTWARE	Boot version string.
Router uptime is	Amount of time that the system has been up and running.
Time since Router switched to active	Amount of time since switchover occurred.
System restarted by	Log of how the system was last booted, both as a result of normal system startup and of system error. For example, information can be displayed to indicate a bus error that is typically the result of an attempt to access a nonexistent address, as follows: System restarted by bus error at PC 0xC4CA, address 0x210C0C0
System image file is	If the software was booted over the network, the Internet address of the boot host is shown. If the software was loaded from onboard ROM, this line reads "running default software."
cisco Catalyst 6000 (R7000) processor with 112640K/18432K bytes of memory.	Remaining output in each display that shows the hardware configuration and any nonstandard software options.

Field	Description
Configuration register is	Configuration register contents that are displayed in hexadecimal notation.

The output of the **show version** EXEC command can provide certain messages, such as bus error messages. If such error messages appear, report the complete text of this message to your technical support specialist.

This example shows how to display the ELPD version information of a slot:

```
Router# show version epld 4

Module 4 EPLD's:
Number of EPLD's: 6
EPLD A : 0x5
EPLD B : 0x2
EPLD C : 0x1
EPLD D : 0x1
EPLD E : 0x1
Router#
```

Examples   The following is sample output from the **show version** command for a Cisco uBR7246 VXR with the cable clock card installed:

```
Router#
Cisco Internetwork Operating System Software
IOS (tm) 7200 Software (UBR7200-P-M), Version 12.1(10)EC, RELEASE SOFTWARE
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2000 by cisco Systems, Inc.
Compiled Wed 02-Feb-00 16:49 by ccai
Image text-base:0x60008900, data-base:0x61192000
ROM:System Bootstrap, Version 12.0(15)SC, RELEASE SOFTWARE
VXR1 uptime is 2 days, 1 hour, 24 minutes
System returned to ROM by power-on at 10:54:38 PST Sat Feb 5 2000
System restarted at 11:01:08 PST Sat Feb 5 2000
System image file is "slot1:ubr7200-p-mz.121-0.8.T"
cisco uBR7246VXR (NPE300) processor (revision B) with 122880K/40960K bytes of memory.
Processor board ID SAB0329005N
R7000 CPU at 262Mhz, Implementation 39, Rev 1.0, 256KB L2, 2048KB L3 Cache
6 slot VXR midplane, Version 2.0
Last reset from power-on
X.25 software, Version 3.0.0.
National clock card with T1 controller
1 FastEthernet/IEEE 802.3 interface(s)
2 Cable Modem network interface(s)
125K bytes of non-volatile configuration memory.
16384K bytes of Flash PCMCIA card at slot 0 (Sector size 128K).
20480K bytes of Flash PCMCIA card at slot 1 (Sector size 128K).
4096K bytes of Flash internal SIMM (Sector size 256K).
Configuration register is 0x0
Router#
```
The following table describes significant fields shown in these displays.

Table 14: show version Field Descriptions

Field	Description
IOS (tm) 7200 Software (UBR7200-P-M), Version xx.x	Always specify the complete version number when reporting a possible software problem. In the example, the version number is Cisco IOS Release 12.1(10)EC.

Field	Description
ROM: System Bootstrap	Bootstrap version string.
Router uptime is	The amount of time the system has been up and running.
System restarted at	Also displayed is a log of how the system was last booted, as a result of normal system startup or system error.
System image file is	If the software was booted over the network, the Internet address of the boot host is shown. If the software was loaded from onboard ROM, this line reads "running default software."
cisco uBR7246VXR (NPE300) processor	The remaining output in each display shows the hardware configuration and any nonstandard software options.
Configuration register is	The configuration register contents, displayed in hexadecimal notation.

The output of the **show version** command can also provide certain messages, such as bus error messages. If such error messages appear, report the complete text of this message to your technical support specialist.

Examples

The following example shows sample output from the show version command on a Cisco uBR10012 universal broadband router running Cisco IOS Release 12.3(17b)BC4:

```
Router> show version
Cisco Internetwork Operating System Software
IOS (tm) 10000 Software (UBR10K2-K9P6U2-M), Version 12.3(17b)BC4, RELEASE SOFTWA
RE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2006 by cisco Systems, Inc.
Compiled Wed 22-Nov-06 11:41 by tinhuang
Image text-base: 0x60010F0C, data-base: 0x62480000
ROM: System Bootstrap, Version 12.0(20020314:211744) [REL-pulsar_sx.ios-rommon 1
12], DEVELOPMENT SOFTWARE
ubr10k uptime is 2 days, 22 hours, 13 minutes
System returned to ROM by reload at 01:34:58 UTC Sun Jun 8 2008
System image file is "disk0:ubr10k2-k9p6u2-mz.123-17b.BC4"
Last reload reason: Reload command
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email to
export@cisco.com.
cisco uBR10000 (PRE2-RP) processor with 946175K/98304K bytes of memory.
Processor board ID TBA05380380
```

```
R7000 CPU at 500MHz, Implementation 39, Rev 4.1, 256KB L2, 8192KB L3 Cache
Backplane version 1.1, 8 slot
Last reset from register reset
PXF processor tmc0 is running.
PXF processor tmc1 is running.
PXF processor tmc2 is running.
PXF processor tmc3 is running.
1 TCCplus card(s)
1 FastEthernet/IEEE 802.3 interface(s)
3 Gigabit Ethernet/IEEE 802.3 interface(s)
24 Cable Modem network interface(s)
2045K bytes of non-volatile configuration memory.
125440K bytes of ATA PCMCIA card at slot 0 (Sector size 512 bytes).
125440K bytes of ATA PCMCIA card at slot 1 (Sector size 512 bytes).
65536K bytes of Flash internal SIMM (Sector size 512KB).
Secondary is up.
Secondary has 1044480K bytes of memory.
Configuration register is 0x2102
```

Examples

In Cisco IOS XE Release 2.4

```
In the following example, the show version command is responsible for displaying the packages
 installed, provisioned and running on the current RP.
```
In the following example, the command is entered on a Cisco ASR 1000 Series Router in diagnostic mode. Note that the output shows what every file that can be found in the consolidated package is or is not currently running (provisioning file, RP Access, RP Base, RP Control, RP IOS, ESP Base, SIP Base, SIP SPA).

```
PE23_ASR-1006#
Package: Provisioning File, version: n/a, status: active
  File: consolidated:packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: b6cb06b1ed02e041d48644340aa077833cff2076
Package: rpbase, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-rpbase.02.04.00.122-33.XND.pkg, on: RP0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 093f2c935b9dc4ed136623bc43488c6517b9a4ae
Package: rpcontrol, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-rpcontrol.02.04.00.122-33.XND.pkg, on: RP0/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: d71e05c824cb889048b3353257bd16129eb72c44
Package: rpios-advipservicesk9, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-rpios-advipservicesk9.02.04.00.122-33.XND.pkg, on: RP0/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 4167d300514153f67c3815c487c270c14449185d
Package: rpaccess, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-rpaccess.02.04.00.122-33.XND.pkg, on: RP0/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 0b0d108cd2683570778668697b7ffca2451b78b3
Package: rpcontrol, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpcontrol.02.04.00.122-33.XND.pkg, on: RP0/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: d71e05c824cb889048b3353257bd16129eb72c44
Package: rpios-advipservicesk9, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpios-advipservicesk9.02.04.00.122-33.XND.pkg, on: RP0/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 4167d300514153f67c3815c487c270c14449185d
Package: rpaccess, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpaccess.02.04.00.122-33.XND.pkg, on: RP0/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 0b0d108cd2683570778668697b7ffca2451b78b3
Package: rpbase, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpbase.02.04.00.122-33.XND.pkg, on: RP1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 093f2c935b9dc4ed136623bc43488c6517b9a4ae
Package: rpcontrol, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpcontrol.02.04.00.122-33.XND.pkg, on: RP1/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: d71e05c824cb889048b3353257bd16129eb72c44
```

show version

```
Package: rpios-advipservicesk9, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpios-advipservicesk9.02.04.00.122-33.XND.pkg, on: RP1/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 4167d300514153f67c3815c487c270c14449185d
Package: rpaccess, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpaccess.02.04.00.122-33.XND.pkg, on: RP1/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 0b0d108cd2683570778668697b7ffca2451b78b3
Package: rpcontrol, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpcontrol.02.04.00.122-33.XND.pkg, on: RP1/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: d71e05c824cb889048b3353257bd16129eb72c44
Package: rpios-advipservicesk9, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpios-advipservicesk9.02.04.00.122-33.XND.pkg, on: RP1/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 4167d300514153f67c3815c487c270c14449185d

Package: rpaccess, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-rpaccess.02.04.00.122-33.XND.pkg, on: RP1/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 0b0d108cd2683570778668697b7ffca2451b78b3
Package: espbase, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-espbase.02.04.00.122-33.XND.pkg, on: ESP0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 3ae9255c7272a30f5dae319dec109acd29d9ae87
Package: espbase, version: 02.04.00.122-33.XND, status: inactive
  File: consolidated:asr1000rp1-espbase.02.04.00.122-33.XND.pkg, on: ESP1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 3ae9255c7272a30f5dae319dec109acd29d9ae87
Package: sipbase, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-sipbase.02.04.00.122-33.XND.pkg, on: SIP0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: fc6e41d7de2ded3a16b6dc7e5e3a1151b788d254
Package: sipspa, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP0/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP0/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP0/2
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP0/3
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipbase, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-sipbase.02.04.00.122-33.XND.pkg, on: SIP1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: fc6e41d7de2ded3a16b6dc7e5e3a1151b788d254
Package: sipspa, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP1/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP1/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: active
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP1/2
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP1/3
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipbase, version: 02.04.00.122-33.XND, status: inactive
  File: consolidated:asr1000rp1-sipbase.02.04.00.122-33.XND.pkg, on: SIP2
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: fc6e41d7de2ded3a16b6dc7e5e3a1151b788d254
```

```
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP2/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP2/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP2/2
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP2/3
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipbase, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipbase.02.04.00.122-33.XND.pkg, on: SIP3
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: fc6e41d7de2ded3a16b6dc7e5e3a1151b788d254
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP3/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP3/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP3/2
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP3/3
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836

Package: sipbase, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipbase.02.04.00.122-33.XND.pkg, on: SIP4
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: fc6e41d7de2ded3a16b6dc7e5e3a1151b788d254
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP4/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP4/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP4/2
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP4/3
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipbase, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipbase.02.04.00.122-33.XND.pkg, on: SIP5
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: fc6e41d7de2ded3a16b6dc7e5e3a1151b788d254
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP5/0
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP5/1
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
Package: sipspa, version: 02.04.00.122-33.XND, status: n/a
  File: consolidated:asr1000rp1-sipspa.02.04.00.122-33.XND.pkg, on: SIP5/2
  Built: 2009-06-29_23.07, by: mcpre
  File SHA1 checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
```

```
        Package: Sipspa, Version: 02.04.00.122-33.xnd, Status: N/a
          File: Consolidated:asr1000rp1-sipspa.02.04.00.122-33.xnd.pkg, On: Sip5/3
          Built: 2009-06-29_23.07, By: Mcpre
          File Sha1 Checksum: 24fb5b788582e062c900e2713b5c56a2704ca836
```

Table 15: show version installed, provisioned, and running Field Descriptions

Field	Description
Package:	The individual sub-package name.
version:	The consolidated package version of the individual sub-package.
status:	Reveals if the sub-package is active or inactive for the specific hardware component only.
File:	The location and filename of the individual sub-package file.
on:	The hardware component.
Built:	The date the individual sub-package was built.
File SHA1 checksum:	The SHA1 sum for the file. This sum can be compared against a SHA1 sum generated by any SHA1 sum-generating tool.

Examples   The following is sample output from the show version command on a Cisco Catalyst 3850 Series Switch that is the active switch in a 2-member stack:

```
infra-p2-3#show version
Cisco IOS Software, IOS-XE Software, Catalyst L3 Switch Software (CAT3K_CAA-UNIVERSALK9-M),
 Version 03.09.19.EMP EARLY DEPLOYMENT ENGINEERING NOVA_WEEKLY BUILD, synced to
DSGS_PI2_POSTPC_FLO_DSBU7_NG3K_1105
Copyright (c) 1986-2012 by Cisco Systems, Inc.
Compiled Thu 15-Nov-12 01:45 by udonthi

ROM: IOS-XE ROMMON
BOOTLDR: C3850 Boot Loader (C3850-HBOOT-M) Version 1.2, engineering software (D)

infra-p2-3 uptime is 5 minutes
Uptime for this control processor is 7 minutes
System returned to ROM by reload
System image file is "flash:packages.conf"
Last reload reason: Reload command


This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
```

```
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.

License Level: Ipservices
License Type: Permanent
Next reload license Level: Ipservices

cisco WS-C3850X-24P-PROTO2 (MIPS) processor with 2097152K bytes of physical memory.
Processor board ID FHH1515P03Y
1 Virtual Ethernet interface
56 Gigabit Ethernet interfaces
8 Ten Gigabit Ethernet interfaces
2048K bytes of non-volatile configuration memory.
2097152K bytes of physical memory.
160618K bytes of Crash Files at crashinfo:.
160618K bytes of Crash Files at crashinfo-1:.
706860K bytes of Flash at flash:.
698827K bytes of Flash at flash-1:.
3915670K bytes of USB Flash at usbflash0:.
0K bytes of Dummy USB Flash at usbflash0-1:.
0K bytes of  at webui:.

Base Ethernet MAC Address       : 64:00:f1:25:11:00
Motherboard Assembly Number     : 73-12240-03
Motherboard Serial Number       : FHH15130010
Model Revision Number           : 01
Motherboard Revision Number     : 02
Model Number                    : WS-C3850X-24P-PROTO2
System Serial Number            : FHH1515P03Y


Switch Ports Model             SW Version         SW Image           Mode
------ ----- -----             ----------         ----------         ----
     1 32    WS-C3850X-24P-PROT 03.09.19.EMP      cat3k_caa-universalk9 INSTALL
     2 32    WS-C3850X-24P-PROT 03.09.19.EMP      cat3k_caa-universalk9 INSTALL


Switch 01
---------
Switch uptime                   : 7 minutes
Base Ethernet MAC Address       : 64:00:f1:25:1a:00
Motherboard Assembly Number     : 73-12240-03
Motherboard Serial Number       : FHH1513000T
Model Revision Number           : 01
Motherboard Revision Number     : 02
Model Number                    : WS-C3850X-24P-PROTO2
System Serial Number            : FHH1515P047

Configuration register is 0x2 (will be 0x102 at next reload)

infra-p2-3#
```

In the following example, the show version running command is entered on a Cisco Catalyst 3850 Series Switch to view information about the packages currently running on both switches in a 2-member stack:

```
infra-p2-3#show version running
Package: Base, version: 03.09.19.EMP, status: active
  File: cat3k_caa-base.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:52:19 PST 2012, by: udonthi

Package: Drivers, version: 03.09.19.EMP, status: active
  File: cat3k_caa-drivers.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:54:53 PST 2012, by: udonthi

Package: Infra, version: 03.09.19.EMP, status: active
  File: cat3k_caa-infra.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:53:08 PST 2012, by: udonthi

Package: IOS, version: 150-9.19.EMP, status: active
  File: cat3k_caa-iosd-universalk9.SSA.150-9.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:54:09 PST 2012, by: udonthi
```

```
Package: Platform, version: 03.09.19.EMP, status: active
  File: cat3k_caa-platform.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:53:39 PST 2012, by: udonthi

Package: WCM, version: 03.09.19.EMP, status: active
  File: cat3k_caa-wcm.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:54:34 PST 2012, by: udonthi


Package: Base, version: 03.09.19.EMP, status: active
  File: cat3k_caa-base.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:52:19 PST 2012, by: udonthi

Package: Drivers, version: 03.09.19.EMP, status: active
  File: cat3k_caa-drivers.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:54:53 PST 2012, by: udonthi

Package: Infra, version: 03.09.19.EMP, status: active
  File: cat3k_caa-infra.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:53:08 PST 2012, by: udonthi

Package: IOS, version: 150-9.19.EMP, status: active
  File: cat3k_caa-iosd-universalk9.SSA.150-9.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:54:09 PST 2012, by: udonthi

Package: Platform, version: 03.09.19.EMP, status: active
  File: cat3k_caa-platform.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:53:39 PST 2012, by: udonthi

Package: WCM, version: 03.09.19.EMP, status: active
  File: cat3k_caa-wcm.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:54:34 PST 2012, by: udonthi
```

In the following example, the show version provisioned and show version committed commands are entered on a Cisco Catalyst 3850 Series Switch that is the active switch in a 2-member stack. The show version committed commands displays information about the packages in the committed package set that will be running on the next reload. The show version provisioned command displays information about the packages in the provisioned package set.

In most cases, the show version provisioned and show version committed output will display the same information, since the provisioned and committed packages sets include the same packages. The provisioned package set may differ from the committed package set in cases where a **software install** operation was performed with the **auto-rollback** command option, and the **software commit** command has not yet been entered. This is the case in the sample output below, where the packages from the 03.09.19.EMP were installed with the **auto-rollback** command option, but the 'software commit' command has not yet been entered.

The show version provisioned and show version committed commands are not applicable when the switch is booted in bundle mode.

```
infra-p2-3#show version provisioned
Package: Provisioning File, version: n/a, status: active
  File: packages.conf, on: Switch1
  Built: n/a, by: n/a

Package: Base, version: 03.09.19.EMP, status: active
  File: cat3k_caa-base.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:52:19 PST 2012, by: udonthi

Package: Infra, version: 03.09.19.EMP, status: active
  File: cat3k_caa-infra.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:53:08 PST 2012, by: udonthi

Package: Platform, version: 03.09.19.EMP, status: active
  File: cat3k_caa-platform.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:53:39 PST 2012, by: udonthi

Package: IOS, version: 150-9.19.EMP, status: active
  File: cat3k_caa-iosd-universalk9.SSA.150-9.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:54:09 PST 2012, by: udonthi
```

```
Package: WCM, version: 03.09.19.EMP, status: active
  File: cat3k_caa-wcm.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:54:34 PST 2012, by: udonthi

Package: Drivers, version: 03.09.19.EMP, status: active
  File: cat3k_caa-drivers.SSA.03.09.19.EMP.pkg, on: Switch1
  Built: Thu Nov 15 01:54:53 PST 2012, by: udonthi


Package: Provisioning File, version: n/a, status: active
  File: packages.conf, on: Switch2
  Built: n/a, by: n/a

Package: Base, version: 03.09.19.EMP, status: active
  File: cat3k_caa-base.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:52:19 PST 2012, by: udonthi

Package: Infra, version: 03.09.19.EMP, status: active
  File: cat3k_caa-infra.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:53:08 PST 2012, by: udonthi

Package: Platform, version: 03.09.19.EMP, status: active
  File: cat3k_caa-platform.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:53:39 PST 2012, by: udonthi

Package: IOS, version: 150-9.19.EMP, status: active
  File: cat3k_caa-iosd-universalk9.SSA.150-9.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:54:09 PST 2012, by: udonthi

Package: WCM, version: 03.09.19.EMP, status: active
  File: cat3k_caa-wcm.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:54:34 PST 2012, by: udonthi

Package: Drivers, version: 03.09.19.EMP, status: active
  File: cat3k_caa-drivers.SSA.03.09.19.EMP.pkg, on: Switch2
  Built: Thu Nov 15 01:54:53 PST 2012, by: udonthi


infra-p2-3#show version committed

Package: Provisioning File, version: n/a, status: active
  File: packages.conf, on: Switch1
  Built: n/a, by: n/a

Package: Base, version: 03.09.17.EMP, status: active
  File: cat3k_caa-base.SSA.03.09.17.EMP.pkg, on: Switch1
  Built: Mon Nov 12 20:27:51 PST 2012, by: udonthi

Package: Infra, version: 03.09.17.EMP, status: active
  File: cat3k_caa-infra.SSA.03.09.17.EMP.pkg, on: Switch1
  Built: Mon Nov 12 20:28:53 PST 2012, by: udonthi

Package: Platform, version: 03.09.17.EMP, status: active
  File: cat3k_caa-platform.SSA.03.09.17.EMP.pkg, on: Switch1
  Built: Mon Nov 12 20:29:33 PST 2012, by: udonthi

Package: IOS, version: 150-9.17.EMP, status: active
  File: cat3k_caa-iosd-universalk9.SSA.150-9.17.EMP.pkg, on: Switch1
  Built: Mon Nov 12 20:29:58 PST 2012, by: udonthi

Package: WCM, version: 03.09.17.EMP, status: active
  File: cat3k_caa-wcm.SSA.03.09.17.EMP.pkg, on: Switch1
  Built: Mon Nov 12 20:30:29 PST 2012, by: udonthi

Package: Drivers, version: 03.09.17.EMP, status: active
  File: cat3k_caa-drivers.SSA.03.09.17.EMP.pkg, on: Switch1
  Built: Mon Nov 12 20:31:01 PST 2012, by: udonthi


Package: Provisioning File, version: n/a, status: active
  File: packages.conf, on: Switch2
```

```
     Built: n/a, by: n/a

Package: Base, version: 03.09.17.EMP, status: active
  File: cat3k_caa-base.SSA.03.09.17.EMP.pkg, on: Switch2
  Built: Mon Nov 12 20:27:51 PST 2012, by: udonthi

Package: Infra, version: 03.09.17.EMP, status: active
  File: cat3k_caa-infra.SSA.03.09.17.EMP.pkg, on: Switch2
  Built: Mon Nov 12 20:28:53 PST 2012, by: udonthi

Package: Platform, version: 03.09.17.EMP, status: active
  File: cat3k_caa-platform.SSA.03.09.17.EMP.pkg, on: Switch2
  Built: Mon Nov 12 20:29:33 PST 2012, by: udonthi

Package: IOS, version: 150-9.17.EMP, status: active
  File: cat3k_caa-iosd-universalk9.SSA.150-9.17.EMP.pkg, on: Switch2
  Built: Mon Nov 12 20:29:58 PST 2012, by: udonthi

Package: WCM, version: 03.09.17.EMP, status: active
  File: cat3k_caa-wcm.SSA.03.09.17.EMP.pkg, on: Switch2
  Built: Mon Nov 12 20:30:29 PST 2012, by: udonthi

Package: Drivers, version: 03.09.17.EMP, status: active
  File: cat3k_caa-drivers.SSA.03.09.17.EMP.pkg, on: Switch2
  Built: Mon Nov 12 20:31:01 PST 2012, by: udonthi


infra-p2-3#
```

Table 16: Table 5, Cisco Catalyst 3850 Series Switches and Cisco 5760 Series Wireless Controllers show version running Field Descriptions

Field	Description
Package:	The individual sub-package name.
version:	The individual sub-package version.
status:	Reveals if the package is active or inactive for the specific Supervisor module.
File:	The filename of the individual package file.
on:	The slot number of the Active or Standby Supervisor that this package is running on.
Built:	The date the individual package was built.

Examples   The following is sample output from the show version command on a Cisco Catalyst 4500e Series Switch running IOS XE software:

```
Switch#show version
Cisco IOS Software, IOS-XE Software, Catalyst 4500 L3 Switch Software
(cat4500e-UNIVERSALK9-M), Experimental Version 3.1.0.SG
[/nobackup/xxxx/cwab/build/arch_ppc/buildtree-ios/vob/ios/sys 100] Copyright (c)
1986-2010 by Cisco Systems, Inc.
Compiled Mon 19-Apr-10 09:19 by xxxx

Cisco IOS-XE software, Copyright (c) 2005-2010 by cisco Systems, Inc.
```

All rights reserved. Certain components of Cisco IOS-XE software are licensed under the
GNU General Public License ("GPL") Version 2.0. The software code licensed under GPL
Version 2.0 is free software that comes with ABSOLUTELY NO WARRANTY. You can redistribute
and/or modify such GPL code under the terms of GPL Version 2.0. For more details, see
the documentation or "License Notice" file accompanying the IOS-XE software, or the
applicable URL provided on the flyer accompanying the IOS-XE software.

Image text-base: 0x100D9954, data-base: 0x14B379D8

ROM: 12.2(54r)XO(0.246)
Jawa Revision 7, Snowtrooper Revision 0x0.0x14

gsgsw-g9-35 uptime is 4 minutes
Uptime for this control processor is 5 minutes System returned to ROM by reload System
image file is "tftp://1.2.3.4/tftpboot/xxxx/x.bin"

This product contains cryptographic features and is subject to United States and local
country laws governing import, export, transfer and use. Delivery of Cisco cryptographic
products does not imply third-party authority to import, export, distribute or use
encryption.

Importers, exporters, distributors and users are responsible for compliance with U.S. and
local country laws. By using this product you agree to comply with applicable laws and
regulations. If you are unable to comply with U.S. and local laws, return this product
immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to export@cisco.com.

License Information for 'iosd'
 License Level: entservices Type: Evaluation
 Next reboot license Level: entservices

cisco WS-C4510R-E (MPC8572) processor (revision 2) with 786516K/16384K bytes of memory.
Processor board ID SPE1046002Q
MPC8572 CPU at 1.5GHz, Supervisor 7
Last reset from Reload
1 Virtual Ethernet interface
84 Gigabit Ethernet interfaces
14 Ten Gigabit Ethernet interfaces

Configuration register is 0x920

Switch#

In the following example, the show version running command is entered on a Cisco Catalyst 4500e Series
Switch to view the list of packages contained in the IOS XE software bundle currently loaded on the system.

Switch# show version running

Package: Base, version: 3.0.0, status: active
30
 File: cat4500e-base.SSA.3.0.0.pkg, on: Slot5
 From Bundle: cat4500e-universalk9.SSA.3.1.0.SG
 Built: Mon Apr 19 10:08:38 PDT 2010, by: xxxx

Package: Infra, version: 3.0.0, status: active
 File: cat4500e-infra.SSA.3.0.0.pkg, on: Slot5
 From Bundle: cat4500e-universalk9.SSA.3.1.0.SG
 Built: Mon Apr 19 10:09:30 PDT 2010, by: xxxx

Package: IOS, version: 150-1.XO, status: active
 File: cat4500e-universalk9.SSA.150-1.XO.pkg, on: Slot5
 From Bundle: cat4500e-universalk9.SSA.3.1.0.SG
 Built: Mon Apr 19 10:10:02 PDT 2010, by: xxxx

Package: Base, version: 3.0.0, status: active
 File: cat4500e-base.SSA.3.0.0.pkg, on: Slot6
 From Bundle: cat4500e-universalk9.SSA.3.1.0.SG
 Built: Mon Apr 19 10:08:38 PDT 2010, by: xxxx

```
Package: Infra, version: 3.0.0, status: active
 File: cat4500e-infra.SSA.3.0.0.pkg, on: Slot6
 From Bundle: cat4500e-universalk9.SSA.3.1.0.SG
 Built: Mon Apr 19 10:09:30 PDT 2010, by: xxxx

Package: IOS, version: 150-1.XO, status: active
 File: cat4500e-universalk9.SSA.150-1.XO.pkg, on: Slot6
 From Bundle: cat4500e-universalk9.SSA.3.1.0.SG
 Built: Mon Apr 19 10:10:02 PDT 2010, by: xxxx
 Switch#
```

Table 17: Table 6,Cisco Catalyst 4500e Series Switches show version running Field Descriptions

Field	Description
Package:	The individual sub-package name.
version:	The individual sub-package version.
status:	Reveals if the package is active or inactive for the specific Supervisor module.
File:	The filename of the individual package file.
on:	The slot number of the Active or Standby Supervisor that this package is running on.
From Bundle:	The name of the IOS XE software bundle that includes this package.
Built:	The date the individual package was built.

Related Commands

Command	Description
show diag	Displays hardware and diagnostic information for a networking device, a line card, a processor, a jacket card, a chassis, or a network module.
show inventory	Displays the Cisco Unique Device Identifier information, including the Product ID, the Version ID, and the Serial Number, for the hardware device and hardware components.

show warm-reboot

To display the statistics for attempted warm reboots, use the **show warm-reboot** command in privileged EXEC mode.

show warm-reboot

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.3(2)T	This command was introduced.
12.2(18)S	This command was integrated into Cisco IOS Relase 12.2(18)S.
12.2(28)SB	This command was integrated into Cisco IOS Relase 12.2(28)SB.

Usage Guidelines

Use the **show warm-reboot** command to see if warm rebooting is enabled, and, if so, how many warm reloads have occurred and how much space in kilobytes (KB) is consumed by warm-reboot storage, which is the RAM area used to store the data segment that enables warm reloading to function.

Examples

The following example is sample output from the **show warm-reboot** command:

```
Router# show warm-reboot
Warm Reboot is enabled
Statistics:
10 warm reboots have taken place since the last cold reboot
XXX KB taken up by warm reboot storage
```

Related Commands

Command	Description
warm-reboot	Enables a router to warm-reboot.

show wiretap

To display the intercept status, use the **show wiretap** command in privileged EXEC mode.

show wiretap [*id* [*stream-id*]| **idbs**]

Syntax Description

id	(Optional) CCC ID number. The CCC ID value range is from 1 to 2147483647.
stream-id	(Optional) The ID value range is from 1to 2147483647.
idbs	(Optional) Displays the Interface Descriptive Block (IDB) to which the Access Control List (ACL) is applied.

Command Default

If the id is not specified , information for all wiretap configurations and IDBs is displayed.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.0(1)M	This command was introduced in a release earlier than Cisco IOS Release 15.0(1)M.
12.2 (33)SXI	This command was integrated into a release earlier than Cisco IOS Release 12.2(33)SXI.

Usage Guidelines

Use the **show wiretap**command to display the intercept status.

Examples

The following is sample output from the **show wiretap** command. The field descriptions are self-explanatory.

```
Router# show wiretap
Mediation Device 0x00000001
  TTl   = 3130
  Time left = 3127 minutes
  MD IP Address = 6.6.6.12
  MD SNMP IF index = 0
  MD HW IF index = 0
  MD Source IP address = 6.6.6.14
  MD UDP port = 7777
  DSCP value = af41
  Platform data = 0x00000000
```

```
Stream count = 1
Streams associated with MD
Generic stream 0x00000002
  Status = 1
  Packets intercepted = 0
  Packets dropped = 0
  Type = Session
    Index    0x00000002
    Acnt ID  0x00000001
    SNMP provisioned intercept
    Status   0
```

show whoami

To display information about the terminal line of the current user, including host name, line number, line speed, and location, use the **show whoami** command in EXEC mode.

show whoami [*text*]

Syntax Description

text	(Optional) Additional data to print to the screen.

Command Modes

EXEC

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Usage Guidelines

If text is included as an argument in the command, that text is displayed as part of the additional data about the line.

To prevent the information from being lost if the menu display clears the screen, this command always displays a --More-- prompt before returning. Press the space bar to return to the prompt.

Examples

The following example is sample output from the **show whoami** command:

```
Router> show whoami
Comm Server "Router", Line 0 at 0bps.  Location "Second floor, West"
--More--
Router>
```

showmon

To show both the ReadOnly and the Upgrade ROMmon image versions when you are in ROMmon mode, as well as which ROMmon image is running on the Cisco 7200 VXR or Cisco 7301 router, use the **showmon**command in ROM monitor mode.

showmon

Syntax Description

This command has no arguments or keywords.

Command Default

No default behavior or values

Command Modes

ROM monitor mode

Command History

Release	Modification
12.0(28)S	This command was introduced on the Cisco 7200 VXR router. It was introduced in ROMmon version 12.3(4r)T1 for the Cisco 7200 VXR router.
12.3(8)T	This command was integrated into Cisco IOS Release 12.3(8)T and supported on the Cisco 7200 VXR router and Cisco 7301 router. It was introduced in ROMmon version 12.3(4r)T2 for the Cisco 7301 router.
12.3(9)	This command was integrated into Cisco IOS Release 12.3(9) and supported on the Cisco 7200 VXR router and Cisco 7301 router.

Usage Guidelines

Use the showmon command when you are in ROM monitor mode. Use the show rom-monitor command when you are in Cisco IOS.

Examples

The following example, applicable to both the Cisco 7200 VXR and Cisco 7301 routers, uses the showmon command in ROMmon to display both ROMmon images and to verify that the Upgrade ROMmon image is running:

```
rommon 1 > showmon
ReadOnly ROMMON version is:
System Bootstrap, Version 12.2(20031011:151758) [biff]
Copyright (c) 2004 by Cisco Systems, Inc.
Upgrade ROMMON version is:
System Bootstrap, Version 12.2(20031011:151758) [biff]
Copyright (c) 2004 by Cisco Systems, Inc.
Upgrade ROMMON currently running
Upgrade ROMMON is selected for next boot
rommon 2 >
```

Related Commands

Command	Description
rommon-pref	Selects a ReadOnly or Upgrade ROMmon image to be booted on the next reload of a Cisco 7200 VXR or Cisco 7301 when you are in ROMmon.