



## show protocols through showmon

---

- [show protocols through showmon](#) , on page 2

# 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]
```

<b>Syntax Description</b>	<i>interface-name</i>		<ul style="list-style-type: none"> <li>• <b>voaBypassIn</b> --VOA-Bypass-In interface</li> <li>• <b>voaBypassOut</b> --VOA-Bypass-Out interface</li> <li>• <b>voaFilterIn</b> --VOA-Filter-In interface</li> <li>• <b>voaFilterOut</b> --VOA-Filter-Out interface</li> <li>• <b>voaIn</b> --VOA-In interface</li> <li>• <b>voaOut</b> --VOA-Out interface</li> </ul>
		<i>interface-number</i>	(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 Electrical 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 • <b>Vlan</b> --Catalyst VLANs • <b>vmi</b> --Virtual Multipoint Interface	
--	--	--

**Command Modes**

User EXEC (&gt;) 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
vmil 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-Templat1 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*]

<b>Syntax Description</b>	<b>address</b> <i>hex-address</i>	(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 (#)

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	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 0x7AFFFFFF 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.
IText	Image text memory.
IData	Image data memory.
IBss	Image blind source separation (BSS) memory.

Field	Description
R/W	Read and write memory.
R/O	Read-only memory.

**Related Commands**

Command	Description
<b>show context</b>	Displays information stored in NVRAM when an unexpected system reload (system exception) occurs.
<b>show memory</b>	Displays detailed memory statistics for the system.
<b>show version</b>	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	
<i>registry-name</i>	(Optional) Name of the registry to display.
<i>registry-number</i>	(Optional) Number of the registry to display.
<b>brief</b>	(Optional) Displays limited functions and services information.
<b>statistics</b>	(Optional) Displays function registry statistics.
Cisco IOS Software Modularity Syntax	
<b>name</b>	(Optional) Displays information about a specific registry.
<i>registry-name</i>	(Optional) Name of the registry to examine.
<i>registry-number</i>	(Optional) Number of the registry to examine.
<b>brief</b>	(Optional) Displays limited functions and services information.
<b>preemptions</b>	(Optional) Displays registry preemptions information.
<b>rpcp status</b>	(Optional) Displays status of remote procedure call (RPC) proxy.

Cisco IOS Software Syntax	
<b>statistics</b>	(Optional) Displays function registry statistics.
<b>remote</b>	(Optional) Displays name server interactions and call statistics.
<b>process</b>	(Optional) Displays process-specific information.
<i>process-name</i>	(Optional) Process name.
<i>process-id</i>	(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

### Cisco IOS Software

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.

### Cisco IOS Software Modularity

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,

Field	Description
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 reload history

To display the reason for the device reload and its history, use the **show reload history** command in privileged EXEC mode.

### show reload history

**Command Modes** Privileged EXEC (#)

Command History	Release	Modification
	Cisco IOS XE 17.13.1a	This command was introduced (as <b>show reload-history</b> ) on Cisco Catalyst 8200, 8300, and 8500 Series Edge Platforms, Cisco Catalyst 8000V Edge Software, Cisco 4000 Series Integrated Services Routers, Cisco 1000 Series Integrated Services Routers, and Cisco ASR 1000 Series Aggregation Services Router .
	Cisco IOS XE 17.14.1a	This command was modified from <b>show reload-history</b> to <b>show reload history</b> . This command is supported on Cisco Catalyst 8200, 8300, and 8500 Series Edge Platforms, Cisco Catalyst 8000V Edge Software, Cisco 4000 Series Integrated Services Routers, Cisco 1000 Series Integrated Services Routers, and Cisco ASR 1000 Series Aggregation Services Routers.

**Usage Guidelines**

You can use this command when you want to view the reload history details.



**Note** This command displays the history for a maximum of 10 reloads.

**Example**

The following is sample output of the **show reload-history** command:

```
Device#show reload-history
Reload History:
Reload Index: 1
Reload Code: Reload
Reload Description: Reload Command
Reload Severity: Normal Reboot
Reload Time: 01:33:44 UTC Wed Nov 30 2022

Reload Index: 2
Reload Code: Critical Process Fault
Reload Description: Critical process stack_mgr fault on rp_0_0 (rc=137), system report at
bootflash:core/Yang_Test-system-report_20221130-012929-UTC.tar.gz
Reload Severity: Abnormal Reboot
Reload Time: 01:31:11 UTC Wed Nov 30 2022

Reload Index: 3
Reload Code: Image Install
Reload Description: Image Install
Reload Severity: Normal Reboot
Reload Time: 01:25:03 UTC Wed Nov 30 2022

Reload Index: 4
Reload Code: Critical Process Fault
Reload Description: Critical process rif_mgr fault on rp_0_0 (rc=137), system report at
bootflash:core/Yang_Test-system-report_20221130-011127-UTC.tar.gz
Reload Severity: Abnormal Reboot
Reload Time: 01:13:08 UTC Wed Nov 30 2022

Reload Index: 5
Reload Code: Reload
Reload Description: Reload Command
Reload Severity: Normal Reboot
Reload Time: 01:08:26 UTC Wed Nov 30 2022

Reload Index: 6
```

```
Reload Code: Critical Process Fault
Reload Description: Critical process wncmgrd fault on rp_0_0 (rc=137), system report at
bootflash:core/Yang_Test-system-report_20221130-010338-UTC.tar.gz
Reload Severity: Abnormal Reboot
Reload Time: 01:05:23 UTC Wed Nov 30 2022

Reload Index: 7
Reload Code: Reload
Reload Description: Reload Command
Reload Severity: Normal Reboot
Reload Time: 01:01:09 UTC Wed Nov 30 2022

Reload Index: 8
Reload Code: Reload
Reload Description: Reload Command
Reload Severity: Normal Reboot
Reload Time: 00:57:27 UTC Wed Nov 30 2022

Reload Index: 9
Reload Code: Reload
Reload Description: Reload Command
Reload Severity: Normal Reboot
Reload Time: 00:22:34 UTC Wed Nov 30 2022

Reload Index: 10
Reload Code: Fast Switchover
Reload Description: redundancy force-switchover
Reload Severity: Normal Reboot
Reload Time: 23:40:01 UTC Tue Nov 29 2022
```



---

**Note** The **show reload-history** command is applicable to Cisco IOS XE 17.13.1a release.

---

### Example

The following is sample output of the **show reload history** command:

```
Device#show reload history

Reload History:

Unit ID: rp0

Reload Index: 1
Reload Code: Reload
Reload Severity: Normal Reboot
Reload Description: Reload Command
Crash Data: -NA-
HA Status: Active
Software Version: 17.15.20240201:182652101
Reload Time: 17:54:47 UTC Mon Feb 5 2024
```



---

**Note** The **show reload history** command is applicable to Cisco IOS XE 17.14.1a and later releases.

---

## 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.
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
<b>ip rcmd remote-host</b>	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**

<i>slot</i>	<p>Specifies the slot that contains the ROMMON. Options include:</p> <ul style="list-style-type: none"> <li>• <i>number</i> --The number of the SIP slot that requires the ROMMON upgrade.</li> <li>• <b>F0</b> --Embedded Service Processor slot 0.</li> <li>• <b>F1</b> --Embedded Service Processor slot 1.</li> <li>• <b>FP active</b> --Active Embedded Service Processor.</li> <li>• <b>FP standby</b> --Standby Embedded Service Processor.</li> <li>• <b>R0</b> --Route Processor slot 0.</li> <li>• <b>R1</b> --Route Processor slot 1.</li> <li>• <b>RP active</b> --Active Route Processor.</li> <li>• <b>RP standby</b> --Standby Route Processor.</li> </ul>
-------------	---

**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.
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	<p>This command was introduced on the Cisco ASR 1000 Series Routers and the following enhancements were introduced:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• The <i>slot</i> argument was introduced.</li> </ul>
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 image. 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 upgradable 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

<b>num</b>	Displays the slot number of the ROMMON for which the status is to be displayed.
<b>sp</b>	Displays the ROMMON status of the switch processor.
<b>rp</b>	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
<b>upgrade rom-monitor</b>	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**

<i>name</i>	(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
<b>show running-configuration</b>	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**

<b>default</b>	(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
	<b>show running-configuration</b>	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

<i>options</i>	<p>(Optional) Keywords used to customize output. You can enter more than one keyword.</p> <ul style="list-style-type: none"> <li>• <b>all</b> --Expands the output to include the commands that are configured with default parameters. If the <b>all</b> keyword is not used, the output does not display commands configured with default parameters.</li> <li>• <b>brief</b> --Displays the configuration without certification data and encrypted filter details. The <b>brief</b> keyword can be used with the <b>linenum</b> keyword.</li> <li>• <b>class-map</b> [<i>name</i>][<b>linenum</b>]<i>--</i>Displays class map information. The <b>linenum</b> keyword can be used with the <b>class-map</b> <i>name</i> option.</li> <li>• <b>control-plane</b> [<b>cef-exception</b>  <b>host</b>  <b>transit</b>]<i>--</i>Displays control-plane information. The <b>cef-exception</b>, <b>host</b>, and <b>transit</b> keywords can be used with the <b>control-plane</b> option.</li> <li>• <b>flow</b> {<b>exporter</b>   <b>monitor</b>   <b>record</b>}<i>--</i>Displays global flow configuration commands. The <b>exporter</b>, <b>monitor</b>, and <b>record</b> keywords can be used with the <b>flow</b> option.</li> <li>• <b>full</b> --Displays the full configuration.</li> <li>• <b>interface</b> <i>type number</i> -- Displays interface-specific configuration information. If you use the <b>interface</b> keyword, you must specify the interface type and the interface number (for example, <b>interface ethernet 0</b>). Keywords for common interfaces include <b>async</b>, <b>ethernet</b>, <b>fastEthernet</b>, <b>group-async</b>, <b>loopback</b>, <b>null</b>, <b>serial</b>, and <b>virtual-template</b>. Use the <b>show run interface ?</b> command to determine the interfaces available on your system.</li> <li>• <b>linenum</b> --Displays line numbers in the output. The <b>brief</b> or <b>full</b> keyword can be used with the <b>linenum</b> keyword. The <b>linenum</b> keyword can be used with the <b>class-map</b>, <b>interface</b>, <b>map-class</b>, <b>policy-map</b>, and <b>vc-class</b> keywords.</li> <li>• <b>map-class</b> [<b>atm</b>   <b>dialer</b>   <b>frame-relay</b>] [<b>name</b>] [<b>linenum</b>]<i>--</i>Displays map class information. This option is described separately; see the <b>show running-config map-class</b> command page.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>partition types</b> -- Displays the configuration corresponding to a partition. The <b>types</b> keyword can be used with the <b>partition</b> option.</li> <li>• <b>policy-map</b> [<i>name</i>][<b>linenum</b>]<i>--</i>Displays policy map information. The <b>linenum</b> keyword can be used with the <b>policy-map</b> <i>name</i> option.</li> <li>• <b>vc-class</b> [<i>name</i>] [<b>linenum</b>]<i>--</i>Displays VC-class information (the display is available only on certain devices such as the Cisco 7500 series devices). The <b>linenum</b> keyword can be used with the <b>vc-class</b> <i>name</i> option.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>view full</b> --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.</li> <li>• <b>vrf</b> <i>name</i> --Displays the Virtual routing and forwarding (VRF)-aware configuration module number .</li> <li>• <b>vlan</b> [<i>vlan-id</i>]<i>--</i>Displays the specific VLAN information ; valid values are from 1 to 4094.</li> </ul>

## 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 <b>more system:running-config</b> 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 <b>linenum</b> keyword was added.
12.3(8)T	This command was modified. The <b>view fulloption</b> was added.
12.2(14)SX	This command was integrated into Cisco IOS Release 12.2(14)SX. The <b>module number</b> and <b>vlan vlan-id</b> 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 <b>all</b> 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 device 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 device was added.
12.4(24)T	This command was modified in a release earlier than Cisco IOS Release 12.4(24)T. The <b>partition</b> and <b>vrf</b> keywords were added. The <b>module</b> and <b>vlan</b> 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 Device

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.

```
Device# 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.

```

Device# 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.

```

Device# 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 device. The fields are self-explanatory.

```

Device#
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 device
!
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

```

Device# 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.

```

Device# 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/d5ms6DEzKa8D1Op1+Q951P194PsIU
wCyfVCwLS+T8p3RDLi8dKBgQMCDW4DhalObBJTpV4zpwEdMvJDdu5PATtEQhFjhN/UYeyQiPRthjkbJn
LzT8hQFwxYwVW8PCjkyqEwYrr+R+mFG/C7tFRiooaW9MU9PcPfD95FARv1U=#
  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 #
DkGbVq0FPAsVJKguU15lQPdFzYtTcHUXWsj8+tD+dCSYw9cjkRU9jyST4vO4u69/L62Q1byQuKdyQmb10
6sAeY5vDsDfDV05k4o5eD+j8cMt78iZT0Qg7uGiBSYBbak3kKn/5w2gDdlvnivyQ7g4Ltd9+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

```

The following example shows that the teletype (tty) line 2 is reserved for communicating with the 2nd core:

```

Device# show running
Building configuration...

Current configuration:
!
version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname device
!
enable password lab
!
no ip subnet-zero
!
!
!
!

```

```

interface Ethernet0
 ip address 172.25.213.150 255.255.255.128
 no ip directed-broadcast
 no logging event link-status
!
interface Serial0
 no ip address
 no ip directed-broadcast
 no ip mroute-cache
 shutdown
 no fair-queue
!
interface Serial1
 no ip address
 no ip directed-broadcast
 shutdown
!
ip default-gateway 172.25.213.129
ip classless
ip route 0.0.0.0 0.0.0.0 172.25.213.129
!
!
line con 0
 transport input none
line 1 6
 no exec
 transport input all
line 7
 no exec
 exec-timeout 300 0
 transport input all
line 8 9
 no exec
 transport input all
line 10
 no exec
 transport input all
 stopbits 1
line 11 12
 no exec
 transport input all
line 13
 no exec
 transport input all
 speed 115200
line 14 16
 no exec
 transport input all
line aux 0
line vty 0 4
 password cisco
 login
!
end

```

**Related Commands**

Command	Description
<b>bandwidth</b>	Specifies or modifies the bandwidth allocated for a class belonging to a policy map, and enables ATM overhead accounting.
<b>boot config</b>	Specifies the device and filename of the configuration file from which the device configures itself during initialization (startup).

Command	Description
<b>configure terminal</b>	Enters global configuration mode.
<b>copy running-config startup-config</b>	Copies the running configuration to the startup configuration. (Command alias for the <b>copy system:running-config nvram:startup-config</b> command.)
<b>shape</b>	Shapes traffic to the indicated bit rate according to the algorithm specified, and enables ATM overhead accounting.
<b>show interfaces</b>	Displays statistics for all interfaces configured on the device or access server.
<b>show policy-map</b>	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.
<b>show startup-config</b>	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 <b>more:nvram startup-config</b> 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	Keyword	Description
	<b>cef-exception</b>	(Optional) Displays information about control plane Cisco Express Forwarding exceptions.
	<b>host</b>	(Optional) Displays information about the control plane host.
	<b>transit</b>	(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
<b>show running-config</b>	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**

<b>atm</b>	(Optional) Displays only ATM map-class configuration lines.
<b>dialer</b>	(Optional) Displays only dialer map-class configuration lines.
<b>frame-relay</b>	(Optional) Displays only Frame Relay map-class configuration lines.
<i>map-class-name</i>	(Optional) Displays only configuration lines for the specified map-class.
<b>linenum</b>	(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 <b>map-class</b> extension to the <b>show running-config</b> command was introduced to show only lines pertaining to dialer or Frame Relay map classes.
12.1(2)T	The <b>atm</b> , <b>dialer</b> , and <b>frame-relay</b> keywords and <i>map-class-name</i> argument were introduced.
12.2(4)T	The <b>linenum</b> 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

### All Map Classes Configured on the Router Example

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
```

### All Frame Relay Map Classes Example

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
```

### A Specific Map Class and Display of Line Numbers Example

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

<i>part</i>	<p>The <i>part</i> 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.</p> <p>For example, in the command <b>show running-config partition router eigrp 1</b>, the major-descriptor for the <i>part</i> argument is the <b>router</b> keyword, and the minor-descriptors for the <i>part</i> argument are the <b>eigrp 1</b> keywords.</p> <p>The actual list of <i>part</i> keyword options will depend on your system hardware, what feature set you are running, and what features are currently configured on your system.</p> <p>Some examples of command <i>part</i>keyword options are provided here for reference. Use the <b>show running-config partition ?</b> command on your system to view the list of command options available on your system.</p> <ul style="list-style-type: none"> <li>• <b>access-list</b> --Displays all running configuration commands that make up the access-list configuration partition.</li> <li>• <b>boot</b> --Displays all running configuration commands that make up the boot configuration partition.</li> <li>• <b>class-map</b> --Displays all running configuration commands that make up the class-map configuration partition.</li> <li>• <b>global-cdp</b> --Displays all running configuration commands that make up the global CDP configuration partition.</li> <li>• <b>interface</b> [<i>type slot/port/number</i>]--Displays all running configuration commands that make up the interfaces configuration partition or the configuration commands that are applied to the specified interface.</li> <li>• <b>line</b> --Displays all running configuration commands that make up the line command configuration partition.</li> <li>• <b>policy-map</b> --Displays all running configuration commands that make up the policy-map configuration partition.</li> <li>• <b>route-map</b> --Displays all running configuration commands that make up the route-map configuration partition.</li> <li>• <b>router</b> [<i>protocol</i>]--Displays all running configuration commands that make up the router configuration partition, or the configuration commands for the specified routing protocol.</li> <li>• <b>service</b> --Displays all running configuration commands that make up the services (small server) configuration partition.</li> <li>• <b>snmp</b> --Displays all running configuration commands that make up the SNMP configuration partition.</li> <li>•   - Allows for the addition of output modifiers.</li> </ul>
-------------	--

**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
	<b>copy running-config startup-config</b>	Copies the running configuration to the default startup configuration file.
	<b>show interfaces</b>	Displays statistics for all interfaces configured on the router or access server.
	<b>show running-config</b>	Generates and displays a virtual configuration file that lists all configuration commands that are in effect on the system.
	<b>show startup-config</b>	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 <b>more:nvram startup-config</b> 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	Option	Description
	<b>accounting</b>	Displays information about the SCP accounting.
	<b>counters</b>	Displays information about the SCP counter.
	<b>linecards</b>	Displays information about the Optical Services Module (OSM) wide area network (WAN) modules in the chassis.
	<b>details</b>	(Optional) Displays detailed information about the OSM WAN module.
	<b>mcast</b>	Displays information about the SCP multicast.
	<b>group</b> <i>group-id</i>	(Optional) Displays information for a specific group and group ID; valid values are from 1 to 127.
	<b>inst</b>	(Optional) Displays information for an instance.

<b>process id</b>	Displays all the processes that have registered an SAP with SCP.
<b>status</b>	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.
12.2(18)SXE	The output of the <b>show scp process</b> 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 <b>show scp status</b> 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.
	<b>chips</b>	(Optional) Displays flash chip information.
	<b>detailed</b>	(Optional) Displays the flash detailed directory.
	<b>err</b>	(Optional) Displays the flash chip erase and write retries.
	<b>summary</b>	(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](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
-----------	------	------	------	-----------	-------	-----------

**show slot0:**

```

1          20223K 10821K   9402K   4096K   Read/Write   Direct
20480K bytes of processor board PCMCIA Slot0 flash (Read/Write)

```

**Related Commands**

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

<b>all</b>	(Optional) Displays all possible flash system information for all PCMCIA flash cards in the system.
<b>chips</b>	(Optional) Displays flash chip information.
<b>detailed</b>	(Optional) Displays the flash detailed directory.
<b>err</b>	(Optional) Displays the flash chip erase and write retries.
<b>summary</b>	(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](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
```

**show slot0:**

```

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
<b>dir slot0:</b>	Directory listing of files on a PCMCIA Flash card located in slot0.
<b>dir slot1:</b>	Directory listing of files on a PCMCIA Flash card located in slot1.

Command	Description
<b>show slot1:</b>	Displays information about the PCMCIA flash memory card's file system located in slot 1.
<b>show slot</b>	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

<b>all</b>	(Optional) Displays all possible flash system information for all PCMCIA flash cards in the system.
<b>chips</b>	(Optional) Displays flash chip information.
<b>detailed</b>	(Optional) Displays the flash detailed directory.
<b>err</b>	(Optional) Displays the flash chip erase and write retries.
<b>summary</b>	(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](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
```

```
.
```

show slot1:

```
.
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
<b>dir slot0:</b>	Directory listing of files on a PCMCIA Flash card located in slot0.
<b>dir slot1:</b>	Directory listing of files on a PCMCIA Flash card located in slot1.
<b>show slot0:</b>	Displays information about the PCMCIA flash memory card's file system located in slot 0.
<b>show slot</b>	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

<i>flash0:</i>	Displays information related to software authentication for flash 0 resources.
filename	Name of the filename in memory.
<i>flash1:</i>	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.
<b>usbflash0:</b>	Displays information related to software authentication for Universal Serial Bus (USB) flash 0 resources.
<b>usbflash1:</b>	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:).

Field	Description
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
<b>show software authenticity keys</b>	Displays the software public keys that are in the storage with the key types.
<b>show software authenticity running</b>	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.
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
<b>show software authenticity file</b>	Displays information related to software authentication for the loaded image file.
<b>show software authenticity running</b>	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
<b>show software authenticity file</b>	Displays the software authenticity related information for the loaded image file.
<b>show software authenticity keys</b>	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

<i>bundle or package url</i>	Specify the name of the bundle or package file whose information should be displayed.
<b>detail</b>	(optional) This command option is intended to provide additional details about the specified package or bundle file. Currently, no additional information is displayed.

<b>verbose</b>	(optional) provides some additional info in the log files
----------------	---

**Command Default** No default behavior or values.

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

<b>Release</b>	<b>Modification</b>
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-mgmt,03.09.19.EMP,mips; nova-ng3k-flash,03.09.19.EMP,mips#
REQUIRES:#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
	<b>software clean</b>	Use this command to remove any and all packages and provisioning files that are no longer in use.
	<b>software install file</b>	Install Cisco IOS XE files.

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

**show stacks**

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

```
show stacks PID
```

**Syntax Description**

*PID* Process identifier of the process that allocated the stack. The value ranges from 1 to 8192.

**Command Modes**

Privilege EXEC (#)

**Command History**

Release	Modification
Cisco IOS 10.0	This command was introduced.
Cisco IOS 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.

Use the **show stacks *PID*** command to print the call stack of the process with ID ranging from 1 to 8192. This command displays the following information:

- Stack segment: Where the process stack lies in the memory.
- List of FP: <address>: The Frame Pointer (FP) for each frame in the call stack.
- List of RA: <address>: The Return Address (RA) of each frame in the call stack.

**Examples**

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

```
Device# 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
```

The following is a sample output from the **show stacks *PID*** command:

```
Device# show stack 10
Process 10: WATCH_AFS
  Stack segment 0x21668518 - 0x216690D0
  FP: 0x21669068, RA: 0x31A3D79C

Device# show stack 100
Process 100: dev_device_inserted
  Stack segment 0x418D1CC8 - 0x418D2880
  FP: 0x418D2830, RA: 0x30488210

Device# show stack 200
Process 200: WAAS Process
  Stack segment 0x41B76DB8 - 0x41B79C98
  FP: 0x41B79BE8, RA: 0x335ABEB4

Device# sh stack 311
Process 311: Virtual Exec
```

```
Stack segment 0x24625DFC - 0x2462BBBC
FP: 0x2462AEC0, RA: 0x3333372C
FP: 0x2462AF60, RA: 0x36AF9250
```

Related Commands	Command	Description
	<b>show processes</b>	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	Description
	<b>class class</b>	(Optional) Displays the subsystems of the specified class. Valid classes are <b>driver</b> , <b>ehsa</b> , <b>ifs</b> , <b>kernel</b> , <b>library</b> , <b>license</b> , <b>management</b> , <b>microcode</b> , <b>pre-ehsa</b> , <b>pre-driver</b> , <b>protocol</b> , <b>registry</b> , and <b>sysinit</b> .
	<b>name name</b>	(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 <b>ehsa</b> , <b>ifs</b> , <b>microcode</b> , <b>pre-driver</b> , and <b>sysinit</b> classes were added.
	12.3T	This command was modified The <b>pre-ehsa</b> class was added.
	12.2(33)SRA	This command was modified. The <b>driver</b> , <b>ehsa</b> , <b>kernel</b> , <b>library</b> , <b>management</b> , <b>pre-driver</b> , <b>pre-ehsa</b> , <b>protocol</b> , and <b>registry</b> classes were added.
	12.2(35)SE2	This command was modified. The <b>driver</b> , <b>ehsa</b> , <b>kernel</b> , <b>library</b> , <b>license</b> , <b>management</b> , <b>pre-driver</b> , <b>pre-ehsa</b> , <b>protocol</b> , and <b>registry</b> 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
ocl2suni       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

<b>all</b>	(Optional) Displays all possible Flash information.
------------	---

<b>chips</b>	(Optional) Displays information about the Flash chip.
<b>filesystems</b>	(Optional) Displays information about the file system.

**Command Default** This command has no default settings.

**Command Modes** Privileged EXEC

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.
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 global 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

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
	<b>system jumbomtu</b>	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**]

### Cisco ASR 900 Series, Cisco ASR 920 Series, Cisco NCS 4200 Series

**show tech-support platform** **cef** *ipv4 address* [ **vrf** *vrf-name* ] |  
**bfd** { **gal** *GAL-BFD-tunnel-number* | **ipv4** *ip-address* { **GigabitEthernet** **TenGigabitEthernet** } |  
**multihop** *ip-address* | **poch-ipv4** *ip-address* { **GigabitEthernet** **TenGigabitEthernet** } } |  
**multicast** **ipv4** *ip-address* |  
**qos**

**Syntax Description**

<b>page</b>	(Optional) Causes the output to display a page of information at a time.
-------------	--

<b>password</b>	(Optional) Leaves passwords and other security information in the output.
<b>cef</b>	(Optional) Displays <b>show</b> command output specific to Cisco Express Forwarding.
<b>ipc</b>	(Optional) Displays <b>show</b> command output specific to Inter-Process Communication (IPC).
<b>ipmulticast</b>	(Optional) Displays <b>show</b> command output that is 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.
<b>vrf vrf-name</b>	(Optional) Specifies a multicast Virtual Private Network (VPN) routing and forwarding instance (VRF).
<b>ipsec</b>	(Optional) Displays <b>show</b> command output related to the IPSec configuration.
<b>peer ipv4 address</b>	(Optional) Specifies the IPv4 address of a peer.
<b>isis</b>	(Optional) Displays <b>show</b> command output specific to Connectionless Network Service (CLNS) and Intermediate System-to-Intermediate System Protocol (IS-IS).
<b>mpls</b>	(Optional) Displays <b>show</b> command output specific to Multiprotocol Label Switching (MPLS) forwarding and applications.
<b>ospf [process-id   detail]</b>	(Optional) Displays <b>show</b> command output specific to Open Shortest Path First Protocol (OSPF) networking.
<b>rsvp</b>	(Optional) Displays <b>show</b> command output specific to Resource Reservation Protocol (RSVP) networking.
<b>voice</b>	(Optional) Displays <b>show</b> command output specific to voice networking.
<b>wccp</b>	(Optional) Displays <b>show</b> command output specific to Web Cache Communication Protocol (WCCP).
<b>platform</b>	(Optional) Displays platform-specific <b>show</b> command output.
<b>bfd</b>	Displays debug information for BFD sessions.
<b>gal</b>	Displays debug information for Generic Associated Channel Label (GAL) (Label 13) BFD sessions. Tunnel range is from 1—2147483647.
<b>ipv4</b>	Displays debug information for an IPv4 BFD session.
<b>multihop</b>	Displays debug information for multihop BFD sessions.
<b>poch-ipv4</b>	Displays debug information for a micro BFD session.
<b>multicast</b>	Displays debug information for multicast IPv4 sessions.
<b>qos</b>	Displays debug information for qos sessions

**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 <b>boot</b> , <b>bootflash</b> , <b>context</b> , and <b>traffic</b> for all enabled protocols.
12.0	This command was modified. The output for this command was expanded to show additional information for <b>boot</b> , <b>bootflash</b> , <b>context</b> , and <b>traffic</b> for all enabled protocols. The <b>cef</b> , <b>ipmulticast</b> , <b>isis</b> , <b>mlps</b> , and <b>ospf</b> 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 <b>show inventory</b> command.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(30)S	<p>This command was modified. The <b>show tech-support ipmulticast</b> command was changed as follows:</p> <ul style="list-style-type: none"> <li>• Support for bidirectional PIM and Multicast VPN (MVPN) was added.</li> <li>• The <b>vrf vrf-name</b> keyword and argument were added.</li> </ul> <p>The output of the <b>show tech-support ipmulticast</b> command (without the <b>vrf vrf-name</b> keyword and argument) was changed to include the output from these commands:</p> <ul style="list-style-type: none"> <li>• <b>show ip pim int df</b></li> <li>• <b>show ip pim mdt</b></li> <li>• <b>show ip pim mdt bgp</b></li> <li>• <b>show ip pim rp metric</b></li> </ul>
12.3(16)	This command was integrated into Cisco IOS Release 12.3(16).

Release	Modification
12.2(18)SXF	<p>This command was modified. The <b>show tech-support ipmulticast</b> command was changed as follows:</p> <ul style="list-style-type: none"> <li>• Support for bidirectional PIM and MVPN was added.</li> <li>• The <b>vrf vrf-name</b> keyword and argument were added.</li> </ul> <p>The output of the <b>show tech-support ipmulticast vrf</b> command was changed to include the output from these commands:</p> <ul style="list-style-type: none"> <li>• <b>show mls ip multicast rp-mapping gm-cache</b></li> <li>• <b>show mmls gc process</b></li> <li>• <b>show mmls msc rpdf-cache</b></li> </ul> <p>The output of the <b>show tech-support ipmulticast</b> command (without the <b>vrf vrf-name</b> keyword and argument) was changed to include the output from these commands:</p> <ul style="list-style-type: none"> <li>• <b>show ip pim int df</b></li> <li>• <b>show ip pim mdt</b></li> <li>• <b>show ip pim mdt bgp</b></li> <li>• <b>show ip pim rp metric</b></li> </ul> <p>Support to interrupt and terminate the <b>show tech-support</b> output was added.</p>
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.
12.4(9)T	This command was modified. The output of this command was expanded to include partial <b>show dmvpn details</b> command output.
15.0(1)M	This command was modified. The <b>wccp</b> and <b>voice</b> keywords were added.
12.2(33)SRE	This command was modified. The <b>wccp</b> keyword was added.
Cisco IOS XE Release 2.5	This command was modified. The <b>wccp</b> 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 <b>ipsec</b> keyword was modified.
Cisco IOS XE Cupertino 17.9.1	The command <b>show tech-support plafom cef</b> is enhanced to display IP address information.

Release	Modification
Cisco IOS XE Dublin 17.10.1	The command <b>show tech-support plafom bfd</b> and <b>show tech-support plafom multicast</b> is introduced to display information on BFD and multicast sessions respectively.
Cisco IOS XE Dublin 17.10.1	The show tech support and show tech-support platform are enhanced with additional commands on the Cisco ASR 920 router.
Cisco IOS XE Dublin 17.12.1	The command show tech-support plafom bfd qos command is introduced to display information on Qos sessions.

### 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.

Effective with CSCsg71173, password authentication protocol (PAP) and challenge handshake authentication protocol (CHAP) passwords are not displayed in the output of this command.



**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 cns 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**

The following additional commands for show tech-support command are added on the Cisco ASR 920 router:

- show cdp neighbors
- show ethernet cfm errors
- show ethernet cfm maintenance-points remote
- show ethernet cfm maintenance-points local
- show ethernet ring g8032 summary
- show flow monitor
- show mac address-table detail | include REMOTE
- show mac address-table dynamic
- show platform hardware pp active efp
- show lldp neighbors
- show platform hardware pp active interface all
- show platform software infrastructure punt statistics
- show platform software infrastructure lsmpi punt
- show rep topology
- show rep topology detail
- request platform software sdcli "nile stats channel 0?"
- request platform software sdcli "nile stats channel 0"
- show xconnect all

The following additional commands are added to show tech-support platform command on the Cisco ASR 920 router:

- show tech-support platform layer2 interface efp
- show tech-support platform layer2 bridge-domain id

- show tech-support platform pvppd dump vlan interface
- show tech platform snmp-dyinggasp packets count



---

**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**

### Usage Guidelines

Use the **show tech-support platform cef** command to view the IPv4 address information.



**Note** IPv6 address information is not supported.

Use the **show tech-support platform bfd** command to view BFD debug session information.

Use the **show tech-support platform multicast** command to view IPv4 session information.

### Examples

```
Router# show tech-support platform cef ipv4 10.10.10.8/32
.
.
% Warning! Execution of the platform flow scripts can
cause temporary glitch to VTY sessions. It is advised to
execute this command under the supervision of Cisco TAC
Are you sure you want to proceed? [yes/no]: yes
##### Log file at bootflash:/l3flow_log_22_44_29_562.txt #####
Executing ASIC DUMP command
Platform CEF is programmed
KINDLY SHARE THE FILE ***l3flow_log_22_44_29_562.txt*** FROM BOOTFLASH

Router# show tech-support platform cef ipv4 10.10.10.8/32 vrf vrf1
.
.
% Warning! Execution of the platform flow scripts can
cause temporary glitch to VTY sessions. It is advised to
execute this command under the supervision of Cisco TAC
Are you sure you want to proceed? [yes/no]: yes
##### Log file at bootflash:/l3flow_log_22_44_29_562.txt #####
Executing ASIC DUMP command
Platform CEF is programmed
KINDLY SHARE THE FILE ***l3flow_log_22_44_29_562.txt*** FROM BOOTFLASH

Router# show tech-support platform bfd ?
gal          Dump GAL BFD
ipv4         debug an ipv4 bfd session
multihop     Dump multihop BFD
```

```
poch-ipv4 debug a micro-bfd session
```

```
Router#show tech-support platform bfd ipv4 1.1.1.1 gi0/0/1 ?
|      Output modifiers
<cr> <cr>
```

```
Router#show tech-support platform bfd multihop 1.1.1.1 ?
|      Output modifiers
<cr> <cr>
```

```
Router#sh tech-support platform bfd gal ?
<1-2147483647> GAL BFD tunnel number
```

```
Router#show tech-support platform bfd gal 1 ?
|      Output modifiers
<cr> <cr>
```

## Related Commands

Command	Description
<b>dir</b>	Displays a list of files on a file system.
<b>show appletalk traffic</b>	Displays statistics about AppleTalk traffic, including MAC IP traffic.
<b>show bootflash</b>	Displays the contents of boot flash memory.
<b>show bootvar</b>	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.
<b>show buffers</b>	Displays statistics for the buffer pools on the network server.
<b>show cdp neighbors</b>	Displays detailed information about neighboring devices discovered using Cisco Discovery Protocol.
<b>show cef</b>	Displays information about packets forwarded by Cisco Express Forwarding.
<b>show clns traffic</b>	Displays a list of the CLNS packets this router has seen.
<b>show &lt; command &gt;   redirect</b>	Redirects the output of any <b>show</b> command to a file.
<b>show context</b>	Displays context data.
<b>show controllers</b>	Displays information that is specific to the hardware.
<b>show controllers tech-support</b>	Displays general information about a VIP card for problem reporting.
<b>show crypto gdoi</b>	Displays information about a GDOI configuration.
<b>show disk:0</b>	Displays flash or file system information for a disk located in slot 0:
<b>show dmvpn details</b>	Displays detail DMVPN information for each session, including Next Hop Server (NHS) and NHS status, crypto session information, and socket details.

Command	Description
<b>show environment</b>	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.
<b>show fabric channel counters</b>	Displays the fabric channel counters for a module.
<b>show file system</b>	Lists available file systems.
<b>show interfaces</b>	Displays statistics for all interfaces configured on the router or access server.
<b>show interfaces switchport</b>	Displays the administrative and operational status of a switching (nonrouting) port.
<b>show interfaces trunk</b>	Displays the interface-trunk information.
<b>show inventory</b>	Displays the product inventory listing and UDI of all Cisco products installed in the networking device.
<b>show ip interface</b>	Displays the usability status of interfaces configured for IP.
<b>show ip traffic</b>	Displays statistics about IP traffic.
<b>show ip wccp</b>	Displays global statistics related to WCCP.
<b>show logging</b>	Displays the state of syslog and the contents of the standard system logging buffer.
<b>show mac-address table</b>	Displays the MAC address table.
<b>show module</b>	Displays module status and information.
<b>show power</b>	Displays the current power status of system components.
<b>show processes cpu</b>	Displays information about the active processes.
<b>show processes memory</b>	Displays the amount of memory used.
<b>show running-config</b>	Displays the current configuration of your routing device.
<b>show spanning-tree</b>	Displays information about the spanning tree state.
<b>show stacks</b>	Displays the stack usage of processes and interrupt routines.
<b>show version</b>	Displays the configuration of the system hardware, the software version, the names and sources of configuration files, and the boot images.
<b>show vlan</b>	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*]

<b>Syntax Description</b>	<i>template-name</i> (Optional) The template name.
---------------------------	--

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	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)
templatel owner ppp peer dialer
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>template</b>	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*]

<b>Syntax Description</b>	<i>controller-number</i> (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:
```

## show usb device

```

Interrupt Transfer :0
Isochronous Transfer :0
USB Failures:
  Enumeration Failures :0
  Power Budget Exceeded:0
USB MSCD SCSI Class Driver Counters:
  Good Status Failures :3
  Good Status Timed out:0
  Device Never Opened :0
  Illegal App Handle :0
  Invalid Unit Number :0
  Application Overflow :0
  Control Pipe Stall :0
  Device Stalled :0
  Device Detached :0
  Invalid Logic Unit Num:0
USB Aladdin Token Driver Counters:
  Token Inserted :1
  Send Insert Msg Fail :0
  Dev Entry Add Fail :0
  Dev Entry Remove Fail:0
  Response Txn Fail :0
  Txn Invalid Dev Handle:0
USB Flash File System Counters:
  Flash Disconnected :0
  Flash Device Fail :0
  Flash startstop Fail :0
USB Secure Token File System Counters:
  Token Inserted :1
  Token FS success :1
  Token Max Inserted :0
  Token Event :0
  Watched Boolean Create Failures:0
Bulk Transfer :26
Control Transfer:894
No Class Driver Found:0
Command Fail :0
Device not Found:0
Drive Init Fail :0
Bad API Command :0
Invalid Argument:0
Device in use :0
Malloc Error :0
Bad Command Code:0
Unknown Error :0
Token Removed :0
Response Txns :434
Request Txns :434
Request Txn Fail:0
Command Txn Fail:0
Flash Connected :1
Flash Ok :1
Flash FS Fail :0
Token Detached :0
Token FS Fail :0
Create Talker Failures:0
Destroy Talker 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

<i>controller-ID</i>	(Optional) Displays information only for the devices under the specified controller.
<i>device-address</i>	(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.
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*]

<b>Syntax Description</b>	<i>index</i> (Optional) Displays information only for drivers on the specified index.
---------------------------	---

**Command Default** Information about all drivers is displayed.

**Command Modes** Privileged EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	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 display USB root hub port information, use the **show usb port** command in privileged EXEC mode.

**show usb port** [*port-number*]

### Syntax Description

<i>port-number</i>	(Optional) Displays information only for a specified. If the <i>port-number</i> 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

<b>0-9</b>	(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
<b>all</b>	(Optional) All configuration files stored on the eToken.
<i>filesystem</i>	(Optional) Name of a configuration file.

#### Command Modes

Privileged EXEC

#### Command History

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

Release	Modification
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" | "Unknown"
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[switchnode][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	
<b>switchnode</b>	(optional) Only a single switch may be specified. Default is all switches in a stacked system.
<b>running</b>	(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.
<b>committed</b>	(optional) Displays information about the committed package set. If no installation operations have been performed since bootup, this output will be the same as <b>show version running</b> . 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. <b>Note</b> This command option is only applicable when running in installed mode.
<b>provisioned</b>	(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.
<b>rp-slot</b>	Specifies the software of the RP in a specific RP slot of a Cisco ASR 1000 Series Router. Options include: <ul style="list-style-type: none"> <li>• <b>r0</b> --the RP in RP slot 0.</li> <li>• <b>r1</b> --the RP in RP slot 1.</li> <li>• <b>rp active</b> --the active RP.</li> <li>• <b>rp standby</b> --the standby RP.</li> </ul>
<b>installed</b>	Specifies information on the software installed on the RP
<b>user-interface</b>	Specifies information on the files related to the user-interface.
<b>epld slot</b>	(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.

Release	Modification
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.
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: <ul style="list-style-type: none"> <li>• the command became available in diagnostic mode.</li> <li>• the <i>rp-slot</i>, <b>installed</b>, <b>user-interface</b>, <b>provisioned</b>, and <b>running</b> options all became available for the first time.</li> </ul>
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 Series Switches with support for the <i>rp-slot</i> parameter and <i>running</i> 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 <i>switch</i> keyword and <i>running</i> , <i>provisioned</i> and <i>committed</i> 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

### Cisco 3660 Router

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

```

### Cisco 7200 Router

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 bandwidth 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
<p>Cisco IOS Software, <i>platform</i> Software (<i>image-id</i>), Version <i>software-version</i>, <i>release-type</i></p> <p>For example:</p> <p>Cisco IOS Software, 7200 Software (C7200-G4JS-M), Version 12.3(4)T</p>	<p><i>platform</i> --Cisco hardware device name.</p> <p><i>image-id</i> --The coded software image identifier, in the format <i>platform-features-format</i> (for example, "c7200-g4js-mz").</p> <p><i>software-version</i> --The Cisco IOS software release number, in the format <i>x.y(z)A</i>, where <i>x.y</i> is the main release identifier, <i>z</i> is the maintenance release number, and <i>A</i>, 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.</p> <p><b>Note</b> 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).</p> <p><i>release-type</i> --The description of the release type. Possible values include MAINTENANCE [for example, 12.3(3)] or INTERIM [for example, 12.3(3.2)].</p> <p><b>Tip</b> 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.</p> <p>Cisco IOS is a registered trademark (R) of Cisco Systems, Inc.</p>
<p>Technical Support: <a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a></p> <p>Copyright (c) <i>date-range</i> by Cisco Systems, Inc.</p>	<p>The Cisco Technical Support &amp; 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.</p> <p>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.</p>
<p>ROM: System Bootstrap, Version 12.0(6r)T, RELEASE SOFTWARE (fc1)</p>	<p>The system "bootstrap" software, stored in ROM memory.</p>
<p>BOOTFLASH:</p>	<p>The system "bootflash" software, stored in Flash memory (if applicable).</p>

Field	Description
<p><i>device</i> uptime is ...</p> <p>For example:</p> <p>C3660-1 uptime is 1 week, 3 days, 6 hours, 41 minutes</p>	The amount of time the system has been up and running.
<p>System returned to ROM by <i>reload-reason</i> at <i>timedaydate</i></p> <p>For example:</p> <p>System returned to ROM by reload at 20:56:53 UTC Tue Nov 4 2003</p>	Shows the last recorded reason for a system reload, and time of last reload.
<p>Last reload reason: <i>reload-reason</i></p> <p>For example:</p> <p>Last reload reason: Reload command</p>	Shows the last recorded reason for a system reload.
<p>Last reset from <i>reset-reason</i></p> <p>For example:</p> <p>Last reset from power-on</p>	<p>Shows the last recorded reason for a system reset. Possible <i>reset-reason</i> values include:</p> <ul style="list-style-type: none"> <li>• power-on--System was reset with the initial power on or a power cycling of the device.</li> <li>• s/w peripheral--System was reset due to a software peripheral.</li> <li>• 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.</li> <li>• push-button--System was reset by manual activation of a RESET push-button (also called a hardware NMI).</li> <li>• watchdog--System was reset due to a watchdog process.</li> <li>• 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").</li> </ul> <p>(This field was formerly labeled as the "System restarted by" field.)</p>
<p>System image file is "<i>file-location/file-name</i>"</p> <p>For example:</p> <p>System image file is "slot0:tftpboot/c3660-i-mz.123-3.9.T2"</p>	Displays the file location (local or remote filesystem) and the system image name.

Field	Description
<p>Cisco <i>platform (processor-type ) processor (revision processor-revision-id ) with free -DRAM-memory K/ packet-memory K</i> bytes of memory.</p> <p>Example--Separate DRAM and Packet Memory:</p> <p>Cisco RSP4 (R5000) processor with 65536K/2072K bytes of memory</p> <p>Example--Combined DRAM and Packet Memory:</p> <p>Cisco 3660 (R527x) processor (revision 1.0) with 57344K/8192K bytes of memory.</p>	<p>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.</p> <p>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.</p> <p>The first value, Main Processor memory, is either:</p> <ul style="list-style-type: none"> <li>• The amount of DRAM available for the processor, or</li> <li>• The total amount of DRAM installed on the system.</li> </ul> <p>The second value, Packet memory, is either:</p> <ul style="list-style-type: none"> <li>• The total physical input/output (I/O) memory (or “Fast memory”) installed on the router (Cisco 4000, 4500, 4700, and 7500 series), or</li> <li>• 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.</li> </ul> <p><b>Note</b> 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.</p> <p><b>Separate DRAM and Packet Memory</b></p> <p>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.</p> <p><b>Combined DRAM and Packet Memory</b></p> <p>The 2500, 2600, 3600, and 7200 series routers require a minimum amount of I/O memory to support certain interface processors.</p> <p>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 <math>57,344K + 8,192K = 65,536K</math>, or 64 megabytes (MB) of DRAM.</p>

Field	Description
	For more details on memory requirements, see the document "How to Choose a Cisco IOS® Software Release" on Cisco.com.
Configuration register is <i>value</i> 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 <b>config-register</b> 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.

### Catalyst 6500 Series Switches and Cisco 7600 Series Routers

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.
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 EPLD 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#
```

### Cisco uBR7246VXR Router

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.
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."

Field	Description
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.

### Cisco uBR10012 Router

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 SOFTWARE (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
```

## Cisco ASR 1000 Series Routers

### 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
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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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:asr1000rpl-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.

### Cisco Catalyst 3850 Series Switches and Cisco 5760 Series Wireless Controllers

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/wvl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to [export@cisco.com](mailto: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.

### Cisco Catalyst 4500e Series Switches

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](mailto: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
<b>show diag</b>	Displays hardware and diagnostic information for a networking device, a line card, a processor, a jacket card, a chassis, or a network module.
<b>show inventory</b>	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 Release 12.2(18)S.
12.2(28)SB	This command was integrated into Cisco IOS Release 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
<b>warm-reboot</b>	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

<i>id</i>	(Optional) CCC ID number. The CCC ID value range is from 1 to 2147483647.
<i>stream-id</i>	(Optional) The ID value range is from 1 to 2147483647.
<b>idbs</b>	(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*]

<b>Syntax Description</b>	<i>text</i> (Optional) Additional data to print to the screen.
---------------------------	--

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	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
<b>rommon-pref</b>	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.