Software Package Management Commands on Cisco IOS XR Software

This chapter describes the Cisco IOS XR commands used to add packages to a router storage device, activate or deactivate packages, upgrade or downgrade existing packages, and display information about packages.

For detailed information about the concepts and tasks necessary to manage the Cisco IOS XR software, see *Cisco IOS XR Getting Started Guide*.

clear install log-history oldest

To clear the oldest log items from the install history log, use the **clear install log-history oldest** command in EXEC mode or administration EXEC mode.

clear install log-history oldest *number*

Syntax Description

number	Specifies the number of log entries to clear. The oldest log entries are cleared.

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.4.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Routers.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Enter the **clear install log-history oldest** command in EXEC mode to clear the oldest install history log entries only for the current SDR user (the log entries for the admin user are not cleared).

Enter the **clear install log-history oldest** command in administration EXEC mode to clear the oldest install history log entries for all users (this command impacts all users when entered in administration EXEC mode).

Use the *number* argument to specify the number of the old log entries to be deleted.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

In the following example, the two oldest install log history entries are cleared. Because this command is entered in EXEC mode, only the log entries for the current SDR user are deleted:

```
RP/0/RP0/CPU0:router# clear install log-history oldest 2

Install operation 5 'clear install log-history oldest 2' started by user
'user_b' at 13:28:27 UTC Sat Aug 26 2006.
Info:     Successfully deleted the following historylog points:
Info:         1, 2
Install operation 5 completed successfully at 13:28:29 UTC Sat Aug 26 2006.
```

In the following example, the five oldest install log history entries are cleared for all users in the system. Because this command is entered in administration EXEC mode, the log entries for all SDR users are deleted:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# clear install log-history oldest 5

Install operation 6 '(admin) clear install log-history oldest 5' started by
user 'user_b' at 13:35:50 UTC Sat Aug 26 2006.
Info:     Successfully deleted the following historylog points:
Info:         1, 2, 3, 4, 5
Install operation 6 completed successfully at 13:35:50 UTC Sat Aug 26 2006.
```

Related Commands

Command	Description
clear install rollback oldest	Delete saved installation points from the installation buffer.
show install log	Displays the entries stored in the logging installation buffer.

clear install rollback oldest

To delete saved installation points from the installation buffer, use the **clear install rollback oldest** command in EXEC mode or administration EXEC mode.

clear install rollback oldest *points*

Syntax Description

points	Number of saved installation points to delete, beginning with the oldest saved installation point.

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.0	This command was introduced on the Cisco CRS-1.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router.The command was made available in administration EXEC mode.
Release 3.3.0	No modification.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **clear install rollback oldest** command to delete saved installation points from the installation buffer.

Command Modes

- Enter the **clear install rollback oldest** command in administration EXEC mode to delete the saved installation points for all secure domain routers (SDRs).
- Enter the **clear install rollback oldest** command in EXEC mode to delete the saved installation points for the SDR where you are logged in.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

In the following example, the command **show install rollback ?** is used to display the available rollback points. The command **clear install rollback oldest 2** is then used to delete the two oldest rollback points. The command **show install rollback ?** is used again to display the remaining rollback points.

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show install rollback ?

  0   ID of the rollback point to show package information for
  2   ID of the rollback point to show package information for
  4   ID of the rollback point to show package information for
  9   ID of the rollback point to show package information for
  10  ID of the rollback point to show package information for

RP/0/RP0/CPU0:router(admin)# clear install rollback oldest 2

Install operation 11 'clear install rollback oldest 2' started by user 'user_b'
at 18:11:19 UTC Sat Apr 08 2006.
Info:     Successfully deleted the following rollback points:
Info:         0, 2
Install operation 11 completed successfully at 18:11:21 UTC Sat Apr 08 2006.

RP/0/RP0/CPU0:router(admin)# show install rollback ?

  4   ID of the rollback point to show package information for
  9   ID of the rollback point to show package information for
  10  ID of the rollback point to show package information for
```

Related Commands

Command	Description
install rollback to	Rolls back the software set to a saved installation point or to the last committed installation point.
show install log	Displays the entries stored in the logging installation buffer.
show install rollback	Displays the software set associated with a saved installation point.

install abort

To abort an installation transaction, use the **install abort** command in EXEC mode or administration EXEC mode.

install abort [*request-id*]

Syntax Description

request-id	(Optional) Request ID assigned to an installation operation.

Defaults

Abort the current install operation.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Routers.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **install abort** command to halt a software installation operation that is in process or that has been suspended.

Only activation, deactivation and rollback operations can be aborted. Specifically, the operation **install add** can not be aborted, but the operation **install add**...**activate** can be aborted.

Use the **install abort** command with the *request-id* argument to halt a specific install operation if the *request-id* is currently in process.

Command Modes

- Enter the **install abort** command in administration EXEC mode to halt a software installation operation for all secure domain routers (SDRs).
- Enter the **install abort** command in EXEC mode to halt a software installation operations for the SDR where you are logged in.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

The following example shows how to halt a install operation:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install abort

Info:     Please confirm your 'install abort' request by pressing Enter or y, or pressing
n to cancel it.
Do you really want to abort install operation 15? [confirm] <enter>
Abort confirmed.
Please check console to verify the operation is aborted.
```

Related Commands

Command	Description
install add	Adds the package encapsulated in a specific PIE file to a storage device.
install deactivate	Removes a package from the active software set.
install activate	Adds a software package or SMU to the active software set.
install resume	Resumes an install activation operation that has been suspended with the command **install suspend**.
install suspend	Suspends an activation operation.

install activate

To add software functionality to the active software set, use the **install activate** command in EXEC mode or administration EXEC mode.

Administration EXEC Mode

install activate *device*:*package* [**sdr** *list-of-sdr-names*] [**location** *node-id*] [**if-active**] [**admin-profile**] [**noprompt**] [**asynchronous**] [**synchronous**] [**test**]

EXEC Mode

install activate *device*:*package* [**noprompt**] [**location** *node-id*] [**asynchronous**] [**synchronous**] [**test**]

Syntax Description

device:*package*	Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.4.0). For the *device* argument, the value is a specified storage device, typically **disk0:**. This is the local storage device where the package was added with the **install add** command. Press **?** after a partial package name to display all possible matches available for activation. If there is only one match, press the TAB key to fill in the rest of the package name. **Note** Multiple packages can be activated at a time. If multiple Software Maintenance Upgrades (SMUs) are activated, then the operation involves a node reload and the user is prompted before the install operation occurs.
sdr *list-of-sdr-names*	(Optional. Administration EXEC mode only) Activates a package for a specific secure domain router (SDR). The value of the *sdr-name* argument is the name assigned to the SDR. To specify more than one SDR, list each SDR name separated by a space.
location *node-id*	(Optional) Activates a package on the designated node. The *node-id* argument is expressed in *rack/slot/module* notation. **Note** A package cannot be activated on a single node unless some version of the package being activated is already active on all nodes. For example, a Multiprotocol Label Switching (MPLS) package cannot be active on only one node. If a version of the MPLS package is already active on all nodes, an MPLS package then could be upgraded or downgraded on a single node. **Note** To activate a package on all supported nodes, do not specify a location.
admin-profile	(Optional. Administration EXEC mode only. Cisco CRS-1 only.) Activates the package only for the admin-plane nodes. Admin plane nodes provide system-wide functionality and do not belong to a specific SDR. Examples of admin-plane nodes are fabric cards and service processor modules (SPs). The **admin-profile** keyword is used to update admin-plane resources without impacting the routing nodes in any SDRs

if-active	(Optional. Administration EXEC mode only) Activates an optional package or SMU for an optional package only if a previous version of the package is already active. Use the **if-active** keywords when SDRs have different sets of active software packages.
noprompt	(Optional) Automatically ignores any reload confirmation prompts that result from a package activation. The router reloads if required.
asynchronous	(Optional) Performs the command in asynchronous mode. In asynchronous mode, the command runs in the background, and the EXEC prompt is returned as soon as possible. This is the default mode.
synchronous	(Optional) Performs the command in synchronous mode. This mode allows the installation process to finish before the prompt is returned.
test	(Optional) Verifies the effects of proposed operations without making changes to the Cisco IOS XR software.

Defaults

Administration EXEC Mode

- The package is activated for all supported nodes on all SDRs in the system.
- The operation is performed in asynchronous mode: The **install activate** command runs in the background, and the EXEC prompt is returned as soon as possible.

EXEC Mode

- The package is activated on all supported nodes for the SDR.
- The operation is performed in asynchronous mode: The **install activate** command runs in the background, and the EXEC prompt is returned as soon as possible.

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. This command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the **SDR** keyword and *sdr-name* argument. Support was added for the **noprompt** keyword.
Release 3.4.0	Support was added for EXEC mode. Support was added for the **if-active** keywords in administration EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **install activate** command to activate software packages or SMUs for all valid cards. Information within the package is used to verify compatibility with the target cards and with the other active software. Actual activation is performed only after the package compatibility and application program interface (API) compatibility checks have passed.

Upgrading and Downgrading Packages

- To upgrade a package, activate the newer version of the package, and the older version is automatically deactivated.
- To downgrade a package, activate the older version of the package, and the newer version is automatically deactivated.

Actual activation is performed only after the compatibility checks have passed.

Activating a Package for all Secure Domain Routers (SDRs)

To activate a package for all secure domain routers (SDRs) in the system, use the **install activate** command in administration EXEC mode.

Note To enter administration EXEC mode, you must be logged in to the owner SDR, and have root-system access privileges.

Activating a Package for a Specific SDR

- To activate a package for a specific SDR from administration EXEC mode, use the **install activate** command with the **sdr** keyword and *sdr-name* argument.
- To activate a package when logged into an SDR, use the **install activate** command in EXEC mode.

Note In Release 3.4.0, SDR-specific activation is supported for specific packages and upgrades, such as optional packages and SMUs. Packages that do not support SDR-specific activation can only be activated for all SDRs simultaneously from administration EXEC mode. For detailed instructions, see the "Managing Cisco IOS XR Software Packages" module of *Cisco IOS XR System Management Configuration Guide*.

Activating New Versions of the Currently Active Packages

Use the **install activate** command with the **if-active** keyword to activate the package only on SDRs where a previous version of the package is already active. This command is available only in administration EXEC mode.

The **if-active** keyword is used only for optional packages or SMUs for optional packages.

Router Reloads Following Package Activation

If the activation requires a reload of the SDR or all SDRs, a confirmation prompt appears. Use the **install activate** command with the **noprompt** keyword to automatically ignore any reload confirmation prompts and proceed with the package activation. The router reloads if required.

Node reloads following package activation

If a software operation requires a node reload, the config-register for that node should be set to autoboot. If the config-register for the node is not set to autoboot, then the system automatically changes the setting and the node reloads. A message describing the change is displayed.

Synchronous mode

Use the **install activate** command with the **synchronous** keyword to complete the operation before the prompt is returned. A progress bar indicates the status of the operation. For example:

```
- 1% complete: The operation can still be aborted (ctrl-c for options)
\ 10% complete: The operation can still be aborted (ctrl-c for options)
```

When the **install activate** command is run in asynchronous mode, the system may stay in synchronous mode for a short period of time while the system checks for questions to ask the user.

Press Ctrl-c during a synchronous operation to abort the operation or make the operation asynchronous.

Test Option

Use the **test** keyword to verify the effects of the proposed operations and determine whether the installation can be completed. After previewing the effects of the proposed operations, use the **show install log** command for more details about the effects of the proposed operations.

Note The changes made to the active software set are not persistent during route processor (RP) reloads. Use the **install commit** command to make changes persistent.

Task ID

Task ID	Operations
pkg-mgmt	execute

Examples

The following example shows how to display the packages available for activation using the online help system. In this example, **?** is entered after a partial package name to display all possible matches

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install activate disk0:?

disk0:comp-hfr-mini-3.4.0  disk0:hfr-admin-3.4.0  disk0:hfr-base-3.4.0
   disk0:hfr-diags-3.4.0
disk0:hfr-fwdg-3.4.0       disk0:hfr-k9sec-3.4.0  disk0:hfr-lc-3.4.0
   disk0:hfr-mcast-3.4.0
disk0:hfr-mgbl-3.4.0       disk0:hfr-mpls-3.4.0   disk0:hfr-os-mbi-3.4.0.1
I  disk0:hfr-rout-3.4.0
```

The following example shows how to activate a package on all nodes for all SDRs. Use the **install commit** command to make the changes persistent across designated secure domain router shelf controller (DSDRSC) reloads.

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install activate disk0:hfr-mpls-3.4.0 synchronous

Install operation 15 'install activate disk0:hfr-mpls-3.4.0 synchronous'
started by user 'user_b' at 19:15:33 UTC Sat Apr 08 2006.
Info:     The changes made to software configurations will not be persistent
Info:     across system reloads. Use the command 'admin install commit' to make
Info:     changes persistent.
Info:     Please verify that the system is consistent following the software
Info:     change using the following commands:
Info:         show system verify
Info:         install verify
Install operation 15 completed successfully at 19:16:18 UTC Sat Apr 08 2006.
```

```
RP/0/RP0/CPU0:router(admin)# install commit

Install operation 16 'install commit' started by user 'user_b' at 19:18:58 UTC
Sat Apr 08 2006.
Install operation 16 completed successfully at 19:19:01 UTC Sat Apr 08 2006.
```

The following example shows how to activate a package for a specific SDR:

```
RP/0/RP0/CPU0:router(admin)# install activate disk0:hfr-mpls-3.3.80 SDR CE1b

Install operation 2 'install activate disk0:hfr-mpls-3.3.80 on SDR: CE1b' started by user
'user_b'
Install operation 2 'install activate disk0:hfr-mpls-3.3.80 on SDR: CE1b' started by user
'user_b' at 15:31:23 GMT Mon Nov 14 2005.
Info:     SDR CE1b: Checking running configuration version compatibility with newly
activated software ...
Info:     SDR CE1b: No incompatibilities found between the activated software and router
running configuration.
Info:     The changes made to software configurations will not be persistent across system
reloads. Use the command 'admin install commit' to make changes persistent.
Info:     Please verify that the system is consistent following the software change using
the following commands:
Info:         show system verify
Info:         install verify
Install operation 2 completed successfully at 15:32:28 GMT Mon Nov 14 2005.
```

The following example shows how to activate a package for multiple SDRs. To perform this operation, enter the **install activate** command with the **sdr** keyword, and list the SDR names. In this example, the SDR names are “Owner” and “user_a”. Use the **install commit** command to make the changes persistent across designated secure domain router shelf controller (DSDRSC) reloads.

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)#  install activate disk0:hfr-mcast-3.4.0.10I synchronous sdr
Owner user_a

Install operation 7 '(admin) install activate disk0:hfr-mcast-3.4.0.10I synchronous sdr
Owner user_a' started by user 'abc' via CLI at 11:32:29 UTC Mon Sep 25 2006.
Info:     This operation will reload the following node:
Info:         0/RP0/CPU0 (RP) (SDR: Owner)
Info:     This operation will reload all RPs in the Owner SDR, and thereby indirectly
cause every node in the router to reload.
Proceed with this install operation (y/n)? [y]

- 85% complete: The operation can no longer be aborted (ctrl-c for options)[OK]ting Commit
Database.  Please wait...
Info:     The changes made to software configurations will not be persistent across system
reloads. Use the command 'admin install commit' to make changes persistent.
Info:     Please verify that the system is consistent following the software change using
the following commands:
Info:         show system verify
Info:         install verify
Install operation 7 completed successfully at 11:33:08 UTC Mon Sep 25 2006.
```

Related Commands

Command	Description
install add	Adds the package encapsulated in a specific PIE file to a storage device.
install deactivate	Removes a package from the active software set.
show install active	Displays active packages.
show install log	Displays the entries stored in the logging installation buffer.

Command	Description
show install request	Displays the list of incomplete installation manager requests.
install resume	Resumes an install activation operation that has been suspended with the command **install suspend**.
install suspend	Suspends an activation operation.
show install suspend	Displays the suspension points for an activation operation.

install add

To copy the contents of a package installation envelope (PIE) file to a storage device, use the **install add** command in EXEC mode or administration EXEC mode.

Administration EXEC Mode

install add *pie-file* [[**activate** [**sdr** *sdr-name*] [**noprompt**] [**location** *node-id*]] [**asynchronous**] [**synchronous**]

EXEC Mode

install add *pie-file* [**activate**] [**noprompt**] [**location** *node-id*]] [**asynchronous**] [**synchronous**]

Syntax Description

pie-file	Name and location of the PIE file (composite package) to install. Location options are as follows: • **disk0:** • **disk1:** • **ftp://***username***:***password***@***hostname* or *ip-address*/*directory-path*/ • **rcp://***username***@***hostname* or *ip-address*/*directory-path*/ • **tftp://***hostname* or *ip-address*/*directory-path*/ **Note** Multiple PIE files can be added to a device at a time.
activate	(Optional) Activates the package or packages. This option is run only if the install add operation is successful.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Activates a package for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR.
location *node-id*	(Optional) Activates a package on the designated node. The *node-id* argument is expressed in *rack/slot/module* notation. **Note** A package cannot be activated on a single node unless some version of the package being activated is already active on all nodes. For example, a Multiprotocol Label Switching (MPLS) package cannot be active on only one node. If a version of the MPLS package is already active on all nodes, an MPLS package then could be upgraded or downgraded on a single node.
noprompt	(Optional) Automatically ignores any reload confirmation prompts that result from a package activation. The router reloads if required.
asynchronous	(Optional) Performs the command in asynchronous mode. In asynchronous mode, this command runs in the background, and the EXEC prompt is returned as soon as possible. This is the default mode.
synchronous	(Optional) Performs the command in synchronous mode. This mode allows the installation process to finish before the prompt is returned.

Defaults

Packages are added to the storage device, but not activated.
The operation is performed in asynchronous mode: The **install add** command runs in the background, and the EXEC prompt is returned as soon as possible.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the optional **activate** keywords and arguments: [**sdr** *sdr-name*] [**noprompt**] and [**location** *node-id*]. Support was removed for the **to** *device* keyword and argument.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **install add** command to unpack the package software files from a PIE file and copy them to the boot device (usually disk0).

- From administration EXEC mode, the package software files are added to all RPs installed in the SDRs effected by the install add command. If the **install add** command is entered without specifying an SDR, then the package files are added to all RPs in all SDRs. If the **install add** command is entered with the **sdr** keyword (to add the package files to a specific SDR), then the package files are added to all RPs installed in the specified SDR.
- From EXEC mode, the package software files are added to the RPs only for the SDR where you are logged in.

Note NOTE: In the Cisco CRS-1, the package files are also added to any additional installed DRPs for the effected SDRs.

Note NOTE: If a package is added only to a non-owner SDR, then the package files and functionality will not be available on the Owner-SDR, or on any other SDR. To add a package to all SDRs in the system, use the **install add** command without specifying an sdr.

Adding and Activating a Package

Software packages remain inactive until activated with the **install activate** command.

To add and activate a package at the same time, use the **install add** command with the **activate** keyword. When this command is used, the keywords and rules for package activation apply. See the "install activate" section on page 232 for more information.

- To add and activate a package for all SDRs, enter the **install add** command with the **activate** keyword from administration EXEC mode. To add and activate a package for a specific SDR from administration EXEC mode enter the **install add** *pie-file* **activate** command with the **sdr** *sdr-name* keyword and argument.
- To add and activate a package on a non-owner SDR, enter the **install add** command with the **activate** keyword from EXEC mode.

Note In Release 3.4.0, SDR-specific activation is supported for specific packages and upgrades, such as optional packages and SMUs. Packages that do not support SDR-specific activation can only be activated for all SDRs simultaneously from administration EXEC mode. For detailed instructions, see the "Managing Cisco IOS XR Software Packages" module of *Cisco IOS XR System Management Configuration Guide*.

Note If a software activation requires a node reload, the config-register for that node should be set to autoboot. If the config-register for the node is not set to autoboot, then the system automatically changes the setting and the node reloads. A message describing the change is displayed.

Synchronous Mode

Use the **install add** command with the **synchronous** keyword to complete the operation before the prompt is returned. A progress bar indicates the status of the operation. For example:

```
- 1% complete: The operation can still be aborted (ctrl-c for options)
\ 10% complete: The operation can still be aborted (ctrl-c for options)
```

TFTP Services and Image Size

Some Cisco IOS XR images may be larger than 32 MB, and the TFTP services provided by some vendors (such as Sun Solaris) may not support a file this large. If you do not have access to a TFTP server that supports files larger than 32 MB:

- Download the software image using FTP or rcp.
- Use a third-party or freeware TFTP server that supports file sizes larger than 32 MB.

Download a patch from Sun Microsystems to correct this limitation (http://www.sun.com).

Task ID

Task ID	Operations
pkg-mgmt	execute

Examples

The following example shows how to add a PIE file for all SDRs in the system. In the following example, a Multiprotocol Label Switching (MPLS) package is added in synchronous mode. This operation copies the files required for the package to the storage device. This package remains inactive until it is activated with the **install activate** command.

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install add tftp://209.165.201.1/hfr-mpls.pie synchronous

Install operation 4 'install add /tftp://209.165.201.1/hfr-mpls.pie synchronous' started
by user
'user_b' at 03:17:05 UTC Mon Nov 14 2005.
Info:     The following package is now available to be activated:
Info:
Info:         disk0:hfr-mpls-3.3.80
Info:
Install operation 4 completed successfully at 03:18:30 UTC Mon Nov 14 2005.
```

In the following example, a package is added and activated on all SDRs with a single command:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install add disk1:hfr-mgbl-p.pie-3.4.0 activate
Install operation 4 'install add /disk1:hfr-mgbl-p.pie-3.4.0 activate' started
by user 'user_b' at 07:58:56 UTC Wed Mar 01 2006.
The install operation will continue asynchronously.
:router(admin)#Part 1 of 2 (add software): Started
Info:     The following package is now available to be activated:
Info:
Info:         disk0:hfr-mgbl-3.4.0
Info:
Part 1 of 2 (add software): Completed successfully
Part 2 of 2 (activate software): Started
Info:     The changes made to software configurations will not be persistent across
system reloads. Use the command 'admin install
Info:     commit' to make changes persistent.
Info:     Please verify that the system is consistent following the software change
using the following commands:
Info:         show system verify
Info:         install verify
Part 2 of 2 (activate software): Completed successfully
Part 1 of 2 (add software): Completed successfully
Part 2 of 2 (activate software): Completed successfully
Install operation 4 completed successfully at 08:00:24 UTC Wed Mar 01 2006.
```

Related Commands

Command	Description
install activate	Adds a software package to the active software set.
install commit	Makes the changes persistent across RP reloads.
show install log	Displays the entries stored in the logging installation buffer.
show install request	Displays the list of incomplete installation manager requests.

install attach

To attach a terminal to an install operation, use the **install attach** command in EXEC mode or administration EXEC configuration mode.

install attach [*request-id*] [**asynchronous**] [**synchronous**]

Syntax Description

request-id	(Optional) Request ID assigned to an installation operation.
asynchronous	(Optional) Performs the command in asynchronous mode. In asynchronous mode, this command runs in the background, and the EXEC prompt is returned as soon as possible. This is the default mode.
synchronous	(Optional) Performs the command in synchronous mode. This mode allows the installation process to finish before the prompt is returned.

Defaults

The command operates in synchronous mode.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Routers.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **install attach** command to attach a terminal to an install operation. This is similar to making the install operation synchronous, and is used for the following reasons:

- To change a asynchronous install operation to a synchronous install operation.
- The install operation is asynchronous but the terminal that ran the command has been lost (due to a failover or terminal timeout).

Note An asynchronous operation runs in the background, and the EXEC prompt is returned as soon as possible. This is the default mode. A synchronous operation allows the installation process to finish before the prompt is returned.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

The following example, a software package is activated in asynchronous mode. In asynchronous mode, the command runs in the background, and the CLI prompt is returned as soon as possible.

Use the **install attach** command to attach the terminal to an install operation. This switches the operation to synchronous mode, which allows the installation process to finish before the prompt is returned.

In the following example, the **install activate** command is entered in asynchronous mode. The CLI prompt returns before the operation is complete.

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install activate disk0:hfr-mcast-3.7.6

Install operation 14 'install activate disk0:hfr-mcast-3.7.6' started by user
'user_b' at 08:04:31 UTC Mon Nov 14 2005.
The install operation will continue asynchronously.

RP/0/RP0/CPU0:router(admin)#Info:     SDR Owner: Checking running configuration version
compatibility with
Info:     newly activated software ...
Info:     SDR Owner: No incompatibilities found between the activated software
Info:     and router running configuration.
```

In the following example, the **install attach** command is used to attach the terminal to the install operation and complete the operation in synchronous mode. The CLI prompt is returned only after the install operation is complete:

```
RP/0/RP0/CPU0:router(admin)# install attach

Install operation 14 'install activate disk0:hfr-mcast-3.7.6' started by user
'user_b' at 08:04:31 UTC Mon Nov 14 2005.
Info:     SDR Owner: Checking running configuration version compatibility with
Info:     newly activated software ...
Info:     SDR Owner: No incompatibilities found between the activated software
Info:     and router running configuration.
Info:     The changes made to software configurations will not be persistent
Info:     across system reloads. Use the command 'admin install commit' to make
Info:     changes persistent.
Info:     Please verify that the system is consistent following the software
Info:     change using the following commands:
Info:         show system verify
Info:         install verify

The currently active software is not committed. If the system reboots then the committed
software will be used. Use 'install commit' to commit the active software.

Install operation 14 completed successfully at 08:06:12 UTC Mon Nov 14 2005.
```

Related Commands

Command	Description
install activate	Adds a software package to the active software set.
install add	Adds the package encapsulated in a specific PIE file to a storage device.
install deactivate	Removes a package from the active software set.

install commit

To save the active software set to be persistent across designated system controller (DSC) reloads, use the **install commit** command in EXEC mode or administration EXEC mode.

Administration EXEC Mode

install commit [**sdr** *sdr-name*]

EXEC Mode

install commit

Syntax Description

sdr *sdr-name*	(Optional. Administration EXEC mode only) Commits the active software set for a specific SDR. The *sdr-name* argument is the name assigned to the SDR.

Defaults

Administration EXEC Mode

Commits the active software set for all secure domain routers (SDRs).

EXEC Mode

Commits the active software set for the current SDR.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	No modification.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

When a package is activated, it becomes part of the current running configuration. To make the package activation persistent across domain router shelf controller (DSDRSC) reloads, enter the **install commit** command. On startup, the DSDRSC of the SDR loads this committed software set.

If the system is restarted before the active software set is saved with the **install commit** command, the previously committed software set is used.

- To commit the active software set for a specific SDR from administration EXEC mode, use the **install commit** command with the **sdr** *sdr-name* keyword and argument.
- To commit the active software set for all SDRs in the system, use the **install commit** command without keywords or arguments in administration EXEC mode.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

The following example shows how to make the current active software set persistent across DSDRSC reloads for all SDRs in the system:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install commit

Install operation 16 'install commit' started by user 'user_b' at 19:18:58 UTC
Sat Apr 08 2006.
Install operation 16 completed successfully at 19:19:01 UTC Sat Apr 08 2006.
```

Related Commands

Command	Description
show install committed	Displays committed active packages.
show install log	Displays the entries stored in the logging installation buffer.

install deactivate

To remove a package from the active software set, use the **install deactivate** command in EXEC mode or administration EXEC mode.

Administration EXEC Mode

install deactivate *device*:*package* [**sdr** *sdr-name*] [**location** *node-id*] [**noprompt**] [**asynchronous**] [**synchronous**] [**test**]

EXEC Mode

install deactivate *device*:*package* [**location** *node-id*] [**noprompt**] [**asynchronous**] [**synchronous**] [**test**]

Syntax Description

device:*package*	Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.4.0). For the *device* argument, the value is a specified storage device, typically **disk0:**. Press **?** after a partial package name to display all possible matches available for activation. If there is only one match, press [TAB] to fill in the rest of the package name.
sdr *sdr-name*	(Optional. Administration EXEC mode only) Deactivates a package for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR.
location *node-id*	(Optional) Deactivates a package from the designated node. The *node-id* argument is entered in *rack*/*slot*/*module* notation. **Note** In most cases, a package cannot be deactivated from a node, because some version of that package must be running on all supported nodes after the deactivation operation finishes.
noprompt	(Optional) Automatically ignores any reload confirmation prompts that result from a package deactivation. The router reloads if required.
asynchronous	(Optional) Performs the command in asynchronous mode. In asynchronous mode, this command runs in the background, and the EXEC prompt is returned as soon as possible. This is the default mode.
synchronous	(Optional) Performs the command in synchronous mode. This mode allows the installation process to finish before the prompt is returned.
test	(Optional) Verifies the effects of proposed operations without making changes to the Cisco IOS XR software.

Defaults

Administration EXEC Mode

- The package is deactivated on all supported nodes for all SDRs in the system.
- The operation is performed in asynchronous mode: The **install deactivate** command runs in the background, and the EXEC prompt is returned as soon as possible.

EXEC Mode

- The package is deactivated on all supported nodes for the SDR.
- The operation is performed in asynchronous mode: that is, the **install deactivate** command runs in the background, and the EXEC prompt is returned as soon as possible.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the **sdr** keyword and *sdr-name* argument. Support was added for the **noprompt** keyword.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Deactivating a package removes the activated package from the active software set from all nodes or from a single node. When a deactivation is attempted, the system runs an automatic check to ensure that the package is not required by other active packages. The deactivation is permitted only after all compatibility checks have passed.

The following conditions apply to software deactivation:

- A feature package cannot be deactivated if active packages need it to operate.
- To downgrade a package, activate the older version. The newer package version is deactivated automatically.

Deactivating a Package for all Secure Domain Routers (SDRs)

To deactivate a package for all SDRs in the system, use the **install deactivate** command in administration EXEC mode.

Note To enter administration EXEC mode, you must be logged in to the owner SDR, and have root-system access privileges.

Deactivating a Package for a specific SDR

- To deactivate a package for a specific SDR from administration EXEC mode, use the **install deactivate** command with the **sdr** keyword and *sdr-name* argument.
- To deactivate a package when logged into an SDR, use the **install deactivate** command in EXEC mode.

Router Reloads

If the deactivation requires a router reload, a confirmation prompt appears. Use the **install deactivate** command with the **noprompt** keyword to automatically ignore any reload confirmation prompts and proceed with the package deactivation. The router reloads if required.

Node Reloads

If a software operation requires a node reload, the config-register for that node should be set to autoboot. If the config-register for the node is not set to autoboot, then the system automatically changes the setting and the node reloads. A message describing the change is displayed.

Synchronous Operation

Use the **install deactivate** command with the **synchronous** keyword to complete the operation before the prompt is returned. A progress bar indicates the status of the operation. For example:

```
- 1% complete: The operation can still be aborted (ctrl-c for options)
\ 10% complete: The operation can still be aborted (ctrl-c for options)
```

Test Option

Use the **test** keyword to verify the effects of the deactivation without making changes to the system. Use this option to determine if the deactivation can be completed. After previewing the effects of the proposed operations, use the **show install log** command for more details about the effects of the proposed operations.

Use the **install commit** command to make changes persistent across route processor (RP) reloads.

Task ID

Task ID	Operations
pkg-mgmt	execute

Examples

The following example shows how to display the packages available for deactivation using the online help system. In this example, **?** is entered after a partial package name to display all possible matches

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install deactivate disk0:?

disk0:comp-hfr-mini-3.4.0  disk0:hfr-admin-3.4.0  disk0:hfr-base-3.4.0
   disk0:hfr-diags-3.4.0
disk0:hfr-fwdg-3.4.0       disk0:hfr-k9sec-3.4.0  disk0:hfr-lc-3.4.0
   disk0:hfr-mcast-3.4.0
disk0:hfr-mgbl-3.4.0       disk0:hfr-mpls-3.4.0   disk0:hfr-os-mbi-3.4.0.1
I  disk0:hfr-rout-3.4.0
```

The following example shows how to deactivate a package on all supported nodes in all SDRs. The operation is performed in synchronous mode.

```
RP/0/RP0/CPU0:router(admin)# install deactivate disk0:hfr-mpls-3.4.0 synchronous

Install operation 14 'install deactivate disk0:hfr-mpls-3.4.0 synchronous'
started by user 'user_b' at 18:38:37 UTC Sat Apr 08 2006.
Info:     The changes made to software configurations will not be persistent
Info:     across system reloads. Use the command 'admin install commit' to make
Info:     changes persistent.
Info:     Please verify that the system is consistent following the software
Info:     change using the following commands:
Info:         show system verify
Info:         install verify
```

```
Install operation 14 completed successfully at 18:39:20 UTC Sat Apr 08 2006.
```

In the following example, the Security package is deactivated for the SDR named "LR1".

```
RP/0/RP0/CPU0:router(admin)# install deactivate disk0:hfr-k9sec-3.4.0 sdr LR1

Install operation 11 'install deactivate disk0:hfr-k9sec-3.4.0 on SDR: LR1'
started by user 'user_b' at 03:25:26 est Thu Mar 02 2006.

- 1% complete: The operation can still be aborted (ctrl-c for options)

The install operation will continue asynchronously.
The changes made to software configurations will
not be persistent
Info:     across system reloads. Use the command 'admin install commit' to make
Info:     changes persistent.
Info:     Please verify that the system is consistent following the software
Info:     change using the following commands:
Info:         show system verify
Info:         install verify
The currently active software is not committed. If the system reboots then the committed
software will be used. Use 'install commit' to commit the active software.

Install operation 11 completed successfully at 03:25:56 est Thu Mar 02 2006.
```

You cannot deactivate a package if other packages or nodes require that package. In the following example, an attempt to deactivate a package is rejected:

```
RP/0/RP1/CPU0:router(admin)# install deactivate disk0:hfr-diags-3.3.90 location 0/6/cpu0

Install operation 25 'install deactivate disk0:hfr-diags-3.3.90 on node
0/6/CPU0' started by user 'user_b' at 23:01:38 UTC Sat Apr 15 2006.
Error:    Cannot proceed with the deactivation because of the following package
Error:    incompatibilities:
Error:      hfr-diags-3.3.90 on nodes of type RP needs hfr-diags-3.3.90, or
Error:    equivalent, to be active on node 0/6/CPU0 on secure domain router
Error:    Owner.
Error:      hfr-diags-3.3.90 on nodes of type DRP needs hfr-diags-3.3.90, or
Error:    equivalent, to be active on node 0/6/CPU0 on secure domain router
Error:    Owner.
Error:      hfr-diags-3.3.90 on nodes of type SP needs hfr-diags-3.3.90, or
Error:    equivalent, to be active on node 0/6/CPU0 on secure domain router
Error:    Owner.
Error:      hfr-diags-3.3.90 on nodes of type LC needs hfr-diags-3.3.90, or
Error:    equivalent, to be active on node 0/6/CPU0 on secure domain router
Error:    Owner.
Error:    Suggested steps to resolve this:
Error:     - check the installation instructions.
Error:     - activate or deactivate the specified packages on the specified
Error:    nodes.
Install operation 25 failed at 23:01:44 UTC Sat Apr 15 2006.
```

Related Commands

Command	Description
install activate	Adds a software package or SMU to the active software set.
install commit	Makes the changes persistent across RP reloads.
install remove	Removes a deactivated package from a storage device.
show install inactive	Displays inactive packages in the active software set.

Command	Description
show install log	Displays the entries stored in the logging installation buffer.
show install request	Displays the list of incomplete installation manager requests.

install remove

To delete inactive packages from a storage device, use the **install remove** command in EXEC mode or administration EXEC mode.

Administration EXEC Mode

install remove [*device*:*package*] [**inactive**] [**sdr** *sdr-name*] [**noprompt**] [**asynchronous**] [**synchronous**] [**test**]

EXEC Mode

install remove [*device*:*package*] [**inactive**] [**noprompt**] [**asynchronous**] [**synchronous**] [**test**]

Syntax Description

device:*package*	(Optional) Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.4.0). For the *device* argument, the value is a specified storage device, typically **disk0:**. **Note** Multiple packages can be removed at the same time.
inactive	(Optional) Removes all inactive non-committed packages from the boot device (usually disk0).
sdr *sdr-name*	(Optional. Administration EXEC mode only) Removes a package for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR.
noprompt	(Optional) Automatically ignores any confirmation prompts for a package removal. The specified packages are removed with no further user input.
asynchronous	(Optional) Performs the command in asynchronous mode. In asynchronous mode, this command runs in the background, and the EXEC prompt is returned as soon as possible. This is the default mode.
synchronous	(Optional) Performs the command in synchronous mode. This mode allows the installation process to finish before the prompt is returned.
test	(Optional) Verifies the effects of proposed operations without making changes to the Cisco IOS XR software.

Defaults

The operation is performed in asynchronous mode: The **install remove** command runs in the background, and the EXEC prompt is returned as soon as possible.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	Support was added to enable removal of multiple packages at the same time and to enable removal of inactive packages from a storage device.

Release	Modification
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the **noprompt** keyword.
Release 3.4.0	Support was added for EXEC mode. The **install remove inactive** command removes inactive packages only from the boot device (usually Disk0).

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Note Only inactive packages can be removed (packages cannot be in the active or committed software set).

- To remove all inactive packages from the boot device (usually **disk0:**), use the **install remove inactive** command.
- To remove a specific inactive package from a a storage device, use the **install remove** *device*:*package* command.

Note When removing all inactive packages from the boot device, use the **show version**, **show install active**, or **show install committed** command to determine the device used as the boot device.

Command Modes

- To remove packages from all SDRs, use the **install remove** command in administration EXEC mode.
- To remove packages from a specific SDR, use the **install remove** command in EXEC mode.
- To remove all inactive packages from the boot device in the system or SDR, use the **install remove inactive** command.

Note A package can be removed from a single SDR only if the package was not added to any other SDRs.

Router Reloads

If the operation requires a router reload, a confirmation prompt appears. Use the **install remove** command with the **noprompt** keyword to automatically ignore any reload confirmation prompts and proceed with the package removal. The router reloads if required.

Test Operation

Use the **test** keyword to verify the effects of the package removal operation and determine whether the operation can be completed. After previewing the effects of the proposed operations, use the **show install log** command for more details about the effects of the proposed operations.

Note When removing a package, note that the **install remove** command ignores secure domain router (SDR) boundaries and performs the operation in global scope.

Task ID

Task ID	Operations
pkg-mgmt	execute

Examples

The following example shows how to remove a specific inactive package. In this example, the operation is run in test mode. The operation is then confirmed and the package is removed.

```
RP/0/RP1/CPU0:router# admin
RP/0/RP1/CPU0:router(admin)# install remove disk0:hfr-diags-3.3.90 test
Install operation 30 'install remove disk0:hfr-diags-3.3.90 test' started by
user 'user_b' at 23:40:22 UTC Sat Apr 15 2006.
Warning:  No changes will occur due to 'test' option being specified. The
Warning:  following is the predicted output for this install command.
Info:     This operation will remove the following package:
Info:         disk0:hfr-diags-3.3.90
Info:     After this install remove the following install rollback points will
Info:     no longer be reachable, as the required packages will not be present:
Info:         4, 9, 10, 14, 15, 17, 18
Proceed with removing these packages? [confirm] y


The install operation will continue asynchronously.
Install operation 30 completed successfully at 23.
```

The following example shows how to remove all inactive packages from the boot device. This example is for a 1200 Series Router:

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# install remove inactive synchronous

RP/0/0/CPU0:Aug 15 09:25:41.020 : instdir[198]:
%INSTALL-INSTMGR-6-INSTALL_OPERATION_STARTED :
Install operation 8 '(admin) install remove inactive' started by user 'user_b'
Install operation 8 '(admin) install remove inactive' started by user 'user_b' at
09:25:41 UTC Tue Aug 15 2006.
Info:     This operation will remove the following package:
Info:         disk0:c12k-compmgmt__installmgr-0.0.5
Proceed with removing these packages? [confirm]
The install operation will continue asynchronously.
```

Related Commands

Command	Description
install add	Installs a package on a storage device.
show install log	Displays the entries stored in the logging installation buffer.
show install inactive	Displays the inactive packages for one or more SDRs.
show install request	Displays the list of incomplete installation manager requests.

install resume

To resume a suspended install activation operation, use the **install resume** command in EXEC mode or administration EXEC mode.

install resume {**sw-change** | **location** *node-id*}

Syntax Description

sw-change	Resumes an activation operation for all nodes.
location *node-id*	Resumes an activation operation for a specific node. The *node-id* argument is entered in *rack*/*slot*/*module* notation.

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Routers.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **install resume** command to resume a suspended install operation. If the operation is not suspended, then the command has no effect.

- Use the **install resume** command in administration EXEC mode to resume install operations that were suspended from administration EXEC mode. The suspended operation can be for all SDRs in the system, or a specified SDR. You cannot resume install operations that were suspended by a user logged into a SDR.
- Use the **install resume** command in EXEC mode to resume suspended install operations for the SDR where you are logged in. You can resume operations that were suspended from that SDR only (you cannot resume operations that were suspended from a different SDR or from administration EXEC mode).

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

The following example shows how to resume an install operation:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install resume

Install operation 9 has been resumed.
Info:     Install operation 9 has been resumed.
RP/0/RP0/CPU0:router(admin)#Info:     The changes made to software configurations will not
be persistent
Info:     across system reloads. Use the command 'admin install commit' to make
Info:     changes persistent.
Info:     Please verify that the system is consistent following the software
Info:     change using the following commands:
Info:         show system verify
Info:         install verify

The currently active software is not committed. If the system reboots then the committed
software will be used. Use 'install commit' to commit the active software.

Install operation 9 completed successfully at 07:47:18 UTC Mon Nov 14 2005.
```

Related Commands

Command	Description
install activate	Activates a software package for all nodes, a single node, or a secure domain router.
install suspend	Suspends an activation operation.
show install suspend	Displays the suspension points for an activation operation.

install rollback to

To roll back the software set to a saved installation point or to the last committed installation point, use the **install rollback to** command in EXEC mode or administration EXEC mode.

Administration EXEC Mode

install rollback to {*point-id* | **committed**} [**sdr** *sdr-name*] [**noprompt**] [**asynchronous**] [**synchronous**] [**test**]

EXEC Mode

install rollback to {*point-id* | **committed**} [**noprompt**] [**asynchronous**] [**synchronous**] [**test**]

Syntax Description

point-id	Installation point ID number.
committed	Rolls the Cisco IOS XR software back to the last committed installation point.
sdr *sdr-name*	(Optional. Administration EXEC mode only) Rolls back the software set for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR.
asynchronous	(Optional) Performs the command in asynchronous mode. In asynchronous mode, this command runs in the background, and the EXEC prompt is returned as soon as possible. This is the default mode.
synchronous	(Optional) Performs the command in synchronous mode. This mode allows the installation process to finish before the prompt is returned.
noprompt	(Optional) Automatically ignores any reload confirmation prompts that result from a rollback operation. The router reloads if required.
test	(Optional) Verifies the effects of proposed operations without making changes to the Cisco IOS XR software.

Defaults

The operation is performed in asynchronous mode: The **install rollback to** command runs in the background, and the EXEC prompt is returned as soon as possible.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	Support was added to enable roll back to a saved installation point.
Release 3.2	This command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was removed for the **reload** keyword. Support was added for the **noprompt** keyword.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **install rollback** command to roll back the configuration to a saved installation point or to the last committed installation point. Rollback points are created when the router is booted and when packages are activated, deactivated or committed. When an installation point is created, the Cisco IOS XR software assigns an ID number to that rollback point. To roll back to a saved installation point, enter the installation point ID number assigned to it for the *point-id* argument. When a software configuration is committed with the **install commit** command, that configuration is also saved as the last committed installation point. Use the **committed** keyword to roll back to the last committed installation point.

To display the saved rollback points available, use the online help function:

```
RP/0/RP0/CPU0:router(admin)# install rollback to ?

      0           Specify the id for the install point to rollback to
      1           Specify the id for the install point to rollback to
      12          Specify the id for the install point to rollback to
      15          Specify the id for the install point to rollback to
      2           Specify the id for the install point to rollback to
      4           Specify the id for the install point to rollback to
      6           Specify the id for the install point to rollback to
      7           Specify the id for the install point to rollback to
      8           Specify the id for the install point to rollback to
      9           Specify the id for the install point to rollback to
      committed   Rollback to the last committed installation point
```

If a rollback operation is beyond two saved installation points, a router reload is required to avoid system instability. If a reload is required, a confirmation prompt appears before the reload occurs. Use the **install rollback** command with the **noprompt** keyword to automatically ignore any reload confirmation prompts and proceed with the rollback operation.

If a software operation requires a node reload, the config-register for that node should be set to autoboot. If the config-register for the node is not set to autoboot, then the system automatically changes the setting and the node reloads. A message describing the change is displayed.

If a rollback operation requires that a package be activated that is no longer on the system (because the package had been removed), a message appears in the output of the **install rollback** command indicating that the specified installation point is unavailable and that the required package must be added to roll back the software set to the specified installation point.

Use the **test** keyword to verify the effects of the proposed operations and determine whether the rollback operation can be completed. After previewing the effects of the proposed operations, use the **show install log** command for more details about the effects of the proposed operations.

Use the **clear install rollback oldest** to delete saved installation points from the installation buffer.

Use the **show install rollback** command to display the software set associated with a saved installation point.

Rolling Back the Software Set for a Specific SDR

- To roll back the software set for a specific SDR from administration EXEC mode, use the **install rollback** command with the **sdr** keyword and *sdr-name* argument.
- To roll back the software set when logged into an SDR, use the **install rollback** command in EXEC mode.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

The following example shows how to roll back to a saved installation point:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install rollback to 8

Install operation 10 'install rollback to 8' started by user 'user_b' at 07:49:26
UTC Mon Nov 14 2005.
The install operation will continue asynchronously.
RP/0/RP0/CPU0:router(admin)#Info:     The changes made to software configurations will not
be persistent
Info:     across system reloads. Use the command 'admin install commit' to make
Info:     changes persistent.
Info:     Please verify that the system is consistent following the software
Info:     change using the following commands:
Info:         show system verify
Info:         install verify

The currently active software is the same as the committed software.

Install operation 10 completed successfully at 07:51:24 UTC Mon Nov 14 2005.
```

Related Commands

Command	Description
clear install rollback oldest	Deletes saved installation points from the installation buffer.
install commit	Makes the current active software set persistent across reloads.
show install log	Displays the entries stored in the logging installation buffer.
show install request	Displays the list of incomplete installation manager requests.
show install rollback	Displays the software set associated with a saved installation point.

install suspend

To suspend a software activation, deactivation, or rollback, use the **install suspend** command in EXEC mode or administration EXEC mode.

install suspend {**sw-change** | **location** *node-id*}

Syntax Description

sw-change	Suspends the operation after the software download to all nodes is complete, but before to any software changes are implemented.
location *node-id*	Suspends the operation for a specific node. If the software change for the node is already in process, the command has no effect. The *node-id* argument is entered in *rack/slot/module* notation.

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Routers.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **install suspend** command to temporarily suspend an activation, deactivation, or rollback operation.

Use this feature to control of the impact of a software change for one or more nodes. For example, if an install operation requires nodes to reload, use the **install suspend** command to halt the operation before the reload occurs. When you are ready to reload that node, use the **install resume** command to resume the operation.

Use the **install suspend** command during an incremental install or parallel install operation:

- Incremental install: a specific node's software is changed.
- Incremental install: the next affected node in the list of nodes is changed.
- Parallel install: the software is changed for multiple nodes.

Note The install suspend and install resume commands can be entered before or during an install operation.

If the install operation is running synchronously, then you are prompted to resume the install operation. If the install operation is running asynchronously, then you must enter the **install resume** command to remove any suspend points and unblock the install operation if that suspend point has been reached. If running synchronously then the user can execute install resume from another terminal.

Use the **install suspend** with the **location** *node-id* keyword and argument to suspend the software change for a specific node. If the change for the node is already in process, the command has no effect.

Use the **install suspend** with the **sw-change** keyword to suspend the operation after the software download to all nodes is complete, but before any software changes are implemented.

The **install suspend** command can be run multiple times to set multiple suspension points. Use the **show install suspend** command to view all suspension points.

Suspension points are valid for the current install operation, or the next install operation if no install operation is currently in progress. Suspension points are cleared after the transaction has been completed.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

The following example shows how to suspend a software activation.

Use the command **show install suspend** to display the suspended operation. Use the command **install resume** to cancel the suspension and resume the install operation:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)#install suspend sw-change

RP/0/RP0/CPU0:router(admin)#install activate disk0:hfr-mcast-3.7.6

Install operation 9 'install activate disk0:hfr-mcast-3.7.6' started by user
'user_b' at 07:44:53 UTC Mon Nov 14 2005.
The install operation will continue asynchronously.

Install operation 9 has been suspended. Use the command 'install resume' in admin mode to
resume the operation.
Info:     Install operation 9 has been suspended. Use the command 'install
Info:     resume' in admin mode to resume.

RP/0/RP0/CPU0:router(admin)#show install suspend
State: install 9 suspended before software change
```

Related Commands

Command	Description
install activate	Activates a software package for all nodes, a single node, or a secure domain router.
install resume	Resumes an install activation operation that has been suspended with the command **install suspend**.
show install suspend	Displays the suspension points for an activation operation.

install verify

To verify the consistency of a previously installed software set with the package file from which it originated, use the **install verify** command in EXEC mode or administration EXEC mode.

Administration EXEC Mode

install verify [**sdr** *sdr-name*] [**repair**] [**location** *node-id*] [**admin-plane**] [**asynchronous**] [**synchronous**]

EXEC Mode

install verify [**repair**] [**location** *node-id*] [**asynchronous**] [**synchronous**]

Syntax Description

sdr *sdr-name*	(Optional. Administration EXEC mode only.) Performs the command for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR.
repair	(Optional) Repairs anomalies found by the **install verify** process.
location *node-id*	(Optional) Verifies the consistency of previously installed software from the designated node with the package file from which it originated. The *node-id* argument is expressed in *rack/slot/module* notation.
admin-plane	(Optional) Verify the admin profile only.
asynchronous	(Optional) Performs the command in asynchronous mode. In asynchronous mode, this command runs in the background, and the EXEC prompt is returned as soon as possible. This is the default mode.
synchronous	(Optional) Performs the command in synchronous mode. This mode allows the installation process to finish before the prompt is returned.

Defaults

The operation is performed in asynchronous mode: The **install verify** command runs in the background, and the EXEC prompt is returned as soon as possible.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.1	This command was introduced on the Cisco XR 12000 Series Router.
Release 3.2	No modification.
Release 3.3.0	Support was added for the **sdr** keyword and *sdr-name* argument.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **install verify** command to verify the consistency of a previously installed software set with the package file from which it originated. This command can be used as a debugging tool to verify the validity of the files that constitute the packages to determine if there are any corrupted files. This command is particularly useful when issued after the activation of a package or upgrading the Cisco IOS XR software to a major release.

Note The **install verify** command can take up to two minutes per package to process.

Verifying the Software Set for a Specific SDR

- To verify the software set for a specific SDR from administration EXEC mode, use the **install verify** command with the **sdr** keyword and *sdr-name* argument.
- To verify the software set when logged into an SDR, use the **install verify** command in EXEC mode.

Task ID

Task ID	Operations
pkg-mgmt	execute

Examples

The following example shows how to verify the consistency of a previously installed software set with the package file from which it originated. This command is run in synchronous mode:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install verify synchronous

Install operation 7 'install verify synchronous' started by user 'user_b' at
17:04:06 UTC Sat Apr 08 2006.
Info:     This operation can take up to 2 minutes per package being verified.
Info:     Please be patient.
Info:     Verify operation successful, no anomalies found.
Info:     Node 0/1/SP
Info:         [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-admin-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-base-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-os-mbi-3.4.0: Verification Successful.
Info:     Node 0/1/CPU0
Info:         [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-mcast-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-mpls-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-lc-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-fwdg-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-admin-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-base-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-os-mbi-3.4.0: Verification Successful.
Info:     Node 0/6/SP
Info:         [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-admin-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-base-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-os-mbi-3.4.0: Verification Successful.
Info:     Node 0/6/CPU0
Info:         [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-mcast-3.4.0: Verification Successful.
Info:         [SUCCESS] /bootflash/hfr-mpls-3.4.0: Verification Successful.
```

```
Info:          [SUCCESS] /bootflash/hfr-lc-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-fwdg-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-admin-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-base-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-os-mbi-3.4.0: Verification Successful.
Info:      Node 0/RP0/CPU0
Info:          [SUCCESS] /disk0/hfr-diags-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-mgbl-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-k9sec-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-rout-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-mcast-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-mpls-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-lc-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-fwdg-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-admin-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-base-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-os-mbi-3.4.0: Verification Successful.
Info:      Node 0/RP1/CPU0
Info:          [SUCCESS] /disk0/hfr-diags-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-mgbl-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-k9sec-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-rout-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-mcast-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-mpls-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-lc-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-fwdg-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-admin-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-base-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-os-mbi-3.4.0: Verification Successful.
Info:      Node 0/SM0/SP
Info:          [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-admin-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-base-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-os-mbi-3.4.0: Verification Successful.
Info:      Node 0/SM1/SP
Info:          [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-admin-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-base-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-os-mbi-3.4.0: Verification Successful.
Info:      Node 0/SM2/SP
Info:          [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-admin-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-base-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-os-mbi-3.4.0: Verification Successful.
Info:      Node 0/SM3/SP
Info:          [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-admin-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-base-3.4.0: Verification Successful.
Info:          [SUCCESS] /bootflash/hfr-os-mbi-3.4.0: Verification Successful.
Install operation 7 completed successfully at 17:09:29 UTC Sat Apr 08 2006.
```

Related Commands

Command	Description
show install log	Displays the entries stored in the logging installation buffer.
show install request	Displays the list of incomplete installation manager requests.

show install

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

Administration EXEC Mode

show install [**all** | **sdr** *sdr-name* | **location** *node-id*] [**summary** [**sdr** *sdr-name*]] [**detail** [**sdr** *sdr-name* | **location** *node-id*]] [**verbose** [**sdr** *sdr-name* | **location** *node-id*]]

EXEC Mode

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

Syntax Description

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

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1 router.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the optional keywords and arguments: **sdr** *sdr-name*, **detail**, **summary**, and **verbose**.
Release 3.4.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

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

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

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

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

Summary, Detailed and Verbose Information

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

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

Displaying the Default SDR Software Profile

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router# show install location 0/rp0/cpu0

  Node 0/RP0/CPU0 [RP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
    Active Packages:
      disk0:hfr-diags-3.4.0
      disk0:hfr-mgbl-3.4.0
      disk0:hfr-k9sec-3.4.0
      disk0:comp-hfr-mini-3.4.0
```

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

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

Default Profile:
  SDRs:
    Owner
    sdr1
  Active Packages:
    disk0:c12k-sbc-3.4.0
    disk0:c12k-diags-3.4.0
    disk0:c12k-mgbl-3.4.0
    disk0:c12k-mcast-3.4.0
    disk0:c12k-mpls-3.4.0
    disk0:c12k-k9sec-3.4.0
    disk0:c12k-mini-3.4.0
```

Table 1 describes the significant fields shown in the display.

Table 1 show install Field Descriptions

Field	Description
Boot Image:	Active Minimum Boot Image (MBI) used to boot the node.
Active Packages:	Active packages loaded on the node.

Related Commands

Command	Description
install activate	Adds a software package or an SMU to the active software set.
show install active	Displays active packages.
show install package	Displays information about a package.
show install pie-info	Displays information on the packages contained in a PIE file.
show install which	Displays the origin of a component, package, or file.

show install active

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

Administration EXEC Mode

show install active [**sdr** *sdr-name* | **location** *node-id*] [**summary** [**sdr** *sdr-name*]] [**detail** [**sdr** *sdr-name* | **location** *node-id*]] [**verbose** [**sdr** *sdr-name* | **location** *node-id*]]

EXEC Mode

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

Syntax Description

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

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was made available in administration EXEC mode. The **detail** keyword was added.
Release 3.3.0	Support was added for the optional keywords and arguments: **sdr** *sdr-name*, **summary**, and **verbose**.
Release 3.4.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

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

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

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

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

Summary, Detailed and Verbose Information

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

```
RP/0/RP0/CPU0:router(admin)# show install active location 0/1/cpu0

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
    Active Packages:
      disk0:hfr-pagent-3.4.0
      disk0:hfr-diags-3.4.0
      disk0:hfr-mcast-3.4.0
      disk0:hfr-mpls-3.4.0
      disk0:comp-hfr-mini-3.4.0
```

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

```
RP/0/RP0/CPU0:router(admin)#show install active summary

Default Profile:
  SDRs:
    Owner
    CE1b
```

```
Active Packages:
    disk0:hfr-diags-3.4.0
    disk0:hfr-mgbl-3.4.0
    disk0:hfr-k9sec-3.4.0
    disk0:comp-hfr-mini-3.4.0
```

The following is sample output from the **show install active summary** command for a specific SDR:

```
RP/0/RP0/CPU0:router(admin)# show install active summary sdr owner

Active Packages:
    disk0:hfr-diags-3.4.0
    disk0:hfr-mgbl-3.4.0
    disk0:hfr-k9sec-3.4.0
    disk0:comp-hfr-mini-3.4.0
```

The following is sample output from the **show install active** command for a specific SDR:

```
RP/0/RP0/CPU0:router(admin)#show install active SDR Owner

RP/0/RP0/CPU0:router(admin)#show install active SDR Owner
  Node 0/1/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Active Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
    Active Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/6/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Active Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/6/CPU0 [LC] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
    Active Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/RP0/CPU0 [RP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
    Active Packages:
      disk0:hfr-diags-3.4.0
      disk0:hfr-mgbl-3.4.0
      disk0:hfr-k9sec-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/RP1/CPU0 [RP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
    Active Packages:
      disk0:hfr-diags-3.4.0
      disk0:hfr-mgbl-3.4.0
      disk0:hfr-k9sec-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/SM0/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Active Packages:
```

```
    disk0:hfr-diags-3.4.0
    disk0:comp-hfr-mini-3.4.0

Node 0/SM1/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-diags-3.4.0
    disk0:comp-hfr-mini-3.4.0

Node 0/SM2/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-diags-3.4.0
    disk0:comp-hfr-mini-3.4.0

Node 0/SM3/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-diags-3.4.0
    disk0:comp-hfr-mini-3.4.0
```

Table 2 describes the significant fields shown in the display.

Table 2 show install active Field Descriptions

Field	Description
Boot Image:	Active Minimum Boot Image (MBI) used to boot the node.
Active Packages:	Active packages loaded on the node.

Related Commands

Command	Description
install activate	Adds a software package or an SMU to the active software set.
show install	Displays active packages.
show install package	Displays information about a package.
show install pie-info	Displays information on the packages contained in a PIE file.
show install which	Searches for a component, package, or file.

show install committed

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

Administration EXEC Mode

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

EXEC Mode

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

Syntax Description

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

Defaults

Enter the command without keywords or arguments to display **detail** information for all nodes in the SDR or system.

Command Modes

Administration EXEC
EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1 router.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.

Release	Modification
Release 3.3.0	This command was supported in both EXEC mode and administration EXEC mode. Support was removed for the **all** keyword. Support was added for the keywords and arguments: **sdr** *sdr-name*, **detail**, **summary**, and **verbose**.
Release 3.4.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

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

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

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

Enter the **show install committed** command in administration EXEC mode to display information for all nodes in all SDRs.

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

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

Summary, Detailed and Verbose Information

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

The following is sample output from the **show install committed summary** command:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show install committed summary
Default Profile:
  SDRs:
    Owner
```

```
  Committed Packages:
    disk0:hfr-pagent-3.4.0
    disk0:hfr-diags-3.4.0
    disk0:hfr-mgbl-3.4.0
    disk0:hfr-mcast-3.4.0
    disk0:hfr-mpls-3.4.0
    disk0:hfr-k9sec-3.4.0
    disk0:comp-hfr-mini-3.4.0
```

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

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

Secure Domain Router: Owner

  Node 0/1/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Committed Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
    Committed Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/6/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Committed Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/6/CPU0 [LC] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
    Committed Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/RP0/CPU0 [RP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
    Committed Packages:
      disk0:hfr-diags-3.4.0
      disk0:hfr-mgbl-3.4.0
      disk0:hfr-k9sec-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/RP1/CPU0 [RP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
    Committed Packages:
      disk0:hfr-diags-3.4.0
      disk0:hfr-mgbl-3.4.0
      disk0:hfr-k9sec-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/SM0/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Committed Packages:
      disk0:hfr-diags-3.4.0
      disk0:comp-hfr-mini-3.4.0

  Node 0/SM1/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
```

```
  Committed Packages:
    disk0:hfr-diags-3.4.0
    disk0:comp-hfr-mini-3.4.0

Node 0/SM2/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Committed Packages:
    disk0:hfr-diags-3.4.0
    disk0:comp-hfr-mini-3.4.0

Node 0/SM3/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Committed Packages:
    disk0:hfr-diags-3.4.0
    disk0:comp-hfr-mini-3.4.0
```

Table 3 describes the significant fields shown in the display.

Table 3 show install committed Field Descriptions

Field	Description
Boot Image:	Active Minimum Boot Image (MBI) committed on the node.
Active Packages:	Active packages committed on the node.

Related Commands

Command	Description
install activate	Adds a software package or SMU to the active software set.
install commit	Makes the current active software set persistent across reloads.
show install	Displays active packages.
show install active	Displays active packages.
show install package	Displays information about a package.
show install pie-info	Displays information on the packages contained in a PIE file.
show install which	Displays the origin of a component, package, or file.

show install inactive

To display the inactive packages on the DSDRSC for one or more SDRs, use the **show install inactive** command in EXEC mode or in administration EXEC mode.

Administration EXEC Mode

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

EXEC Mode

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

Syntax Description

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

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was made available in administration EXEC mode. The **components**, **files**, and **none** keywords were removed and replaced by the **detail**, **verbose**, and **brief** keywords, respectively. The **summary** keyword was removed. The default output display was changed to match the output that displayed when the optional **summary** keyword was entered in previous releases.
Release 3.3.0	No modification.
Release 3.4.0	This command was modified to display inactive packages only for the boot device.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

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

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

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

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

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

Summary, Detailed and Verbose Information

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

```
RP/0/0/CPU0:router# admin
RP/0/0/CPU0:router(admin)# show install inactive
Secure Domain Router: Owner

  Node 0/0/CPU0 [RP] [SDR: Owner]
    Inactive Packages:
      disk0:c12k-compmgmt__installmgr-0.0.5

  Node 0/5/CPU0 [LC(E3-OC48-POS)] [SDR: Owner]
    Inactive Packages:
      disk0:c12k-rout-3.4.0
      disk0:c12k-compmgmt__installmgr-0.0.5
```

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

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

Secure Domain Router: Owner

  Node 0/0/CPU0 [RP] [SDR: Owner]
    Inactive Packages:
```

```
      disk0:c12k-compmgmt__installmgr-0.0.5

  Node 0/5/CPU0 [LC(E3-OC48-POS)] [SDR: Owner]
    Inactive Packages:
      disk0:c12k-rout-3.4.0
      disk0:c12k-compmgmt__installmgr-0.0.5
```

The following is sample output from the **show install inactive** command with the **detail** keyword:

```
RP/0/0/CPU0:router(admin)# show install inactive detail

Secure Domain Router: Owner

  Node 0/0/CPU0 [RP] [SDR: Owner]
    Inactive Packages:
      disk0:c12k-compmgmt__installmgr-0.0.5

  Node 0/5/CPU0 [LC(E3-OC48-POS)] [SDR: Owner]
    Inactive Packages:
      disk0:c12k-rout-3.4.0
      disk0:c12k-compmgmt__installmgr-0.0.5
```

The following is sample output from the **show install inactive** command with the **detail** and **location** keywords and *node-id* argument:

```
RP/0/0/CPU0:router(admin)# show install inactive summary location 0/0/CPU0
  Node 0/0/CPU0 [RP] [SDR: Owner]
    Inactive Packages:
      disk0:c12k-compmgmt__installmgr-0.0.5

RP/0/0/CPU0:router(admin)# show install inactive summary location 0/5/CPU0
  Node 0/5/CPU0 [LC(E3-OC48-POS)] [SDR: Owner]
    Inactive Packages:
      disk0:c12k-rout-3.4.0
      disk0:c12k-compmgmt__installmgr-0.0.5
```

Table 4 describes the significant fields shown in the display.

Table 4 show install inactive Field Descriptions

Field	Description
disk0:hfr-mgbl-3.4.0	Storage device and the name of the package that is inactive.
hfr-mgbl V3.4.0 Manageability Package	Name of the package that is inactive.
Vendor	Name of the manufacturer.
Desc	Name of the package.
Build	The date and time when the inactive package was built.
Source	The source directory where the inactive package was built.

Related Commands

Command	Description
install deactivate	Removes a package from the active software set.
show install package	Displays information about a package.
show install pie-info	Displays information on the packages contained in a PIE file.
show install which	Displays the origin of a component, package, or file.

show install log

To display the details of installation requests, use the **show install log** command in EXEC or administration EXEC mode.

show install log [*request-id*] [**detail | verbose**]

Syntax Description

request-id	(Optional) Request ID assigned to an installation operation.
detail	(Optional) Displays detailed including impact to processes and nodes.
verbose	(Optional) Displays the information from the keyword, plus additional information regarding impacts to files, processes, and dynamic link libraries (DLL).

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1 router.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the keywords **detail** and **verbose**.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Enter the **show install log** command with no arguments to display a summary of all installation operations, including the changes to files and the processes impacted by each request. Specify the *request-id* argument to display details for a specific operation.

The *request-id* argument is listed beside each operation in the **show install log** summary and is also attached to messages from that operation. For example, the third installation operation has “Install 3:” attached to all of its status messages.

Displaying Information One or More SDRs

- Enter the **show install log** command in EXEC mode to display information for the current SDR. In EXEC mode, this command displays only information for that SDR.
- To display information for all SDRs in the system, enter the **show install log** command in administration EXEC mode.

Summary, Detailed and Verbose Information

Use the **show install log detail** command to display detailed information for all previous installs, including impact to processes and nodes impacted. The detailed information is a subset of **show install log verbose** information.

Use the **show install log verbose** command to display detailed information for all previous installs, information including files changes, impact to processes, and impact to dynamic link libraries (DLL).

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

The following example displays a summary of all install requests:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show install log

Install operation 1 started by user 'user_b' at 20:42:57 UTC Mon Aug 28 2006.
    (admin) install add /disk1:hfr-diags-p.pie-3.4.0.SIT-image
    Install operation 1 completed successfully at 20:43:32 UTC Mon Aug 28 2006.

------------------------------------------------------------------------------

Install operation 2 started by user 'user_b' at 20:45:49 UTC Mon Aug 28 2006.
    (admin) install add /disk1:hfr-k9sec-p.pie-3.4.0.SIT-image
    /disk1:hfr-mcast-p.pie-3.4.0.SIT-image
    /disk1:hfr-mgbl-p.pie-3.4.0.SIT-image
    /disk1:hfr-mpls-p.pie-3.4.0.SIT-image
    /disk1:hfr-pagent-p.pie-3.4.0.SIT-image
    /disk1:hfr-doc.pie-3.4.0.SIT-image
    Install operation 2 completed successfully at 20:48:31 UTC Mon Aug 28 2006.

------------------------------------------------------------------------------

Install operation 3 started by user 'user_b' at 20:49:34 UTC Mon Aug 28 2006.
    (admin) install activate disk0:hfr-k9sec-3.4.0 disk0:hfr-mcast-3.4.0
    disk0:hfr-mgbl-3.4.0 disk0:hfr-mpls-3.4.0 disk0:hfr-pagent-3.4.0
    disk0:hfr-doc-3.4.0 disk0:hfr-diags-3.4.0
    Install operation 3 completed successfully at 20:52:42 UTC Mon Aug 28 2006.

------------------------------------------------------------------------------

Install operation 4 started by user 'user_b' at 20:54:32 UTC Mon Aug 28 2006.
    (admin) install commit
    Install operation 4 completed successfully at 20:54:34 UTC Mon Aug 28 2006.

------------------------------------------------------------------------------

4 entries shown
```

The following example displays the details for a specific install request. Use the **detail** keyword to display additional information regarding the impact of the operation to processes and nodes:

```
RP/0/RP0/CPU0:router(admin)# show install log 2 detail

Install operation 3 started by user 'user_b' at 20:49:34 UTC Mon Aug 28 2006.
(admin) install activate disk0:hfr-k9sec-3.4.0 disk0:hfr-mcast-3.4.0
disk0:hfr-mgbl-3.4.0 disk0:hfr-mpls-3.4.0 disk0:hfr-pagent-3.4.0
disk0:hfr-doc-3.4.0 disk0:hfr-diags-3.4.0
```

```
Install operation 3 completed successfully at 20:52:42 UTC Mon Aug 28 2006.

Summary:
    Install method: parallel
    Summary of changes on nodes 0/1/SP, 0/6/SP, 0/SM0/SP, 0/SM1/SP, 0/SM2/SP,
    0/SM3/SP:
        Activated:    hfr-diags-3.4.0
                      hfr-pagent-3.4.0
        No processes affected
    Summary of changes on nodes 0/1/CPU0, 0/6/CPU0:
        Activated:    hfr-diags-3.4.0
                      hfr-mcast-3.4.0
                      hfr-mpls-3.4.0
                      hfr-pagent-3.4.0
            1 hfr-mpls processes affected (0 updated, 1 added, 0 removed, 0
    impacted)
            2 hfr-mcast processes affected (0 updated, 2 added, 0 removed, 0
    impacted)
    Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
        Activated:    hfr-diags-3.4.0
                      hfr-doc-3.4.0
                      hfr-k9sec-3.4.0
                      hfr-mcast-3.4.0
                      hfr-mgbl-3.4.0
                      hfr-mpls-3.4.0
                      hfr-pagent-3.4.0
            7 hfr-mgbl processes affected (0 updated, 7 added, 0 removed, 0
    impacted)
            8 hfr-mpls processes affected (0 updated, 8 added, 0 removed, 0
    impacted)
            7 hfr-k9sec processes affected (0 updated, 7 added, 0 removed, 0
    impacted)
            14 hfr-mcast processes affected (0 updated, 14 added, 0 removed, 0
    impacted)

Install logs:
    Install operation 3 '(admin) install activate disk0:hfr-k9sec-3.4.0
    disk0:hfr-mcast-3.4.0 disk0:hfr-mgbl-3.4.0 disk0:hfr-mpls-3.4.0
    disk0:hfr-pagent-3.4.0 disk0:hfr-doc-3.4.0 disk0:hfr-diags-3.4.0'
    started by user 'user_b' at 20:49:34 UTC Mon Aug 28 2006.
    Info:     The changes made to software configurations will not be
    Info:     persistent across system reloads. Use the command 'admin install
    Info:     commit' to make changes persistent.
    Info:     Please verify that the system is consistent following the
    Info:     software change using the following commands:
    Info:         show system verify
    Info:         install verify
    Install operation 3 completed successfully at 20:52:42 UTC Mon Aug 28 2006.

------------------------------------------------------------------------------
```

The following example displays information for the install requests. Use the **verbose** keyword to display detailed information, including files changes, impact to processes, and impact to dynamic link libraries (DLL).

```
RP/0/RP0/CPU0:router(admin)# show install log 2 verbose

Install operation 3 started by user 'user_b' at 20:49:34 UTC Mon Aug 28 2006.
(admin) install activate disk0:hfr-k9sec-3.4.0 disk0:hfr-mcast-3.4.0
disk0:hfr-mgbl-3.4.0 disk0:hfr-mpls-3.4.0 disk0:hfr-pagent-3.4.0
disk0:hfr-doc-3.4.0 disk0:hfr-diags-3.4.0
Install operation 3 completed successfully at 20:52:42 UTC Mon Aug 28 2006.
```

```
Summary:
    Install method: parallel
    Summary of changes on nodes 0/1/SP, 0/6/SP, 0/SM0/SP, 0/SM1/SP, 0/SM2/SP,
    0/SM3/SP:
        Activated:    hfr-diags-3.4.0
                      hfr-pagent-3.4.0
        No processes affected
    Summary of changes on nodes 0/1/CPU0, 0/6/CPU0:
        Activated:    hfr-diags-3.4.0
                      hfr-mcast-3.4.0
                      hfr-mpls-3.4.0
                      hfr-pagent-3.4.0
            1 hfr-mpls processes affected (0 updated, 1 added, 0 removed, 0
    impacted)
            2 hfr-mcast processes affected (0 updated, 2 added, 0 removed, 0
    impacted)
    Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
        Activated:    hfr-diags-3.4.0
                      hfr-doc-3.4.0
                      hfr-k9sec-3.4.0
                      hfr-mcast-3.4.0
                      hfr-mgbl-3.4.0
                      hfr-mpls-3.4.0
                      hfr-pagent-3.4.0
            7 hfr-mgbl processes affected (0 updated, 7 added, 0 removed, 0
    impacted)
            8 hfr-mpls processes affected (0 updated, 8 added, 0 removed, 0
    impacted)
            7 hfr-k9sec processes affected (0 updated, 7 added, 0 removed, 0
    impacted)
            14 hfr-mcast processes affected (0 updated, 14 added, 0 removed, 0
    impacted)

Install logs:
    Install operation 3 '(admin) install activate disk0:hfr-k9sec-3.4.0
    disk0:hfr-mcast-3.4.0 disk0:hfr-mgbl-3.4.0 disk0:hfr-mpls-3.4.0
    disk0:hfr-pagent-3.4.0 disk0:hfr-doc-3.4.0 disk0:hfr-diags-3.4.0'
    started by user 'user_b' at 20:49:34 UTC Mon Aug 28 2006.
    Info:     The changes made to software configurations will not be
    Info:     persistent across system reloads. Use the command 'admin install
    Info:     commit' to make changes persistent.
    Info:     Please verify that the system is consistent following the
    Info:     software change using the following commands:
    Info:         show system verify
    Info:         install verify
    Install operation 3 completed successfully at 20:52:42 UTC Mon Aug 28 2006.

Installation changes:
    Installation changes on nodes 0/1/SP, 0/6/SP, 0/SM0/SP, 0/SM1/SP, 0/SM2/SP,
    0/SM3/SP:
        Adding executable: online_diag_hfr_sp
        Adding file: ad_diags_online_ns_cfg__api.configinfo
        Adding DLL: libdiaggrpclnt.dll
        Adding DLL: libdiaggrpsvr.dll
        Adding DLL: libdiagmain.dll
        Adding DLL: libdiagobfl.dll
        Adding DLL: libdiagutil.dll
        Adding file: online_diag_hfr_sp.startup
        Replacing file: package_compatibility
        Replacing file: md5_manifest
    Installation changes on nodes 0/1/CPU0, 0/6/CPU0:
        Adding executable: ipv4_mfwd_ha_timer_handler
        Adding and starting process: ipv4_mfwd_partner
        Adding executable: ipv6_mfwd_ha_timer_handler
```

```
        Adding and starting process: ipv6_mfwd_partner
        Adding executable: online_diag_hfr_lc
        Adding executable: tgn_server
        Adding and starting process: ucp_lctrl_server
        Adding file: ad_diags_online_ns_cfg__api.configinfo
        Adding file: lo_mfwd_ns_cfg__api.configinfo
        Adding file: lo_mfwdv6_ns_cfg__api.configinfo
        Adding file: sh_mfwd_ns_cfg__api.configinfo
        Adding file: sh_mfwdv6_ns_cfg__api.configinfo
        Adding DLL: lib_ipv4_mfwd_bag_desc.dll
        Adding DLL: lib_ipv6_mfwd_bag_desc.dll
        Adding DLL: libdiaggrpclnt.dll
        Adding DLL: libdiaggrpsvr.dll
        Adding DLL: libdiagmain.dll
        Adding DLL: libdiagobfl.dll
        Adding DLL: libdiagutil.dll
        Adding DLL: libipv4_mcast_gtrie.dll
        Adding DLL: libipv4_mcast_gtrie_debug.dll
        Adding DLL: libipv4_mcast_tables.dll
        Adding DLL: libipv4_mcast_tw.dll
        Adding DLL: libipv4_mfwd_netio.dll
--More--
```

Related Commands

Command	Description
install activate	Adds a software package or SMU to the active software set.
install add	Installs a package on a storage device.
install commit	Makes the current active software set persistent across reloads.
install deactivate	Removes a package from the active software set.
install remove	Deletes inactive packages from a storage device.
install rollback to	Rolls back the software set to a saved installation point or to the last committed installation point.
install verify	Verifies the consistency of a previously installed software set with the package file from which it originated.

show install package

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

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

Syntax Description

device:*package*	Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.4.0). For the *device* argument, the value is a specified storage device, typically **disk0:**.
all	Displays all installed packages on the system or SDR.
brief	(Optional) Displays only the name and version of packages.
detail	(Optional) Displays detailed information including impact to processes and nodes, vendor information, card support and component information.
verbose	(Optional) Displays the information included in the keyword, plus information regarding dynamic link libraries (DLL).

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was made available in administration EXEC mode. The **components**, **files**, and **none** keywords were removed and replaced by the **detail**, **verbose**, and **brief** keywords, respectively. The **summary** keyword was removed. The default output display was changed to match the output that displayed when the optional **summary** keyword was entered in previous releases.
Release 3.3.0	No modification.
Release 3.4.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

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

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

Use the **show install package** with the **verbose** keyword to display the same information as the **detail** keyword, plus additional information regarding dynamic link libraries (DLL).

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

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

```
RP/0/0/CPU0:PE7_C12406(admin)# show install package all

disk0:c12k-mini-3.4.0
    disk0:c12k-admin-3.4.0
    disk0:c12k-base-3.4.0
    disk0:c12k-fwdg-3.4.0
    disk0:c12k-lc-3.4.0
    disk0:c12k-os-mbi-3.4.0
    disk0:c12k-rout-3.4.0

disk0:c12k-sbc-3.4.0

disk0:c12k-mgbl-3.4.0

disk0:c12k-mpls-3.4.0

disk0:c12k-diags-3.4.0

disk0:c12k-k9sec-3.4.0

disk0:c12k-mcast-3.4.0
```

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

```
RP/0/RP0/CPU0:router(admin)#show install package disk0:comp-hfr-full-3.4.0

disk0:comp-hfr-full-3.4.0
    disk0:hfr-rout-3.4.0
    disk0:hfr-mcast-3.4.0
    disk0:hfr-mpls-3.4.0
    disk0:hfr-lc-3.4.0
    disk0:hfr-fwdg-3.4.0
    disk0:hfr-admin-3.4.0
    disk0:hfr-base-3.4.0
    disk0:hfr-os-mbi-3.4.0
```

The following sample shows output from the **show install package** command with the **detail** keyword:

```
RP/0/0/CPU0:router(admin)# show install package disk0:c12k-mgbl-3.3.1 detail

disk0:c12k-mgbl-3.3.1
    c12k-mgbl V3.3.1[Default]  manageability
    Vendor : Cisco Systems
    Desc   : manageability
    Build  : Built on Mon Jun 26 11:08:42 UTC 2006
    Source : By iox28.cisco.com in /auto/ioxws57/nightly/r33x_12000_06.06.26 fo8
    Card(s): RP
    Restart information:
      Default:
        parallel impacted processes restart
    Components in package disk0:c12k-mgbl-3.3.1, package  c12k-mgbl:
        emweb V[r33x/1]  Agranat/Virata Emweb embedded web server
        ipsla V[r33x/1]  IP SLA Agent (formerly known as Service Assurance Agen)
        orb-taoorb V[r33x/1]  TAO/ACE ORB to support various CORBA services.
        cfg-sh-mgbl V[r33x/1]  LR shared plane manageability config
        doc-hfr-mgbl V[r33x/2]  Contains the man page documentation for HFR mans
        snmp-pingmib V[r33x/1]  Ping Management Information Base (MIB)
        man-xml-infra V[r33x/1]  Generic infrastructure for XML support
        snmp-assetmib V[r33x/1]  CISCO ASSET Management Information Base (MIB)
        package-compat V[r33x/1]  This is to collect package^Mcompatibility infs
        package-manage V[r33x/6]  This is to collect package^Mcompatibility infe
        snmp-sensormib V[r33x/1]  Sensor  Management Information Base (MIB)
        man-xml-cli-ops V[r33x/1]  Handler for XML which contains CLI requests
        man-xml-mda-ops V[r33x/1]  Handler for XML which contains MDA requests
        snmp-disman-mib V[r33x/1]  Event MIB Implementation
        generic-xmlagent V[r33x/1]  Generic XML Agent
        man-xml-ttyagent V[r33x/1]  XML Telnet/SSH agent
        snmp--disman-mib V[r33x/1]  EXPRESSION-MIB implementation
        snmp-bulkfilemib V[r33x/1]  Bulk File Management Information Base (MIB)
        man-xml-alarm-ops V[r33x/1]  The XML Operations Provider for alarms.
        snmp-ftpclientmib V[r33x/1]  FTP Client Management Information Base (MI)
        c12000-iox-mgb-cwi V[r33x/2]  Craft Web Interface related binaries and e
        man-xml-cfgmgr-ops V[r33x/1]  Handler for XML which contains CfgMgr reqs
        manageability-perf V[r33x/1]  Performance Management Component for Manay
        snmp-assetmib-enhi V[r33x/2]  CISCO ENHANCED IMAGE MIB
        snmp-frucontrolmib V[r33x/2]  CISCO-FRU-CONTROL MIB Implementation in EA
```

Table 5 describes the significant fields shown in the display.

Table 5 show install package Field Descriptions

Field	Description
disk0:hfr-rout-3.4.0	Storage device and the name of the package that has been installed.
hfr-rout V3.4.0 Routing Package	Name of the package.
Vendor	Name of the manufacturer.
Desc	Name of the package.
Build	Date and time the package was built.
Source	Source directory where the package was built.
Card(s)	Card types supported by the package.
Restart information	Restart impact on processes or nodes.
Components in package	Components included in the package.

Related Commands

Command	Description
show install	Displays active software packages.
show install active	Displays active software packages.
show install committed	Displays committed software packages.
show install inactive	Displays inactive packages in the active software set.
show install log	Displays the entries stored in the logging installation buffer.
show install pie-info	Displays information on the packages contained in a PIE file.
show install which	Displays the origin of a component, package, or file.

show install pie-info

To display information about a Package Installation Envelope (PIE) installation file, use the **show install pie-info** command in EXEC mode or administration EXEC mode.

show install pie-info *device*:*package* [**brief | detail | verbose**]

Syntax Description

device:*package*	Device, directory path, and package, expressed in concatenated form.
brief	(Optional) Displays summary information.
detail	(Optional) Displays detailed information.
verbose	(Optional) Displays comprehensive information.

Defaults

Displays summary information.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1 router.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the keywords **detail**, and **verbose**.
Release 3.4.0	Support was added for EXEC mode. The **summary** keyword was replaced by the **brief** keyword.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **show install pie-info** command to display information about a specified PIE installation file.

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

The following is sample output from the **show install pie-info** command. The default display shows the package name, expiration date, and file size.

```
RP/0/RP0/CPU0:router(admin)# show install pie-info disk1:/hfr-mgbl-p.pie-3.4.0

Contents of pie file '/disk1:/hfr-mgbl-p.pie-3.4.0':
    Expiry date       : Jan 19, 2007 02:55:56 UTC
    Uncompressed size : 17892613

    hfr-mgbl-3.4.0
```

Note Table 6 on page 293 describes the significant fields shown in the example displays.

The following is sample output from the **show install pie-info detail** command. This command displays additional information including vendor, build date supported cards and component information:

```
RP/0/RP0/CPU0:router(admin)# show install pie-info disk1:/hfr-mgbl-p.pie-3.4.0 detail

Contents of pie file '/disk1:/hfr-mgbl-p.pie-3.4.0':
    Expiry date       : Jan 19, 2007 02:55:56 UTC
    Uncompressed size : 17892613

    hfr-mgbl-3.4.0
        hfr-mgbl V3.4.0[00]  Manageability Package
        Vendor : Cisco Systems
        Desc   : Manageability Package
        Build  : Built on Wed May 10 08:04:58 UTC 2006
        Source : By edde-bld1 in /vws/aga/production/3.4.0/hfr/workspace for c28
        Card(s): RP, DRP, DRPSC
        Restart information:
          Default:
            parallel impacted processes restart
        Components in package hfr-mgbl-3.4.0, package  hfr-mgbl:
            manageability-cwi V[r33x/2]  Craft Web Interface related binaries ae
            hfr-feature-ipsla V[r33x/1]  IPSLA time stamping feature
            doc-hfr-mgbl V[r33x/2]  Contains the man page documentation for HFRs
            emweb V[r33x/1]  Agranat/Virata Emweb embedded web server
            generic-xmlagent V[r33x/1]  Generic XML Agent
            ipsla V[r33x/1]  IP SLA Agent (formerly known as Service Assurance )
            manageability-perf V[r33x/1]  Performance Management Component for y
            man-xml-alarm-ops V[r33x/1]  The XML Operations Provider for alarms.
            man-xml-cfgmgr-ops V[r33x/1]  Handler for XML which contains CfgMgrs
            man-xml-cli-ops V[r33x/1]  Handler for XML which contains CLI reques
            man-xml-infra V[r33x/1]  Generic infrastructure for XML support
            man-xml-mda-ops V[r33x/1]  Handler for XML which contains MDA reques
            man-xml-ttyagent V[r33x/1]  XML Telnet/SSH agent
            cfg-sh-mgbl V[r33x/1]  LR shared plane manageability config
            orb-taoorb V[r33x/1]  TAO/ACE ORB to support various CORBA services.
            package-compat V[r33x/1]  This is to collect package^Mcompatibilitys
            package-manage V[r33x/3]  This is to collect package^Mcompatibilitye
            snmp-assetmib V[r33x/1]  CISCO ASSET Management Information Base (M)
            snmp-bulkfilemib V[r33x/1]  Bulk File Management Information Base ()
            snmp-assetmib-enhi V[r33x/1]  CISCO ENHANCED IMAGE MIB
            snmp-disman-mib V[r33x/1]  Event MIB Implementation
            snmp--disman-mib V[r33x/1]  EXPRESSION-MIB implementation
            snmp-frucontrolmib V[r33x/1]  CISCO-FRU-CONTROL MIB Implementation A
            snmp-ftpclientmib V[r33x/1]  FTP Client Management Information Base)
            snmp-pingmib V[r33x/1]  Ping Management Information Base (MIB)
            snmp-sensormib V[r33x/1]  Sensor  Management Information Base (MIB)
```

The following is sample output from the **show install pie-info verbose** command. This command displays the same information as the **detail** keyword, plus additional information regarding components, processes and DLLs:

```
RP/0/RP0/CPU0:router(admin)# show install pie-info disk1:/hfr-mgbl-p.pie-3.4.0 verbose

Contents of pie file '/disk1:/hfr-mgbl-p.pie-3.4.0':
    Expiry date       : Jan 19, 2007 02:55:56 UTC
    Uncompressed size : 17892613

    hfr-mgbl-3.4.0
        hfr-mgbl V3.4.0[00]  Manageability Package
        Vendor : Cisco Systems
        Desc   : Manageability Package
        Build  : Built on Wed May 10 08:04:58 UTC 2006
        Source : By edde-bld1 in /vws/aga/production/3.4.0/hfr/workspace for c28
        Card(s): RP, DRP, DRPSC
        Restart information:
          Default:
            parallel impacted processes restart
        Components in package hfr-mgbl-3.4.0, package  hfr-mgbl:
            manageability-cwi V[r33x/2]  Craft Web Interface related binaries ae
                comm.jar
                comm.jar.nonwindows
                comm.jar.unix
                craft.html
                cwi.xml
                cwi_definitions.jar
                cwi_desktop.jar
                cwi_help.zip
                cwi_if.jar
                cwi_ne.jar
                cwi_tools.jar
                installer.jar
                javax.comm.properties
                jcl.jar
                libSerial.so.linux
                librxtxSerial.jnilib.mac
                man_craft_show
                man_craft_show.parser
                orb.jar
                win32com.dll.win

            hfr-feature-ipsla V[r33x/1]  IPSLA time stamping feature
                ipsla_ts_svr
                ipsla_ts_svr.startup
                libplatform_ipsla_ts.dll
                show_ipsla_ts.parser
                show_ipsla_ts_ltrace

            doc-hfr-mgbl V[r33x/2]  Contains the man page documentation for HFRs
                Fault-Manager-Debug.info
                Fault-Manager.info
                IP-Service-Level-Agreement.info
                Manageability-Debug.info
                Manageability.info
                Manageabilty-Debug.info
                Manageabilty.info
                Performance-Management.info

            emweb V[r33x/1]  Agranat/Virata Emweb embedded web server
                emweb
                http_cfg_cmds.parser
                http_debug_cmds.parser
```

```
    httpd.startup
    libhttperr.dll
    sh_emweb_ns_cfg__api.configinfo

generic-xmlagent V[r33x/1]  Generic XML Agent
    cfg_emorb_xmlagent.parser
    sh_xmlagent_ns_cfg__api.configinfo
    xmlagent
    xmlagent.startup

ipsla V[r33x/1]  IP SLA Agent (formerly known as Service Assurance )
    cfg_ipsla.parser
    debug_ipsla.parser
    ipsla_app_common_cfg.schema
    ipsla_app_common_oper.schema
    ipsla_ma
    ipsla_ma.startup
    ipsla_op_def_cfg.schema
    ipsla_op_def_common_cfg.schema
    ipsla_op_def_enhanced_cfg.schema
    ipsla_op_def_history_cfg.schema
    ipsla_op_def_hourly_cfg.schema
    ipsla_op_def_icmp_echo_cfg.schema
    ipsla_op_def_icmp_path_echo_cfg.schema
    ipsla_op_def_icmp_path_jitter_cfg.schema
    ipsla_op_def_path_history_cfg.schema
    ipsla_op_def_path_hourly_cfg.schema
    ipsla_op_def_udp_echo_cfg.schema
    ipsla_op_def_udp_jitter_cfg.schema
    ipsla_op_hist_oper.schema
    ipsla_op_hist_path_oper.schema
    ipsla_op_oper.schema
    ipsla_op_react_cfg.schema
    ipsla_op_sched_cfg.schema
    ipsla_op_stats_enhc_oper.schema
    ipsla_op_stats_hrly_d_oper.schema
    ipsla_op_stats_hrly_nd_oper.schema
    ipsla_op_stats_hrly_oper.schema
    ipsla_op_stats_ltst_oper.schema
    ipsla_op_stats_oper.schema
    ipsla_path_setup_test
    ipsla_react_trig_cfg.schema
    ipsla_responder
    ipsla_responder.startup
    ipsla_responder_cfg.schema
    ipsla_responder_oper.schema
    ipsla_sa
    ipsla_sa.startup
    lib_ipsla_app_cmn_bag_descr.dll
    lib_ipsla_responder_stats_bag_descr.dll
    lib_mgbl_ipsla_oper_bag_descr.dll
    libipsla_error.dll
    libipsla_icmp_echo.dll
    libipsla_icmp_path_echo.dll
    libipsla_icmp_pathjitter.dll
    libipsla_infra.dll
    libipsla_infra_comp.dll
    libipsla_udp_echo.dll
    libipsla_udp_jitter.dll
    libipsla_utils.dll
    librttmonmib.dll
    rttmon.mib
    rttmonmib_cmds.parser
    sh_ipsla_ns_cfg__api.configinfo
```

```
    show_ipsla.parser
    show_ipsla_common
    show_ipsla_ma_ltrace
    show_ipsla_resp_ltrace
    show_ipsla_resp_stats
    show_ipsla_sa_ltrace
    show_ipsla_stats

manageability-perf V[r33x/1]  Performance Management Component for y
    cfg_perfmgmt.parser
    libperfmgmtbagdesc.dll
    libpm_error.dll
    manageability_perf_cfg_common.schema
    manageability_perf_enable_monitor_cfg.schema
    manageability_perf_enable_stats_cfg.schema
    manageability_perf_enable_thresh_cfg.schema
    manageability_perf_oper.schema
    manageability_perf_stats_cfg.schema
    manageability_perf_thresh_cfg.schema
    monitor_controller
    monitor_interface
    oper_perfmgmt.parser
    perfmgmt_show
    pm_collector
    pm_collector.startup
    pm_server
    pm_server.startup
    sh_perfmgmt_ns_cfg__api.configinfo

man-xml-alarm-ops V[r33x/1]  The XML Operations Provider for alarms.
    libxmlalarmerror.dll
    libxmlalarmops.dll

man-xml-cfgmgr-ops V[r33x/1]  Handler for XML which contains CfgMgrs
    libxmlcfgmgrdebug.dll
    libxmlcfgmgrerror.dll
    libxmlcfgmgrops.dll
    libxmltarcfg.dll
    xml_cfgmgr_debug.parser

man-xml-cli-ops V[r33x/1]  Handler for XML which contains CLI reques
    libxmlclierror.dll
    libxmlcliops.dll
    xml_cli_debug.parser

man-xml-infra V[r33x/1]  Generic infrastructure for XML support
    libxmlservice.dll
    libxmlservice_utils.dll
    libxmlserviceerror.dll
    xml_demo_agent
    xml_infra_cfg.parser
    xml_infra_debug.parser
    xml_infra_show.parser

man-xml-mda-ops V[r33x/1]  Handler for XML which contains MDA reques
    libxmlmdadebug.dll
    libxmlmdaerror.dll
    libxmlmdaops.dll
    libxmlmdatrans.dll
    xml_mda_debug.parser
    xml_mda_show.parser
    xml_mda_show_ltrace

man-xml-ttyagent V[r33x/1]  XML Telnet/SSH agent
```

```
    libxmlttycmn.dll
    libxmlttyerror.dll
    xml_tty_agent
    xml_tty_agent.startup
    xml_tty_agent_cfg.parser
    xml_tty_client
    xml_tty_client_exec.parser
    xml_tty_cmn_debug.parser

cfg-sh-mgbl V[r33x/1]  LR shared plane manageability config
    sh_mgbl_ns_cfg__api.partitioninfo

orb-taoorb V[r33x/1]  TAO/ACE ORB to support various CORBA services.
    cfg_emorb_cmds.parser
    libtaoorb_error.dll
    libtaoorbutils.dll

package-compat V[r33x/1]  This is to collect package^Mcompatibilitys
    package_compatibility

package-manage V[r33x/3]  This is to collect package^Mcompatibilitye
    md5_manifest

snmp-assetmib V[r33x/1]  CISCO ASSET Management Information Base (M)
    ciscoasset.mib
    ciscoassetmib_cmds.parser
    libciscoassetmib.dll

snmp-bulkfilemib V[r33x/1]  Bulk File Management Information Base ()
    bulkfile.mib
    bulkfilemib_cmds.parser
    libbulkfilemib.dll

snmp-assetmib-enhi V[r33x/1]  CISCO ENHANCED IMAGE MIB
    enhimage.mib
    enhimagemib_cmds.parser
    libenhimagemib.dll

snmp-disman-mib V[r33x/1]  Event MIB Implementation
    Event.mib
    eventmib_cmds.parser
    libeventmib.dll

snmp--disman-mib V[r33x/1]  EXPRESSION-MIB implementation
    expression.mib
    expressionmib_cmds.parser
    libexpressionmib.dll

snmp-frucontrolmib V[r33x/1]  CISCO-FRU-CONTROL MIB Implementation A
    frucontrol.mib
    frucontrolmib_cmds.parser
    libfrucontrolmib.dll
    sh_frucontrolmib_ns_cfg__api.configinfo

snmp-ftpclientmib V[r33x/1]  FTP Client Management Information Base)
    ftpclient.mib
    ftpclientmib_cmds.parser
    libftpclientmib.dll

snmp-pingmib V[r33x/1]  Ping Management Information Base (MIB)
    libpingmib.dll
    ping.mib
    pingmib.startup
    pingmib_cmds.parser
```

```
    snmppingd

snmp-sensormib V[r33x/1]  Sensor  Management Information Base (MIB)
    ciscosensor.mib
    ciscosensormib_cmds.parser
    libciscosensormib.dll
    sh_ciscosensormib_ns_cfg__api.configinfo
```

Table 6 describes the significant fields shown in the display.

Table 6 show install pie-info Field Descriptions

Field	Description
Contents of pie file	Storage device, directory and name of the package.
Expiry date	Date when the package expires and can no longer be added to a router.
Uncompressed size	File size of the package after it is added to a local storage device.
hfr-mgbl-3.4.0	Name of the package.
Vendor	Name of the manufacturer.
Desc	Name of the package.
Build	Date and time the package was built.
Source	Source directory where the package was built.
Card(s)	Card types supported by the package.
Restart information	Restart impact on processes or nodes.
Components in package	Components included in the package.

Related Commands

Command	Description
show install	Displays active software packages.
show install active	Displays active software packages.
show install committed	Displays committed software packages.
show install inactive	Displays inactive packages in the active software set.
show install log	Displays the entries stored in the logging installation buffer.
show install package	Displays information about a package.
show install request	Displays the list of incomplete installation manager requests.
show install which	Displays the origin of a component, package, or file.

show install request

To display the list of incomplete installation requests, running and queued, use the **show install request** command in EXEC mode or administration EXEC mode.

show install request

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Command syntax was changed from **show install requests** to **show install request**.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

The Cisco IOS XR software processes only one installation request per SDR at a time. The **show install request** command displays any incomplete request that is currently running.

Use the **show install request** command in administration EXEC mode to display install operations for all SDRs in the system. In EXEC mode, this command displays only the install requests for that SDR.

Note The default of installation commands is asynchronous mode, meaning that the command runs in the background and the EXEC prompt is returned as soon as possible. Performing a command in synchronous mode allows the installation process to finish before the prompt is returned.

Tip These requests cannot be stopped by pressing Ctrl-C. To stop a request, use the **install attach** command to attach to the operation, then press Ctrl-C and select the “abort” option.

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

The following is sample output from the **show install request** command:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show install request

Install operation 17 'install add /tftp://172.31.255.255/dir/19mcast'
started by user 'user_b' at 14:38:45 UTC Thu Mar 30 2006.
The operation is 1% complete
2,017KB downloaded
The operation can still be aborted.
```

The following is sample output from the **show install request** command when no install operations are running:

```
RP/0/RP0/CPU0:router(admin)# show install request

There are no install requests in operation.
```

Related Commands

Command	Description
install activate	Adds a software package or an SMU to the active software set.
install add	Installs a package on a storage device.
install deactivate	Removes a package from the active software set.
install remove	Deletes inactive packages from a storage device.
install rollback to	Rolls back the software set to a saved installation point or to the last committed installation point.
install verify	Verifies the consistency of a previously installed software set with the package file from which it originated.

show install rollback

To display the software set associated with a saved installation point, use the **show install rollback** command in EXEC or administration EXEC mode.

Administration EXEC Mode

show install rollback *point-id* [**sdr** *sdr-name* | **location** *node-id*] [**summary** [**sdr** *sdr-name*]] [**detail** [**sdr** *sdr-name* | **location** *node-id*]]

EXEC Mode

show install rollback *point-id* [**location** *node-id*] [**summary**] [**detail** [**location** *node-id*]]

Syntax Description

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

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.0	This command was introduced on the Cisco CRS-1.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was made available in administration EXEC mode.
Release 3.3.0	The command was moved to administration EXEC mode only. Support was added for the keywords and arguments: **sdr** *sdr-name*, **detail**, and **summary**.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **show install rollback** command to display the software set associated with a saved installation point. To display the available rollback points, use the online help system. For example: **show install rollback ?**.

Tip This command can be used with the **install rollback to** command to verify the software set associated with a saved installation point before rolling back to the saved installation point.

Enter the command in administration EXEC mode to display information that will impact all nodes in all SDRs.

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

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

Summary, Detailed and Verbose Information

Use the **summary** keyword to display a summary of the packages that will be used by the **install rollback to** command. Use the **detail** keyword to display additional information, including the individual packages included in the composite packages.

Tip Use the **clear install rollback oldest** command to delete saved installation points from the install buffer.

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

In the following example, the **show install rollback ?** command displays the available rollback points:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show install rollback ?

  0  ID of the rollback point to show package information for
  2  ID of the rollback point to show package information for
```

In the following example, the **show install rollback** command displays the packages for the rollback point “0”. This display summarizes the packages that will be used by the **install rollback to** command.

```
RP/0/RP0/CPU0:router(admin)# show install rollback 0

Secure Domain Router: Owner

  Node 0/1/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/6/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/6/CPU0 [LC] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/RP0/CPU0 [RP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/RP1/CPU0 [RP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/SM0/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/SM1/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/SM2/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0

  Node 0/SM3/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Rollback Packages:
      disk0:comp-hfr-mini-3.4.0
```

In the following example, the **show install rollback detail** command displays additional information for the packages, including the individual packages included in the composite packages.

```
RP/0/RP0/CPU0:router(admin)# show install rollback 0 detail

Secure Domain Router: Owner

  Node 0/1/SP [SP] [SDR: Owner]
    Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
    Rollback Packages:
```

```
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/1/CPU0 [LC] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-lc-3.4.0
      disk0:hfr-fwdg-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/6/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/6/CPU0 [LC] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/lc/mbihfr-lc.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-lc-3.4.0
      disk0:hfr-fwdg-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/RP0/CPU0 [RP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-rout-3.4.0
      disk0:hfr-lc-3.4.0
      disk0:hfr-fwdg-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/RP1/CPU0 [RP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/mbihfr-rp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-rout-3.4.0
      disk0:hfr-lc-3.4.0
      disk0:hfr-fwdg-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/SM0/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/SM1/SP [SP] [SDR: Owner]
```

```
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/SM2/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0

Node 0/SM3/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mbi-3.4.0/sp/mbihfr-sp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-3.4.0
      disk0:hfr-admin-3.4.0
      disk0:hfr-base-3.4.0
      disk0:hfr-os-mbi-3.4.0
```

Table 7 describes the significant fields shown in the display.

Table 7 show install rollback Field Descriptions

Field	Description
Boot Image:	Minimum Boot Image (MBI) used to boot the node.
Rollback Packages:	Packages that will be rolled back.

Related Commands

Command	Description
clear install rollback oldest	Deletes saved installation points from the install buffer.
install rollback to	Rolls back the software set to a saved installation point or to the last committed installation point.

show install suspend

To display the suspension points for an install activation operation, use the **show install suspend** command in EXEC mode or administration EXEC mode.

show install suspend

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Routers.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

The **install suspend** command may be run multiple times to set multiple suspension points. Use the **show install suspend** command to view all suspension points.

The suspension points are valid only for the duration of the current install operation. They are cleared after the transaction has been completed.

Enter the **show install suspend** command in administration EXEC mode to view suspension points for all SDRs.

Enter the **show install suspend** command to view suspension points for the current SDR.

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

The following example shows output for the command **show install suspend**:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)#show install suspend
Note: The suspension points set below will be used only for
the participating nodes in an incremental activation, deactivation,
rollback install operation.
```

```
Future suspension points:
   before software change
   location 0/RP0/CPU0
```

Related Commands

Command	Description
install resume	Resumes an install activation operation that has been suspended with the command **install suspend**.
install suspend	Suspends an activation operation.

show install which

To display the origin of a named process, component, or package, use the **show install which** command in EXEC mode or administration EXEC mode.

show install which {**component** *name* [**verbose**] | **file** *filename*} [**sdr** *sdr-name* | **location** *node-id*]

Syntax Description

component *name*	Displays the package information for the component specified in the *name* argument.
verbose	(Optional) Displays summary, component, and file information for each component.
file *filename*	Displays the package information for the file specified in the *filename* argument.
location *node-id*	(Optional) Displays information for the designated node. The *node-id* argument is expressed in *rack*/*slot*/*module* notation.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Displays information for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR.

Defaults

The default search is performed for the active software set.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was first supported on the Cisco XR 12000 Series Router. The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	This command was supported in both EXEC mode and administration EXEC mode. Support was removed for the **files** keyword. Support was added for the **verbose** keyword. Support was added for the **sdr** *sdr-name* keyword and argument.
Release 3.4.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Use the **show install which** command to display information about a named process, component, or package. Information is shown for each node where the process, component, or package is located.

This command returns the same data in EXEC mode and administration EXEC mode.

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

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

Use the **location** keyword and *node-id* argument to display information for a specific node. If you do not specify a location with the **location** keyword and *node-id* argument, this command displays information from all nodes. If the process, component, or package is not located on that node, an error message is displayed.

Verbose Information

Use the **verbose** keyword to display additional information, including component and file information for each package.

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

The following example shows CDP information for a single node. The **show install which** command is entered with the **file** and **location** keywords specified:

```
RP/0/0/CPU0:router(admin)# show install which file cdp location 0/6/cpu0

Node 0/6/CPU0 has file cdp for boot package /disk0/hfr-os-mbi-3.4.0.5I/lc/mbihfe
Package:
    hfr-base
        hfr-base V3.4.0.5I[SIT-image]  Base Package
        Vendor : Cisco Systems
        Desc   : Base Package
        Build  : Built on Mon Aug 28 07:54:07 UTC 2006
        Source : By edde-bld1 in /vws/aga/production/3.4.0.5I.SIT-image/hfr/wor8
        Card(s): RP, DRP, DRPSC, OC3-POS-4, OC12-POS, GE-3, OC12-POS-4, OC48-POC
        Restart information:
          Default:
            parallel impacted processes restart

Component:
    cdp V[ci-34/6]  Cisco Discovery Protocol (CDP)

File:
    cdp
        Card(s)              : RP, DRP, LC, SC
        Local view           : /pkg/bin/cdp
```

```
        Local install path   : /disk0/hfr-base-3.4.0.5I/bin/cdp
        Central install path : /disk0/hfr-base-3.4.0.5I/bin/cdp
```

The following example shows the message displayed if the specified process, component, or package is not active on a node:

```
RP/0/0/CPU0:router(admin)# show install which file cdp location 0/1/CPU0

File cdp not active on node 0/6/CPU0
```

To display all information for all instances of a specified process, component, or package, enter the **show install which** command without keywords or arguments, as shown in the following example:

```
RP/0/0/CPU0:router(admin)# show install which file cdp

File cdp not active on node 0/1/SP

Node 0/1/CPU0 has file cdp for boot package /disk0/hfr-os-mbi-3.4.0.5I/lc/mbihfe
Package:
    hfr-base
        hfr-base V3.4.0.5I[SIT-image]  Base Package
        Vendor : Cisco Systems
        Desc   : Base Package
        Build  : Built on Mon Aug 28 07:54:07 UTC 2006
        Source : By edde-bld1 in /vws/aga/production/3.4.0.5I.SIT-image/hfr/wor8
        Card(s): RP, DRP, DRPSC, OC3-POS-4, OC12-POS, GE-3, OC12-POS-4, OC48-POC
        Restart information:
          Default:
            parallel impacted processes restart

Component:
    cdp V[ci-34/6]  Cisco Discovery Protocol (CDP)

File:
    cdp
        Card(s)              : RP, DRP, LC, SC
        Local view           : /pkg/bin/cdp
        Local install path   : /disk0/hfr-base-3.4.0.5I/bin/cdp
        Central install path : /disk0/hfr-base-3.4.0.5I/bin/cdp

File cdp not active on node 0/6/SP

Node 0/6/CPU0 has file cdp for boot package /disk0/hfr-os-mbi-3.4.0.5I/lc/mbihfe
Package:
    hfr-base
        hfr-base V3.4.0.5I[SIT-image]  Base Package
        Vendor : Cisco Systems
        Desc   : Base Package
        Build  : Built on Mon Aug 28 07:54:07 UTC 2006
        Source : By edde-bld1 in /vws/aga/production/3.4.0.5I.SIT-image/hfr/wor8
        Card(s): RP, DRP, DRPSC, OC3-POS-4, OC12-POS, GE-3, OC12-POS-4, OC48-POC
        Restart information:
          Default:
            parallel impacted processes restart

Component:
    cdp V[ci-34/6]  Cisco Discovery Protocol (CDP)

File:
    cdp
        Card(s)              : RP, DRP, LC, SC
        Local view           : /pkg/bin/cdp
        Local install path   : /disk0/hfr-base-3.4.0.5I/bin/cdp
        Central install path : /disk0/hfr-base-3.4.0.5I/bin/cdp
```

```
Node 0/RP0/CPU0 has file cdp for boot package /disk0/hfr-os-mbi-3.4.0.5I/mbihfre
Package:
    hfr-base
        hfr-base V3.4.0.5I[SIT-image]  Base Package
        Vendor : Cisco Systems
        Desc   : Base Package
        Build  : Built on Mon Aug 28 07:54:07 UTC 2006
        Source : By edde-bld1 in /vws/aga/production/3.4.0.5I.SIT-image/hfr/wor8
        Card(s): RP, DRP, DRPSC, OC3-POS-4, OC12-POS, GE-3, OC12-POS-4, OC48-POC
        Restart information:
          Default:
            parallel impacted processes restart

Component:
    cdp V[ci-34/6]  Cisco Discovery Protocol (CDP)

File:
    cdp
        Card(s)              : RP, DRP, LC, SC
        Local view           : /pkg/bin/cdp
        Local install path   : /disk0/hfr-base-3.4.0.5I/bin/cdp
        Central install path : /disk0/hfr-base-3.4.0.5I/bin/cdp

Node 0/RP1/CPU0 has file cdp for boot package /disk0/hfr-os-mbi-3.4.0.5I/mbihfre
Package:
    hfr-base
        hfr-base V3.4.0.5I[SIT-image]  Base Package
        Vendor : Cisco Systems
        Desc   : Base Package
        Build  : Built on Mon Aug 28 07:54:07 UTC 2006
        Source : By edde-bld1 in /vws/aga/production/3.4.0.5I.SIT-image/hfr/wor8
        Card(s): RP, DRP, DRPSC, OC3-POS-4, OC12-POS, GE-3, OC12-POS-4, OC48-POC
        Restart information:
          Default:
            parallel impacted processes restart

Component:
    cdp V[ci-34/6]  Cisco Discovery Protocol (CDP)

File:
    cdp
        Card(s)              : RP, DRP, LC, SC
        Local view           : /pkg/bin/cdp
        Local install path   : /disk0/hfr-base-3.4.0.5I/bin/cdp
        Central install path : /disk0/hfr-base-3.4.0.5I/bin/cdp

File cdp not active on node 0/SM0/SP

File cdp not active on node 0/SM1/SP

File cdp not active on node 0/SM2/SP

File cdp not active on node 0/SM3/SP
```

Table 8 describes the significant fields shown in the display.

Table 8 show install which Field Descriptions

Field	Description
Package:	Information about the package, as described in the following fields.
hfr-base V3.4.0	Name and release number of the package.
Vendor	Name of the manufacturer.
Desc	Name of the package.
Build	Date and time the package was built.
Source	Source directory where the package was built.
Card(s)	Card types supported by the package.
Restart information	Restart impact on processes or nodes.
Component:	Component name and version number.
File:	Name of the of the process or dll file that information is being specified for.
Card(s)	Supported card types on which the file can be used.
Local view	Generic directory path used to access the file on the nodes where it is used.
Local install path	Local directory path where the file is stored.
Central install path	Directory path where the file is stored on RP and SC nodes.

Related Commands

Command	Description
show install	Displays active software packages.
show install active	Displays active software packages.
show install inactive	Displays inactive packages in the active software set.
show install committed	Displays committed software packages.
show install log	Displays the entries stored in the logging installation buffer.
show install package	Displays information about a package.
show install request	Displays the list of incomplete installation manager requests.
show install which	Displays the origin of a component, package, or file.