



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 label

To clear a label from an installation rollback point, use the **clear install label** command in EXEC or administration EXEC mode.

```
clear install label label
```

Syntax Description	<i>label</i>	Label defined for an installation rollback point.
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Defaults No default behavior or values

Command Modes EXEC
Administration EXEC

Command History	Release	Modification
	Release 3.6.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Router.

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 label** command to remove a label associated with an installation rollback point. Labels are assigned using the **install label** command.

Task ID	Task ID	Operations
	pkg-mgmt	read, write

Examples In the following example, the label brians_smu is removed from the associated installation rollback point.

```
RP/0/RP0/CPU0:router# clear install label brians_smu
```

```
Install operation 6 'clear install label brians_smu' started by user 'usr'
on SDR Owner via CLI at 09:28:04 DST Thu Aug 09 2007.
Install operation 6 completed successfully at 09:28:04 DST Thu Aug 09 2007.
```

Related Commands	Command	Description
	install label	Adds a label or description to both the current active software state and a state associated with a rollback point.

clear install log-history oldest

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

clear install log-history oldest *number*

Syntax Description

<i>number</i>	Specifies the number of log entries to clear. The oldest log entries are cleared.
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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 Router.
Release 3.5.0	No modification.
Release 3.6.0	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*.

Enter the **clear install log-history oldest** command in EXEC mode to clear the oldest installation 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 installation 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 installation 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 installation 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 secure domain router (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	Deletes 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 or administration EXEC mode.

clear install rollback oldest *points*

Syntax Description

<i>points</i>	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.
Release 3.5.0	No modification.
Release 3.6.0	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 **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 to which 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 or administration EXEC mode.

install abort [*request-id*]

Syntax Description	<i>request-id</i> (Optional) Request ID assigned to an installation operation.
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Defaults	Abort the current installation operation.
-----------------	---

Command Modes	EXEC Administration EXEC
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Command History	Release	Modification
	Release 3.3.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Router.
	Release 3.4.0	Support was added for EXEC mode.
	Release 3.5.0	No modification.
	Release 3.6.0	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 <i>Configuring AAA Services on Cisco IOS XR Software</i> module of the <i>Cisco IOS XR System Security Configuration Guide</i> .
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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** cannot 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 installation 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 operation for the SDR to which you are logged in.

Task ID	Task ID	Operations
	pkg-mgmt	read, write

Examples

The following example shows how to halt a installation 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 contents of a PIE file to a storage device.
install activate	Adds a software package or SMU to the active software set.
install deactivate	Removes a package from the active software set.

install activate

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

Administration EXEC Mode

```
install activate device:package [device:package2 ... device:package32] [auto-abort-timer time]
[sdr list-of-sdr-names] [location node-id] [if-active] [admin-profile] [asynchronous |
synchronous] [parallel-reload] [prompt-level { default | none }] [test]
```

EXEC Mode

```
install activate device:package [device:package2 ... device:package32] [auto-abort-timer time]
[location node-id] [asynchronous | synchronous] [parallel-reload] [prompt-level { default |
none }] [test]
```

Syntax Description

<i>device:package</i>	<p>Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.4.0).</p> <p>For the <i>device</i> 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.</p> <p>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.</p> <p>Note Multiple packages can be activated at a time. Up to 32 packages can be specified individually as of Cisco IOS XR Software Release 3.5.0. From Cisco IOS XR Software Release 3.6.0, multiple packages can be specified using the wildcard syntax, for example, harddisk:*3.6*. If multiple Software Maintenance Upgrades (SMUs) are activated, then the operation involves a node reload and the user is prompted before the installation operation occurs.</p>
auto-abort-timer <i>time</i>	(Optional) Specifies an abort timer value, <i>time</i> , in minutes, which when expired loads the last committed loadpath.
sdr <i>list-of-sdr-names</i>	(Optional. Administration EXEC mode only) Activates a package for a specific secure domain router (SDR). The value of the <i>sdr-name</i> argument is the name assigned to the SDR. To specify more than one SDR, list each SDR name separated by a space.

location <i>node-id</i>	(Optional) Activates a package on the designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> 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.
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.
parallel-reload	(Optional) Forces all cards on the router to reload at the same time and then come up with the new software, rather than proceeding according to the option encoded in the install package.
prompt-level { default none }	(Optional) Specifies when you are prompted for input during the procedure. <ul style="list-style-type: none"> • default—You are prompted only when input is required by the operation. • none—You are never prompted.
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 <i>sdr-name</i> 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.
Release 3.5.0	Support was added for the auto-abort-timer keyword.
Release 3.6.0	Support was added for the prompt-level and parallel-reload keywords. Support was added for wildcard syntax when specifying packages to be activated. Support was removed for the noprompt 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 **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 **prompt-level none** keywords 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.

Auto Abort Option

Use the **auto-abort-timer** keyword to provide a safety mechanism for the instance that a package is activated and for some reason access to the router is lost. This option automatically rolls back to the current committed loadpath, thereby undoing any changes that are activated with the **install activate** command. After the installation, if the activated software is working correctly, use the **install commit** command to cancel the timer and commit the new loadpath.

**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.

Parallel Reload

Install operations are activated according to the method encoded in the package being activated. Generally, this method has the least impact for routing and forwarding purposes, but it may not be the fastest method from start to finish and can require user interaction by default. To perform the installation procedure as quickly as possible, you can specify the **parallel-reload** keyword. This forces the installation to perform a parallel reload, so that all cards on the router reload simultaneously, and then come up with the new software. This impacts routing and forwarding, but it ensures that the installation is performed without other issues.

Task ID**Task ID** **Operations**

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-fwgdg-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.
```

The following example shows how to activate multiple software packages using the wildcard syntax:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install activate disk0:*3.6*

Install operation 2 '(admin) install activate disk0:*3.6*' started by user 'user_a' via
CLI at 04:30:01 PST Fri Dec 28 2007.
Info:      This operation will activate the following packages:
Info:          disk0:hfr-rout-3.6.0
Info:          disk0:hfr-lc-3.6.0
Info:          disk0:hfr-fwdg-3.6.0
Info:          disk0:hfr-admin-3.6.0
Info:          disk0:hfr-base-3.6.0
Info:          disk0:hfr-os-mbi-3.6.0
Info:          disk0:hfr-fpd-3.6.0
Info:          disk0:hfr-diags-3.6.0
Info:          disk0:hfr-mgbl-3.6.0
```

```

Info:          disk0:hfr-mpls-3.6.0
Info:          disk0:hfr-mcast-3.6.0
Info:          disk0:hfr-k9sec-3.6.0
Warning:      The following packages are already active on the specified nodes:
Warning:      hfr-os-mpi-3.6.0
Warning:      hfr-base-3.6.0
Warning:      hfr-admin-3.6.0
Warning:      hfr-fwdg-3.6.0
Warning:      hfr-lc-3.6.0
Warning:      hfr-rout-3.6.0
Warning:      Please check:
Warning:      - check the name of the packages being activated.
Warning:      - check the set of active packages using 'show install active'.
Info:          Install Method: Parallel Process Restart
Info:          The changes made to software configurations will not be persistent across
Info:          system reloads. Use the command '(admin)
Info:          install commit' to make changes persistent.
Info:          Please verify that the system is consistent following the software change
Info:          using the following commands:
Info:          show system verify
Info:          install verify packages
Install operation 2 completed successfully at 04:32:01 PST Fri Dec 28 2007.

```

The warning messages are expected, because the packages are already active.

Related Commands

Command	Description
install add	Adds the contents of a PIE file to a storage device.
install commit	Makes the current active software set persistent across RP reloads.
install deactivate	Removes a package from the active software set.
show install active	Displays active software packages.
show install log	Displays the entries stored in the logging installation buffer.
show install request	Displays the list of incomplete installation manager requests.

install add

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

Administration EXEC Mode

```
install add [source source-path | tar] file [activate [admin-profile] [auto-abort-timer time]
[location node-id]] [asynchronous | synchronous] [parallel-reload] [prompt-level {default |
none}] [if-active] [sdr sdr-name]
```

EXEC Mode

```
install add [source source-path | tar] file [activate [auto-abort-timer time] [location node-id]]
[asynchronous | synchronous] [parallel-reload] [prompt-level {default | none}]
```

Syntax Description	
source <i>source-path</i>	Source location of the PIE files to be appended to the PIE filenames. Location options are as follows: <ul style="list-style-type: none"> • disk0: • disk1: • compactflash: • hddisk: • ftp://username:password@hostname or ip-address/directory-path/ • rnp://username@hostname or ip-address/directory-path/ • tftp://hostname or ip-address/directory-path/
tar	Indicates that the PIE file is contained in a tar file.
<i>file</i>	Name and location of the PIE file (composite package) to install. If a source path location is specified using the source keyword, the <i>file</i> argument can be either a fully specified PIE file path, or a path to the PIE file relative to the source path. <p>Note Up to 32 PIE files can be added to a device in a single install add operation.</p> <p>If the tar keyword is used, the <i>file</i> argument is a tar file that contains one or more PIE files, or directories containing PIE files.</p>
activate	(Optional) Activates the package or packages. This option is run only if the install add operation is successful.
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
auto-abort-timer <i>time</i>	(Optional) Specifies an abort timer value, <i>time</i> , in minutes, which when expired loads the last committed loadpath.

location <i>node-id</i>	(Optional) Activates a package on the designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> 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.
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.
parallel-reload	(Optional) Forces all cards on the router to reload at the same time and then come up with the new software, rather than proceeding according to the option encoded in the install package.
prompt-level { default none }	(Optional) Specifies when you are prompted for input during the procedure. <ul style="list-style-type: none"> default—You are prompted only when input is required by the operation. none—You are never prompted.
if-active	(Optional. Administration EXEC mode only.) Activates the optional packages only if a version is already active.
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.) Activates a package for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.

Defaults

Packages are added to the storage device, but are 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 activate , sdr , noprompt and location keywords and their associated arguments. Support was removed for the to device keyword and argument.
Release 3.4.0	Support was added for EXEC mode.

Release	Modification
Release 3.5.0	Support was added for the source , auto-abort-timer , and admin-profile keywords. Support was added for the addition of up to 32 PIE files in a single install add operation.
Release 3.6.0	Support was added for the tar , prompt-level and parallel-reload keywords. Support was removed for the noprompt 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 **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 route processors (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 to which you are logged in.



Note

In the Cisco CRS-1 router, the package files are also added to any additional installed distributed router processors (DRPs) for the effected SDRs.



Note

If a package is added only to a non-owner SDR, then the package files and functionality are not 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 432](#) 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 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 and later releases, SDR-specific activation is supported for specific packages and upgrades, such as optional packages and Software Maintenance Upgrades (SMUs). Packages that do not support SDR-specific activation can be activated for all SDRs simultaneously only 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>).

Adding tar Files

Use the **tar** keyword to add one or more PIE files in the tar file format. If the **tar** keyword is used, only a single tar file can be added.

**Note**

Multiple tar files or a combination of PIE and tar files is not supported.

Note the following regarding tar files:

- The *file* filename must include the complete location of the tar file.
- The tar file can contain only PIE files and directories containing PIE files. For example:
 - The tar file pies.tar containing the files x.tar and y.pie fails because x.tar is not a PIE file.
 - The tar file pies.tar containing the file x.pie and the directory dir_a, where dir_a contains a PIE file y.pie succeeds.
 - The tar file pies.tar containing the file x.pie and the directory dir_a, where dir_a contains a tar file y.tar fails because y.tar is not a PIE file.
 - The tar file pies.tar containing the PIE files x.pie, y.pie, ...*.pie succeeds.
- The **source** keyword is not supported with the **tar** keyword.

Following is a valid example of using the **tar** keyword:

```
RP/0/0/CPU0:router(admin)# install add tar tftp://223.255.254.254/install/files/pies.tar
```

You can add and activate tar files at the same time. In other words, the **install add** command is supported using the **tar** and the **activate** keywords simultaneously.

Adding Multiple Packages

To add multiple PIE files, use the **source** keyword to specify the directory path location of the PIE files. Then list all the PIE filenames, as necessary. This alleviates the need to repeat the directory location for each PIE file. Following is an example of the **install add** command using the **source** keyword:

```
RP/0/0/CPU0:router(admin)# install add source tftp://192.168.201.1/images/myimages/
comp-hfr-mini.pie hfr-mgbl-p.pie hfr-mpls-p.pie hfr-mcast-p.pie
```

The following example also illustrates a valid use of the **install add** command with the **source** keyword:

```
RP/0/0/CPU0:router(admin)# install add source tftp://192.168.254.254/images/user/
hfr-mcast-p.pie pies/hfr-mpls-p.pie ftp://1.2.3.4/other_location/hfr-mgbl-p.pie
```

In the above example, three PIE files are added from the following locations:

- tftp://192.168.254.254/images/user/hfr-mcast-p.pie
- tftp://192.168.254.254/images/user/pies/hfr-mpls-p.pie
- ftp://1.2.3.4/other_location/hfr-mgbl-p.pie

Parallel Reload

Installation operations are activated according to the method encoded in the package being activated. Generally, this method has the least impact for routing and forwarding purposes, but it may not be the fastest method from start to finish and can require user interaction by default. To perform the installation procedure as quickly as possible, you can specify the **parallel-reload** keyword. This forces the installation to perform a parallel reload, so that all cards on the router reload simultaneously, and then come up with the new software. This impacts routing and forwarding, but it ensures that the installation is performed without other issues.

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 or SMU to the active software set.
install commit	Makes the current active software set 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 installation operation, use the **install attach** command in EXEC or administration EXEC configuration mode.

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

Syntax Description		
	<i>request-id</i>	(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 Router.
	Release 3.4.0	Support was added for EXEC mode.
	Release 3.5.0	No modification.
	Release 3.6.0	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 **install attach** command to attach a terminal to an installation operation. This is similar to making the installation operation synchronous, and is used for the following reasons:

- To change an asynchronous installation operation to a synchronous installation operation.
- The installation 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 installation 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
and router running configuration.
```

In the following example, the **install attach** command is used to attach the terminal to the installation operation and complete the operation in synchronous mode. The CLI prompt is returned only after the installation 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
newly activated software ...
Info:      SDR Owner: 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
```

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 or SMU to the active software set.
	install add	Adds the contents of a PIE file to a storage device.
	install deactivate	Removes a package from the active software set.

install auto-abort-timer stop

To deactivate the auto-abort-timer that is set in the **install activate** or **install deactivate** commands, use the **install auto-abort-timer stop** command in EXEC or administration EXEC mode.

install auto-abort-timer stop [*sdr list-of-sdr-names*]

Syntax Description

sdr <i>list-of-sdr-names</i>	(Optional. Administration EXEC mode only) Deactivates the auto-abort-timer for a specific secure domain router (SDR). The value of the <i>list-of-sdr-names</i> argument can be one or more names assigned to various SDRs. To specify more than one SDR, list each SDR name separated by a space.
-------------------------------------	--

Defaults

When activated, the auto-abort-timer runs to expiration and then loads the last committed loadpath.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Router.
Release 3.6.0	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 **install auto-abort-timer stop** command to halt the auto-abort-timer that was activated with the **install activate** or **install deactivate** command. Alternatively, you can use the **install commit** command to halt the timer.

If you do not halt the auto-abort-timer, the software loads to the last committed loadpath when the timer expires. If the software has installed successfully, and you intend to continue using the new software, you should disable the auto-abort-timer.

Command Modes

- Enter the **install auto-abort-timer stop** command in administration EXEC mode to halt the auto-abort-timer for all secure domain routers (SDRs).
- Enter the **install auto-abort-timer stop** command in EXEC mode to halt the auto-abort-timer operations for the SDR to which you are logged in.

Task ID

Task ID	Operations
pkg-mgmt	read, write

■ **install auto-abort-timer stop****Examples**

The following example shows how to halt the auto-abort-timer:

```
RP/0/RP0/CPU0:router# admin  
RP/0/RP0/CPU0:router(admin)# install auto-abort-timer stop
```

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 RP reloads.
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 or administration EXEC mode.

Administration EXEC Mode

```
install commit [admin-profile | sdr sdr-name]
```

EXEC Mode

```
install commit
```

Syntax Description	admin-profile	(Optional. Administration EXEC mode only) Commits the active software set on the admin profile only.
	sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only) Commits the active software set for a specific SDR. The <i>sdr-name</i> argument is the name assigned to the secure domain router (SDR).

Defaults

Administration EXEC Mode

Commits the active software set for all 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.
Release 3.5.0	No modification.
Release 3.6.0	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 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 or administration EXEC mode.

Administration EXEC Mode

```
install deactivate device:package [auto-abort-timer minutes] [sdr sdr-name] [location node-id]
[asynchronous | synchronous] [parallel-reload] [prompt-level { default | none }] [test]
```

EXEC Mode

```
install deactivate device:package [auto-abort-timer minutes] [location node-id] [asynchronous |
synchronous] [parallel-reload] [prompt-level { default | none }] [test]
```

Syntax Description		
<i>device:package</i>		Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.4.0). For the <i>device</i> 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.
auto-abort-timer <i>time</i>		(Optional) Specifies an abort timer value, <i>time</i> , in minutes, which when expired loads the last committed loadpath.
sdr <i>sdr-name</i>		(Optional. Administration EXEC mode only) Deactivates a package for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.
location <i>node-id</i>		(Optional) Deactivates a package from the designated node. The <i>node-id</i> argument is entered in <i>rack/slot/module</i> 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.
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.
parallel-reload		(Optional) Forces all cards on the router to reload at the same time and then come up with the new software, rather than proceeding according to the option encoded in the install package.
prompt-level { default none }		(Optional) Specifies when you are prompted for input during the procedure. <ul style="list-style-type: none"> default—you are prompted only when input is required by the operation. none—you are never prompted.
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 <i>sdr-name</i> argument. Support was added for the noprompt keyword.
Release 3.4.0	Support was added for EXEC mode.
Release 3.5.0	Support was added for the auto-abort-timer keyword.
Release 3.6.0	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*.

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 **prompt-level none** keywords 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.

Auto Abort Option

Use the **auto-abort-timer** keyword to provide a safety mechanism for the instance that a package is deactivated and for some reason access to the router is lost. This option automatically rolls back to the current committed loadpath, thereby undoing any changes that are deactivated with the **install deactivate** command. After the installation, if the activated software is working correctly, use the **install commit** command to cancel the timer and commit the new loadpath.

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

Task ID**Task ID** **Operations**

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-fwgdg-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 current active software set 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.
show install log	Displays the entries stored in the logging installation buffer.
show install request	Displays the list of incomplete installation manager requests.

install label

To add a label or description to a state associated with a rollback point, use the **install label** command in EXEC or administration EXEC mode.

```
install label point-id {description description | label-name label}
```

Syntax Description		
	<i>point-id</i>	Installation point ID number.
	description <i>description</i>	Specifies a description for the specified rollback point.
	label-name <i>label</i>	Specifies a label for the specified rollback point.

Defaults No default behavior or values

Command Modes EXEC
Administration EXEC

Command History	Release	Modification
	Release 3.6.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Router.

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 label** command to put a label and description on an installation rollback point that can be used to identify the rollback point in other commands. Commands that support the rollback label include:

- **clear install rollback**
- **install rollback**
- **show install rollback**

Labels and descriptions defined in administrative EXEC mode are visible only in administrative EXEC mode. Labels and descriptions defined in EXEC mode for an SDR are visible only in EXEC mode.

The label can be a maximum of 15 characters which must adhere to the following rules:

- No white-space
- Cannot include any of the following CLI keywords:
 - **all**
 - **summary**
 - **brief**
 - **detail**

- **verbose**
- **active**
- **inactive**
- **committed**
- **location**
- **sdr**
- **label**
- **rollback**
- **install**
- **differences**
- **to**
- **from**
- **asynchronous**
- **synchronous**
- **force**
- **noprompt**
- **test**
- **label-name**
- **description**
- Cannot contain any of the following characters:
 - Comma (,)
 - Semi-colon (;)
 - Colon (:)
 - Single-quote (')
 - Double-quote (")
- Cannot contain uppercase alphabetic characters
- Cannot contain numeric characters only

Task ID	Task ID	Operations
	pkg-mgmt	read, write

Examples

The following example shows how to define a label for an installation operation:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install label 0 label-name brians-smu
```

```
Install operation 5 'install label 0 label-name brians_smu' started by user
'user' on SDR Owner via CLI at 09:26:43 DST Thu Aug 09 2007.
Install operation 5 completed successfully at 09:26:44 DST Thu Aug 09 2007.
```

■ `install label`

Related Commands	Command	Description
	install activate	Adds a software package or SMU to the active software set.

install remove

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

Administration EXEC Mode

```
install remove [device:package] [device:package2 ... device:package32] [inactive] [sdr sdr-name]
[prompt-level {default | none}] [asynchronous | synchronous] [test]
```

EXEC Mode

```
install remove [device:package] [device:package2 ... device:package32] [inactive] [prompt-level
{default | none}] [asynchronous | synchronous] [test]
```

Syntax Description

<i>device:package</i>	(Optional) Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.4.0). For the <i>device</i> argument, the value is a specified storage device, typically disk0 .
inactive	(Optional) Removes all inactive non-committed packages from the boot device (usually disk0).
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only) Removes a package for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.
prompt-level { default none }	(Optional) Specifies when you are prompted for input during the procedure. <ul style="list-style-type: none"> default—you are prompted only when input is required by the operation. none—you are never prompted.
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 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).
Release 3.5.0	No modification.
Release 3.6.0	The prompt-level keyword replaced the noprompt 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*.

**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 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 **prompt-level none** keywords 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 Cisco XR 12000 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	Adds the contents of a PIE file to a storage device.
	show install log	Displays the entries stored in the logging installation buffer.

Command	Description
show install inactive	Displays the inactive packages for one or more SDRs.
show install request	Displays the list of incomplete installation manager requests.

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 or administration EXEC mode.

Administration EXEC Mode

```
install rollback to {point-id | label | committed} [auto-abort-timer time] [sdr sdr-name]
[admin-profile] [asynchronous | synchronous] [parallel-reload] [prompt-level {default |
none}] [test]
```

EXEC Mode

```
install rollback to {point-id | label | committed} [auto-abort-timer time] [asynchronous |
synchronous] [parallel-reload] [prompt-level {default | none}] [test]
```

Syntax Description	
<i>point-id</i>	Installation point ID number.
<i>label</i>	Label associated with an installation point.
committed	Rolls the Cisco IOS XR software back to the last committed installation point.
auto-abort-timer <i>time</i>	(Optional) Specifies an abort timer value, <i>time</i> , in minutes, which when expired loads the last committed loadpath.
sdr <i>sdr-name</i>	(Optional) Rolls back the software set for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR. This option is in administration EXEC mode only.
admin-profile	(Optional) Rolls back the active software set on the admin profile only. This option is in administration EXEC mode 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.
parallel-reload	(Optional) Forces all cards on the router to reload at the same time and then come up with the new software, rather than proceeding according to the option encoded in the install package.
prompt-level { default none }	(Optional) Specifies when you are prompted for input during the procedure. <ul style="list-style-type: none"> default—You are prompted only when input is required by the operation. none—You are never prompted.
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 rollback 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.
Release 3.5.0	No modification.
Release 3.6.0	Support was added for the prompt-level and parallel-reload keywords. Support was removed for the noprompt 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 **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.

Labels can be assigned to installation points using the **install label** command. Then these labels can be used to identify a specific installation point that you want to roll back to.

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 **prompt-level none** keywords 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 RP reloads.

Command	Description
install label	Adds a label or description to a state associated with a rollback point.
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 verify healthcheck

To verify that processes and dynamic link libraries (DLLs) running on a node are correct, use the **install verify healthcheck** command in EXEC or administration EXEC mode.

```
install verify healthcheck [asynchronous | synchronous] [admin-profile] [sdr sdr-name]
[location node-id] [repair]
```

Syntax Description		
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.
admin-profile	(Optional. Administration EXEC mode only)	Verifies the processes and DLLs in the administration profile only.
sdr sdr-name	(Optional. Administration EXEC mode only.)	Performs the command for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.
location node-id	(Optional)	Verifies the consistency of previously installed software from the designated node with the package file from which it originated. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.
repair	(Optional)	Repairs anomalies found by the install verify process.

Defaults

The operation is performed in asynchronous mode: The **install verify healthcheck** 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 3.5.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Router.
Release 3.6.0	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*.

The **install verify healthcheck** command is responsible for verifying that processes and DLLs in use by the system are correct and are executing from the correct location.



Note

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

Verifying the Software Set for a Specific SDR

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

Task ID	Task ID	Operations
	pkg-mgmt	execute

Examples

The following example shows how to use the **install verify healthcheck** command. This command is run in asynchronous mode:

```
RP/0/RP0/CPU0:Router# install verify healthcheck
```

```
Install operation 10 'install verify healthcheck' started by user 'debbie' on SDR Owner via CLI at 04:56:49 UTC Thu Feb 22 2007. The install operation will continue asynchronously.
```

```
Info:      This operation can take 1 minute to completion. Please be patient.
Info:      0/RP0/CPU0 [RP] [SDR: Owner]
Info:      DLLs and processes have right version.
Info:      0/RP1/CPU0 [RP] [SDR: Owner]
Info:      DLLs and processes have right version.
Info:      0/1/CPU0 [LC] [SDR: Owner]
Info:      /pkg/md5/f322c8dff20af6b765c8e8423899401a has wrong version.
Info:      0/6/CPU0 [LC] [SDR: Owner]
Info:      /pkg/md5/f322c8dff20af6b765c8e8423899401a has wrong version.
Info:      Health Check Summary:
Info:      0/RP0/CPU0 DLLs and processes have right version.
Info:      0/RP1/CPU0 DLLs and processes have right version.
Info:      0/1/CPU0 Process(es) with wrong version found.
Info:      0/6/CPU0 Process(es) with wrong version found.
Install operation 10 completed successfully at 04:56:50 UTC Thu Feb 22 2007.
```

The following example shows sample output from the **install verify healthcheck** command when there are problems that are repaired:

```
RP/0/RP0/CPU0:Router# admin
RP/0/RP0/CPU0:Router (admin)# install verify healthcheck repair
```

```
...
Info:      Node: 0/0/CPU0
Info:      process [ERROR] Anomalies Found.
Info:      process insthelper has version: 3.3.7
Info:      dll [SUCCESS] Health-check Successful.
Info:      Node: 0/3/CPU0
Info:      process [SUCCESS] Health-check Successful.
Info:      dll [ERROR] Anomalies Found.
Info:      dll verify has version 3.3.2.
Info:      Node: 0/RP0/CPU0
Info:      process [SUCCESS] Health-check Successful.
Info:      dll [SUCCESS] Health-check Successful.
Info:      Health Check Summary:
Info:      0/0/CPU0: ERROR.
Info:      0/3/CPU0: ERROR.
Info:      0/RP0/CPU0: SUCCESSFUL.
Info:      The processes can be repaired.
Info:      Repair begins
```

```
Info:      Restart insthelper on 0/0/CPU0...
Info:      Repair successful.
Info:      Repair ends..
```

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.

install verify packages

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

Administration EXEC Mode

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

EXEC Mode

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

Syntax Description		
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.)	Performs the command for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.
repair	(Optional)	Repairs anomalies found by the install verify packages process.
location <i>node-id</i>	(Optional)	Verifies the consistency of previously installed software from the designated node with the package file from which it originated. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> 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 <i>sdr-name</i> argument.
Release 3.4.0	Support was added for EXEC mode.
Release 3.5.0	This command was changed from install verify .
Release 3.6.0	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 **install verify packages** 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 packages** 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 packages** command with the **sdr** keyword and *sdr-name* argument.
- To verify the software set when logged into an SDR, use the **install verify packages** 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 packages synchronous
```

```
Install operation 7 'install verify packages 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-mpi-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-mps-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-mpi-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-mpi-3.4.0: Verification Successful.
```

```
Info: Node 0/6/CPU0
```

```
Info: [SUCCESS] /bootflash/hfr-diags-3.4.0: Verification Successful.
```

install verify packages

```

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-fwgd-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-mpi-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-mpi-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-lc-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-fwgd-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-mpi-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-mpi-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-lc-3.4.0: Verification Successful.
Info:          [SUCCESS] /disk0/hfr-fwgd-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-mpi-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-mpi-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-mpi-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-mpi-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-mpi-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 or administration EXEC mode.

Administration EXEC Mode

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

EXEC Mode

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

Syntax Description		
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.	
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.) Displays the active packages for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.	
location <i>node-id</i>	(Optional) Displays the active packages for a designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.	

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 <i>sdr-name</i> , detail , summary , and verbose .
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	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
```

```
Secure Domain Router: Owner
```

```
Node 0/0/CPU0 [RP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/c12k-os-mpi-3.6.0/mbiprp-rp.vm
  Active Packages:
    disk0:c12k-mini-3.6.0
```

```

Node 0/6/CPU0 [LC(E3-OC3-POS-4)] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/c12k-os-mbi-3.6.0/gsr/ucode/mbiprp-lc.unicode
  Active Packages:
    disk0:c12k-mini-3.6.0

```

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-mps-3.4.0
    disk0:c12k-k9sec-3.4.0
    disk0:c12k-mini-3.4.0

```

Table 54 describes the significant fields shown in the display.

Table 54 *show install Field Descriptions*

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

Related Commands

Command	Description
install activate	Adds a software package or an SMU to the active software set.
show install active	Displays active software packages.
show install package	Displays information about a package.
show install pie-info	Displays information about 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 or administration EXEC mode.

Administration EXEC Mode

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

EXEC Mode

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

Syntax Description		
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.	
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.) Displays the active packages for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.	
location <i>node-id</i>	(Optional) Displays the active packages for a designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.	

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 <i>sdr-name</i> , summary , and verbose .
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	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-mpi-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-mpis-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
```

show install active

```
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
```

```
Secure Domain Router: Owner
```

```
Node 0/1/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/hfr-os-mbi-3.6.0.16I/lc/mbihfr-lc.vm
  Active Packages:
    disk0:hfr-sbc-3.6.0.16I
    disk0:hfr-pagent-3.6.0.16I
    disk0:hfr-fpd-3.6.0.16I
    disk0:hfr-diags-3.6.0.16I
    disk0:hfr-mcast-3.6.0.16I
    disk0:hfr-mpls-3.6.0.16I
    disk0:comp-hfr-mini-3.6.0.16I

Node 0/4/CPU0 [DRP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mbi-3.6.0.16I/drp/mbihfr-drp.vm
  Active Packages:
    disk0:hfr-sbc-3.6.0.16I
    disk0:hfr-pagent-3.6.0.16I
    disk0:hfr-fpd-3.6.0.16I
    disk0:hfr-doc-3.6.0.16I
    disk0:hfr-diags-3.6.0.16I
    disk0:hfr-mgbl-3.6.0.16I
    disk0:hfr-mcast-3.6.0.16I
    disk0:hfr-mpls-3.6.0.16I
    disk0:hfr-k9sec-3.6.0.16I
    disk0:comp-hfr-mini-3.6.0.16I

Node 0/4/CPU1 [DRP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mbi-3.6.0.16I/drp/mbihfr-drp.vm
  Active Packages:
    disk0:hfr-sbc-3.6.0.16I
    disk0:hfr-pagent-3.6.0.16I
    disk0:hfr-fpd-3.6.0.16I
    disk0:hfr-doc-3.6.0.16I
    disk0:hfr-diags-3.6.0.16I
    disk0:hfr-mgbl-3.6.0.16I
    disk0:hfr-mcast-3.6.0.16I
    disk0:hfr-mpls-3.6.0.16I
    disk0:hfr-k9sec-3.6.0.16I
    disk0:comp-hfr-mini-3.6.0.16I
```

```

Node 0/6/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/hfr-os-mpi-3.6.0.16I/lc/mbihfr-lc.vm
  Active Packages:
    disk0:hfr-sbc-3.6.0.16I
    disk0:hfr-pagent-3.6.0.16I
    disk0:hfr-fpd-3.6.0.16I
    disk0:hfr-diags-3.6.0.16I
    disk0:hfr-mcast-3.6.0.16I
    disk0:hfr-mpis-3.6.0.16I
    disk0:comp-hfr-mini-3.6.0.16I

Node 0/RP0/CPU0 [RP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mpi-3.6.0.16I/mbihfr-rp.vm
  Active Packages:
    disk0:hfr-sbc-3.6.0.16I
    disk0:hfr-pagent-3.6.0.16I
    disk0:hfr-fpd-3.6.0.16I
    disk0:hfr-doc-3.6.0.16I
    disk0:hfr-diags-3.6.0.16I
    disk0:hfr-mgbl-3.6.0.16I
    disk0:hfr-mcast-3.6.0.16I
    disk0:hfr-mpis-3.6.0.16I
    disk0:hfr-k9sec-3.6.0.16I
    disk0:comp-hfr-mini-3.6.0.16I

Node 0/RP1/CPU0 [RP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mpi-3.6.0.16I/mbihfr-rp.vm
  Active Packages:
    disk0:hfr-sbc-3.6.0.16I
    disk0:hfr-pagent-3.6.0.16I
    disk0:hfr-fpd-3.6.0.16I
    disk0:hfr-doc-3.6.0.16I
    disk0:hfr-diags-3.6.0.16I
    disk0:hfr-mgbl-3.6.0.16I
    disk0:hfr-mcast-3.6.0.16I
    disk0:hfr-mpis-3.6.0.16I
    disk0:hfr-k9sec-3.6.0.16I
    disk0:comp-hfr-mini-3.6.0.16I

```

Table 55 describes the significant fields shown in the display.

Table 55 *show install active Field Descriptions*

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

Related Commands

Command	Description
install activate	Adds a software package or an SMU to the active software set.
show install	Displays active software packages.
show install package	Displays information about a package.

Command	Description
show install pie-info	Displays information about the packages contained in a PIE file.
show install which	Displays the origin of a component, package, or file.

show install audit

To compare the current active packages and SMUs on the router with a list of packages and SMUs that should be active, use the **show install audit** command in EXEC or administration EXEC mode.

Administration EXEC Mode

```
show install audit file file-name [sdr sdr-name | location node-id] [verbose]
```

EXEC Mode

```
show install audit file file-name [location node-id] [verbose]
```

Syntax Description	file <i>file-name</i>	Specifies the location and name of the installation audit file.
	sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.) Audits the active packages on a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.
	location <i>node-id</i>	(Optional) Audits the active packages on a designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.
	verbose	(Optional) Displays a detailed summary of the audit and can be used for troubleshooting.

Defaults

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.4.1	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Router.
Release 3.5.0	No modification.
Release 3.6.0	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 audit** command to compare the currently active packages and SMUs on the router with a list of packages and SMUs that should be active. The file should be a simple text file with a flat list of packages that should be active on the router. It should be placed in a location accessible from the router.

Note the following about the audit file:

- Each package or SMU name must be on a separate line.

- Comments are allowed and must begin with the pound character: #
- SMUs can be specified with a package name only; regular packages should be specified as “package-version”. For SMUs, if a version is not specified, the default version of “1.0.0” is used.
- Composite package names are allowed
- PIE extensions are allowed at the end of the package name, and they are stripped off.
- The maximum number of lines in a file is limited to 100; the maximum length of each line is limited to 256 characters.

Following are the contents of a valid audit file:

```
# R3.4.1
# some comments
#
comp-hfr-mini-3.4.1
hfr-mgbl-3.4.1
hfr-mcast-3.4.1
hfr-mpls-3.4.1
hfr-base-3.4.1.CSCek42760
hfr-base-3.4.1.CSCse14607
hfr-mpls-3.4.1.CSCse00294
comp-hfr-3.4.1.CSCsd07147
```

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 for all nodes.

Verbose Information

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

Command Output

Output from the **show install audit** command provides the following information regarding the audit:

1. The command finishes successfully, and the result of the audit is success. This means that all packages listed in the audit file are active, and there are no extra packages active on all nodes where the audit was requested. This can refer to the entire router, a particular SDR, or a particular node.
2. The command completes successfully, and the result of the audit is failure. Audit failure means that there are discrepancies between the set of packages listed in the audit file and the packages active on the nodes where audit is done.

The following additional messages indicate the type discrepancy found in the audit:

- A package specified in the audit file is not present at all. In other words, there was no **install add** performed for this package.
- A package specified in the audit file is present, but is not active on all nodes where it should be active. For example, a package that goes only to RPs is not active on all RPs audited (either the entire router or a specific SDR, depending on the scope of command).

- A package specified in the audit file is present, but is not active on some nodes where it should be active. In this case, a list is provided of the nodes where the package is not active.
 - An extra package that is not present in the audit file is active on all nodes being audited.
 - An extra package that is not present in the audit file is active on some nodes being audited. In this case, a list is provided of the nodes where the package is active.
3. The command did not finish successfully, due to various errors. This can happen due to a failure to parse the audit file, failure to get package information from the installation directory, and so on.

Task ID	Task ID	Operations
	pkg-mgmt	read

Examples

The following sample output indicates that the audit is successful:

```
RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# show install audit file tftp://10.2.2.2/install_list.txt

Install audit operation completed.
Install audit result: SUCCESS
```

The following sample output indicates that there are discrepancies between the packages installed on the router and the supplied audit file:

```
RP/0/RP0/CPU0:router(admin)# show install audit file tftp://10.2.2.2/install_list.txt

Info:      Package (hfr-base-3.2.4.CSCxx12345) is not active only on node(s) 0/5/CPU0,
Info:      0/3/CPU0.
Install audit operation completed.
Install audit result: FAILED (discrepancies found)
```

Related Commands

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

show install auto-abort-timer

To display the current auto-abort-timer, use the **show install auto-abort-timer** command in EXEC or administration EXEC mode.

show install auto-abort-timer

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 3.5.0	This command was introduced on the Cisco CRS-1 and Cisco XR 12000 Series Router.
	Release 3.6.0	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*.

The **show install auto-abort-timer** displays the timer value configured with the **install activate** and **install deactivate** commands.

Task ID	Task ID	Operations
	pkg-mgmt	read

Examples The following sample output displays the current auto-abort-timer value:

```
RP/0/RP0/CPU0:router# show install auto-abort-timer
```

```
No Auto Abort Timer(s) present
```

Related Commands	Command	Description
	install activate	Adds a software package or an SMU to the active software set.
	install deactivate	Removes a package from the active software set.

show install committed

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

Administration EXEC Mode

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

EXEC Mode

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

Syntax Description		
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.
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.)	Displays the committed packages for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.
location <i>node-id</i>	(Optional)	Displays the committed packages for a designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.

Defaults

Enter the command without keywords or arguments to display detailed 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 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 <i>sdr-name</i> , detail , summary , and verbose .
Release 3.4.0	No modification.

Release	Modification
Release 3.5.0	No modification.
Release 3.6.0	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-mpis-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 detailed 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-mpi-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-mpi-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-mpi-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-mpi-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-mpi-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-mpi-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-mpi-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-mpi-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]
```

show install committed

```

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 56 describes the significant fields shown in the display.

Table 56 *show install committed Field Descriptions*

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

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 RP reloads.
show install	Displays active software packages.
show install active	Displays active software packages.
show install package	Displays information about a package.
show install pie-info	Displays information about 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 designated secure domain router system controller (DSDRSC) for one or more secure domain routers (SDRs), use the **show install inactive** command in EXEC or administration EXEC mode.

Administration EXEC Mode

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

EXEC Mode

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

Syntax Description		
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.
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.)	Displays the inactive packages for a the boot device in a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR.
location <i>node-id</i>	(Optional)	Displays the inactive software set from a designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.

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	Modification
Release 3.4.0	This command was modified to display inactive packages only for the boot device.
Release 3.5.0	No modification.
Release 3.6.0	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 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
```

```
Default Profile:
SDRs:
  Owner
Inactive Packages:
  disk0:c12k-mgbl-3.6.0
  disk0:c12k-fpd-3.6.0
```

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 57](#) describes the significant fields shown in the display.

Table 57 *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.

■ show install inactive

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 about 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 [install-id | from install-id] [detail | verbose] [reverse]
```

Syntax Description	
<i>install-id</i>	(Optional) Identifier assigned to an installation operation.
from <i>install-id</i>	(Optional) Displays information for logs from the specified installation identifier and forward.
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 (DLLs).
reverse	(Optional) Displays the logs in reverse order.

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 detail and verbose keywords.
	Release 3.4.0	Support was added for EXEC mode.
	Release 3.5.0	No modification.
	Release 3.6.0	Support was added for the from and reverse keywords.

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 *install-id* argument to display details for a specific operation.

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

The **reverse** keyword displays the information from the latest install log to the oldest install log. Use the **from** keyword to limit the output to be from the specified installation identifier and later.

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 installations, 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 installations, information including files changes, impact to processes, and impact to dynamic link libraries (DLLs).

Task ID	Task ID	Operations
	pkg-mgmt	read

Examples

The following example displays a summary of all installation 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 installation 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 installation requests. Use the **verbose** keyword to display detailed information, including files changes, impact to processes, and impact to dynamic link libraries (DLLs).

```
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: libdiagrpclnt.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: libdiagrpclnt.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--

```

The following example displays all installation requests in reverse order, such that the most recent requests are displayed first:

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

```

Install operation 2 started by user 'user_a' via CLI at 12:33:10 GMT Mon Oct 29 2007.
(admin) install add /tftp://xx-tftp/user_a/c12k-fpd.pie
Install operation 2 completed successfully at 12:35:19 GMT Mon Oct 29 2007.
-----

```

```

Install operation 1 started by user 'user_a' via CLI at 12:31:07 GMT Mon Oct 29 2007.
(admin) install add /tftp://xx-tftp/user_a/c12k-mgbl.pie
Install operation 1 completed successfully at 12:32:12 GMT Mon Oct 29 2007.

```

Related Commands

Command	Description
install activate	Adds a software package or SMU to the active software set.
install add	Adds the contents of a PIE file to a storage device.
install commit	Makes the current active software set persistent across RP reloads.
install deactivate	Removes a package from the active software set.
install remove	Deletes inactive packages from a storage device.

Command	Description
install rollback to	Rolls back the software set to a saved installation point or to the last committed installation point.
install verify packages	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 or administration EXEC mode.

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

Syntax Description		
<i>device:package</i>	Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.4.0). For the <i>device</i> 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 (DLLs).	

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.
	Release 3.5.0	No modification.
	Release 3.6.0	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*.

show install package

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 (DLLs).



Note

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

For additional information about the status of installed software packages, use the [show install active](#) and [show install inactive](#) commands.

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-mpi-3.4.0
  disk0:c12k-rout-3.4.0
```

```
disk0:c12k-sbc-3.4.0
```

```
disk0:c12k-mgbl-3.4.0
```

```
disk0:c12k-mp1s-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-mp1s-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-mds-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-enh V[r33x/2]  CISCO ENHANCED IMAGE MIB
  snmp-frucontrolmib V[r33x/2]  CISCO-FRU-CONTROL MIB Implementation in EA
```

Table 58 describes the significant fields shown in the display.

Table 58 *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.

Table 58 *show install package Field Descriptions (continued)*

Field	Description
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 about 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 or administration EXEC mode.

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

Syntax Description	
<i>device:package</i>	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.
	Release 3.5.0	No modification.
	Release 3.6.0	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 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 59 on page 509](#) 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-mds-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^Mcompatibilitye
    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
```

```
  Manageability-Debug.info
```

```
  Manageability.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_cm_n_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
  libxmlcfgmgrrops.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-mdadebug 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_cmnd_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

```

```

snmpingd

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

```

Table 59 describes the significant fields shown in the display.

Table 59 *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 or administration EXEC mode.

show install request [detail]

Syntax Description	detail (Optional) Displays detailed information.
---------------------------	---

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.
	Release 3.5.0	No modification.
	Release 3.6.0	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*.

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 installation operations for all SDRs in the system. In EXEC mode, this command displays only the installation 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 installation 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	Adds the contents of a PIE file to 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 packages	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 | label} [detail | summary] [sdr sdr-name | location node-id]
```

EXEC Mode

```
show install rollback {point-id | label} [detail | summary] [location node-id]
```

Syntax Description

<i>point-id</i>	Installation point ID number.
<i>label</i>	Label associated with an installation point ID.
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.
sdr <i>sdr-name</i>	(Optional) Displays information for a specific secure domain router (SDR). The <i>sdr-name</i> argument is the name assigned to the SDR. This option is in administration EXEC mode only.
location <i>node-id</i>	(Optional) Displays information for a designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.

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 <i>sdr-name</i> , detail , and summary .
Release 3.4.0	Support was added for EXEC mode.
Release 3.5.0	No modification.
Release 3.6.0	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 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 impacts 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 are 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 installation 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 are 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
```

■ show install rollback

```

disk0:hfr-admin-3.4.0
disk0:hfr-base-3.4.0
disk0:hfr-os-mpi-3.4.0

Node 0/SM2/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mpi-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-mpi-3.4.0

Node 0/SM3/SP [SP] [SDR: Owner]
  Boot Image: /disk0/hfr-os-mpi-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-mpi-3.4.0

```

Table 60 describes the significant fields shown in the display.

Table 60 show install rollback Field Descriptions

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

Related Commands

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

show install which

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

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

Syntax Description

component <i>name</i>	Displays the package information for the component specified in the <i>name</i> argument.
verbose	(Optional) Displays summary, component, and file information for each component.
file <i>filename</i>	Displays the package information for the file specified in the <i>filename</i> argument.
location <i>node-id</i>	(Optional) Displays information for the designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.) Displays information for a specific secure domain router (SDR). The <i>sdr-name</i> 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 <i>sdr-name</i> keyword and argument.
Release 3.4.0	No modification.
Release 3.5.0	No modification.
Release 3.6.0	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-mpi-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-mpi-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-mpi-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

```

show install which

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 61 describes the significant fields shown in the display.

Table 61 *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.