



Software Package Management Commands

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 Cisco IOS XR software see *Cisco IOS XR Getting Started Guide for the Cisco CRS Router*.

- [clear install boot-options, page 3](#)
- [clear install label, page 5](#)
- [clear install log-history oldest, page 7](#)
- [clear install rollback oldest, page 9](#)
- [install abort, page 11](#)
- [install activate, page 13](#)
- [install add, page 22](#)
- [install attach, page 29](#)
- [install auto-abort-timer stop, page 32](#)
- [install boot-options, page 34](#)
- [install commit, page 36](#)
- [install deactivate, page 38](#)
- [install label, page 44](#)
- [install remove, page 47](#)
- [install rollback to, page 51](#)
- [install verify healthcheck, page 56](#)
- [install verify packages, page 59](#)
- [show install, page 62](#)
- [show install active, page 66](#)
- [show install audit, page 74](#)
- [show install auto-abort-timer, page 78](#)

- [show install boot-options, page 80](#)
- [show install inactive, page 82](#)
- [show install issu inventory, page 87](#)
- [show install issu stage, page 89](#)
- [show install log, page 90](#)
- [show install package, page 97](#)
- [show install pie-info, page 101](#)
- [show install request, page 108](#)
- [show install rollback, page 110](#)
- [show install which, page 114](#)
- [show issu-warm-reload control-protocol trace, page 118](#)

clear install boot-options

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

clear install boot-options [**location** {*node-id* | **all**}]

Syntax Description

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

Command Default

If no location is specified, the **clear install boot-options** command prompts you for confirmation and clears boot options for all locations.

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.7.0	This command was introduced.

Usage Guidelines

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

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

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

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

```
RP/0/RP0/CPU0:router(admin)#clear install boot-options
Install operation 4 '(admin) clear install boot-options location all' started
by user 'salevy' via CLI at 14:03:34 DST Sat Mar 15 2008.
Proceed with clearing boot options for all nodes? [confirm]
Install operation 4 completed successfully at 14:03:49 DST Sat Mar 15 2008.
```

Related Commands

Command	Description
install boot-options	Sets the boot options for a specified node.
show install boot-options	Displays the boot options set for a specified location or for all locations.

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.
--------------	---

Command Default

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.6.0	This command was introduced.

Usage Guidelines

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

Use the **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.
```

 clear install label**Related Commands**

Command	Description
install label	Adds a label or description to 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.
---------------	---

Command Default

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.4.0	This command was introduced.

Usage Guidelines

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

Enter the **clear install log-history oldest** command in EXEC mode to clear the oldest installation history log entries only for the current secure domain router (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 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
show install log	Displays the entries stored in the logging installation buffer.
clear install rollback oldest	Deletes saved installation points from the 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.
---------------	--

Command Default

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.0	This command was introduced.
Release 3.2	The command was made available in administration EXEC mode.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

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

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 **show install rollback ?** command is used to display the available rollback points. The **clear install rollback oldest 2** command is then used to delete the two oldest rollback points. The **show install rollback ?** command 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
show install log	Displays the entries stored in the logging installation buffer.
install rollback to	Rolls back the software set to a saved installation point or to the last committed installation point.
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 administration EXEC mode.

install abort [*request-id*]

Syntax Description

<i>request-id</i>	(Optional) Request ID assigned to an installation operation.
-------------------	--

Command Default

Abort the current installation operation.

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.
Release 4.0.0	This command was removed from EXEC mode.

Usage Guidelines

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

Use the **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 **install abort** command cannot be aborted, but the **install add** command with the **activate** keyword 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.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

The following example shows how to halt an 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 activate	Adds software functionality 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 activate

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

```
install activate {device:package| id add-id} [auto-abort-timer time] [location node-id] [issu] [if-active]
[admin-profile] [asynchronous| synchronous] [parallel-reload] [prompt-level {default| none}] [test]
[pause sw-change]
```

Syntax Description

<i>device:package</i>	<p>Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-4.0.0).</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. Up to 16 device–package pairs can be specified.</p> <p>Note Multiple packages can be activated at one time. Up to 16 packages can be specified in a single install activate command. Multiple packages can be specified using the wildcard syntax, for example, <code>harddisk:*4.0*</code>. If multiple Software Maintenance Upgrades (SMUs) are activated, some SMUs may require a reload. If the operation requires a node reload, the user is prompted before the installation operation occurs.</p>
id <i>add-id</i>	<p>Specifies the ID number of an install add operation. The command activates all packages that were added in the specified install add operation. The ID number of an install add operation is indicated in the syslog displayed during the operation and in the output of the show install log command. Up to 16 install add operations can be specified.</p>
auto-abort-timer <i>time</i>	<p>(Optional) Specifies an abort timer value, in minutes, which when expired loads the last committed loadpath.</p>
location <i>node-id</i>	<p>(Optional) Activates a package on the designated node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.</p> <p>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.</p> <p>Note To activate a package on all supported nodes, do not specify a location.</p>

issu	Performs an in-service software upgrade.
admin-profile	(Optional. Administration EXEC mode 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 an earlier version of the package is already active. Use the if-active keyword 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.
pause sw-change	(Optional) Pauses the operation after the preparatory stage and before locking the configuration for the actual software change. While the operation is paused, you can perform configuration changes. You control the resumption of the operation from the command-line interface (CLI) prompt.

Command Default

If the **install prepare** command was not executed prior to **install activate**, executing the **install activate** command without any keywords aborts the process.

- Package is activated for all supported nodes on all SDRs in the system.
- 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

Admin EXEC mode
EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	This command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the SDR <i>sdr-name</i> keyword and 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 keyword 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.
Release 3.7.0	Support was added for the id <i>add-id</i> keyword and argument. Disruption during multiple SMU activation was reduced, requiring reloads in fewer cases.
Release 3.8.0	Support was added for the pause sw-change keywords.
Release 4.0.0	This command was removed from EXEC mode. Support for the sdr keyword was removed.
Release 4.1.0	The auto-abort timer was changed to enabled by default. The off keyword was added to disable the auto-abort timer. The issu keyword was added.

Usage Guidelines

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.

Specifying Packages to Activate

You can either use the **id** *add-id* keyword and argument to activate all packages that were added in one or more specific **install add** operations, or specify packages by name. The operation ID of an **install add** operation is indicated in the syslog displayed during the operation and in the output of the **show install log** command. If you specify packages according to operation ID, all the packages that were added by the specified operation must still be on the router.

Upgrading and Downgrading Packages

- To upgrade a package, activate the later version of the package; the earlier version is automatically deactivated.
- To downgrade a package, activate the earlier version of the package; the later version is automatically deactivated.



Caution

Downgrading to Cisco IOS XR Software Release 3.7.0 or earlier is not supported if you are using a FAT32 flash disk. If you are using a FAT32 flash disk, and you must downgrade, convert the flash disk to FAT16 before downgrading. If you do not convert the flash disk to FAT16 before the downgrade, the disk becomes unreadable and the router does not boot. Converting from FAT32 to FAT16 is a complex procedure.



Note

Activating a Software Maintenance Update (SMU) does not cause any earlier SMUs, or the package to which the SMU applies, to be automatically deactivated.

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 an earlier 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 the software activation requires a router reload, a confirmation prompt appears.

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**, 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 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. The auto-abort timer is enabled to 60 minutes by default.



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 action 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.

Pausing Before Configuration Lock

Use the **pause sw-change** keywords to pause the operation before locking the configuration. An **install activate** operation begins with preparatory steps, such as software checks, and then proceeds with the actual activation of the new software. The configuration is locked for the activation. If you specify the **pause sw-change** keywords, the operation pauses before locking the configuration and provides you with the option to hold the operation while you perform configuration changes, and you can proceed with the activation whenever you choose. This action is useful, for example, if your workflow involves configuring a router out of the network during software installation and you want to minimize the time that the router is out of the network. You can specify these keywords for both asynchronous and synchronous operations. In both cases, follow the onscreen instructions to control the pausing and completion of the operation.

ISSU

Note the following prerequisites before activating software packages using ISSU:

- You must have at least four fabric planes installed, two odd and two even. Use the command **show controller fabric plane all** in administration EXEC mode to verify the number of fabric planes in your router.

```
RP/0/RP0/CPU0:router (admin)# show controller fabric plane all

Thu Jun 23 04:45:40.186 DST
Flags: P - plane admin down,          p - plane oper down
       C - card admin down,           c - card oper down
       A - asic admin down,           a - asic oper down
       L - link port admin down,      l - linkport oper down
       B - bundle port admin Down,    b - bundle port oper down
       I - bundle admin down,         i - bundle oper down
       N - node admin down,           n - node down
       X - ctrl admin down,           x - ctrl down
       o - other end of link down     d - data down
       f - failed component downstream
       m - plane multicast down,      s - link port permanently shutdown
       t - no barrier input           O - Out-Of-Service oper down
       T - topology mismatch down    e - link port control only
       D - plane admin data down     U - issu down
```

Plane Id	Admin State	Oper State	up->dn counter	up->mcast counter
0	UP	UP	0	0
1	UP	UP	0	0
2	UP	UP	0	0
3	UP	UP	0	0
4	UP	UP	0	0
5	UP	UP	0	0
6	UP	UP	0	0
7	UP	UP	0	0

- You must have only UNIGEN flash disks installed in your system. Use the command **show file disk0:** in EXEC mode to verify the flash disk vendor.

```
RP/0/RP0/CPU0:router# show file disk0:

Thu Jun 23 04:48:59.183 DST
Model:          UNIGEN FLASH
Capacity:      8215201 Sectors, Total 4206182912 Bytes, (512 Bytes/sector)
```

- You must have at least 400 MB of memory available on all line cards to be upgraded.
- You must have enough disk space for V1 and V2 images, PIEs and SMUs. This prerequisite is no different than that of a non-ISSU upgrade.
- Cisco recommends that you do a backup of the ASCII configuration before each upgrade.

Note the following restrictions regarding ISSU:

- ISSU does not work if any of the following hardware is running in the chassis. If you have any of these running in your system, manually shut them down before running ISSU, and then bring them back up after ISSU is complete.
 - DRP cards
 - Non-owner SDRs

If any non-supported hardware is running on your system, you receive an error message similar to this one when ISSU tries to run:

```
RP/0/RP0/CPU0:router(admin)# install activate id 4 6 prompt-level all auto-abort timer
off issu

Thu Jun  9 13:42:47.217 DST
Install operation 10 '(admin) install activate id 4 6 prompt-level all
auto-abort-timer off issu' started by user 'user1' via CLI at 13:42:48 DST
Thu Jun 09 2011.
/ 1% complete: The operation can still be aborted (ctrl-c for options)
Info:      This operation will activate the following packages:
Info:      disk0:hfr-mini-p-4.3.99
Info:      disk0:hfr-mpls-p-4.3.99
Info:      disk0:hfr-mgbl-p-4.3.99
Info:      disk0:hfr-mcast-p-4.3.99
Info:      disk0:hfr-k9sec-p-4.3.99
Info:      disk0:hfr-fpd-p-4.3.99
Info:      disk0:hfr-doc-p-4.3.99
Info:      disk0:hfr-diags-p-4.3.99
/ 1% complete: The operation can still be aborted (ctrl-c for options)
Error:     ISSU upgrade not supported: 'ISSU is not supported for DRP cards
```

- Refer to your release notes for a complete list of hardware that cannot be upgraded during the ISSU process. If you have any non-supported hardware running in your system, the upgrade process automatically shuts them down and reloads them after the upgrade is complete.
- Ethernet OAM flaps after an ISSU upgrade.
- ISSU downgrade is not supported.
- ISSU is not supported on the NV cluster set-up.

Task ID

Task ID	Operations
pkg-mgmt	execute

Examples

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

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

disk0:hfr-mini-p-4.0.0    disk0:hfr-diags-p-4.0.0    disk0:hfr-mcast-p-4.0.0
disk0:hfr-mpls-p-4.0.0  disk0:hfr-k9sec-p-4.0.0   disk0:hfr-mgbl-p-4.0.0
disk0:hfr-fpd-p-4.0.0
```

The following example shows how to activate a package that was installed in an **install add** operation that was assigned install operation id 2:

```
RP/0/RP0/CPU0:router(admin)# install activate id 2

Install operation 3 '(admin) install activate id 2' started by user 'lab' via
CLI at 01:10:21 UTC Thu Jan 03 2010.
Info:      This operation will activate the following package:
Info:      disk0:hfr-mcast-p-4.0.0
Info:      Install Method: Parallel Process Restart
The install operation will continue asynchronously.
Info:      The changes made to software configurations will not be persistent
```

```

Info:      across system reloads. Use the command '(admin) install commit' to
Info:      make 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 packages
Install operation 3 completed successfully at 01:11:30 UTC Thu Jan 03 2008.

```

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 DSDRSC reloads.

```

RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install activate disk0:hfr-mpls-4.0.0 synchronous

Install operation 15 'install activate disk0:hfr-mpls-p-4.0.0 synchronous'
started by user 'user_b' at 19:15:33 UTC Sat Apr 08 2010.
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 2010.

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 2010.

```

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

```

RP/0/RP0/CPU0:router(admin)# install activate disk0:hfr-mpls-p-4.0.0 SDR CE1b

Install operation 2 'install activate disk0:hfr-mpls-4.0.0
on SDR: CE1b' started by user 'user_b'
Install operation 2 'install activate disk0:hfr-mpls-4.0.0
on SDR: CE1b' started by user 'user_b' at 15:31:23 GMT Mon Nov 14 2009.
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 2009.

```

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 DSDRSC reloads.

```

RP/0/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install activate disk0:
hfr-mcast-p-4.0.0
synchronous sdr Owner user_a

Install operation 7 '(admin) install activate disk0:hfr-mcast-p-4.0.0
synchronous sdr Owner user_a' started by user 'abc' via CLI at 11:32:29
UTC Mon Sep 25 2009.
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 2009.

```

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:*4.0*
Install operation 2 '(admin) install activate disk0:*4.0*' started
by user 'user_a' via CLI at 04:30:01 PST Fri Dec 28 2009.
Info:      This operation will activate the following packages:
Info:          disk0:hfr-fwdg-4.0.0
Info:          disk0:hfr-admin-4.0.0
Info:          disk0:hfr-fpd-4.0.0
Info:          disk0:hfr-diags-p-4.0.0
Info:          disk0:hfr-mgbl-4.0.0
Info:          disk0:hfr-mpls-4.0.0
Info:          disk0:hfr-mcast-4.0.0
Info:          disk0:hfr-k9sec-4.0.0
Warning:   The following packages are already active on the specified nodes:
Warning:   hfr-admin-4.0.0
Warning:   hfr-fwdg-4.0.0
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 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 packages
Install operation 2 completed successfully at 04:32:01 PST Fri Dec 28 2009.

```

Related Commands

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

install add

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

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

Syntax Description

source <i>source-path</i>	(Optional) Specifies the 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: • harddisk: • ftp://username :password@hostname or <i>ip-address/directory-path</i> • rcp://username@hostname or <i>ip-address/directory-path</i> • tftp://hostname or <i>ip-address/directory-path</i>
tar	(Optional) 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. Up to 16 tar files can be added, out of the possible 32 install files.</p>
activate	(Optional) Activates the package or packages. This option is run only if the install add operation is successful.
pause sw-change	(Optional) Pauses the operation before locking the configuration for the software activation. While the operation is paused, you can perform configuration changes. You control the resumption of the operation at the CLI prompt.

admin-profile	(Optional. Administration EXEC mode 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.
issu	Performs an in-service software upgrade. Refer to the install activate command for more detailed information.
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.

Command Default

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 mode

Admin EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	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 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.
Release 3.8.0	Support was added for the pause sw-change keywords.
Release 4.0.0	This command was removed from EXEC mode. The sdr keyword was removed.
Release 4.1.0	The issu keyword was added.

Usage Guidelines

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

The package software files are added to the boot device of the designated secure domain router system controller (DSDRSC) for all SDRs on the router, as well as all active and standby Route Processors (RPs), DRPs and fabric shelf controllers (SCs) installed on the router.



Note The package files are also added to any additional installed distributed router processors (DRPs) for the effected SDRs.

Adding and Activating a Package

Software packages remain inactive until activated with the [install activate, on page 13](#) 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 [install activate, on page 13](#) for more information.



Note 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 for the Cisco CRS Router*.



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 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.

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* argument 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/RP0/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. Up to 32 files can be added, of which 16 can be tar files.

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/RP0/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 previous 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.

Pausing Activation Before Configuration Lock

If you specify the **activate** keyword, use the **pause sw-change** keywords to pause the software activation operation before locking the configuration. A software activation operation begins with preparatory steps, such as software checks, and then proceeds with the actual activation of the new software. The configuration is locked for the activation. If you specify the **pause sw-change** keywords, the operation pauses before locking the configuration and provides you with the option to hold the operation while you perform configuration changes, and proceed with the activation whenever you choose. This is useful, for example, if your workflow involves configuring a router out of the network during software installation and you want to minimize the time that the router is out of the network. You can specify these keywords for both asynchronous and synchronous operations. In both cases, follow the onscreen instructions to control the pausing and completion of the operation.

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-3.8.0activate

Install operation 4 'install add /disk1:hfr-mgbl-p.pie-3.8.0 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-3.8.0
```

```

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 software functionality to 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 commit	Makes the current active software set persistent across RP reloads.

install attach

To attach a terminal to an installation operation, use the **install attach** command in 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.

Command Default

The command operates in synchronous mode.

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.3.0	This command was introduced.
Release 3.4.0	Support was added for EXEC mode.
Release 4.0.0	This command was removed from EXEC mode.

Usage Guidelines

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

Use the **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 switchover 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:RP/0/RP0/CPU0:router-mcast-3.7.6'
started by user 'user_b' at 08:04:31 UTC Mon Nov 14 2005.
The install operation will continue asynchronously.
```

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

In the following example, the **install attach** command is used to attach the terminal to the 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
Info: newly activated software ...
Info: SDR Owner: No incompatibilities found between the activated software
Info: and router running configuration.
Info: The changes made to software configurations will not be persistent
Info: across system reloads. Use the command 'admin install commit' to make
Info: changes persistent.
Info: Please verify that the system is consistent following the software
Info: change using the following commands:
Info: show system verify
Info: install verify
```

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

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

Related Commands

Command	Description
install activate	Adds software functionality 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 administration EXEC mode.

install auto-abort-timer stop

Syntax Description This command has no keywords or arguments.

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

Command Modes Administration EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced.
Release 4.0.0	This command was removed from EXEC mode.

Usage Guidelines

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

Use the **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.

Task ID

Task ID	Operations
pkg-mgmt	read, write

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 software functionality to the active software set.
install deactivate	Removes a package from the active software set.
install commit	Makes the current active software set persistent across RP reloads.

install boot-options

To set boot options for a specified node, use the **install boot-options** command. Boot options include formatting and cleaning the disk in the specified node during the boot process.

install boot-options {**clean**|**format**} **location** *node-id*

Syntax Description

clean	Cleans the card installed in the specified node during the next reboot.
format	Formats the card installed in the specified node during the next reboot.
location <i>node-id</i>	Specifies a node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.

Command Default

None

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.7.0	This command was introduced.

Usage Guidelines

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

Use the **install boot-options** command to clean or format a card during the next reboot. This command affects only the next reboot that a user initiates. To initiate a reboot during which the boot option you set are applied, reboot the card from a disk in another node. You can use the **hw-module location reload** command with the *path* argument to download a boot image using TFTP from a remote node. When the reboot is complete, the boot options are reset.

Task ID

Task ID	Operations
pkg-mgmt	read, write

Examples

The following example shows how to set the card located in node 0/0/CPU0 to be cleaned during the next reboot:

```
RP/0/RP0/CPU0:router(admin)# install boot-options clean location 0/0/CPU0

Install operation 7 '(admin) install boot-options clean location 0/RP
0/CPU0'
started by user '' via CLI at 09:15:46 GMT Mon Mar 10 2008.
Info:      The boot option will be in effect when the node is reloaded and will
Info:      be cleared when the node preparation is complete.
Install operation 7 completed successfully at 09:15:46 GMT Mon Mar 10 2008.
RP/0/RP0/CPU0:router(admin)#
```

The following example shows how to set the card located in node 0/0/CPU0 to be formatted during the next reboot:

```
RP/0/RP0/CPU0:router(admin)# install boot-options format location 0/0/CPU0

Install operation 8 '(admin) install boot-options format location 0/RP
0/CPU0'
started by user '' via CLI at 09:15:52 GMT Mon Mar 10 2008.
Info:      The boot option will be in effect when the node is reloaded and will
Info:      be cleared when the node preparation is complete.
Install operation 8 completed successfully at 09:15:52 GMT Mon Mar 10 2008.
RP/0/RP0/CPU0:router(admin)#
```

install commit

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

install commit [**admin-profile**] **location** *node-id*

Syntax Description

admin-profile	(Optional. Administration EXEC mode only.) Commits the active software set on the admin profile only.
location <i>node-id</i>	(Optional. Admin EXEC mode mode only.) Specifies a node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.

Command Default

Admin EXEC mode: Commits the active software set for all SDRs.

Command Modes

Admin EXEC mode
EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	The command was moved from EXEC mode to administration EXEC mode.
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

When a package is activated, it becomes part of the current running configuration. To make the package activation persistent across designated secure 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.

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 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 Admin EXEC mode EXEC mode .

install deactivate {*id add-id*} *device:package* } [**auto-abort-timer** *time*] [**location** *node-id*] [**asynchronous** | **synchronous**] [**parallel-reload**] [**prompt-level** {**default** | **none**}] [**test**] [**pause sw-change**]

Syntax Description

id <i>add-id</i>	Specifies the ID number of an install add operation. The command deactivates all packages that were added in the specified install add operation. The ID number of an install add operation is indicated in the syslog displayed during the operation and in the output of the show install log command. Up to 16 install add operations can be specified.
<i>device : package</i>	Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.8.0). 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. Up to 32 <i>device : package</i> pairs can be specified.
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) 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.
pause sw-change	(Optional) Pauses the operation after the preparatory stage and before locking the configuration for the actual deactivation. While the operation is paused, you can perform configuration changes. You control the resumption of the operation at the CLI prompt.

Command Default

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

Command Modes

Admin EXEC mode
EXEC mode

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	The command was moved from EXEC mode to administration EXEC mode.
Release 3.3.0	Support was added for the sdr sdr-name keyword and 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 3.8.0	Support was added for the pause sw-change keywords and the id add-id keyword and argument.
Release 4.0.0	This command was removed from EXEC mode. Support was removed for the sdr keyword.

Usage Guidelines

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 earlier version. The later package version is deactivated automatically.

Specifying Packages to Deactivate

You can either use the **id** *add-id* keyword and argument to deactivate all packages that were added in one or more specific **install add** operations, or specify packages by name. The operation ID of an **install add** operation is indicated in the syslog displayed during the operation and in the output of the **show install log** command. If you specify packages according to operation ID, all the packages that were added by the specified operation must still be on the router.

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, on page 90](#) 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.

Pausing Before Configuration Lock

Use the **pause sw-change** keywords to pause the operation before locking the configuration. The deactivation operation begins with preparatory steps, such as software checks, and then proceeds with the actual deactivation. The configuration is locked for the actual deactivation. If you specify the **pause sw-change** keywords, the

operation pauses before locking the configuration and provides you with the option to hold the operation while you perform configuration changes, and proceed with the deactivation whenever you choose. This is useful, for example, if your workflow involves configuring a router out of the network during software changes and you want to minimize the time that the router is out of the network. You can specify these keywords for both asynchronous and synchronous operations. In both cases, follow the onscreen instructions to control the pausing and completion of the operation.

Task ID

Task ID	Operations
pkg-mgmt	execute

Examples

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

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

disk0:comp-hfr-mini-3.4.0  disk0:hfr-admin-3.4.0  disk0:hfr-base-3.4.0
      disk0:hfr-diags-3.4.0
disk0:hfr-fwdg-3.4.0      disk0:hfr-k9sec-3.4.0  disk0:hfr-lc-3.4.0
      disk0:hfr-mcast-3.4.0
disk0:hfr-mgbl-3.4.0     disk0:hfr-mpls-3.4.0  disk0:hfr-os-mpi-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-3.8.0 synchronous

Install operation 14 'install deactivate disk0:hfr-mpls-3.8.0 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/RP0/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.
```

The following example shows how to deactivate a package, pausing the operation before locking the configuration for the actual software deactivation. While the operation is paused, you can enter a configuration mode and perform configurations. When you want to complete the operation, you enter the **install operation id complete** command or the **install operation id attach synchronous** command.

```
RP/0/RP0/CPU0:router(admin)# install deactivate
disk0:comp-hfr-3.8.0.07I.CSCsr09575-1.0.0
pause sw-change
```

```
Install operation 12 '(admin) install deactivate disk0:comp-hfr-3.8.0.07I.CSCsr09575-1.0.0
pause sw-change' started by user 'admin' via CLI at 09:06:26 BST Mon Jul 07 2008.
Info: This operation will reload the following nodes in parallel:
Info: 0/0/CPU0 (RP) (SDR: Owner)
Info: 0/1/CPU0 (LC(E3-GE-4)) (SDR: Owner)
Info: 0/5/CPU0 (LC(E3-OC3-POS-4)) (SDR: Owner)
Proceed with this install operation (y/n)? [y]
The install operation will continue asynchronously.
RP/0/RP0/CPU0:ensoft-gsrl3(admin)#
Info: Install Method: Parallel Reload
Info: Install operation 12 is pausing before the config lock is applied
for the software change as requested by the user.
Info: No further install operations will be allowed until the operation
is resumed.
Info: Please continue the operation using one of the following steps:
Info: - run the command '(admin) install operation 12 complete'.
Info: - run the command '(admin) install operation 12 attach synchronous'
and then answer the query.
```

In the following example, the operation is synchronous and the **pause sw-change** keywords are used to pause the operation before configuration lock. In this case, you are prompted to enter one of three options at the pause stage: **abort/complete/cli**. If you enter **abort**, the operation is aborted. If you enter **complete**, the operation is immediately resumed. If you enter **cli**, the CLI prompt returns, enabling you to perform configurations

before resuming the operation. Alternatively, you can leave the prompt open while you open a separate CLI session to perform configurations. Then, you can return to the prompt and enter `complete` when you are ready to resume the operation.

```
RP/0/RP0/CPU0:router# install deactivate
disk0:hfr-mpls-3.8.0.10I
sync pause sw-change
Wed Jul 23 14:42:11.273 UTC
Install operation 8 'install deactivate disk0:hfr-mpls-3.8.0.10I
  synchronous pause sw-change' started by user 'salevy' on SDR
Owner via CLI at 14:42:12 UTC Wed Jul 23 2008.
Info:      Install Method: Parallel Process Restart
The install operation has paused before the configuration is locked as
  requested by user 'salevy'.
Please perform any changes to the configuration that are required before
  the operation is to continue.
How should the operation continue?
Abort the operation (abort)
Lock the config and complete the operation (complete)
Suspend the operation and return to the Command Line Interface (cli)
Please confirm an option (abort/complete/cli): [complete] cli
Use the command 'install operation 8 ?' to find how to continue the operation.

RP/0/RP0/CPU0:router# install operation 8 ?

      abort      Abort the operation
      attach     Attach to the operation
      complete   Phase to run to end of

RP/0/RP0/CPU0:router# install operation 8 complete

Wed Jul 23 14:43:04.562 UTC
RP/0/RP0/CPU0:router# Info:      Install operation 8 has been resumed.
Info:      The changes made to software configurations will not be persistent
  across 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 using the following commands:
Info:      show system verify
Info:      install verify packages
Install operation 8 completed successfully at 14:43:53 UTC Wed Jul 23 2008.
```

Related Commands

Command	Description
install activate	Adds software functionality to the active software set.
install remove	Deletes inactive packages 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 commit	Makes the current active software set persistent across RP reloads.

install label

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

Command Default

No default behavior or values

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.6.0	This command was introduced.
Release 4.0.0	This command was removed from EXEC mode.

Usage Guidelines

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

Use the **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**

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:
 - **active**
 - **all**

- asynchronous
 - brief
 - committed
 - description
 - detail
 - differences
 - from
 - force
 - inactive
 - install
 - label
 - label-name
 - location
 - noprompt
 - rollback
 - sdr
 - summary
 - synchronous
 - test
 - to
 - verbose
- 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.
```

Related Commands

Command	Description
install activate	Adds software functionality to the active software set.

install remove

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

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

Syntax Description

id <i>add-id</i>	Specifies the ID number of an install add operation. The command deletes all packages that were added in the specified install add operation. The ID number of an install add operation is indicated in the syslog displayed during the operation and in the output of the show install log command. Up to 16 install add operations can be specified
<i>device : package</i>	Device and package, expressed in concatenated form (for example, disk0:hfr-mgbl-3.8.0). For the <i>device</i> argument, the value is a specified storage device, typically disk0 . Note Multiple packages can be removed at the same time. Up to 32 <i>device : package</i> pairs can be specified.
inactive	Removes all inactive, noncommitted packages from the boot device (usually disk0:).
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.

Command Default

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

Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
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	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 3.6.0	The prompt-level keyword replaced the noprompt keyword.
Release 3.8.0	Support was added for the id add-id keyword and argument.
Release 4.0.0	This command was removed from EXEC mode. Support was removed for the sdr keyword.

Usage Guidelines**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** command with the **inactive** keyword.
- To remove a specific inactive package from a storage device, use the **install remove** command with the *device: package* arguments.

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.

- To remove all packages that were added in one or more specific **install add** operations, use the **id add-id** keyword and argument. The operation ID of an **install add** operation is indicated in the syslog displayed during the operation and in the output of the **show install log** command. If you specify packages according to operation ID, all the packages that were added by the specified operation must still be on the router.

User Prompts

Use the **install remove** command with the **prompt-level none** keywords to automatically ignore any confirmation prompts and proceed with the package removal.

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](#), on page 90 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/RP0/CPU0:router# admin
RP/0/RP0/CPU0:router(admin)# install remove
disk0:hfr-diags-3.7.90 test
```

```
Install operation 30 'install remove disk0:hfr-diags-3.7.90 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-3.7.90
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:

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

```
RP/0/RP0/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:hfr-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.
show install inactive	Displays inactive packages in the active software set.
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 administration EXEC mode.

Administration EXEC Mode:

install rollback to {*point-id* | *label*} **committed** [**auto-abort-timer** *time*] **location** *node-id* [**admin-profile**] [**asynchronous** | **synchronous**] [**parallel-reload**] [**prompt-level** {**default** | **none**}] [**test**] [**pause sw-change**]

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.
location <i>node-id</i>	Specifies a node. The <i>node-id</i> argument is expressed in <i>rack/slot/module</i> notation.
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.
pause sw-change	(Optional) Pauses the operation after the preparatory stage and before locking the configuration for the actual software change. While the operation is paused, you can perform configuration changes. You control the resumption of the operation at the CLI prompt.

Command Default

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

Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
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 3.6.0	Support was added for the prompt-level and parallel-reload keywords. Support was removed for the noprompt keyword.
Release 3.8.0	Support was added for the pause sw-change keywords.
Release 4.0.0	This command was removed from EXEC mode. Support was removed for the sdr keyword.

Usage Guidelines

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

Use the **install rollback to** 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, 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 to** 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 to** 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** command 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.

Pausing Before Configuration Lock

Use the **pause sw-change** keywords to pause the operation before locking the configuration. A rollback operation begins with preparatory steps, such as software checks, and then proceeds with the actual software change. The configuration is locked for the actual software change. If you specify the **pause sw-change** keywords, the operation pauses before locking the configuration and provides you with the option to hold the operation while you perform configuration changes, and proceed with the software change whenever you choose. This is useful, for example, if your workflow involves configuring a router out of the network during software change and you want to minimize the time that the router is out of the network. You can specify these keywords for both asynchronous and synchronous operations. In both cases, follow the onscreen instructions to control the pausing and completion of the operation.

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.
```

In the following example, the software is rolled back to the last committed installation point and the rollback is paused before configuration lock and then completed when the user enters the **install operation complete** command:

```
RP/0/RP0/CPU0:router# install rollback to committed pause sw-change

Wed Jul 23 15:37:53.377 UTC
Install operation 16 'install rollback to committed pause sw-change'
  started by user 'userb' on SDR Owner via CLI at 15:37:54 UTC
Wed Jul 23 2008.
The install operation will continue asynchronously.
RP/0/RP0/CPU0:router#Info: Install Method: Parallel Process Restart
Info: Install operation 16 is pausing before the config lock is
  applied for the software change as requested by the user.
Info: No further install operations will be allowed until the
  operation is resumed.
Info: Please continue the operation using one of the following
  steps:
Info: - run the command 'install operation 16 complete'.
Info: - run the command 'install operation 16 attach synchronous'
  and then answer the query.
RP/0/RP0/CPU0:router# install operation 16 complete

Wed Jul 23 15:38:35.197 UTC
RP/0/RP0/CPU0:router#Info: Install operation 16 has been resumed.
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 packages
Install operation 16 completed successfully at 15:39:18 UTC Wed
  Jul 23 2008.

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

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.
clear install rollback oldest	Deletes saved installation points from the installation buffer.
install commit	Makes the current active software set persistent across RP reloads.
install label	Adds a label or description to a state associated with a rollback point.
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 administration EXEC mode.

install verify healthcheck [**asynchronous**| **synchronous**] [**admin-profile**] [**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.
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.
repair	(Optional) Repairs anomalies found by the install verify healthcheck process.

Command Default

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

Administration EXEC

Command History

Release	Modification
Release 3.5.0	This command was introduced.
Release 4.0.0	This command was removed from EXEC mode. Support was removed for the sdr keyword.

Usage Guidelines

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

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.

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
'userb' 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: 3.7.7
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 3.7.2.
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 administration EXEC mode.

Administration EXEC Mode:

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

Syntax Description

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.

Command Default

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

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.2	This command was introduced.
Release 3.3.0	Support was added for the sdr <i>sdr-name</i> keyword and argument.
Release 3.4.0	Support was added for EXEC mode.
Release 3.5.0	This command was changed from install verify .
Release 3.7.0	This command was extended to check for corruptions in installation state files and MBI image files.
Release 4.0.0	This command was removed from EXEC mode. Support was removed for the sdr keyword.

Usage Guidelines

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

Use the **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 also checks for corruptions of install state files and MBI image files. This command is particularly useful when issued after the activation of a package or when 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.

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:

```
RP/0/RP0/CPU0:router# install verify packages

Install operation 2 '(admin) install verify packages' started by user 'admin' via CLI at
07:35:01 UTC Wed May 14 2008.
Info: This operation can take up to 2 minutes per package being verified. Please be patient.
Info: 0/3/CPU0 [LC] [SDR: Owner]
Info: meta-data: [SUCCESS] Verification Successful.
Info: /install/c12k-1c-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-fwdg-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-admin-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-base-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-os-mpi-3.8.0.02I: [SUCCESS] Verification Successful.
Info: 0/SM1/SP [SP] [Admin Resource]
Info: meta-data: [SUCCESS] Verification Successful.
Info: /install/c12k-admin-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-base-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-os-mpi-3.8.0.02I: [SUCCESS] Verification Successful.
Info: 0/3/SP [SP] [Admin Resource]
Info: meta-data: [SUCCESS] Verification Successful.
Info: /install/c12k-admin-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-base-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-os-mpi-3.8.0.02I: [SUCCESS] Verification Successful.
Info: 0/RP1/CPU0 [RP] [SDR: Owner]
Info: meta-data: [SUCCESS] Verification Successful.
Info: meta-data: [SUCCESS] Verification Successful.
Info: /install/c12k-os-mpi-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-base-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-admin-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-fwdg-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-1c-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/c12k-rout-3.8.0.02I: [SUCCESS] Verification Successful.
Info: 0/RP0/CPU0 [RP] [SDR: Owner]
Info: meta-data: [SUCCESS] Verification Successful.
Info: meta-data: [SUCCESS] Verification Successful.
```

```

Info: /install/cl2k-os-mpi-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/cl2k-base-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/cl2k-admin-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/cl2k-fwdg-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/cl2k-lc-3.8.0.02I: [SUCCESS] Verification Successful.
Info: /install/cl2k-rout-3.8.0.02I: [SUCCESS] Verification Successful.
Info: Verification Summary:
Info: 0/3/CPU0: SUCCESSFUL. No anomalies found.
Info: 0/SM1/SP: SUCCESSFUL. No anomalies found.
Info: 0/3/SP: SUCCESSFUL. No anomalies found.
Info: 0/RP1/CPU0: SUCCESSFUL. No anomalies found.
Info: 0/RP0/CPU0: SUCCESSFUL. No anomalies found.
Info: The system needs no repair.
Install operation 2 completed successfully at 07:46:29 UTC Wed May 14 2008

```

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

detail	(Optional) Displays a detailed summary of the active packages for a system, secure domain router (SDR), or node.
summary	(Optional) Displays a summary of the active packages in a system or SDR. Use this command to display the default software profile for SDRs
verbose	(Optional) Displays a detailed summary of the active packages for a system, SDR, or node, including component and file information for each package.
sdr <i>sdr-name</i>	(Optional. Administration EXEC mode only.) Displays the active packages for a specific 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.

Command Default

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	The command was supported in 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 .

Usage Guidelines

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

**Note**

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

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

Displaying Information for a Specific SDR or all SDRs

- To display information for a specific SDR from administration EXEC mode, use the **sdr** *sdr-name* keyword and argument.
- To display information for an SDR when logged into that SDR, enter the command in EXEC mode.
- To display information for all SDRs in the system, enter the command in administration EXEC mode, without the **sdr** keyword.

Displaying Information for a Specific Node

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

Summary, Detailed, and Verbose Information

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

**Note**

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

Displaying the Default SDR Software Profile

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

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

Mon May 31 06:49:47.768 DST
Node 0/RP0/CPU0 [HRP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mpi-4.0.0.15I/mbihfr-rp.vm
  Active Packages:
    disk0:hfr-upgrade-p-4.0.0.15I
    disk0:hfr-k9sec-p-4.0.0.15I
    disk0:hfr-mpis-p-4.0.0.15I
    disk0:hfr-mgbl-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I
    disk0:hfr-doc-p-4.0.0.15I
    disk0:comp-
hfr-mini-4.0.0.15I
  disk0:hfr-fpd-4.0.0.15I
  disk0:hfr-diags-p-4.0.0.15I
```

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

Mon May 31 06:53:46.777 DST
Active Packages:
  disk0:hfr-upgrade-p-4.0.0.15I
  disk0:hfr-k9sec-p-4.0.0.15I
  disk0:hfr-mpis-p-4.0.0.15I
  disk0:hfr-mgbl-p-4.0.0.15I
  disk0:hfr-mcast-p-4.0.0.15I
  disk0:hfr-doc-p-4.0.0.15I
  disk0:comp-
hfr-mini-4.0.0.15I
  disk0:hfr-fpd-4.0.0.15I
  disk0:hfr-diags-p-4.0.0.15I
```

Table 1: 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 software functionality to the active software set.
show install active	Displays active software packages.

Command	Description
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 SDR.
verbose	(Optional) Displays a detailed summary of the active packages for a system, SDR, 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 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.

Command Default

None

Command Modes

Administration EXEC
EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	The command was made available in administration EXEC mode. The detail keyword was added.

Usage Guidelines

Note

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

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

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

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

Summary, Detailed, and Verbose Information

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

For Superseded SMUs

The **show install active** command does not display superseded SMUs. To get details of the superseded SMUs, use the **show install superseded** command.

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

```
RP/0/RP0/CPU0:router# show install active location 0/6/cpu0

Wed May 26 04:26:42.446 DST
Node 0/6/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/hfr-os-mpi-4.0.0.15I/lc/mbihfr-lc.vm
  Active Packages:
    disk0:hfr-upgrade-p-4.0.0.15I
    disk0:hfr-mpis-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I

    disk0:comp-
hfr-mini-4.0.0.15I
    disk0:hfr-fpd-4.0.0.15I
    disk0:hfr-diags-p-4.0.0.15I
```

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

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

```
Wed May 26 04:33:06.791 DST
Active Packages:
  disk0:hfr-upgrade-p-4.0.0.15I
  disk0:hfr-k9sec-p-4.0.0.15I
  disk0:hfr-mp1s-p-4.0.0.15I
  disk0:hfr-mgbl-p-4.0.0.15I
  disk0:hfr-mcast-p-4.0.0.15I
  disk0:hfr-doc-p-4.0.0.15I
  disk0:comp-
hfr-mini-4.0.0.15I
  disk0:hfr-fpd-4.0.0.15I
  disk0:hfr-diags-p-4.0.0.15I
```

The following example illustrates sample output from the **show install active** command with the **summary** keyword for a specific SDR:

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

```
Active Packages:
  disk0:c12k-doc-3.9.0.28I
  disk0:c12k-fpd-3.9.0.28I
  disk0:hfr-diags-3.9.0
  disk0:hfr-mgbl-3.9.0
  disk0:hfr-k9sec-3.9.0
  disk0:comp-hfr-mini-3.9.0
```

```
RP/0/RP0/CPU0:router(admin)# show install active summary sdr sdr2
```

```
Wed May 26 04:45:28.900 DST
Specific Profile for SDR sdr2:
Active Packages:
  disk0:hfr-upgrade-p-4.0.0.15I
  disk0:hfr-k9sec-p-4.0.0.15I
  disk0:hfr-mp1s-p-4.0.0.15I
  disk0:hfr-mgbl-p-4.0.0.15I
  disk0:hfr-mcast-p-4.0.0.15I
  disk0:hfr-doc-p-4.0.0.15I
  disk0:comp-hfr-mini-4.0.0.15I
  disk0:hfr-fpd-4.0.0.15I
  disk0:hfr-diags-p-4.0.0.15I
```

This example displays the complete output for the **show install active** command:

```
Domain Router: Owner

Node 0/1/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/hfr-os-mbi-4.3.2/lc/mbihfr-lc.vm
  Active Packages:
    disk0:hfr-mp1s-px-4.3.2
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mcast-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCts44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
```

```

disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
disk0:hfr-px-4.3.2.CSCuj61345-1.0.0
disk0:hfr-px-4.3.2.CSCul00911-1.0.0
disk0:hfr-px-4.3.2.CSCul14164-1.0.0

Node 0/RP0/CPU0 [CRS8-RP-x86] [SDR: Owner]
Boot Device: disk0:
Boot Image: /disk0/hfr-os-mpi-4.3.2/0x100008/mbihfr-rp-x86e.vm
Active Packages:
  disk0:hfr-mpis-px-4.3.2
  disk0:hfr-mgbl-px-4.3.2
  disk0:hfr-k9sec-px-4.3.2
  disk0:hfr-fpd-px-4.3.2
  disk0:hfr-doc-px-4.3.2
  disk0:hfr-diags-px-4.3.2
  disk0:hfr-asr9000v-nV-px-4.3.2
  disk0:hfr-mcast-px-4.3.2
  disk0:hfr-mini-px-4.3.2
  disk0:hfr-px-4.3.2.CSCts44399-1.0.0
  disk0:hfr-px-4.3.2.CSCul20020-1.0.0
  disk0:hfr-px-4.3.2.CSCul26557-1.0.0
  disk0:hfr-px-4.3.2.CSCun00853-1.0.0
  disk0:hfr-px-4.3.2.CSCui74251-1.0.0
  disk0:hfr-px-4.3.2.CSCui99608-1.0.0
  disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
  disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
  disk0:hfr-px-4.3.2.CSCuj45792-1.0.0
  disk0:hfr-px-4.3.2.CSCuj61345-1.0.0
  disk0:hfr-px-4.3.2.CSCul00911-1.0.0
  disk0:hfr-px-4.3.2.CSCul14164-1.0.0

Node 0/RP1/CPU0 [CRS8-RP-x86] [SDR: Owner]
Boot Device: disk0:
Boot Image: /disk0/hfr-os-mpi-4.3.2/0x100008/mbihfr-rp-x86e.vm
Active Packages:
  disk0:hfr-mpis-px-4.3.2
  disk0:hfr-mgbl-px-4.3.2
  disk0:hfr-k9sec-px-4.3.2
  disk0:hfr-fpd-px-4.3.2
  disk0:hfr-doc-px-4.3.2
  disk0:hfr-diags-px-4.3.2
  disk0:hfr-asr9000v-nV-px-4.3.2
  disk0:hfr-mcast-px-4.3.2
  disk0:hfr-mini-px-4.3.2
  disk0:hfr-px-4.3.2.CSCts44399-1.0.0
  disk0:hfr-px-4.3.2.CSCul20020-1.0.0
  disk0:hfr-px-4.3.2.CSCul26557-1.0.0
  disk0:hfr-px-4.3.2.CSCun00853-1.0.0
  disk0:hfr-px-4.3.2.CSCui74251-1.0.0
  disk0:hfr-px-4.3.2.CSCui99608-1.0.0
  disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
  disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
  disk0:hfr-px-4.3.2.CSCuj45792-1.0.0
  disk0:hfr-px-4.3.2.CSCuj61345-1.0.0
  disk0:hfr-px-4.3.2.CSCul00911-1.0.0
  disk0:hfr-px-4.3.2.CSCul14164-1.0.0

Node 1/0/CPU0 [LC] [SDR: Owner]
Boot Device: lcdisk0:
Boot Image: /disk0/hfr-os-mpi-4.3.2/lc/0x500064/mbihfr-lc-x86e.vm
Active Packages:
  disk0:hfr-mpis-px-4.3.2
  disk0:hfr-fpd-px-4.3.2
  disk0:hfr-diags-px-4.3.2
  disk0:hfr-mcast-px-4.3.2
  disk0:hfr-mini-px-4.3.2
  disk0:hfr-px-4.3.2.CSCts44399-1.0.0
  disk0:hfr-px-4.3.2.CSCul20020-1.0.0
  disk0:hfr-px-4.3.2.CSCul26557-1.0.0
  disk0:hfr-px-4.3.2.CSCun00853-1.0.0
  disk0:hfr-px-4.3.2.CSCui74251-1.0.0
  disk0:hfr-px-4.3.2.CSCui99608-1.0.0

```

show install active

```

disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
disk0:hfr-px-4.3.2.CSCuj45792-1.0.0
disk0:hfr-px-4.3.2.CSCuj61345-1.0.0
disk0:hfr-px-4.3.2.CSCul00911-1.0.0
disk0:hfr-px-4.3.2.CSCul14164-1.0.0

Node 1/7/CPU0 [LC] [SDR: Owner]
  Boot Device: lcdisk0:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/lc/0x500064/mbihfr-lc-x86e.vm
  Active Packages:
    disk0:hfr-mpis-px-4.3.2
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mcast-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCuj45792-1.0.0
    disk0:hfr-px-4.3.2.CSCuj61345-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0
    disk0:hfr-px-4.3.2.CSCul14164-1.0.0

Node 1/RP0/CPU0 [CRS8-RP-x86] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/0x100008/mbihfr-rp-x86e.vm
  Active Packages:
    disk0:hfr-mpis-px-4.3.2
    disk0:hfr-mgbl-px-4.3.2
    disk0:hfr-k9sec-px-4.3.2
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-doc-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-asr9000v-nV-px-4.3.2
    disk0:hfr-mcast-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCuj45792-1.0.0
    disk0:hfr-px-4.3.2.CSCuj61345-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0
    disk0:hfr-px-4.3.2.CSCul14164-1.0.0

Node 1/RP1/CPU0 [CRS8-RP-x86] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/0x100008/mbihfr-rp-x86e.vm
  Active Packages:
    disk0:hfr-mpis-px-4.3.2
    disk0:hfr-mgbl-px-4.3.2
    disk0:hfr-k9sec-px-4.3.2
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-doc-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-asr9000v-nV-px-4.3.2
    disk0:hfr-mcast-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0

```

```
disk0:hfr-px-4.3.2.CSCui99608-1.0.0
disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
disk0:hfr-px-4.3.2.CSCuj45792-1.0.0
disk0:hfr-px-4.3.2.CSCuj61345-1.0.0
disk0:hfr-px-4.3.2.CSCul00911-1.0.0
disk0:hfr-px-4.3.2.CSCul14164-1.0.0
```

Admin Resources:

```
Node 0/1/SP [MSC-DRP-SP] [Admin Resource]
  Boot Device: bootflash:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0

Node 0/SM0/SP [140G-Fabric-SP-B] [Admin Resource]
  Boot Device: bootflash:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0

Node 0/SM1/SP [140G-Fabric-SP-B] [Admin Resource]
  Boot Device: bootflash:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0

Node 0/SM2/SP [140G-Fabric-SP-B] [Admin Resource]
  Boot Device: bootflash:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
```

show install active

```
disk0:hfr-px-4.3.2.CSCui99608-1.0.0
disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
disk0:hfr-px-4.3.2.CSCul00911-1.0.0

Node 0/SM3/SP [140G-Fabric-SP-B] [Admin Resource]
  Boot Device: bootflash:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0

Node 1/SM0/SP [140G-Fabric-SP-B] [Admin Resource]
  Boot Device: bootflash:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0

Node 1/SM1/SP [140G-Fabric-SP-B] [Admin Resource]
  Boot Device: bootflash:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0

Node 1/SM2/SP [140G-Fabric-SP-B] [Admin Resource]
  Boot Device: bootflash:
  Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
  Active Packages:
    disk0:hfr-fpd-px-4.3.2
    disk0:hfr-diags-px-4.3.2
    disk0:hfr-mini-px-4.3.2
    disk0:hfr-px-4.3.2.CSCTs44399-1.0.0
    disk0:hfr-px-4.3.2.CSCul20020-1.0.0
    disk0:hfr-px-4.3.2.CSCul26557-1.0.0
    disk0:hfr-px-4.3.2.CSCun00853-1.0.0
    disk0:hfr-px-4.3.2.CSCui74251-1.0.0
    disk0:hfr-px-4.3.2.CSCui99608-1.0.0
    disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
    disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
    disk0:hfr-px-4.3.2.CSCul00911-1.0.0
```

```

Node 1/SM3/SP [140G-Fabric-SP-B] [Admin Resource]
Boot Device: bootflash:
Boot Image: /disk0/hfr-os-mpi-4.3.2/sp/mbihfr-sp.vm
Active Packages:
  disk0:hfr-fpd-px-4.3.2
  disk0:hfr-diags-px-4.3.2
  disk0:hfr-mini-px-4.3.2
  disk0:hfr-px-4.3.2.CSCts44399-1.0.0
  disk0:hfr-px-4.3.2.CSCul20020-1.0.0
  disk0:hfr-px-4.3.2.CSCul26557-1.0.0
  disk0:hfr-px-4.3.2.CSCun00853-1.0.0
  disk0:hfr-px-4.3.2.CSCui74251-1.0.0
  disk0:hfr-px-4.3.2.CSCui99608-1.0.0
  disk0:hfr-px-4.3.2.CSCuj04528-1.0.0
  disk0:hfr-px-4.3.2.CSCuj18680-1.0.0
  disk0:hfr-px-4.3.2.CSCul00911-1.0.0

```

Table 2: 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 software functionality to 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 audit

To compare the current active packages and software maintenance upgrades (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.

Command Default

No default behavior or values

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.4.1	This command was introduced.

Usage Guidelines

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

Use the **show install 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.

**Note**

For accurate results, make sure that every line in the audit file, including the last line, is terminated with a line break.

- 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.
- 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:

```
# R4.0.0
# some comments
#
comp-
hfr-mini-4.0.0
hfr-mgbl-p-4.0.0
hfr-mcast-p-4.0.0
hfr-mpis-p-4.0.0
hfr-mpis-4.0.0.CSCse00294
comp-
hfr-4.0.0.CSCsd07147
```

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

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

- Command completes 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.
- 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 of discrepancy found in the audit:

- Package specified in the audit file is not present at all. In other words, there was no **install add** performed for this package.
- 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 route processors (RPs) is not active on all RPs audited (either the entire router or a specific SDR, depending on the scope of command).
- 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.
- Extra package that is not present in the audit file is active on all nodes being audited.
- 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.

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)
Info: 0/5/CPU0, 0/3/CPU0.
Install audit operation completed.
Install audit result: FAILED (discrepancies found)
```

Related Commands

Command	Description
install activate	Adds software functionality 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 keywords or arguments.

Command Default None

Command Modes EXEC
Administration EXEC

Command History	Release	Modification
	Release 3.5.0	This command was introduced.

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

The **show install auto-abort-timer** command 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 software functionality to the active software set.

Command	Description
install deactivate	Removes a package from the active software set.

show install boot-options

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

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

Syntax Description

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

Command Default

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

Command Modes

Administration EXEC
EXEC

Command History

Release	Modification
Release 3.7.0	This command was introduced.

Usage Guidelines

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

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

```
RP/0/RP0/CPU0:router (admin) # show install boot-options

Node
-----+-----
0/1/SP                no boot options set.
0/1/CPU0              no boot options set.
0/4/SP                no boot options set.
```

```

0/4/CPU0          no boot options set.
0/4/CPU1          no boot options set.
0/6/SP           no boot options set.
0/6/CPU0         no boot options set.
0/RP0/CPU0       no boot options set.
0/RP1/CPU0       no boot options set.
0/SM0/SP         no boot options set.
0/SM1/SP         no boot options set.
0/SM2/SP         no boot options set.
0/SM3/SP         no boot options set.

```

Related Commands

Command	Description
reload (administration EXEC)	Reloads a node or all nodes on a single chassis or multishelf system.
clear install boot-options	Clears the boot options for a specified location or for all locations.
show install boot-options	Displays the boot options set for a specified location or for all locations.
install boot-options	Sets the boot options for a specified node.

show install inactive

To display the inactive packages on the designated secure domain router shelf 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

detail	(Optional) Displays summary and component information for inactive packages.
summary	(Optional) Displays a summary of inactive packages.
verbose	(Optional) Displays summary, component, and file information for inactive packages.
sdr <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.

Command Default

None

Command Modes

Administration EXEC
EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.

Release	Modification
Release 3.2	<p>The command was made available in administration EXEC mode.</p> <p>The components , files , and none keywords were removed and replaced by the detail , verbose , and brief keywords, respectively.</p> <p>The summary keyword was removed.</p> <p>The default output display was changed to match the output that displayed when the optional summary keyword was entered in previous releases.</p>
Release 3.4.0	This command was modified to display inactive packages only for the boot device.

Usage Guidelines

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 sdr-name** keyword and argument.
- To display information for an SDR when logged into that SDR, enter the command in EXEC mode.
- To display information for all SDRs in the system, enter the command in administration EXEC mode, without the **sdr** keyword.

Displaying Information for a Specific Node

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

Summary, Detailed, and Verbose Information

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

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

```
Tue Feb  3 02:02:07.970 PST
Node 0/0/CPU0 [LC] [SDR: Owner]
  Boot Device: bootflash:
  Inactive Packages:
    disk0:comp-hfr-mini-4.0.0.15I
    disk0:hfr-fpd-4.0.0.15I
    disk0:hfr-diags-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I
    disk0:hfr-mpls-p-4.0.0.15I
    disk0:hfr-mgbl-p-4.0.0.15I

Node 0/1/CPU0 [LC] [SDR: Owner]
  Boot Device: bootflash:
  Inactive Packages:
    disk0:comp-hfr-mini-4.0.0.15I
    disk0:hfr-fpd-4.0.0.15I
    disk0:hfr-diags-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I
    disk0:hfr-mpls-p-4.0.0.15I
    disk0:hfr-mgbl-4.0.0.15I

Node 0/5/CPU0 [LC] [SDR: Owner]
  Boot Device: bootflash:
  Inactive Packages:
    disk0:comp-hfr-mini-4.0.0.15I
    disk0:hfr-fpd-4.0.0.15I
    disk0:hfr-diags-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I
    disk0:hfr-mpls-p-4.0.0.15I
    disk0:hfr-mgbl-p-4.0.0.15I

Node 0/6/CPU0 [LC] [SDR: Owner]
  Boot Device: bootflash:
  Inactive Packages:
    disk0:comp-hfr-mini-4.0.0.15I
    disk0:hfr-fpd-4.0.0.15I
    disk0:hfr-diags-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I
    disk0:hfr-mpls-p-4.0.0.15I

Node 0/RP0/CPU0 [HRP] [SDR: Owner]
  Boot Device: disk0:
  Inactive Packages:
    disk0:comp-hfr-mini-4.0.0.15I
    disk0:hfr-fpd-4.0.0.15I
    disk0:hfr-doc-p-4.0.0.15I
    disk0:hfr-diags-p-4.0.0.15I
    disk0:hfr-mgbl-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I
    disk0:hfr-mpls-p-4.0.0.15I

Node 0/RP1/CPU0 [HRP] [SDR: Owner]
  Boot Device: disk0:
  Inactive Packages:
    disk0:comp-hfr-mini-4.0.0.15I
    disk0:hfr-fpd-4.0.0.15I
    disk0:hfr-doc-p-4.0.0.15I
    disk0:hfr-diags-p-4.0.0.15I
    disk0:hfr-mgbl-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I
    disk0:hfr-mpls-p-4.0.0.15I
```

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

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

Wed May 26 08:51:00.490 DST
  Inactive Packages:
    disk0:hfr-mini-4.0.0.15I
    disk0:hfr-k9sec-p-4.0.0.15I
    disk0:hfr-mppls-p-4.0.0.15I
    disk0:hfr-mgbl-p-4.0.0.15I
    disk0:hfr-mcast-p-4.0.0.15I
    disk0:hfr-doc-p-4.0.0.15I
    disk0:hfr-fpd-p-4.0.0.15I
```

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

```
RP/0/RP0/CPU0:router# show install inactive detail location 0/1/cpu0

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

Table 3: show install inactive Field Descriptions

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

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 issu inventory

To display the status of each node and the current status of ISSU, use the **show install issu inventory** command in administration EXEC mode.

show install issu inventory[**detail**| **type** *ism-card-type*]

Syntax Description

detail	Displays detailed information about the status of each card.
type <i>ism-card-type</i>	<p>displays information regarding a specific card type. <i>ism-card-type</i> values can be of the following:</p> <ul style="list-style-type: none"> 1—Show inventory of all Active RPs in ndsc Racks 2—Show inventory of all Standby RPs in ndsc Racks 3—Show inventory of all Active DRPs (any rack) 4—Show inventory of all Standby DRPs (any rack) 5—Show inventory of the dSC node 6—Show inventory of the Standby dSC node 7—Show inventory of all Active Non-root SCs 8—Show inventory of all Standby Non-root SCs 9—Show inventory of the Root SC 10—Show inventory of the Root SC backup 11—Show inventory of all LCs (any rack) 12—Show inventory of all Non-Fabric SPs. Eg:LC, Alarm, Fan Controller SPs 13—Show inventory of all Fabric SPs

Command Default

Summary information is displayed

Command Modes

Administration EXEC

Command History

Release	Modification
Release 4.2.1	This command was introduced.

Usage Guidelines

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

The **show install issu inventory** command displays output only when the ISSU process is running.

Task ID

Task ID	Operation
pkg-mgmt	read

show install issu stage

To display the current stage of the running ISSU process, use the **show install issu stage** command in administration EXEC mode.

show install issu stage [detail]

Syntax Description	detail	Displays more information regarding the stage of the process.
---------------------------	---------------	---

Command Default Displays summary information about the ISSU stage on the router.

Command Modes Administration EXEC

Command History	Release	Modification
	Release 4.2.1	This command was introduced.

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

The **show install issu stage** command displays output only when the ISSU process is running.

Task ID	Task ID	Operation
	pkg-mgmt	read

Examples This example displays output from the **show install issu stage** command during the load phase:

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

Thu Dec 8 16:09:48.397 UTC
Current State : LOAD phase done (Load phase done)
Status : 31% Completed
Participating nodes : 0
Nodes in progress : 0
```

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 details including impact to processes and nodes.
verbose	(Optional) Displays the information from the keyword, plus additional information about impacts to files, processes, and dynamic link libraries (DLLs).
reverse	(Optional) Displays the logs in reverse order.

Command Default

None

Command Modes

Administration EXEC
EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	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 3.6.0	Support was added for the from and reverse keywords.

Usage Guidelines

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 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 for a Specific SDR or All SDRs

- To display information for a specific SDR from administration EXEC mode, use the **sdr** *sdr-name* keyword and argument.
- To display information for an SDR when logged into that SDR, enter the command in EXEC mode.
- To display information for all SDRs in the system, enter the command in administration EXEC mode, without the **sdr** keyword.

Detailed and Verbose Information

Use the **detail** keyword to display detailed information for all previous installations, including impact to processes and nodes impacted. The detailed information is a subset of the information displayed with the **verbose** keyword.

Use the **verbose** keyword 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 shows a summary of all installation requests:

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

Thu May 27 11:19:18.177 DST

Install operation 1 started by user 'userx' via CLI at 03:46:56 DST Tue May
11 2010.
(admin) install add
/tftp://172.23.16.140/auto/tftpboot-users/usera/hfr-doc.pie-4.0.0.15I.DT_IMAGE
/tftp://172.23.16.140/auto/tftpboot-users/usera/hfr-fpd.pie-4.0.0.15I.DT_IMAGE
/tftp://172.23.16.140/auto/tftpboot-users/usera/hfr-k9sec.pie-4.0.0.15I.DT_IMAGE
/tftp://172.23.16.140/auto/tftpboot-users/usera/hfr-mcast.pie-4.0.0.15I.DT_IMAGE
/tftp://172.23.16.140/auto/tftpboot-users/usera/hfr-mgbl.pie-4.0.0.15I.DT_IMAGE
/tftp://172.23.16.140/auto/tftpboot-users/usera/hfr-mpls.pie-4.0.0.15I.DT_IMAGE
/tftp://172.23.16.140/auto/tftpboot-users/usera/hfr-upgrade.pie-4.0.0.15I.DT_IMAGE activate
Install operation 1 completed successfully at 04:09:19 DST Tue May 11 2010.

-----

Install operation 2 started by user 'userx' via CLI at 05:37:25 DST Tue May
11 2010.
(admin) install commit
Install operation 2 completed successfully at 05:37:36 DST Tue May 11 2010.

-----
```

2 entries shown

The following example shows the details for a specific installation request. The **detail** keyword is used to display additional information about the impact of the operation to processes and nodes:

```
RP/0/RP0/CPU0:router(admin)# show install log 1 detail
Tue Jul 28 02:30:52.089 DST

Install operation 1 started by user 'user_b' via CLI at 19:42:38 DST Tue Jul 14 2009.
(admin) install add
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-diags-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-doc.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-fpd.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-k9sec-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mcast-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mgbl-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mpls-p.pie-3.9.0.14I
Install operation 1 completed successfully at 20:39:04 DST Tue Jul 14 2009.

Install logs:
Install operation 1 '(admin) install add
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-diags-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-doc.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-fpd.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-k9sec-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mcast-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mgbl-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mpls-p.pie-3.9.0.14I
activate' started by user 'user_b' via CLI at 19:42:38 DST
Tue Jul 14 2009.
Part 1 of 2 (add software): Started
Info:      The following packages are now available to be activated:
Info:
Info:      disk0:hfr-diags-3.9.0.14I
Info:      disk0:hfr-doc-3.9.0.14I
Info:      disk0:hfr-fpd-3.9.0.14I
Info:      disk0:hfr-k9sec-3.9.0.14I
Info:      disk0:hfr-mcast-3.9.0.14I
Info:      disk0:hfr-mgbl-3.9.0.14I
Info:      disk0:hfr-mpls-3.9.0.14I
Info:
Info:      The packages can be activated across the entire router.
Info:
Part 1 of 2 (add software): Completed successfully
Part 2 of 2 (activate software): Started
Info:      The following sequence of sub-operations has been determined to
Info:      minimize any impact:
Info:
Info:      Sub-operation 1:
Info:          Install Method: Parallel Process Restart
Info:          hfr-mgbl-3.9.0.14I
Info:
Info:      Sub-operation 2:
Info:          Install Method: Parallel Process Restart
Info:          hfr-k9sec-3.9.0.14I
Info:
Info:      Sub-operation 3:
Info:          Install Method: Parallel Process Restart
Info:          hfr-diags-3.9.0.14I
Info:
Info:      Sub-operation 4:
Info:          Install Method: Parallel Process Restart
Info:          hfr-fpd-3.9.0.14I
Info:
Info:      Sub-operation 5:
Info:          Install Method: Parallel Process Restart
Info:          hfr-doc-3.9.0.14I
Info:
Info:      Sub-operation 8:
Info:          Install Method: Parallel Process Restart
```

```

Info:          hfr-mpls-3.9.0.14I
Info:
Info:          Sub-operation 9:
Info:            Install Method: Parallel Process Restart
Info:          hfr-mcast-3.9.0.14I
Info:
Info:          The changes made to software configurations will not be
Info:          persistent across system reloads. Use the command '(admin)
Info:          install 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 packages
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 1 completed successfully at 20:39:04 DST Tue Jul 14 2009.

```

Summary:

```

Sub-operation 1:
Install method: Parallel Process Restart
Summary of changes on nodes 0/4/CPU0, 0/4/CPU1:
  Activated:   hfr-mgbl-3.9.0.14I
              9 hfr-mgbl processes affected (0 updated, 9 added, 0 removed, 0 impacted)

Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
  Activated:   hfr-mgbl-3.9.0.14I
              9 hfr-mgbl processes affected (0 updated, 9 added, 0 removed, 0 impacted)

Sub-operation 2:
Install method: Parallel Process Restart
Summary of changes on nodes 0/4/CPU0, 0/4/CPU1:
  Activated:   hfr-k9sec-3.9.0.14I
              9 hfr-k9sec processes affected (0 updated, 9 added, 0 removed, 0 impacted)

Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
  Activated:   hfr-k9sec-3.9.0.14I
              9 hfr-k9sec processes affected (0 updated, 9 added, 0 removed, 0 impacted)

Sub-operation 3:
Install method: Parallel Process Restart
Summary of changes on nodes 0/1/SP, 0/4/SP, 0/6/SP, 0/SM0/SP, 0/SM1/SP,
0/SM2/SP, 0/SM3/SP:
  Activated:   hfr-diags-3.9.0.14I
              No processes affected

Summary of changes on nodes 0/1/CPU0, 0/6/CPU0:
  Activated:   hfr-diags-3.9.0.14I
              No processes affected

Summary of changes on nodes 0/4/CPU0, 0/4/CPU1:
  Activated:   hfr-diags-3.9.0.14I
              No processes affected

Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
  Activated:   hfr-diags-3.9.0.14I
              No processes affected

Sub-operation 4:
Install method: Parallel Process Restart
Summary of changes on nodes 0/1/SP, 0/4/SP, 0/6/SP, 0/SM0/SP, 0/SM1/SP,
0/SM2/SP, 0/SM3/SP:
  Activated:   hfr-fpd-3.9.0.14I
              No processes affected

Summary of changes on nodes 0/1/CPU0, 0/6/CPU0:
  Activated:   hfr-fpd-3.9.0.14I
              No processes affected

Summary of changes on nodes 0/4/CPU0, 0/4/CPU1:
  Activated:   hfr-fpd-3.9.0.14I
              No processes affected

```

```

Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
  Activated:   hfr-fpd-3.9.0.14I
  No processes affected

Sub-operation 5:
Install method: Parallel Process Restart
Summary of changes on nodes 0/4/CPU0, 0/4/CPU1:
  Activated:   hfr-doc-3.9.0.14I
  No processes affected

Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
  Activated:   hfr-doc-3.9.0.14I
  No processes affected

Sub-operation 6:
Install method: Parallel Process Restart
Summary of changes on nodes 0/1/CPU0, 0/6/CPU0:
  Activated:   hfr-mpls-3.9.0.14I
    1 hfr-mpls processes affected (0 updated, 1 added, 0 removed, 0 impacted)

Summary of changes on nodes 0/4/CPU0, 0/4/CPU1:
  Activated:   hfr-mpls-3.9.0.14I
    7 hfr-mpls processes affected (0 updated, 7 added, 0 removed, 0 impacted)

Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
  Activated:   hfr-mpls-3.9.0.14I
    7 hfr-mpls processes affected (0 updated, 7 added, 0 removed, 0 impacted)

Sub-operation 7:
Install method: Parallel Process Restart
Summary of changes on nodes 0/1/CPU0, 0/6/CPU0:
  Activated:   hfr-mcast-3.9.0.14I
    2 hfr-mcast processes affected (0 updated, 2 added, 0 removed, 0 impacted)

Summary of changes on nodes 0/4/CPU0, 0/4/CPU1:
  Activated:   hfr-mcast-3.9.0.14I
    16 hfr-mcast processes affected (0 updated, 16 added, 0 removed, 0 impacted)

Summary of changes on nodes 0/RP0/CPU0, 0/RP1/CPU0:
  Activated:   hfr-mcast-3.9.0.14I
    16 hfr-mcast processes affected (0 updated, 16 added, 0 removed, 0 impacted)

```

The following example shows information for the installation requests. The **verbose** keyword is used to display detailed information including file changes, impact to processes, and impact to DLLs.

```

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

Tue Jul 28 02:12:44.899 DST

Install operation 1 started by user 'user_b' via CLI at 19:42:38 DST Tue Jul14 2009.
(admin) install add
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-diags-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-doc.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-fpd.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-k9sec-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mcast-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mgbl-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mpls-p.pie-3.9.0.14I
Install operation 1 completed successfully at 20:39:04 DST Tue Jul 14 2009.

Install logs:
Install operation 1 '(admin) install add
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-diags-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-doc.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-fpd.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-k9sec-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mcast-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mgbl-p.pie-3.9.0.14I
/tftp://172.23.16.81/auto/tftpboot-users/user_b/hfr-mpls-p.pie-3.9.0.14I
activate' started by user 'user_b' via CLI at 19:42:38 DST

```

```

Tue Jul 14 2009.
Part 1 of 2 (add software): Started
Info:      The following packages are now available to be activated:
Info:
Info:      disk0:hfr-diags-3.9.0.14I
Info:      disk0:hfr-doc-3.9.0.14I
Info:      disk0:hfr-fpd-3.9.0.14I
Info:      disk0:hfr-k9sec-3.9.0.14I
Info:      disk0:hfr-mcast-3.9.0.14I
Info:      disk0:hfr-mgbl-3.9.0.14I
Info:      disk0:hfr-mpls-3.9.0.14I
Info:
Info:      The packages can be activated across the entire router.
Info:
Part 1 of 2 (add software): Completed successfully
Part 2 of 2 (activate software): Started
Info:      The following sequence of sub-operations has been determined to
Info:      minimize any impact:
Info:
Info:      Sub-operation 1:
Info:      Install Method: Parallel Process Restart
Info:      hfr-mgbl-3.9.0.14I
Info:
Info:      Sub-operation 2:
Info:      Install Method: Parallel Process Restart
Info:      hfr-k9sec-3.9.0.14I
Info:
Info:      Sub-operation 3:
Info:      Install Method: Parallel Process Restart
Info:      hfr-diags-3.9.0.14I
Info:
Info:      Sub-operation 4:
Info:      Install Method: Parallel Process Restart
Info:      hfr-fpd-3.9.0.14I
Info:
Info:      Sub-operation 5:
Info:      Install Method: Parallel Process Restart
Info:      hfr-doc-3.9.0.14I
--More--

```

The following example shows 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 2008.
(admin) install add /tftp://xx-tftp/user_a/hfr-fpd.pie
Install operation 2 completed successfully at 12:35:19 GMT Mon Oct 29 2008.
-----
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/hfr-mgbl.pie
Install operation 1 completed successfully at 12:32:12 GMT Mon Oct 29 2008.

```

Related Commands

Command	Description
install activate	Adds software functionality 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 commit	Makes the current active software set persistent across RP reloads.

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-3.8.0). 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 about dynamic link libraries (DLLs).

Command Default

None

Command Modes

Administration EXEC
EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	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.

Usage Guidelines

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

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

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

**Note**

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

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

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

```
RP/0/RP0/CPU0:router# show install package all
```

```
Thu May 27 04:20:35.273 DST
disk0:hfr-fpd-4.0.0.15I

disk0:hfr-doc-p-4.0.0.15I
  disk0:iosxr-docs-4.0.0.15I

disk0:hfr-mgbl-p-4.0.0.15I
  disk0:hfr-mgbl-suppl-4.0.0.15I
  disk0:iosxr-mgbl-4.0.0.15I

disk0:hfr-mppls-p-4.0.0.15I
  disk0:iosxr-mppls-4.0.0.15I

disk0:hfr-diags-p-4.0.0.15I
  disk0:hfr-diags-suppl-4.0.0.15I

disk0:hfr-k9sec-p-4.0.0.15I
  disk0:hfr-k9sec-suppl-4.0.0.15I
  disk0:iosxr-security-4.0.0.15I

disk0:hfr-mcast-p-4.0.0.15I
  disk0:hfr-mcast-suppl-4.0.0.15I
  disk0:iosxr-mcast-4.0.0.15I

disk0:comp-hfr-mini-4.0.0.15I
  disk0:hfr-fwding-4.0.0.15I
  disk0:hfr-base-4.0.0.15I
  disk0:hfr-os-mbi-4.0.0.15I
  disk0:iosxr-routing-4.0.0.15I
  disk0:iosxr-fwding-4.0.0.15I
```

```

disk0:iosxr-infra-4.0.0.15I
disk0:iosxr-diags-4.0.0.15I

disk0:hfr-upgrade-p-4.0.0.15I
disk0:hfr-doc-4.0.0.15I
disk0:hfr-k9sec-4.0.0.15I
disk0:hfr-sbc-4.0.0.15I
disk0:hfr-diags-4.0.0.15I
disk0:hfr-mgbl-4.0.0.15I
disk0:hfr-mcast-4.0.0.15I
disk0:hfr-mpls-4.0.0.15I
disk0:hfr-rout-4.0.0.15I
disk0:hfr-fwdg-4.0.0.15I
disk0:hfr-lc-4.0.0.15I
disk0:hfr-admin-4.0.0.15I

```

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

```

RP/0/RP0/CPU0:router# show install package disk0:comp-
hfr
-mini-4.0.0.15I

Thu May 27 04:26:37.095 DST
disk0:comp-
hfr-mini-4.0.0.15I
  disk0:hfr-fwding-4.0.0.15I
  disk0:hfr-base-4.0.0.15I
  disk0:hfr-os-mpi-4.0.0.15I
  disk0:iosxr-routing-4.0.0.15I
  disk0:iosxr-fwding-4.0.0.15I
  disk0:iosxr-infra-4.0.0.15I
  disk0:iosxr-diags-4.0.0.15I

```

Table 4: show install package Field Descriptions

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

Command Default

Displays summary information.

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	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. The summary keyword was replaced by the brief keyword.

Usage Guidelines

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

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

Task ID

Task ID	Operations
pkg-mgmt	read

Examples

The following example illustrates sample output from the **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
tftp://223.255.254.254/auto/tftpboot/users/usera/hfr-mcast-p.pie
Thu May 27 17:05:19.888 UTC

Contents of pie file '/tftp://223.255.254.254/auto/tftpboot/users/usera/hfr-mcast-p.pie':
  Expiry date       : Oct 17, 2015 01:51:47 UTC
  Uncompressed size : 17694945
  Compressed size   : 7022792

  hfr-mcast-p-4.0.0.18C
    hfr-mcast-sup-4.0.0.18C
    iosxr-mcast-4.0.0.18C
```

The following example illustrates sample output from the **install pie-info** command with the **detail** keyword. 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-3.8.0 detail
Contents of pie file '/disk1:/hfr-mgbl-p.pie-3.8.0':
  Expiry date       : Jan 19, 2007 02:55:56 UTC
  Uncompressed size : 17892613
  hfr-mgbl-3.8.0
  hfr-mgbl V3.8.0[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/3.8.0/hfr/workspace for c28
  Card(s): RP, DRP, DRPSC
  Restart information:
    Default:
      parallel impacted processes restart
      Components in package hfr-mgbl-3.8.0, 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 hfrsemweb V[r33x/1]
    Agranat/Virata Emweb embedded web server
  generic-xmlagent V[r33x/1] Generic XML Agent
  ipsla V[r33x/1] IP SLA Agent (formerly known as Service Assurance )
  manageability-perf V[r33x/1] Performance Management Component for y
  man-xml-alarm-ops V[r33x/1] The XML Operations Provider for alarms.
  man-xml-cfgmgr-ops V[r33x/1] Handler for XML which contains CfgMgrs
  man-xml-cli-ops V[r33x/1] Handler for XML which contains CLI reques
  man-xml-infra V[r33x/1] Generic infrastructure for XML support
  man-xml-mda-ops V[r33x/1] Handler for XML which contains MDA reques
  man-xml-ttyagent V[r33x/1] XML Telnet/SSH agent
  cfg-sh-mgbl V[r33x/1] LR shared plane manageability config
  package-compat V[r33x/1] This is to collect package^Mcompatibilitys
  package-manage V[r33x/3] This is to collect package^Mcompatibilitye
  snmp-assetmib V[r33x/1] CISCO ASSET Management Information Base (M)
  snmp-bulkfilemib V[r33x/1] Bulk File Management Information Base ()
  snmp-assetmib-enhi V[r33x/1] CISCO ENHANCED IMAGE MIB
```

```

snmp-disman-mib V[r33x/1] Event MIB Implementation
snmp--disman-mib V[r33x/1] EXPRESSION-MIB implementation
snmp-frucontrolmib V[r33x/1] CISCO-FRU-CONTROL MIB Implementation A
snmp-ftpclientmib V[r33x/1] FTP Client Management Information Base)
snmp-pingmib V[r33x/1] Ping Management Information Base (MIB)
snmp-sensormib V[r33x/1] Sensor Management Information Base (MIB)

```

The following example illustrates sample output from the **install pie-info** command with the **verbose** keyword. This command displays the same information as the **detail** keyword, plus additional information about 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
  libplåtform_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
ibhttperr.dll
sh_emweb_ns_cfg__api.configinfo

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

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

```

```

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

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

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

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

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

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

```

```

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

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

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

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

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

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

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

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

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

```

Table 5: 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.

Field	Description
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 active	Displays active 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.
---------------------------	---

Command Default None

Command Modes Administration EXEC
EXEC

Command History	Release	Modification
	Release 2.0	This command was introduced.
	Release 3.2	The command was moved from EXEC mode to administration EXEC mode.
	Release 3.3.0	Command syntax was changed from show install requests to show install request .
	Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

Cisco IOS XR software processes only one installation request per secure domain router (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 example shows 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 example shows 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 software functionality 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.
detail	(Optional) Displays a detailed summary of information for a system, SDR, or node, including the packages contained in a composite package.
summary	(Optional) Displays a summary of information in a system or SDR.
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.

Command Default

None

Command Modes

EXEC
Administration EXEC

Command History

Release	Modification
Release 3.0	This command was introduced.
Release 3.2	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	Modification
Release 3.4.0	Support was added for EXEC mode.

Usage Guidelines

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

Use the **show install 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.

Displaying Information for a Specific SDR or All Nodes

- To display information for a specific SDR from administration EXEC mode, use the **sdr sdr-name** keyword and argument.
- To display information for an SDR when logged into that SDR, enter the command in EXEC mode.
- To display information for all SDRs in the system, enter the command in administration EXEC mode, without the **sdr** keyword.

Displaying Information for a Specific Node

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

Summary, Detailed, and Verbose Information

Use the **summary** keyword to display a summary of the 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 with the **?** option 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 a specific rollback point. This display summarizes the packages that are used by the **install rollback to** command:

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

Thu May 27 05:41:36.484 DST
ID: 0, Label:
Timestamp: 09:35:55 UTC Mon May 10 2010

Node 0/6/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/hfr-os-mpi-4.0.0.15I/lc/mbihfr-lc.vm
  Rollback Packages:
    disk0:comp-hfr-mini-4.0.0.15I

Node 0/RP0/CPU0 [HRP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mpi-4.0.0.15I/mbihfr-rp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-4.0.0.15I

Node 0/RP1/CPU0 [HRP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mpi-4.0.0.15I/mbihfr-rp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-4.0.0.15I
```

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

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

Thu May 27 06:01:55.133 DST
ID: 0, Label:
Timestamp: 09:35:55 UTC Mon May 10 2010

Node 0/6/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/hfr-os-mpi-4.0.0.15I/lc/mbihfr-lc.vm
  Rollback Packages:
    disk0:comp-hfr-mini-4.0.0.15I
      disk0:hfr-fwding-4.0.0.15I
      disk0:hfr-base-4.0.0.15I
      disk0:hfr-os-mpi-4.0.0.15I
      disk0:iosxr-routing-4.0.0.15I
      disk0:iosxr-fwding-4.0.0.15I
      disk0:iosxr-infra-4.0.0.15I
      disk0:iosxr-diags-4.0.0.15I

Node 0/RP0/CPU0 [HRP] [SDR: Owner]
  Boot Device: disk0:
  Boot Image: /disk0/hfr-os-mpi-4.0.0.15I/mbihfr-rp.vm
  Rollback Packages:
    disk0:comp-hfr-mini-4.0.0.15I
      disk0:hfr-fwding-4.0.0.15I
      disk0:hfr-base-4.0.0.15I
      disk0:hfr-os-mpi-4.0.0.15I
```

```

disk0:iosxr-routing-4.0.0.15I
disk0:iosxr-fwding-4.0.0.15I
disk0:iosxr-infra-4.0.0.15I
disk0:iosxr-diags-4.0.0.15I

Node 0/RP1/CPU0 [HRP] [SDR: Owner]
Boot Device: disk0:
Boot Image: /disk0/hfr-os-mpi-4.0.0.15I/mbihfr-rp.vm
Rollback Packages:
  disk0:comp-hfr-mini-4.0.0.15I
  disk0:hfr-fwding-4.0.0.15I
  disk0:hfr-base-4.0.0.15I
  disk0:hfr-os-mpi-4.0.0.15I
  disk0:iosxr-routing-4.0.0.15I
  disk0:iosxr-fwding-4.0.0.15I
  disk0:iosxr-infra-4.0.0.15I
  disk0:iosxr-diags-4.0.0.15I

```

Table 6: 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.
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.
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.

Command Default

The default search is performed for the active software set.

Command Modes

Administration EXEC
EXEC

Command History

Release	Modification
Release 2.0	This command was introduced.
Release 3.2	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.

Usage Guidelines

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

Use the **show install 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.

Displaying Information for a Specific SDR or All SDRs

- To display information for a specific SDR from administration EXEC mode, use the **sdr** *sdr-name* keyword and argument.
- To display information for an SDR when logged into that SDR, enter the command in EXEC mode.
- To display information for all SDRs in the system, enter the command in administration EXEC mode, without the **sdr** keyword.

Displaying Information for a Specific Node

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

**Note**

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 cisco discovery protocol (CDP) information for a single node. The **show install which** command is entered with the **file** and **location** keywords specified:

```
RP/0/RP0/CPU0:router# show install which file cdp location 0/6/cpu0
Wed Jul 14 05:56:04.873 DST
Node 0/6/CPU0 has file cdp for boot package /disk0/hfr-os-mpi-4.0.0.24I/lc/mbihfr-lc.vm
from iosxr-fwding
Package:
  iosxr-fwding
    iosxr-fwding V4.0.0.24I[Default] IOS-XR Forwarding Package Definition
    Vendor : Cisco Systems
```

```

Desc    : IOS-XR Forwarding Package Definition
Build   : Built on Thu Jul  8 09:33:02 DST 2010
Source  : By sjc-lds-836 in
/aut0/ioxbuild6/production/4.0.0.24I.SIT_IMAGE/hfr/workspace for pie
Card(s) : RP, RP-B, HRP, DRP, 40G-MSC, SC
Restart information:
  Default:
    parallel impacted processes restart
  Size Compressed/Uncompressed: 28MB/70MB (39%)

Component:
  cdp V[ci-40-bugfix/9]  Cisco Discovery Protocol (CDP)

File:
  cdp
    Card(s)           : RP, RP-B, HRP, DRP, 40G-MSC, SC
    File type         : Server
    Remotely-hosted   : No
    Local view        : /pkg/bin/cdp
    Local install path : /disk0/iosxr-fwding-4.0.0.24I/bin/cdp (Uncompressed)
    Central install path : /disk0/iosxr-fwding-4.0.0.24I/0x13/bin/cdp (Compressed)
    Uncompressed size  : 118KB
    Compressed size    : 50KB
    Uncompressed MD5   : 72a7bcd591b3d0022796b169ce9f612e
    Compressed MD5    : 232144071cc7a9416f731fac0d835ba8

```

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

```

RP/0/RP0/CPU0:router# show install which file cdp location 0/1/CPU0

File cdp not active on node 0/6/CPU0

```

Table 7: show install which Field Descriptions

Field	Description
Package:	Name of the package that contains the file or component being described.
hfr-base V3.8.0	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.

Field	Description
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 active	Displays active 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	Displays active packages.

show issu-warm-reload control-protocol trace

To display control protocol trace data about the ongoing process of an in-service software upgrade (ISSU), use the **show issu-warm-reload control-protocol trace** command in EXEC mode.

```
show issu-warm-reload control-protocol trace data-type type {all|error|information|packet} [hexdump]
[last n] [reverse] [stats] [tailf] [unique][verbose] [wrapping][file filename original]
```

Syntax Description

<i>data-type</i>	The type of data to display. Valid options are: <ul style="list-style-type: none"> • all—Displays all trace data. • chdlc—Displays Cisco High-Level Data Link Control (cHDLC) Serial Line Address Resolution Protocol (SLARP) data. • control-io—Displays control input-output (I/O) data. • ipv6nd—Displays IPv6 ND data. • lACP—Displays Link Aggregation Control Protocol (LACP) data. • platform—Displays platform data. • ppp—Displays PPP data. all, chdlc, control-io, ipv6nd, lACP,
type	Specifies the format of trace data to display.
all	Displays error, information and packet traces.
error	Displays error traces.
information	Displays information traces.
packet	Displays packet traces.
hexdump	(Optional) Displays traces in hexadecimal format.
last <i>n</i>	(Optional) Displays the last <i>n</i> number of traces only.
reverse	(Optional) Displays the most recent traces first.
stats	(Optional) Displays execution path statistics.
tailf	(Optional) Displays new traces as they are added.
unique	(Optional) Displays unique entries only, along with the count of the number of times this entry appears.

verbose	(Optional) Displays additional internal debugging information.
wrapping	(Optional) Displays wrapping entries.
file <i>filename</i> original	(Optional) Specifies the filename of the file to display. You can specify up to four trace files.

Command Default

None.

Command Modes

EXEC

Command History

Release	Modification
Release 4.2.1	This command was introduced.

Usage Guidelines

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

The **show issu-warm-reload control-protocol trace** command only provides information while the ISSU process is running. After the installation is complete, no information is provided.

Task ID

Task ID	Operation
system	read

show issu-warm-reload control-protocol trace