

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 ASR 9000 Series Aggregation Services Router Getting Started Guide*.

- clear install boot-options, on page 3
- clear install label, on page 4
- clear install log-history oldest, on page 5
- clear install rollback oldest, on page 7
- install abort, on page 9
- install activate, on page 11
- install activate (IOS XR 64 bit), on page 18
- install add, on page 21
- install attach, on page 27
- install auto-abort-timer stop, on page 29
- install boot-options, on page 31
- install commit, on page 33
- install deactivate, on page 35
- install deactivate (IOS XR 64 bit), on page 42
- install label, on page 44
- install remove, on page 47
- install rollback to, on page 50
- install upgrade source , on page 54
- show install, on page 58
- show install active, on page 61
- show install repository, on page 64
- show install audit, on page 66
- show install auto-abort-timer, on page 69
- show install boot-options, on page 70
- show install committed, on page 72
- show install health, on page 75
- show install inactive, on page 77
- show install issu inventory, on page 81
- show install issu stage, on page 82

- show install log, on page 83
- show install package, on page 88
- show install pie-info, on page 91
- show install request, on page 94
- show install rollback, on page 96
- show install which, on page 100
- show issu-warm-reload control-protocol trace, on page 103
- show zapdisk locations, on page 105
- zapdisk start location, on page 106
- zapdisk set, on page 107
- zapdisk unset, on page 108

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 {*node-id* | **all**}	(Optional) Specifies a node. The *node-id* argument is expressed in the *rack/slot/module* 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 3.7.2	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

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

```
RP/0/RSP0/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 Topics

install boot-options, on page 31
show install boot-options, on page 70

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

label	Label defined for an installation rollback point.

Command Default

No default behavior or values

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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

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

```
RP/0/RSP0/CPU0:router# clear install label brians_smu

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

Related Topics

install label, on page 44

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

number	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 3.7.2	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

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/RSP0/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/RSP0/CPU0:router# admin
RP/0/RSP0/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 Topics

show install log, on page 83
clear install rollback oldest, on page 7

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

points	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 3.7.2	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.

Command Modes

Enter the **clear install rollback oldest** command in administration EXEC or EXEC mode.

Task ID

Task ID	Operations
pkg-mgmt	read, write

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/RSP0/CPU0:router# admin
RP/0/RSP0/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/RSP0/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/RSP0/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 Topics

show install log, on page 83
install rollback to, on page 50
show install rollback, on page 96

install abort

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

install abort [*request-id*]

Syntax Description

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

Command Default

Abort the current installation operation.

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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.

Command Modes

To halt the software installation operation, use the **install abort** command in administration EXEC or EXEC mode.

Task ID

Task ID	Operations
pkg-mgmt	read, write

The following example shows how to halt an installation operation:

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/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 Topics

install activate, on page 11
install add, on page 21
install deactivate, on page 35

install activate

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

EXEC Mode:

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

Administration EXEC Mode:

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

Syntax Description

device:package	Device and package, expressed in concatenated form (for example, disk0:asr9k-mgbl-4.0.0). For the *device* argument, the value is a specified storage device, typically disk0:. This is the local storage device where the package was added with the **install add** command. Press **?** after a partial package name to display all possible matches available for activation. If there is only one match, press the **Tab** key to fill in the rest of the package name. Up to 16 device–package pairs can be specified. **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, harddisk:*4.0*. 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.
id *add-id*	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.
auto-abort-timer *time*	(Optional) Specifies an abort timer value, in minutes, which when expired loads the last committed loadpath.
sdr *sdr-name*	(Administration EXEC mode only) Activates a package for a specific secure domain router (SDR). The value of the *sdr-name* argument is **Owner**, which refers to the entire router.

location *node-id*	(Optional) Activates a package on the designated node. The *node-id* argument is expressed in *rack/slot/module* notation. **Note** A package cannot be activated on a single node unless some version of the package being activated is already active on all nodes. For example, a Multiprotocol Label Switching (MPLS) package cannot be active on only one node. If a version of the MPLS package is already active on all nodes, an MPLS package then could be upgraded or downgraded on a single node. **Note** To activate a package on all supported nodes, do not specify a location.
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.
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. • **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 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.

EXEC Mode

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

Command Modes

EXEC

Admin EXEC mode

EXEC mode

Command History

Release	Modification
Release 3.7.2	This command was introduced.
Release 4.0.0	This command was removed from EXEC mode. Support for the **sdr** keyword was removed.

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 a Package for a Specific SDR

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

Note Some packages do not support SDR-specific activation and can only be activated for all SDRs simultaneously from administration EXEC mode. For detailed instructions, see the *Managing Cisco IOS XR Software Packages* module of *System Management Configuration Guide for Cisco ASR 9000 Series Routers*.

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, 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.



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.

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/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install activate disk0:?

disk0:comp-asr9k-mini-3.7.2  disk0:asr9k-admin-3.7.2  disk0:asr9k-base-3.7.2
   disk0:asr9k-diags-3.7.2
```

```
disk0:asr9k-fwdg-3.7.2       disk0:asr9k-k9sec-3.7.2  disk0:asr9k-lc-3.7.2
   disk0:asr9k-mcast-3.7.2
disk0:asr9k-mgbl-3.7.2       disk0:asr9k-mpls-3.7.2   disk0:asr9k-os-mbi-3.7.2.1
I  disk0:asr9k-rout-3.7.2
```

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/RSP0/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 2008.
Info:     This operation will activate the following package:
Info:         disk0:asr9k-mcast-3.7.0
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. Use the **install commit** command to make the changes persistent across designated secure domain router shelf controller (DSDRSC) reloads.

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install activate disk0:asr9k-mpls-3.4.0 synchronous

Install operation 15 'install activate disk0:asr9k-mpls-3.4.0 synchronous'
started by user 'user_b' at 19:15:33 UTC Sat Apr 08 2006.
Info:     The changes made to software configurations will not be persistent
Info:     across system reloads. Use the command 'admin install commit' to make
Info:     changes persistent.
Info:     Please verify that the system is consistent following the software
Info:     change using the following commands:
Info:         show system verify
Info:         install verify
Install operation 15 completed successfully at 19:16:18 UTC Sat Apr 08 2006.

RP/0/RSP0/CPU0:router(admin)# install commit

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

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

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install activate disk0:*3.7.2*

Install operation 2 '(admin) install activate disk0:*3.7.2*' started by user
  'user_a' via CLI at 04:30:01 PST Fri Dec 28 2007.
    Info:     This operation will activate the following packages:
    Info:         disk0:asr9k-rout-3.7.2
```

```
  Info:         disk0:asr9k-lc-3.7.2
  Info:         disk0:asr9k-fwdg-3.7.2
  Info:         disk0:asr9k-admin-3.7.2
  Info:         disk0:asr9k-base-3.7.2
  Info:         disk0:asr9k-os-mbi-3.7.2
  Info:         disk0:asr9k-fpd-3.7.2
  Info:         disk0:asr9k-diags-3.7.2
  Info:         disk0:asr9k-mgbl-3.7.2
  Info:         disk0:asr9k-mpls-3.7.2
  Info:         disk0:asr9k-mcast-3.7.2
  Info:         disk0:asr9k-k9sec-3.7.2
  Warning:  The following packages are already active on the specified nodes:
  Warning:      asr9k-os-mbi-3.7.2
  Warning:      asr9k-base-3.7.2
  Warning:      asr9k-admin-3.7.2
  Warning:      asr9k-fwdg-3.7.2
  Warning:      asr9k-lc-3.7.2
  Warning:      asr9k-rout-3.7.2
  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)
  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 2 completed successfully at 04:32:01 PST Fri Dec 28 2007.
```

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

Related Topics

install add, on page 21
install deactivate, on page 35
install commit, on page 33
install activate (IOS XR 64 bit), on page 18
install deactivate (IOS XR 64 bit), on page 42

install activate (IOS XR 64 bit)

To enable the package configurations to be made active on the router so new features and software fixes take effect, use the **install activate** command in EXEC mode or Admin EXEC mode.

install activate *package_name*
install activate id *operation_id*

Syntax Description

package_name	Enter the package names separated by space. **Note** Up to 16 packages can be specified in a single **install activate** command at a time. Multiple packages can be specified using the wildcard syntax, for example, asr9k-*-x64-*3I.
id *operation_id*	The *operation_id* is the ID from the **install add** operation. The **show install request** command displays the operation id number of the **install add** operation and its status. You can also find the *operation_id* in the **show install log** command output.

Command Default

The **install activate** command activates all packages that were added in the specified **install add** operation and the operation is performed in an asynchronous mode. The command runs in the background and the EXEC prompt is returned soon after.

If you use the operation ID (from the add operation) to activate packages, all packages that were added in the specified install add operation are activated together. You do not have to activate the packages individually.

For example, if five packages are added in operation 6, all the five packages are activated together by executing **install activate id** *6* command.

Note

- Activation takes some time and does not happen instantaneously.
- Activation of some SMUs require a manual reloading of the router. When such SMUs are activated, a warning message is displayed to perform reload. The components of the SMU get activated only after the reload is complete.

Command Modes

EXEC mode

Admin EXEC mode

Command History

Release	Modification
Release 6.1.2	Support for IOS XR 64 bit **install activate** command was added.

Usage Guidelines

- Only inactive packages can be activated. Use the **show install inactive** command to identify the inactive packages that are present in the repository.
- If you want to activate packages using the **install activate id** *operation_id* command syntax, use the **show install log** command to identify the operation ID of the add operation.

When a router reloads using **install activate**, if the line card experiences a timeout waiting for the sysdb configuration replay, the system will notify the user once to reload the line card. This reload allows the sysdb configuration to come up properly after the line card restarts.

The following example lets you activate packages by specifying the package names:

```
RP/0/RSP0/CPU0:router# install activate asr9k-m2m-x64-2.0.0.0-r61106I.x86_64
asr9k-optic-x64-1.0.0.0-r61106I.x86_64

Jun 22 14:09:25 Package list:
Jun 22 14:09:25 asr9k-m2m-x64-2.0.0.0-r61106I.x86_64
Jun 22 14:09:25 asr9k-optic-x64-1.0.0.0-r61106I.x86_64
Jun 22 14:09:35 Install operation will continue in the background

RP/0/RSP0/CPU0:router#
```

The following example lets you activate packages by specifying the id from the add operation:

```
RP/0/RSP0/CPU0:router# install activate id 6

Jun 22 15:02:24 Package list:
Jun 22 15:02:24 asr9k-bgp-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-isis-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-k9sec-x64-1.1.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-li-x64-1.1.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-parser-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-m2m-x64-2.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-mgbl-x64-2.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-optic-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-mcast-x64-1.1.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-mpls-te-rsvp-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-eigrp-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-ospf-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-mpls-x64-2.0.0.0-r61106I.x86_64
Jun 22 15:02:25 Skipped packages which were already active:
Jun 22 15:02:25 asr9k-bgp-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:25 asr9k-m2m-x64-2.0.0.0-r61106I.x86_64
Jun 22 15:02:25 asr9k-optic-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:33 Install operation will continue in the background

RP/0/RSP0/CPU0:router#
```

The following example lets you activate multiple packages using the wildcard syntax:

```
RP/0/RSP0/CPU0:router#install activate asr9k-*-x64-*3I

Jun 16 19:35:06 Install operation 105 started by root:
install activate pkg asr9k-*-x64-*3I
Jun 16 19:35:06 Package list:
```

```
Jun 16 19:35:06 asr9k-eigrp-x64-1.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-ospf-x64-1.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-m2m-x64-2.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-k9sec-x64-1.1.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-mpls-x64-1.1.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-bgp-x64-1.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-isis-x64-1.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-mini-x64-6.1.1.03I
Jun 16 19:35:06 asr9k-mgbl-x64-2.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-parser-x64-1.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-optic-x64-1.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-mcast-x64-1.1.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-mpls-te-rsvp-x64-1.0.0.0-r61103I.x86_64
Jun 16 19:35:06 asr9k-li-x64-1.0.0.0-r61103I.x86_64
Jun 22 15:02:33 Install operation will continue in the background

RP/0/RSP0/CPU0:router#
```

install add

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

Administration EXEC Mode:

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

EXEC Mode:

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

Syntax Description

source *source-path*	(Optional) Specifies the source location of the PIE files to be appended to the PIE filenames. Location options are as follows: • **disk0:** • **disk1:** • **compactflash:** • **harddisk:** • **ftp:**//*username* **:** *password*@*hostname* or *ip-address*/*directory-path* • **rcp:**//*username*@*hostname* or *ip-address*/*directory-path* • **tftp:**//*hostname* or *ip-address*/*directory-path*
tar	(Optional) Indicates that the PIE file is contained in a tar file.
file	Name and location of the PIE file (composite package) to install. If a source path location is specified using the **source** keyword, the *file* argument can be either a fully specified PIE file path, or a path to the PIE file relative to the source path. **Note** Up to 32 PIE files can be added to a device in a single **install add** operation. If the **tar** keyword is used, the *file* 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.
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.
auto-abort-timer *time*	(Optional) Specifies an abort timer value, *time*, in minutes, which when expired loads the last committed loadpath.
location *node-id*	(Optional) Activates a package on the designated node. The *node-id* argument is expressed in *rack/slot/module* notation. **Note** A package cannot be activated on a single node unless some version of the package being activated is already active on all nodes. For example, a Multiprotocol Label Switching (MPLS) package cannot be active on only one node. If a version of the MPLS package is already active on all nodes, an MPLS package then could be upgraded or downgraded on a single node.
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. • **default**—You are prompted only when input is required by the operation. • **none**—You are never prompted.
if-active	(Optional. Administration EXEC mode only.) Activates the optional packages only if a version is already active.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Activates a package for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.

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

EXEC mode

Admin EXEC mode

Command History

Release	Modification
Release 3.7.2	This command was introduced.
Release 4.0.0	This command was removed from EXEC mode. The **sdr** keyword was removed.

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:) .

- From administration EXEC mode, the package software files are added to all route processors (RPs) installed in the router. If the **install add** command is entered without specifying an SDR, then the package files are added to all RPs in the owner SDR.
- From EXEC mode, the package software files are added to the RPs only for the SDR to which you are logged in.

Adding and Activating a Package

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

To add and activate a package at the same time, use the **install add** command with the **activate** keyword. When this command is used, the keywords and rules for package activation apply.

- To add and activate a package for the owner SDR, enter the **install add** command with the **activate** keyword from administration EXEC mode.
- It is also possible to add and activate a package using the **install add** command with the **activate** keyword from EXEC mode.

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 *System Management Configuration Guide for Cisco ASR 9000 Series Routers*.

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/RSP0/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-asr9k-mini.pie
asr9k-mgbl-p.pie asr9k-mpls-p.pie
asr9k-mcast-p.pie
```

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

```
RP/0/RSP0/CPU0:router(admin)# install add source
tftp://192.168.254.254/images/user/asr9k-mcast-p.pie
pies/asr9k-mpls-p.pie
ftp://1.2.3.4/other_location/asr9k-mgbl-p.pie
```

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

- tftp://192.168.254.254/images/user/asr9k-mcast-p.pie
- tftp://192.168.254.254/images/user/pies/asr9k-mpls-p.pie
- ftp://1.2.3.4/other_location/asr9k-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.

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/RSP0/CPU0:router# admin
```

```
RP/0/RSP0/CPU0:router(admin)# install add
tftp://209.165.201.1/asr9k-mpls.pie synchronous

Install operation 4 'install add /tftp://209.165.201.1/asr9k-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:asr9k-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 with a single command:

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install add disk1:asr9k-mgbl-p.pie-3.8.0activate

Install operation 4 'install add /disk1:asr9k-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:asr9k-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 Topics

install activate, on page 11
show install log, on page 83
show install request, on page 94
install commit, on page 33

install attach

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

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

Syntax Description

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

Command Default

The command operates in synchronous mode.

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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 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

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/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install activate
disk0:asr9k-mcast-3.7.6

Install operation 14 'install activate
disk0:RP/0/RSP0/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/RSP0/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/RSP0/CPU0:router(admin)# install attach

Install operation 14 'install activate
disk0:asr9k-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 Topics

install activate, on page 11
install add, on page 21
install deactivate, on page 35

install auto-abort-timer stop

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

install auto-abort-timer stop [**sdr** *sdr-name*]

Syntax Description

This command has no keywords or arguments.

Syntax Description

sdr *sdr-name*	(Optional. Administration EXEC mode only.) Deactivates the auto-abort-timer for a specific secure domain router (SDR). The value of the *sdr-name* argument can be Owner.

Command Default

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

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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.

Command Modes

Enter the **install auto-abort-timer stop** command in administration EXEC or EXEC mode to halt the auto-abort-timer operations for the owner SDR.

Task ID

Task ID	Operations
pkg-mgmt	read, write

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

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install auto-abort-timer stop
```

Related Topics

install activate, on page 11
install deactivate, on page 35
install commit, on page 33

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 *node-id*	Specifies a node. The *node-id* argument is expressed in *rack/slot/module* notation.

Command Default

None

Command Modes

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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

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

```
RP/0/RSP0/CPU0:router(admin)# install boot-options clean location 0/0/CPU0

Install operation 7 '(admin) install boot-options clean location 0/
RSP0/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/RSP0/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/RSP0/CPU0:router(admin)# install boot-options format location 0/0/CPU0

Install operation 8 '(admin) install boot-options format location 0/
RSP0/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/RSP0/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 EXEC or Admin EXEC mode EXEC mode.

Administration EXEC Mode:
install commit [**location** *node-id* | **sdr** *sdr-name*]
EXEC mode Mode
install commit

Syntax Description

location *node-id*	(Optional. Admin EXEC mode mode only.)Specifies a node. The *node-id* argument is expressed in *rack*/*slot*/*module* notation.
sdr *sdr-name*	(Optional. Admin EXEC mode only.) Commits the active software set for a specific SDR. The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.

Command Default

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

EXEC mode: Commits the active software set for the current SDR.

Command Modes

EXEC

Admin EXEC mode

EXEC mode

Command History

Release	Modification
Release 3.7.2	This command was introduced.
Release 4.0.0	This command was removed from EXEC mode. Support for the **sdr** keyword was removed.

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.

Command Modes

To commit the active software set for the owner SDR, use the **install commit** command in either administration EXEC or EXEC mode.

Task ID

Task ID	Operations
pkg-mgmt	read, write

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

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/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 Topics

show install log, on page 83
show install committed, on page 72

install deactivate

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

Administration EXEC Mode:
install deactivate {**id** *add-id* | *device***:***package* } [**auto-abort-timer** *time*] [**sdr** *sdr-name*] [**location** *node-id*] [**asynchronous** | **synchronous**] [**parallel-reload**] [**prompt-level** {**default** | **none**}] [**test**] [**pause sw-change**]
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 *add-id*	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.
device **:** *package*	Device and package, expressed in concatenated form (for example, disk0:asr9k-mgbl-3.8.0). For the *device* argument, the value is a specified storage device, typically **disk0:**. Press **?** after a partial package name to display all possible matches available for activation. If there is only one match, press [TAB] to fill in the rest of the package name. Up to 32 *device* **:** *package* pairs can be specified.
auto-abort-timer *time*	(Optional) Specifies an abort timer value, *time* , in minutes, which when expired loads the last committed loadpath.
sdr *sdr-name*	(Optional. Administration EXEC mode only) Deactivates a package for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.
location *node-id*	(Optional) Deactivates a package from the designated node. The *node-id* argument is entered in *rack*/*slot*/*module* notation. **Note** In most cases, a package cannot be deactivated from a node, because some version of that package must be running on all supported nodes after the deactivation operation finishes.
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. • **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.

Administration EXEC mode: The package is deactivated on all supported nodes in the system.

EXEC mode: The package is deactivated on all supported nodes for the SDR.

Command Modes

EXEC

Admin EXEC mode

Command History

Release	Modification
Release 3.7.2	This command was introduced.
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.

Command Modes

To deactivate a package for the owner SDR, use the **install deactivate** command in either administration EXEC or EXEC mode.

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

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 83 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.

These prerequisites must be met before you can perform ISSU:

- You must have a sufficient amount of free memory available on the line cards being downgraded.

Line Card	Part Numbers	Required Memory[1]
Cisco ASR 9000 Series 24-Port 10 Gigabit Ethernet Line Cards Cisco ASR 9000 Series 36-Port 10 Gigabit Ethernet Line Cards	A9K-24X10GE-xx A9K-36X10GE-xx	1099 MB
Cisco ASR 9000 Series 2-Port 100 Gigabit Ethernet Line Cards	A9K-2X100GE-xx	1091 MB
Cisco ASR 9000 Series Modular Line Cards	A9K-MOD80-xx A9K-MOD160-xx	1087 MB
SIP 700 for the ASR 9000 router	A9K-SIP-700	1563 MB
4-Port 10GE Medium Queue Line Card	A9K-4T-B	1071 MB
40-Port GE Medium Queue Line Card	A9K-40G-B	1071 MB
8-Port 10GE Medium Queue Oversubscribed Line Card	A9K-8T/4-B	1071 MB
2-Port 10GE, 20-Port GE Medium Queue Combo Line Card	A9K-2T20GE-B	1071 MB
8-Port 10GE Medium Queue Line Card	A9K-8T-B	711 MB
16-Port 10GE Medium Queue Oversubscribed Line Card	A9K-16/8T-B	711 MB
4-Port 10GE High Queue Line Card	A9K-4T-E	711 MB
40-Port GE High Queue Line Card	A9K-40G-E	711 MB
8-Port 10GE High Queue Oversubscribed Line Card	A9K-8T/4-E	711 MB
2-Port 10GE, 20-Port GE High Queue Combo Line Card	A9K-2T20GE-E	711 MB
8-Port 10GE High Queue Line Card	A9K-8T-E	711 MB

[1] Approximate value for low to medium scale.

- 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 downgrade.
- Cisco recommends that you do a backup of the ASCII configuration before each downgrade.

Note the following restrictions regarding ISSU:

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

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/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install deactivate disk0:?

disk0:comp-asr9k-mini-3.8.0  disk0:asr9k-admin-3.8.0  disk0:asr9k-base-3.8.0
   disk0:asr9k-diags-3.8.0
disk0:asr9k-fwdg-3.8.0       disk0:asr9k-k9sec-3.8.0  disk0:asr9k-lc-3.8.0
   disk0:asr9k-mcast-3.8.0
disk0:asr9k-mgbl-3.8.0       disk0:asr9k-mpls-3.8.0   disk0:asr9k-os-mbi-3.8.0.1
I  disk0:asr9k-rout-3.8.0
```

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

```
RP/0/RSP0/CPU0:router(admin)# install deactivate
disk0:asr9k-mpls-3.8.0 synchronous

Install operation 14 'install deactivate disk0:asr9k-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.
```

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:asr9k-diags-3.7.90 location 0/6/cpu0

Install operation 25 'install deactivate disk0:asr9k-diags-3.7.90 on node
0/6/CPU0' started by user 'user_b' at 23:01:38 UTC Sat Apr 15 2009.
Error:    Cannot proceed with the deactivation because of the following package
Error:    incompatibilities:
Error:      asr9k-diags-3.7.90 on nodes of type RP needs asr9k-diags-3.7.90, or
Error:    equivalent, to be active on node 0/6/CPU0 on secure domain router
Error:    Owner.
Error:      asr9k-diags-3.7.90 on nodes of type SP needs asr9k-diags-3.7.90, or
Error:    equivalent, to be active on node 0/6/CPU0 on secure domain router
Error:    Owner.
Error:      asr9k-diags-3.7.90 on nodes of type LC needs asr9k-diags-3.7.90, 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 2009.
```

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/RSP0/CPU0:router(admin)# install deactivate
disk0:comp-asr9k-3.8.0.07I.CSCsr09575-1.0.0
pause sw-change

Install operation 12 '(admin) install deactivate disk0:comp-asr9k-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/RSP0/CPU0:ensoft-gsr13(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/RSP0/CPU0:router# install deactivate
disk0:asr9k-mpls-3.8.0.10I
sync pause sw-change
Wed Jul 23 14:42:11.273 UTC
Install operation 8 'install deactivate disk0:asr9k-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/RSP0/CPU0:router# install operation 8 ?

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

RP/0/RSP0/CPU0:router# install operation 8 complete

Wed Jul 23 14:43:04.562 UTC
RP/0/RSP0/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 Topics

install activate, on page 11
install remove, on page 47
show install inactive, on page 77
show install log, on page 83
show install request, on page 94
install activate (IOS XR 64 bit), on page 18
install deactivate (IOS XR 64 bit), on page 42
install commit, on page 33

install deactivate (IOS XR 64 bit)

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

install deactivate *package_name*
install deactivate id *operation_id*

Syntax Description

package_name	Enter the package names separated by space. **Note** Up to 16 packages can be specified in a single **install deactivate** command at a time. Multiple packages can be specified using the wildcard syntax, for example, asr9k-*-x64-*3I.
id *operation_id*	The *operation_id* is the ID from the **install add** operation. The **show install request** command displays the operation id number of the **install add** operation and its status. You can also find the *operation_id* in the **show install log** command output.

Command Default

The **install deactivate** command deactivates all features and software patches associated with the specified activated packages. This operation is performed in an asynchronous mode and the command runs in the background.

If you use the operation ID (from the add operation) to deactivate packages, all packages that were added in the specified **install add** operation are deactivated together. You do not have to deactivate the packages individually.

For example, if five packages are added in operation 6, all the five packages are deactivated together by executing **install deactivate id** *6* command.

Note The System admin packages that were added as a part of the **install add** operation (of the ID used in deactivate operation) will also be deactivated.

Command Modes

EXEC mode

Admin EXEC mode

Command History

Release	Modification
Release 6.1.2	Support for IOS XR 64 bit **install deactivate** command was added.

Usage Guidelines

- Only active packages can be deactivated. Use the **show install active** command to identify the active packages.

- If you want to deactivate packages using the **install deactivate id** *operation_id* command syntax, use the **show install log** command to identify the operation ID of the add operation.
- If you want to remove the inactive packages from the repository, use the **show install inactive** command to identify the deactivated packages that are now listed as inactive packages.

  Then, use the **install remove** command to remove the packages from the repository.

  When a router reloads using **install deactivate**, if the line card experiences a timeout waiting for the sysdb configuration replay, the system will notify the user once to reload the line card. This reload allows the sysdb configuration to come up properly after the line card restarts.

The following example lets you deactivate packages by specifying the package names:

```
RP/0/RSP0/CPU0:router# install deactivate asr9k-m2m-x64-2.0.0.0-r61106I.x86_64
asr9k-optic-x64-1.0.0.0-r61106I.x86_64

Jun 22 14:09:25 Package list:
Jun 22 14:09:25 asr9k-m2m-x64-2.0.0.0-r61106I.x86_64
Jun 22 14:09:25 asr9k-optic-x64-1.0.0.0-r61106I.x86_64
Jun 22 14:09:35 Install operation will continue in the background

RP/0/RSP0/CPU0:router#
```

The following example lets you deactivate packages by specifying the id from the add operation:

```
RP/0/RSP0/CPU0:router# install deactivate id 6

Jun 22 15:02:24 Package list:
Jun 22 15:02:24 asr9k-bgp-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-isis-x64-1.0.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-k9sec-x64-1.1.0.0-r61106I.x86_64
Jun 22 15:02:24 asr9k-li-x64-1.1.0.0-r61106I.x86_64
Jun 22 15:02:33 Install operation will continue in the background

RP/0/RSP0/CPU0:router#
```

The following example lets you deactivate multiple packages using the wildcard syntax:

```
RP/0/RSP0/CPU0:router# install deactivate *-r61103I

Jun 16 19:35:06 Install operation 108 started by root:
install deactivate pkg asr9k-mpls-x64-1.1.0.0-r61103I asr9k-mpls-te-rsvp-x64-1.0.0.0-r61103I

asr9k-mcast-x64-1.1.0.0-r61103I
Jun 16 19:35:06 Package list:
Jun 16 19:35:06 asr9k-mpls-x64-1.1.0.0-r61103I
Jun 16 19:35:06 asr9k-mpls-te-rsvp-x64-1.0.0.0-r61103I
Jun 16 19:35:06 asr9k-mcast-x64-1.1.0.0-r61103I
Jun 16 19:35:06 Install operation will continue in the background

RP/0/RSP0/CPU0:router#
```

install label

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

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

Syntax Description

point-id	Installation point ID number.
description *description*	Specifies a description for the specified rollback point.
label-name *label*	Specifies a label for the specified rollback point.

Command Default

No default behavior or values

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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**

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

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

- No white-space
- Cannot include any of the following CLI keywords:
  - **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

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

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/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 Topics

install activate, on page 11

install remove

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

Administration EXEC Mode:
install remove {**id** *add-id* | *device***:***package* | **inactive**} [**sdr** *sdr-name*] [**prompt-level** {**default** | **none**}] [**asynchronous** | **synchronous**] [**test**]
EXEC Mode:
install remove {*device***:***package* | **inactive**} [**prompt-level** {**default** | **none**}] [**asynchronous** | **synchronous**] [**test**]

Syntax Description

id *add-id*	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
device **:** *package*	Device and package, expressed in concatenated form (for example, disk0:asr9k-mgbl-3.8.0). For the *device* argument, the value is a specified storage device, typically **disk0:**. **Note** Multiple packages can be removed at the same time. Up to 32 *device* **:** *package* pairs can be specified.
inactive	Removes all inactive, noncommitted packages from the boot device (usually disk0:).
sdr *sdr-name*	(Optional. Administration EXEC mode only) Removes a package for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR.
prompt-level {**default** | **none**}	(Optional) Specifies when you are prompted for input during the procedure. • **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 EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.
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.

Command Modes

- To remove packages from the Owner SDR, use the **install remove** command in administration EXEC or EXEC mode.
- To remove all inactive packages from the boot device in the system or SDR, use the **install remove** command with the **inactive** keyword.

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** 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.

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/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install remove
disk0:asr9k-diags-3.7.90 test

Install operation 30 'install remove disk0:asr9k-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:asr9k-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/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# install remove inactive synchronous

RP/0/RSP0/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:asr9k-compmgmt__installmgr-0.0.5
Proceed with removing these packages? [confirm]
The install operation will continue asynchronously.
```

Related Topics

install add, on page 21
show install log, on page 83
show install inactive, on page 77
show install request, on page 94

install rollback to

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

Administration EXEC Mode:
install rollback to {*point-idlabel* | **committed**} [**auto-abort-timer** *time*] **location** *node-id* [**sdr** *sdr-name*] [**asynchronous** | **synchronous**] [**parallel-reload**] [**prompt-level** {**default** | **none**}] [**test**] [**pause sw-change**]
EXEC Mode:
install rollback to {*point-idlabel* | **committed**} [**auto-abort-timer** *time*] **location** *node-id* [**asynchronous** | **synchronous**] [**parallel-reload**] [**prompt-level** {**default** | **none**}] [**test**] [**pause sw-change**]

Syntax Description

point-id	Installation point ID number.
label	Label associated with an installation point.
committed	Rolls the Cisco IOS XR software back to the last committed installation point.
auto-abort-timer *time*	(Optional) Specifies an abort timer value, *time* , in minutes, which when expired loads the last committed loadpath.
location *node-id*	Specifies a node. The *node-id* argument is expressed in *rack/slot/module* notation.
sdr *sdr-name*	(Optional) Rolls back the software set for a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router. 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. • **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

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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.

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/RSP0/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.

Rolling Back the Software Set for a Specific SDR

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

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

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

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/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/RSP0/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/RSP0/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/RSP0/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/RSP0/CPU0:router# install operation 16 complete

Wed Jul 23 15:38:35.197 UTC
RP/0/RSP0/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)
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 16 completed successfully at 15:39:18 UTC Wed
  Jul 23 2008.

RP/0/RSP0/CPU0:router#
```

Related Topics

show install log, on page 83
show install request, on page 94
clear install rollback oldest, on page 7
install commit, on page 33
install label, on page 44
show install rollback, on page 96

install upgrade source

To upgrade the software package, use the **install upgrade source** command in administration EXEC mode.

install upgrade source [**ftp** | **tftp***system-disk*] [**path** *directory-path*] [*file-name* | **version** *version-number* | **packages**] *[source-file]* [**synchronous**] [**pause-reload**]

Syntax Description

source	Specify the source location of the PIE files to be appended to the PIE filenames. Location options are as follows: **ftp:** —Copies from an FTP network server. The syntax is **ftp:**[[[//*username* [:*password*]@] *location*]/*directory*]/*filename.* **tftp:** —Copies from a TFTP network server. The syntax is **tftp:**[[//*location*]/*directory*]/*filename* *system disk* —Copies package source from system disk. Location options are as follows: • **harddisk:** —Copies from the hard disk drive file system (if present). • **disk1:** —Copies from disk1: file system.
path *directory-path*	Specify the storage device and directory for the file search. The search is performed for the specified directory and all subdirectories in that directory tree. The syntax for directory-path is: *device :[/ directory-path]* If a directory path is not specified, then the search is performed in the current directory (a path of . [dot] is assumed).
file-name	Only for TFTP, with file that contains a list of packages to be installed **Note** Directory listing is not possible
version *version-number*	Specify the package version that is to be installed
packages	Specify the package names to install (packages can be *tar* file)
source-file	Specify the source location of the PIE files on the system
synchronous	(Optional) Performs the command in synchronous mode. This mode allows the installation process to be completed before the prompt is returned. **Note** By default, installation operations are performed in asynchronous mode. In asynchronous mode, the command will run without expecting any user inputs while holding the prompt.

pause-reload	(Optional) Pauses the operation before any reload occurs. The configuration remains locked for the activation. This keyword precedes the following two keywords: • **pause-reload allow-sw-change**—The operation pauses before locking the configuration and provides the option to hold the operation while you perform configuration changes. You can proceed with the activation whenever you choose. • **pause-reload disallow-sw-change**—The operation pauses before reload but this will not allow you to make any configuration changes. **Note** These keywords are applicable for asynchronous and synchronous operations. In both cases, follow onscreen instructions to control the pausing and completion of the operation.

Command Default

By default **install upgrade source** picks active version packages.

Command Modes

Administration EXEC

Command History

Release	Modification
Release 5.3.2	This command was introduced.

Usage Guidelines

When a router reloads using **install upgrade source**, if the line card experiences a timeout waiting for the sysdb configuration replay, the system will notify the user once to reload the line card. This reload allows the sysdb configuration to come up properly after the line card restarts.

FTP

Use the following options to upgrade the system using FTP as source:

- Only repository without version—It picks delta packages (ignoring optional packages) of the active version; that is, the difference between packages present in the file specified and packages active on the system.
- Repository with version—It picks packages of the specified version. If a mini package of the specified version is found in the file, it will upgrade the system, provided all dependency and package compatibility checks are completed successfully.
- Packages—Specifies the list of packages to add or upgrade the system. This option can be used to add *tar* files.

TFTP

Use the following options to upgrade the system using TFTP as source:

- File-name—This option requires the package list to be provided in a file, which can then be used to upgrade the system or update the packages or SMU's. It picks delta packages (ignoring optional packages) of the active version; that is, the difference between packages present in the file specified and packages active on the system.

- File-name with version—It picks packages of the specified version. If a mini package of the specified version is found in the file, it will upgrade the system, provided all dependency and package compatibility checks are completed successfully.
- Packages—Specifies the list of packages to add or upgrade the system. This option can be used to add *tar* files.

harddisk

Use the following options to upgrade the system using harddisk as source:

- Only repository without version—It picks delta packages (ignoring optional packages) of the active version; that is, the difference between packages present in the file specified and packages active on the system.
- Repository with version—It picks packages of the specified version. If a mini package of the specified version is found in the file, it will upgrade the system, provided all dependency and package compatibility checks are completed successfully.
- Packages—Specifies the list of packages to add or upgrade the system. This option can be used to add *tar* files.

Task ID

Task ID	Operation
pkg-mgmt	execute

Example

This example shows how to upgrade a package to 5.2.4 version with image asr9k-mini-px.pie-5.2.4 from the FTP repository, using the **install upgrade source** command:

```
RP/0/RSP0/CPU0:router#admin
RP/0/RSP0/CPU0:router(admin)#install upgrade source ftp://10.10.10.10/yum_like_upgrade
asr9k-mini-px.pie-5.2.4 synchronous
```

This example shows how to upgrade a package to 5.3.2 version from the on-system repository, using the **install upgrade source** command:

```
RP/0/RSP0/CPU0:router#admin
RP/0/RSP0/CPU0:router(admin)#install upgrade source harddisk:/images/532  version 5.3.2
synchronous
```

This example shows how to upgrade package to release 5.1.0 from the TFTP repository, using the **install upgrade source** command:

```
RP/0/RSP0/CPU0:router#admin
RP/0/RSP0/CPU0:router(admin)# install upgrade source tftp://10.10.10.10/auto/tftpboot/userid
 file-name packages.txt version 5.1.0  synchronous
```

This example shows how to add and activate the package or SMU of active version using the **install upgrade source** command:

```
RP/0/RSP0/CPU0:router#admin
RP/0/RSP0/CPU0:router(admin)# install upgrade source tftp://10.10.10.10/packages pkg1,pkg2
```

pkg1 is an optional package and pkg2 is a SMU. Both are active versions, but inactive on the system. The **install upgrade source** command checks whether the package or SMU is already inactive on system. If it is in inactive, the command skips its downloading, and adds as well as activates optional packages or SMUs along with its pre requisites.

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 *sdr-name*	(Optional. Administration EXEC mode only.) Displays the active packages for a specific SDR. The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.
location *node-id*	(Optional) Displays the active packages for a designated node. The *node-id* argument is expressed in *rack*/*slot*/*module* notation.

Command Default

No default behavior or values

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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.



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

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

Displaying Information for a Specific SDR

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

Displaying Information for a Specific Node

Use the **location** *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

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

```
RP/0/RSP0/CPU0:router# show install location 0/rp0/cpu0
Thu May 20 10:08:54.666 DST
  Node 0/RP0/CPU0 [HRP] [SDR: Owner]
    Boot Device: disk0:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0/mbi-rp.vm
    Active Packages:
      disk0:asr9k-k9sec-p-3.9.0
      disk0:asr9k-mpls-p-3.9.0
      disk0:asr9k-mgbl-p-3.9.0
      disk0:asr9k-mcast-p-3.9.0
      disk0:asr9k-doc-p-3.9.0
      disk0:comp-asr9k-mini-3.9.0
      disk0:asr9k-fpd-3.9.0
      disk0:asr9k-diags-p-3.9.0
```

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

```
RP/0/RSP0/CPU0:router# show install summary

Thu May 20 10:14:38.919 DST
  Active Packages:
    disk0:asr9k-upgrade-p-3.9.0
    disk0:asr9k-k9sec-p-3.9.0
    disk0:asr9k-mpls-p-3.9.0
    disk0:asr9k-mgbl-p-3.9.0
    disk0:asr9k-mcast-p-3.9.0
    disk0:asr9k-doc-p-3.9.0
    disk0:comp-asr9k-mini-3.9.0
    disk0:asr9k-fpd-3.9.0
    disk0:asr9k-diags-p-3.9.0
```

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 Topics

install activate, on page 11
show install active, on page 61
show install package, on page 88
show install pie-info, on page 91
show install which, on page 100

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**] [**location** *node-id*]

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

Command Default

None

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

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 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 Superceded SMUs

The **show install active** command doesnot display superceded SMUs. To get details of the superceded SMUs, use the **show install superceded** command.

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

```
RP/0/RSP0/CPU0:router# show install active location 0/1/cpu0

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.30I/mbiasr9k-lc.vm
    Active Packages:
      disk0:asr9k-adv-video-3.9.0.14I
      disk0:asr9k-fpd-3.9.0.30I
      disk0:asr9k-diags-3.9.0.30I
      disk0:asr9k-k9sec-3.9.0.30I
      disk0:asr9k-mcast-3.9.0.30I
      disk0:asr9k-mpls-3.9.0.30I
      disk0:comp-
asr9k-mini-3.9.0.30I
```

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

```
RP/0/RSP0/CPU0:router(admin)# show install active summary

Wed May 26 12:01:27.993 PST
Default Profile:
  Admin Resources
  SDRs:
    Owner
  Active Packages:

    disk0:asr9k-doc-3.9.0.03I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.03I
    disk0:asr9k-diags-3.9.0.03I
    disk0:asr9k-k9sec-3.9.0.03I
    disk0:asr9k-mgbl-3.9.0.03I
    disk0:asr9k-mcast-3.9.0.03I
    disk0:asr9k-mpls-3.9.0.03I
    disk0:comp-
asr9k-mini-3.9.0.03I
```

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 Topics

install activate, on page 11
show install package, on page 88
install activate (IOS XR 64 bit), on page 18
show install pie-info, on page 91
show install which, on page 100

show install repository

To display the packages in the repository, use the **show install repository** command in XR EXEC or System Admin mode.

show install repository [**all**]

Syntax Description

all	Shows information about **all** the install software repositories.

Command Default

None

Command Modes

XR EXEC

System Admin

Command History

Release	Modification
Release 7.0.1	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 following example illustrates sample output from the **show install repository all** in XR EXEC mode:

```
RP/0/RSP0/CPU0:ios#show install repository all
Wed Oct 18 10:01:14.158 UTC
1 package(s) in Host repository:
    host-7.4.1.37I
3 package(s) in Admin repository:
    asr9k-sysadmin-7.4.1.37I
    asr9k-common-7.4.1.37I
    asr9k-mini-x64-7.4.1.37I
3 package(s) in XR repository:
    asr9k-xr-7.4.1.37I
    asr9k-common-7.4.1.37I
    asr9k-mini-x64-7.4.1.37I
```

The following example shows the output of the **show install repository all** command in System Admin mode:

```
sysadmin-vm:0_RSP0#show install repository all
Wed Oct  18 10:02:31.254 UTC+00:00
 Admin repository
---------------------
 asr9k-common-7.4.1.37I
 asr9k-mini-x64-7.4.1.37I
 asr9k-sysadmin-7.4.1.37I

  XR repository
------------------
 asr9k-common-7.4.1.37I
 asr9k-mini-x64-7.4.1.37I
```

```
 asr9k-xr-7.4.1.37I

  Host repository
---------------------
 host-7.4.1.37I
```

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 *file-name*	Specifies the location and name of the installation audit file.
sdr *sdr-name*	(Optional. Administration EXEC mode only.) Audits the active packages on a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.
location *node-id*	(Optional) Audits the active packages on a designated node. The *node-id* argument is expressed in *rack/slot/module* 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 3.7.2	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:

```
#  R3.7.2
#  some comments
#
comp-
asr9k-mini-3.7.2
asr9k-mgbl-3.7.2
asr9k-mcast-3.7.2
asr9k-mpls-3.7.2
asr9k-base-3.7.2.CSCek42760
asr9k-base-3.7.2.CSCse14607
asr9k-mpls-3.7.2.CSCse00294
comp-asr9k-3.7.2.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

The following sample output indicates that the audit is successful:

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/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/RSP0/CPU0:router(admin)# show install audit file tftp://10.2.2.2/install_list.txt

Info:  Package (asr9k-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 Topics

install activate, on page 11
show install active, on page 61
show install package, on page 88
show install pie-info, on page 91
show install which, on page 100

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 3.7.2	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

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

```
RP/0/RSP0/CPU0:router# show install auto-abort-timer

No Auto Abort Timer(s) present
```

Related Topics

install activate, on page 11
install deactivate, on page 35

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 {*node-id* | **all**}	(Optional) Specifies a node. The *node-id* argument is expressed in *rack/slot/module* 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 3.7.2	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

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

```
RP/0/RSP0/CPU0:router# show install boot-options

Thu Jul 30 05:00:30.652 DST
Node                              Boot Options
----------------------------------+-------------------
0/RSP0/CPU0                       no boot options set.
0/1/CPU0                          no boot options set.
0/4/CPU0                          no boot options set.
0/6/CPU0                          no boot options set.
```

Related Topics

reload (administration EXEC)

hw-module location reload

clear install boot-options, on page 3

show install boot-options, on page 70
install boot-options, on page 31

show install committed

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

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

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

Syntax Description

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

Command Default

Displays detailed information for all nodes in the SDR or system.

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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.

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

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

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

Displaying Information for a Specific SDR

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

Task ID

Task ID	Operations
pkg-mgmt	read

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

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# show install committed summary

Thu May 27 00:06:11.155 DST
  Committed Packages:
    disk0:asr9k-doc-3.9.0.04I
    disk0:asr9k-fpd-3.9.0.04I
    disk0:asr9k-adv-video-3.9.0.04I
    disk0:asr9k-diags-3.9.0.04I
    disk0:asr9k-k9sec-3.9.0.04I
    disk0:asr9k-mgbl-3.9.0.04I
    disk0:asr9k-mcast-3.9.0.04I
    disk0:asr9k-mpls-3.9.0.04I
    disk0:comp-
asr9k-mini-3.9.0.04I
```

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

```
RP/0/RSP0/CPU0:router# show install committed

Tue Jul 28 01:50:32.337 DST
Secure Domain Router: Owner

  Node 0/RSP0/CPU0 [RP] [SDR: Owner]
    Boot Device: disk0:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/mbiasr9k-rp.vm
    Committed Packages:
```

```
    disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.14I
    disk0:asr9k-k9sec-3.9.0.14I
    disk0:asr9k-mgbl-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I

Node 0/1/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
  Committed Packages:
    disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I

Node 0/4/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
  Committed Packages:
    disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I

Node 0/6/CPU0 [LC] [SDR: Owner]
  Boot Device: mem:
  Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
  Committed Packages:
    disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-adv-video-3.9.0.14I
    disk0:asr9k-fpd-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I
```

Table 3: show install committed Field Descriptions

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

Related Topics

install activate, on page 11
show install active, on page 61
show install package, on page 88
install commit, on page 33
show install, on page 58
show install pie-info, on page 91
show install which, on page 100

show install health

To validate the status of all relevant parameters and ensure the system is ready for an upgrade, use the **show install health** command in administration EXEC mode.

show install health

Syntax Description

This command has no keywords or arguments.

Command Default

None

Command Modes

Administration EXEC

Command History

Release	Modification
Release 6.3.1	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 health** command provides the ability to check the status of all parameters before an upgrade without interrupting the system.

Task ID

Task ID	Operation
pkg-mgmt	read

This example displays output from the **show install health** command:

```
RP/0/RSP0/CPU0:router(admin)# show install health
sysadmin-vm:0_RP0# show install health
Platform is: xrv9k
Collecting Cards Information
Collecting Sysadmin VMs Information
Collecting XR VMs Information
Verifying all the required VMs are running.
Pass: All required VMs are Running
Collecting sysadmin VMs data
Collecting Host data
Collecting XR VMs data
Collecting Lead VMs data
Verifying Test Plugins
Verifying Plugins results
Verifying Result for:cal_version
Verifying Result for:cal_smus
Verifying Result for:cal_local_active_swp
Verifying Result for:cal_local_committed_swp
Verifying Result for:cal_disk_space
Verifying Result for:cal_marker_files
Verifying Result for:cal_mount_points
Verifying Result for:cal_stale_symlinks
Verifying Result for:cal_prepared_packages
```

```
Verifying Result for:cal_master_active_swp
Verifying Result for:cal_master_committed_swp
Verifying Result for:xr_master_active_swp
Verifying Result for:xr_master_committed_swp
Verifying Result for:xr_local_active_swp
Verifying Result for:xr_local_committed_swp
Verifying Result for:cal_image
Verifying Result for:host_version
Verifying Result for:host_smus
Verifying Result for:xr_version
Verifying Result for:xr_smus
Verifying Result for:xr_disk_space
Verifying Result for:xr_marker_files
Verifying Result for:xr_mount_points
Verifying Result for:xr_stale_symlinks
Verifying Result for:xr_prepared_packages
**********************************************************************
System is in Consistent State. You can go ahead with next operation.
**********************************************************************
Total time taken: 6.94424414635 seconds.
```

show install inactive

To display the inactive packages on the designated shelf controller (DSC) 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 *sdr-name*	(Optional. Administration EXEC mode only.) Displays the inactive packages for a the boot device in a specific secure domain router (SDR). The *sdr-name* argument is the name assigned to the SDR. The only SDR available is Owner, which refers to the entire router.
location *node-id*	(Optional) Displays the inactive software set from a designated node. The *node-id* argument is expressed in *rack/slot/module* notation.

Command Default

None

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

Usage Guidelines

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

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.

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.

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

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

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
      disk0:asr9k-base-3.7.2
      disk0:asr9k-os-mbi-3.7.2

  Node 0/4/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
      disk0:asr9k-base-3.7.2
      disk0:asr9k-os-mbi-3.7.2

  Node 0/6/CPU0 [LC] [SDR: Owner]
    Boot Device: bootflash:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
      disk0:asr9k-base-3.7.2
      disk0:asr9k-os-mbi-3.7.2

  Node 0/RSP0/CPU0 [HRP] [SDR: Owner]
```

```
    Boot Device: disk0:
    Inactive Packages:
      disk0:comp-asr9k-mini-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-doc-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mgbl-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
      disk0:asr9k-rout-3.7.2
      disk0:asr9k-base-3.7.2
      disk0:asr9k-os-mbi-3.7.2
```

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

```
RP/0/RSP0/CPU0:router# show install inactive summary

Tue Feb  3 02:09:21.359 PST
  Inactive Packages:
    disk0:comp-asr9k-mini-3.7.2
    disk0:asr9k-infra-test-3.7.2
    disk0:asr9k-fpd-3.7.2
    disk0:asr9k-doc-3.7.2
    disk0:asr9k-diags-3.7.2
    disk0:asr9k-mgbl-3.7.2
    disk0:asr9k-mcast-3.7.2
    disk0:asr9k-mpls-3.7.2
    disk0:asr9k-rout-3.7.2
    disk0:asr9k-base-3.7.2
    disk0:asr9k-os-mbi-3.7.2
```

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

```
RP/0/RSP0/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-asr9k-mini-3.7.2
        disk0:asr9k-lc-3.7.2
        disk0:asr9k-fwdg-3.7.2
        disk0:asr9k-admin-3.7.2
        disk0:asr9k-base-3.7.2
        disk0:asr9k-os-mbi-3.7.2
      disk0:asr9k-infra-test-3.7.2
      disk0:asr9k-fpd-3.7.2
      disk0:asr9k-diags-3.7.2
      disk0:asr9k-mcast-3.7.2
      disk0:asr9k-mpls-3.7.2
```

Table 4: show install inactive Field Descriptions

Field	Description
disk0:asr9k-mgbl-3.8.0	Storage device and the name of the package that is inactive.
asr9k-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 Topics

install deactivate, on page 35
show install package, on page 88
install deactivate (IOS XR 64 bit), on page 42
show install pie-info, on page 91
show install which, on page 100

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 *ism-card-type*	displays information regarding a specific card type. *ism-card-type* values can be of the following: **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

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

```
RP/0/RSP0/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

install-id	(Optional) Identifier assigned to an installation operation.
from *install-id*	(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 3.7.2	This command was introduced.

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

- 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.

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).

The following example shows a summary of all installation requests:

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/CPU0:router(admin)# show install log

Tue Jul 28 02:01:55.887 DST

Install operation 1 started by user 'user' via CLI at 14:14:19 DST Tue Jul
14 2009.
    (admin) install add /compactflash:asr9k-k9sec-p.pie-3.9.0.14I
    /compactflash:asr9k-mcast-p.pie-3.9.0.14I
    /compactflash:asr9k-mgbl-p.pie-3.9.0.14I
    /compactflash:asr9k-mpls-p.pie-3.9.0.14I
    /compactflash:asr9k-fpd.pie-3.9.0.14I
    /compactflash:asr9k-diags-p.pie-3.9.0.14I
    /compactflash:asr9k-adv-video-p.pie-3.9.0.14I activate
    Install operation 1 completed successfully at 14:27:50 DST Tue Jul 14 2009.

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

Install operation 2 started by user 'user' via CLI at 14:28:16 DST Tue Jul
14 2009.
    (admin) install commit
    Install operation 2 completed successfully at 14:28:18 DST Tue Jul 14 2009.

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

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/RSP0/CPU0:router(admin)# show install log 2 detail

Tue Jul 28 02:09:08.628 DST

Install operation 2 started by user 'user_b' via CLI at 14:28:16 DST Tue Jul14 2009.
(admin) install commit
Install operation 2 completed successfully at 14:28:18 DST Tue Jul 14 2009.

Install logs:
    Install operation 2 '(admin) install commit' started by user 'user_b' via
    CLI at 14:28:16 DST Tue Jul 14 2009.
    Install operation 2 completed successfully at 14:28:18 DST Tue Jul 14 2009.

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

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/RSP0/CPU0:router(admin)# show install log 2 verbose

Tue Jul 28 02:21:49.011 DST
```

```
Install operation 1 started by user 'user_b' via CLI at 14:14:19 DST Tue Jul
14 2009.
(admin) install add /compactflash:asr9k-k9sec-p.pie-3.9.0.14I
/compactflash:asr9k-mcast-p.pie-3.9.0.14I
/compactflash:asr9k-mgbl-p.pie-3.9.0.14I
/compactflash:asr9k-mpls-p.pie-3.9.0.14I
/compactflash:asr9k-fpd.pie-3.9.0.14I
/compactflash:asr9k-diags-p.pie-3.9.0.14I
/compactflash:asr9k-adv-video-p.pie-3.9.0.14I activate
Install operation 1 completed successfully at 14:27:50 DST Tue Jul 14 2009.

Install logs:
    Install operation 1 '(admin) install add
    /compactflash:asr9k-k9sec-p.pie-3.9.0.14I
    /compactflash:asr9k-mcast-p.pie-3.9.0.14I
    /compactflash:asr9k-mgbl-p.pie-3.9.0.14I
    /compactflash:asr9k-mpls-p.pie-3.9.0.14I
    /compactflash:asr9k-fpd.pie-3.9.0.14I
    /compactflash:asr9k-diags-p.pie-3.9.0.14I
    /compactflash:asr9k-adv-video-p.pie-3.9.0.14I activate' started by
    user 'user_b' via CLI at 14:14:19 DST Tue Jul 14 2009.
    Part 1 of 2 (add software): Started
    Warning:  Skipped adding the following package as it was already present:
    Warning:      disk0:asr9k-diags-3.9.0.14I
    Warning:  Please check:
    Warning:   - the set of active packages using '(admin) show install
    Warning:     active'.
    Warning:   - the set of inactive packages using '(admin) show install
    Warning:     inactive'.
    Info:     The following packages are now available to be activated:
    Info:
    Info:         disk0:asr9k-k9sec-3.9.0.14I
    Info:         disk0:asr9k-mcast-3.9.0.14I
    Info:         disk0:asr9k-mgbl-3.9.0.14I
    Info:         disk0:asr9k-mpls-3.9.0.14I
    Info:         disk0:asr9k-fpd-3.9.0.14I
    Info:         disk0:asr9k-diags-3.9.0.14I
    Info:         disk0:asr9k-adv-video-3.9.0.14I
    Info:
    Info:     The packages can be activated across the entire router.
    Info:
    Part 1 of 2 (add software): Completed successfully (skipped adding one or
    more packages because they were already present on the boot device)
    Part 2 of 2 (activate software): Started
    Info:     Cannot activate the following package as it is already active on
    Info:     the router:
    Info:
    Info:         disk0:asr9k-diags-3.9.0.14I
    Info:
    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:         asr9k-mpls-3.9.0.14I
    Info:
    Info:     Sub-operation 2:
    Info:         Install Method: Parallel Process Restart
    Info:         asr9k-mcast-3.9.0.14I
    Info:
    Info:     Sub-operation 3:
    Info:         Install Method: Parallel Process Restart
    Info:         asr9k-k9sec-3.9.0.14I
```

```
    Info:
    Info:     Sub-operation 4:
    Info:         Install Method: Parallel Process Restart
    Info:         asr9k-fpd-3.9.0.14I
    Info:
    Info:     Sub-operation 5:
    Info:         Install Method: Parallel Process Restart
    Info:         asr9k-mgbl-3.9.0.14I
    Info:
    Info:     Sub-operation 6:
    Info:         Install Method: Parallel Process Restart
    Info:         asr9k-adv-video-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 (skipped adding one or
    more packages because they were already present on the boot device)
    Part 2 of 2 (activate software): Completed successfully
    Install operation 1 completed successfully at 14:27:50 DST Tue Jul 14 2009.

Summary:
    Sub-operation 1:
    Install method: Parallel Process Restart
    Summary of changes on node 0/RSP0/CPU0:
        Activated:    asr9k-mpls-3.9.0.14I
            6 asr9k-mpls processes affected (0 updated, 6 added, 0 removed, 0 impacted)

    Summary of changes on node 0/1/CPU0:
        Activated:    asr9k-mpls-3.9.0.14I
            1 asr9k-mpls processes affected (0 updated, 1 added, 0 removed, 0 impacted)

    Summary of changes on node 0/4/CPU0:
        Activated:    asr9k-mpls-3.9.0.14I
            1 asr9k-mpls processes affected (0 updated, 1 added, 0 removed, 0 impacted)

    Summary of changes on node 0/6/CPU0:
        Activated:    asr9k-mpls-3.9.0.14I
            1 asr9k-mpls processes affected (0 updated, 1 added, 0 removed, 0 impacted)

    Sub-operation 2:
    Install method: Parallel Process Restart
    Summary of changes on node 0/RSP0/CPU0:
        Activated:    asr9k-mcast-3.9.0.14I
            16 asr9k-mcast processes affected (0 updated, 16 added, 0 removed, 0 impacted)

    Summary of changes on node 0/1/CPU0:
        Activated:    asr9k-mcast-3.9.0.14I
            1 asr9k-base processes affected (1 updated, 0 added, 0 removed, 0 impacted)
            2 asr9k-mcast processes affected (0 updated, 2 added, 0 removed, 0 impacted)

    Summary of changes on node 0/4/CPU0:
        Activated:    asr9k-mcast-3.9.0.14I
            1 asr9k-base processes affected (1 updated, 0 added, 0 removed, 0 impacted)
            2 asr9k-mcast processes affected (0 updated, 2 added, 0 removed, 0 impacted)

    Summary of changes on node 0/6/CPU0:
        Activated:    asr9k-mcast-3.9.0.14I
            1 asr9k-base processes affected (1 updated, 0 added, 0 removed, 0 impacted)
```

```
 --More--
```

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

```
RP/0/RSP0/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/asr9k-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/asr9k-mgbl.pie
Install operation 1 completed successfully at 12:32:12 GMT Mon Oct 29 2008.
```

Related Topics

install activate, on page 11
install add, on page 21
install deactivate, on page 35
install remove, on page 47
install commit, on page 33
install rollback to, on page 50

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

device **:** *package*	Device and package, expressed in concatenated form (for example, disk0:asr9k-mgbl-3.8.0). For the *device:* argument, the value is a specified storage device, typically **disk0:**.
all	Displays all installed packages on the system or SDR.
brief	(Optional) Displays only the name and version of packages.
detail	(Optional) Displays detailed information including impact to processes and nodes, vendor information, card support, and component information.
verbose	(Optional) Displays the information included in the keyword, plus information about dynamic link libraries (DLLs).

Command Default

None

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	This command was introduced.

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.

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

```
RP/0/RSP0/CPU0:router(admin)# show install package all

Tue Jul 28 05:02:53.578 DST
disk0:asr9k-fpd-3.9.0.14I

disk0:asr9k-mgbl-3.9.0.14I

disk0:asr9k-mpls-3.9.0.14I

disk0:asr9k-k9sec-3.9.0.14I

disk0:asr9k-mcast-3.9.0.14I

disk0:asr9k-adv-video-3.9.0.14I

disk0:comp-asr9k-mini-3.9.0.14I
    disk0:asr9k-scfclient-3.9.0.14I
    disk0:asr9k-diags-3.9.0.14I
    disk0:asr9k-rout-3.9.0.14I
    disk0:asr9k-lc-3.9.0.14I
    disk0:asr9k-fwdg-3.9.0.14I
    disk0:asr9k-admin-3.9.0.14I
    disk0:asr9k-base-3.9.0.14I
    disk0:asr9k-os-mbi-3.9.0.14I
```

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

```
RP/0/RSP0/CPU0:router(admin)# show install package disk0:comp-asr9k-mini-3.8.0

Tue Feb  3 04:01:55.015 PST
disk0:comp-asr9k-mini-3.8.0
    disk0:asr9k-rout-3.8.0
    disk0:asr9k-lc-3.8.0
    disk0:asr9k-fwdg-3.8.0
    disk0:asr9k-admin-3.8.0
    disk0:asr9k-base-3.8.0
    disk0:asr9k-os-mbi-3.8.0
```

Table 5: show install package Field Descriptions

Field	Description
disk0:asr9k-rout-3.8.0	Storage device and the name of the package that has been installed.
asr9k-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.

Field	Description
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 Topics

show install active, on page 61
show install inactive, on page 77
show install log, on page 83
show install, on page 58
show install committed, on page 72
show install pie-info, on page 91
show install which, on page 100

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

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

Command Default

Displays summary information.

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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 pie-info** command to display information about a specified PIE installation file.

Task ID

Task ID	Operations
pkg-mgmt	read

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/RSP0/CPU0:router(admin)# show install pie-info disk1:/
asr9k
-mgbl-p.pie-3.8.0

Contents of pie file '/disk1:/asr9k-mgbl-p.pie-3.8.0':
  Expiry date       : Jan 19, 2007 02:55:56 UTC
  Uncompressed size : 17892613
  asr9k-mgbl-3.8.0
```

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/RSP0/CPU0:router(admin)# show install pie-info disk1:/
asr9k
-mgbl-p.pie-3.8.0 detail
Contents of pie file '/disk1:/asr9k-mgbl-p.pie-3.8.0':
  Expiry date       : Jan 19, 2007 02:55:56 UTC
  Uncompressed size : 17892613
  asr9k-mgbl-3.8.0
  asr9k-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/asr9k/workspace for c28
  Card(s): RP
  Restart information:
    Default:
      parallel impacted processes restart
      Components in package asr9k-mgbl-3.8.0, package
  asr9k-mgbl:
  manageability-cwi V[r33x/2]  Craft Web Interface related binaries ae
  asr9k-feature-ipsla V[r33x/1]  IPSLA time stamping feature
              doc-asr9k-mgbl V[r33x/2]  Contains the
    man page documentation for asr9ksemweb 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)
```

Table 6: show install pie-info Field Descriptions

Field	Description
Contents of pie file	Storage device, directory, and name of the package.
Expiry date	Date when the package expires and can no longer be added to a router.
Uncompressed size	File size of the package after it is added to a local storage device.
asr9k-mgbl-3.4.0	Name of the package.
Vendor	Name of the manufacturer.
Desc	Name of the package.

Field	Description
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 Topics

show install active, on page 61
show install inactive, on page 77
show install log, on page 83
show install package, on page 88
show install request, on page 94
show install committed, on page 72
show install which, on page 100

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 3.7.2	This command was introduced.

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 or EXEC mode to display installation operations for the Owner 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.

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

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/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/RSP0/CPU0:router(admin)# show install request

There are no install requests in operation.
```

Related Topics

install activate, on page 11
install add, on page 21
install deactivate, on page 35
install remove, on page 47
install rollback to, on page 50

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-idlabel*} [**detail** | **summary**] [**sdr** *sdr-name* | **location** *node-id*]

EXEC Mode
show install rollback {*point-idlabel*} [**detail** | **summary**] [**location** *node-id*]

Syntax Description

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

Command Default

None

Command Modes

EXEC

Administration EXEC

Command History

Release	Modification
Release 3.7.2	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 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.

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

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

```
RP/0/RSP0/CPU0:router# admin
RP/0/RSP0/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/RSP0/CPU0:router(admin)# show install rollback 1

Tue Jul 28 00:37:19.004 DST
ID: 1, Label:
Timestamp: 14:26:57 DST Tue Jul 14 2009

Secure Domain Router: Owner

  Node 0/RSP0/CPU0 [RP] [SDR: Owner]
    Boot Device: disk0:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/mbiasr9k-rp.vm
    Rollback Packages:
      disk0:comp-asr9k-mini-3.9.0.14I
      disk0:asr9k-adv-video-3.9.0.14I
      disk0:asr9k-fpd-3.9.0.14I
```

```
    disk0:asr9k-k9sec-3.9.0.14I
    disk0:asr9k-mgbl-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
    disk0:asr9k-mpls-3.9.0.14I

  Node 0/1/CPU0 [LC] [SDR: Owner]
    Boot Device: mem:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
    Rollback Packages:
      disk0:comp-asr9k-mini-3.9.0.14I
      disk0:asr9k-adv-video-3.9.0.14I
      disk0:asr9k-fpd-3.9.0.14I
      disk0:asr9k-mcast-3.9.0.14I
      disk0:asr9k-mpls-3.9.0.14I

  Node 0/4/CPU0 [LC] [SDR: Owner]
    Boot Device: mem:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
    Rollback Packages:
      disk0:comp-asr9k-mini-3.9.0.14I
      disk0:asr9k-adv-video-3.9.0.14I
      disk0:asr9k-fpd-3.9.0.14I
      disk0:asr9k-mcast-3.9.0.14I
      disk0:asr9k-mpls-3.9.0.14I

  Node 0/6/CPU0 [LC] [SDR: Owner]
    Boot Device: mem:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm
    Rollback Packages:
      disk0:comp-asr9k-mini-3.9.0.14I
      disk0:asr9k-adv-video-3.9.0.14I
      disk0:asr9k-fpd-3.9.0.14I
      disk0:asr9k-mcast-3.9.0.14I
      disk0:asr9k-mpls-3.9.0.14I
```

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/RSP0/CPU0:router(admin)# show install rollback 1 detail

Tue Jul 28 00:40:06.294 DST
ID: 1, Label:
Timestamp: 14:26:57 DST Tue Jul 14 2009

Secure Domain Router: Owner

  Node 0/RSP0/CPU0 [RP] [SDR: Owner]
    Boot Device: disk0:
    Boot Image: /disk0/asr9k-os-mbi-3.9.0.14I/mbiasr9k-rp.vm
    Rollback Packages:
      disk0:comp-asr9k-mini-3.9.0.14I
          disk0:asr9k-scfclient-3.9.0.14I
          disk0:asr9k-diags-3.9.0.14I
          disk0:asr9k-rout-3.9.0.14I
          disk0:asr9k-lc-3.9.0.14I
          disk0:asr9k-fwdg-3.9.0.14I
          disk0:asr9k-admin-3.9.0.14I
          disk0:asr9k-base-3.9.0.14I
          disk0:asr9k-os-mbi-3.9.0.14I
      disk0:asr9k-adv-video-3.9.0.14I
      disk0:asr9k-fpd-3.9.0.14I
```

```
    disk0:asr9k-k9sec-3.9.0.14I
    disk0:asr9k-mgbl-3.9.0.14I
    disk0:asr9k-mcast-3.9.0.14I
--More--
```

Table 7: 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 Topics

clear install rollback oldest, on page 7
install rollback to, on page 50

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

Command Default

The default search is performed for the active software set.

Command Modes

Administration EXEC

EXEC

Command History

Release	Modification
Release 3.7.2	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 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.

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.

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/RSP0/CPU0:router(admin)# show install which file cdp location 0/1/cpu0

Tue Jul 28 05:59:49.091 DST
Node 0/1/CPU0 has file cdp for boot package /disk0/asr9k-os-mbi-3.9.0.14I/lc/mbiasr9k-lc.vm

   from asr9k-base
Package:
    asr9k-base
        asr9k-base V3.9.0.14I[DT_IMAGE]  Base Package for ASR9K
        Vendor : Cisco Systems
        Desc   : Base Package for ASR9K
        Build  : Built on Mon Jul 13 08:14:52 DST 2009
        Source : By sjc-lds-208 in
/auto/ioxbuild7/production/3.9.0.14I.DT_IMAGE/asr9k/workspace
        for c4.2.1-p0
       Card(s): RP, RP-B, HRP, OC3-POS-4, OC12-POS, GE-3, OC12-POS-4, OC48-POS, E3-OC48-POS,

        E3-OC12-POS-4, E3-OC3-POS-16, E3-OC3-POS-8, E3-OC3-POS-4, E3-OC48-CH, E3-OC12-CH-4,

        E3-GE-4, E3-OC3-ATM-4, E3-OC12-ATM-4, E5-CEC, E5-CEC-v2, SE-SEC, NP24-4x10GE,
NP24-40x1GE,
       NP40-40x1GE, NP40-4x10GE, NP40-8x10GE, NP40-2_20_COMBO, NP80-8x10GE, LC, E3-OC12-CH-1,
 E7-CEC,
        A9K-SIP-700
        Restart information:
          Default:
            parallel impacted processes restart

Component:
    cdp V[ci-39/9]  Cisco Discovery Protocol (CDP)

File:
    cdp
        Card(s)              : RP, DRP, LC, SC
        File type            : Server
        Remotely-hosted      : No
        Local view           : /pkg/bin/cdp
        Local install path   : /disk0/asr9k-base-3.9.0.14I/bin/cdp
        Central install path : /disk0/asr9k-base-3.9.0.14I/bin/cdp
```

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

```
RP/0/RSP0/CPU0:router# show install which file cdp location 0/1/CPU0
```

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

Table 8: show install which Field Descriptions

Field	Description
Package:	Name of the package that contains the file or component being described.
asr9k-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.
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 Topics

show install active, on page 61
show install inactive, on page 77
show install log, on page 83
show install package, on page 88
show install request, on page 94
show install, on page 58
show install committed, on page 72

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

data-type	The type of data to display. Valid options are: • **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 *n*	(Optional) Displays the last *n* 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 *filename* **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 zapdisk locations

To display location information where zapdisk operation is supported, use the **show zapdisk locations** command in EXEC mode.

show zapdisk locations

This command has no keywords or arguments.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
diag	read

The following example shows sample output from the **show zapdisk locations** command:

```
RP/0/RSP0/CPU0:router# show context

0/RSP1     Fully qualified location specification
0/7        Fully qualified location specification
0/4        Fully qualified location specification
all        all locations
```

zapdisk start location

To erase data from the disk memory of RSPs and line cards, use the **zapdisk start location** command in EXEC mode.

zapdisk start location *node-id*

Syntax Description

location { *node-id* | **all**}	Specify the location string obtained from the **show zapdisk location** command. Zapdisk can be executed for specific node location or all node locations.

Command Default

Disabled.

Command Modes

EXEC mode

Command History

Release	Modification
Release 7.0.1	This command was introduced.

Usage Guidelines

After the command is executed, the card is shut down. Do not reload the card.

Caution This command should not be used during normal operation of the router. The command should be used only when you have planned to delete the data from the card during return material authorization (RMA).

Task ID

Task ID	Operations
diag	read, write

The following example shows how to erase data from the line card location 0/4:

```
Router# zapdisk start location 0/4
Action on designated location is in progress, more detail logs will be located in sysadmin
 at
/misc/disk1/tftpboot/zapdisk.log once action is completed
```

zapdisk set

To enable the zapdisk feature, use the **zapdisk set** command in the System Admin EXEC mode.

Note When the zapdisk feature is enabled on a CPU board, the following events will not trigger zapdisk functions:

- Reload the board using CLI.
- Perform a physical Online Insertion and Removal (OIR) on the board.
- Reload the router.

zapdisk set

Syntax Description

This command has no keywords or arguments.

Command Default

No default behavior or values

Command Modes

System Admin EXEC

Command History

Release	Modification
Release 6.3.1	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.

Task ID

Task ID	Operation
root-system	execute

The following example shows how to use the **zapdisk set** command:

```
sysadmin-vm:0_RP0# zapdisk set
Fri Jul  21 22:32:29.242 UTC
result Zapdisk set command success
```

zapdisk unset

To disable zapdisk feature, use the **zapdisk unset** command in the System Admin EXEC mode.

zapdisk unset

Syntax Description This command has no keywords or arguments.

Command Default No default behavior or values

Command Modes System Admin EXEC

Command History

Release	Modification
Release 6.3.1	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.

Task ID

Task ID	Operation
root-system	execute

The following example shows how to disable zapdisk feature on all CPU boards on the router:

```
sysadmin-vm:0_RP0# zapdisk unset
Fri Jul  21 22:32:29.242 UTC
result Zapdisk unset command success
```