Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Cisco ASR 1000 Series Aggregation Services Routers support the following software upgrade procedures:

- In-Service Software Upgrades (ISSU) for redundant platforms—The ISSU process allows software to be updated or otherwise modified while packet forwarding continues with minimal interruption. ISSU supports two different software upgrade modes:
  - Consolidated package mode
  - Subpackage mode

The supported platforms include Cisco ASR 1006, ASR 1006-X, ASR 1009-X and Cisco ASR 1013 Routers

- Upgrade process with service impact for non redundant platforms—Non-hardware-redundant chassis models (such as the Cisco ASR 1001 Router, Cisco ASR 1001-X Router, Cisco ASR 1001-HX Router, Cisco ASR 1002 Router, Cisco ASR 1002-X Router, Cisco ASR 1002-HX Router, and Cisco ASR 1004 Router) do not support ISSU upgrade or downgrade. Instead subpackage software upgrade is supported only if the router is running in subpackage mode.Traffic loss cannot be avoided during the installation of the ESP package as a part of ISSU.

If you want to upgrade the ROMMON and IOS at the same time, perform the steps given below:

- Copy the XE image to the router and configure the boot system to point to the new image.
- Copy the ROMMON package to the router and perform the ROMMON upgrade.
- Reload the router and verify that it boots to the IOS prompt on the new XE image.
- Verify that the new ROMMON image was successfully installed using a show platform.

The following table lists Compatibility matrix of the software upgrade process for various Cisco ASR 1000 Series Aggregation Services Router.

Table 1: Software Upgrade Compatibility Matrix for Various Cisco ASR 1000 Series Aggregation Services Router Platforms

Platform	Consolidated Package Upgrade	SubPackage Upgrade
Cisco ASR 1006 Router	Supported	Supported
CiscoASR 1013 Router	Supported	Supported

Platform	Consolidated Package Upgrade	SubPackage Upgrade
CiscoASR 1004 Router	Not Supported	Supported
CiscoASR 1002 Router	Not Supported	Supported
Cisco ASR 1002-X Router	Not Supported	Supported
CiscoASR 1002-F Router	Not Supported	Supported
CiscoASR 1001 Router	Not Supported	Supported
CiscoASR 1001-X Router	Not Supported	Supported
CiscoASR 1006-X Router	Supported	Supported
CiscoASR 1009-X Router	Supported	Supported
CiscoASR 1001-HX Router	Not Supported	Supported
CiscoASR 1002-HX Router	Not Supported	Supported

Finding Support Information for Platforms and Cisco IOS and Catalyst OS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn . An account on Cisco.com is not required.

- Prerequisites for Software Upgrade Processes , on page 2
- ISSU Upgrade for Redundant Platforms, on page 3
- Upgrade Process with Service Impact for Nonredundant Platforms, on page 68
- Minimal Disruptive Restart ISSU, on page 142
- Using ISSU to Perform a Consolidated Package Upgrade in a Dual Route Processor Configuration with MDR, on page 144
- Using ISSU to Upgrade the Subpackages on a Cisco ASR 1006 Router and Cisco ASR 1013 Router (issu Command Set) with MDR, on page 153
- Using ISSU to Upgrade Subpackages on a Cisco ASR 1006 Router or Cisco ASR 1013 Router (request platform command set) with MDR, on page 191
- Additional References, on page 227
- Feature Information for Software Upgrade Process, on page 228

Prerequisites for Software Upgrade Processes

Be sure to complete the following prerequisites for running the ISSU process based on your chassis model:

- Refer to the ISSU compatibility tables in the *Release Notes for Cisco ASR 1000 Series Aggregation Services Routers.*
- 4 GB of DRAM memory is required for installing software upgrade on a system with RP1 route processor.
- ISSU is supported when the router is running in subpackage mode or in consolidated package mode.

- For the Cisco ASR 1001 Router, Cisco ASR 1001-X Router, ASR1001-HX Router, Cisco ASR 1002-X Router, and ASR1002-HX Router, the Cisco IOS Software redundancy requires 8-GB DRAM and the IOS software redundancy license.

ISSU Upgrade for Redundant Platforms

ISSU represent a full or partial software upgrade of a system from one version to another with minimal outage on the forwarding plane (minimal packet loss) and no outage on the control plane.

Overview of ISSU on the Cisco ASR 1000 Series Routers

For the Cisco ASR 1000 Series Routers, ISSU-compatibility depends on the software subpackage being upgraded and the hardware configuration. Consolidated packages are ISSU-compatible in dual RP configurations only and have other limitations described later in this document. Some RP and ESP software subpackages can be upgraded in service even in single RP or ESP hardware configurations via dual IOS processes running on the RP; others require dual RP or ESP configurations for an ISSU upgrade. The SPA and SIP software subpackages must be upgraded on a per-SPA or per-SIP basis.

If you are updating multiple subpackages, you should also realize that the sequence of the upgrade is important to minimize router downtime for the software upgrade.

The specific procedures in this document represent supported and tested installation sequences. The Cisco IOS XE system software allows other installation sequences for special purposes under the guidance of Cisco customer support representatives, but the steps in this document should be followed otherwise. These steps should be followed completely, as the Cisco ASR 1000 Series Routers are designed to run one version of Cisco IOS XE for all consolidated packages and subpackages on an RP, and running subpackages from different versions of Cisco IOS XE can cause unexpected router behavior.

When performing ISSU upgrades on the Cisco ASR 1000 Series Routers, it is important to remember that minimal interruption upgrades can be performed using either the **issu** command set or the **request platform** command set, and that either command set can be used to perform limited interruption individual consolidated package or subpackage upgrades.

Note ROMmon images are downloaded separately from Cisco IOS XE images and have their own installation procedures, and are therefore not mentioned as part in this document as part of the ISSU upgrade procedure.

The following table provides a list of the Cisco ASR 1000 Series Routers subpackages and whether or not they can be upgraded without losing any network traffic in single and dual RP and ESP configurations using ISSU.

Table 2: Limited Interruption Upgrade Compatibility Table

Subpackage	Nonredundant RP and ESP	Redundant RP and ESP
Consolidated package (any)	No (Reload required)	Yes (RP switchover)
RPBase	No (RP Reload required)	Yes (RP switchover)
RPControl	Yes (in-service)	Yes (in-service)

Subpackage	Nonredundant RP and ESP	Redundant RP and ESP
RPAccess	Yes (in-service)	Yes (in-service)
RPIOS	Yes[1] (IOS software switchover)	Yes (RP switchover)
RPBoot	No [2] (RP reload required)	Yes (RP reload)
ESPBase	No[3] (ESP reload required)	Yes[4] (via ESP switchover)
ESPX86Base	No[5] (ESP reload required)	Yes[6] (via ESP switchover)
SIPBase[7]	No (SPAs in SIP do not forward traffic during upgrade)	Yes (With Minimal Disruptive Restart (MDR), traffic is forwarded with minimal interruption)
SIPSPA[8]	No (SPAs in SIP do not forward traffic during upgrade)	Yes (With MDR, traffic is forwarded with minimal interruption)
ELCBase[9]	No (Built-in SPAs in an Ethernet Line Card (ELC) do not forward traffic during upgrade)	Yes (With MDR, traffic is forwarded with minimal interruption)
ELCSPA[10]	No (Built-in SPAs in an ELC do not forward traffic during upgrade)	Yes (With MDR, traffic is forwarded with minimal interruption)
NIM SSD[11]	No (NIM reload required)	NA
NGWIC T1E1[12]	No (T1E1 do not forward traffic during upgrade)	NA

1 Only supported if software redundancy is configured on the RP.
2 Rpboot and Webui packages are introduced from Polaris 16.x.x release.
3 ESP has to reload to complete ESPBase subpackage upgrade. All router traffic will be lost during ESP upgrade.
4 An ESP switchover occurs as part of the upgrade, so traffic is forwarded with minimal interruption.
5 ESP has to reload to complete ESPBase subpackage upgrade. All router traffic will be lost during ESP upgrade and ESPX86Base is not included in the RP1 bundle.
6 An ESP switchover occurs as part of the upgrade, so traffic is forwarded with minimal interruption.ESPX86Base is not included in the RP1 bundle.
7 Any SIPBase upgrade will require the SPA interfaces to go down during the upgrade for all the SPAs in the SIP.
8 Any SIPSPA upgrade will require the SPA interfaces for that particular SPA to go down during the upgrade.
9 Any ELCBase upgrade will require the ELC interfaces to go down during the upgrade for all the SPAs in the SIP. ELCBase is not included in the RP1 bundle
10 Any ELCSPA upgrade will require the ELC interfaces for that particular SPA to go down during the upgrade. ELCSPA is not included in the RP1 bundle
11 NIM SSD is a built-in module available in ASR 1001-X platform. It is a slot for an extra harddisk, which helps increase the memory.

[12] NGWIC T1E1 is a built-in module available in ASR 1001-X platform, used for serial interface. Any NGWIC T1E1 upgrade will require T1E1 interfaces for that particular SPA to go down during the upgrade.

ISSU Rollback Timer Overview

The Cisco ASR 1000 Series Router ISSU procedure has a rollback timer. Rollback timers are used for for ISSU procedures on all Cisco routers that support ISSU, but this section will provide a brief overview of ISSU rollback timers on the Cisco ASR 1000 Series Routers.

During ISSU, the rollback timer begins after the consolidated package or subpackage is loaded. If the upgrade does not move forward in the amount of time specified in the rollback timer, the configuration will automatically "roll back" to the previous configuration and the ISSU upgrade will be cancelled.

Upgrades using the **issu** command set and the **request platform** command set both have the rollback timer option. The **issu** command set always uses a rollback timer; the **request platform** command set does not use a rollback timer unless the **auto-rollback** option is used in the **request platform software package install** command line.

For the **issu** command set, the **issu acceptversion** command can be entered to stop the rollback timer without committing the upgrade during the ISSU upgrade. The **issu commitversion** command can be entered to stop the rollback timer and commit the ISSU upgrade.

For the **request platform** command set, the **request platform software package install rp** *slot* **commit** command must be entered to stop the rollback timer only in cases where the **auto-rollback** option is used.

The rollback timer for the **issu** command set can be configured by entering the **issu set rollback-timer** command. The rollback timer when used with the **request platform** command set is specified when you use the **auto-rollback** option when entering the **issu request platform software package install** command.

For ISSU upgrades on Cisco ASR 1000 Series Routers, it may be advisable to set long rollback times when the upgrade is being performed on routers with large configurations.

The amount of time left on the rollback timer during an ISSU upgrade can be checked by entering the **show issu rollback-timer** command.

Software Upgrade with Dual IOS Processes on a Single RP Overview

To complete a software upgrade of an individual subpackage using dual IOS processes on a single RP, SSO must first be enabled.

Software upgrade with dual IOS processes is useful for upgrading the individual RP subpackages that can be upgraded without a router reload. Importantly, note that most subpackage upgrades in a single RP configuration require a hardware reload to complete (whether an RP reload for an RP subpackage, an ESP reload for the ESPBase subpackage, a SIP reload for a SIPBase subpackage, or a SPA reload for the SIPSPA subpackage), so limited interruption upgrades for single RP configurations are not available in most upgrade scenarios.

Cisco IOS XE Software Package Compatibility for ISSU

When upgrading the Cisco IOS XE operating system software using the ISSU process, it is important to determine the compatibility of the upgraded software to your current software and hardware. The ISSU process allows software to be updated or otherwise modified while packet forwarding continues with minimal interruption.

Cisco IOS XE release compatibility using the ISSU process utilizes the SSO functionality to preserve state while software versions on the router differ, as during an upgrade. Most SSO-capable features in each Cisco

IOS XE release are ISSU capable. ISSU is only supported if SSO is enabled in the configuration and the system is in a steady state (SSO ready state has been achieved). ISSU compatibility depends on the set of specific feature clients that are in use and whether they support ISSU. All ISSU upgrades include at least one IOS switchover operation. It is important to understand which features are in use and whether these features are ISSU compatible.

Cisco ASR1006, Cisco ASR1006-X, Cisco ASR1009-X, and Cisco ASR 1013 series routers are hardware-redundant chassis. The hardware-redundant chassis has two ESP linecards and two RPs which exchange state using hardware links. The Cisco ASR1002 and ASR1004 Series Routers are not hardware redundant, but are software-redundancy capable. The nonredundant chassis has a single RP and a single ESP, but allows the operation of up to two IOS processes on the single RP to exchange states locally.

Restrictions for ISSU

Restrictions for the ISSU procedures include:

Note Cisco IOS XE software compatibility is between "like" images, for example, *advipservicesk9* to *advipservicesk9* , *adventerprisek9* to *adventerprisek9* , and so on. Cross-image-type upgrades or installations are not supported in the ISSU process. For example, you cannot upgrade *ipbase* to *advipservicesk9* or *advipservices* to *advipservicesk9* .

- Different image types must not be run simultaneously.
- For ATM SPAs on the Cisco ASR1000 Series Routers, ISSU from releases prior to Cisco IOS XE Release 2.5.0 to Cisco IOS XE Release 2.5.0, or from Cisco IOS XE Release 2.5.0 to a release prior to Cisco IOS XE Release 2.5.0, is not supported. If you want to perform ISSU in this environment, you must first remove the configuration from the ATM SPAs on the router, and then shut down the SPAs using the **shutdown** command prior to running the ISSU process.
- Cisco IOS XE releases not listed as compatible in the ISSU compatibility tables must not be run simultaneously (in a Cisco ASR1006 series router or Cisco ASR 1013 series router) or co-installed on any of the Cisco ASR1000 Series Routers since unexpected failures of one or both RPs or state loss can be experienced. Cisco IOS XE releases listed as partially compatible may incur a loss of state. Cisco IOS XE releases listed as requiring an intermediate release are not directly compatible; however, a migration path is available to preserve some or all state by upgrading to a separate intermediate version, as shown in the tables. The tables do not cover nonredundant (software or hardware) environments as no incremental update is possible under those circumstances.
- In Cisco IOS XE Release 3.1S, ISSU upgrade and subpackage software upgrade from Cisco IOS XE Release 2.x.x to Cisco IOS XE Release 3.x.xS, including release 3.1S, are not supported. The ISSU downgrade from Cisco IOS XE Release 3.x.xS, including release 3.1S to 2.x.x, is also not supported. ISSU upgrade and subpackage software upgrade is restarted from Cisco IOS XE Release 3.1S. Therefore, rebuilds and releases after Cisco IOS XE Release 3.1S will support ISSU and software upgrade and downgrade, based on the ISSU compatibility matrix tables.
- ISSU upgrade or downgrade between Cisco IOS XE 3.x.x release and Polaris 16.x.x release is not supported.

Note When you run the software upgrade from Cisco IOS XE Release 2.x.x to Cisco IOS XE Release 3.x.xS, you have to load the new image on both RPs, verify that it is good code, change the boot loader variable, and reboot the whole chassis. Failure to do that results in a "wedged" router and the only remedy is physically pull out one of the RPs, boot on the remaining RP, downgrade its code to the same version as the pulled out RP and start the process over again.

ISSU Upgrade Procedures

This section contains the following topics:

Using ISSU to Perform a Consolidated Package Upgrade in a Dual Route Processor Configuration

Consolidated packages can only be upgraded using ISSU in dual Route Processor configurations. ISSU is not supported for consolidated package upgrades in single Route Processor configurations.

If you want the RPs on your Cisco ASR 1000 Series router to be running using a consolidated package after the ISSU upgrade is complete, use the following instructions:

Note This procedure will only work if the current RPs are already running consolidated packages.

SUMMARY STEPS

1. **ip tftp** *source-interface gigabitethernet slot/port*
2. **copy tftp:** *URL-to-target-location*
3. **copy** *source-file-system*:*filename standby-destination-filesystem*
4. **dir** *URL-to-target-location*
5. **issu loadversion rp** *upgrade-rp-number standby-file-system*:*filename*
6. **issu runversion**
7. **telnet***ip-addressport*
8. **issu acceptversion**
9. **issu commitversion**
10. **show version**
11. **hw-module slot** *RP-slot* **reload**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**ip tftp** *source-interface gigabitethernet slot/port* **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface.

	Command or Action	Purpose
		Note To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.

Step 2	**copy tftp:** *URL-to-target-location*
	Example:
	`copy source-file-system:filename standby-destination-filesystem`
	Example:
	Example:
	`Router# copy tftp bootflash:`
		Copy the consolidated package onto the active RP.

Step 3	**copy** *source-file-system*:*filename standby-destination-filesystem* **Example:** **Example:** `Router# copy bootflash:asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin stby-bootflash:`	Copy the consolidated package onto the standby RP.

Step 4	**dir** *URL-to-target-location*
	Example:
	`dir URL-to-target-stby-location`
	Example:
	Example:
	`Router# dir bootflash:`
	Example:
	`Router# dir stby-bootflash:`
		(Optional) Display the contents of the target directories to confirm the successful copy of the file package.

Step 5	**issu loadversion rp** *upgrade-rp-number standby-file-system*:*filename* **Example:** **Example:**	Load the target consolidated package onto the standby RP. After you receive the message indicating that the terminal state has been reached, go on to Step 6 .

	Command or Action	Purpose
	`Router# issu loadversion rp 1 file stby-bootflash:asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin`	
Step 6	**issu runversion** **Example:** **Example:** `Router# issu runversion`	Run the consolidated package that was loaded in Step 5 . **Note** If this command is entered before the terminal state is reached, a " peer is not online " or " Standby RP is not in terminal state " error message will be seen and the **issu runversion** command will not work. If the **issu runversion** command does not run for these reasons, wait for the " terminal state is reached " message to appear and retry the **issu runversion** command. You can also monitor the terminal state using the **show platform** command. After ISSU runversion is completed, a switchover will automatically occur and the standby RP will become the active RP.

Step 7	**telnet***ip-addressport*
	Example:
	Example:
	`[unix-server-1 ~]$ telnet 172.17.52.157 2003`
	Example:
	`User Access Verification`
	Example:
	Example:
	`Username: user`
	Example:
	`Password: ********`
	Example:
	Example:
	`Router>`
		Log in to the RP being upgraded, preferably using the RP's console port, to complete the upgrade. (This is the new active RP, that was the standby RP prior to the ISSU process.)
		Note Ensure the hostname does not end in "-stby" after logging into the RP, as this indicates that the RP being accessed is still the standby RP.
		There are many ways to log on to a console port. The example shows access to the console port from a UNIX host using telnet.

Step 8	**issu acceptversion**	(Optional) Stops the ISSU rollback timer.

	Command or Action	Purpose
	Example: | **Example:** `Router# issu acceptversion`	This step is optional as long as Step 9 is completed before the rollback timer expires.
Step 9	**issu commitversion** **Example:** | **Example:** `Router# issu commitversion`	Completes the ISSU upgrade.
Step 10	**show version** **Example:** **show version** *active-RP* **running** **Example:** **show version** *active-RP* **provisioned** **Example:** **show platform** **Example:** **show running-configuration**	(Optional) Enter the **show version**, **show platform**, or **show running-configuration** commands to confirm that the upgrade completed successfully, as follows: • **show version**—Confirm that the correct software version is running on your router and that the RP was booted from the correct file. • **show running-configuration**—Confirm that the booting configuration, in particular the boot system statements, are correct. **Tip** Use the **show running-config | include boot** command to display only the boot statements from the **show running-configuration** output. • **show platform**— Confirm that both RP0 and RP1 are correctly running as active and standby.
Step 11	**hw-module slot** *RP-slot* **reload** **Example:** | **Example:** `Router# hw-module slot R0 reload`	Reload the new software on the Standby RP.

Examples

The following example shows how to perform consolidated package upgrade in a dual route processor configuration:

```
Router(config)# ip tftp source-interface gigabitethernet 0
Router# copy tftp bootflash:
Address or name of remote host []? 172.17.16.81

Source filename []? /auto/tftp-users/user/asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin
```

```
Destination filename [asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin]?
Accessing
tftp://172.17.16.81//auto/tftp-users/user/asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin...
Loading /auto/tftp-users/user/asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin from
172.17.16.81 (via GigabitEthernet0): !!!!!!
[OK - 209227980 bytes]
209227980 bytes copied in 329.215 secs (635536 bytes/sec)
Router# copy bootflash:asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin stby-bootflash:

Destination filename [asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin]?
Copy in progress...CCCCCCCC<output removed for brevity>
209227980 bytes copied in 434.790 secs (481216 bytes/sec)
Router# dir bootflash:
Directory of bootflash:/
   11  drwx       16384   Dec 4 2007 04:32:46 -08:00  lost+found
86401  drwx        4096   Dec 4 2007 06:06:24 -08:00  .ssh
14401  drwx        4096   Dec 4 2007 06:06:36 -08:00  .rollback_timer
28801  drwx        4096  Jul 21 2008 15:29:25 -07:00  .prst_sync
43201  drwx        4096   Dec 4 2007 04:34:45 -08:00  .installer
   12  -rw-   208904396  May 28 2008 16:17:34 -07:00
asr1000rp1-adventerprisek9.02.01.00.122-33.XNA.bin
57604  -rw-    47071436  May 29 2008 15:45:24 -07:00
asr1000rp1-espbase.02.01.00.122-33.XNA.pkg
57602  -rw-        5740  May 29 2008 15:45:23 -07:00
asr1000rp1-packages-adventerprisek9.02.01.00.122-33.XNA.conf
57605  -rw-    20334796  May 29 2008 15:45:25 -07:00
asr1000rp1-rpaccess.02.01.00.122-33.XNA.pkg
57606  -rw-    22294732  May 29 2008 15:45:25 -07:00
asr1000rp1-rpbase.02.01.00.122-33.XNA.pkg
57607  -rw-    21946572  May 29 2008 15:45:26 -07:00
asr1000rp1-rpcontrol.02.01.00.122-33.XNA.pkg
57608  -rw-    48099532  May 29 2008 15:45:27 -07:00
asr1000rp1-rpios-adventerprisek9.02.01.00.122-33.XNA.pkg
57609  -rw-    34324684  May 29 2008 15:45:28 -07:00
asr1000rp1-sipbase.02.01.00.122-33.XNA.pkg
57610  -rw-    22124748  May 29 2008 15:45:29 -07:00
asr1000rp1-sipspa.02.01.00.122-33.XNA.pkg
   14  -rw-     275093  May 29 2008 16:27:53 -07:00  crashinfo_RP_00_00_20080529-162753-DST

   15  -rw-        7516   Jul 2 2008 15:01:39 -07:00  startup-config
   13  -rw-       45977   Apr 9 2008 16:48:46 -07:00  target_support_output.tgz.tgz
   16  -rw-   209227980  Jul 17 2008 16:06:58 -07:00
asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin
928862208 bytes total (76644352 bytes free)
Router# dir stby-bootflash:
Directory of stby-bootflash:/
   11  drwx       16384  Dec 13 2004 03:45:47 -08:00  lost+found
87937  drwx        4096  Jul 17 2008 16:43:34 -07:00  .rollback_timer
14657  drwx        4096  Jul 17 2008 16:43:34 -07:00  .installer
29313  drwx        4096  Dec 13 2004 03:53:00 -08:00  .ssh
   12  -rw-    33554432  Dec 13 2004 03:53:49 -08:00  nvram_00100
   13  -rw-   208904396   Jun 5 2008 20:12:53 -07:00
asr1000rp1-adventerprisek9.02.01.00.122-33.XNA.bin
58625  drwx        4096  Jul 21 2008 15:32:59 -07:00  .prst_sync
43972  -rw-    47071436   Jun 5 2008 20:16:55 -07:00
asr1000rp1-espbase.02.01.00.122-33.XNA.pkg
43970  -rw-        5740   Jun 5 2008 20:16:54 -07:00
asr1000rp1-packages-adventerprisek9.02.01.00.122-33.XNA.conf
43973  -rw-    20334796   Jun 5 2008 20:16:56 -07:00
asr1000rp1-rpaccess.02.01.00.122-33.XNA.pkg
43974  -rw-    22294732   Jun 5 2008 20:16:56 -07:00
asr1000rp1-rpbase.02.01.00.122-33.XNA.pkg
43975  -rw-    21946572   Jun 5 2008 20:16:57 -07:00
```

```
asr1000rp1-rpcontrol.02.01.00.122-33.XNA.pkg
43976  -rw-    48099532   Jun 5 2008 20:16:58 -07:00
asr1000rp1-rpios-adventerprisek9.02.01.00.122-33.XNA.pkg
43977  -rw-    34324684   Jun 5 2008 20:16:59 -07:00
asr1000rp1-sipbase.02.01.00.122-33.XNA.pkg
43978  -rw-    22124748   Jun 5 2008 20:17:00 -07:00
asr1000rp1-sipspa.02.01.00.122-33.XNA.pkg
43971  -rw-        6256   Jun 5 2008 20:17:00 -07:00  packages.conf
   14  -rw-   209227980  Jul 17 2008 16:16:07 -07:00
asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin
945377280 bytes total (276652032 bytes free)
Router# issu loadversion rp 1 file
stby-bootflash:asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin

--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting system installation readiness checking ---
Finished system installation readiness checking
--- Starting installation changes ---
Setting up image to boot on next reset
Starting automatic rollback timer
Finished installation changes
SUCCESS: Software will now load.
PE23_ASR-1006#
*Jul 21 23:34:27.206: %ASR1000_OIR-6-OFFLINECARD: Card (rp) offline in slot R1
*Jul 21 23:34:27.271: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_NOT_PRESENT)
*Jul 21 23:34:27.271: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Jul 21 23:34:27.271: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Jul 21 23:37:05.528: %ASR1000_OIR-6-ONLINECARD: Card (rp) online in slot R1
*Jul 21 23:37:25.480: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_FOUND(4))
*Jul 21 23:37:25.480: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
Finished installation state synchronization
*Jul 21 23:37:26.349: %REDUNDANCY-3-IPC: IOS versions do not match.
*Jul 21 23:38:47.172: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Jul 21 23:38:47.173: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router# issu runversion
--- Starting installation state synchronization ---
Finished installation state synchronization
Initiating active RP failover
SUCCESS: Standby RP will now become active
PE23_ASR-1006#
System Bootstrap, Version 12.2(33r)XN2, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2008 by cisco Systems, Inc.
<additional output removed for brevity>
*Jul 21 23:43:31.970: %SYS-5-RESTART: System restarted --
Cisco IOS Software, IOS-XE Software (PPC_LINUX_IOSD-ADVENTERPRISEK9-M), Version 12.2(33)XNA,
 RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2008 by Cisco Systems, Inc.
Compiled Thu 01-May-08 00:29 by mcpre
*Jul 21 23:43:31.978: %SSH-5-ENABLED: SSH 1.99 has been enabled
*Jul 21 23:43:35.196: Relay: standby progression done
*Jul 21 23:43:35.197: %PLATFORM-6-RF_PROG_SUCCESS: RF state STANDBY HOT
```

At this point of the procedure, use your UNIX client to log in to the other RP:

```
[unix-server-1 ~]$ telnet 172.17.52.157 2003
User Access Verification
```

```
Username: user
Password: ********
Router>
Router# issu acceptversion
Cancelling rollback timer
SUCCESS: Rollback timer cancelled
Router# issu commitversion
--- Starting installation changes ---
Cancelling rollback timer
Saving image changes
Finished installation changes
Building configuration...
[OK]
SUCCESS: version committed: bootflash:asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin
```

After you confirm the software versions and configuration, reload the RP as shown in the following example:

```
Router# hw-module slot R0 reload
  Proceed with reload of module? [confirm]
  *Jul 21 23:54:27.271: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_NOT_PRESENT)

  *Jul 21 23:54:27.271: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
  *Jul 21 23:54:27.271: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
  *Jul 21 23:57:05.528: %ASR1000_OIR-6-ONLINECARD: Card (rp) online in slot R0
  *Jul 21 23:57:25.480: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_FOUND(4))
  *Jul 21 23:57:25.480: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
    *Jul 21 23:58:47.172: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
    *Jul 21 23:58:47.173: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
```

Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration

This section provides instructions on performing an ISSU upgrade on a Cisco ASR 1000 Series Router with dual RPs that is currently running individual subpackages.

This section covers the following topics:

Using ISSU to Upgrade the Subpackages on a Cisco ASR 1006 Router, ASR1006-X Router, ASR1009-X Router, or ASR 1013 Router (issu Command Set)

This section provides the instructions for performing an ISSU upgrade using subpackages on a Cisco ASR 1006 Router, ASR1006-X Router, ASR1009-X Router, or ASR 1013 Router with a dual RP setup using the **issu** command set.

This procedure can only be performed if the current ASR 1006 Router, ASR1006-X Router, ASR1009-X Router, or ASR 1013 Router have two active RPs and both RPs are running subpackages.

SUMMARY STEPS

1. **show version**
2. **copy running-config startup-config**
3. **mkdir** *URL-to-directory-name*
4. **ip tftp** *source-interface gigabitethernet port*
5. **copy tftp:** *URL-to-target-location*
6. **request platform software package expand file** *URL-to-consolidated-package*
7. **dir** *target-URL*

8. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP*
9. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
10. **issu loadversion rp** *standby-RP* **file** *target-standbyRP-URL-for-sub-packages*:**asr1000rp*****.*version****.pkg force**
11. **hw-module slot** *standby-RP* **reload**
12. **issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{sipbase,sipspa}*****.*version****.pkg slot***SIP-slot-number***force**
13. **issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{elcbase,elcspa}*****.*version****.pkg slot***SIP-slot-number***force**
14. **issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp*****.*version****.pkg slot** *standby*-ESP-*slot*
15. **issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp*****.*version****.pkg force**
16. **show version** *active-RP* **provisioned**
17. **redundancy force-switchover**
18. **request platform software package clean**

DETAILED STEPS

	Command or Action	Purpose

Step 1	**show version**
	Example:
	`show version active-rp installed`
	Example:
	`dir filesystem: directory`
	Example:
	`show platform`
	Example:
	`show redundancy states`
	Example:
	`Router# show version`
	Example:
	`Router# show version r0 installed`
	Example:
	`Router# dir bootflash:`
	Example:
	`Router# show platform`
	Example:
	`Router# show redundancy states`
		(Optional) Use the following commands to confirm the current router configuration, as follows:
		• **show version** and **show version** *active-rp* **installed**—Verify the running version of the Cisco IOS XE software on the router, and which file was used to boot the router, and where that file is stored.
		• **dir**—Confirm that the files that were used to boot the router are located in the directory.
		• **show platform**—Confirm the current status of the active and standby RPs.
		• **show redundancy states**—Confirm the operational and configured redundancy states.

	Command or Action	Purpose
Step 2	**copy running-config startup-config** **Example:** `Router# copy running-config startup-config`	After you have confirmed that the system states are acceptable, save the current configuration to the startup configuration.
Step 3	**mkdir** *URL-to-directory-name* **Example:** `Router# mkdir usb0:221subs`	Create a directory to store the consolidated package and subpackages. This directory must be created in most cases because the consolidated packages and subpackages have to be separated from the subpackages that booted the router at this step of the procedure.
Step 4	**ip tftp** *source-interface gigabitethernet port* **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface. **Note** To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.
Step 5	**copy tftp:** *URL-to-target-location* **Example:** `Router# copy tftp: usb0:221subs`	Copy the consolidated package file into the directory created in Step 3 of this procedure. The consolidated package in this step should not be copied into the same directory where the subpackages that are currently running your router are stored (the directory containing the packages.conf provisioning file from which the router was booted). **Tip** It is recommended that you copy the package onto a usb: or harddisk: file system for space considerations when performing this step of the procedure.
Step 6	**request platform software package expand file** *URL-to-consolidated-package* **Example:** `Router# request platform software package expand file usb0:221subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin`	Extract the subpackages out of the consolidated package file into the temporary directory. **Note** Take extra care to extract the subpackages to a temporary subdirectory and do not delete any of the files currently running the router at this point of the procedure.To erase the files that were running on the router before the ISSU upgrade, enter the **request platform software package clean** command after the ISSU upgrade has been completed.

	Command or Action	Purpose
Step 7	**dir** *target-URL* **Example:** `Router# dir usb0:221subs`	(Optional) Display the directory to confirm that the files were extracted.
Step 8	**copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpcontrol.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpios.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipspa.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcspa.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP*	Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored. **Note** From Polaris 16.x.x release, the new packages **rpboot** and **webui** are introduced, which needs to be copied as well.

	Command or Action	Purpose

	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:
	
	`usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	
	Example:	

	Command or Action	Purpose
	`Router# copy usb0:221subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:`	
Step 9	**copy** *file-system*:**asr1000rp2-espbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpcontrol.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpios.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:**	Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the standby RP are currently stored. **Note** From Polaris 16.x.x release, the new packages *rpboot* and *webui* are introduced, which needs to be copied as well.

	Command or Action	Purpose
	`Router# copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
	Example:	
	`Router# copy usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
	Example:	
	`Router# copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
	Example:	
	`Router# copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
	Example:	
	`Router# copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
	Example:	
	`Router# copy usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
	Example:	
	`Router# copy usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
	Example:	
	`Router# copy usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
	Example:	
	`Router# copy usb0:221subs/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	

	Command or Action	Purpose
	Example: `Router# copy usb0:221subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
Step 10	**issu loadversion rp** *standby-RP* **file** *target-standbyRP-URL-for-sub-packages***:asr1000rp***version****.pkg force** **Example:** `Router# issu loadversion rp 1 file stby-bootflash:asr1000rp*03.13.00.S.154-3.S-ext*.pkg force`	Upgrade the RP subpackages on the standby RP, where the "**rp*"** wildcard is specified to capture all of the RP subpackages for the desired upgrade release. **Note** From Polaris 16.x.x release, the image name starts with **asr1000rpx86**. Hence, the keyword *rpx86** can be used during upgrade or downgrade between Polaris 16.x.x releases.
Step 11	**hw-module slot** *standby-RP* **reload** **Example:** `Router# hw-module slot R1 reload`	Reload the standby RP.

Step 12	**issu loadversion rp** *active-RP* **file** *URL-to-active-file-system***:asr1000rp2-{sipbase,sipspa}***version****.pkg slot***SIP-slot-number***force**
	Example:
	`issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3.S-ext*.pkg slot 0 force`
		Upgrade the SIP and SPA subpackages for each SIP on the router.
		Note This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step.
		Tip You can use the **show ip interface brief** command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form *SIP-number*/*SPA-number*/*interface-number*) identify the SIP and SPA locations in the router.
		Note The *pattern* options used in this CLI (**sipbase** and **sipspa**) were introduced in Cisco IOS XE Release 2.1.2 and are not available in previous Cisco IOS XE Releases.See the *"ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2) " section* for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.

Step 13	**issu loadversion rp** *active-RP* **file** *URL-to-active-file-system***:asr1000rp2-{elcbase,elcspa}***version****.pkg slot***SIP-slot-number***force** **Example:** `issu commitversion`	Upgrade the ELC and SPA subpackages for each ELC on the router. **Note** This step must be completed for one ELC at a time, and repeated for each ELC installed on the router before performing the next step.

	Command or Action	Purpose

	Example:
	`Repeat this step for each ELC installed in the router before moving onto the next step.`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*.pkg slot 0 force`
		Tip You can use the **show ip interface brief** command to identify which slots contain ELCs and SPAs. The interfaces with three numbers (in the form *ELC-number*/*SPA-number*/*interface-number*) identify the ELC and SPA locations in the router.
		Note The *pattern* options used in this CLI (**elcbase** and **elcspa**) were introduced in Cisco IOS XE Release 3.10S and are not available in previous Cisco IOS XE Releases.

Step 14	**issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp***version***.pkg slot** *standby*-ESP-*slot*
	Example:
	`issu commitversion`
	Example:
	`issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot active-ESP-slot`
	Example:
	`issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 1`
	Example:
	`Router# issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 0`
	Example:
	`Router# issu commitversion`
		Upgrade the ESP Base subpackage on the standby and the active ESPs.
		After entering the **issu loadversion rp** command on the active RP, the ESP switchover will occur automatically. Minimal traffic interruption will occur as a result of this switchover.

Step 15	**issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp***version***.pkg force**	Upgrade all of the subpackages on the active RP.

	Command or Action	Purpose

	Example:
	`issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2*03.13.00.S.154-3.S-ext*.pkg force`
	Example:
	`issu commitversion`
		Note This step is required to ensure that all subpackages on the router were upgraded as part of this procedure, and might upgrade some subpackages that would otherwise be missed in the process.
		Note From Polaris 16.x.x release, the image name starts with **asr1000rpx86**. Hence, the keyword *rpx86** can be used during upgrade or downgrade between Polaris 16.x.x releases.

Step 16	**show version** *active-RP* **provisioned**
	Example:
	`show version active-RP installed`
	Example:
	`Router# show version r0 provisioned`
	Example:
	`Router# show version r0 installed`
		(Optional) Confirm that the subpackages are provisioned and installed.

Step 17	**redundancy force-switchover** **Example:** `Router# redundancy force-switchover`	Force an RP switchover to complete the upgrade.
Step 18	**request platform software package clean** **Example:** `Router# request platform software package clean`	(Optional) Removes all unused subpackages files from the router.

Examples

The following example shows ISSU upgrade using subpackages on a Cisco ASR 1006 router or ASR 1013 router with a dual RP setup using the **issu** command set

```
Router# show version
Cisco IOS Software, IOS-XE Software (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), Version 15.3(2)S,
 RELEASE SOFTWARE (fc1)
<output removed for brevity>
System image file is "bootflash:Active_Dir/packages.conf"
<output removed for brevity>
cisco ASR1013 (RP2) processor with 4208889K/6147K bytes of memory.
Processor board ID FOX1343GJGC 20 Gigabit Ethernet interfaces
6 Ten Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
```

```
1925119K bytes of eUSB flash at bootflash:.
78085207K bytes of SATA hard disk at harddisk:.
Configuration register is 0x2102
Router# show platform
Chassis type: ASR1013
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 2        ASR1000-SIP40       ok                    1d03h
 2/0      SPA-1X10GE-L-V2     ok                    1d03h
 2/1      SPA-1X10GE-L-V2     ok                    1d03h
 2/2      SPA-1X10GE-L-V2     ok                    1d03h
 2/3      SPA-1X10GE-L-V2     ok                    1d03h
 4        ASR1000-2T+20X1GE   ok                    1d03h
 4/0      BUILT-IN-2T+20X1GE  ok                    1d03h
 R0       ASR1000-RP2         ok, active            1d03h
 R1       ASR1000-RP2         ok, standby           1d03h
 F0       ASR1000-ESP100      ok, active            1d03h
 F1       ASR1000-ESP100      ok, standby           1d03h
 P0       ASR1013-PWR-AC      ok                    1d03h
 P1       ASR1013-PWR-AC      ok                    1d03h
 P2       ASR1013-PWR-AC      ok                    1d03h
 P3       ASR1013-PWR-AC      ps, fail              1d03h
Slot      CPLD Version        Firmware Version
--------- ------------------- ---------------------------------------
 2         00200800            15.3(3r)S
 4         00200800            15.2(1r)S
 R0        10021901            15.3(3r)S
 R1        10021901            15.3(3r)S
 F0        12071700            15.3(3r)S
 F1        12071700            15.3(3r)S
Router# show version r0 installed
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: a624f70f68c60292f4482433f43afd92487a55c4
Package: rpbase, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
<output removed for brevity>
Router# dir bootflash:Active_Dir
Directory of bootflash:/Active_Dir/
   20  -rw-    41104112   Aug 3 2013 15:05:40 +05:30
asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
   21  -rw-    50285296   Aug 3 2013 15:05:40 +05:30  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg

   22  -rw-    82514676   Aug 3 2013 15:05:40 +05:30
asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
   23  -rw-   101084628   Aug 3 2013 15:05:40 +05:30
asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
   17  -rw-        9059   Aug 3 2013 15:05:40 +05:30
asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
   24  -rw-    29012724   Aug 3 2013 15:05:40 +05:30
asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
   25  -rw-    49898964   Aug 3 2013 15:05:40 +05:30  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg

   26  -rw-    46557940   Aug 3 2013 15:05:40 +05:30
asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
   27  -rw-   114612988   Aug 3 2013 15:05:41 +05:30
asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
```

Examples

```
   28  -rw-    41954036   Aug 3 2013 15:05:41 +05:30
asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
   29  -rw-    60957428   Aug 3 2013 15:05:41 +05:30  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg

   19  -rw-        9838   Aug 3 2013 15:05:41 +05:30
packages.conf
1940303872 bytes total (503164928 bytes free)
Router# show redundancy states
       my state = 13 -ACTIVE
       peer state = 8  -STANDBY HOT
       Mode = Duplex
       Unit = Primary
       Unit ID = 48
Redundancy Mode (Operational) = sso
Redundancy Mode (Configured)  = sso
Redundancy State              = sso
Maintenance Mode = Disabled
Manual Swact = enabled
Communications = Up
client count = 108
client_notification_TMR = 30000 milliseconds
RF debug mask = 0x0
Router# copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router# mkdir harddisk:Target_Subs
Create directory filename [Target_Subs]?
Created dir harddisk:/Target_Subs
Router# request platform software package expand file
harddisk:Target_Subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin to
harddisk:Target_Subs
Verifying parameters
Validating package type
Copying package files
SUCCESS: Finished expanding all-in-one software package.
Router# dir harddisk:Target_Subs
Directory of harddisk:/Target_Subs/
3358722  -rw-   569597380   Aug 4 2013 18:45:38 +05:30
asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
7684099  -rw-    37557200   Aug 4 2013 18:46:43 +05:30
asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
7684100  -rw-    51194832   Aug 4 2013 18:46:43 +05:30
asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
7684101  -rw-    80657364   Aug 4 2013 18:46:43 +05:30
asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
7684102  -rw-    95446456   Aug 4 2013 18:46:43 +05:30
asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
7684097  -rw-        9381   Aug 4 2013 18:46:43 +05:30
asr1000rp2-packages-adventerprisek9.03.13.00.S.154-3.S-ext.conf
7684103  -rw-    23350232   Aug 4 2013 18:46:43 +05:30
asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
7684104  -rw-    37694900   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
7684105  -rw-    45536216   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
7684106  -rw-   118754284   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
7684107  -rw-    38380500   Aug 4 2013 18:46:44 +05:30
asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
7684108  -rw-    61760468   Aug 4 2013 18:46:44 +05:30
asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
7684098  -rw-       10165   Aug 4 2013 18:46:44 +05:30  packages.conf
78704144384 bytes total (9254879232 bytes free)
```

```
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-
espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC80657364 bytes copied in 11.951 secs (6749005 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
95446456 bytes copied in 14.213 secs (6715433 bytes/sec)
Router# Copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
23350232 bytes copied in 3.441 secs (6785885 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
37694900 bytes copied in 5.598 secs (6733637 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
45536216 bytes copied in 6.797 secs (6699458 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 bootflash:
Destination filename [Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?

Copy in
progress...CCCC
118754284 bytes copied in 17.798 secs (6672339 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC
38380500 bytes copied in 5.962 secs (6437521 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC61760468 bytes copied in 9.408 secs (6564676 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
37557200 bytes copied in 5.650 secs (6647292 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
51194832 bytes copied in 7.397 secs (6921026 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCC
80657364 bytes copied in 132.765 secs (607520 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC95446456 bytes copied in 177.587 secs (537463 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
```

Examples

```
Copy in
progress...CCCCC
23350232 bytes copied in 55.396 secs (421515 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
37694900 bytes copied in 86.199 secs (437301 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
45536216 bytes copied in 101.527 secs (448513 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?

Copy in
progress...CCCC118754284 bytes copied in 212.646 secs (558460 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCCC38380500 bytes copied in 83.162 secs (461515 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
61760468 bytes copied in 119.391 secs (517296 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
37557200 bytes copied in 57.106 secs (657675 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC51194832 bytes copied in 87.453 secs (585398 bytes/sec)
Router# issu checkversion rp 1 file
stby-bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
```

```
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
SUCCESS: Software is ISSU compatible.
Router#
Router#
Router# issu loadversion rp 1 file
stby-bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
```

Examples

```
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
Router#
Router# hw-module slot r1 reload
Proceed with reload of module? [confirm]
Router#
*Aug  4 19:14:01.721 IST: %IOSXE_OIR-6-OFFLINECARD: Card (rp) offline in slot R1
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_NOT_PRESENT)
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Aug  4 19:14:03.584 IST: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
```

```
*Aug  4 19:14:03.594 IST: % Redundancy mode change to SSO
Router#
*Aug  4 19:17:35.443 IST: %IOSXE_OIR-6-ONLINECARD: Card (rp) online in slot R1
Router#
*Aug  4 19:17:48.061 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_FOUND(4))
*Aug  4 19:17:48.061 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Aug  4 19:17:51.003 IST: %REDUNDANCY-3-IPC: IOS versions do not match.

*Aug  4 19:19:08.380 IST: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Aug  4 19:19:08.797 IST: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Aug  4 19:19:08.798 IST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3.S-ext*.pkg slot 2 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
```

Examples

```
No old package files removed
New files list:
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
*Aug  4 19:21:45.424 IST: %IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 2
*Aug  4 19:21:48.382 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/0
*Aug  4 19:21:48.733 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/1
*Aug  4 19:21:49.083 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/2
*Aug  4 19:21:49.430 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/3
*Aug  4 19:21:58.121 IST: %LINK-3-UPDOWN: SIP2/0: Interface EOBC2/1, changed state to up
*Aug  4 19:22:02.302 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/0
*Aug  4 19:22:02.282 IST: %TRANSCEIVER-6-INSERTED: SIP2/0: transceiver module inserted in
TenGigabitEthernet2/0/0
*Aug  4 19:22:02.518 IST: %LINK-3-UPDOWN: SIP2/1: Interface EOBC2/1, changed state to up
*Aug  4 19:22:06.113 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/1
*Aug  4 19:22:06.082 IST: %TRANSCEIVER-6-INSERTED: SIP2/1: transceiver module inserted in
TenGigabitEthernet2/1/0
*Aug  4 19:22:08.080 IST: %LINK-3-UPDOWN: SIP2/2: Interface EOBC2/1, changed state to up
*Aug  4 19:22:11.627 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/2
*Aug  4 19:22:11.616 IST: %TRANSCEIVER-6-INSERTED: SIP2/2: transceiver module inserted in
TenGigabitEthernet2/2/0
*Aug  4 19:22:12.523 IST: %LINK-3-UPDOWN: SIP2/3: Interface EOBC2/1, changed state to up
*Aug  4 19:22:16.657 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/3
*Aug  4 19:22:16.648 IST: %TRANSCEIVER-6-INSERTED: SIP2/3: transceiver module inserted in
TenGigabitEthernet2/3/0
Router# issu
 commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
```

```
Finished installation changes
SUCCESS: Installation changes committed
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*.pkg slot 4

--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
```

```
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Applying final IPC and database definitions
  *Aug 4 19:22:05.767 IST: %IOSXE_OIR-6-OFFLINECARD: Card (cc) offline in slot 4
  *Aug 4 19:22:05.770 IST: %IOSXE_OIR-6-REMSPA: SPA removed from subslot 4/0, interfaces
  disabled
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
*Aug 4 19:24:05.041 IST: %IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 4
*Aug 4 19:24:14.250 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 4/0
*Aug 4 19:24:34.196 IST: %LINK-3-UPDOWN: SIP4/0: Interface EOBC0/1, changed state to up
*Aug 4 19:25:27.923 IST: %LINK-3-UPDOWN: Interface GigabitEthernet4/0/0, changed state to
down
*Aug 4 19:25:30.497 IST: %LINK-3-UPDOWN: Interface GigabitEthernet4/0/1, changed state to
down
*Aug 4 19:25:40.915 IST: %SPA_OIR-6-ONLINECARD: SPA (BUILT-IN-2T+20X1GE) online in subslot
 4/0
*Aug 4 19:25:53.574 IST: %LINK-3-UPDOWN: Interface GigabitEthernet4/0/0, changed state to
up
*Aug 4 19:25:53.582 IST: %LINK-3-UPDOWN: Interface GigabitEthernet4/0/1, changed state to
up
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 1
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
```

```
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
    Restarting ESP1
  Applying final IPC and database definitions
Aug  4 19:29:16.751 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F1
*Aug  4 19:29:18.172 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active
 with no Standby  Generating software version information
```

Examples

```
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
*Aug  4 19:30:50.972 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 preparing image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:30:51.362 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:30:53.088 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F1
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 0
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Aug  4 19:31:14.730 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:31:15.079 IST: %CPPHA-7-READY: F1: cpp_ha:  CPP 0 loading and initialization
completeFinished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
*Aug  4 19:31:15.309 IST: %IOSXE-6-PLATFORM: F1: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTERProcessing candidate provisioning file
*Aug  4 19:31:18.010 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active
 with ready StandbyConstructing working set for candidate package
setConstructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
```

```
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
No new package files added
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
    Restarting ESP0
  Applying final IPC and database definitions
*Aug  4 19:32:46.187 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F0
*Aug  4 19:32:46.539 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F1 redundancy state is Active
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
*Aug  4 19:34:19.748 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 preparing image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:20.139 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:21.858 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug  4 19:34:43.609 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:43.958 IST: %CPPHA-7-READY: F0: cpp_ha:  CPP 0 loading and initialization
complete
*Aug  4 19:34:44.190 IST: %IOSXE-6-PLATFORM: F0: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
*Aug  4 19:34:46.890 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Standby
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# issu loadversion rp 0 file bootflash:Active_Dir/asr1000rp2*03.13.00.S.154-3.S-ext*.pkg
 force
--- Starting local lock acquisition on R0 ---
```

```
Finished local lock acquisition on R0
s
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
```

```
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
Router# show  platform
Chassis type: ASR1013
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 2        ASR1000-SIP40        ok                    1d04h
 2/0      SPA-1X10GE-L-V2      ok                    1d04h
 2/1      SPA-1X10GE-L-V2      ok                    1d04h
 2/2      SPA-1X10GE-L-V2      ok                    1d04h
 2/3      SPA-1X10GE-L-V2      ok                    1d04h
 4        ASR1000-2T+20X1GE    ok                    1d04h
 4/0      BUILT-IN-2T+20X1GE   ok                    1d04h
 R0       ASR1000-RP2          ok, active            1d04h
 R1       ASR1000-RP2          ok, standby           1d04h
 F0       ASR1000-ESP100       ok, standby           1d04h
 F1       ASR1000-ESP100       ok, active            1d04h
 P0       ASR1013-PWR-AC       ok                    1d04h
 P1       ASR1013-PWR-AC       ok                    1d04h
 P2       ASR1013-PWR-AC       ok                    1d04h
 P3        ASR1013-PWR-AC        ps, fail              1d04h
Slot      CPLD Version        Firmware Version
--------- ------------------- ---------------------------------------
 2         00200800            15.3(3r)S
 4         00200800            15.2(1r)S
 R0        10021901            15.3(3r)S
 R1        10021901            15.3(3r)S
 F0        12071700            15.3(3r)S
 F1        12071700            15.3(3r)S
Router# show version R0 provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/0
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/1
```

```
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
<some output removed for brevity>
Router# show version R0 provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP0/0
  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
<some output removed for brevity>
Router# redundancy force-switchover
Proceed with switchover to standby RP? [confirm]
<output removed for brevity>
Router# request platform software package clean
Cleaning up unnecessary package files
No path specified, will use booted
path bootflash:Active_Dir/packages.conf
Cleaning bootflash:Active_Dir
Scanning boot directory for packages ... done.
Preparing packages list to delete ... asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-rpios-adventerprisek9.03.10.00.S.153
-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...packages.conf
      File is in use, will not delete... done.

Files that will be deleted:  asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
```

```
  asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
  asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
  packages.conf.00-
Do you want to proceed? [confirm]y
  Deleting file bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg... done.
  Deleting file
bootflash:Active_Dir/asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
 ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/packages.conf.00- ... done.
SUCCESS: Files deleted.
```

Using ISSU to Upgrade Subpackages on a Cisco ASR 1006 Router, ASR1006-X Router, ASR1009-X Router, or ASR 1013 Router (request platform command set)

This procedure can only be performed if the current ASR 1006 router or ASR 1013 router has two active RPs and both RPs are running subpackages.

To perform an ISSU upgrade using subpackages on a Cisco ASR 1006 router or ASR 1013 router with a dual RP setup using the **request platform** command set, follow the following instructions.

SUMMARY STEPS

1. **show version**
2. **mkdir** *URL-to-directory-name*
3. **ip tftp source-interface gigabitethernet port**
4. **copy tftp:** *URL-to-target-location*
5. **request platform software package expand file** *URL-to-consolidated-package*
6. **dir** *target-URL*
7. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP*
8. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
9. **request platform software package install rp** *standby-RP* **file** *target-standbyRP-URL-for-sub-packages*:**asr1000rp*** *version*.**pkg force**
10. **hw-module slot** *standby-RP* **reload**
11. **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{sipbase,sipspa}*** *version*.**pkg slot***SIP-slot-number***force**
12. **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{elcbase,elcspa}*** *version*.**pkg slot***ELC-slot-number***force**
13. **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp*** *version*.**pkg slot** *standby-ESP-slot*
14. **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp*** *version*.**pkg force**

15. **show version** *active-RP* **provisioned**
16. **redundancy force-switchover**
17. **request platform software package clean**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**show version** **Example:** **show version** *active-rp* **installed** **Example:** **show version** *standby-rp* **installed** **Example:** **dir** *filesystem*:<*directory*> **Example:** **show platform** **Example:** **Example:** Router# **show version** **Example:** Router# **show version r0 installed** **Example:** Router# **show version r1 installed** **Example:** Router# **dir bootflash:** **Example:** Router# **show platform**	(Optional) Use the following commands to confirm the current router configuration, as follows: • **show version** and **show version** *active-rp* **installed**—Verify the running version of the Cisco IOS XE software on the router, and which file was used to boot the router, and where that file is stored. • **dir**—Confirm that the files that were used to boot the router are located in the directory. • **show platform**—Confirm the current status of the active and standby RPs.
Step 2	**mkdir** *URL-to-directory-name* **Example:** **Example:** Router# **mkdir usb0:221subs** **Example:**	Creates a directory to store the consolidated package and subpackages. This directory must be created in most cases because the consolidated packages and subpackages have to be separated from the subpackages that booted the router at this step of the procedure.

	Command or Action	Purpose
Step 3	**ip tftp source-interface gigabitethernet port** **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface. **Note** To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.
Step 4	**copy tftp:** *URL-to-target-location* **Example:** **Example:** `Router# copy tftp: usb0:221subs`	Copies the consolidated package file into the directory created in Step 2 . The consolidated package in this step should not be copied into the same directory where the subpackages that are currently running your router are stored (the directory containing the packages.conf provisioning file from which the router was booted). **Tip** It is recommended that you copy the package onto a usb: or harddisk: file system for space considerations when performing this step of the procedure.
Step 5	**request platform software package expand file** *URL-to-consolidated-package* **Example:** **Example:** `Router# request platform software package expand file usb0:221subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin` **Example:**	Extracts the subpackages out of the consolidated package file into the temporary directory. **Note** Take extra care to extract the subpackages to a temporary subdirectory and do not delete any of the files currently running the router at this point of the procedure.To erase the files that were running on the router before the ISSU upgrade, enter the **request platform software package clean** command after the ISSU upgrade has been completed.
Step 6	**dir** *target-URL* **Example:** **Example:** `Router# dir usb0:221subs`	(Optional) Displays the directory to confirm that the files were extracted.

	Command or Action	Purpose
Step 7	**copy** *file-system*:**asr1000rp2-espbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpcontrol.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpios.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **Example:**	Copies the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.

	Command or Action	Purpose

	`Router# copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	
	Example:
	
	`Router# copy`	

	Command or Action	Purpose

	usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:
	Example:
	Example:
	`Router# copy usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	Example:
	`Router# copy usb0:221subs/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	Example:
	`Router# copy usb0:221subs/asr1000rp2-eldspa.03.13.00.S.154-3.S-ext.pkg bootflash:`	

Step 8	**copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpcontrol.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:**	Copies the subpackages out of the temporary directory into the directory on the router where the subpackages running the standby RP are currently stored.

	Command or Action	Purpose
	copy *file-system*:**asr1000rp2-rpios.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **Example:** Router# **copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:** **Example:** **Example:** Router# **copy usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:** **Example:** **Example:** Router# **copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:** **Example:**	

	Command or Action	Purpose

	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# copy usb0:221subs/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:	

	Command or Action	Purpose
	Example: `Router# copy usb0:221subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:` **Example:**	
Step 9	**request platform software package install rp** *standby-RP* **file** *target-standbyRP-URL-for-sub-packages***:asr1000rp***version****.pkg force** **Example:** **Example:** `Router# request platform software package install rp 1 file stby-bootflash:asr1000rp*03.13.00.S.154-3.S-ext*.pkg force`	Upgrades the RP subpackages on the standby RP, where the "**rp*"** wildcard is specified to capture all of the RP subpackages for the desired upgrade release. **Note** From Polaris 16.x.x release, the image name starts with **asr1000rpx86**. Hence, the keyword *rpx86** can be used during upgrade or downgrade between Polaris 16.x.x releases.
Step 10	**hw-module slot** *standby-RP* **reload** **Example:** **Example:** `Router# hw-module slot R1 reload`	Reloads the standby RP.
Step 11	**request platform software package install rp** *active-RP* **file** *URL-to-active-file-system***:asr1000rp2-{sipbase,sipspa}***version****.pkg slot***SIP-slot-number***force** **Example:** **Example:** **Example:** **Example:**	Upgrades the SIP and SPA subpackages for each SIP on the router. **Note** This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step. **Tip** You can use the **show ip interface brief** command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form *SIP-number*/*SPA-number*/*interface-number*) identify the SIP and SPA locations in the router.

	Command or Action	Purpose
	Router# **request platform software package install rp 0 file bootflash:asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3.S-ext*.pkg slot 2 force** **Example:**	**Note** The *pattern* options used in this CLI (**sipbase** and **sipspa**) were introduced in Cisco IOS XE Release 2.1.2 and are not available in previous Cisco IOS XE Releases.See the ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2), on page 65 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures
Step 12	**request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{elcbase,elcspa}***version***.pkg slot***ELC-slot-number***force** **Example:** **Example:** **Example:** Router# **request platform software package install rp 0 file bootflash:asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*.pkg slot 4 force** **Example:**	Upgrades the ELC and SPA subpackages for each ELC on the router. **Note** This step must be completed for one ELC at a time, and repeated for each ELC installed on the router before performing the next step. **Tip** You can use the **show ip interface brief** command to identify which slots contain ELCs and SPAs. The interfaces with three numbers (in the form *ELC-number*/*SPA-number*/*interface-number*) identify the ELC and SPA locations in the router. **Note** The *pattern* options used in this CLI (**elcbase** and **elcspa**) were introduced in Cisco IOS XE Release 3.10S and are not available in previous Cisco IOS XE Releases
Step 13	**request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp***version***.pkg slot** *standby-ESP-slot* **Example:** **Example:** **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp***version***.pkg slot** *active-ESP-slot* **Example:** **Example:** Router# **request platform software package install rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 1**	Upgrades the ESP Base subpackage on the standby and the active ESPs. After entering the **issu loadversion rp** command on the active RP, the ESP switchover will occur automatically. Minimal traffic interruption will occur as a result of this switchover.

	Command or Action	Purpose
	Example: `Router# request platform software package install rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 0`	
Step 14	**request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp***version****.pkg force** **Example:** **Example:** `Router# request platform software package install rp 0 file bootflash:asr1000rp2*03.13.00.S.154-3.S-ext*.pkg force`	Upgrades all of the sub-packages on the active RP. **Note** This step is required to ensure that all subpackages on the router were upgraded as part of this procedure, and might upgrade some subpackages that would otherwise be missed in the process. **Note** From Polaris 16.x.x release, the image name starts with **asr1000rpx86**. Hence, the keyword *rpx86** can be used during upgrade or downgrade between Polaris 16.x.x releases.

Step 15	**show version** *active-RP* **provisioned**
	Example:
	`show version active-RP installed`
	Example:
	
	Example:
	
	`Router# show version r0 provisioned`
	Example:
	
	`Router# show version r0 installed`
		(Optional) Confirms the subpackages are provisioned and installed.

Step 16	**redundancy force-switchover** **Example:** **Example:** `Router# redundancy force-switchover`	Forces an RP switchover to complete the upgrade.
Step 17	**request platform software package clean**	(Optional) Removes all unused subpackage files from the router.

Examples

This example shows ISSU upgrade using subpackages on a Cisco ASR 1006 router or ASR 1013 router with a dual RP setup:

Examples

```
Router# show version
Cisco IOS Software, IOS-XE Software (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), Version 15.3(2)S,
 RELEASE SOFTWARE (fc1)
<output removed for brevity>
System image file is "bootflash:Active_Dir/packages.conf"
<output removed for brevity>
cisco ASR1013 (RP2) processor with 4208889K/6147K bytes of memory.
Processor board ID FOX1343GJGC
20 Gigabit Ethernet interfaces
6 Ten Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1925119K bytes of eUSB flash at bootflash:.
78085207K bytes of SATA hard disk at harddisk:Configuration register is 0x2102
Router# show platform
Chassis type: ASR1013
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 2        ASR1000-SIP40        ok                    1d03h
 2/0      SPA-1X10GE-L-V2      ok                    1d03h
 2/1      SPA-1X10GE-L-V2      ok                    1d03h
 2/2      SPA-1X10GE-L-V2      ok                    1d03h
 2/3      SPA-1X10GE-L-V2      ok                    1d03h
 4        ASR1000-2T+20X1GE    ok                    1d03h
 4/0      BUILT-IN-2T+20X1GE   ok                    1d03h
 R0       ASR1000-RP2          ok, active            1d03h
 R1       ASR1000-RP2          ok, standby           1d03h
 F0       ASR1000-ESP100       ok, active            1d03h
 F1       ASR1000-ESP100       ok, standby           1d03h
 P0       ASR1013-PWR-AC       ok                    1d03h
 P1       ASR1013-PWR-AC       ok                    1d03h
 P2       ASR1013-PWR-AC       ok                    1d03h
 P3       ASR1013-PWR-AC       ps, fail              1d03h
Slot      CPLD Version        Firmware Version
--------- ------------------- ---------------------------------------
 2         00200800            15.3(3r)S
 4         00200800            15.2(1r)S
 R0        10021901            15.3(3r)S
 R1        10021901            15.3(3r)S
 F0        12071700            15.3(3r)S
 F1        12071700            15.3(3r)S
Router# show version r0 installed
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a

File SHA1 checksum: a624f70f68c60292f4482433f43afd92487a55c4
Package: rpbase, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre

File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre

File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
<output removed for brevity>
Router# dir bootflash:Active_Dir
Directory of bootflash:/Active_Dir/
20  -rw-    41104112   Aug 3 2013 15:05:40 +05:30
asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
21  -rw-    50285296   Aug 3 2013 15:05:40 +05:30  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
```

```
22  -rw-    82514676   Aug 3 2013 15:05:40 +05:30
asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
23  -rw-   101084628   Aug 3 2013 15:05:40 +05:30
asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
17  -rw-        9059   Aug 3 2013 15:05:40 +05:30
asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
24  -rw-    29012724   Aug 3 2013 15:05:40 +05:30
asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
25  -rw-    49898964   Aug 3 2013 15:05:40 +05:30  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
26  -rw-    46557940   Aug 3 2013 15:05:40 +05:30
asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
27  -rw-   114612988   Aug 3 2013 15:05:41 +05:30
asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
28  -rw-    41954036   Aug 3 2013 15:05:41 +05:30  asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
29  -rw-    60957428   Aug 3 2013 15:05:41 +05:30  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
19  -rw-        9838   Aug 3 2013 15:05:41 +05:30
packages.conf
1940303872 bytes total (503164928 bytes free)
Router# show redundancy states
       my state = 13
-ACTIVE peer state = 8  -STANDBY HOT
           Mode = Duplex
           Unit = Primary
           Unit ID = 48
Redundancy Mode (Operational) = sso
Redundancy Mode (Configured)  = sso
Redundancy State              = sso
Maintenance Mode = Disabled
Manual Swact = enabled
Communications = Up
client count = 108
client_notification_TMR = 30000 milliseconds
RF debug mask = 0x0
Router# copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router# mkdir harddisk:Target_Subs
Create directory filename [Target_Subs]?
Created dir harddisk:/Target_Subs
Router# request platform software package expand file
harddisk:Target_Subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin to
harddisk:Target_Subs
Verifying parameters
Validating package type
Copying package files
SUCCESS: Finished expanding all-in-one software package.
#
Router# dir harddisk:Target_Subs
Directory of harddisk:/Target_Subs/
3358722  -rw-   569597380   Aug 4 2013 18:45:38 +05:30
asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
7684099  -rw-    37557200   Aug 4 2013 18:46:43 +05:30
asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
7684100  -rw-    51194832   Aug 4 2013 18:46:43 +05:30
asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
7684101  -rw-    80657364   Aug 4 2013 18:46:43 +05:30
asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
7684102  -rw-    95446456   Aug 4 2013 18:46:43 +05:30
asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
7684097  -rw-        9381   Aug 4 2013 18:46:43 +05:30
asr1000rp2-packages-adventerprisek9.03.13.00.S.154-3.S-ext.conf
7684103  -rw-    23350232   Aug 4 2013 18:46:43 +05:30
asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
```

```
7684104  -rw-    37694900   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
7684105  -rw-    45536216   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
7684106  -rw-   118754284   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
7684107  -rw-    38380500   Aug 4 2013 18:46:44 +05:30
asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
7684108  -rw-    61760468   Aug 4 2013 18:46:44 +05:30
asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
7684098  -rw-       10165   Aug 4 2013 18:46:44 +05:30
packages.conf
78704144384 bytes total (9254879232 bytes free)
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
80657364 bytes copied in 11.951 secs (6749005 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
95446456 bytes copied in 14.213 secs (6715433 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
23350232 bytes copied in 3.441 secs (6785885 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
37694900 bytes copied in 5.598 secs (6733637 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
45536216 bytes copied in 6.797 secs (6699458 bytes/sec)
Router# copy harddisk: Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 bootflash:
Destination filename
[Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
118754284 bytes copied in 17.798 secs (6672339 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
38380500 bytes copied in 5.962 secs (6437521 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCCCC
61760468 bytes copied in 9.408 secs (6564676 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
37557200 bytes copied in 5.650 secs (6647292 bytes/sec)
Router# copy
harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:
Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
```

```
progress...CCCCC
51194832 bytes copied in 7.397 secs (6921026 bytes/sec)
#
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
80657364 bytes copied in 132.765 secs (607520 bytes/sec)
Router# copy
harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
95446456 bytes copied in 177.587 secs (537463 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
23350232 bytes copied in 55.396 secs (421515 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
37694900 bytes copied in 86.199 secs (437301 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
45536216 bytes copied in 101.527 secs (448513 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 stby-bootflash:
Destination filename
[Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
118754284 bytes copied in 212.646 secs (558460 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
38380500 bytes copied in 83.162 secs (461515 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
61760468 bytes copied in 119.391 secs (517296 bytes/sec)
#
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
37557200 bytes copied in 57.106 secs (657675 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-
ext.pkg]?
Copy in
progress...CCCC
51194832 bytes copied in 87.453 secs (585398 bytes/sec)
Router# request platform software package install rp 1 file
```

```
stby-bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
```

```
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
Router# hw-module slot r1 reload
Proceed with reload of module? [confirm]Y
*Aug  4 19:14:01.721 IST: %IOSXE_OIR-6-OFFLINECARD: Card (rp) offline in slot R1
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_NOT_PRESENT)
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Aug  4 19:14:03.584 IST: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
*Aug  4 19:14:03.594 IST: % Redundancy mode change to SSO
*Aug  4 19:17:35.443 IST: %IOSXE_OIR-6-ONLINECARD: Card (rp) online in slot R1
*Aug  4 19:17:48.061 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_FOUND(4))
*Aug  4 19:17:48.061 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Aug  4 19:17:51.003 IST: %REDUNDANCY-3-IPC: IOS versions do not match.
*Aug  4 19:19:08.380 IST: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Aug  4 19:19:08.797 IST: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Aug  4 19:19:08.798 IST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3.S-ext*.pkg slot 2 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
```

Examples

```
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING: Candidate software combination not found in compatibility database
WARNING: Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING: Candidate software combination not found in compatibility database
WARNING: Candidate software combination not found in compatibility database
WARNING: Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
*Aug  4 19:21:45.424 IST:
%IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 2
*Aug  4 19:21:48.382 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/0
*Aug  4 19:21:48.733 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/1
*Aug  4 19:21:49.083 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/2
*Aug  4 19:21:49.430 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/3
*Aug  4 19:21:58.121 IST: %LINK-3-UPDOWN: SIP2/0: Interface EOBC2/1, changed state to up
*Aug  4 19:22:02.302 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/0
*Aug  4 19:22:02.282 IST: %TRANSCEIVER-6-INSERTED: SIP2/0: transceiver module inserted in
TenGigabitEthernet2/0/0
*Aug  4 19:22:02.518 IST: %LINK-3-UPDOWN: SIP2/1: Interface EOBC2/1, changed state to up
```

```
*Aug  4 19:22:06.113 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/1
*Aug  4 19:22:06.082 IST: %TRANSCEIVER-6-INSERTED: SIP2/1: transceiver module inserted in
TenGigabitEthernet2/1/0
*Aug  4 19:22:08.080 IST: %LINK-3-UPDOWN: SIP2/2: Interface EOBC2/1, changed state to up
*Aug  4 19:22:11.627 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/2
*Aug  4 19:22:11.616 IST: %TRANSCEIVER-6-INSERTED: SIP2/2: transceiver module inserted in
TenGigabitEthernet2/2/0
*Aug  4 19:22:12.523 IST: %LINK-3-UPDOWN: SIP2/3: Interface EOBC2/1, changed state to up
*Aug  4 19:22:16.657 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/3
*Aug  4 19:22:16.648 IST: %TRANSCEIVER-6-INSERTED: SIP2/3: transceiver module inserted in
TenGigabitEthernet2/3/0
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*.pkg slot 4
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:Candidate software combination not found in compatibility database
WARNING:Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:Candidate software combination not found in compatibility database
WARNING:Candidate software combination not found in compatibility database
WARNING:Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
```

```
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Applying final IPC and database definitions
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
Router# issu commitversion
Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 1
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronizatio---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
```

```
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:Candidate software combination not found in compatibility database
WARNING:Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:Candidate software combination not found in compatibility database
WARNING:Candidate software combination not found in compatibility database
WARNING:Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
    Restarting ESP1
  Applying final IPC and database definitions
*Aug  4 19:29:16.751 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F1
*Aug  4 19:29:18.172 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active
 with no Standby
Generating software version information
Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
*Aug  4 19:30:50.972 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 preparing image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:30:51.362 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 startup init image
```

Examples

```
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:30:53.088 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F1
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 0
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
*Aug  4 19:31:14.730 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:31:15.079 IST: %CPPHA-7-READY: F1: cpp_ha:  CPP 0 loading and initialization
completeFinished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
*Aug  4 19:31:15.309 IST: %IOSXE-6-PLATFORM: F1: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTERProcessing candidate provisioning file
*Aug  4 19:31:18.010 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active
 with ready StandbyConstructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:Candidate software combination not found in compatibility database
WARNING:Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file /tmp/issu/provision/sw
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
No new package files added
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
```

```
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Restarting ESP0
  Applying final IPC and database definitions
*Aug  4 19:32:46.187 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F0
*Aug  4 19:32:46.539 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F1 redundancy state is Active

Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
*Aug  4 19:34:19.748 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 preparing image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:20.139 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:21.858 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug  4 19:34:43.609 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:43.958 IST: %CPPHA-7-READY: F0: cpp_ha:  CPP 0 loading and initialization
complete
*Aug  4 19:34:44.190 IST: %IOSXE-6-PLATFORM: F0: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
*Aug  4 19:34:46.890 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Standby
Router# show platform
Chassis type: ASR1013
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 2         ASR1000-SIP40       ok                    1d04h
 2/0       SPA-1X10GE-L-V2     ok                    1d04h
 2/1       SPA-1X10GE-L-V2     ok                    1d04h
 2/2       SPA-1X10GE-L-V2     ok                    1d04h
 2/3       SPA-1X10GE-L-V2     ok                    1d04h
 4         ASR1000-2T+20X1GE   ok                    1d04h
 4/0       BUILT-IN-2T+20X1GE  ok                    1d04h
 R0        ASR1000-RP2         ok, active            1d04h
 R1        ASR1000-RP2         ok, standby           1d04h
 F0        ASR1000-ESP100      ok, standby           1d04h
 F1        ASR1000-ESP100      ok, active            1d04h
 P0        ASR1013-PWR-AC      ok                    1d04h
 P1        ASR1013-PWR-AC      ok                    1d04h
 P2        ASR1013-PWR-AC      ok                    1d04h
 P3        ASR1013-PWR-AC      ps, fail              1d04h
Slot      CPLD Version        Firmware Version
------------------------------------------------------------------------
```

Examples

```
 2         00200800           15.3(3r)S
 4         00200800           15.2(1r)S
 R0        10021901           15.3(3r)S
 R1        10021901           15.3(3r)S
 F0        12071700           15.3(3r)S
 F1        12071700           15.3(3r)S
Router# issu commitversion
Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types

WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
```

```
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New
software will load on reboot.
Router# show version R0 provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/0Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
   File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
<some output removed for brevity>
Router# show version R0 provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP0/0   Built: 2013-03-25_18.51, by: mcpre
```

Examples

```
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
<some output removed for brevity>
Router# redundancy force-switchover
Proceed with switchover to standby RP? [confirm]
<output removed for brevity>
Router# request platform software package clean
Cleaning up unnecessary package files
No path specified, will use booted path bootflash:Active_Dir/packages.conf
Cleaning bootflash:Active_Dir
  Scanning boot directory for packages ... done.
  Preparing packages list to delete ... asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete..asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete..asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete... asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not
delete...asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...   asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...packages.conf
      File is in use, will not delete...  done.

Files that will be deleted: asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
  asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
  packages.conf.00-
Do you want to proceed? [confirm]y
  Deleting file bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg ... done.

  Deleting file
bootflash:Active_Dir/asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
 ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/packages.conf.00- ... done.
SUCCESS: Files deleted...
```

In Service One-Shot Software Upgrade Procedure

In service one-shot software upgrade procedure is an alternate to the standard ISSU procedure that enables you to upgrade or downgrade software using a single command. One-shot ISSU needs minimal user intervention or monitoring. Unlike the standard ISSU procedures, once the upgrade is initiated, the upgrade process cannot be cancelled.

The one-shot upgrade procedure is divided into stages. When a failure occurs, the command execution is stalled and users have to perform the rollback tasks manually. Necessary switchovers are automatically taken care of in one of the upgrade stages. During a switchover, the console and its output are lost. Additional commands are used to connect back to the console.

Note One-shot upgrade does not support multiple upgrades at the same time.

The **request platform software package install node file consolidated file name interface-module-delay secs** command is used for the one-shot ISSU procedure.

interface-module-delay is an optional parameter.

The interface-module-delay option specifies the time in seconds to wait after the first SIP and SPA combination has completed its upgrade or reboot before starting the upgrade of the next SIP and SPA. A minimum value of 60 seconds is recommended to ensure that all of the previously restarted SPAs are operational.

Example:

```
router# request platform software package install node file bootflash interface-module-delay
 60
```

The SIP-delay option enables you to delay the SIP restart duration thus enabling you to choose the restart time to minimize traffic loss.

The **request platform software package install node attach** command enables the users to view the last run log that contains the reports of all the stages of the one-shot upgrade.

The **request platform software package install file mdr** command enables the users to initiate the ISSU procedure using MDR.

ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2)

These instructions should be followed only if you are upgrading using ISSU to a pre-Cisco IOS XE 2.1.2 release. If you are using Cisco IOS XE Release 2.2.1 or later, follow the earlier instructions in this chapter to perform your ISSU upgrade.

This section contains the following topics:

Using ISSU to Perform a Consolidated Package Upgrade in a Dual Route Processor Configuration (Prior to Cisco IOS XE 2.1.2)

This procedure is identical to the procedure used to upgrade post-Cisco IOS XE 2.2 images using ISSU.

Using ISSU to Upgrade Subpackages (Prior to Cisco IOS XE Release 2.1.2)

This procedure will work on single RPs configured to run two IOS processes or on routers configured with dual RPs.

Versions of Cisco IOS XE Release 2.1 prior to Cisco IOS XE Release 2.1.2 and versions of Cisco IOS XE Release 2.2 prior to Cisco IOS XE Release 2.2.1 and installations not booted from the RPBase subpackage on Cisco IOS XE Release 2.2.1 or 2.1.2 require a different ISSU upgrade procedure.

SUMMARY STEPS

1. Copy all subpackages other than the **RPBase** subpackage into the same directory.
2. Install the RP subpackages from the directory simultaneously by using a wildcard statement to capture all of the RP subpackages. This command should capture the RPControl, RPAccess, and RPIOS subpackages without capturing the RPBase subpackage and should be done using the standby bay.
3. Wait for the system to reach SSO ready state. The **show platform** command can be used to monitor whether both IOS instances are active, and a system message will indicate SSO state has been reached.
4. Use the **redundancy force-switchover** command to trigger an IOS switchover.
5. Wait for the system to reach SSO ready state. Like in step 3, the state can be monitored by checking system messages or by entering the **show platform** command.
6. Install the RP subpackages from the directory simultaneously by using a wildcard statement to capture all of the RP subpackages. This command should capture the RPControl, RPAccess, and RPIOS subpackages without capturing the RPBase subpackage and should be done using the standby bay.
7. Install the SIPBASE and SIPSPA packages on each SIP:
8. Install the ESPBASE package on the ESP:
9. Copy the RPBase subpackage into the directory, then upgrade all of the RP subpackages simultaneously. This step will upgrade the RPBase subpackage, which is the last remaining subpackage that requires an upgrade:
10. Enter **show version provisioned** to confirm that all of the software has been updated.
11. Reload the router using the **reload** command when appropriate to complete the installation.

DETAILED STEPS

Step 1 Copy all subpackages other than the **RPBase** subpackage into the same directory.

Step 2 Install the RP subpackages from the directory simultaneously by using a wildcard statement to capture all of the RP subpackages. This command should capture the RPControl, RPAccess, and RPIOS subpackages without capturing the RPBase subpackage and should be done using the standby bay.

Use the asr1000rp1-rp**version*.pkg syntax instead of using the {*pattern*} syntax to complete this upgrade:

request platform software package install rp 1 file stby-bootflash:asr1000rp*02.02.01.122-33.XNB1*.pkg bay 1 force

Step 3 Wait for the system to reach SSO ready state. The **show platform** command can be used to monitor whether both IOS instances are active, and a system message will indicate SSO state has been reached.

Step 4 Use the **redundancy force-switchover** command to trigger an IOS switchover.

Step 5 Wait for the system to reach SSO ready state. Like in step 3, the state can be monitored by checking system messages or by entering the **show platform** command.

Step 6 Install the RP subpackages from the directory simultaneously by using a wildcard statement to capture all of the RP subpackages. This command should capture the RPControl, RPAccess, and RPIOS subpackages without capturing the RPBase subpackage and should be done using the standby bay.

Use the "asr1000rp1-rp**version*.pkg syntax instead of using the {*pattern*} syntax to complete this upgrade:

Example:

```
request platform software package install rp 0 file stby-bootflash:asr1000rp*02.02.01.122-33.XNB1*.pkg
 bay 0 force
```

Step 7 Install the SIPBASE and SIPSPA packages on each SIP:

Example:

```
Router# request platform software package install rp 0 file
bootflash:asr1000rp1-sip*02.02.01.122-33.XNB1*.pkg slot 4 force
Router# request platform software package install rp 0 file
bootflash:asr1000rp1-sip*02.02.01.122-33.XNB1*.pkg slot 1 force
Router# request platform software package install rp 0 file
bootflash:asr1000rp1-sip*02.02.01.122-33.XNB1*.pkg slot 2 force
```

Step 8 Install the ESPBASE package on the ESP:

Example:

```
Router# request platform software package install rp 0 file
bootflash:asr1000rp1-esp*02.02.01.122-33.XNB1*.pkg
```

Step 9 Copy the RPBase subpackage into the directory, then upgrade all of the RP subpackages simultaneously. This step will upgrade the RPBase subpackage, which is the last remaining subpackage that requires an upgrade:

Example:

```
request platform software package install rp 1 file bootflash:asr1000rp*02.02.01.122-33.XNB1*.pkg
force
```

Step 10 Enter **show version provisioned** to confirm that all of the software has been updated.

Step 11 Reload the router using the **reload** command when appropriate to complete the installation.

Example:

```
Downgrades in versions that do not support the {
pattern
} syntax are problematic because an RPBASE package for the downgrade version will always be present
 if an upgrade was previously performed. Removing and restaging all packages will work in this case,
 but they effectively put the system into a state where if the RP reloads prior to the installation
 being completed, the RP may no longer be bootable.
```

Upgrade Process with Service Impact for Nonredundant Platforms

Subpackage software upgrade is supported for nonredundant platforms such as Cisco ASR 1001 Router, Cisco ASR1001-X, Cisco ASR 1002, Cisco ASR 1002-X, and ASR 1004 Routers in subpackage mode. This is because the software upgrade procedure on these chassis types requires an RP reload when upgrading the RPBase subpackage at the last step.

During the software upgrade process, there will be outage on the control plane as the entire platform is rebooted so that access to the router operating system and ROMmon is lost for a period of time.

For non-hardware-redundant chassis types, SIP impact can be mitigated by installing SIPs one slot at a time if SPAs are redundant across SIPs (such as when using Gigabit Etherchannel). ESP redundancy provides similar capability for the ESP allowing hitless upgrade of a chassis from one software release to another. Consolidated package mode does not provide such a per-slot staging option and always incurs a traffic loss equivalent to simultaneous OIR of all SIPs.

Note The Cisco ASR 1002 and ASR 1002-F Routers come by default with 4-GB DRAM. The Cisco ASR 1001 Router comes by default with 4-GB DRAM, and is upgradeable up to 8-GB or 16-GB DRAM.

This section explains how to upgrade subpackages on a Cisco ASR 1001, Cisco ASR 1001-X, Cisco ASR1002, Cisco ASR 1002-X, or Cisco ASR 1004 Router. It contains the following sections:

Configuring SSO on a Cisco ASR 1001, Cisco ASR 1001-X, Cisco ASR 1001-HX, Cisco ASR 1002, Cisco ASR 1002-X, Cisco ASR 1002-HX, or Cisco ASR 1004 Router

The following instructions show how to configure SSO on a Cisco ASR 1001, Cisco ASR 1001-X, Cisco ASR 1001-HX, Cisco ASR 1002, Cisco ASR 1002-X, Cisco ASR 1002-HX, and Cisco ASR 1004 Routers. The standby IOS process is created automatically as part of these configuration steps.

SUMMARY STEPS

1. (Optional) Enter the **show version** command to confirm the amount of DRAM on your router:
2. (Optional) Enter **show redundancy states** to see the current HA configuration:
3. Enter **configure terminal** to enter global configuration mode:
4. Enter the **redundancy** command to enter redundancy configuration mode:
5. Enter **mode sso** to enable SSO, or **mode none** to disable dual software redundancy:
6. Return to privileged EXEC mode using any method, such as entering **Ctrl-Z** or the **exit** command multiple times until you get to the # router prompt:
7. Enter the **show redundancy states** command to confirm the configured redundancy mode changed to your new configuration.
8. Enter the **copy running-config startup-config** command to save the new configuration, and press **enter** to confirm the filename (or change the name, if desired):

9. After the reload is complete, enter the **show redundancy states** command to confirm the operational redundancy mode has changed to the mode that you configured before.
10. The router must be reloaded for the new HA configuration. Enter the **reload** command to reload the router:
11. (Optional) To confirm an active and a standby IOS process exist, and how the processes are numbered, enter the **show platform** command.

DETAILED STEPS

Step 1 (Optional) Enter the **show version** command to confirm the amount of DRAM on your router:

Example:

```
Router# show version
<some output removed for brevity>
32768K bytes of non-volatile configuration memory.
4194304K bytes of physical memory.
921599K bytes of eUSB flash at bootflash:.
39004543K bytes of SATA hard disk at bootflash:.
Configuration register is 0x2102
```

In the example **show version** output, the router has 4 GB of DRAM memory.

If you are using a Cisco ASR 1001, Cisco ASR 1001-X, Cisco ASR 1001-HX, Cisco ASR 1002, Cisco ASR 1002-X, Cisco ASR 1002-HX, or Cisco ASR 1004 Router with less than required DRAM memory on the RP, SSO cannot be configured on your RP.

Step 2 (Optional) Enter **show redundancy states** to see the current HA configuration:

Example:

```
Router# show redundancy states
       my state = 13 -ACTIVE
     peer state = 1  -DISABLED
           Mode = Simplex
        Unit ID = 6
Redundancy Mode (Operational) = Non-redundant
Redundancy Mode (Configured)  = Non-redundant
Redundancy State              = Non Redundant
```

In this example, HA for the dual RPs is not configured, as indicated by the nonredundant operational mode.

Step 3 Enter **configure terminal** to enter global configuration mode:

Example:

```
Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
```

Step 4 Enter the **redundancy** command to enter redundancy configuration mode:

Example:

```
Router(config)# redundancy
Router(config-red)#
```

Step 5 Enter **mode sso** to enable SSO, or **mode none** to disable dual software redundancy:

Example:

```
Router(config-red)# mode sso
Router(config-red)# mode none
```

Step 6 Return to privileged EXEC mode using any method, such as entering **Ctrl-Z** or the **exit** command multiple times until you get to the # router prompt:

Example:

```
Router(config-red)#^Z
Router#
Router(config-red)#exit
Router(config)#exit
Router#
```

Step 7 Enter the **show redundancy states** command to confirm the configured redundancy mode changed to your new configuration.

In the following example, the configured redundancy mode has been changed to SSO. Note that the operation redundancy mode remains unchanged:

Example:

```
Router# show redundancy states
       my state = 13 -ACTIVE
     peer state = 1  -DISABLED
           Mode = Simplex
        Unit ID = 6
Redundancy Mode (Operational) = Non-redundant
Redundancy Mode (Configured)  = sso
Redundancy State              = Non Redundant
```

Step 8 Enter the **copy running-config startup-config** command to save the new configuration, and press **enter** to confirm the filename (or change the name, if desired):

Example:

```
Router# copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
PE25_ASR-1004#
```

Step 9 After the reload is complete, enter the **show redundancy states** command to confirm the operational redundancy mode has changed to the mode that you configured before.

In this example, the operational redundancy mode has changed to SSO:

Example:

```
Router# show redundancy states
       my state = 13 -ACTIVE
     peer state = 8  -STANDBY HOT
           Mode = Duplex
        Unit ID = 6
Redundancy Mode (Operational) = sso
Redundancy Mode (Configured)  = sso
Redundancy State              = sso
```

Step 10 The router must be reloaded for the new HA configuration. Enter the **reload** command to reload the router:

Example:

```
Router# reload
Proceed with reload? [confirm]
<bootup messages removed for brevity>
```

If you are not using the console port to complete this procedure, your session may be terminated at this point. If you session is terminated, give the router a few minutes to complete the reload and then log into the router.

Example:

Step 11 (Optional) To confirm an active and a standby IOS process exist, and how the processes are numbered, enter the **show platform** command.

In this example, the **show platform** command output reveals that R0/0 is the active IOS process and R0/1 is the standby IOS process:

Example:

```
Router# show platform
Chassis type: ASR1004
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
0         ASR1000-SIP10       ok                    00:52:34
 0/0      SPA-2X1GE-V2        ok                    00:51:30
 0/1      SPA-2XT3/E3         ok                    00:51:24
R0        ASR1000-RP1         ok                    00:52:34
 R0/0                         ok, active            00:52:34
 R0/1                         ok, standby           00:51:00
F0        ASR1000-ESP10       ok, active            00:52:34
P0        ASR1004-PWR-AC      ok                    00:51:57
P1        ASR1004-PWR-AC      ok                    00:51:57
```

Using Subpackages for Software Upgrade on a Cisco ASR 1001 Router, Cisco ASR 1001-X Router, Cisco ASR 1001-HX Router, Cisco ASR 1002-X Router or a ASR 1002-HX Router

This section provides instructions on using software upgrade for Cisco ASR 1001 Router, Cisco ASR 1001-X Router, Cisco ASR 1001-HX Router, Cisco ASR 1002-X Router, or Cisco ASR 1002-HX Router running subpackages.

These instructions assume two IOS processes are active on the RP and that the router is already running using subpackages.

Note Step 17 does not have to be performed immediately, and should be done at a convenient time.

SUMMARY STEPS

1. **show version**
2. **redundancy**
3. **mkdir** *URL-to-directory-name*
4. **ip tftp** *source-interface gigabitethernet port*
5. **copy tftp:** *URL-to-target-location*
6. **request platform software package expand file** *URL-to-consolidated-package*
7. **dir** *target-URL*
8. **copy** file-system:**asr1001-espbase**.version.**pkg** URL-to-directory-of-sub-packages-active-RP
9. **issu loadversion rp 0 file** *file-system* **:asr1001-{rpaccess,rpios,rpcontrol}*** *version-string* ***.pkg bay** *standby-bay* **force**
10. **issu commitversion**
11. **redundancy force-switchover**
12. **show platform**
13. **issu loadversion rp 0 file** *file-system* **:asr1001-{rpaccess,rpios,rpcontrol}*** *version-string* ***.pkg bay** *standby-bay* **force**
14. **issu commitversion**
15. **issu loadversion rp 0 file** *file-system* **:asr1001-{rpbase,sipbase,sipspa,espbase}*** *version* ***.pkg force**
16. **show version installed**
17. **reload**

DETAILED STEPS

	Command or Action	Purpose

Step 1	**show version**
	Example:
	`show version installed`
	Example:
	`dir filesystem:<directory>`
	Example:
	`show platform`
	Example:
	`show redundancy-states`
	Example:
	`Router# show version`
	Example:
	`Router# show version r0 installed`
	Example:
	`Router# dir bootflash:`
		(Optional) Use the following commands to confirm the current router configuration, as follows:
		• **show version** and **show version** *active-rp* **installed**—Verify the running version of the Cisco IOS XE software on the router, and which file was used to boot the router, and where that file is stored.
		• **dir**—Confirm that the files that were used to boot the router are located in the directory.
		• **show platform**—Confirm the current status of the active and standby RPs.
		• **show redundancy states**—Confirm the operational and configured redundancy states.

	Command or Action	Purpose

	Example:
	`Router# show platform`
	Example:
	`Router# show redundancy-states`	

Step 2	**redundancy**
	Example:
	mode sso
	Example:
	`Router(config)# redundancy`
	Example:
	`Router(config-red)# mode sso`
		Configure SSO if it is not already configured.
		Note Save the configuration after making this configuration step.

Step 3	**mkdir** *URL-to-directory-name* **Example:** `Router# mkdir 221subs`	Create a directory to store the consolidated package and subpackages. This directory must be created in most cases because the consolidated packages and subpackages have to be separated from the subpackages that booted the router at this step of the procedure.
Step 4	**ip tftp** *source-interface gigabitethernet port* **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface. **Note** To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.
Step 5	**copy tftp:** *URL-to-target-location* **Example:** `Router# copy tftp: 221subs`	Copy the consolidated package file into the directory created in Step 3 . The consolidated package in this step should not be copied into the same directory where the subpackages that are currently running your router are stored (the directory containing the packages.conf provisioning file from which the router was booted). **Tip** It is recommended that you copy the package onto a usb: or harddisk: file system for space considerations when performing this step of the procedure.

	Command or Action	Purpose

Step 6	**request platform software package expand file** *URL-to-consolidated-package*
	Example:
	(Optional) dir target-URL
	Example:
	`Router# request platform software package expand file usb0:221subs/asr1001-universalk9.03.02.01.S.151-1.S1_2.bin`
	Example:
	`Router# dir 221subs`
		Extract the subpackages out of the consolidated package file into the temporary directory.
		Note Take extra care to extract the subpackages to a temporary subdirectory and do not delete any of the files currently running the router at this point of the procedure.To erase the files that were running on the router before the ISSU upgrade, enter the **request platform software package clean** command after the ISSU upgrade has been completed.

Step 7	**dir** *target-URL* **Example:** `Router# dir 221subs`	(Optional) Display the directory to confirm that the files were extracted.

Step 8	**copy** file-system:**asr1001-espbase**.version.**pkg** URL-to-directory-of-sub-packages-active-RP
	Example:
	`copy file-system:asr1001-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP`
	Example:
	`copy file-system:asr1001-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
	Example:
	`copy file-system:asr1001-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP`
	Example:
	`copy file-system:asr1001-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP`
	Example:
	`copy file-system:asr1001-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
	Example:
	`copy file-system:asr1001-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP`
	Example:
		Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.

	Command or Action	Purpose

	`Router# copy 221subs/asr1001-espbase.03.02.01.S.151-1.S1_2.pkg bootflash:`
	Example:
	`Router# copy 221subs/asr1001-rpaccess.03.02.01.S.151-1.S1_2.pkg bootflash:`
	Example:
	`Router# copy 221subs/asr1001-rpbase.03.02.01.S.151-1.S1_2.pkg bootflash:`
	Example:
	`Router# copy 221subs/asr1001-rpcontrol.03.02.01.S.151-1.S1_2.pkg bootflash:`
	Example:
	`Router# copy 221subs/asr1001-rpios-universalk9.03.02.01.S.151-1.S1_2.pkg bootflash:`
	Example:
	`Router# copy 221subs/asr1001-sipbase.03.02.01.S.151-1.S1_2.pkg bootflash:`
	Example:
	`Router# copy 221subs/asr1001-sipspa.03.02.01.S.151-1.S1_2.pkg bootflash:`	

Step 9	**issu loadversion rp 0 file** *file-system* **:asr1001-{rpaccess,rpios,rpcontrol}*** *version-string* ***.pkg bay** *standby-bay* **force** **Example:** `Router# issu loadversion rp 0 file bootflash:asr1001-{rpaccess,rpios,rpcontrol}*03.02.01.S.151-1.S1_2*.pkg bay 1 force`	Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay.
Step 10	**issu commitversion** **Example:**	Once the SSO state is reached, commit the software version.

	Command or Action	Purpose
	`Router# issu commitversion`	
Step 11	**redundancy force-switchover** **Example:** `Router# redundancy force-switchover`	Force a switchover from the active IOS process to the standby IOS process. **Note** Your connection to the router often drops and is expected behavior at this point of the procedure in many scenarios.If this step drops your connection to the router, wait a few minutes before reconnecting to the router and then continue to Step 12 .
Step 12	**show platform** **Example:** `Router# show platform`	(Optional) Monitor system state to ensure both IOS processes are active.
Step 13	**issu loadversion rp 0 file** *file-system* **:asr1001-{rpaccess,rpios,rpcontrol}*** *version-string* ***.pkg bay** *standby-bay* **force** **Example:** `Router# issu loadversion rp 0 file bootflash:asr1001-{rpaccess,rpios,rpcontrol}*03.02.01.S.151-1.S1_2*.pkg bay 0 force`	Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay (a different bay than in Step 9).
Step 14	**issu commitversion** **Example:** `Router# issu commitversion`	Commit the software version.

Step 15	**issu loadversion rp 0 file** *file-system* **:asr1001-{rpbase,sipbase,sipspa,espbase}*** *version* ***.pkg force**
	Example:
	`issu loadversion rp 0 file` *file-system* `:asr1001-{rpbase,sipbase,sipspa,espbase}*`*version* `*.pkg force`
	Example:
	For ASR 1001 and ASR 1002-X
	`Router#issu loadversion rp 0 file bootflash:2/subs/asr1001-{rpbase,sipbase,sipspa,espbase}*03.02.01.S.151-1.S1_2.pkg force`
		Upgrade the RP, SIP, SPA, and ESP subpackages for each SIP on the router.
		Note This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step.
		Tip You can use the **show ip interface brief** command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form *SIP-number*/*SPA-number*/*interface-number*) identify the SIP and SPA locations in the router.

	Command or Action	Purpose

	Example:
	For ASR 1001-X
	issu loadversion rp 0 file *file-system* **:asr1001-{rpbase,sipbase,sipspa,esp,firmware}*** *version* ***.pkg force**
	Example:
	`Router#issu loadversion rp 0 file bootflash:221subs/asr1001-{rpbase,sipbase,sipspa,esp,firmware}*03.02.01S.15-1S_1.2.pkg force`
	Example:
	For ASR1001-HX and ASR1002-HX
	issu loadversion rp 0 file *file-system* **:asr1000-{rpbase,elcbase,elcspa,espbase}*** *version* ***.pkg force**
	Example:
	`Router# issu loadversion rp 0 file bootflash:221subs/asr1001-{rpbase,elcbase,elcspa,espbase}*16.02.01.SPA.pkg force`
	Example:
	For upgrade/downgrade between Polaris 16.x.x releases:
	For ASR1001-HX and ASR1002-HX Routers, **issu loadversion rp 0 file** *file-system* :asr1000-{rpbase,rpboot,elcbase,elcspa,espbase}* *version* *.pkg force
	Example:
	Router# **issu loadversion rp 0 file bootflash:221subs/asr1001-{rpbase,rpboot,elcbase,elcspa,espbase}*16.02.01.SPA.pkg force**
	Example:
	For ASR1001-X, **issu loadversion rp 0 file** *file-system* **:asr1001-{rpbase,rpboot,sipbase,sipspa,esp,firmware}*** *version* ***.pkg force**
	Example:
	Router# **issu loadversion rp 0 file bootflash:221subs/asr1001-{rpbase,rpboot,sipbase,sipspa,esp,firmware}*16.02.01.SPA.pkg force**
		Note The *pattern* options used in this CLI (**rpbase**, **sipbase**, **sipspa, espbase** and **firmware**) were introduced in Cisco IOS XE Release 2.1.2 and are not available in previous Cisco IOS XE Releases.See the ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2), on page 65 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.
		ASR 1001-HX and ASR1002-HX Routers are introduced from Polaris 16.x.x release only. Polaris 16.x.x release has 2 new packages i.e. rpboot and webui. Include these 2 packages for upgrade/downgrade between Polaris 16.x.x images at this step.

Step 16	**show version installed** **Example:** `Router# show version installed`	(Optional) Verify that the subpackages are properly installed.

	Command or Action	Purpose
Step 17	**reload** **Example:** `Router# reload`	(Optional) Reload the RP. **Tip** The router will continue normal operation even without a reload, so you can reload the router during scheduled maintenance or a slower traffic period. It is highly recommended reload to avoid conflicts in the software base. **Note** For ASR1001-HX and ASR1002-HX Router, the **sipbase** and **sipspa** package will be replaced by **elcbase** and **elcspa** package. New packages **rpboot** and **webui** are introduced from Polaris 16.x.x release.

Examples

The following example shows the software upgrade for Cisco ASR 1001 Router, Cisco ASR 1001-X Router or Cisco ASR 1002-X Router running subpackages.

```
Router#show version
Cisco IOS Software, IOS-XE Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Experimental Version
 15.1(20110301:124851) [asr1001-universalk9.03.02.01.S.151-1.S1]
Copyright (c) 1986-2011 by Cisco Systems, Inc.
Compiled Tue 01-Mar-11 06:25 by mcpre
Cisco IOS-XE software, Copyright (c) 2005-2011 by cisco Systems, Inc.
All rights reserved.  Certain components of Cisco IOS-XE software are
licensed under the GNU General Public License ("GPL") Version 2.0.  The
software code licensed under GPL Version 2.0 is free software that comes
with ABSOLUTELY NO WARRANTY.  You can redistribute and/or modify such
GPL code under the terms of GPL Version 2.0.  For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.
ROM: IOS-XE ROMMON
Router uptime is 5 days, 26 minutes
Uptime for this control processor is 5 days, 27 minutes
System returned to ROM by reload
System image file is "bootflash:asr1001-universalk9.03.02.01.S.151-1.S1"
Last reload reason: Reload Command
This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.
A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html
If you require further assistance please contact us by sending email to
export@cisco.com.
License Info:
License UDI:
Device# PID                     SN                      UDI
-------------------------------------------------------------------------------
*0      ASR1001                 JAE14020AT1             ASR1001:JAE14020AT1
```

```
License Package Information for Module:'asr1001'
Module name   Image level          Pri   Config Valid license
-----------------------------------------------------------------------------
asr1001       adventerprise        1     NO     adventerprise
              advipservices        2     NO     advipservices
              ipbase               3     NO     ipbase
Module name   Current Level        Reboot Level
-----------------------------------------------------------------------------
asr1001       ipbase               ipbase
cisco ASR1001 (1RU) processor with 3851680K/6147K bytes of memory.
6 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
7782399K bytes of eUSB flash at bootflash:.
Configuration register is 0x8102
Router# show version installed
Package: Provisioning File, version: n/a, status: active
  File: consolidated:packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: e11c9aacb8c233ed10eeac61ca20a9469fb0b81e
Package: rpbase, version: 03.02.01.S.151-1.S1, status: active
  File: consolidated:asr1001-rpbase.03.02.01.S.151-1.S1.pkg, on: RP0
  Built: 2011-03-01_07.10, by: mcpre
  File SHA1 checksum: e3c93ac457f2632ae90ba346692d58001cf0d02c
Package: rpcontrol, version: 03.02.01.S.151-1.S1, status: active
  File: consolidated:asr1001-rpcontrol.03.02.01.S.151-1.S1.pkg, on: RP0/0
  Built: 2011-03-01_07.10, by: mcpre
  File SHA1 checksum: 59ba43488cf2a0e7bc06b66fad0e574bbdf42a62
<output removed for brevity>
Router#show redundancy states
       my state = 13 -ACTIVE
     peer state = 1  -DISABLED
           Mode = Simplex
           Unit = Primary
        Unit ID = 48
Redundancy Mode (Operational) = Non-redundant
Redundancy Mode (Configured)  = Non-redundant
Redundancy State              = Non Redundant
    Manual Swact = disabled (system is simplex (no peer unit))
 Communications = Down      Reason: Simplex mode
   client count = 63
 client_notification_TMR = 30000 milliseconds
          keep_alive TMR = 4000 milliseconds
        keep_alive count = 0
    keep_alive threshold = 7
           RF debug mask = 0x0
Router# show platform

Chassis type: ASR1001
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
0         ASR1001             ok                    5d07h
 0/0      ASR1001             ok                    5d07h
 0/1      SPA-2X1GE-V2        ok                    5d07h
R0        ASR1001             ok, active            5d07h
F0        ASR1001             ok, active            5d07h
P0        ASR1001-PWR-AC      ps, fail              5d07h
P1        ASR1001-PWR-AC      ok                    5d07h
P2        ASR1001-FANTRAY     ok                    5d07h
Slot      CPLD Version        Firmware Version
--------- ------------------- ----------------------------------------
0         1001050E            12.2(20090526:143323) [gschnorr-mcp_...
R0        10010514            12.2(20090526:143323) [gschnorr-mcp_...
F0        1001050E            12.2(20090526:143323) [gschnorr-mcp_...
```

Examples

```
Router# mkdir 221subs
Create directory filename [221subs]?
Created dir bootflash:221subs
Router(config)# ip tftp source-interface gigabitethernet 0
Router# copy tftp: 221subs

Address or name of remote host []? 172.27.55.254
Source filename []? /auto/users/asr1001-universalk9.03.02.01.S.151-1.S1_2.bin,12
Destination filename [asr1001-universalk9.03.02.01.S.151-1.S1.bin,12]?
Accessing tftp://172.27.55.254//auto/users/asr1001-universalk9.03.02.01.S.151-1.S1_2.bin,12...
Loading /auto/users/asr1001-universalk9.03.02.01.S.151-1.S1.bin,12 (via GigabitEthernet0):
 !!!!!!
[OK - 209227980 bytes]
209227980 bytes copied in 880.002 secs (237759 bytes/sec)
Router# request platform software package expand file
221subs/asr1001-universalk9.03.02.01.S.151-1.S1_2.bin
Verifying parameters
Validating package type
Copying package files
SUCCESS: Finished expanding all-in-one software package.
Router# dir 221subs
Directory of 221subs/
72013  -rw-    51904716   Oct 7 2008 15:46:02 -07:00
asr1001-espbase.03.02.01.S.151-1.S1_2.pkg
72004  -rw-        5773   Oct 7 2008 15:46:02 -07:00
asr1001-packages-universalk9.03.02.01.S.151-1.S1_2.conf
72014  -rw-    20533452   Oct 7 2008 15:46:03 -07:00  asr1001-rpaccess.03.02.01.S.151-1.S1_
2.pkg
72015  -rw-    22388940   Oct 7 2008 15:46:03 -07:00  asr1001-rpbase.03.02.01.S.151-1.S1_2.pkg
72016  -rw-    27961548   Oct 7 2008 15:46:03 -07:00
asr1001-rpcontrol.03.02.01.S.151-1.S1_2.pkg
72017  -rw-    50942156   Oct 7 2008 15:46:03 -07:00
asr1001-rpios-universalk9.03.02.01.S.151-1.S1_2.pkg
72018  -rw-    36442316   Oct 7 2008 15:46:03 -07:00
asr1001-sipbase.03.02.01.S.151-1.S1_2.pkg
72019  -rw-    26366156   Oct 7 2008 15:46:03 -07:00  asr1001-sipspa.03.02.01.S.151-1.S1_2.pkg
72005  -rw-        6290   Oct 7 2008 15:46:03 -07:00  packages.conf
72003  -rw-   224768204   Oct 7 2008 15:38:57 -07:00
asr1001-universalk9.03.02.01.S.151-1.S1_2.bin
928862208 bytes total (466358272 bytes free)
Router# copy 221subs/asr1001-espbase.03.02.01.S.151-1.S1_2.pkg bootflash:
Destination filename [asr1001-espbase.03.02.01.S.151-1.S1_2.pkg]?
Copy in progress...CCCC
51904716 bytes copied in 5.478 secs (9475122 bytes/sec)
Router# copy 221subs/asr1001-rpaccess.03.02.01.S.151-1.S1_2.pkg bootflash:
Destination filename [asr1001-rpaccess.03.02.01.S.151-1.S1_2.pkg]?
Copy in progress...CCC
20533452 bytes copied in 2.346 secs (8752537 bytes/sec)
Router# copy 221subs/asr1001-rpbase.03.02.01.S.151-1.S1_2.pkg bootflash:

Destination filename [asr1001-rpbase.03.02.01.S.151-1.S1_2.pkg]?
Copy in progress...CCC
22388940 bytes copied in 2.496 secs (8969928 bytes/sec)
Router# copy 221subs/asr1001-rpcontrol.03.02.01.S.151-1.S1_2.pkg bootflash:
Destination filename [asr1001-rpcontrol.03.02.01.S.151-1.S1_2.pkg]?
Copy in progress...CCCC
27961548 bytes copied in 2.992 secs (9345437 bytes/sec)
Router# copy 221subs/asr1001-rpios-universalk9.03.02.01.S.151-1.S1_2.pkg bootflash:
Destination filename [asr1001-rpios-universalk9.03.02.01.S.151-1.S1_2.pkg]?
Copy in progress...CCCC
50942156 bytes copied in 5.719 secs (8907529 bytes/sec)
Router# copy 221subs/asr1001-sipbase.03.02.01.S.151-1.S1_2.pkg bootflash:

Destination filename [asr1001-sipbase.03.02.01.S.151-1.S1_2.pkg]?
```

```
Copy in progress...CCCC
36442316 bytes copied in 3.906 secs (9329830 bytes/sec)
Router# copy 221subs/asr1001-sipspa.03.02.01.S.151-1.S1_2.pkg bootflash:
Destination filename [asr1001-sipspa.03.02.01.S.151-1.S1_2.pkg]?
Copy in progress...CCC
```

26366156 bytes copied in 2.857 secs (9228616 bytes/sec)

```
Router# issu loadversion rp 0 file
bootflash:221subs/asr1001-{rpaccess,rpios,rpcontrol}*03.02.01.S.151-1.S1_2.pkg bay 1 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1001-rpaccess.03.02.01.S.151-1.S1_2.pkg
  Found asr1001-rpios-universalk9.03.02.01.S.151-1.S1_2.pkg
  Found asr1001-rpcontrol.03.02.01.S.151-1.S1_2.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
    WARNING: Connection may be lost during installation of IOS package
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1001-rpaccess.03.02.01.S.151-1.S1_2.pkg
  Added asr1001-rpcontrol.03.02.01.S.151-1.S1_2.pkg
  Added asr1001-rpios-universalk9.03.02.01.S.151-1.S1_2.pkg
Finished list of software package changes
```

Examples

```
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Restarting IOS PID: 9275, in slot/bay 0/1
*Mar 15 16:28:50.014: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_NOT_PRESENT)

*Mar 15 16:28:50.014: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Mar 15 16:28:50.014: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Mar 15 16:28:52.224: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
*Mar 15 16:29:29.214: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_FOUND(4))
*Mar 15 16:29:29.214: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
  Generating software version information

  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

Router#issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
*Mar 15 16:30:24.885: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Mar 15 16:30:25.421: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeedd
*Mar 15 16:30:25.423: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router#redundancy force-switchover
Proceed with switchover to standby RP? [confirm]y    Manual Swact = enabled
%ASR1000_INFRA-6-CONSOLE_ACTIVE: R0/1 console active.  Press RETURN to get star!
*Mar 15 16:31:00.014: %REDUNDANCY-3-SWITCHOVER: RP switchover (PEER_NOT_PRESENT)
*Mar 15 16:31:00.015: %REDUNDANCY-3-SWITCHOVER: RP switchover (PEER_DOWN)
*Mar 15 16:31:00.015: %REDUNDANCY-3-SWITCHOVER: RP switchover (PEER_REDUNDANCY_)
*Mar 15 16:31:00.328: %LINK-3-UPDOWN: Interface Lsmpi0, changed state to up
*Mar 15 16:31:00.328: %LINK-3-UPDOWN: Interface EOBC0, changed state to up
*Mar 15 16:31:00.328: %LINK-3-UPDOWN: Interface LIIN0, changed state to up
*Mar 15 16:31:01.328: %LINEPROTO-5-UPDOWN: Line protocol on Interface Lsmpi0, cp
*Mar 15 16:31:01.328: %LINEPROTO-5-UPDOWN: Line protocol on Interface EOBC0, chp
*Mar 15 16:31:01.328: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEtn
*Mar 15 16:31:01.328: %LINEPROTO-5-UPDOWN: Line protocol on Interface LIIN0, chp
*Mar 15 16:31:02.064: %RF-5-RF_RELOAD: Self reload. Reason: redundancy force-swr
*Mar 15 16:31:02.293: %SYS-5-SWITCHOVER: Switchover requested by red_switchover.
```

```
*Mar 15 16:31:02.321: %LINK-3-UPDOWN: Interface Null0, changed state to up
*Mar 15 16:31:03.321: %LINEPROTO-5-UPDOWN: Line protocol on Interface Null0, chp
*Mar 15 16:31:03.322: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEtn
*Mar 15 16:31:03.322: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEtn
*Mar 15 16:31:03.322: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEtn
*Mar 15 16:31:03.322: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEtn
*Mar 15 16:31:03.322: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEtn
*Mar 15 16:31:43.189: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a stand)
*Mar 15 16:31:43.189: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a stand)
*Mar 15 16:32:28.411: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Mar 15 16:32:28.971: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeedd
*Mar 15 16:32:28.973: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router# issu loadversion rp 0 file
bootflash:221subs/asr1001-{rpaccess,rpios,rpcontrol}*03.02.01.S.151-1.S1_2.pkg bay 0 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
    WARNING: Connection may be lost during installation of IOS package
Finished impact testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1001-rpaccess.03.02.01.S.151-1.S1.pkg
  Removed asr1001-rpcontrol.03.02.01.S.151-1.S1.pkg
  Removed asr1001-rpios-universalk9.03.02.01.S.151-1.S1.pkg
No new package files added
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
```

Examples

```
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Restarting IOS PID: 20548, in slot/bay 0/0
*Mar 15 16:36:14.365: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_NOT_PRESENT)

*Mar 15 16:36:14.365: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Mar 15 16:36:14.365: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Mar 15 16:36:16.558: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
*Mar 15 16:36:49.365: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_FOUND(4))
*Mar 15 16:36:49.365: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
Router#issu commitversion

--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#issu loadversion rp 0 file
bootflash:221subs/asr1001-{rpbase,sipbase,sipspa,espbase}*03.02.01.S.151-1.S1_2.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
    WARNING: Automatically setting the on-reboot flag
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
```

```
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1001-espbase.03.02.01.S.151-1.S1.pkg
  Removed asr1001-rpbase.03.02.01.S.151-1.S1.pkg
  Removed asr1001-sipbase.03.02.01.S.151-1.S1.pkg
  Removed asr1001-sipspa.03.02.01.S.151-1.S1.pkg
New files list:
  Added asr1001-espbase.03.02.01.S.151-1.S1_2.pkg
  Added asr1001-rpbase.03.02.01.S.151-1.S1_2.pkg
  Added asr1001-sipbase.03.02.01.S.151-1.S1_2.pkg
  Added asr1001-sipspa.03.02.01.S.151-1.S1_2.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
Router# reload
Router#issu loadversion rp 0 file bootflash:221subs/asr1001-{rpbase,sipspa,espbase}
*20160311_012910_V16_2_0_318_2.SSA.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1002x-rpbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
  Found asr1002x-rpboot.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
  Found asr1002x-sipbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
  Found asr1002x-sipspa.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
  Found asr1002x-espbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of RP Boot package
    WARNING: requires software reboot of target RP
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
```

```
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting ISSU compatibility verification ---
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
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WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
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WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
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WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
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WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
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WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
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WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
```

```
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
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WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
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WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping ISSU Software Compatibility checks.
WARNING:
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished ISSU compatibility verification
--- Starting list of software package changes ---
Old files list:
  Removed asr1002x-espbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318.SSA.pkg
  Removed asr1002x-rpbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318.SSA.pkg
  Removed asr1002x-rpboot.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318.SSA.pkg
  Removed asr1002x-sipbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318.SSA.pkg
  Removed asr1002x-sipspa.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318.SSA.pkg
New files list:
  Added asr1002x-espbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
  Added asr1002x-rpbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
  Added asr1002x-rpboot.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
  Added asr1002x-sipbase.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
  Added asr1002x-sipspa.BLD_V162_1_THROTTLE_LATEST_20160311_012910_V16_2_0_318_2.SSA.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
```

Using Subpackages for Software Upgrade on a Cisco ASR 1002 Router or Cisco ASR 1004 Router (software upgrade Command Set)

This section provides instructions on using software upgrade for Cisco ASR 1002 or 1004 Router running subpackages. Cisco ASR 1002 Router is not supported on Polaris 16.x.x release.

These instructions assume two IOS processes are active on the RP and that the router is already running using subpackages.

Note Step 17, 18, and 19 does not have to be performed immediately, and can be done at a convenient time.

SUMMARY STEPS

1. **show version**
2. **redundancy**
3. **mkdir** *URL-to-directory-name*
4. **ip tftp** *source-interface gigabitethernet port*
5. **copy tftp:** *URL-to-target-location*
6. **request platform software package expand file** *URL-to-consolidated-package*
7. **dir** *target-URL*
8. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP*
9. **issu loadversion rp 0 file***file-system*:**asr1000rp2-{rpaccess,rpios,rpcontrol}***version-string***.pkg bay***standby-bay***force**
10. **issu commitversion**
11. **redundancy force-switchover**
12. **show platform**
13. **issu loadversion rp 0 file***file-system*:**asr1000rp2-{rpaccess,rpios,rpcontrol}***version-string***.pkg bay***standby-bay***force**
14. **issu commitversion**
15. **issu loadversion rp 0 file** *file-system*:**asr1000rp2-{sipbase,sipspa}***version***.pkg slot** *SIP-slot-number* **force**
16. **issu loadversion rp 0 file** *file-system*:**asr1000rp2-{elcbase,elcspa}***version***.pkg slot** *SIP-slot-number* **force**
17. **issu loadversion rp 0 file** *file-system*:**asr1000rp2-esp***version***.pkg force**
18. **issu loadversion rp 0 file***file-system*:**asr1000rp***version***.pkg**
19. **show version installed**
20. **reload**
21. **request platform software package clean**

DETAILED STEPS

	Command or Action	Purpose

Step 1	**show version**
	Example:
	`show version installed`
	Example:
	`dir filesystem:<directory>`
	Example:
	`show platform`
	Example:
		(Optional) Use the following commands to confirm the current router configuration, as follows:
		• **show version** and **show version** *active-rp* **installed**—Verify the running version of the Cisco IOS XE software on the router, and which file was used to boot the router, and where that file is stored.
		• **dir**—Confirm that the files that were used to boot the router are located in the directory.
		• **show platform**—Confirm the current status of the active and standby RPs.

	Command or Action	Purpose

	show redundancy-states
	Example:
	`Router# show version`
	Example:
	`Router# show version r0 installed`
	Example:
	`Router# dir bootflash:`
	Example:
	`Router# show platform`
	Example:
	`Router# show redundancy-states`
		• **show redundancy states**—Confirm the operational and configured redundancy states.

Step 2	**redundancy**
	Example:
	mode sso
	Example:
	`Router(config)# redundancy`
	Example:
	`Router(config-red)# mode sso`
		Configure SSO if it is not already configured.
		Note Save the configuration after making this configuration step.

Step 3	**mkdir** *URL-to-directory-name* **Example:** `Router# mkdir usb0:221subs`	Create a directory to store the consolidated package and subpackages. This directory must be created in most cases because the consolidated packages and subpackages have to be separated from the subpackages that booted the router at this step of the procedure.
Step 4	**ip tftp** *source-interface gigabitethernet port* **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface. **Note** To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.

	Command or Action	Purpose
Step 5	**copy tftp:** *URL-to-target-location* **Example:** `Router# copy tftp: usb0:221subs`	Copy the consolidated package file into the directory created in Step 3 . The consolidated package in this step should not be copied into the same directory where the subpackages that are currently running your router are stored (the directory containing the packages.conf provisioning file from which the router was booted). **Tip** It is recommended that you copy the package onto a usb: or harddisk: file system for space considerations when performing this step of the procedure.

Step 6	**request platform software package expand file** *URL-to-consolidated-package*
	Example:
	`(Optional) dir target-URL`
	Example:
	`Router# request platform software package expand file usb0:221subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin`
	Example:
	`Router# dir usb0:221subs`
		Extract the subpackages out of the consolidated package file into the temporary directory.
		Note Take extra care to extract the subpackages to a temporary subdirectory and do not delete any of the files currently running the router at this point of the procedure.To erase the files that were running on the router before the ISSU upgrade, enter the **request platform software package clean** command after the ISSU upgrade has been completed.

Step 7	**dir** *target-URL* **Example:** `Router# dir usb0:221subs`	(Optional) Display the directory to confirm that the files were extracted.

Step 8	**copy** *file-system*:**asr1000rp2-espbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	`copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-active-RP`
	Example:
	`copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP`
	Example:
		Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.

	Command or Action	Purpose

	copy *file-system*:**asr1000rp2-rpbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	copy *file-system*:**asr1000rp2-rpcontrol.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	copy *file-system*:**asr1000rp2-rpios.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	copy *file-system*:**asr1000rp2-sipbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	copy *file-system*:**asr1000rp2-sipspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	copy *file-system*:**asr1000rp2-elcbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	copy *file-system*:**asr1000rp2-elcspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	`Router# copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:	

	Command or Action	Purpose

	`Router# copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-eldspa.03.13.00.S.154-3.S-ext.pkg bootflash:`	

Step 9	**issu loadversion rp 0 file***file-system*:**asr1000rp2-{rpaccess,rpios,rpcontrol}****version-string****.pkg bay***bay** *standby-bay* **force** **Example:** `Router# issu loadversion rp 0 file bootflash:asr1000rp2-{rpaccess,rpios,rpcontrol}*03.13.00.S.154-3.S-ext*.pkg bay 1 force`	Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay.

	Command or Action	Purpose
Step 10	**issu commitversion** **Example:** `Router# issu commitversion`	Once the SSO state is reached, commit the software version.
Step 11	**redundancy force-switchover** **Example:** **Example:** `Router# redundancy force-switchover`	Force a switchover from the active IOS process to the standby IOS process. **Note** Your connection to the router often drops and is expected behavior at this point of the procedure in many scenarios.If this step drops your connection to the router, wait a few minutes before reconnecting to the router and then continue to Step 12 .
Step 12	**show platform** **Example:** `Router# show platform`	(Optional) Monitor system state to ensure both IOS processes are active.
Step 13	**issu loadversion rp 0 file***file-system***:asr1000rp2-{rpaccess,rpios,rpcontrol}****version-string**.pkg **bay***standby-bay***force** **Example:** `Router# issu loadversion rp 0 file bootflash:asr1000rp2-{rpaccess,rpios,rpcontrol}*03.13.00.S.154-3.S-ext*.pkg bay 0 force`	Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay (a different bay than in Step 9).
Step 14	**issu commitversion** **Example:** `Router# issu commitversion`	Commit the software version.

Step 15	**issu loadversion rp 0 file** *file-system***:asr1000rp2-{sipbase,sipspa}****version**.pkg **slot** *SIP-slot-number* **force**
	Example:
	`issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00.S.154-3.S-ext*.pkg slot 0 force`
	Example:
		Upgrade the SIP and SPA subpackages for each SIP on the router.
		Note This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step.
		Tip You can use the **show ip interface brief** command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form *SIP-number*/*SPA-number*/*interface-number*) identify the SIP and SPA locations in the router.

	Command or Action	Purpose

	`Router# issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00.S.154-3.S-ext*.pkg slot 1 force`
	Example:
	`Router# issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00.S.154-3.S-ext*.pkg slot 2 force`
	Example:
	`Router# issu commitversion`
		Note The *pattern* options used in this CLI (**sipbase** and **sipspa**) were introduced in Cisco IOS XE Release 2.1.2 and are not available in previous Cisco IOS XE Releases.See the ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2), on page 65 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.

Step 16	**issu loadversion rp 0 file** *file-system*:**asr1000rp2-{elcbase,elcspa}***version***.pkg slot** *SIP-slot-number* **force**
	Example:
	`issu commitversion`
	Example:
	`Repeat this step for each ELC installed in your router before proceeding to the next step.`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{elcspa,elcbase}*03.13.00.S.154-3.S-ext*.pkg slot 0 force`
	Example:
	`Router# issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{elcspa,elcbase}*03.13.00.S.154-3.S-ext*.pkg slot 1 force`
	Example:
	`Router# issu commitversion`
		Upgrade the ELC and SPA subpackages for each ELC on the router.
		Note This step must be completed for one ELC at a time, and repeated for each ELC installed on the router before performing the next step.
		Tip You can use the **show ip interface brief** command to identify which slots contain ELCs and SPAs. The interfaces with three numbers (in the form *ELC-number*/*SPA-number*/*interface-number*) identify the ELC and SPA locations in the router.
		Note The *pattern* options used in this CLI (**elcbase** and **elcspa**) were introduced in Cisco IOS XE Release 3.10Sand are not available in previous Cisco IOS XE Releases

	Command or Action	Purpose

	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{elcspa,eldbase}*03.13.00.S.154-3.S-ext*.pkg slot 2 force`
	Example:
	`Router# issu commitversion`	

Step 17	**issu loadversion rp 0 file** *file-system*:**asr1000rp2-esp***version****.pkg force**
	Example:
	`issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg force`
	Example:
	`Router# issu commitversion`
		Upgrades the ESP Base subpackage and Commits the ESP Base software.

Step 18	**issu loadversion rp 0 file***file-system*:**asr1000rp***version****.pkg**
	Example:
	`issu commitversion`
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp*03.13.00.S.154-3.S-ext*.pkg`
	Example:
	`Router# issu commitversion`
		Upgrades all subpackages, including the RPBase subpackage, which is the last subpackage that needs to be upgraded.
		Note This step is required to ensure that all subpackages on the router were upgraded as part of this procedure, and might upgrade some subpackages that would otherwise be missed in the process.

Step 19	**show version installed** **Example:** `Router# show version installed`	(Optional) Verify that the subpackages are properly installed.
Step 20	**reload** **Example:** `Router# reload`	Reload the RP. **Tip** The router will continue normal operation even without a reload, so you can reload the router during scheduled maintenance or a slower traffic period.

	Command or Action	Purpose
Step 21	**request platform software package clean**	(Optional) Removes the unused subpackages from the router.

Examples

The following example shows the software upgrade for Cisco ASR 1002 or 1004 Router running sub-packages:

```
Router# show version
Cisco IOS Software, IOS-XE Software (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), Version 15.3(2)S,
 RELEASE SOFTWARE (fc1)
<output removed for brevity>
System image file is "bootflash:Active_Dir/packages.conf"
<output removed for brevity>
Router# show platform

Chassis type: ASR1004
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 0         ASR1000-2T+20X1GE    ok                    00:04:19
 0/0       BUILT-IN-2T+20X1GE   ok                    00:02:36
 1         ASR1000-SIP10        ok                    00:04:19
 1/0       SPA-2X1GE-V2         ok                    00:03:07
 1/1       SPA-10X1GE-V2        ok                    00:03:00
 R0        ASR1000-RP2          ok                    00:04:19
 R0/0                           ok, active            00:04:19
 R0/1                           ok, standby           00:02:41
 F0        ASR1000-ESP40        ok, active            00:04:19
 P0        ASR1004-PWR-AC       ok                    00:03:28
 P1        ASR1004-PWR-AC       ps, fail              00:03:28
Slot      CPLD Version        Firmware Version
--------- ------------------- ----------------------------------------
 0         00200800            15.2(1r)S
 1         07091401            15.3(3r)S
 R0        08103002            15.3(3r)S
 F0        1003190E            15.3(3r)S
Router# show version installed

Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: a624f70f68c60292f4482433f43afd92487a55c4
Package: rpbase, version: 03.12.01.S.154-2.S,
status: active
 File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg,
on: RP0 Built: 2013-03-25_18.48, by: mcpre

File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S,
status: active

File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg,
on: RP0/0 Built: 2013-03-25_18.48, by: mcpre

File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
<output removed for brevity>
Router#show redundancy states
my state = 13 -ACTIVE
peer state = 8  -STANDBY HOT
Mode = Duplex
```

```
Unit = Primary
Unit ID = 48
Redundancy Mode (Operational) = sso
Redundancy Mode (Configured)  = sso
Redundancy State              = sso
Maintenance Mode = Disabled
Manual Swact = enabled
Communications = Up
client count = 107
client_notification_TMR = 30000 milliseconds
RF debug mask = 0x0
Router# mkdir bootflash:harddisk:Target_Subs
Create directory filename [Target_Subs]?
Created dir harddisk:/Target_SubsRouter
Router(config)# ip tftp source-interface gigabitethernet 0
Router# copy tftp: harddisk:Target_Subs
 Address or name of remote host []? 202.153.144.25
Source filename []? /auto/tftp-srg-india/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
destination filename [/Target_Subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin]?
accessing
tftp://202.153.144.25//auto/tftp-srg-india/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin...
loading /auto/tftp-srg-india/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin from
202.153.144.25 (via GigabitEthernet0): !!!!!!!
[OK - 569597380 bytes]
569597380 bytes copied in 101.618 secs
(5605280 bytes/sec)
Router# request platform software package expand file
harddisk:/Target_Subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
Verifying parameters
Validating package type
Copying package files
SUCCESS: Finished expanding all-in-one software package.
Router# dir harddisk:Target_Subs
Directory of harddisk:/Target_Subs/
9666562  -rw-   569597380   Aug 3 2013 13:25:06 +05:30
asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
666566  -rw-   37557200   Aug 3 2013 13:27:06 +05:30
asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
666567  -rw-   51194832   Aug 3 2013 13:27:07 +05:30
asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
666568  -rw-   80657364   Aug 3 2013 13:27:07 +05:30
asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
666569  -rw-   95446456   Aug 3 2013 13:27:08 +05:30
asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
666564  -rw-   95449381   Aug 3 2013 13:27:06 +05:30
asr1000rp2-packages-adventerprisek9.03.13.00.S.154-3.S-ext.conf
666570  -rw-    23350232   Aug 3 2013 13:27:08 +05:30
asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
666571  -rw-    37694900   Aug 3 2013 13:27:08 +05:30
asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
666572  -rw-    45536216   Aug 3 2013 13:27:08 +05:30
asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
666573  -rw-   118754284   Aug 3 2013 13:27:08 +05:30
asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
666574  -rw-    38380500   Aug 3 2013 13:27:08 +05:30
asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
666575  -rw-    61760468   Aug 3 2013 13:27:08 +05:30
asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
666565  -rw-       10165   Aug 3 2013 13:27:08 +05:30  packages.conf
78704144384 bytes total (47541493760 bytes free)
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
copy in
```

Examples

```
progress...CCCCC
80657364 bytes copied in 12.085 secs (6674172 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC
95446456 bytes copied in 14.687 secs (6498703 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:

Active_Dir/Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
copy in
progress...CCCCCC
23350232 bytes copied in 4.047 secs (5769763 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
copy in
progress...CCCC
37694900 bytes copied in 5.978 secs (6305604 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
copy in
progress...CCCCC
45536216 bytes copied in 5.970 secs (7627507 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 bootflash:

[Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?
copy in
progress...CCCC
118754284 bytes copied in 18.501 secs (6418804 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
copy in
progress...CCCCCC38380500 bytes copied in 4.951 secs (7752070 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
copy in
progress...CCCCCC61760468 bytes copied in 8.615 secs (7168946 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
copy in
progress...CCCCCC37557200 bytes copied in 5.255 secs (7146946 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
copy in
progress...CCCCCCCCC
51194832 bytes copied in 7.677 secs (6668599 bytes/sec)2
Router#issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-{rpaccess,rpios,rpcontrol}*03.13.00.S.154-3.S-ext*.pkg bay
 1 force
---- Starting local lock acquisition on R0----
Finished local lock acquisition on R0
---Starting file path checking---
Finished file path checking
---Starting image file verification-----
Checking image file names
Locating image files and validating name syntax
Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
```

```
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:Candidate software combination not found in compatibility database
WARNING:Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/s
WARNING: Candidate software combination not found in compatibility database
WARNING: Candidate software combination not found in compatibility database
WARNING:Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
WARNING: Connection may be lost during installation of IOS package
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
 Finding latest command set
 Finding latest command shortlist lookup file
 Finding latest command shortlist file
 Assembling CLI output libraries
 Assembling CLI input libraries
 Assembling Dynamic configuration files
 Applying interim IPC and database definitions
 Replacing running software
 Replacing CLI software
 Restarting software
 Restarting IOS PID: 21552, in slot/bay 0/1
 Applying final IPC and database definitions
 Generating software version information
 Notifying running software of updates
 Unblocking peer synchronization of operating information
 Unmounting old packages
 Cleaning temporary installation files
 Finished update running software.
SUCCESS: Finished installing software.
Router#issu commitversion
```

Examples

```
-- Starting local lock acquisition on R0----
Finished local lock acquisition on R0
-- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#redundancy force-switchover
Proceed with switchover to standby RP? [confirm]
Manual Swact = enabled
%IOSXE_INFRA-6-CONSOLE_ACTIVE: R0/1 console active.  Press RETURN to get started![OK]
*Aug  3 13:43:52.101 IST: %CMANRP-6-CMHASTATUS: RP switchover, received chassis event to
become active
*Aug  3 13:43:52.193 IST: %REDUNDANCY-3-SWITCHOVER: RP switchover (PEER_NOT_PRESENT)
*Aug  3 13:43:52.194 IST: %REDUNDANCY-3-SWITCHOVER: RP switchover (PEER_DOWN)
*Aug  3 13:43:52.194 IST: %REDUNDANCY-3-SWITCHOVER: RP switchover
(PEER_REDUNDANCY_STATE_CHANGE)
*Aug  3 13:43:51.231 IST: %RF-5-RF_RELOAD: Self reload. Reason: redundancy force-switchover
*Aug  3 13:43:51.461 IST: %SYS-5-SWITCHOVER: Switchover requested by red_switchover_process.
 Reason: redundancy force-switchover.
*Aug  3 13:43:52.198 IST: %PLATFORM-6-HASTATUS: RP switchover, sent message became active.

IOS is ready to switch to primary after chassis confirmation
*Aug  3 13:43:52.200 IST: %CMANRP-6-CMHASTATUS: RP switchover, received chassis event became
 active
*Aug  3 13:43:52.449 IST: %PLATFORM-6-HASTATUS_DETAIL: RP switchover, received chassis event
 became active. Switch to primary (count 1)
*Aug  3 13:43:52.733 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0,
 changed state to down
*Aug  3 13:43:53.098 IST: % Redundancy mode change to SSO
*Aug  3 13:43:53.126 IST: %LINK-3-UPDOWN: Interface Lsmpi0, changed state to up
*Aug  3 13:43:53.127 IST: %LINK-3-UPDOWN: Interface EOBC0, changed state to up
*Aug  3 13:43:53.127 IST: %LINK-3-UPDOWN: Interface LIIN0, changed state to up
*Aug  3 13:43:54.127 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Lsmpi0, changed
state to up
*Aug  3 13:43:54.127 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface EOBC0, changed
state to up
*Aug  3 13:43:54.127 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface LIIN0, changed
state to up
*Aug  3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface Null0, changed state to up
*Aug  3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/8, changed state to
 up
*Aug  3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/10, changed state
to up
*Aug  3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/0, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/1, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/0, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/1, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/3, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/5, changed state to
 up
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/2, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/3, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/4, changed state
```

```
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/5, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/6, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/7, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/9, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/11, changed state
to administratively down
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Null0, changed
state to up
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/0/8, changed state to up
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/0/10, changed state to up
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet0/0/20, changed state to down
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet0/0/21, hanged state to down
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/0/0, changed state to up
*Aug  3 13:43:56.120 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/0/1, changed state to up
*Aug  3 13:43:56.120 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/1/0, changed state to up
*Aug  3 13:43:56.120 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/1/1, changed state to up
*Aug  3 13:43:56.120 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/1/3, changed state to up
*Aug  3 13:44:05.127 IST: %LINK-3-UPDOWN: Interface GigabitEthernet0, changed state to up
*Aug  3 13:44:06.127 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0,
 changed state to up
*Aug  3 13:44:32.069 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_FOUND(4))
*Aug  3 13:44:32.070 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Aug  3 13:44:34.969 IST: %REDUNDANCY-3-IPC: IOS versions do not match.
*Aug  3 13:45:40.946 IST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-{rpaccess,rpios,rpcontrol}*03.13.00.S.154-3.S-ext*.pkg bay
 0 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
---Starting image file verification---
Checking image file names
Locating image files and validating name syntax
 Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
 Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command outpu
```

Examples

```
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING: Candidate software combination not found in compatibility database
WARNING:Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file/tmp/issu/provision/sw
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change

WARNING: Connection may be lost during installation of IOS package
Finished impact testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
No new package files added
  Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
Starting update running software
Blocking peer synchronization of operating information
Creating the command set placeholder directory
 Finding latest command set
 Finding latest command shortlist lookup file
 Finding latest command shortlist file
 Assembling CLI output libraries
 Assembling CLI input libraries
 Assembling Dynamic configuration files
 Applying interim IPC and database definitions
 Replacing running software
 Replacing CLI software
  Restarting software
  Restarting IOS PID: 25452, in slot/bay 0/0
*Aug  3 13:48:07.051 IST:
%REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_NOT_PRESENT)
*Aug  3 13:48:07.052 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Aug  3 13:48:07.052 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Aug  3 13:48:09.683 IST: %RF-5-RF_RELOAD: Peer reload.
Reason: EHSA standby down
*Aug  3 13:48:09.692 IST: % Redundancy mode change to SSO
*Aug  3 13:48:49.450 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_FOUND(4))
*Aug  3 13:48:49.451 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Aug  3 13:48:50.035 IST:
%ISSU-3-PEER_IMAGE_NOT_IN_INCOMP_LIST: Peer image (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M),
version (15.3(3)S) on peer uid (48) is not in the incompatible images list
*Aug  3 13:48:50.036 IST:
```

```
%ISSU-3-PEER_IMAGE_NOT_IN_INCOMP_LIST: Peer image (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M),
version (15.3(3)S) on peer uid (48) is not in the incompatible images list
Applying final IPC and database definitions
*Aug  3 13:48:53.521 IST: %DYNCMD-7-CMDSET_UNLOADED:
The Dynamic Command set from the Shell Manager has been unloaded
Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
  Unmounting old packages
  Cleaning temporary installation files
  Finished update running software
SUCCESS: Finished installing software.
Router#
*Aug  3 13:49:57.477 IST: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Aug  3 13:49:57.893 IST: %ISSU-3-PEER_IMAGE_REM_FROM_INCOMP_LIST: Peer image
(X86_64_LINUX_IOSD-ADVENTERPRISEK9-M),
version (15.3(2)S) on peer uid (48) being removed from the incompatibility list
*Aug  3 13:49:57.893 IST: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Aug  3 13:49:57.895 IST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router# issu commitversion

--- Starting local lock acquisition on R0--
Finished local lock acquisition on R0
Starting installation changes
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3.S-ext*.pkg slot 1 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING: Candidate software combination not found in compatibility database
WARNING:Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/s
WARNING: Candidate software combination not found in compatibility database
WARNING: Candidate software combination not found in compatibility database
WARNING: Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
```

Examples

```
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing-----
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes---
No old package files removed
New files list:
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Restarting SIP1
  Applying final IPC and database definitions
*Aug  3 13:52:05.767 IST: %IOSXE_OIR-6-OFFLINECARD: Card (cc) offline in slot 1
*Aug  3 13:52:05.770 IST: %IOSXE_OIR-6-REMSPA: SPA removed from subslot 1/0, interfaces
disabled
*Aug  3 13:52:05.770 IST: %IOSXE_OIR-6-REMSPA: SPA removed from subslot 1/1, interfaces
disabled
*Aug  3 13:52:05.778 IST: %SPA_OIR-6-OFFLINECARD: SPA (SPA-2X1GE-V2) offline in subslot 1/0
*Aug  3 13:52:05.786 IST: %SPA_OIR-6-OFFLINECARD: SPA (SPA-10X1GE-V2) offline in subslot
1/1
Generating software version information
Notifying running software of updates
Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software
SUCCESS: Finished installing software.
Router#
*Aug  3 13:53:00.262 IST: %IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 1
*Aug  3 13:53:00.901 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 1/0
*Aug  3 13:53:01.194 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 1/1
*Aug  3 13:53:18.148 IST: %LINK-3-UPDOWN: SIP1/0: Interface EOBC1/1, changed state to up
*Aug  3 13:53:23.978 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-2X1GE-V2) online in subslot 1/0
*Aug  3 13:53:23.609 IST: %LINK-3-UPDOWN: SIP1/1: Interface EOBC1/1, changed state to up
*Aug  3 13:53:26.288 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/0, changed state to
 up
*Aug  3 13:53:26.471 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/1, changed state to
 up
*Aug  3 13:53:26.605 IST: %LINK-3-UPDOWN: SIP1/0: Interface GigabitEthernet1/0/0, changed
state to up
*Aug  3 13:53:29.056 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-10X1GE-V2) online in subslot 1/1
*Aug  3 13:53:31.020 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/1, changed state to
 up
```

```
*Aug  3 13:53:31.030 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/3, changed state to
 up
*Aug  3 13:53:31.042 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/4, changed state to
 down
*Aug  3 13:53:31.045 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/5, changed state to
 up
*Aug  3 13:53:31.046 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/6, changed state to
 down
*Aug  3 13:53:31.048 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/7, changed state to
 down
*Aug  3 13:53:31.051 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/8, changed state to
 down
*Aug  3 13:53:31.053 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/9, changed state to
 down
*Aug  3 13:53:31.312 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/0, changed state to
 up
*Aug  3 13:53:32.833 IST: %LINK-3-UPDOWN: SIP1/1: Interface GigabitEthernet1/1/0, changed
state to up
*Aug  3 13:53:33.007 IST: %LINK-3-UPDOWN: SIP1/1: Interface GigabitEthernet1/1/7, changed
state to down
Router# issu commitversion

--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
Starting installation changes
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*.pkg slot 0 force
Starting local lock acquisition on R0
---Finished local lock acquisition on R0---
Starting file path checking
---Finished file path checking---
Starting image file verification
---Checking image file names----
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING: Candidate software combination not found in compatibility database
WARNING: Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/s
WARNING: Candidate software combination not found in compatibility database
WARNING: Candidate software combination not found in compatibility database
WARNING: Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
```

```
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Applying final IPC and database definitions
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
  Unmounting old packages
  Cleaning temporary installation files
  Finished update running software
SUCCESS: Finished installing software.
Router#issu commitversion
-- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image  file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction --
```

```
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of rnning and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING: Candidate software combination not found in compatibility database
WARNING: Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/s
WARNING: Candidate software combination not found in compatibility database
WARNING: Candidate software combination not found in compatibility database
WARNING: Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished  impact testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2- espx86base.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
Starting analysis of software changes
Finished analysis of software changes---
Starting update running software
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Restarting ESP0
  Applying final IPC and database definitions
*Aug  3 14:02:51.450 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F0
Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
  Unmounting old packages
  Cleaning temporary installation files
  Finished update running software
SUCCESS: Finished installing software.
Router#
```

Examples

```
*Aug  3 14:04:49.802 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0
preparing image /tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  3 14:04:50.172 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  3 14:04:50.746 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug  3 14:04:55.480 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  3 14:04:55.698 IST: %CPPHA-7-READY: F0: cpp_ha:  CPP 0 loading and initialization
complete
*Aug  3 14:04:55.837 IST: %IOSXE-6-PLATFORM: F0: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
Router#issu commitversion
-- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
---Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# issu loadversion rp 0 file bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg
-- Starting local lock acquisition on R0
---Finished local lock acquisition on R0
Starting file path checking
Finished file path checking
Starting image file verification
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
    WARNING: Automatically setting the on-reboot flag
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking  candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
```

```
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
Router# show version r0 provisioned

Package: Provisioning File, version: n/a, status: active
File: bootflash:Active_Dir/packages.conf,
on: RP0 Built: n/a, by:n/a
File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase,
version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg,
on: RP0   Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg,
on: RP0/0   Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9,version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg, on:
 RP0/0   Built: 2013-07-25_23.00, by: mcpre
File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a

File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg,
on: RP0/0  Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg,
on: RP0/1   Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg, on:
 RP0/1   Built: 2013-07-25_23.00, by: mcpre
File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg,
on: RP0/1  Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg,
on: RP1   Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package:rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP1/0  Built: 2013-07-25_23.00, by: mcpre
File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
```

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Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg,
on: RP1/0  Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status:n/a
File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg, on:
 RP1/1 Built: 2013-07-25_23.00, by: mcpre
File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package:espbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP0
Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package:espbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: n/a
File:bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP1
Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: sipbase,
version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/2
Built: 2013-07-25_21.16, by: mcpre
```

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File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
Built: 2013-07-25_21.16, by: mcpre
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File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-lcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/3
Built: 2013-07-25_21.16, by: mcpre
```

```
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP5
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP5
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/1
Built: 2013-07-25_21.16, by: mcpre
```

```
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Router# reload
<some output removed for brevity>
Router# request platform software package clean
Cleaning up unnecessary package files
No path specified, will use booted path bootflash:Active_Dir/packages.conf
Cleaning bootflash:Active_Dir
  Scanning boot directory for packages ... done.
  Preparing packages list to delete ...
  asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
 File is in use, will not delete.
    asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg

File is in use, will not delete.
    packages.conf

File is in use, will not delete.
  done.
Files that will be deleted:
  asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
```

```
  asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
  packages.conf.00-
  packages.conf.01-
  packages.conf.02-
  packages.conf.03-
  packages.conf.04-
  packages.conf.05-
Do you want to proceed? [confirm]y
  Deleting file bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg ... doe.
  Deleting file
bootflash:Active_Dir/asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
 ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/packages.conf.00- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.01- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.02- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.03- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.04- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.05- ... done.
SUCCESS: Files deleted.
```

Using Subpackages for Software Upgrade on a Cisco ASR 1002 Router or Cisco ASR 1004 Router (request platform Command Set)

This section provides instructions on using software upgrade for Cisco ASR 1002 or 1004 Router running subpackages using the **request platform** command set. Cisco ASR 1002 Router is not supported on Polaris 16.x.x release.

These instructions assume two IOS processes are active on the RP and that the router is already running using subpackages.

Note Step 17, 18, and 19 does not have to be performed immediately, and can be done at a convenient time.

SUMMARY STEPS

1. **show version**
2. **redundancy**
3. **mkdir** *URL-to-directory-name*
4. **ip tftp** *source-interface gigabitethernet port*
5. **copy tftp:** *URL-to-target-location*
6. **request platform software package expand file** *URL-to-consolidated-package*

7. **dir** *target-URL*
8. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP*
9. **request platform software package install rp 0 file***file-system*:**asr1000rp2-{rpaccess,rpios,rpcontrol}***version-string****.pkg bay***standby-bay***force**
10. **redundancy force-switchover**
11. (Optional) **show platform**
12. **request platform software package install rp 0 file***file-system*:**asr1000rp2-{rpaccess,rpios,rpcontrol}***version-string****.pkg bay***standby-bay***force**
13. **request platform software package install rp 0 file** *file-system*:**asr1000rp2-{sipbase,sipspa}***version****.pkg slot** *SIP-slot-number* **force**
14. **request platform software package install rp 0 file** *file-system*:**asr1000rp2-{elcase,elcspa}***version****.pkg slot** *SIP-slot-number* **force**
15. **request platform software package install rp 0 file** *file-system*:**asr1000rp2-esp***version****.pkg force**
16. **request platform software package install rp 0 file***file-system*:**asr1000rp***version****.pkg**
17. **show version installed**
18. **reload**
19. **request platform software package clean**

DETAILED STEPS

	Command or Action	Purpose

Step 1	**show version**
	Example:
	`show version installed`
	Example:
	`dir filesystem:<directory>`
	Example:
	`show platform`
	Example:
	`show redundancy-states`
	Example:
	`Router# show version`
	Example:
	`Router# show version r0 installed`
	Example:
	`Router# dir bootflash:`
	Example:
	`Router# show platform`
		(Optional) Use the following commands to confirm the current router configuration, as follows:
		• **show version** and **show version** *active-rp* **installed**—Verify the running version of the Cisco IOS XE software on the router, and which file was used to boot the router, and where that file is stored.
		• **dir**—Confirm that the files that were used to boot the router are located in the directory.
		• **show platform**—Confirm the current status of the active and standby RPs.
		• **show redundancy states**—Confirm the operational and configured redundancy states.

	Command or Action	Purpose
	Example: `Router# show redundancy-states`	

Step 2	**redundancy**
	Example:
	mode sso
	Example:
	`Router(config)# redundancy`
	Example:
	`Router(config-red)# mode sso`
		Configure SSO if it is not already configured.
		Note Save the configuration after making this configuration step.

Step 3	**mkdir** *URL-to-directory-name* **Example:** `Router# mkdir usb0:221subs`	Create a directory to store the consolidated package and subpackages. This directory must be created in most cases because the consolidated packages and subpackages have to be separated from the subpackages that booted the router at this step of the procedure.
Step 4	**ip tftp** *source-interface gigabitethernet port* **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface. **Note** To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.
Step 5	**copy tftp:** *URL-to-target-location* **Example:** `Router# copy tftp: usb0:221subs`	Copy the consolidated package file into the directory created in Step 3 . The consolidated package in this step should not be copied into the same directory where the subpackages that are currently running your router are stored (the directory containing the packages.conf provisioning file from which the router was booted). **Tip** It is recommended that you copy the package onto a usb: or harddisk: file system for space considerations when performing this step of the procedure.
Step 6	**request platform software package expand file** *URL-to-consolidated-package*	Extract the subpackages out of the consolidated package file into the temporary directory.

	Command or Action	Purpose
	Example: `Router# request platform software package expand file usb0:221subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin`	**Note** Take extra care to extract the subpackages to a temporary subdirectory and do not delete any of the files currently running the router at this point of the procedure.To erase the files that were running on the router before the ISSU upgrade, enter the **request platform software package clean** command after the ISSU upgrade has been completed.
Step 7	**dir** *target-URL* **Example:** `Router# dir usb0:221subs`	(Optional) Display the directory to confirm that the files were extracted.
Step 8	**copy** *file-system*:**asr1000rp2-espbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpcontrol.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpios.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipspa.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:**	Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored. **Note** From Polaris release 16.x.x, two new packages: rpboot and webui are introduced.

	Command or Action	Purpose

	copy *file-system*:**asr1000rp2-elcbase.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	copy *file-system*:**asr1000rp2-elcspa.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP*
	Example:
	`Router# copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-rpios-adventerprisek.9.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:	

	Command or Action	Purpose

	`Router# copy usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-eldcase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy usb0:221subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:`	

Step 9	**request platform software package install rp 0 file***file-system*:**asr1000rp2-{rpaccess,rpios,rpcontrol}****version-string****.pkg bay***bay** *standby-bay***force** **Example:** `Router# request platform software package install rp 0 file bootflash:asr1000rp2-{rpaccess,rpios,rpcontrol}*03.13.00.S.154-3.S-ext*.pkg bay 1 force`	Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay.
Step 10	**redundancy force-switchover** **Example:** `Router# redundancy force-switchover`	Force a switchover from the active IOS process to the standby IOS process. **Note** Your connection to the router often drops and is expected behavior at this point of the procedure in many scenarios.If this step drops your connection to the router, wait a few minutes before reconnecting to the router and then continue to Step 11 .
Step 11	(Optional) **show platform** **Example:** `Router# show platform`	(Optional) Monitor system state to ensure both IOS processes are active.
Step 12	**request platform software package install rp 0 file***file-system*:**asr1000rp2-{rpaccess,rpios,rpcontrol}****version-string****.pkg bay***bay** *standby-bay***force** **Example:**	Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay, which in this context is the opposite bay used in Step 9 .

	Command or Action	Purpose
	`Router# request platform software package install rp 0 file bootflash:asr1000rp2-{rpaccess,rpios,rpcontrol}*03.13.00.S.154-3.S-ext*.pkg bay 0 force`	**Note** The *pattern* options used in this CLI (**rpaccess**, **rpios**, and **rpcontrol**) were introduced in Cisco IOS XE Release 2.1.2 and are not available in previous Cisco IOS XE Releases.See the ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2), on page 65 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.

Step 13	**request platform software package install rp 0 file** *file-system*:**asr1000rp2-{sipbase,sipspa}***version***.pkg slot** *SIP-slot-number* **force**
	Example:
	`Router# request platform software package install rp 0 file bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00.S.154-3.S-ext*.pkg slot 0 force`
	Example:
	`Router# request platform software package install rp 0 file bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00.S.154-3.S-ext*.pkg slot 1 force`
	Example:
	`Router# request platform software package install rp 0 file bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00.S.154-3.S-ext*.pkg slot 2 force`
		Upgrade the SIP and SPA subpackages for each SIP on the router.
		Note This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step.
		Tip You can use the **show ip interface brief** command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form *SIP-number*/*SPA-number*/*interface-number*) identify the SIP and SPA locations in the router.
		Note The *pattern* options used in this CLI (**sipbase** and **sipspa**) were introduced in Cisco IOS XE Release 2.1.2 and are not available in previous Cisco IOS XE Releases.See the ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2), on page 65 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.

Step 14	**request platform software package install rp 0 file** *file-system*:**asr1000rp2-{elcase,elcspa}***version***.pkg slot** *SIP-slot-number* **force**
	Example:
	`Repeat this step for each ELC installed in your router before proceeding to the next step.`
	Example:
	`Router# request platform software package install rp 0 file bootflash:asr1000rp2-{elcspa,elcbase}*03.13.00.S.154-3.S-ext*.pkg slot 0 force`
	Example:
	`Router# request platform software package install rp 0 file`
		Upgrade the ELC and SPA subpackages for each ELC on the router.
		Note This step must be completed for one ELC at a time, and repeated for each ELCinstalled on the router before performing the next step.
		Tip You can use the **show ip interface brief** command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form *ELC-number*/*SPA-number*/*interface-number*) identify the ELC and SPA locations in the router.
		Note The *pattern* options used in this CLI (**elcbase** and **elcspa**) were introduced in Cisco IOS XE Release 3.10S and are not available in previous Cisco IOS XE Releases

	Command or Action	Purpose
	bootflash:asr1000rp2-{elcspa,eldbase}*03.13.00.S.154-3.S-ext*.pkg slot 1 force **Example:** `Router# request platform software package install rp 0 file bootflash:asr1000rp2-{elcspa,eldbase}*03.13.00.S.154-3.S-ext*.pkg slot 2 force`	
Step 15	**request platform software package install rp 0 file** *file-system*:**asr1000rp2-esp***version****.pkg force** **Example:** `Router# request platform software package install rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg force`	Upgrade the ESP Base subpackage.
Step 16	**request platform software package install rp 0 file***file-system*:**asr1000rp***version****.pkg** **Example:** `Router# request platform software package install rp 0 file bootflash:asr1000rp*03.13.00.S.154-3.S-ext*.pkg`	Upgrade all subpackages, including the RPBase subpackage, which is the last subpackage that needs to be upgraded. **Note** This step is required to ensure that all subpackages on the router were upgraded as part of this procedure, and might upgrade some subpackages that would otherwise be missed in the process.
Step 17	**show version installed** **Example:** `Router# show version installed`	(Optional) Verify that the subpackages are properly installed.
Step 18	**reload** **Example:** `Router# reload`	Reload the RP. **Tip** The router will continue normal operation even without a reload, so you can reload the router during scheduled maintenance or a slower traffic period.
Step 19	**request platform software package clean**	(Optional) Removes the unused subpackages from the router.

Examples

The following example shows the software upgrade for Cisco ASR 1002 or 1004 Router running sub-packages:

```
Router# show version
Cisco IOS Software, IOS-XE Software (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), Version 15.3(2)S,
```

```
 RELEASE SOFTWARE (fc1)
<output removed for brevity>
System image file is "bootflash:Active_Dir/packages.conf"
<output removed for brevity>
cisco ASR1004 (RP2) processor with 1546489K/6147K bytes of memory.
Processor board ID FOX1339G0QJ
32 Gigabit Ethernet interfaces
2 Ten Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
388608K bytes of physical memory.
933311K bytes of eUSB flash at bootflash:.
78085207K bytes of SATA hard disk at harddisk:
Configuration register is 0x2102
Router# show version installed
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: a624f70f68c60292f4482433f43afd92487a55c4
  Package: rpbase, version: 03.12.01.S.154-2.S, status: active

File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
  Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
<output removed for brevity>
Router# show redundancy states
 my state = 13 -ACTIVE
    peer state = 8  -STANDBY HOT
    Mode = Duplex
    Unit = Primary
    Unit ID = 48
 Redundancy Mode (Operational) = sso
    Redundancy Mode (Configured)  = sso
    Redundancy State              = sso
    Maintenance Mode = Disabled
    Manual Swact = enabled
    Communications = Up
    client count = 107
    client_notification_TMR = 30000 milliseconds
    RF debug mask = 0x0
Router# show platform

Chassis type: ASR1004
Slot        Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 0         ASR1000-2T+20X1GE      ok                    00:04:19
 0/0       BUILT-IN-2T+20X1GE     ok                    00:02:36
 1         ASR1000-SIP10          ok                    00:04:19
 1/0       SPA-2X1GE-V2           ok                    00:03:07
 1/1       SPA-10X1GE-V2          ok                    00:03:00
 R0        ASR1000-RP2            ok                    00:04:19
 R0/0                             ok, active            00:04:19
 R0/1                             ok, standby           00:02:41
 F0        ASR1000-ESP40          ok, active            00:04:19
 P0        ASR1004-PWR-AC         ok                    00:03:28
 P1        ASR1004-PWR-AC         ps, fail              00:03:28
Slot      CPLD Version        Firmware Version
--------- ------------------- ----------------------------------------
 0         00200800            15.2(1r)S
 1         07091401            15.3(3r)S
 R0        08103002            15.3(3r)S
```

Examples

```
 F0        1003190E           15.3(3r)S
Router# mkdir bootflash:harddisk:TargetS_Subs
Create directory filename [Target_Subs]?
Created dir harddisk:/Target_Subs
Router# conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)# ip tftp source-interface Gigabitethernet 0
Router(config)# end
Router#copy tftp: harddisk:Target_Subs
Address or name of remote host []? 202.153.144.25
Source filename []? /auto/tftp-srg-india/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
Destination filename [/Target_Subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin]?
Accessing
tftp://202.153.144.25//auto/tftp-srg-india/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin...
Loading /auto/tftp-srg-india/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin from
202.153.144.25 (via GigabitEthernet0): !!!!
[OK - 569597380 bytes]
569597380 bytes copied in 101.618 secs (5605280 bytes/sec)
Router# request platform software package expand file
harddisk:/Target_Subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
Verifying parameters
Validating package type
Copying package files
SUCCESS: Finished expanding all-in-one software package.
Router# dir harddisk:Target_Subs
Directory of harddisk:/Target_Subs
9666562  -rw-   569597380   Aug 3 2013 13:25:06 +05:30
asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
9666566  -rw-    37557200   Aug 3 2013 13:27:06 +05:30
asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
9666567  -rw-    51194832   Aug 3 2013 13:27:07 +05:30
asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
9666568  -rw-    80657364   Aug 3 2013 13:27:07 +05:30
asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
9666569  -rw-    95446456   Aug 3 2013 13:27:08 +05:30
asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
9666564  -rw-        9381   Aug 3 2013 13:27:06 +05:30
asr1000rp2-packages-adventerprisek9.03.13.00.S.154-3.S-ext.conf
9666570  -rw-    23350232   Aug 3 2013 13:27:08 +05:30
asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
9666571  -rw-    37694900   Aug 3 2013 13:27:08 +05:30
asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
9666572  -rw-    45536216   Aug 3 2013 13:27:08 +05:30
asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
9666573  -rw-   118754284   Aug 3 2013 13:27:08 +05:30
asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
9666574  -rw-    38380500   Aug 3 2013 13:27:08 +05:30
asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
9666575  -rw-    61760468   Aug 3 2013 13:27:08 +05:30
asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
9666565  -rw-       10165   Aug 3 2013 13:27:08 +05:30  packages.conf
78704144384 bytes total (47541493760 bytes free)
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
80657364 bytes copied in 12.085 secs (6674172 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
95446456 bytes copied in 14.687 secs (6498703 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename  [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
```

```
Copy in
progress...CCCCCC
3350232 bytes copied in 4.047 secs (5769763 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
7694900 bytes copied in 5.978 secs (6305604 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
5536216 bytes copied in 5.970 secs (7627507 bytes/sec)
Router# copy harddisk: Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 bootflash:
Active_Dir/Destination filename
[Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
118754284 bytes copied in 18.501 secs (6418804 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
8380500 bytes copied in 4.951 secs (7752070 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
1760468 bytes copied in 8.615 secs (7168946 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCCC
7557200 bytes copied in 5.255 secs (7146946 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in
progress...CCCC
1194832 bytes copied in 7.677 secs (6668599 bytes/sec)
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-{rpaccess,rpios,rpcontrol}*03.13.00.S.154-3.S-ext*.pkg bay
 1 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
```

Examples

```
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/s
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing---
Checking operational impact of change

WARNING: Connection may be lost during installation of IOS package
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software --
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Restarting IOS PID: 21552, in slot/bay 0/1
  Applying final IPC and database definitions
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
  Unmounting old packages
  Cleaning temporary installation files
  Finished update running software
```

```
SUCCESS: Finished installing software.
Router# redundancy force-switchover
Proceed with switchover to standby RP? [confirm]
   Manual Swact = enabled
%IOSXE_INFRA-6-CONSOLE_ACTIVE: R0/1 console active.
Press RETURN to get started!
[OK]
*Aug  3 13:43:52.101 IST: %CMANRP-6-CMHASTATUS: RP switchover, received chassis event to
become active
*Aug  3 13:43:52.193 IST: %REDUNDANCY-3-SWITCHOVER: RP switchover (PEER_NOT_PRESENT)
*Aug  3 13:43:52.194 IST: %REDUNDANCY-3-SWITCHOVER: RP switchover (PEER_DOWN)
*Aug  3 13:43:52.194 IST: %REDUNDANCY-3-SWITCHOVER: RP switchover
(PEER_REDUNDANCY_STATE_CHANGE)
*Aug  3 13:43:51.231 IST: %RF-5-RF_RELOAD: Self reload. Reason: redundancy force-switchover
*Aug  3 13:43:51.461 IST: %SYS-5-SWITCHOVER: Switchover requested by red_switchover_process.
 Reason: redundancy force-switchover.
*Aug  3 13:43:52.198 IST: %PLATFORM-6-HASTATUS: RP switchover, sent message became active.
 IOS is ready to switch to primary after chassis confirmation
*Aug  3 13:43:52.200 IST: %CMANRP-6-CMHASTATUS: RP switchover, received chassis event became
 active
*Aug  3 13:43:52.449 IST: %PLATFORM-6-HASTATUS_DETAIL: RP switchover, received chassis event
 became active. Switch to primary (count 1)
*Aug  3 13:43:52.733 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0,
 changed state to down
*Aug  3 13:43:53.098 IST: % Redundancy mode change to SSO
*Aug  3 13:43:53.126 IST: %LINK-3-UPDOWN: Interface Lsmpi0, changed state to up
*Aug  3 13:43:53.127 IST: %LINK-3-UPDOWN: Interface EOBC0, changed state to up
*Aug  3 13:43:53.127 IST: %LINK-3-UPDOWN: Interface LIIN0, changed state to up
*Aug  3 13:43:54.127 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Lsmpi0, changed
state to up
*Aug  3 13:43:54.127 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface EOBC0, changed
state to up
*Aug  3 13:43:54.127 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface LIIN0, changed
state to up
*Aug  3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface Null0, changed state to up
*Aug  3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/8, changed state to
 up
*Aug  3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/10, changed state
to up
*Aug  3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/0, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/1, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/0, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/1, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/3, changed state to
 up
*Aug  3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/5, changed state to
 up
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/2, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/3, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/4, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/5, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/6, changed state
```

```
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/7, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/9, changed state
to administratively down
*Aug  3 13:43:55.124 IST: %LINK-5-CHANGED: Interface GigabitEthernet0/0/11, changed state
to administratively down
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface Null0, changed
state to up
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/0/8, changed state to up
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet0/0/10, changed state to up
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet0/0/20, changed state to down
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
TenGigabitEthernet0/0/21, changed state to down
*Aug  3 13:43:56.118 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/0/0, changed state to up
*Aug  3 13:43:56.120 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/0/1, changed state to up
*Aug  3 13:43:56.120 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/1/0, changed state to up
*Aug  3 13:43:56.120 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/1/1, changed state to up
*Aug  3 13:43:56.120 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface
GigabitEthernet1/1/3, changed state to up
*Aug  3 13:44:05.127 IST: %LINK-3-UPDOWN: Interface GigabitEthernet0, changed state to up
*Aug  3 13:44:06.127 IST: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0,
 changed state to up
*Aug  3 13:44:32.069 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_FOUND(4))
*Aug  3 13:44:32.070 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Aug  3 13:44:34.969 IST: %REDUNDANCY-3-IPC: IOS versions do not match.
*Aug  3 13:45:40.946 IST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router# show platform
Chassis type: ASR1004
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 0         ASR1000-2T+20X1GE    ok                    00:29:33
 0/0       BUILT-IN-2T+20X1GE   ok                    00:05:28
 1         ASR1000-SIP10        ok                    00:29:33
 1/0       SPA-2X1GE-V2         ok                    00:05:28
  1/1       SPA-10X1GE-V2        ok                    00:05:28
  R0        ASR1000-RP2          ok                    00:29:33
  R0/0                           ok, standby           00:01:46
  R0/1                           ok, active            00:06:12
  F0        ASR1000-ESP40        ok, active            00:29:33
  P0        ASR1004-PWR-AC       ok                    00:28:42
  P1        ASR1004-PWR-AC       ps, fail              00:28:42
Slot      CPLD Version        Firmware Version
--------- ------------------- ----------------------------------------
 0         00200800            15.2(1r)S
 1         07091401            15.3(3r)S
 R0        08103002            15.3(3r)S
 F0        1003190E            15.3(3r)S
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-{rpaccess,rpios,rpcontrol}*03.13.00.S.154-3.S-ext*.pkg bay
 0 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking---
Finished file path checking
```

```
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
WARNING: Connection may be lost during installation of IOS package
Finished impact testing
--- Starting list of software package changes ---
Old files list:
Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
No new package files added
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
```

Examples

```
  Restarting IOS PID: 25452, in slot/bay 0/0
*Aug  3 13:48:07.051 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_NOT_PRESENT)
*Aug  3 13:48:07.052 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Aug  3 13:48:07.052 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Aug  3 13:48:09.683 IST: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
*Aug  3 13:48:09.692 IST: % Redundancy mode change to SSO
**Aug  3 13:48:49.450 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_FOUND(4))
*Aug  3 13:48:49.451 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Aug  3 13:48:50.035 IST: %ISSU-3-PEER_IMAGE_NOT_IN_INCOMP_LIST: Peer image
(X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), version (15.3(3)S) on peer uid (48) is not
in the incompatible images list
*Aug  3 13:48:50.036 IST: %ISSU-3-PEER_IMAGE_NOT_IN_INCOMP_LIST: Peer image
(X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), version (15.3(3)S) on peer uid (48) is not
in the incompatible images list  Applying final IPC and database definitions
*Aug  3 13:48:53.521 IST: %DYNCMD-7-CMDSET_UNLOADED: The Dynamic Command set from the Shell
 Manager has been unloaded
Generating software version information
Notifying running software of updates
Unblocking peer synchronization of operating information
Unmounting old packages
cleaning temporary installation files
Finished update running software
SUCCESS: Finished installing software.
*Aug  3 13:49:57.477 IST: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Aug  3 13:49:57.893 IST: %ISSU-3-PEER_IMAGE_REM_FROM_INCOMP_LIST: Peer image
(X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), version (15.3(2)S) on peer uid (48)
being removed from the incompatibility list
*Aug  3 13:49:57.893 IST: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Aug  3 13:49:57.895 IST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router # issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3.S-ext*.pkg slot 1 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification---
Checking image file names
Locating image files and validating name syntax
 Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
 Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
-- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
```

```
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING: Candidate software combination not found in compatibility database
WARNING: Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/s
WARNING: Candidate software combination not found in compatibility database
WARNING: Candidate software combination not found in compatibility database
WARNING: Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes---
No old package files removed
New files list:
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
Applying interim IPC and database definitions
Replacing running software
Replacing CLI software
Restarting software
Restarting SIP1
Applying final IPC and database definitions
*Aug  3 13:52:05.767 IST: %IOSXE_OIR-6-OFFLINECARD: Card (cc) offline in slot 1
*Aug  3 13:52:05.770 IST: %IOSXE_OIR-6-REMSPA: SPA removed from subslot 1/0, interfaces
disabled
*Aug  3 13:52:05.770 IST: %IOSXE_OIR-6-REMSPA: SPA removed from subslot 1/1, interfaces
disabled
*Aug  3 13:52:05.778 IST: %SPA_OIR-6-OFFLINECARD: SPA (SPA-2X1GE-V2) offline in subslot 1/0
*Aug  3 13:52:05.786 IST: %SPA_OIR-6-OFFLINECARD: SPA (SPA-10X1GE-V2) offline in subslot
1/1
Generating software version information
Notifying running software of updates
Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
Finished update running software
SUCCESS: Finished installing software.
*Aug  3 13:53:00.262 IST: %IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 1
*Aug  3 13:53:00.901 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 1/0
*Aug  3 13:53:01.194 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 1/1
```

```
*Aug  3 13:53:18.148 IST: %LINK-3-UPDOWN: SIP1/0: Interface EOBC1/1, changed state to up
*Aug  3 13:53:23.978 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-2X1GE-V2) online in subslot 1/0
*Aug  3 13:53:23.609 IST: %LINK-3-UPDOWN: SIP1/1: Interface EOBC1/1, changed state to up
*Aug  3 13:53:26.288 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/0,changed state to
up
*Aug  3 13:53:26.471 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/1, changed state to
 up
*Aug  3 13:53:26.605 IST: %LINK-3-UPDOWN: SIP1/0: Interface GigabitEthernet1/0/0, changed
state to up
*Aug  3 13:53:29.056 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-10X1GE-V2) online in subslot 1/1
*Aug  3 13:53:31.020 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/1, changed state to
 up
*Aug  3 13:53:31.030 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/3, changed state to
 up
*Aug  3 13:53:31.042 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/4, changed state to
 down
*Aug  3 13:53:31.045 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/5, changed state to
 up
*Aug  3 13:53:31.046 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/6, changed state to
 down
*Aug  3 13:53:31.048 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/7, changed state to
 down
*Aug  3 13:53:31.051 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/8, changed state to
 down
*Aug  3 13:53:31.053 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/9, changed state to
 down
*Aug  3 13:53:31.312 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/0, changed state to
 up
*Aug  3 13:53:32.833 IST: %LINK-3-UPDOWN: SIP1/1: Interface GigabitEthernet1/1/0, changed
state to up
*Aug  3 13:53:33.007 IST: %LINK-3-UPDOWN: SIP1/1: Interface GigabitEthernet1/1/7, changed
state to down
Router# issu commitversion
-- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*.pkg slot 0 force
---- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
-- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Verifying image file locations
  Inspecting image file types
  Processing image file constraints
  Creating candidate provisioning file
  Finished image file verification
---Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
```

```
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING: Candidate software combination not found in compatibility database
WARNING: Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/s
WARNING: Candidate software combination not found in compatibility database
WARNING: Candidate software combination not found in compatibility database
WARNING: Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes --
No old package files removed
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Applying final IPC and database definitions
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
  Unmounting old packages
  Cleaning temporary installation files
  Finished update running software
SUCCESS: Finished installing software.
Router# issu commitversion
--- Starting locallock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0
---Finished local lock acquisition on R0
--- Starting file path checking ---
```

```
Finished file path checking
---Starting image file verification---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Verifying image file locations
  Inspecting image file types
  Processing image file constraint
  Creating candidate provisioning file
  Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING: Candidate software combination not found in compatibility database
WARNING: Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/s
WARNING: Candidate software combination not found in compatibility database
WARNING: Candidate software combination not found in compatibility database
WARNING: Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
```

```
  Restarting software
  Restarting ESP0
  Applying final IPC and database definitions
*Aug  3 14:02:51.450 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F0
Generating software version information
Notifying running software of updates
Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
Finished update running software
SUCCESS: Finished installing software.
*Aug  3 14:04:49.802 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 preparing
image/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  3 14:04:50.172 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  3 14:04:50.746 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug  3 14:04:55.480 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  3 14:04:55.698 IST: %CPPHA-7-READY: F0: cpp_ha:  CPP 0 loading and initialization
complete
*Aug  3 14:04:55.837 IST: %IOSXE-6-PLATFORM: F0: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
    WARNING: Automatically setting the on-reboot flag
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Pocessing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
```

```
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.
New software will load on reboot.
Router# show version provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/0
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package:rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/1
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
```

```
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP1/0
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP1/1
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: spx86base, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/1
```

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  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
```

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  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/2
```

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  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP5
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP5
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/0
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  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Router# reload
<some output removed for brevity>
Router# request platform software package clean
Cleaning up unnecessary package files
No path specified, will use booted path bootflash:Active_Dir/packages.conf
Cleaning bootflash:Active_Dir
  Scanning boot directory for packages ... done.
  Preparing packages list to delete ...asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg

      File is in use, will not delete...  asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete....asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not
delete...asr1000rp2-rpios-dventerprisek9.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete...sr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete... packages.conf
      File is in use, will not delete...done.
Files that will be deleted:
  asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
  asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
  packages.conf.00-
```

```
  packages.conf.01-
  packages.conf.02-
  packages.conf.03-
  packages.conf.04-
  packages.conf.05-
Do you want to proceed? [confirm]y
  Deleting file bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg ...done.
  Deleting file
bootflash:Active_Dir/asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg ... done.
 Deleting file bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/packages.conf.00- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.01- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.02- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.03- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.04- ... done.
  Deleting file bootflash:Active_Dir/packages.conf.05- ... done.
SUCCESS: Files deleted.
```

Minimal Disruptive Restart ISSU

A software upgrade of a SIP in any mode results in the SIP being reset and the occurrence of minimal outage during the upgrade. Minimal Disruptive Restart (MDR) minimizes traffic disruption during a software upgrade and supports consolidated package software upgrade and subpackage software upgrade for SIP-40.

The software upgrade of a SIP using MDR is supported only on the Cisco ASR 1000 Series Aggregation Services routers running Cisco IOS XE Release 3.8S and later.

Note MDR upgrades (both consolidated and subpackage upgrades) are supported only on hardware-redundant dual route processor (RP) and Enhanced Services Processors (ESP) platforms.

MDR reduces the downtime (time during which the data plane is unavailable) due to ISSU of a SIP and the SPA(s) within it. The downtime is reduced from 100 seconds to not more than 25 seconds on a SIP reload and from 30 seconds to not more than 10 seconds on a SPA reload. The reload time of a SIP or SPA using a MDR or a non-MDR upgrade remains the same.

MDR for a SIP is permitted if following conditions are met:

- Chassis is hardware redundant (dual RP and dual ESP)
- SIP-type supports MDR.
- At least one MDR-compatible SPA in the SIP should be present for the MDR process.
- All the SPAs associated with the SIP support MDR.
- Both the current software version and the upgrade software version must be ISSU and MDR compatible for both the SIPBase and SIPSPA subpackages for each SPA type that is present.

The following SPAs support MDR:

- • SPA-2X1GE-V2
  • SPA-5X1GE-V2
  • SPA-8X1GE-V2
  • SPA-10X1GE-V2
  • SPA-1X10GE-L-V2

Starting with IOS XE release 3.10S and later, MDR support has been extended to include the following SPAs:

- • SPA-2XOC3-POS
  • SPA-4XOC3-POS
  • SPA-4XOC3-POS-V2
  • SPA-8XOC3-POS
  • SPA-1XOC12-POS
  • SPA-2XOC12-POS
  • SPA-4XOC12-POS
  • SPA-8XOC12-POS

Effective from Cisco IOS XE Release 3.12S, the Cisco ASR 1000 Series Fixed Ethernet Line Card (ASR1000-2T+20X1GE) supports Minimal Disruptive Restart (MDR) for ELCBase and ELCSPA packages. MDR support for ASR1000-2T+20X1GE is specifically available on the Cisco ASR 1006 Router and the Cisco ASR 1013 Router with Route Processor 2 (RP2).

For more information on the Cisco ASR 1000 Series Fixed Ethernet Line Card (ASR1000-2T+20X1GE), see the following documents:

Cisco ASR 1000 Series Fixed Ethernet Line Card Hardware Installation Guide

Cisco ASR 1000 Fixed Ethernet Line Card Software Configuration Guide

Use the **request platform software package verify** and **issu checkversion** commands with the **mdr** option to verify the MDR upgrade compatibility of a consolidated package or an individual subpackage.

When performing an ISSU upgrade, you can specify whether the upgrade should use MDR. If you do not specify this, the ISSU upgrade process will remain unchanged.

Restrictions and Limitations

- MDR is not supported on non-hardware-redundant platforms, such as, Cisco ASR 1001 Router, Cisco ASR 1001-X Router, Cisco ASR 1002 Router, Cisco ASR 1002-X Router, or Cisco ASR 1004 Router, and on hardware-redundant platforms without redundant hardware, such as, Cisco ASR 1006 router, or Cisco ASR 1013 router with only a single RP or ESP.
- MDR is not supported on Polaris 16.x.x release.
- MDR is not supported on SIP10.
- MDR does not support software downgrade.
- To use MDR, both the current software and the upgrade software must be ISSU and MDR compatible.
- If a SIP is performing an MDR upgrade the following events cannot be handled during the upgrade:
  - Fast Reroute (FRR)
  - Automatic protection switching (APS)
  - Ethernet over Multiprotocol Label Switching (EoMPLS) and pseudoWire (PW) down that require an attachment circuit (AC) port to be shut.

- Interface flaps and interface errors
- Interface-specific or linecard-specific configuration changes
- SPA Online Insertion and Removal (OIR)
- Transceiver OIR
- Line alarms
- Statistics—Error counts will be reset

High-Availability Considerations

Any high-availability (HA) failover that occurs during MDR-process terminates the process. This includes failures such as active RP IOS failover during the MDR upgrade process or active RP FRU failure in a chassis with redundant hardware during subpackage upgrade.

For MDR upgrade using consolidated packages, upgrade is initiated by the upgraded active RP after the ESP software has been upgraded.

Using ISSU to Perform a Consolidated Package Upgrade in a Dual Route Processor Configuration with MDR

Consolidated packages can only be upgraded using ISSU in dual Route Processor configurations. ISSU is not supported for consolidated package upgrades in single Route Processor configurations.

If you want the RPs on your Cisco ASR 1000 Series router to be running using a consolidated package with MDR after the ISSU upgrade is complete, use the following instructions:

Note This procedure will only work if the current RPs are already running consolidated packages.

SUMMARY STEPS

1. **ip tftp** *source-interface gigabitethernet slot/port*
2. **copy tftp:** *URL-to-target-location*
3. **copy** *source-file-system*:*filename standby-destination-filesystem*
4. **dir** *URL-to-target-location*
5. issu checkversion rp *upgrade-rp-number* file *URL* mdr {force}
6. **product="kwdname="issu loadversion rp** *upgrade-rp-number* **file** *standby-file-system*:*filename* **mdr {force}**
7. **issu runversion**
8. **telnet***ip-addressport*
9. **issu acceptversion**
10. **issu commitversion**
11. **show version**
12. **hw-module slot** *RP-slot* **reload**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**ip tftp** *source-interface gigabitethernet slot/port* **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface. **Note** To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.
Step 2	**copy tftp:** *URL-to-target-location* **Example:** **copy** *source-file-system*:*filename standby-destination-filesystem* **Example:** **Example:** `Router# copy tftp bootflash:`	Copy the consolidated package onto the active RP.
Step 3	**copy** *source-file-system*:*filename standby-destination-filesystem* **Example:** **Example:** `Router# copy bootflash:asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin stby-bootflash:`	Copy the consolidated package onto the standby RP.

Step 4	**dir** *URL-to-target-location*
	Example:
	dir *URL-to-target-stby-location*
	Example:
	Example:
	`Router# dir bootflash:`
	Example:
	`Router# dir stby-bootflash:`
		(Optional) Display the contents of the target directories to confirm the successful copy of the file package.

	Command or Action	Purpose
Step 5	issu checkversion rp *upgrade-rp-number* file *URL* mdr {force} **Example:** **Example:** `Router#issu checkversion rp 1 file stby-bootflash:asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin mdr`	Checks the ISSU MDR software packaging compatibility on the standby Route Processor (RP).
Step 6	**product="kwdname="issu loadversion rp** *upgrade-rp-number* **file** *standby-file-system*:*filename* **mdr {force}** **Example:** **Example:** `Router# issu loadversion rp 1 file stby-bootflash:asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin mdr`	Load the target consolidated package onto the standby RP. After you receive the message indicating that the terminal state has been reached continue with Step 7.
Step 7	**issu runversion** **Example:** **Example:** `Router# issu runversion`	Run the consolidated package that was loaded in Step 6 . **Note** If this command is entered before the terminal state is reached, a " peer is not online " or " Standby RP is not in terminal state " error message will be seen and the **issu runversion** command will not work. If the **issu runversion** command does not run for these reasons, wait for the " terminal state is reached " message to appear and retry the **issu runversion** command. You can also monitor the terminal state using the **show platform** command. After ISSU runversion is completed, a switchover will automatically occur and the standby RP will become the active RP.
Step 8	**telnet***ip-addressport* **Example:** **Example:** `[unix-server-1 ~]$ telnet 172.17.52.157 2003` **Example:**	Log in to the RP being upgraded, preferably using the RP's console port, to complete the upgrade. (This is the new active RP, that was the standby RP prior to the ISSU process.) **Note** Ensure the hostname does not end in "-stby" after logging into the RP, as this indicates that the RP being accessed is still the standby RP.

	Command or Action	Purpose

	`User Access Verification`
	Example:
	Example:
	`Username:` **`user`**
	Example:
	`Password:` **`********`**
	Example:
	Example:
	`Router>`
		There are many ways to log on to a console port. The example shows access to the console port from a UNIX host using telnet.

Step 9	**issu acceptversion** **Example:** **Example:** `Router#` **`issu acceptversion`**	(Optional) Stops the ISSU rollback timer. This step is optional as long as Step 10 is completed before the rollback timer expires.
Step 10	**issu commitversion** **Example:** **Example:** `Router#` **`issu commitversion`**	Completes the ISSU upgrade.
Step 11	**show version** **Example:** **`show version`** *`active-RP`* **`running`** **Example:** **`show version`** *`active-RP`* **`provisioned`** **Example:** **`show platform`** **Example:** **`show running-configuration`**	(Optional) Enter the **show version**, **show platform**, or **show running-configuration** commands to confirm that the upgrade completed successfully, as follows: • **show version**—Confirm that the correct software version is running on your router and that the RP was booted from the correct file. • **show running-configuration**—Confirm that the booting configuration, in particular the boot system statements, are correct. **Tip** Use the **show running-config | include boot** command to display only the boot statements from the **show running-configuration** output.

	Command or Action	Purpose
		• **show platform**— Confirm that both RP0 and RP1 are correctly running as active and standby.
Step 12	**hw-module slot** *RP-slot* **reload** **Example:** **Example:** `Router# hw-module slot R0 reload`	Reload the new software on the Standby RP.

Examples

The following example shows how to perform consolidated package upgrade in a dual route processor configuration:

```
Router(config)# ip tftp source-interface gigabitethernet 0
Router#copy tftp: bootflash
:
Address or name of remote host []? 172.17.26.81
Source filename []? asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin
Destination filename [asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin]?
Accessing tftp://172.17.26.81/asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin...
Loading asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin from 172.17.26.81 (via
GigabitEthernet0/0/0): !!!!!!!!
[OK - 577420028 bytes]
577420028 bytes copied in 317.985 secs (1815872 bytes/sec)
Router#copy bootflash: stby-bootflash:

Source filename []? asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin
Destination filename [asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin]
?
Copy in progress...CCCCCC<output removed for brevity>
577420028 bytes copied in 154.951 secs (3726469 bytes/sec)
Router#dir bootflash:
Directory of bootflash:/
   11  drwx       16384  Sep 26 2011 00:30:14 +00:00  lost+found
208833  drwx        4096  Sep 26 2011 00:30:57 +00:00  .ssh
48193  drwx        4096  Mar 12 2013 20:03:38 +00:00  .prst_sync
128513  drwx        4096  Sep 23 2012 19:08:45 +00:00  .rollback_timer
192770  drwx        4096  Sep 23 2012 19:08:45 +00:00  .installer
   16  -r--         680  Oct 10 2012 20:27:21 +00:00  debug.conf
   22  -rw-     1135306  Nov 30 2012 02:15:24 +00:00  policy-250.pkg
224897  drwx        4096  Mar 12 2013 17:32:24 +00:00  vman_fdb
   13  -r--   577995644  Mar 12 2013 21:17:20 +00:00
asr1000rp2-adventerprisek9.03.08.00.S.153-1.S.bin
   14  -r--   577420028  Mar 12 2013 21:34:48 +00:00
asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin
192769  drwx        4096  May 30 2012 03:36:18 +00:00  virt_strg_pool_bf
   25  -rw-           0  Feb 26 2012 16:16:36 +00:00  virtual-instance-upgrade.conf
1940303872 bytes total (683945984 bytes free)
Router# dir stby-bootflash:
Directory of stby-bootflash:/
   11  drwx       16384  Apr 28 2009 03:43:50 +00:00  lost+found
16065  drwx        4096  Mar 12 2013 18:26:02 +00:00  .installer
208833  drwx        4096  May 30 2012 03:36:52 +00:00  virt_strg_pool_bf
```

```
48193  drwx        4096  Mar 12 2013 22:39:32 +00:00  .prst_sync
64257  drwx        4096  Mar 12 2013 18:26:02 +00:00  .rollback_timer
224897  drwx        4096  Mar 12 2013 18:18:18 +00:00  vman_fdb
112449  drwx        4096  Jan 26 2011 16:57:39 +00:00  .ssh
   12  -r--   577995644  Mar 12 2013 21:17:47 +00:00
asr1000rp2-adventerprisek9.03.08.00.S.153-1.S.bin
   14  -r--         680   Sep 4 2012 23:29:00 +00:00  debug.conf
   13  -r--   577420028  Mar 12 2013 21:18:12 +00:00
asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin
   20  -rw-           0  Feb 26 2012 16:16:36 +00:00  virtual-instance-upgrade.conf
1940303872 bytes total (685084672 bytes free)
Router#issu checkversion rp 1 file
stby-bootflash:asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin mdr
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting system installation readiness checking ---
Finished system installation readiness checking
--- Starting image verification ---
Compatibility check with running software on active RP
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Finished image verification
--- Starting mdr compatibility verification ---
Extracting consolidated package content
Checking and verifying packages contained in consolidated package
Creating candidate provisioning file
Processing candidate provisioning file
Finished mdr compatibility verification
SUCCESS: Software is ISSU MDR compatible.
Router# issu loadversion rp 1 file stby-bootflash:
asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin mdr

--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting system installation readiness checking ---
Finished system installation readiness checking
--- Starting image verification ---
Compatibility check with running software on active RP
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Finished image verification
--- Starting mdr compatibility verification ---
```

```
Extracting consolidated package content
Checking and verifying packages contained in consolidated package
Creating candidate provisioning file
Processing candidate provisioning file
Finished mdr compatibility verification
--- Starting installation changes ---
Setting up image to boot on next reset
Starting automatic rollback timer
Finished installation changes
SUCCESS: Software will now load.
*Mar 14 19:55:44.264: %IOSXE_OIR-6-OFFLINECARD: Card (rp) offline in slot R1
*Mar 14 19:55:44.288: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_NOT_PRESENT)
*Mar 14 19:55:44.288: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Mar 14 19:55:44.288: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Mar 14 19:55:46.347: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
*Mar 14 19:55:46.357: % Redundancy mode change to SSO
Router#
*Mar 14 19:59:37.523: %IOSXE_OIR-6-ONLINECARD: Card (rp) online in slot R1
*Mar 14 19:59:46.889: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_FOUND(4))
*Mar 14 19:59:46.889: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Mar 14 19:59:49.794: %REDUNDANCY-3-IPC: IOS versions do not match.

*Mar 14 20:00:58.364: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Mar 14 20:00:58.777: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Mar 14 20:00:59.778: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router# issu runversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting switchover readiness checking ---
Finished switchover readiness checking
SUCCESS: Standby RP will now become active
Initiating active RP failover
Mar 14 20:02:19.797 R0/0: %PMAN-5-EXITACTION: Process manager is exiting: reload fru action
 requested
Initializing Hardware ...
Calculating the ROMMON CRC ... CRC is correct
System Bootstrap, Version 15.2(1r)S, RELEASE SOFTWARE
Copyright (c) 1994-2011 by cisco Systems, Inc.
Current image running: Boot ROM0
Last reset cause: LocalSoft
[Output removed for brevity]
Press RETURN to get started!
*Mar 14 20:08:51.197: %REDUNDANCY-3-PEER_MONITOR: PEER_FOUND event on standby
*Mar 14 20:09:53.509: %SYS-5-RESTART: System restarted --
Cisco IOS Software, IOS-XE Software (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), Version 15.3(1)S,
 RELEASE SOFTWARE (fc4)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2012 by Cisco Systems, Inc.
Compiled Tue 27-Nov-12 11:13 by mcpre
*Mar 14 20:10:00.174: %PLATFORM-6-RF_PROG_SUCCESS: RF state STANDBY HOT
Router-stby>
```

At this point of the procedure, use your UNIX client to log in to the other RP:

```
[unix-server-1 ~]$ telnet 172.17.152.157 2013
User Access Verification
Username: user
```

```
Password: ********
Router>
*Mar 14 20:02:15.767: %LINK-3-UPDOWN: Interface Lsmpi0, changed state to up
*Mar 14 20:02:15.768: %LINK-3-UPDOWN: Interface EOBC0, changed state to up
*Mar 14 20:02:15.768: %LINK-3-UPDOWN: Interface LIIN0, changed state to up
*Mar 14 20:02:16.768: %LINEPROTO-5-UPDOWN: Line protocol on Interface Lsmpi0, changed state
 to up
*Mar 14 20:02:16.768: %LINEPROTO-5-UPDOWN: Line protocol on Interface EOBC0, changed state
 to up
*Mar 14 20:02:16.768: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0,
changed state to down
*Mar 14 20:02:16.768: %LINEPROTO-5-UPDOWN: Line protocol on Interface LIIN0, changed state
 to up
*Mar 14 20:02:17.498: %CRYPTO-6-ISAKMP_ON_OFF: ISAKMP is OFF
*Mar 14 20:02:17.498: %CRYPTO-6-GDOI_ON_OFF: GDOI is OFF
*Mar 14 20:02:17.756: %LINK-3-UPDOWN: Interface Null0, changed state to up
*Mar 14 20:02:17.757: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/0, changed state to up
*Mar 14 20:02:17.757: %LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback0, changed
state to up
*Mar 14 20:02:17.757: %LINK-3-UPDOWN: Interface Loopback0, changed state to up
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state to
administratively down
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/0/2, changed state to
administratively down
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/0/3, changed state to
administratively down
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/0/4, changed state to
administratively down
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/0/5, changed state to
administratively down
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/0/6, changed state to
administratively down
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/0/7, changed state to
administratively down
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/1/0, changed state to
administratively down
*Mar 14 20:02:17.765: %LINK-5-CHANGED: Interface GigabitEthernet0/1/1, changed state to
administratively down
*Mar 14 20:02:18.756: %LINEPROTO-5-UPDOWN: Line protocol on Interface Null0, changed state
 to up
*Mar 14 20:02:18.757: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0,
 changed state to up
*Mar 14 20:04:05.534: %CPPHA-7-START: F1: cpp_ha: CPP 0 preparing image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Mar 14 20:04:05.863: %CPPHA-7-START: F1: cpp_ha: CPP 0 startup init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Mar 14 20:04:07.781: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F1
*Mar 14 20:04:11.123: %CPPHA-7-START: F1: cpp_ha: CPP 0 running init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Mar 14 20:04:11.342: %CPPHA-7-READY: F1: cpp_ha: CPP 0 loading and initialization complete
*Mar 14 20:04:11.472: %IOSXE-6-PLATFORM: F1: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
*Mar 14 20:04:19.443: %PLATFORM-5-RESETCARD: R1/0: card_reset: ESP0 reset to acquire
provisioned software
*Mar 14 20:04:19.458: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F0
*Mar 14 20:04:21.546: %MDR-5-CARD_RESTART: R1/0: card_mdr: Minimal Disruptive Restart SIP0
 to acquire provisioned software
*Mar 14 20:04:29.266: %CMCC-5-SPA_MDR_INIT: SIP0: cmcc: SPA0 initiated Minimal Disruptive
Restart
*Mar 14 20:04:29.269: %CMCC-5-SPA_MDR_INIT: SIP0: cmcc: SPA1 initiated Minimal Disruptive
Restart
*Mar 14 20:04:29.270: %CMCC-5-SPA_MDR_INIT: SIP0: cmcc: SPA2 initiated Minimal Disruptive
Restart
*Mar 14 20:05:17.807: %IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 0
```

```
*Mar 14 20:05:21.287: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 0/0
*Mar 14 20:05:21.630: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 0/1
*Mar 14 20:05:21.896: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 0/2
*Mar 14 20:05:29.364: %LINK-3-UPDOWN: SIP0/0: Interface EOBC0/1, changed state to up
*Mar 14 20:05:34.058: %SPA_OIR-6-ONLINECARD: SPA (SPA-8X1GE-V2) online in subslot 0/0
*Mar 14 20:05:33.064: %CMCC-5-SPA_MDR_DONE: SIP0: cmcc: SPA0 completed Minimal Disruptive
Restart
*Mar 14 20:05:34.093: %LINK-3-UPDOWN: SIP0/1: Interface EOBC0/1, changed state to up
*Mar 14 20:05:35.125: %SPA_OIR-6-ONLINECARD: SPA (SPA-8X1GE-V2) online in subslot 0/1
*Mar 14 20:05:34.130: %CMCC-5-SPA_MDR_DONE: SIP0: cmcc: SPA1 completed Minimal Disruptive
Restart
*Mar 14 20:05:34.099: %TRANSCEIVER-6-INSERTED: SIP0/1: transceiver module inserted in
GigabitEthernet0/1/0
*Mar 14 20:05:35.046: %LINK-3-UPDOWN: SIP0/0: Interface GigabitEthernet0/0/0, changed state
 to up
*Mar 14 20:05:37.996: %LINK-3-UPDOWN: SIP0/2: Interface EOBC0/1, changed state to up
*Mar 14 20:05:43.230: %SPA_OIR-6-ONLINECARD: SPA (SPA-8X1GE-V2) online in subslot 0/2
*Mar 14 20:05:42.239: %CMCC-5-SPA_MDR_DONE: SIP0: cmcc: SPA2 completed Minimal Disruptive
Restart
*Mar 14 20:06:10.368: %CPPHA-7-START: F0: cpp_ha: CPP 0 preparing image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Mar 14 20:06:10.697: %CPPHA-7-START: F0: cpp_ha: CPP 0 startup init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Mar 14 20:06:12.158: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Mar 14 20:06:15.940: %CPPHA-7-START: F0: cpp_ha: CPP 0 running init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Mar 14 20:06:16.158: %CPPHA-7-READY: F0: cpp_ha: CPP 0 loading and initialization complete
*Mar 14 20:06:16.290: %IOSXE-6-PLATFORM: F0: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
*Mar 14 20:08:41.564: %IOSXE_OIR-6-ONLINECARD: Card (rp) online in slot R0
*Mar 14 20:08:51.188: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_FOUND(4))
*Mar 14 20:08:51.188: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Mar 14 20:08:54.115: %REDUNDANCY-3-IPC: IOS versions do not match.
*Mar 14 20:10:00.611: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Mar 14 20:10:01.026: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Mar 14 20:10:02.027: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router>enable
```

```
Router# issu acceptversion
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
Cancelling rollback timer
SUCCESS: Rollback timer cancelled
Router# issu commitversion
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting commit readiness checking ---
Finished commit readiness checking
--- Starting installation changes ---
Cancelling rollback timer
Saving image changes
Finished installation changes
Building configuration...
[OK]
SUCCESS: version committed: bootflash:asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.bin
```

After you confirm the software versions and configuration, reload the RP as shown in the following example:

```
Router# hw-module slot R0 reload
  Proceed with reload of module? [confirm]
```

```
*Mar 14 20:31:05.511: %IOSXE_OIR-6-OFFLINECARD: Card (rp) offline in slot R0
*Mar 14 20:31:05.587: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_NOT_PRESENT)
*Mar 14 20:31:05.588: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Mar 14 20:31:05.588: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Mar 14 20:31:07.622: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
*Mar 14 20:31:07.632: % Redundancy mode change to SSO
*Mar 14 20:34:29.337: %IOSXE_OIR-6-ONLINECARD: Card (rp) online in slot R0
*Mar 14 20:34:38.988: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_FOUND(4))
*Mar 14 20:34:38.988: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby insertion
 (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Mar 14 20:35:47.610: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Mar 14 20:35:48.023: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Mar 14 20:35:49.025: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
```

Using ISSU to Upgrade the Subpackages on a Cisco ASR 1006 Router and Cisco ASR 1013 Router (issu Command Set) with MDR

SUMMARY STEPS

1. **show version**
2. **copy running-config startup-config**
3. **mkdir** *URL-to-directory-name*
4. **ip tftp source-interface gigabitethernet** *port*
5. **copy tftp:** *URL-to-target-location*
6. **request platform software package expand file** *URL-to-consolidated-package*
7. **dir** *target-URL*
8. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP*
9. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
10. **product="kwdname="issu checkversion rp** *standby-RP product="name="*> **file** *standy-file-system*:**asr1000rp***version****.pkg mdr {force}**
11. **issu loadversion rp** *standby-RP* **file** *target-standbyRP-URL-for-sub-packages*:**asr1000rp***version****.pkg product="name=">force**
12. **hw-module slot** *standby-RP* **reload**
13. **issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{sipbase,sipspa}***version****.pkg slot***SIP-slot-number* **product="name=">mdr {force}**
14. **issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{elcbase,elcspa}***version****.pkg slot***ELC-slot-number* mdr **product="name=">{force}**
15. **issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp***version****.pkg slot** *standby*-ESP-*slot*
16. **issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp***version****.pkg force**
17. **show version** *active-RP* **provisioned**
18. **redundancy force-switchover**
19. **request platform software package clean**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**show version** **Example:** **show version** *active-rp* **installed** **Example:** **dir** *filesystem*: *directory* **Example:** **show platform** **Example:** **show redundancy states** **Example:** **Example:** Router# **show version** **Example:** Router# **show version r0 installed** **Example:** Router# **dir bootflash:** **Example:** Router# **show platform** **Example:** Router# **show redundancy states**	(Optional) Use the following commands to confirm the current router configuration, as follows: • **show version** and **show version** *active-rp* **installed**—Verify the running version of the Cisco IOS XE software on the router, and which file was used to boot the router, and where that file is stored. • **dir**—Confirm that the files that were used to boot the router are located in the directory. • **show platform**—Confirm the current status of the active and standby RPs. • **show redundancy states**—Confirm the operational and configured redundancy states.
Step 2	**copy running-config startup-config** **Example:** **Example:** Router# **copy running-config startup-config**	After you have confirmed that the system states are acceptable, save the current configuration to the startup configuration.
Step 3	**mkdir** *URL-to-directory-name* **Example:** **Example:**	Create a directory to store the consolidated package and subpackages. This directory must be created in most cases because the consolidated packages and subpackages have to be

	Command or Action	Purpose
	`Router# mkdir bootflash:tmp` **Example:**	separated from the subpackages that booted the router at this step of the procedure.
Step 4	**ip tftp source-interface gigabitethernet** *port* **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface. **Note** To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.
Step 5	**copy tftp:** *URL-to-target-location* **Example:** **Example:** `Router# copy tftp: bootflash:tmp`	Copy the consolidated package file into the directory created in Step 3 . The consolidated package in this step should not be copied into the same directory where the subpackages that are currently running your router are stored (the directory containing the packages.conf provisioning file from which the router was booted). **Note** type="tip" It is recommended that you copy the package onto a usb: or harddisk: file system for space considerations when performing this step of the procedure.
Step 6	**request platform software package expand file** *URL-to-consolidated-package* **Example:** **Example:** `Router# request platform software package expand file bootflash:tmp/asr1000rp2-adventerprisek.9.03.13.00.S.154-3.S-ext.bin` **Example:**	Extract the subpackages out of the consolidated package file into the temporary directory. **Note** Take extra care to extract the subpackages to a temporary subdirectory and do not delete any of the files currently running the router at this point of the procedure.To erase the files that were running on the router before the ISSU upgrade, enter the **request platform software package clean** command after the ISSU upgrade has been completed.
Step 7	**dir** *target-URL* **Example:** **Example:**	(Optional) Display the directory to confirm that the files were extracted.

	Command or Action	Purpose
	`Router# dir bootflash:tmp`	
Step 8	**copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpcontrol.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpios.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipspa.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcspa.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** `Router# copy`	Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.

	Command or Action	Purpose
	bootflash:tmp/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash: **Example:** Router# copy bootflash:tmp/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash: **Example:** **Example:** Router# copy bootflash:tmp/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash: **Example:** **Example:** Router# copy bootflash:tmp/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash: **Example:** **Example:** Router# copy bootflash:tmp/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash: **Example:** **Example:** Router# copy bootflash:tmp/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg bootflash: **Example:** **Example:** Router# copy bootflash:tmp/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:	

	Command or Action	Purpose

	Example:
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:`	

Step 9	**copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpcontrol.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:**	Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the standby RP are currently stored.

	Command or Action	Purpose
	copy *file-system*:**asr1000rp2-rpios.**_version_**.pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipbase.**_version_**.pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipspa.**_version_**.pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcbase.**_version_**.pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcspa.**_version_**.pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **Examples:** **Example:** Router# **copy bootflash:tmp/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:** **Example:** **Example:** Router# **copy bootflash:tmp/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:** **Example:** **Example:** Router# **copy bootflash:tmp/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:** **Example:**	

	Command or Action	Purpose

	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg`
	
	Example:
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# ccopy bootflash:tmp/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:	

	Command or Action	Purpose
	Example: `Router# ccopy bootflash:tmp/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	
Step 10	**product="kwdname="issu checkversion rp** *standby-RP product="name="*> **file** *standy-file-system*:**asr1000rp***version****.pkg mdr {force}** **Example:** **Example:** **Example:** `Router#issu checkversion rp 1 file stby-bootflash:asr1000rp2-*03.13.00.S.154-3.S-ext*pkg mdr`	Checks the ISSU MDR software packaging compatibility on the standby Route Processor (RP).
Step 11	**issu loadversion rp** *standby-RP* **file** *target-standbyRP-URL-for-sub-packages*:**asr1000rp***version****.pkg product="name=">force** **Example:** **Example:** `Router# issu loadversion rp 1 file stby-bootflash:asr1000rp2-*03.13.00.S.154-3.S-ext*pkg force`	Upgrade the RP subpackages on the standby RP, where the "**rp*"** wildcard is specified to capture all of the RP subpackages for the desired upgrade release.
Step 12	**hw-module slot** *standby-RP* **reload** **Example:** **Example:** `Router# hw-module slot R1 reload`	Reload the standby RP.
Step 13	**issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{sipbase,sipspa}***version****.pkg slot***SIP-slot-number* **product="name=">mdr {force}** **Example:** `issu commitversion`	Upgrade the SIP and SPA subpackages for each SIP on the router using MDR. **Note** This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step.

	Command or Action	Purpose

	Example:
	
	Example:
	
	Example:
	
	Example:
	
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{sipbase,sipspa}*03.13.00*pkg mdr`
	
	Example:
	
	`Router# issu commitversion`
		Note type="tip"
		
		You can use the **show ip interface brief** command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form *SIP-number*/*SPA-number*/*interface-number*) identify the SIP and SPA locations in the router.
		
		Note The *pattern* options used in this CLI (**sipbase** and **sipspa**) were introduced in Cisco IOS XE Release 2.1.2 and are not available in previous Cisco IOS XE Releases.

Step 14	**issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{elcbase,elcspa}***version***.pkg slot***ELC-slot-number* mdr **product="name=">{force}**
	
	Example:
	`issu commitversion`
	
	Example:
	
	Example:
	
	Example:
	
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*pkg mdr`
	
	Example:
	
	`Router# issu commitversion`
		Upgrade the Ethernet Line Card (ELC) and SPA subpackages for each ELC on the router using MDR.
		
		Note This step must be completed one ELC at a time, and repeated for each ELC installed on the router before performing the next step.
		
		Note type="tip"
		
		You can use the **show ip interface brief** command to identify which slots contain ELCs and SPAs. The interfaces with three numbers (in the form *ELC-number*/*SPA-number*/*interface-number*) identify the ELC and SPA locations in the router.
		
		Note The *pattern* options used in this CLI (**elcbase** and **elcspa**) were introduced in Cisco IOS XE Release 3.10S and are not available in previous Cisco IOS XE Releases.

Step 15	**issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp***version***.pkg slot** *standby*-ESP-*slot*
	
	Example:
	`issu commitversion`
	
	Example:
	`issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot active-ESP-slot`
		Upgrade the ESP Base subpackage on the standby and the active ESPs.
		
		After entering the **issu loadversion rp** command on the active RP, the ESP switchover will occur automatically. Minimal traffic interruption will occur as a result of this switchover.

	Command or Action	Purpose

	Example:
	`issu commitversion`
	Example:
	|
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*pkg slot 1`
	Example:
	`Router# issu commitversion`
	Example:
	Example:
	`Router# issu loadversion rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*pkg slot 0`
	Example:
	`Router# issu commitversion`	

Step 16	**issu loadversion rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp***version*****.pkg force** **Example:** | **Example:** `Router# issu loadversion rp 0 file bootflash:asr1000rp2*03.13.00.S.154-3.S-ext*pkg force`	Upgrade all of the subpackages on the active RP. **Note** This step is required to ensure that all subpackages on the router were upgraded as part of this procedure, and might upgrade some subpackages that would otherwise be missed in the process.

Step 17	**show version** *active-RP* **provisioned**
	Example:
	`show version active-RP installed`
	Example:
	|
	Example:
	`Router# show version r0 provisioned`
	Example:
		(Optional) Confirm that the subpackages are provisioned and installed.

	Command or Action	Purpose
	`Router# show version r0 installed`	
Step 18	**redundancy force-switchover** **Example:** **Example:** `Router# redundancy force-switchover`	Force an RP switchover to complete the upgrade.
Step 19	**request platform software package clean** **Example:** **Example:** `Router# request platform software package clean`	(Optional) Removes all unused subpackages files from the router.

Examples

The following example shows ISSU upgrade using subpackages on a Cisco ASR 1006 router or ASR 1013 router with a dual RP setup using the **issu** command set

```
Router# show version
Cisco IOS Software, IOS-XE Software (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), Version 15.3(2)S,
 RELEASE SOFTWARE (fc1)
<output removed for brevity>
System image file is bootflash:Active_Dir/packages.conf
<output removed for brevity>
cisco ASR1013 (RP2) processor with 4208889K/6147K bytes of memory.
Processor board ID FOX1343GJGC
20 Gigabit Ethernet interfaces
6 Ten Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1925119K bytes of eUSB flash at bootflash:.
78085207K bytes of SATA hard disk at harddisk:.
Configuration register is 0x2102
Router# show platform
Chassis type: ASR1013
Slot       Type                State                 Insert time (ago)
---------  ------------------- --------------------  -----------------
 2         ASR1000-SIP40       ok                    1d03h
 2/0       SPA-1X10GE-L-V2     ok                    1d03h
 2/1       SPA-1X10GE-L-V2     ok                    1d03h
 2/2       SPA-1X10GE-L-V2     ok                    1d03h
 2/3       SPA-1X10GE-L-V2     ok                    1d03h
 4         ASR1000-2T+20X1GE   ok                    1d03h
 4/0       BUILT-IN-2T+20X1GE  ok                    1d03h
 R0        ASR1000-RP2         ok, active            1d03h
 R1        ASR1000-RP2         ok, standby           1d03h
 F0        ASR1000-ESP100      ok, active            1d03h
 F1        ASR1000-ESP100      ok, standby           1d03h
```

```
 P0         ASR1013-PWR-AC      ok                    1d03h
 P1         ASR1013-PWR-AC      ok                    1d03h
 P2         ASR1013-PWR-AC      ok                    1d03h
 P3         ASR1013-PWR-AC      ps, fail              1d03h
Slot      CPLD Version        Firmware Version
--------- ------------------- ----------------------------------------
2         00200800            15.3(3r)S
4         00200800            15.3(1r)S
R0        10021901            15.3(3r)S
R1        10021901            15.3(3r)S
F0        12071700            15.3(3r)S
F1        12071700            15.3(3r)S
Router# show version r0 installed
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: a624f70f68c60292f4482433f43afd92487a55c4
Package: rpbase, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
<output removed for brevity>
Router# dir bootflash:Active_Dir
Directory of bootflash:/Active_Dir/
   20  -rw-    41104112   Aug 3 2013 15:05:40 +05:30
asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
   21  -rw-    50285296   Aug 3 2013 15:05:40 +05:30  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg

   22  -rw-    82514676   Aug 3 2013 15:05:40 +05:30
asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
   23  -rw-   101084628   Aug 3 2013 15:05:40 +05:30
asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
   17  -rw-        9059   Aug 3 2013 15:05:40 +05:30
asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
   24  -rw-    29012724   Aug 3 2013 15:05:40 +05:30
asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
   25  -rw-    49898964   Aug 3 2013 15:05:40 +05:30  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg

   26  -rw-    46557940   Aug 3 2013 15:05:40 +05:30
asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
   27  -rw-   114612988   Aug 3 2013 15:05:41 +05:30
asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
   28  -rw-    41954036   Aug 3 2013 15:05:41 +05:30
asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
   29  -rw-    60957428   Aug 3 2013 15:05:41 +05:30  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg

   19  -rw-        9838   Aug 3 2013 15:05:41 +05:30  packages.conf
1940303872 bytes total (503164928 bytes free)
Router# show redundancy states
       my state = 13 -ACTIVE
     peer state = 8  -STANDBY HOT
           Mode = Duplex
           Unit = Primary
        Unit ID = 48
Redundancy Mode (Operational) = sso
Redundancy Mode (Configured)  = sso
Redundancy State              = sso
     Maintenance Mode = Disabled
    Manual Swact = enabled
 Communications = Up
```

Examples

```
   client count = 108
 client_notification_TMR = 30000 milliseconds
          RF debug mask = 0x0
Router# copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router# mkdir harddisk:Target_Subs
Create directory filename [Target_Subs]?
Created dir harddisk:/Target_Subs
Router#
Router#
Router#
Router# request platform software package expand file
harddisk:Target_Subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin to
harddisk:Target_Subs
Verifying parameters
Validating package type
Copying package files
SUCCESS: Finished expanding all-in-one software package.
Router#
Router#
Router# dir harddisk:Target_Subs
Directory of harddisk:/Target_Subs/
3358722  -rw-   569597380   Aug 4 2013 18:45:38 +05:30
asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
7684099  -rw-    37557200   Aug 4 2013 18:46:43 +05:30
asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
7684100  -rw-    51194832   Aug 4 2013 18:46:43 +05:30
asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
7684101  -rw-    80657364   Aug 4 2013 18:46:43 +05:30
asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
7684102  -rw-    95446456   Aug 4 2013 18:46:43 +05:30
asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
7684097  -rw-        9381   Aug 4 2013 18:46:43 +05:30
asr1000rp2-packages-adventerprisek9.03.13.00.S.154-3.S-ext.conf
7684103  -rw-    23350232   Aug 4 2013 18:46:43 +05:30
asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
7684104  -rw-    37694900   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
7684105  -rw-    45536216   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
7684106  -rw-   118754284   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
7684107  -rw-    38380500   Aug 4 2013 18:46:44 +05:30
asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
7684108  -rw-    61760468   Aug 4 2013 18:46:44 +05:30
asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
7684098  -rw-       10165   Aug 4 2013 18:46:44 +05:30  packages.conf
78704144384 bytes total (9254879232 bytes free)
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC80657364 bytes copied in 11.951 secs (6749005 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC
95446456 bytes copied in 14.213 secs (6715433 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
```

```
Copy in progress...CCCCC
23350232 bytes copied in 3.441 secs (6785885 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC37694900 bytes copied in 5.598 secs (6733637 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC45536216 bytes copied in 6.797 secs (6699458 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?

Copy in progress...CCCCCC118754284 bytes copied in 17.798 secs (6672339 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CC38380500 bytes copied in 5.962 secs (6437521 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCCCC61760468 bytes copied in 9.408 secs (6564676 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCC37557200 bytes copied in 5.650 secs (6647292 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCC51194832 bytes copied in 7.397 secs (6921026 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC80657364 bytes copied in 132.765 secs (607520 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC95446456 bytes copied in 177.587 secs (537463 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC23350232 bytes copied in 55.396 secs (421515 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC
37694900 bytes copied in 86.199 secs (437301 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCC
```

Examples

```
45536216 bytes copied in 101.527 secs (448513 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?

Copy in progress...CCCCC118754284 bytes copied in 212.646 secs (558460 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC38380500 bytes copied in 83.162 secs (461515 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCC61760468 bytes copied in 119.391 secs (517296 bytes/sec)
Router#
Router#copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCC37557200 bytes copied in 57.106 secs (657675 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCCC51194832 bytes copied in 87.453 secs (585398 bytes/sec)
Router#
Router# issu checkversion rp 1 file
stby-bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg mdr force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
```

```
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting mdr compatibility verification ---
Finished mdr compatibility verification
SUCCESS: Software is ISSU MDR compatible.
Router#
Router#
Router# issu loadversion rp 1 file
stby-bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
```

Examples

```
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
Router#
Router#
Router# hw-module slot r1 reload
Proceed with reload of module? [confirm]Y
Router#
*Aug  4 19:14:01.721 IST: %IOSXE_OIR-6-OFFLINECARD: Card (rp) offline in slot R1
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_NOT_PRESENT)
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Aug  4 19:14:03.584 IST: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
*Aug  4 19:14:03.594 IST: % Redundancy mode change to SSO
Router#
*Aug  4 19:17:35.443 IST: %IOSXE_OIR-6-ONLINECARD: Card (rp) online in slot R1
Router#
*Aug  4 19:17:48.061 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_FOUND(4))
*Aug  4 19:17:48.061 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Aug  4 19:17:51.003 IST: %REDUNDANCY-3-IPC: IOS versions do not match.
```

```
*Aug  4 19:19:08.380 IST: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Aug  4 19:19:08.797 IST: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
*Aug  4 19:19:08.798 IST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router#
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3.S-ext*.pkg slot 2 mdr
force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting mdr compatibility verification ---
Finished mdr compatibility verification
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
```

Examples

```
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
Aug  4 19:20:48.949 IST: %MDR-5-CARD_RESTART: R0/0: card_mdr:  Minimal Disruptive Restart
SIP2 to acquire provisioned software  Applying final IPC and database definitions
*Aug  4 19:20:58.013 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc:  SPA0 initiated Minimal Disruptive
 Restart
*Aug  4 19:20:58.017 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc:  SPA1 initiated Minimal Disruptive
 Restart
*Aug  4 19:20:58.018 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc:  SPA2 initiated Minimal Disruptive
 Restart
*Aug  4 19:20:58.019 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc:  SPA3 initiated Minimal Disruptive
 Restart  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
Router#
*Aug  4 19:21:45.424 IST: %IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 2
*Aug  4 19:21:48.382 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/0
*Aug  4 19:21:48.733 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/1
*Aug  4 19:21:49.083 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/2
*Aug  4 19:21:49.430 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/3
*Aug  4 19:21:58.121 IST: %LINK-3-UPDOWN: SIP2/0: Interface EOBC2/1, changed state to up
*Aug  4 19:22:02.302 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/0
*Aug  4 19:22:02.312 IST: %CMCC-5-SPA_MDR_DONE: SIP2: cmcc:  SPA0 completed Minimal Disruptive
 Restart
*Aug  4 19:22:02.282 IST: %TRANSCEIVER-6-INSERTED: SIP2/0: transceiver module inserted in
TenGigabitEthernet2/0/0
*Aug  4 19:22:02.518 IST: %LINK-3-UPDOWN: SIP2/1: Interface EOBC2/1, changed state to up
*Aug  4 19:22:06.113 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/1
*Aug  4 19:22:06.126 IST: %CMCC-5-SPA_MDR_DONE: SIP2: cmcc:  SPA1 completed Minimal Disruptive
 Restart
*Aug  4 19:22:06.082 IST: %TRANSCEIVER-6-INSERTED: SIP2/1: transceiver module inserted in
TenGigabitEthernet2/1/0
*Aug  4 19:22:08.080 IST: %LINK-3-UPDOWN: SIP2/2: Interface EOBC2/1, changed state to up
*Aug  4 19:22:11.627 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/2
*Aug  4 19:22:11.637 IST: %CMCC-5-SPA_MDR_DONE: SIP2: cmcc:  SPA2 completed Minimal Disruptive
 Restart
*Aug  4 19:22:11.616 IST: %TRANSCEIVER-6-INSERTED: SIP2/2: transceiver module inserted in
TenGigabitEthernet2/2/0
```

```
*Aug  4 19:22:12.523 IST: %LINK-3-UPDOWN: SIP2/3: Interface EOBC2/1, changed state to up
*Aug  4 19:22:16.657 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/3
*Aug  4 19:22:16.668 IST: %CMCC-5-SPA_MDR_DONE: SIP2: cmcc:  SPA3 completed Minimal Disruptive
 Restart
*Aug  4 19:22:16.648 IST: %TRANSCEIVER-6-INSERTED: SIP2/3: transceiver module inserted in
TenGigabitEthernet2/3/0
Router#
Router#
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router#
Router#
Router#issu loadversion rp 0 file
harddisk:boot_dir/asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S.pkg slot 4 mdr
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
```

Examples

```
Checking package specific compatibility
Finished compatibility testing
--- Starting mdr compatibility verification ---
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping MDR Software Compatibility checks.
WARNING:
WARNING:
WARNING: ISSU between engineering builds with release strings in non-standard format.
Skipping MDR Software Compatibility checks.
WARNING:
Finished mdr compatibility verification
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Applying final IPC and database definitions
*Jan 13 00:41:37.778 PST: %MDR-5-CARD_RESTART: R0/0: card_mdr:  Minimal Disruptive Restart
 SIP0 to acquire provisioned software
*Jan 13 00:41:47.894 PST: %CMCC-5-SPA_MDR_INIT: SIP0: cmcc:  SPA0 initiated Minimal Disruptive
 Restart  Generating softwareversion information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software
SUCCESS: Finished installing software.
Router#
Router#


Disruptive Restart
Router#
Router#
Router#
Router#issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
```

```
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router#
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 1
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
```

Examples

```
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
    Restarting ESP1
  Applying final IPC and database definitions
Aug  4 19:29:16.751 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F1
*Aug  4 19:29:18.172 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active
 with no Standby  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
Router#
*Aug  4 19:30:50.972 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 preparing image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:30:51.362 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:30:53.088 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F1
Router#
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router#
Router# issu loadversion rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 0
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Aug  4 19:31:14.730 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:31:15.079 IST: %CPPHA-7-READY: F1: cpp_ha:  CPP 0 loading and initialization
```

```
completeFinished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
*Aug  4 19:31:15.309 IST: %IOSXE-6-PLATFORM: F1: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTERProcessing candidate provisioning file
*Aug  4 19:31:18.010 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active
 with ready StandbyConstructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
No new package files added
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
    Restarting ESP0
  Applying final IPC and database definitions
*Aug  4 19:32:46.187 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F0
*Aug  4 19:32:46.539 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F1 redundancy state is Active
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
```

Examples

```
  Finished update running software

SUCCESS: Finished installing software.
Router#
*Aug  4 19:34:19.748 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 preparing image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:20.139 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:21.858 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug  4 19:34:43.609 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:43.958 IST: %CPPHA-7-READY: F0: cpp_ha:  CPP 0 loading and initialization
complete
*Aug  4 19:34:44.190 IST: %IOSXE-6-PLATFORM: F0: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
*Aug  4 19:34:46.890 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Standby
Router#
Router# show platform
Chassis type: ASR1013
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 2        ASR1000-SIP40        ok                    1d04h
 2/0      SPA-1X10GE-L-V2      ok                    1d04h
 2/1      SPA-1X10GE-L-V2      ok                    1d04h
 2/2      SPA-1X10GE-L-V2      ok                    1d04h
 2/3       SPA-1X10GE-L-V2      ok                     1d04h
 4         ASR1000-2T+20X1GE    ok                     1d04h
 4/0       BUILT-IN-2T+20X1GE   ok                     1d04h
 R0        ASR1000-RP2          ok, active             1d04h
 R1        ASR1000-RP2          ok, standby            1d04h
 F0        ASR1000-ESP100       ok, standby            1d04h
 F1        ASR1000-ESP100       ok, active             1d04h
 P0        ASR1013-PWR-AC       ok                     1d04h
 P1        ASR1013-PWR-AC       ok                     1d04h
 P2        ASR1013-PWR-AC       ok                     1d04h
 P3        ASR1013-PWR-AC       ps, fail               1d04h
Slot      CPLD Version        Firmware Version
--------- ------------------- ----------------------------------------
2         00200800            15.3(3r)S
4         00200800            15.3(1r)S
R0        10021901            15.3(3r)S
R1        10021901            15.3(3r)S
F0        12071700            15.3(3r)S
F1        12071700            15.3(3r)S
Router#
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router#
Router#issu loadversion rp 0 file bootflash:Active_Dir/asr1000rp2*03.13.00.S.154-3.S-ext*.pkg
 force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
```

```
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
```

```
Router#
Router#
Router# show version R0 provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/0
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/1
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP1/0
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP1/1
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
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  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
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  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
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  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
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  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP5
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP5
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
```

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  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Router#
Router#
Router# show version R0 provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP0/0
  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP0/1
  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP0/1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
Package: rpbase, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP1/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP1/0
  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP1/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP1/1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP1/1
```

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  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP1/1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP0/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP0/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP0/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP0/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP0/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP0/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP0/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP0/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP1
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  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP1/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP1/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP1/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP1/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP1/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP1/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP1/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP1/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP2/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP2/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
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  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP2/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP2/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP3/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP3/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP3/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP3/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP3/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP3/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP3/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP3/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP4
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP4/0
```

```
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP4/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP4/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP4/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP5
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP5
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP5/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP5/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP5/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP5/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP5/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP5/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP5/3
```

Examples

```
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP5/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Router#
Router# redundancy force-switchover
Proceed with switchover to standby RP? [confirm]
<output removed for brevity>
Router#
Router# request platform software package clean
Cleaning up unnecessary package files
No path specified, will use booted path bootflash:Active_Dir/packages.conf
Cleaning bootflash:Active_Dir
  Scanning boot directory for packages ... done.
  Preparing packages list to delete ...
    asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    packages.conf
      File is in use, will not delete.
  done.

Files that will be deleted:
  asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
  asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
  packages.conf.00-
Do you want to proceed? [confirm]y
  Deleting file bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espbase.03.12.01.S.154-2.S.pkg ... done.
 Deleting file bootflash:Active_Dir/asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg ... done.

  Deleting file
bootflash:Active_Dir/asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg ... done.
```

```
  Deleting file bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/packages.conf.00- ... done.
SUCCESS: Files deleted.
```

Using ISSU to Upgrade Subpackages on a Cisco ASR 1006 Router or Cisco ASR 1013 Router (request platform command set) with MDR

This procedure can only be performed if the current ASR 1006 router or ASR 1013 router has two active RPs and both RPs are running subpackages.

To perform an ISSU upgrade with MDR using subpackages on a Cisco ASR 1006 router or ASR 1013 router with a dual RP setup using the **request platform** command set, follow the following instructions.

SUMMARY STEPS

1. **show version**
2. **mkdir** *URL-to-directory-name*
3. **ip tftp source-interface gigabitethernet** *port*
4. **copy tftp:** *URL-to-target-location*
5. **request platform software package expand file** *URL-to-consolidated-package*
6. **dir** *target-URL*
7. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-active-RP*
8. **copy** *file-system*:**asr1000rp2-espbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
9. **product="name=">request platform software package verify rp** *slot* **file** *URL* **mdr {force**
10. **request platform software package install rp** *standby-RP* **file** *target-standbyRP-URL-for-sub-packages*:**asr1000rp*******version**.**pkg force**
11. **hw-module slot** *standby-RP* **reload**
12. **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{sipbase,sipspa}*******version**.**pkg slot***SIP-slot-number* **product="name=">mdr {force**
13. **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-{elcbase,elcspa}*******version**.**pkg slot***ELC-slot-number* mdr **product="name=">{force**
14. **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp*******version**.**pkg slot** *standby-ESP-slot*
15. **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp*******version**.**pkg force**
16. **show version** *active-RP* **provisioned**
17. **redundancy force-switchover**
18. **request platform software package clean**

DETAILED STEPS

	Command or Action	Purpose

Step 1	**show version**
	Example:
	show version *active-rp* **installed**
	Example:
	show version *standby-rp* **installed**
	Example:
	dir *filesystem*:*<directory>*
	Example:
	show platform
	Example:
	`Router# show version`
	Example:
	`Router# show version r0 installed`
	Example:
	`Router# show version r1 installed`
	Example:
	`Router# dir bootflash:`
	Example:
	`Router# show platform`
		(Optional) Use the following commands to confirm the current router configuration, as follows:
		• **show version** and **show version** *active-rp* **installed**—Verify the running version of the Cisco IOS XE software on the router, and which file was used to boot the router, and where that file is stored.
		• **dir**—Confirm that the files that were used to boot the router are located in the directory.
		• **show platform**—Confirm the current status of the active and standby RPs.

Step 2	**mkdir** *URL-to-directory-name* **Example:** `Router# mkdir bootflash:tmp`	Creates a directory to store the consolidated package and subpackages. This directory must be created in most cases because the consolidated packages and subpackages have to be separated from the subpackages that booted the router at this step of the procedure.
Step 3	**ip tftp source-interface gigabitethernet** *port* **Example:** `Router(config)# ip tftp source-interface gigabitethernet 0`	Specifies the Gigabit Ethernet TFTP source-interface to be configured: slot/port—Specifies the location of the TFTP source-interface.

	Command or Action	Purpose
		Note To copy a file using TFTP through the Management Ethernet interface, the **ip tftp source-interface GigabitEthernet 0** command must be entered before entering the **copy tftp** command.
Step 4	**copy tftp:** *URL-to-target-location* **Example:** `Router# copy tftp: bootflash:tmp`	Copies the consolidated package file into the directory created in Step 2. The consolidated package in this step should not be copied into the same directory where the subpackages that are currently running your router are stored (the directory containing the packages.conf provisioning file from which the router was booted). **Tip** It is recommended that you copy the package onto a usb: or harddisk: file system for space considerations when performing this step of the procedure.
Step 5	**request platform software package expand file** *URL-to-consolidated-package* **Example:** `Router# request platform software package expand file bootflash:tmp/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin`	Extracts the subpackages out of the consolidated package file into the temporary directory. **Note** Take extra care to extract the subpackages to a temporary subdirectory and do not delete any of the files currently running the router at this point of the procedure.To erase the files that were running on the router before the ISSU upgrade, enter the **request platform software package clean** command after the ISSU upgrade has been completed.
Step 6	**dir** *target-URL* **Example:** `Router# dir bootflash:tmp`	(Optional) Displays the directory to confirm that the files were extracted.
Step 7	**copy** *file-system*:**asr1000rp2-espbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.**_version_.**pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:**	Copies the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.

	Command or Action	Purpose
	copy *file-system*:**asr1000rp2-rpbase.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpcontrol.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpios.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipbase.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-sipspa.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcbase.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** **copy** *file-system*:**asr1000rp2-elcspa.**_version_**.pkg** *URL-to-directory-of-sub-packages-active-RP* **Example:** Router# **copy bootflash:tmp/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:** **Example:** Router# **copy bootflash:tmp/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:** **Example:** Router# **copy bootflash:tmp/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:** **Example:**	

	Command or Action	Purpose

	`Router# copy bootflash:tmp/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S1.pkg bootflash:`
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg bootflash:`
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-eldspa.03.13.00.S.154-3.S-ext.pkg bootflash:`	

Step 8	**copy** *file-system*:**asr1000rp2-espbase.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-espx86base.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP* **Example:** **copy** *file-system*:**asr1000rp2-rpaccess.**_version_.**pkg** *URL-to-directory-of-sub-packages-standby-RP*	Copies the subpackages out of the temporary directory into the directory on the router where the subpackages running the standby RP are currently stored.

	Command or Action	Purpose

	Example:
	copy *file-system*:**asr1000rp2-rpbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
	Example:
	copy *file-system*:**asr1000rp2-rpcontrol.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
	Example:
	copy *file-system*:**asr1000rp2-rpios.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
	Example:
	copy *file-system*:**asr1000rp2-sipbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
	Example:
	copy *file-system*:**asr1000rp2-sipspa.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
	Example:
	copy *file-system*:**asr1000rp2-elcbase.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
	Example:
	copy *file-system*:**asr1000rp2-elcspa.***version*.**pkg** *URL-to-directory-of-sub-packages-standby-RP*
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	Example:
	`Router# copy bootflash:tmp/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	

	Command or Action	Purpose

	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	`Router# ccopy bootflash:tmp/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg`
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-eldbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
	
	Example:
	
	`Router# copy bootflash:tmp/asr1000rp2-eldspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`	

Step 9	**product="name=">request platform software package verify rp** *slot* **file** *URL* **mdr {force** **Example:** **Example:** `Router# request platform software package verify rp 1 file`	Verifies the RP subpackages on the standby RP, where the "**rp*"** wildcard is specified to capture all of the RP subpackages for the desired upgrade release.

	Command or Action	Purpose
	stby-bootflash:asr1000rp2-*03.13.00.S.154-3.S-ext*.pkg mdr	
Step 10	**request platform software package install rp** *standby-RP* **file** *target-standbyRP-URL-for-sub-packages***:asr1000rp***version****.pkg force** **Example:** **Example:** `Router# request platform software package install rp 1 file stby-bootflash:asr1000rp2-*03.13.00.S.154-3.S-ext*.pkg force`	Upgrades the RP subpackages on the standby RP, where the "**rp*"** wildcard is specified to capture all of the RP subpackages for the desired upgrade release.
Step 11	**hw-module slot** *standby-RP* **reload** **Example:** `Router# hw-module slot R1 reload`	Reloads the standby RP.
Step 12	**request platform software package install rp** *active-RP* **file** *URL-to-active-file-system***:asr1000rp2-{sipbase,sipspa}***version****.pkg slot***SIP-slot-number* **product="name=">mdr {force** **Example:** `Router# request platform software package install rp 0 file bootflash:asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3*pkg mdr`	Upgrades the SIP and SPA subpackages for each SIP on the router using MDR. **Note** This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step. **Tip** You can use the **show ip interface brief** command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form *SIP-number*/*SPA-number*/*interface-number*) identify the SIP and SPA locations in the router. **Note** The *pattern* options used in this CLI (**sipbase** and **sipspa**) were introduced in Cisco IOS XE Release 2.1.2 and are not available in previous Cisco IOS XE Releases.
Step 13	**request platform software package install rp** *active-RP* **file** *URL-to-active-file-system***:asr1000rp2-{elcbase,elcspa}***version****.pkg slot***ELC-slot-number** mdr **product="name=">{force** **Example:** `Router# request platform software package`	Upgrades the ELC and SPA subpackages for each ELC on the router using MDR. **Note** This step must be completed for one ELC at a time, and repeated for each ELC installed on the router before performing the next step.

	Command or Action	Purpose
	install rp 0 file bootflash:asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3*pkg mdr	**Tip** You can use the **show ip interface brief** command to identify which slots contain ELCs and SPAs. The interfaces with three numbers (in the form *ELC-number*/*SPA-number*/*interface-number*) identify the ELC and SPA locations in the router. **Note** The *pattern* options used in this CLI (**elcbase** and **elcspa**) were introduced in Cisco IOS XE Release 3.10S and are not available in previous Cisco IOS XE Releases.
Step 14	**request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp***version***.pkg slot** *standby-ESP-slot* **Example:** **request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp2-esp***version***.pkg slot** *active-ESP-slot* **Example:** Router# **request platform software package install rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*pkg slot 1** **Example:** Router# **request platform software package install rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*pkg slot 0**	Upgrades the ESP Base subpackage on the standby and the active ESPs. After entering the **issu loadversion rp** command on the active RP, the ESP switchover will occur automatically. Minimal traffic interruption will occur as a result of this switchover.
Step 15	**request platform software package install rp** *active-RP* **file** *URL-to-active-file-system*:**asr1000rp***version***.pkg force** **Example:** Router# **request platform software package install rp 0 file bootflash:asr1000rp2-*03.13.00.S.154-3.S-ext*.pkg force**	Upgrades all of the sub-packages on the active RP. **Note** This step is required to ensure that all subpackages on the router were upgraded as part of this procedure, and might upgrade some subpackages that would otherwise be missed in the process.
Step 16	**show version** *active-RP* **provisioned** **Example:**	(Optional) Confirms the subpackages are provisioned and installed.

	Command or Action	Purpose

	show version *active-RP* **installed**
	Example:
	`Router# show version r0 provisioned`
	Example:
	`Router# show version r0 installed`	

Step 17	**redundancy force-switchover** **Example:** `Router# redundancy force-switchover`	Forces an RP switchover to complete the upgrade.
Step 18	**request platform software package clean**	(Optional) Removes all unused subpackage files from the router.

Examples

This example shows ISSU upgrade using subpackages on a Cisco ASR 1006 router or ASR 1013 router with a dual RP setup:

```
Router# show version
Cisco IOS Software, IOS-XE Software (X86_64_LINUX_IOSD-ADVENTERPRISEK9-M), Version 15.3(2)S,
 RELEASE SOFTWARE (fc1)
<output removed for brevity>
System image file is "bootflash:Active_Dir/packages.conf"
<output removed for brevity>
cisco ASR1013 (RP2) processor with 4208889K/6147K bytes of memory.
Processor board ID FOX1343GJGC
20 Gigabit Ethernet interfaces
6 Ten Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
1925119K bytes of eUSB flash at bootflash:.
78085207K bytes of SATA hard disk at harddisk:.
Configuration register is 0x2102
Router# show platform
Chassis type: ASR1013
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 2        ASR1000-SIP40         ok                    1d03h
 2/0      SPA-1X10GE-L-V2       ok                    1d03h
 2/1      SPA-1X10GE-L-V2       ok                    1d03h
 2/2      SPA-1X10GE-L-V2       ok                    1d03h
 2/3      SPA-1X10GE-L-V2       ok                    1d03h
 4        ASR1000-2T+20X1GE     ok                    1d03h
 4/0      BUILT-IN-2T+20X1GE    ok                    1d03h
 R0       ASR1000-RP2           ok, active            1d03h
 R1       ASR1000-RP2           ok, standby           1d03h
 F0       ASR1000-ESP100        ok, active            1d03h
 F1       ASR1000-ESP100        ok, standby           1d03h
 P0       ASR1013-PWR-AC        ok                    1d03h
 P1       ASR1013-PWR-AC        ok                    1d03h
```

```
 P2       ASR1013-PWR-AC        ok                    1d03h
 P3       ASR1013-PWR-AC        ps, fail              1d03h
Slot      CPLD Version        Firmware Version
--------- ------------------- ------------------------------------
2         00200800            15.3(3r)S
4         00200800            15.3(1r)S
R0        10021901            15.3(3r)S
R1        10021901            15.3(3r)S
F0        12071700            15.3(3r)S
F1        12071700            15.3(3r)S
Router# show version r0 installed
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: a624f70f68c60292f4482433f43afd92487a55c4
Package: rpbase, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
<output removed for brevity>
Router# dir bootflash:Active_Dir
Directory of bootflash:/Active_Dir/
   20  -rw-    41104112   Aug 3 2013 15:05:40 +05:30
asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
   21  -rw-    50285296   Aug 3 2013 15:05:40 +05:30  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg

   22  -rw-    82514676   Aug 3 2013 15:05:40 +05:30
asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
   23  -rw-   101084628   Aug 3 2013 15:05:40 +05:30
asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
   17  -rw-        9059   Aug 3 2013 15:05:40 +05:30
asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
   24  -rw-    29012724   Aug 3 2013 15:05:40 +05:30
asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
   25  -rw-    49898964   Aug 3 2013 15:05:40 +05:30  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg

   26  -rw-    46557940   Aug 3 2013 15:05:40 +05:30
asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
   27  -rw-   114612988   Aug 3 2013 15:05:41 +05:30
asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
   28  -rw-    41954036   Aug 3 2013 15:05:41 +05:30
asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
   29  -rw-    60957428   Aug 3 2013 15:05:41 +05:30  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg

   19  -rw-        9838   Aug 3 2013 15:05:41 +05:30  packages.conf
1940303872 bytes total (503164928 bytes free)
Router#
Router# show redundancy states
       my state = 13 -ACTIVE
     peer state = 8  -STANDBY HOT
           Mode = Duplex
           Unit = Primary
        Unit ID = 48
Redundancy Mode (Operational) = sso
Redundancy Mode (Configured)  = sso
Redundancy State              = sso
     Maintenance Mode = Disabled
    Manual Swact = enabled
 Communications = Up
   client count = 108
```

Examples

```
 client_notification_TMR = 30000 milliseconds
           RF debug mask = 0x0
Router# copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router# mkdir harddisk:Target_Subs
Create directory filename [Target_Subs]?
Created dir harddisk:/Target_Subs
Router#
Router#
Router#
Router# request platform software package expand file
harddisk:Target_Subs/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin to
harddisk:Target_Subs
Verifying parameters
Validating package type
Copying package files
SUCCESS: Finished expanding all-in-one software package.
Router#
Router#
Router# dir harddisk:Target_Subs
Directory of harddisk:/Target_Subs/
3358722  -rw-   569597380   Aug 4 2013 18:45:38 +05:30
asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin
7684099  -rw-    37557200   Aug 4 2013 18:46:43 +05:30
asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
7684100  -rw-    51194832   Aug 4 2013 18:46:43 +05:30
asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
7684101  -rw-    80657364   Aug 4 2013 18:46:43 +05:30
asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
7684102  -rw-    95446456   Aug 4 2013 18:46:43 +05:30
asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
7684097  -rw-        9381   Aug 4 2013 18:46:43 +05:30
asr1000rp2-packages-adventerprisek9.03.13.00.S.154-3.S-ext.conf
7684103  -rw-    23350232   Aug 4 2013 18:46:43 +05:30
asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
7684104  -rw-    37694900   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
7684105  -rw-    45536216   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
7684106  -rw-   118754284   Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
7684107  -rw-    38380500   Aug 4 2013 18:46:44 +05:30
asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
7684108  -rw-    61760468   Aug 4 2013 18:46:44 +05:30
asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
7684098  -rw-       10165   Aug 4 2013 18:46:44 +05:30  packages.conf
78704144384 bytes total (9254879232 bytes free)
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC80657364 bytes copied in 11.951 secs (6749005 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC95446456 bytes copied in 14.213 secs (6715433 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCCC23350232 bytes copied in 3.441 secs (6785885 bytes/sec)
Router#
```

```
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC37694900 bytes copied in 5.598 secs (6733637 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC45536216 bytes copied in 6.797 secs (6699458 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
 bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?

Copy in progress...CCCC
118754284 bytes copied in 17.798 secs (6672339 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC38380500 bytes copied in 5.962 secs (6437521 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC61760468 bytes copied in 9.408 secs (6564676 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCC37557200 bytes copied in 5.650 secs (6647292 bytes/sec)
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC51194832 bytes copied in 7.397 secs (6921026 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCC80657364 bytes copied in 132.765 secs (607520 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCCC95446456 bytes copied in 177.587 secs (537463 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCCC
23350232 bytes copied in 55.396 secs (421515 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC37694900 bytes copied in 86.199 secs (437301 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC45536216 bytes copied in 101.527 secs (448513 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
```

Examples

```
 stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg]?

Copy in progress...CCCCC118754284 bytes copied in 212.646 secs (558460 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC38380500 bytes copied in 83.162 secs (461515 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCC61760468 bytes copied in 119.391 secs (517296 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC37557200 bytes copied in 57.106 secs (657675 bytes/sec)
Router#
Router# copy harddisk:Target_Subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
stby-bootflash:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCCCC51194832 bytes copied in 87.453 secs (585398 bytes/sec)
Router# request platform software package verify rp 1 file
stby-bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg mdr force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
```

```
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting mdr compatibility verification ---
MDR for CC type [0x762] located at slot [4] not supported by running package version
[03.12.01.S.154-2.S]
As SIP4 does not support MDR none of the SPA's within in may be upgraded using MDR
MDR compatibility failed - proceeding with forced MDR-upgrade - some traffic will be impacted
 during the upgrade
Finished mdr compatibility verification
SUCCESS: Software is ISSU MDR compatible.
Router# request platform software package install rp 1 file
stby-bootflash:Active_Dir/asr1000rp*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting local lock acquisition on R1 ---
Finished local lock acquisition on R1
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
```

Examples

```
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
Router# hw-module slot r1 reload
Proceed with reload of module? [confirm]
Router#
*Aug  4 19:14:01.721 IST: %IOSXE_OIR-6-OFFLINECARD: Card (rp) offline in slot R1
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_NOT_PRESENT)
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
*Aug  4 19:14:01.761 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault
(PEER_REDUNDANCY_STATE_CHANGE)
*Aug  4 19:14:03.584 IST: %RF-5-RF_RELOAD: Peer reload. Reason: EHSA standby down
*Aug  4 19:14:03.594 IST: % Redundancy mode change to SSO
Router#
*Aug  4 19:17:35.443 IST: %IOSXE_OIR-6-ONLINECARD: Card (rp) online in slot R1
Router#
*Aug  4 19:17:48.061 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_FOUND(4))
*Aug  4 19:17:48.061 IST: %REDUNDANCY-5-PEER_MONITOR_EVENT: Active detected a standby
insertion (raw-event=PEER_REDUNDANCY_STATE_CHANGE(5))
*Aug  4 19:17:51.003 IST: %REDUNDANCY-3-IPC: IOS versions do not match.

*Aug  4 19:19:08.380 IST: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Aug  4 19:19:08.797 IST: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
```

```
*Aug  4 19:19:08.798 IST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router#
Router#request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-{sipbase,sipspa}*03.13.00.S.154-3.S-ext*.pkg slot 2 mdr
force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting mdr compatibility verification ---
Finished mdr compatibility verification
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
```

Examples

```
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
*Aug  4 19:20:48.949 IST: %MDR-5-CARD_RESTART: R0/0: card_mdr:  Minimal Disruptive Restart
 SIP2 to acquire provisioned software  Applying final IPC and database definitions
*Aug  4 19:20:58.013 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc:  SPA0 initiated Minimal Disruptive
 Restart
*Aug  4 19:20:58.017 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc:  SPA1 initiated Minimal Disruptive
 Restart
*Aug  4 19:20:58.018 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc:  SPA2 initiated Minimal Disruptive
 Restart
*Aug  4 19:20:58.019 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc:  SPA3 initiated Minimal Disruptive
 Restart  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
Router#
*Aug  4 19:21:45.424 IST: %IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 2
*Aug  4 19:21:48.382 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/0
*Aug  4 19:21:48.733 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/1
*Aug  4 19:21:49.083 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/2
*Aug  4 19:21:49.430 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/3
*Aug  4 19:21:58.121 IST: %LINK-3-UPDOWN: SIP2/0: Interface EOBC2/1, changed state to up
*Aug  4 19:22:02.302 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/0
*Aug  4 19:22:02.312 IST: %CMCC-5-SPA_MDR_DONE: SIP2: cmcc:  SPA0 completed Minimal Disruptive
 Restart
*Aug  4 19:22:02.282 IST: %TRANSCEIVER-6-INSERTED: SIP2/0: transceiver module inserted in
TenGigabitEthernet2/0/0
*Aug  4 19:22:02.518 IST: %LINK-3-UPDOWN: SIP2/1: Interface EOBC2/1, changed state to up
*Aug  4 19:22:06.113 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/1
*Aug  4 19:22:06.126 IST: %CMCC-5-SPA_MDR_DONE: SIP2: cmcc:  SPA1 completed Minimal Disruptive
 Restart
*Aug  4 19:22:06.082 IST: %TRANSCEIVER-6-INSERTED: SIP2/1: transceiver module inserted in
TenGigabitEthernet2/1/0
*Aug  4 19:22:08.080 IST: %LINK-3-UPDOWN: SIP2/2: Interface EOBC2/1, changed state to up
*Aug  4 19:22:11.627 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/2
*Aug  4 19:22:11.637 IST: %CMCC-5-SPA_MDR_DONE: SIP2: cmcc:  SPA2 completed Minimal Disruptive
 Restart
*Aug  4 19:22:11.616 IST: %TRANSCEIVER-6-INSERTED: SIP2/2: transceiver module inserted in
TenGigabitEthernet2/2/0
*Aug  4 19:22:12.523 IST: %LINK-3-UPDOWN: SIP2/3: Interface EOBC2/1, changed state to up
*Aug  4 19:22:16.657 IST: %SPA_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot
2/3
```

```
*Aug  4 19:22:16.668 IST: %CMCC-5-SPA_MDR_DONE: SIP2: cmcc:  SPA3 completed Minimal Disruptive
 Restart
*Aug  4 19:22:16.648 IST: %TRANSCEIVER-6-INSERTED: SIP2/3: transceiver module inserted in
TenGigabitEthernet2/3/0
Router#
Router#
Router#issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router#
Router#request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*.pkg slot 4
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
```

```
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
  Applying final IPC and database definitions
  *Aug 4 19:41:12.290 IST: %MDR-5-CARD_RESTART: R0/0: card_mdr: Minimal Disruptive Restart
   SIP4 to acquire provisioned software
*Aug 4 19:41:22.408 IST: %CMCC-5-SPA_MDR_INIT: SIP4: cmcc: SPA0 initiated Minimal Disruptive
 Restart Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
*Aug 4 19:42:53.778 IST: %IOSXE_OIR-6-ONLINECARD: Card (cc) online in slot 4
*Aug 4 19:42:57.364 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 4/0
*Aug 4 19:43:17.541 IST: %LINK-3-UPDOWN: SIP4/0: Interface EOBC0/1, changed state to up
*Aug 4 19:43:25.251 IST: %SPA_OIR-6-ONLINECARD: SPA (BUILT-IN-2T+20X1GE) online in subslot
 4/0
*Aug 4 19:43:25.291 IST: %CMCC-5-SPA_MDR_DONE: SIP4: cmcc: SPA0 completed Minimal Disruptive
 Restart
*Aug 4 19:43:26.815 IST: %LINK-3-UPDOWN: SIP4/0: Interface GigabitEthernet4/0/0, changed
state to up
*Aug 4 19:43:28.267 IST: %LINK-3-UPDOWN: SIP4/0: Interface GigabitEthernet4/0/1, changed
state to up
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router#
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 1
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
```

```
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
No old package files removed
New files list:
  Added asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
```

```
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
    Restarting ESP1
  Applying final IPC and database definitions
*Aug  4 19:29:16.751 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F1
*Aug  4 19:29:18.172 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active
 with no Standby  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
Router#
*Aug  4 19:30:50.972 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 preparing image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:30:51.362 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:30:53.088 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F1
Router#
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router#
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 0
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
Processing image file constraints
Creating candidate provisioning file
*Aug  4 19:31:14.730 IST: %CPPHA-7-START: F1: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/1/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:31:15.079 IST: %CPPHA-7-READY: F1: cpp_ha:  CPP 0 loading and initialization
completeFinished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
*Aug  4 19:31:15.309 IST: %IOSXE-6-PLATFORM: F1: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTERProcessing candidate provisioning file
*Aug  4 19:31:18.010 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active
 with ready StandbyConstructing working set for candidate package set
Constructing working set for running package set
Checking command output
```

```
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
WARNING:
WARNING: Candidate software combination not found in compatibility database
WARNING:
Determining whether installation is valid
Creating matrix_file by locate_latest_matrix_file  /tmp/issu/provision/sw
Software sets are identified as compatible
Verifying image type compatibility
Checking IPC compatibility with running software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking package specific compatibility
Finished compatibility testing
--- Starting impact testing ---
Checking operational impact of change
Finished impact testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
No new package files added
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
--- Starting analysis of software changes ---
Finished analysis of software changes
--- Starting update running software ---
Blocking peer synchronization of operating information
Creating the command set placeholder directory
  Finding latest command set
  Finding latest command shortlist lookup file
  Finding latest command shortlist file
  Assembling CLI output libraries
  Assembling CLI input libraries
  Assembling Dynamic configuration files
  Applying interim IPC and database definitions
  Replacing running software
  Replacing CLI software
  Restarting software
    Restarting ESP0
  Applying final IPC and database definitions
*Aug  4 19:32:46.187 IST: %IOSXE_OIR-6-OFFLINECARD: Card (fp) offline in slot F0
*Aug  4 19:32:46.539 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F1 redundancy state is Active
  Generating software version information
  Notifying running software of updates
  Unblocking peer synchronization of operating information
Unmounting old packages
Cleaning temporary installation files
  Finished update running software

SUCCESS: Finished installing software.
Router#
*Aug  4 19:34:19.748 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 preparing image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:20.139 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 startup init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:21.858 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
```

Examples

```
*Aug  4 19:34:43.609 IST: %CPPHA-7-START: F0: cpp_ha:  CPP 0 running init image
/tmp/sw/fp/0/0/fpx86/mount/usr/cpp/bin/qfp-ucode-esp40
*Aug  4 19:34:43.958 IST: %CPPHA-7-READY: F0: cpp_ha:  CPP 0 loading and initialization
complete
*Aug  4 19:34:44.190 IST: %IOSXE-6-PLATFORM: F0: cpp_cp: Process
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
*Aug  4 19:34:46.890 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Standby
Router#
Router#
Chassis type: ASR1013
Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
 2        ASR1000-SIP40       ok                    1d04h
 2/0      SPA-1X10GE-L-V2     ok                    1d04h
 2/1      SPA-1X10GE-L-V2     ok                    1d04h
 2/2      SPA-1X10GE-L-V2     ok                    1d04h
 2/3      SPA-1X10GE-L-V2     ok                    1d04h
 4        ASR1000-2T+20X1GE   ok                    1d04h
 4/0      BUILT-IN-2T+20X1GE  ok                    1d04h
 R0       ASR1000-RP2         ok, active            1d04h
 R1       ASR1000-RP2         ok, standby           1d04h
 F0       ASR1000-ESP100      ok, standby           1d04h
 F1       ASR1000-ESP100      ok, active            1d04h
 P0       ASR1013-PWR-AC      ok                    1d04h
 P1       ASR1013-PWR-AC      ok                    1d04h
 P2       ASR1013-PWR-AC      ok                    1d04h
 P3       ASR1013-PWR-AC      ps, fail              1d04h
Slot      CPLD Version        Firmware Version
--------- ------------------- ----------------------------------------
2         00200800            15.3(3r)S
4         00200800            15.3(3r)S
R0        10021901            15.3(3r)S
R1        10021901            15.3(3r)S
F0        12071700            15.3(3r)S
F1        12071700            15.3(3r)S
Router#
Router# issu commitversion
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation changes ---
Cancelling rollback timer
Finished installation changes
SUCCESS: Installation changes committed
Router#
Router#
Router# request platform software package install rp 0 file
bootflash:Active_Dir/asr1000rp2*03.13.00.S.154-3.S-ext*.pkg force
--- Starting local lock acquisition on R0 ---
Finished local lock acquisition on R0
--- Starting installation state synchronization ---
Finished installation state synchronization
--- Starting file path checking ---
Finished file path checking
--- Starting image file verification ---
Checking image file names
Locating image files and validating name syntax
  Found asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
```

```
  Found asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
Verifying image file locations
Inspecting image file types
    WARNING: In-service installation of IOSD package
    WARNING: requires software redundancy on target RP
    WARNING: or on-reboot parameter
    WARNING: Automatically setting the on-reboot flag
    WARNING: In-service installation of RP Base package
    WARNING: requires software reboot of target RP
Processing image file constraints
Creating candidate provisioning file
Finished image file verification
--- Starting candidate package set construction ---
Verifying existing software set
Processing candidate provisioning file
Constructing working set for candidate package set
Constructing working set for running package set
Checking command output
Constructing merge of running and candidate packages
Checking if resulting candidate package set would be complete
Finished candidate package set construction
--- Starting compatibility testing ---
Determining whether candidate package set is compatible
Determining whether installation is valid
Determining whether installation is valid ... skipped
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking infrastructure compatibility with running software ... skipped
Checking package specific compatibility
Finished compatibility testing
--- Starting list of software package changes ---
Old files list:
  Removed asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  Removed asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
New files list:
  Added asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
  Added asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
Finished list of software package changes
--- Starting commit of software changes ---
Updating provisioning rollback files
Creating pending provisioning file
Committing provisioning file
Finished commit of software changes
SUCCESS: Software provisioned.  New software will load on reboot.
Router#
Router#
Router# show version R0 provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP0
```

```
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/0
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP0/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP0/1
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf8527c69e9
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP1/0
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg,
on: RP1/1
  Built: 2013-07-25_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bff2194ef568a56c76453625383ad2
Package: rpaccess, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67cda9116c97b62f25ab09
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP0
```

```
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP0/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/0
```

```
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP1/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
```

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  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP3/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
```

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  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP5
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP5
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP5/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Router#
Router#
Router# show version R0 provisioned
Package: Provisioning File, version: n/a, status: active
  File: bootflash:Active_Dir/packages.conf, on: RP0
  Built: n/a, by: n/a
```

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  File SHA1 checksum: c79075780592aec1312725f4a2357a034fda2d3b
Package: rpbase, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP0/0
  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: active
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP0/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP0/1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP0/1
  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP0/1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
Package: rpbase, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg, on: RP1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e48538
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP1/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP1/0
  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP1/0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
Package: rpcontrol, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg, on: RP1/1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 87b11f863f67fdf2610ee0769b929baab4c3efad
Package: rpios-adventerprisek9, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg, on:
RP1/1
  Built: 2013-03-25_18.51, by: mcpre
  File SHA1 checksum: b487136319da0a327844d353c77e533c53c56053
Package: rpaccess, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg, on: RP1/1
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 032bea36f74b19977b363243c99f02413b54104d
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_21.16, by: mcpre
```

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  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP0
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: espbase, version: 03.13.00.S.154-3.S-ext, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0
Package: espx86base, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg, on: ESP1
  Built: 2013-07-25_22.55, by: mcpre
  File SHA1 checksum: 571b8bb3866341badd6e24de677b98409f0c789c
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP0/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP0/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP0/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP0/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP0/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP0/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP0/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP0/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP1/0
  Built: 2013-03-25_17.28, by: mcpre
```

```
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP1/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP1/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP1/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP1/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP1/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP1/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP1/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipbase, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg, on: SIP2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 3b6a4838972840a995ff22e73fd2bae910b268a7
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP2/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP2/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP2/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg, on: SIP2/3
  Built: 2013-07-25_21.16, by: mcpre
```

```
  File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca
Package: elcspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP2/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP3/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP3/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP3/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP3/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP3/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP3/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP3/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP3/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP4
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg, on: SIP4
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
Package: sipspa, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP4/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: active
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/0
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP4/1
  Built: 2013-03-25_17.28, by: mcpre
```

```
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/1
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP4/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/2
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP4/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg, on: SIP4/3
  Built: 2013-07-25_21.16, by: mcpre
  File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499
Package: sipbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg, on: SIP5
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabd2687347c6921d
Package: elcbase, version: 03.12.01.S.154-2.S, status: inactive
  File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP5
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: fb1d6abd055b191909bc78ccac23b964de15ab8e
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP5/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP5/0
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP5/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP5/1
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP5/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP5/2
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Package: sipspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg, on: SIP5/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 644364aeea8ccebdd4af5b8d29367db50fc82b17
Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
  File: bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg, on: SIP5/3
  Built: 2013-03-25_17.28, by: mcpre
  File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abffd71c6
Router#
Router#redundancy force-switchover
Proceed with switchover to standby RP? [confirm]
```

Examples

```
<output removed for brevity>
Router#
Router# request platform software package clean
Cleaning up unnecessary package files
No path specified, will use booted path bootflash:Active_Dir/packages.conf
Cleaning bootflash:Active_Dir
  Scanning boot directory for packages ... done.
  Preparing packages list to delete ...
    asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg
      File is in use, will not delete.
    packages.conf
      File is in use, will not delete.
  done.

Files that will be deleted:
  asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg
  asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg
  asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
  asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg
  asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
  asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg
  packages.conf.00-
Do you want to proceed? [confirm]y
  Deleting file bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-elcspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-espx86base.03.12.01.S.154-2.S.pkg ... done.

  Deleting file
bootflash:Active_Dir/asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpcontrol.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S.pkg
 ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/asr1000rp2-sipspa.03.12.01.S.154-2.S.pkg ... done.
  Deleting file bootflash:Active_Dir/packages.conf.00- ... done.
SUCCESS: Files deleted.
Router#
Router#
```

Additional References

The following sections provide references related to the Software Upgrade Process feature.

Related Documents

Related Topic	Title
Performing an In Service Software Upgrade	High Availability Configuration Guide, Cisco IOS XE Release 3S

Standards

Standard	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIB	MIBs Link
None	To locate and download MIBs for selected platforms, Cisco IOS XE software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Software Upgrade Process

Table 3: Feature Information for Software Upgrade Process, on page 228 lists the release history for this feature on the Cisco ASR 1000 Series Routers.

For information on a feature in this technology that is not documented here, see the Cisco ASR 1000 Series Aggregation Services Routers Documentation Roadmap .

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS XE software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn . An account on Cisco.com is not required.

Note Table 3: Feature Information for Software Upgrade Process, on page 228 lists only the Cisco IOS XE software releases that introduced support for a given feature in a given Cisco IOS XE software release train. Unless noted otherwise, subsequent releases of that Cisco IOS XE software release train also support that feature.

Table 3: Feature Information for Software Upgrade Process

Feature Name	Releases	Feature Information
MDR Support for Cisco ASR 1000 Series Fixed Ethernet Line Card	Cisco IOS XE Release 3.12S	This feature was introduced. Added MDR support for the Cisco ASR 1000 Series Fixed Ethernet Line Card (ASR1000-2T+20X1GE).

Feature Name	Releases	Feature Information
Cisco ASR1000 Series Fixed Ethernet Line Card	Cisco IOS XE Release 3.10S	This feature was introduced. Added support for the Cisco ASR 1000 Series Fixed Ethernet Line Card.
Minimal Disruptive Restart ISSU	Cisco IOS XE Release 3.8S	This feature was introduced. Added support for the following GigabitEthernet SPAs to the Minimal Disruptive Restart (MDR) feature on Cisco ASR 1000 Series Router with SIP40: -SPA-2X1GE-V2 -SPA-5X1GE-V2 -SPA-8X1GE-V2 -SPA-10X1GE-V2 -SPA-1X10GE-L-V2
Software Upgrade Process	Cisco IOS XE Release 2.6	This feature was introduced. Cisco ASR 1000 Series Routers support the following software upgrade procedures: • In Service Software Upgrades (ISSU) for redundant platforms • Upgrade process with service impact for nonredundant platforms.