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 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 1002 Router, Cisco ASR 1002-X 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.

Table 6-1 lists Compatibility matrix of the software upgrade process for various Cisco ASR 1000 Series Aggregation Services Router.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Consolidated Package</th>
<th>SubPackage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco ASR 1006 Router</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Cisco ASR 1013 Router</td>
<td>Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Cisco ASR 1004 Router</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Cisco ASR 1002 Router</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Cisco ASR 1002-X Router</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Cisco ASR 1002-F Router</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Cisco ASR 1001 Router</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>Cisco ASR 1001-X Router</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
</tbody>
</table>
Finding Feature Information in This Module

Your Cisco IOS software release may not support all of the features documented in this module. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the “Feature Information for Software Upgrade Process” section on page 6-244.

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.

Contents

This guide discusses various software upgrade procedures and contains the following sections:

- Prerequisites for Software Upgrade Processes, page 6-2
- ISSU Upgrade for Redundant Platforms, page 6-2
- Upgrade Process with Service Impact for Nonredundant Platforms, page 6-70
- Minimal Disruptive Restart ISSU, page 6-150

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 and Cisco ASR 1002-X 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.

This section covers the following topics:

- Overview of ISSU on the Cisco ASR 1000 Series Routers, page 6-3
- ISSU Upgrade Procedures, page 6-6
- In Service One-Shot Software Upgrade Procedure, page 6-68
- ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2), page 6-69
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. See Table 6-2 to view an In Service table that addresses the contexts where limited interruption upgrades can be performed.

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 (see the “Using ISSU to Upgrade Subpackages (Prior to Cisco IOS XE Release 2.1.2)” section on page 6-69).

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.

Table 6-2 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 6-2 Limited Interruption Upgrade Compatibility Table

<table>
<thead>
<tr>
<th>Subpackage</th>
<th>Nonredundant RP and ESP</th>
<th>Redundant RP and ESP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consolidated package (any)</td>
<td>No (Reload required)</td>
<td>Yes (RP switchover)</td>
</tr>
<tr>
<td>RPBase</td>
<td>No (RP Reload required)</td>
<td>Yes (RP switchover)</td>
</tr>
<tr>
<td>RControl</td>
<td>Yes (in-service)</td>
<td>Yes (in-service)</td>
</tr>
<tr>
<td>RPAccess</td>
<td>Yes (in-service)</td>
<td>Yes (in-service)</td>
</tr>
<tr>
<td>RPIOS</td>
<td>Yes (IOS software switchover)</td>
<td>Yes (RP switchover)</td>
</tr>
<tr>
<td>ESPBase</td>
<td>No (ESP reload required)</td>
<td>Yes (via ESP switchover)</td>
</tr>
<tr>
<td>ESPX86Base</td>
<td>No (ESP reload required)</td>
<td>Yes (via ESP switchover)</td>
</tr>
</tbody>
</table>
### ISSU Upgrade for Redundant Platforms

#### ISSU Rollback Timer Overview

The Cisco ASR 1000 Series Router ISSU procedure has a rollback timer. Rollback timers are used 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.

<table>
<thead>
<tr>
<th>Subpackage</th>
<th>Nonredundant RP and ESP</th>
<th>Redundant RP and ESP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIPBase⁶</td>
<td>No (SPAs in SIP do not forward traffic during upgrade)</td>
<td>Yes (With Minimal Disruptive Restart (MDR), traffic is forwarded with minimal interruption)</td>
</tr>
<tr>
<td>SIPSPA⁷</td>
<td>No (SPAs in SIP do not forward traffic during upgrade)</td>
<td>Yes (With MDR, traffic is forwarded with minimal interruption)</td>
</tr>
<tr>
<td>ELCBase⁸</td>
<td>No (Built-in SPAs in an Ethernet Line Card (ELC) do not forward traffic during upgrade)</td>
<td>Yes (With MDR, traffic is forwarded with minimal interruption)</td>
</tr>
<tr>
<td>ELCSPA⁹</td>
<td>No (Built-in SPAs in an ELC do not forward traffic during upgrade)</td>
<td>Yes (With MDR, traffic is forwarded with minimal interruption)</td>
</tr>
<tr>
<td>NIM SSD¹⁰</td>
<td>No (NIM reload required)</td>
<td>NA</td>
</tr>
<tr>
<td>NGWIC T1E1¹¹</td>
<td>No (T1E1 do not forward traffic during upgrade)</td>
<td>NA</td>
</tr>
</tbody>
</table>

1. Only supported if software redundancy is configured on the RP.
2. ESP has to reload to complete ESPBase subpackage upgrade. All router traffic will be lost during ESP upgrade.
3. An ESP switchover occurs as part of the upgrade, so traffic is forwarded with minimal interruption.
4. 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.
5. An ESP switchover occurs as part of the upgrade, so traffic is forwarded with minimal interruption. ESPX86Base is not included in the RP1 bundle.
6. Any SIPBase upgrade will require the SPA interfaces to go down during the upgrade for all the SPAs in the SIP.
7. Any SIPSPA upgrade will require the SPA interfaces for that particular SPA to go down during the upgrade.
8. 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.
9. 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.
10. 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.
11. 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.
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. See Table 6-2 for a list of these subpackages. 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.

For information on configuring a second IOS process on a single RP, see the “Using Subpackages for Software Upgrade on a Cisco ASR 1002 Router or Cisco ASR 1004 Router (software upgrade Command Set)” section on page 6-90.

### 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 or 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:

- 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 (documented in the Release Notes for Cisco ASR 1000 Series Aggregation Services Routers as stated in the “Prerequisites for Software Upgrade Processes” section on page 6-2) 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.

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, page 6-7
- Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration, page 6-13
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 port`
2. `copy tftp: URL-to-target-location`
3. `copy source-file-system:filename standby-destination-filesystem`
4. `dir URL-to-target-location`
   
5. `dir URL-to-target-stby-location`
6. `issu loadversion rp upgrade-rp-number standby-file-system:filename`
7. `issu runversion`
8. `telnet ip-address port`
9. `issu acceptversion`
10. `issu commitversion`
11. `show version`, `show version active-RP running`, `show version active-RP provisioned`
    
    `show platform`
    
    `show running-configuration`
12. `hw-module slot RP slot number reload`
### ISSU Upgrade for Redundant Platforms

## Chapter 6  
Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

### Detailed Steps

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
</table>
| 1    | **ip tftp** source-interface gigabitethernet slot/port | 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. |
| 2    | **copy tftp**: URL-to-target-location  
**copy** source-file-system:filename  
standby-destination-filesystem | Copy the consolidated package onto the active RP. |
| 3    | **copy** source-file-system:filename  
standby-destination-filesystem | Copy the consolidated package onto the standby RP. |
| 4    | **dir** URL-to-target-location  
**dir** URL-to-target-stby-location | (Optional) Display the contents of the target directories to confirm the successful copy of the file package. |
| 5    | **issu loadversion** rp upgrade-rp-number  
standby-file-system:filename | 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**. |

---

**Example:**

**Step 1**

```shell
Router(config)# ip tftp source-interface gigabitethernet 0
```

**Step 2**

```shell
Router# copy tftp bootflash:
```

**Step 3**

```shell
Router# copy bootflash:asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin stby-bootflash:
```

**Step 4**

```shell
Router# dir bootflash:

Router# dir stby-bootflash:
```

**Step 5**

```shell
Router# issu loadversion rp 1 file stby-bootflash:asr1000rp1-adventerprisek9.02.01.122-33.XNA1.bin
```
## Step 6

**Command or Action**: `issu runversion`  
**Example**:  
```
Router# issu runversion
```

**Purpose**: 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

**Command or Action**: `telnet ip-address port`  
**Example**:  
```
[unix-server-1 ~]$ telnet 172.17.52.157 2003  
User Access Verification
Username: user
Password: ********
Router>
```

**Purpose**: 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

**Command or Action**: `issu acceptversion`  
**Example**:  
```
Router# issu acceptversion
```

(Optional) Stops the ISSU rollback timer.

This step is optional as long as Step 9 is completed before the rollback timer expires.

## Step 9

**Command or Action**: `issu commitversion`  
**Example**:  
```
Router# issu commitversion
```

Completes the ISSU upgrade.
ISSU Upgrade for Redundant Platforms

## Examples

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

```plaintext
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
```

## Step 10

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>show version</td>
<td>(Optional) Enter the <code>show version</code>, <code>show platform</code>, or <code>show running-configuration</code> commands to confirm that the upgrade completed successfully, as follows:</td>
</tr>
<tr>
<td>show version active-RP running</td>
<td>• <code>show version</code>—Confirm that the correct software version is running on your router and that the RP was booted from the correct file.</td>
</tr>
<tr>
<td>show version active-RP provisioned</td>
<td>• <code>show running-configuration</code>—Confirm that the booting configuration, in particular the boot system statements, are correct.</td>
</tr>
<tr>
<td>show platform</td>
<td>Tip Use the `show running-config</td>
</tr>
<tr>
<td>show running-configuration</td>
<td>• <code>show platform</code>—Confirm that both RP0 and RP1 are correctly running as active and standby.</td>
</tr>
</tbody>
</table>

## Step 11

Example:

```plaintext
Router# hw-module slot R0 reload
```

Reload the new software on the Standby RP.
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ISSU Upgrade for Redundant Platforms

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- 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# issu loadversion rp1 file
stby-bootflash:asr1000rp1-adventerprisek9.02.01.01.122-33.XNA1.bin
--- Starting installation state synchronization ---
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

ISSU Upgrade for Redundant Platforms

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 23:38:47.172: %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
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<additional output removed for brevity>

Cisco IOS Software, IOS-XE Software (PPC_LINUX_IOSD-ADVENTERPRISEK9-M), Version
12.2(33)XN2, 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-DF_PROG_SUCCESS: DF 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
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 or ASR 1013 Router (issu Command Set), page 6-13
- Using ISSU to Upgrade Subpackages on a Cisco ASR 1006 Router or ASR 1013 Router (request platform command set), page 6-42

Using ISSU to Upgrade the Subpackages on a Cisco ASR 1006 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 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 or ASR 1013 routers have two active RPs and both RPs are running subpackages.
SUMMARY STEPS

1. show version
   show version active-rp installed
   dir filesystem:<directory>
   show platform
   show redundancy-states
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 URL-to-consolidated-package
8. copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-active-RP

   Note In step 8, each individual subpackage that was extracted in step 6 is copied to the directory where
   the subpackages that are currently running the active RP are stored.

   copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-standby-RP
Note: In step 9, each individual subpackage that was extracted in step 6 is copied to the directory where the subpackages that are currently running the standby RP are stored.


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`
   `issu commitversion`
   Repeat the step 12, for each available SIP installed in the router before moving onto the next step.

   `issu commitversion`
   Repeat the step 13, for each available ELC installed in the router before moving onto the next step.

   `issu commitversion`

15. `issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot active-ESP-slot`
   `issu commitversion`

16. `show version active-RP provisioned`
   `show version active-RP installed`

17. `redundancy force-switchover`

18. `request platform software package clean`
## ISSU Upgrade for Redundant Platforms

### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>(Optional) Use the following commands to confirm the current router configuration, as follows:</td>
</tr>
<tr>
<td><code>show version</code></td>
<td></td>
</tr>
<tr>
<td><code>show version active-rp installed</code></td>
<td></td>
</tr>
<tr>
<td><code>dir filesystem: directory</code></td>
<td></td>
</tr>
<tr>
<td><code>show platform</code></td>
<td></td>
</tr>
<tr>
<td><code>show redundancy states</code></td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# show version</code></td>
<td></td>
</tr>
<tr>
<td><code>Router# show version r0 installed</code></td>
<td></td>
</tr>
<tr>
<td><code>Router# dir bootflash:</code></td>
<td></td>
</tr>
<tr>
<td><code>Router# show platform</code></td>
<td></td>
</tr>
<tr>
<td><code>Router# show redundancy states</code></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Step 2</strong></th>
<th>After you have confirmed that the system states are acceptable, save the current configuration to the startup configuration.</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>copy running-config startup-config</code></td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# copy running-config startup-config</code></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Step 3</strong></th>
<th>Create a directory to store the consolidated package and subpackages.</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>mkdir URL-to-directory-name</code></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# mkdir usb0:221subs</code></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Step 4</strong></th>
<th>Specifies the Gigabit Ethernet TFTP source-interface to be configured:</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ip tftp source-interface gigabitethernet port</code></td>
<td>slot/port—Specifies the location of the TFTP source-interface.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router(config)# ip tftp source-interface gigabitethernet 0</code></td>
<td></td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td>To copy a file using TFTP through the Management Ethernet interface, the <code>ip tftp source-interface GigabitEthernet 0</code> command must be entered before entering the <code>copy tftp</code> command.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Step 5</strong></th>
<th>Copy the consolidated package file into the directory created in <strong>Step 3</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>copy tftp: URL-to-target-location</code></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# copy tftp: usb0:221subs</code></td>
<td><strong>Tip</strong> 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.</td>
</tr>
</tbody>
</table>
## Step 6

**Command or Action:**

```
request platform software package expand file
URL-to-consolidated-package
```

**Example:**

```
Router# request platform software package
expand file
usb0:221subs/asr1000rp2-adventerprisek9.03.13.0
0.S.154-3.S-ext.bin
```

**Purpose:**

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

**Command or Action:**

```
dir target-URL
```

**Example:**

```
Router# dir usb0:221subs
```

**Purpose:**

(Optional) Display the directory to confirm that the files were extracted.
### ISSU Upgrade for Redundant Platforms

#### Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

#### Step 8

**Command or Action**

<table>
<thead>
<tr>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>copy file-system:asr1000rp2-espbase.version.pkg</code></td>
<td>Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.</td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-espx86base.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpaccess.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpcontrol.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpios.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipspa.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcspa.version.pkg</code></td>
<td></td>
</tr>
</tbody>
</table>

**Example:**

Router# `copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:`

Router# `copy usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:`

Router# `copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:`

Router# `copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:`

Router# `copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:`

Router# `copy usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg bootflash:`

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

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

Router# `copy usb0:221subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash:`

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

**Note**

Make sure to copy all the subpackage files extracted in step 6 to the current active packages directory.
### Step 9

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** Make sure to copy all the subpackage files extracted in step 6 to the current active packages directory.

#### Example:

```
Router# copy
usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
```
### Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

#### ISSU Upgrade for Redundant Platforms

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 10</strong></td>
<td></td>
</tr>
<tr>
<td><code>issu loadversion rp standby-RP file target-standbyRP-URL-for-sub-packages:asr1000rp* version*.pkg force</code></td>
<td>Upgrade the RP subpackages on the standby RP, where the &quot;rp*&quot; wildcard is specified to capture all of the RP subpackages for the desired upgrade release.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# issu loadversion rp 1 file stby-bootflash:asr1000rp*03.13.00.S.154-3.S-ext*.pkg force</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 11</strong></td>
<td></td>
</tr>
<tr>
<td><code>hw-module slot standby-RP reload</code></td>
<td>Reload the standby RP.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# hw-module slot R1 reload</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 12</strong></td>
<td></td>
</tr>
<tr>
<td><code>issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-{sipbase,sipspa}*version*.pkg slot SIP-slot-number force issu commitversion</code></td>
<td>Upgrade the SIP and SPA subpackages for each SIP on the router.</td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td></td>
</tr>
<tr>
<td>You can use the <code>show ip interface brief</code> command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form <code>SIP-number/SIP-slot-number/interface-number</code>) identify the SIP and SPA locations in the router.</td>
<td></td>
</tr>
<tr>
<td><strong>Tip</strong></td>
<td></td>
</tr>
<tr>
<td>You can use the <code>show ip interface brief</code> command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form <code>SIP-number/SIP-slot-number/interface-number</code>) identify the SIP and SPA locations in the router.</td>
<td></td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td></td>
</tr>
<tr>
<td>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 on page 6-69 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.</td>
<td></td>
</tr>
<tr>
<td><strong>Step 13</strong></td>
<td></td>
</tr>
<tr>
<td><code>issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-{elcbase,elcspa}*version*.pkg slot SIP-slot-number force issu commitversion</code></td>
<td>Upgrade the ELC and SPA subpackages for each ELC on the router.</td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td><strong>Tip</strong></td>
<td></td>
</tr>
<tr>
<td>You can use the <code>show ip interface brief</code> command to identify which slots contain ELCs and SPAs. The interfaces with three numbers (in the form <code>ELC-number/ELC-slot-number/interface-number</code>) identify the ELC and SPA locations in the router.</td>
<td></td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>
### ISSU Upgrade for Redundant Platforms

#### Command or Action

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td><code>issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot standby-ESP-slot issu commitversion</code></td>
<td>Upgrade the ESP Base subpackage on the standby and the active ESPs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After entering the <code>issu loadversion rp</code> command on the active RP, the ESP switchover will occur automatically. Minimal traffic interruption will occur as a result of this switchover.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Router# <code>issu loadversion rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 1</code> Router# <code>issu commitversion</code></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Router# <code>issu loadversion rp 0 file bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 0</code> Router# <code>issu commitversion</code></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td><code>issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp*version*.pkg force issu commitversion</code></td>
<td>Upgrade all of the subpackages on the active RP.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Router# <code>issu loadversion rp 0 file bootflash:asr1000rp2*03.13.00.S.154-3.S-ext*.pkg force issu commitversion</code></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td><code>show version active-RP provisioned show version active-RP installed</code></td>
<td>(Optional) Confirm that the subpackages are provisioned and installed.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Router# <code>show version r0 provisioned</code> Router# <code>show version r0 installed</code></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td><code>redundancy force-switchover</code></td>
<td>Force an RP switchover to complete the upgrade.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Router# <code>redundancy force-switchover</code></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td><code>request platform software package clean</code></td>
<td>(Optional) Removes all unused subpackages files from the router.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Router# <code>request platform software package clean</code></td>
<td></td>
</tr>
</tbody>
</table>

#### 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"
cisco ASR1013 (RP2) processor with 4208899K/6147K bytes of memory.
Processor board ID FOX1343G4GC 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: 3a9675142898cfac350d4e2f0e37bd9f4e48538

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
Built: 2013-03-25_18.48, by: mcpre
File SHA1 checksum: 87b11f863f67f0f2610ee0769b929baab4c3efad

Router# dir bootflash:Active_Dir
Directory of bootflash:/Active_Dir/
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-  5119432  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-  95466456  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-  45362616  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-rpipsbase.03.13.00.S.154-3.S-ext.pkg
7684108  -rw-  61760468  Aug 4 2013 18:46:44 +05:30
asr1000rp2-rpipspspa.03.13.00.S.154-3.S-ext.pkg
7684098  -rw-  10165  Aug 4 2013 18:46:44 +05:30
packages.conf
7870413843 bytes total (925489232 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...CCCCCCCC80657364 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...CCCCCCCC9546456 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...CCCCCCCC23350232 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...CCCCCCCC37694900 bytes copied in 5.598 secs (6733637 bytes/sec)
ISSU Upgrade for Redundant Platforms

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
4556216 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...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...CCCCC
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...CCC
80657364 bytes copied in 132.765 secs (607520 bytes/sec)

Router# copy harddisk:Target_Subs/asr1000rp2-esp86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
Destination filename [Active_Dir/asr1000rp2-esp86base.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]?
Copy in progress...CCCCC
2350232 bytes copied in 55.396 secs (421515 bytes/sec)
ISSU Upgrade for Redundant Platforms

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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...CCCCC118754284 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...CCCCC38380500 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...CCCCC61760468 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...CCCCC37557200 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-esp86base.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-esp86base.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
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-esp86base.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
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-esp86base.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-rios-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 19:19:08.380 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
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

ISSU Upgrade for Redundant Platforms

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: Candidate software combination not found in compatibility database

Software sets are identified as compatible
Verifying image type compatibility
Checking IPCM 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
ISSU Upgrade for Redundant Platforms

--- 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 19:21:58.121 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 19:22:02.518 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 19:22:12.523 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


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: Candidate software combination not found in compatibility database

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 ---
ISSU Upgrade for Redundant Platforms

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 19:24:34.196 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 GigabitEthernet4/0/0, 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 GigabitEthernet4/0/0, 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 ---
Upgrading 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

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 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
CPP_PFILTER_EA_EVENT__API_CALL__REGISTER
Processing 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 Standby
Processing candidate provisioning file
set
Constructing working set for candidate package
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: cmmand: 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: %IOSXR_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug 4 19:34:43.609 IST: %CPPHA-7-READY: F0: cpp_ha: CPP 0 loading and initialization complete
*Aug 4 19:34:44.190 IST: %IOSXR-OIR-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: cmmand: F0 redundancy state is
Standby

Router# **issu commit**
--- 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
--- 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-esp86base.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-rpion-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

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>ASR1000-SIP40</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/0</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/1</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/2</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/3</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>4</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>4/0</td>
<td>BUILT-IN-2T+20X1GE</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1000-RP2</td>
<td>ok, active</td>
<td>1d04h</td>
</tr>
<tr>
<td>R1</td>
<td>ASR1000-RP2</td>
<td>ok, standby</td>
<td>1d04h</td>
</tr>
<tr>
<td>F0</td>
<td>ASR1000-ESP100</td>
<td>ok, standby</td>
<td>1d04h</td>
</tr>
<tr>
<td>F1</td>
<td>ASR1000-ESP100</td>
<td>ok, active</td>
<td>1d04h</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P2</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P3</td>
<td>ASR1013-PWR-AC</td>
<td>ps, fail</td>
<td>1d04h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slot</th>
<th>CPLD Version</th>
<th>Firmware Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>00200800</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>4</td>
<td>00200800</td>
<td>15.2(1r)S</td>
</tr>
<tr>
<td>R0</td>
<td>10021901</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>R1</td>
<td>10021901</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>F0</td>
<td>12071700</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>F1</td>
<td>12071700</td>
<td>15.3(3r)S</td>
</tr>
</tbody>
</table>

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: c79075780592aeced312725f4a2357a034fda2d3b

Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
ISSU Upgrade for Redundant Platforms

Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

ISSU Upgrade for Redundant Platforms

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: 8a0a45ea5c7a856c0eef6726174461584f182c78

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: 85e9eab826b2f2194ef568a56c76453625383ad2

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: a360df0fd76a9b1ae67cda9116c97b62f25ab09

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: 8a0a45ea5c7a856c0eef6726174461584f182c78

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: 85e9eab826b2f2194ef568a56c76453625383ad2

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: a360df0fd76a9b1ae67cda9116c97b62f25ab09

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: 8a0a45ea5c7a856c0eef6726174461584f182c78

<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-ext.pkg, on: RP0
Built: 2013-03-25_18.48, by: mcpre
File SHA1 checksum: 3a9675142898c4350d4e24f0e7bd9f4e8538

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-ext.pkg, on: RP0/0
Built: 2013-03-25_18.48, by: mcpre
File SHA1 checksum: 87b11f863f67f9f2610ee0769b29baab4c3efad
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: b487136319da0327844d353c77e5333c53c56053

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

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-espaccess.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.154-3.S-ext.pkg
File is in use, will not delete...asr1000rp2-rpositor.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-espaccess.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]
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-espaccess.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.
Using ISSU to Upgrade Subpackages on a Cisco ASR 1006 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
   - show version active-rp installed
   - show version standby-rp installed
   - dir filesystem:<directory>
   - show platform

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 URL-to-consolidated-package

7. copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-esp86base.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   - copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-active-RP

   **Note**
   In step 7, each individual subpackage that was extracted in step 5 is copied to the directory where the subpackages that are currently running the active RP are stored.

8. copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-standby-RP
   - copy file-system:asr1000rp2-esp86base.version.pkg URL-to-directory-of-sub-packages-standby-RP
copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-standby-RP

Note

In step 8, each individual subpackage that was extracted in step 5 is copied to the directory where the subpackages that are currently running the standby RP are stored.

9. request platform software package install rp standby-RP file
   URL-to-standby-file-system: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:image slot SIP-slot-number force

   Repeat the step 11, for each available SIP installed in the router before moving onto the next 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

   Repeat the step 12, for each available ELC installed in the router before moving onto the next step.

13. request platform software package install rp active-RP file
    URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot standby-ESP-slot

    request platform software package install rp active-RP file
    URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot active-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
### ISSU Upgrade for Redundant Platforms

Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>(Optional) Use the following commands to confirm the current router configuration, as follows:</td>
</tr>
<tr>
<td>show version</td>
<td>• 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.</td>
</tr>
<tr>
<td>show version active-rp installed</td>
<td></td>
</tr>
<tr>
<td>show version standby-rp installed</td>
<td></td>
</tr>
<tr>
<td>dir filesystem:&lt;directory&gt;</td>
<td></td>
</tr>
<tr>
<td>show platform</td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router# show version</td>
<td></td>
</tr>
<tr>
<td>Router# show version r0 installed</td>
<td></td>
</tr>
<tr>
<td>Router# show version r1 installed</td>
<td></td>
</tr>
<tr>
<td>Router# dir bootflash:</td>
<td></td>
</tr>
<tr>
<td>Router# show platform</td>
<td></td>
</tr>
</tbody>
</table>

**Step 2**  mkdir **URL-to-directory-name**

**Example:**

Router# mkdir usb0:221subs

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.

**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: 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

**Command or Action**: request platform software package expand file

**Example**:

```plaintext
Router# request platform software package expand file
usb0:221subs/asr1000rp2-adventerprisek9.03.13.0
0.s.154-3.s-ext.bin
```

**Purpose**: 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

**Command or Action**: dir target-URL

**Example**:

```plaintext
Router# dir usb0:221subs
```

**Purpose**: (Optional) Displays the directory to confirm that the files were extracted.
### Command or Action

- `copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
- `copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-active-RP`

### Purpose
Copies the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.

### Note
Make sure to copy all the subpackage files extracted in step 5 to the current active packages directory.

### Example:

**Step 7**

```
Router# copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg bootflash:
```

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

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

```
Router# copy usb0:221subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy usb0:221subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:
```
### Command or Action

**Step 8**

```plaintext
copy file-system:asr1000rp2-espbase.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-espx86base.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-rpaccess.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-rpbase.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-rpcontrol.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-rpios.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-sipbase.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-sipspa.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-elcbase.version.pkg
URL-to-directory-of-sub-packages-standby-RP

copy file-system:asr1000rp2-elcspa.version.pkg
URL-to-directory-of-sub-packages-standby-RP
```

### Purpose

Copies the subpackages out of the temporary directory into the directory on the router where the subpackages running the standby RP are currently stored.

**Note** Make sure to copy all the subpackage files extracted in step 5 to the current active packages directory.

### Example:

```plaintext
Router# copy
usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:

Router# copy
usb0:221subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:
```
### ISSU Upgrade for Redundant Platforms

**Step 9**

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>request platform software package install rp standby-RP file target-standbyRP-URL-for-sub-packages:asr1000rp* version* .pkg force</code></td>
<td>Upgrades the RP subpackages on the standby RP, where the &quot;rp*&quot; wildcard is specified to capture all of the RP subpackages for the desired upgrade release.</td>
</tr>
</tbody>
</table>

**Example:**

```
Router# request platform software package install rp 1 file stby-bootflash:asr1000rp*03.13.00.S.154-3.S-ext *.pkg force
```

**Step 10**

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>hw-module slot standby-RP reload</code></td>
<td>Reloads the standby RP.</td>
</tr>
</tbody>
</table>

**Example:**

```
Router# hw-module slot R1 reload
```

**Step 11**

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>request platform software package install rp active-RP file URL-to-active-file-system:asr1000rp2-{sipbase,sipspa}*version* .pkg slot SIP-slot-number force</code></td>
<td>Upgrades the SIP and SPA subpackages for each SIP on the router.</td>
</tr>
</tbody>
</table>

**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/SIPA-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 on page 6-69 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.
### Command or Action

| 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:**
```plaintext
Router# request platform software package install rp file
```

**Purpose:** 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 |
|         | request platform software package install rp active-RP file
|         | URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot active-ESP-slot |

**Example:**
```plaintext
Router# request platform software package install rp 0 file
bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 1
Router# request platform software package install rp 0 file
bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg slot 0
```

**Purpose:** 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 14 | request platform software package install rp active-RP file
|         | URL-to-active-file-system:asr1000rp*version*.pkg force |

**Example:**
```plaintext
Router# request platform software package install rp 0 file
```

**Purpose:** 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 15 | show version active-RP provisioned
|         | show version active-RP installed |

**Example:**
```plaintext
Router# show version r0 provisioned
Router# show version r0 installed
```

(Optional) Confirms the subpackages are provisioned and installed.
## ISSU Upgrade for Redundant Platforms

### Command or Action

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>redundancy force-switchover</td>
<td>Forces an RP switchover to complete the upgrade.</td>
</tr>
<tr>
<td>17</td>
<td>request platform software package clean</td>
<td>(Optional) Removes all unused subpackage files from the router.</td>
</tr>
</tbody>
</table>

### 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)
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
12768K 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

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>ASR1000-SIP40</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/0</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/1</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/2</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/3</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>4</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>4/0</td>
<td>BUILT-IN-2T+20X1GE</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1000-RP2</td>
<td>ok, active</td>
<td>1d03h</td>
</tr>
<tr>
<td>R1</td>
<td>ASR1000-RP2</td>
<td>ok, standby</td>
<td>1d03h</td>
</tr>
<tr>
<td>F0</td>
<td>ASR1000-ESP100</td>
<td>ok, active</td>
<td>1d03h</td>
</tr>
<tr>
<td>F1</td>
<td>ASR1000-ESP100</td>
<td>ok, standby</td>
<td>1d03h</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P2</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P3</td>
<td>ASR1013-PWR-AC</td>
<td>ps, fail</td>
<td>1d03h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slot</th>
<th>CPLD Version</th>
<th>Firmware Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>00200800</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>4</td>
<td>00200800</td>
<td>15.2(1r)S</td>
</tr>
<tr>
<td>R0</td>
<td>10021901</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>R1</td>
<td>10021901</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>F0</td>
<td>12071700</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>F1</td>
<td>12071700</td>
<td>15.3(3r)S</td>
</tr>
</tbody>
</table>
```
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: a624f70f68c60292f4482433f43af92497a55c4
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: 3a9675142898cfac350d4e42f0e37bd9f4e8538
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: 87b11f863f67f6d2610ee0769b929baab4c3efad
<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-espbase.03.12.01.S.154-2.S.pkg
24  -rw-  29012724 Aug 3 2013 15:05:40 +05:30
    asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
25  -rw-  49899864 Aug 3 2013 15:05:40 +05:30
    asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
26  -rw-  46557940 Aug 3 2013 15:05:40 +05:30
    asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
27  -rw-  9059 Aug 3 2013 15:05:40 +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- 9388 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
7870414384 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...CCCCC
ISSU Upgrade for Redundant Platforms

Chapter 6      Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

progress...CCCC
95464556 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...CCCC
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...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...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...CCCC
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...CCCC
ISSU Upgrade for Redundant Platforms

Chapter 6 Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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...CCCCC
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...CCCCC
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...CCCCC
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...CCCCC 
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...CCCCC 
51194832 bytes copied in 87.453 secs (585398 bytes/sec) 

Router# request platform software package install rp 1 file 
--- 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 19:17:35.443 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 19:19:08.797 IST: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
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
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 19:21:49.083 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/1
*Aug 4 19:21:49.430 IST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 2/2
*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 19:22:02.518 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 19:22:12.523 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

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
Reinstalling 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 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: 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 ---
ISSU Upgrade for Redundant Platforms

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 /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
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-PP HA _STATUS: R0/0: cmd: 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/qfps-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/qfps-ucode-esp40
*Aug 4 19:34:21.858 IST: %IOSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*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-PP HA _STATUS: R0/0: cmd: F0 redundancy state is Standby

Router# show platform
Chassis type: ASR1013

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>ASR1000-SIP40</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/0</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/1</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/2</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/3</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>4</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>4/0</td>
<td>BUILT-IN-2T+20X1GE</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1000-RP2</td>
<td>ok, active</td>
<td>1d04h</td>
</tr>
<tr>
<td>R1</td>
<td>ASR1000-RP2</td>
<td>ok, standby</td>
<td>1d04h</td>
</tr>
<tr>
<td>F0</td>
<td>ASR1000-ESP100</td>
<td>ok, standby</td>
<td>1d04h</td>
</tr>
<tr>
<td>F1</td>
<td>ASR1000-ESP100</td>
<td>ok, active</td>
<td>1d04h</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P2</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P3</td>
<td>ASR1013-PWR-AC</td>
<td>ps, fail</td>
<td>1d04h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slot</th>
<th>CPLD Version</th>
<th>Firmware Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>00200800</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>4</td>
<td>00200800</td>
<td>15.2(1r)S</td>
</tr>
<tr>
<td>R0</td>
<td>10021901</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>R1</td>
<td>10021901</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>F0</td>
<td>12071700</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>F1</td>
<td>12071700</td>
<td>15.3(3r)S</td>
</tr>
</tbody>
</table>
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-elcmapa.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
ISSU Upgrade for Redundant Platforms

Chapter 6    Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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: c79075780592aee131275f4a2357a034fda2d3b

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
  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
  File SHA1 checksum: 94763274fc807489410e299a45fd73f7ce9d7499

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 22:31, by: mcpre
  File SHA1 checksum: 85e9eaf2826b6f2194ef568a567e6453625383ad2

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: c79075780592aeec1312725f4a2357a034fada2d3b

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: mcpree
  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: mcpree
  File SHA1 checksum: 87b11f863f67fddf2610ee0769b929baab4c3efad

  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: mcpree
  File SHA1 checksum: b487136319da0a32784dd353c7e533c53c56053

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: mcpree
  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.png
    File is in use, will not delete ...
    asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.png
    File is in use, will not delete ...
    asr1000rp2-espbase.03.13.00.S.154-3.S-ext.png
    File is in use, will not delete ...
    asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.png
    File is in use, will not delete ...
    asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.png
    File is in use, will not delete ...
    asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.png
    File is in use, will not delete ...
    asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.png
    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.png
    asr1000rp2-elcspa.03.12.01.S.154-2.S.png
    asr1000rp2-espbase.03.12.01.S.154-2.S.png
    asr1000rp2-espx86base.03.12.01.S.154-2.S.png
    asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.png
In Service One-Shot Software Upgrade Procedure

In service one-shot software upgrade procedure is an alternate to the standard ISSU procedure (see, ISSU Upgrade Procedures, page 6-6) 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. For more information see, “Minimal Disruptive Restart ISSU” section on page 6-150.

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), page 6-69
- Using ISSU to Upgrade Subpackages (Prior to Cisco IOS XE Release 2.1.2), page 6-69

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. See the “Using ISSU to Perform a Consolidated Package Upgrade in a Dual Route Processor Configuration” section on page 6-7 for instructions on performing this process.

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.

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:

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:

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:

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:

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.

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 1002, Cisco ASR 1002-X, or Cisco ASR 1004 Router, page 6-71
- Using Subpackages for Software Upgrade on a Cisco ASR 1001 Router, Cisco ASR 1001-X Router or a Cisco ASR 1002-X Router, page 6-73
- Using Subpackages for Software Upgrade on a Cisco ASR 1002 Router or Cisco ASR 1004 Router (software upgrade Command Set), page 6-90
- Using Subpackages for Software Upgrade on a Cisco ASR 1002 Router or Cisco ASR 1004 Router (request platform Command Set), page 6-119

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

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

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

```
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 1002, Cisco ASR 1002-X, or Cisco ASR 1004 Router with less than required DRAM memory on the RP, SSO cannot be configured on your RP. For more information, see Prerequisites for Software Upgrade Processes, page 6-2.

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

```
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:
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:

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

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

    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:

    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:

    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):

    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 in **Step 5**.

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

    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:

```
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.

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:

```
Router# show platform
Chassis type: ASR1004

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>ASR1000-SIP10</td>
<td>ok</td>
<td>00:52:34</td>
</tr>
<tr>
<td>0/0</td>
<td>SPA-2X1GE-V2</td>
<td>ok</td>
<td>00:51:30</td>
</tr>
<tr>
<td>0/1</td>
<td>SPA-2XT3/E3</td>
<td>ok</td>
<td>00:51:24</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1000-RP1</td>
<td>ok, active</td>
<td>00:52:34</td>
</tr>
<tr>
<td>R0/0</td>
<td>ok, active</td>
<td>00:52:34</td>
<td></td>
</tr>
<tr>
<td>R0/1</td>
<td>ok, standby</td>
<td>00:51:00</td>
<td></td>
</tr>
<tr>
<td>F0</td>
<td>ASR1000-ESP10</td>
<td>ok, active</td>
<td>00:52:34</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1004-PWR-AC</td>
<td>ok</td>
<td>00:51:57</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1004-PWR-AC</td>
<td>ok</td>
<td>00:51:57</td>
</tr>
</tbody>
</table>
```

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

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

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

**SUMMARY STEPS**

1. `show version`
2. `redundancy mode sso`
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 URL-to-consolidated-package
copy file-system:asr1001-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP
copy file-system:asr1001-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP
copy file-system:asr1001-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP
copy file-system:asr1001-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP
copy file-system:asr1001-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP
copy file-system:asr1001-sipspa.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

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

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>(Optional) Use the following commands to confirm the current router configuration, as follows:</td>
</tr>
<tr>
<td>show version</td>
<td>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.</td>
</tr>
<tr>
<td>show version installed</td>
<td></td>
</tr>
<tr>
<td>dir filesystem:&lt;directory&gt;</td>
<td></td>
</tr>
<tr>
<td>show platform</td>
<td></td>
</tr>
<tr>
<td>show redundancy-states</td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router# show version</td>
<td></td>
</tr>
<tr>
<td>Router# show version r0 installed</td>
<td></td>
</tr>
<tr>
<td>Router# dir bootflash:</td>
<td></td>
</tr>
<tr>
<td>Router# show platform</td>
<td></td>
</tr>
<tr>
<td>Router# show redundancy-states</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Configure SSO if it is not already configured.</td>
</tr>
<tr>
<td>redundancy</td>
<td></td>
</tr>
<tr>
<td>mode sso</td>
<td>Note: Save the configuration after making this configuration step.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router(config)# redundancy</td>
<td></td>
</tr>
<tr>
<td>Router(config-red)# mode sso</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Create a directory to store the consolidated package and subpackages.</td>
</tr>
<tr>
<td>mkdir URL-to-directory-name</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router# mkdir 221subs</td>
<td></td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>Specifies the Gigabit Ethernet TFTP source-interface to be configured:</td>
</tr>
<tr>
<td>ip tftp source-interface gigabitethernet port</td>
<td>slot/port—Specifies the location of the TFTP source-interface.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router(config)# ip tftp source-interface gigabitethernet 0</td>
<td>Note: To copy a file using TFTP through the Management Ethernet interface, the <strong>ip tftp source-interface GigabitEthernet 0</strong> command must be entered before entering the <strong>copy tftp</strong> command.</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>Copy the consolidated package file into the directory created in <strong>Step 3</strong>.</td>
</tr>
<tr>
<td>copy tftp: URL-to-target-location</td>
<td>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).</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router# copy tftp: 221subs</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Step 6

**request platform software package expand file**

URL-to-consolidated-package

(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
Router# dir 221subs

**Purpose**

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

(Optional) Display the directory to confirm that the files were extracted.

**Example:**

Router# dir 221subs

### Step 8

**copy** file-system: asr1001-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP

**copy** file-system: asr1001-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP

**copy** file-system: asr1001-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP

**copy** file-system: asr1001-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP

**copy** file-system: asr1001-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP

**copy** file-system: asr1001-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP

**copy** file-system: asr1001-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP

**Example:**

Router# copy
221subs/asr1001-espbase.03.02.01.S.151-1.S1_2.pkg bootflash:

Router# copy
221subs/asr1001-rpaccess.03.02.01.S.151-1.S1_2.pkg bootflash:

Router# copy
221subs/asr1001-rpbase.03.02.01.S.151-1.S1_2.pkg bootflash:

Router# copy
221subs/asr1001-rpcontrol.03.02.01.S.151-1.S1_2.pkg bootflash:

Router# copy
221subs/asr1001-rpios-universalk9.03.02.01.S.151-1.S1_2.pkg bootflash:

Router# copy
221subs/asr1001-sipbase.03.02.01.S.151-1.S1_2.pkg bootflash:

Router# copy
221subs/asr1001-sipspa.03.02.01.S.151-1.S1_2.pkg bootflash:

**Purpose**

Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.
### Upgrade Process with Service Impact for Nonredundant Platforms

**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:**

```
Router# issu commitversion
```

Once the SSO state is reached, commit the software version.

**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.
### Command or Action

**Step 15**  
For ASR 1001 and ASR 1002-X  
*issu loadversion rp 0 file file-system:asr1001-(rpbase,sipbase,sipspa,espbase)*\version*.pkg force*  

**Example:**  
```
Router# issu loadversion rp 0 file bootflash:221subs/asr1001-(rpbase,sipbase,sipspa,espbase)*03.02.01.S.151-1.S1_2.pkg force
```

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)*03.02.01.S.151-1.S1_2.pkg force
```

### Purpose

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.

**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)” section on page 6-69 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.

**Step 16**  
*show version installed*  

**Example:**  
```
Router# show version installed
```

(Optional) Verify that the subpackages are properly installed.

**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 to avoid conflicts in the software base.

### 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.
Upgrade Process with Service Impact for Nonredundant Platforms

softw.

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: 59ba43f88cf2a0e7bc06b66fad0e574b6df42a62

<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

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>ASR1001</td>
<td>ok</td>
<td>5d07h</td>
</tr>
<tr>
<td>0/0</td>
<td>ASR1001</td>
<td>ok</td>
<td>5d07h</td>
</tr>
<tr>
<td>0/1</td>
<td>SPA-2X1GE-V2</td>
<td>ok</td>
<td>5d07h</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1001</td>
<td>ok, active</td>
<td>5d07h</td>
</tr>
<tr>
<td>F0</td>
<td>ASR1001</td>
<td>ok, active</td>
<td>5d07h</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1001-PWR-AC</td>
<td>ps, fail</td>
<td>5d07h</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1001-PWR-AC</td>
<td>ok</td>
<td>5d07h</td>
</tr>
<tr>
<td>P2</td>
<td>ASR1001-FANTRAY</td>
<td>ok</td>
<td>5d07h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slot</th>
<th>CPLD Version</th>
<th>Firmware Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1001050E</td>
<td>12.2(20090526:143323) [gschnorr-mcp__...</td>
</tr>
<tr>
<td>R0</td>
<td>10010514</td>
<td>12.2(20090526:143323) [gschnorr-mcp__...</td>
</tr>
<tr>
<td>F0</td>
<td>1001050E</td>
<td>12.2(20090526:143323) [gschnorr-mcp__...</td>
</tr>
</tbody>
</table>

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-sipsfa.03.02.01.S.151-1.S1_2.pkg
72020  -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...CCCCC
51904716 bytes copied in 5.478 secs (947512 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...CCCCC
27961548 bytes copied in 2.992 secs (9345417 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...CCCCC
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...CCCCC
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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

--- 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 16:29:29.214: %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#
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

*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

*Mar 15 16:31:00.014: %RENDENCY-3-SWITCHOVER: RP switchover (PEER_NOT_PRESENT)
*Mar 15 16:31:00.015: %RENDENCY-3-SWITCHOVER: RP switchover (PEER_DOWN)
*Mar 15 16:31:00.015: %RENDENCY-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 EOB0, 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 EOB0, cp
*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, cp
*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 16:31:03.322: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEtn
*Mar 15 16:31:43.189: %RENDENCY-5-PEER_MONITOR_EVENT: Active detected a stand)
*Mar 15 16:31:43.189: %RENDENCY-5-PEER_MONITOR_EVENT: Active detected a stand)
*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
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 16:36:49.365: %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:
Upgrade Process with Service Impact for Nonredundant Platforms

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.
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Skipping ISSU Software Compatibility checks.
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 ... 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.

These instructions assume two IOS processes are active on the RP and that the router is already running
using subpackages. For information on checking and configuring two IOS processes on the same RP, see
the “Using Subpackages for Software Upgrade on a Cisco ASR 1002 Router or Cisco ASR 1004 Router
/software upgrade Command Set)” section on page 6-90.

SUMMARY STEPS

1. show version
   show version installed
   dir filesystem:<directory>
   show platform
   show redundancy-states
2. redundancy
   mode sso
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 URL-to-consolidated-package
8. copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP
    copy file-system:asr1000rp2-espx86base.version.pkg
    URL-to-directory-of-sub-packages-active-RP
Upgrade Process with Service Impact for Nonredundant Platforms

**Note** In step 8, each individual subpackage that was extracted in step 6 is copied to the directory where the subpackages that are currently running the active RP are stored.

9. `issu loadversion rp 0 file`  
   `file-system:asr1000rp2-{rpaccess,rpios,rpcontrol}*version-string*.pkg bay standby-bay force`  
   `issu commitversion`

10. `redundancy force-switchover`

11. `show platform`

12. `issu loadversion rp 0 file`  
   `file-system:asr1000rp2-{rpaccess,rpios,rpcontrol}*version-string*.pkg bay standby-bay force`  
   `issu commitversion`

13. `issu loadversion rp 0 file file-system:asr1000rp2-{sipbase,sipspa}*version*.pkg slot SIP-slot-number force`  
   `issu commitversion`

   Repeat the step 13, for each available SIP installed in the router before moving onto the next step.

14. `issu loadversion rp 0 file file-system:asr1000rp2-{elcbase,elcspa}*version*.pkg slot ELC-slot-number force`  
   `issu commitversion`

   Repeat the step 14, for each available ELC installed in the router before moving onto the next step.

15. `issu loadversion rp 0 file file-system:asr1000rp2-esp*version*.pkg force`  
   `issu commitversion`

16. `issu loadversion rp 0 file file-system:asr1000rp*version*.pkg`  
   `issu commitversion`

17. `show version installed`

18. `reload`

19. `request platform software package clean`  
   **Note** Step 17, 18, and 19 does not have to be performed immediately, and can be done at a convenient time.
**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>(Optional) Use the following commands to confirm the current router configuration, as follows:</td>
</tr>
<tr>
<td>show version</td>
<td>• 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.</td>
</tr>
<tr>
<td>show version installed</td>
<td>• dir—Confirm that the files that were used to boot the router are located in the directory.</td>
</tr>
<tr>
<td>dir filesystem:&lt;directory&gt;</td>
<td>• show platform—Confirm the current status of the active and standby RPs.</td>
</tr>
<tr>
<td>show platform</td>
<td>• show redundancy states—Confirm the operational and configured redundancy states.</td>
</tr>
<tr>
<td>show redundancy-states</td>
<td>Example:</td>
</tr>
<tr>
<td>Router# show version</td>
<td>Router# show version r0 installed</td>
</tr>
<tr>
<td>Router# dir bootflash:</td>
<td>Router# show platform</td>
</tr>
<tr>
<td>Router# show redundancy-states</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Configure SSO if it is not already configured.</td>
</tr>
<tr>
<td>redundancy mode sso</td>
<td>Note Save the configuration after making this configuration step.</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Create a directory to store the consolidated package and subpackages.</td>
</tr>
<tr>
<td>mkdir URL-to-directory-name</td>
<td>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.</td>
</tr>
<tr>
<td>Example:</td>
<td>Router# mkdir usb0:221subs</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>Specifies the Gigabit Ethernet TFTP source-interface to be configured:</td>
</tr>
<tr>
<td>ip tftp source-interface gigabitethernet port</td>
<td>slot/port—Specifies the location of the TFTP source-interface.</td>
</tr>
<tr>
<td>Example:</td>
<td>Router(config)# ip tftp source-interface gigabitethernet 0</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>Copy the consolidated package file into the directory created in Step 3.</td>
</tr>
<tr>
<td>copy tftp: URL-to-target-location</td>
<td>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).</td>
</tr>
<tr>
<td>Example:</td>
<td>Router# copy tftp: usb0:221subs</td>
</tr>
<tr>
<td><strong>Tip</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>
### Step 6

**Command or Action:**

```
request platform software package expand file
URL-to-consolidated-package
(Optional) dir target-URL
```

**Example:**

```
Router# request platform software package expand file
usb0:221subs/asr1000rp2-adventerprisek9.03.13.0S.154-3.S-ext.bin
Router# dir usb0:221subs
```

**Purpose:**

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

**Command or Action:**

```
dir target-URL
```

**Example:**

```
Router# dir usb0:221subs
```

**Purpose:**

(Optional) Display the directory to confirm that the files were extracted.
Step 8

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>copy file-system:asr1000rp2-espbase.version.pkg</code></td>
<td>Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.</td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-espx86base.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpaccess.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpcontrol.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpios.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipspa.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcspa.version.pkg</code></td>
<td></td>
</tr>
</tbody>
</table>

Example:

Router# copy
usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash;

Router# copy
usb0:221subs/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash;

Note Make sure to copy all the subpackage files extracted in step 6 to the current active packages directory.
### Command or Action

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 9</td>
<td><code>issu loadversion rp 0 file file-system:asr1000rp2-{rpaccess,rpios,rpcontrol} *version-string*.pkg bay standby-bay force</code></td>
<td>Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>Router# issu loadversion rp 0 file bootflash:asr1000rp2-{rpaccess,rpios,rpcontrol} *03.13.00.S.154-3.S-ext*.pkg bay 1 force</code></td>
<td></td>
</tr>
<tr>
<td>Step 10</td>
<td><code>issu commitversion</code></td>
<td>Once the SSO state is reached, commit the software version.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>Router# issu commitversion</code></td>
<td></td>
</tr>
<tr>
<td>Step 11</td>
<td><code>redundancy force-switchover</code></td>
<td>Force a switchover from the active IOS process to the standby IOS process.</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong></td>
<td>Your connection to the router often drops and is expected behavior at this point of the procedure in many scenarios.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>Router# redundancy force-switchover</code></td>
<td></td>
</tr>
<tr>
<td>Step 12</td>
<td><code>show platform</code></td>
<td>(Optional) Monitor system state to ensure both IOS processes are active.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>Router# show platform</code></td>
<td></td>
</tr>
<tr>
<td>Step 13</td>
<td><code>issu loadversion rp 0 file file-system:asr1000rp2-{rpaccess,rpios,rpcontrol} *version-string*.pkg bay standby-bay force</code></td>
<td>Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay (a different bay than in Step 9).</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>Router# issu loadversion rp 0 file bootflash:asr1000rp2-{rpaccess,rpios,rpcontrol} *03.13.00.S.154-3.S-ext*.pkg bay 0 force</code></td>
<td></td>
</tr>
<tr>
<td>Step 14</td>
<td><code>issu commitversion</code></td>
<td>Commit the software version.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>Router# issu commitversion</code></td>
<td></td>
</tr>
</tbody>
</table>
### Upgrade Process with Service Impact for Nonredundant Platforms

#### Step 15

**Command or Action**

```
issu loadversion rp 0 file
file-system:asr1000rp2-{sipbase,sipspa}*version*. pkg slot SIP-slot-number force
issu commitversion
```

**Purpose**

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 on page 6-69 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.

**Note**

See the “SUMMARY STEPS” section on page 6-90 for ASR1000 Fixed Ethernet Line Card (ELC) Upgrade.

---

**Example:**

```
Router# issu loadversion rp 0 file
bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00. S.154-3.S-ext*.pkg slot 0 force
Router# issu commitversion
Router# issu loadversion rp 0 file
bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00. S.154-3.S-ext*.pkg slot 1 force
Router# issu commitversion
Router# issu loadversion rp 0 file
bootflash:asr1000rp2-{sipspa,sipbase}*03.13.00. S.154-3.S-ext*.pkg slot 2 force
Router# issu commitversion
```

---

#### Step 16

**Command or Action**

```
issu loadversion rp 0 file
file-system:asr1000rp2-{elcbase,elcspa}*version*. pkg slot SIP-slot-number force
issu commitversion
```

**Purpose**

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. See the “ISSU Procedures (Prior to Cisco IOS XE Release 2.1.2)” section on page 6-69 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.

**Note**

See the “SUMMARY STEPS” section on page 6-90 for ASR1000 Fixed Ethernet Line Card (ELC) Upgrade.

---

**Example:**

```
Router# issu loadversion rp 0 file
bootflash:asr1000rp2-{elcspa,elcbase}*03.13.00. S.154-3.S-ext*.pkg slot 0 force
Router# issu commitversion
Router# issu loadversion rp 0 file
bootflash:asr1000rp2-{elcspa,elcbase}*03.13.00. S.154-3.S-ext*.pkg slot 1 force
Router# issu commitversion
Router# issu loadversion rp 0 file
bootflash:asr1000rp2-{elcspa,elcbase}*03.13.00. S.154-3.S-ext*.pkg slot 2 force
Router# issu commitversion
```
### Command or Action

#### Step 17

**issu loadversion rp 0 file**
*file-system*: asr1000rp2-esp*version*.pkg force

**issu commitversion**

**Example:**

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

**Purpose**

Upgrades the ESP Base subpackage and commits the ESP Base software.

#### Step 18

**issu loadversion rp 0 file**
*file-system*: asr1000rp*version*.pkg

**issu commitversion**

**Example:**

```
Router# issu loadversion rp 0 file
bootflash:asr1000rp*03.13.00.S.154-3.S-ext*.pkg
Router# issu commitversion
```

**Purpose**

Upgrades all subpackages, including the RP Base 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
```

**Purpose**

(Optional) Verify that the subpackages are properly installed.

#### Step 20

**reload**

**Example:**

```
Router# reload
```

**Purpose**

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 21

**request platform software package clean**

**Example:**

```
Router# request platform software package clean
```

**Purpose**

(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
```

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>00:04:19</td>
</tr>
<tr>
<td>0/0</td>
<td>BUILT-IN-2T+20X1GE</td>
<td>ok</td>
<td>00:02:36</td>
</tr>
<tr>
<td>1</td>
<td>ASR1000-SIP10</td>
<td>ok</td>
<td>00:04:19</td>
</tr>
<tr>
<td>1/0</td>
<td>SPA-2X1GE-V2</td>
<td>ok</td>
<td>00:03:07</td>
</tr>
<tr>
<td>1/1</td>
<td>SPA-10X1GE-V2</td>
<td>ok</td>
<td>00:03:00</td>
</tr>
</tbody>
</table>
### Upgrade Process with Service Impact for Nonredundant Platforms

<table>
<thead>
<tr>
<th>Slot</th>
<th>CPLD Version</th>
<th>Firmware Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>00200800</td>
<td>15.2(1r)S</td>
</tr>
<tr>
<td>1</td>
<td>07091401</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>R0</td>
<td>08103002</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>F0</td>
<td>1003190E</td>
<td>15.3(3r)S</td>
</tr>
</tbody>
</table>

**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: a624f70f68c60292f4482433f43af92487a55c4

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: 3a9675142898cfcac950d4e42f0e37bd9f4e48538

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: 87b11f863f67f67f2610ee07e69b929bab4c3efad

<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_Subs

**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
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/
9665662 -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
asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
666569 -rw- 95446456 Aug 3 2013 13:27:08 +05:30
asr1000rp2-esp86base.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- 38305050 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

7870414384 bytes total (4754193760 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-esp86base.03.13.00.S.154-3.S-ext.pkg bootflash:
Upgrade Process with Service Impact for Nonredundant Platforms

Active_Dir/Destination filename
[Active_Dir/asr1000rp2-esp86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC
9544656 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...CCCCC
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...CCCCC
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...CCCCC
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...CCCCCCC38380500 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...CCCCCCC61760468 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...CCCCCCC37557200 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)

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
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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
-- 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: %REDDUANCY-3-SWITCHOVER: RP switchover (PEER_NOT_PRESENT)
*Aug 3 13:43:52.194 IST: %REDDUANCY-3-SWITCHOVER: RP switchover (PEER_DOWN)
*Aug 3 13:43:52.194 IST: %REDDUANCY-3-SWITCHOVER: RP switchover (PEER_REDUNDANCY_STATE_CHANGE)
*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 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/1, changed state to up
Aug 3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/0, changed state to up
Aug 3 13:43:55.117 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/1, changed state to up
Aug 3 13:43:55.117 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 GigabitEthernet1/0/0, 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 13:43:56.127 IST: %LINK-3-UPDOWN: Interface GigabitEthernet0, changed state to up
Aug 3 13:44:05.127 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/0/0, 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))
Upgrade Process with Service Impact for Nonredundant Platforms

*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 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
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

* 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)
  Reason: EHSA standby down
* Aug 3 13:48:09.692 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_NOT_PRESENT)
* Aug 3 13:48:09.692 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_DOWN)
* Aug 3 13:48:09.692 IST: %REDUNDANCY-3-STANDBY_LOST: Standby processor fault (PEER_REDUNDANCY_STATE_CHANGE)

**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-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.

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
---Finished image file verification---
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 interim 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 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
Chapter 6     Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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#
*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: %OSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug  3 14:05:50.746 IST: %OSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug  3 14:05:50.746 IST: %OSXE_OIR-6-ONLINECARD: Card (fp) online in slot F0
*Aug  3 14:05:55.480 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 14:05:55.698 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-esp86base.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:
Chapter 6      Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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: c79075780592a0c132b725f4a2357a034fda2d3b

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: 4f655c54b99b4d2a4a0d25ebf97c882769e9

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: 8a0a45ea57a656c0eef6726174461584f182c78

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: 85e9eab826bffe2194e5f6b8a56c76453625383ad2

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: a360dff0fd76a9b1e67cda9116c97b62f5ab09

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: 8a0a45ea57a656c0eef6726174461584f182c78

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: 85e9eab826bffe2194e5f6b8a56c76453625383ad2

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: a360dff0fd76a9b1e67cda9116c97b62f5ab09

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
Built: 2013-07-25_23.00, by: mcpre
File SHA1 checksum: 5e9eab826bfff2194ef568a56c76453625383ad2

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: a360df0f76a9b1ae67cda9116c97b62f25aba09

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: 5e9eab826bfff2194ef568a56c76453625383ad2

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: a360df0f76a9b1ae67cda9116c97b62f25aba09

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: 2fe0ede1545e3f8266b7d453653e812500f0d7b0

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: 51b8bb3866341badd6e24de677b9b840f0c789c

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_22.55, by: mcpre
File SHA1 checksum: 2fe0ede1545e3f8266b7d453653e812500f0d7b0

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: 51b8bb3866341badd6e24de677b9b840f0c789c

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_22.55, 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_22.55, by: mcpre
File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Upgrade Process with Service Impact for Nonredundant Platforms

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

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

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

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: SIP1/0
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: SIP1/0
Built: 2013-07-25 21:16, by: mcpre
File SHA1 checksum: 99f8dcd925083b118626a4e82d93079050db96826

File: bootflash:Active_Dir/asr1000rp2-sipbase.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: 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: SIP1/3
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: SIP1/3
Built: 2013-07-25 21:16, by: mcpre
File SHA1 checksum: 99f8dcd925083b118626a4e82d93079050db96826
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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: 94763274fe807489410e299a45fd73f9e9d67499

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: 94763274fe807489410e299a45fd73f9e9d67499

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: 94763274fe807489410e299a45fd73f9e9d67499

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: 3b6a4838972840a995ff2e73fd2bae910b268a7

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: 94763274fe807489410e299a45fd73f9e9d67499

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: 94763274fe807489410e299a45fd73f9e9d67499

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: 94763274fe807489410e299a45fd73f9e9d67499
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: 94763274fc807489410e299a45fd73f3e9d67499

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: 6d12280b5cc33d17d752f475bf340b77ef3451ca

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: 94763274fc807489410e299a45fd73f3e9d67499

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: 94763274fc807489410e299a45fd73f3e9d67499

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: SIP3/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca

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: SIP3/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73f3e9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
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: 94763274fc807489410e299a45fd73f3e9d67499

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: 6d12280b5cc3d1d752f475bf340b77ef3451ca
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: 94763274fce807489410e299a45fd73fcea967499

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: 6d12280b5cc3d1d752f475bf340b77ef3451ca
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: 94763274fce807489410e299a45fd73fcea967499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc3d1d752f475bf340b77ef3451ca
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: 94763274fce807489410e299a45fd73fcea967499

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: 6d12280b5cc3d1d752f475bf340b77ef3451ca
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
Upgrade Process with Service Impact for Nonredundant Platforms

File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

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
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
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

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
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
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca

Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

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-sibase.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-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-sibase.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.
These instructions assume two IOS processes are active on the RP and that the router is already running using subpackages. For information on checking and configuring two IOS processes on the same RP, see the “Using Subpackages for Software Upgrade on a Cisco ASR 1002 Router or Cisco ASR 1004 Router (software upgrade Command Set)” section on page 6-90.

**SUMMARY STEPS**

1. show version
   show version installed
   dir filesystem: <directory>
   show platform
   show redundancy-states

2. redundancy
   mode sso

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 URL-to-consolidated-package

8. copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-espbase.version.pkg
   URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP
   Copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-elcspa.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. 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
    Repeat the step 13, for each available SIP installed in the router before moving onto the next step.

14. request platform software package install rp 0 file
    file-system:asr1000rp2-{elcbase,elcspa}*version*.pkg slot ELC-slot-number
Repeat the step 14, for each available ELC installed in the router before moving onto the next step.

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 provisioned

18. reload

19. request platform software package clean

Note: Step 17, 18, and 19 does not have to be performed immediately, and can be done at a convenient time.
## Upgrade Process with Service Impact for Nonredundant Platforms

### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>(Optional) Use the following commands to confirm the current router configuration, as follows:</td>
</tr>
<tr>
<td>show version</td>
<td>• 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.</td>
</tr>
<tr>
<td>show version installed</td>
<td></td>
</tr>
<tr>
<td>dir filesystem:&lt;directory&gt;</td>
<td>• show platform—Confirm the current status of the active and standby RPs.</td>
</tr>
<tr>
<td>show platform</td>
<td>• show redundancy states—Confirm the operational and configured redundancy states.</td>
</tr>
<tr>
<td>show redundancy-states</td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router# show version</td>
<td></td>
</tr>
<tr>
<td>Router# show version r0 installed</td>
<td></td>
</tr>
<tr>
<td>Router# dir bootflash:</td>
<td></td>
</tr>
<tr>
<td>Router# show platform</td>
<td></td>
</tr>
<tr>
<td>Router# show redundancy-states</td>
<td></td>
</tr>
</tbody>
</table>

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

| **Step 3**        | Create a directory to store the consolidated package and subpackages. |
| mkdir URL-to-directory-name | 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. |
| **Example:**      | |
| Router# mkdir usb0:221subs | |

| **Step 4**        | Specifies the Gigabit Ethernet TFTP source-interface to be configured: |
| ip tftp source-interface gigabitethernet port | slot/port—Specifies the location of the TFTP source-interface. |
| **Example:**      | 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. |
| Router(config)# ip tftp source-interface gigabitethernet 0 | |

| **Step 5**        | Copy the consolidated package file into the directory created in Step 3. |
| copy tftp: URL-to-target-location | 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). |
| **Example:**      | 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. |
| Router# copy tftp: usb0:221subs | |
### Command or Action

**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

**Purpose**

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.
### Upgrade Process with Service Impact for Nonredundant Platforms

#### Step 8

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td>Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.</td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-active-RP</code></td>
<td></td>
</tr>
</tbody>
</table>

**Example:**

Router# `copy usb0:221subs/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash;`

Router# `copy usb0:221subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash;`

Router# `copy usb0:221subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash;`

Router# `copy usb0:221subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash;`

Router# `copy usb0:221subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash;`

Router# `copy usb0:221subs/asr1000rp2-rpios-adventerprisek.9.03.13.00.S.154-3.S-ext.pkg bootflash;`

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

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

Router# `copy usb0:221subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash;`

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

**Note** Make sure to copy all the subpackage files extracted in step 6 to the current active packages directory.
<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
</table>
| 9    | request platform software package install rp 0  
      file  
      file-system:asr1000rp2-{rpaccess,rpios,rpcontrol}  
      *version-string*.pkg bay standby-bay force | Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay. |
|      | 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 |         |
| 10   | redundancy force-switchover | Force a switchover from the active IOS process to the standby IOS process. |
|      | Example:          | Note: Your connection to the router often drops and is expected behavior at this point of the procedure in many scenarios. |
|      | Router# redundancy force-switchover | If this step drops your connection to the router, wait a few minutes before reconnecting to the router and then continue to Step 11. |
| 11   | (Optional) show platform | (Optional) Monitor system state to ensure both IOS processes are active. |
|      | Example:          |         |
|      | Router# show platform |         |
| 12   | request platform software package install rp 0  
      file  
      file-system:asr1000rp2-{rpaccess,rpios,rpcontrol}  
      *version-string*.pkg bay standby-bay force | Upgrade the RPAccess, RPIOS, and RPControl subpackages in the standby bay, which in this context is the opposite bay used in Step 9. |
|      | Example:          | 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)” section on page 6-69 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures. |
|      | 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 |         |
### Command or Action

**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
```

**Purpose**

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 on page 6-69 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:**

```
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
```

**Purpose**

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 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.

**Step 15**

```
request platform software package install rp 0
file file-system:asr1000rp2-esp*version*.pkg
```

**Example:**

```
Router# request platform software package install rp 0
file
bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*.pkg
```

**Purpose**

Upgrade the ESP Base subpackage.
### Upgrade Process with Service Impact for Nonredundant Platforms

#### Command or Action

| Step 16 | request platform software package install rp 0 file file-system:asr1000rp*version*.pkg |

**Example:**

```text
Router# request platform software package install rp 0 file bootflash:asr1000rp*03.13.00.S.154-3.S-ext*.pkg
```

**Purpose:** 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:**

```text
Router# show version installed
```

**Purpose:** (Optional) Verify that the subpackages are properly installed.

| Step 18 | reload |

**Example:**

```text
Router# reload
```

**Purpose:** 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 |

**Purpose:** (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:

```text
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.
93311K 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.03.12.00.S.154-3.S-ext*.pkg, on: RP0
  Built: 2013-03-25_18.48, by: mcpre
  File SHA1 checksum: 3a9675142898cfcac350d4e42f0e37bd9f4e48538
  Package: rpcontrol, version: 03.12.01.S.154-2.S, status: active
```
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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: 87b11f863f67f2610ee0769b929baab43efad

<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
F0/0                  ok, standby           00:02:41
F0        ASR1004-PWR-AC         ok                    00:03:28
P0        ASR1004-PWR-AC         ps, fail              00:03:28
P0/1                  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# 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
asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg
asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg
9666569 -rw- 95446456 Aug 3 2013 13:27:08 +05:30
asr1000rp2-esp86base.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 (4754193760 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-esp86base.03.13.00.S.154-3.S-ext.pkg
bootflash:
Active_Dir/ Destination filename
[Active_Dir/asr1000rp2-esp86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in
Upgrade Process with Service Impact for Nonredundant Platforms

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...CCCC
335032 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
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...CCCC
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...CCCC
7557200 bytes copied in 5.255 secs (7146946 bytes/sec)
Router# **copy harddisk:**Target_Subs/asr1000rp2-elcspla.03.13.00.S.154-3.S-ext.pkg bootflash:
Active_Dir/Destination filename [Active_Dir/asr1000rp2-elcspla.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
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: 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
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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
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 13:43:51.98 IST: %PLATFORM-6-HASTATUS: RP switchover, sent message became active
*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 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/7, changed state to up
Aug 3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/9, changed state to up
Aug 3 13:43:55.119 IST: %LINK-3-UPDOWN: Interface GigabitEthernet1/1/11, changed state to up
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 GigabitEthernet1/1/1, changed state to up
Upgrade Process with Service Impact for Nonredundant Platforms

Router# show platform
Chassis type: ASR1004

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>00:29:33</td>
</tr>
<tr>
<td>0/0</td>
<td>BUILT-IN-2T+20X1GE</td>
<td>ok</td>
<td>00:05:28</td>
</tr>
<tr>
<td>1</td>
<td>ASR1000-SIP10</td>
<td>ok</td>
<td>00:29:33</td>
</tr>
<tr>
<td>1/0</td>
<td>SPA-2X1GE-V2</td>
<td>ok</td>
<td>00:05:28</td>
</tr>
<tr>
<td>1/1</td>
<td>SPA-10X1GE-V2</td>
<td>ok</td>
<td>00:05:28</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1000-RP2</td>
<td>ok</td>
<td>00:29:33</td>
</tr>
<tr>
<td>R0/0</td>
<td>ok, standby</td>
<td></td>
<td>00:01:46</td>
</tr>
<tr>
<td>R0/1</td>
<td>ok, active</td>
<td></td>
<td>00:06:12</td>
</tr>
<tr>
<td>F0</td>
<td>ASR1000-ESP40</td>
<td>ok, active</td>
<td>00:29:33</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1004-PWR-AC</td>
<td>ok</td>
<td>00:28:42</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1004-PWR-AC</td>
<td>ps, fail</td>
<td>00:28:42</td>
</tr>
</tbody>
</table>

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 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
Chapter 6      Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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
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 13:48:09.692 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
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

*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

*Aug  3 13:48:53.521 IST: %DYNMCMD-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 13:49:57.893 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 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
Upgrade Process with Service Impact for Nonredundant Platforms

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
Chapter 6 Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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
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 ---
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 ---
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 ---
Chapter 6      Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Upgrade Process with Service Impact for Nonredundant Platforms

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-READY: F0: cpp_ha: CPP 0 loading and initialization complete
*Aug 3 14:04:55.698 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
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-slipbase.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: c79075780592aece1312725f4a2357a034fda2d3b

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: 4f655c54bb95b4d4a0d2e5ebf97cf8527c69e9

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: 8a0a45ea5c7a656c0eef67261774461584f182c78

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: 8a0a45ea5c7a656c0eef67261774461584f182c78

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: a360dff0fd76a9b1ae67cdad9116c97b62f25ab09

Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp1rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg, on: RP0/1
Built: 2013-07-25_23.00, by: mcpre
File SHA1 checksum: a360dff0fd76a9b1ae67cdad9116c97b62f25ab09

Package: rpbase, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp1-rpbase.03.13.00.S.154-3.S-ext.pkg, on: RP1
Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 4f655c54bb95b4d4a0d2e5ebf97cf8527c69e9

Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp1-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/0
Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 8a0a45ea5c7a656c0eef67261774461584f182c78

Package: rpcontrol, version: 03.13.00.S.154-3.S-ext, status: n/a
File: bootflash:Active_Dir/asr1000rp1-rpcontrol.03.13.00.S.154-3.S-ext.pkg, on: RP1/1
Built: 2013-07-25_22.55, by: mcpre
File SHA1 checksum: 8a0a45ea5c7a656c0eef67261774461584f182c78

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: a360dff0fd76a9b1ae67cdad9116c97b62f25ab09

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: 8a0a45ea5c7a656c0eef67261774461584f182c78
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: 2013-07-29_23.00, by: mcpre
  File SHA1 checksum: 85e9eab826bf6f2194ef568a56c76453625383ad2

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: 2013-07-29_22.55, by: mcpre
  File SHA1 checksum: a360dff0fd76a9b1ae67ca9116c97b62f25ab09

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: 2013-07-29_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: 2013-07-29_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: 2013-07-29_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: 2013-07-29_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: 2013-07-29_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: 2013-07-29_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: 2013-07-29_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: 2013-07-29_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: 2013-07-29_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: 2013-07-29_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
Upgrade Process with Service Impact for Nonredundant Platforms

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: 94763274f807489410e299a45fd73fce9d67499

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: 94763274f807489410e299a45fd73fce9d67499

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: 94763274f807489410e299a45fd73fce9d67499

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: 94763274f807489410e299a45fd73fce9d67499

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: 94763274f807489410e299a45fd73fce9d67499

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: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 94763274fc807489410e299a45fd73fcee9d67499

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: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25 21:16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25 21:16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25 21:16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

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: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 94763274fc807489410e299a45fd73fcee9d67499

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: 6d12280b5c33d17d752f475bf340b77ef3451ca
Upgrade Process with Service Impact for Nonredundant Platforms

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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45f7d3fce9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-29_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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45f7d3fce9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-29_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
Built: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45f7d3fce9d67499

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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73f2dab2e910b268a7

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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 99f88d925083b1118626a4e82d930790500b96826

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: 2013-07-29_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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45f7d3fce9d67499

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: 2013-07-29_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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45f7d3fce9d67499

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: 2013-07-29_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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcej9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5c33d1d752f475bf340b77ef3451ca

Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcej9d67499

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-elcbase.03.13.00.S.154-3.S-ext.pkg
File is in use, will not delete... asr1000rp2-espbase.03.12.01.S.154-2.S.pkg
File is in use, will not delete... asr1000rp2-espbase.03.12.00.S.154-3.S-ext.pkg
File is in use, will not delete... asr1000rp2-rpbase.03.12.01.S.154-3.S-ext.pkg
File is in use, will not delete... asr1000rp2-rpbase.03.12.00.S.154-3.S-ext.pkg
File is in use, will not delete... asr1000rp2-rpios-dventerprisek9.03.12.01.S.154-2.S.pkg
File is in use, will not delete... asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
File is in use, will not delete... asr1000rp2-sipbase.03.12.00.S.154-3.S-ext.pkg
File is in use, will not delete... packages.conf
File is in use, will not delete... packages.conf.00-
File is in use, will not delete... packages.conf.01-
File is in use, will not delete... packages.conf.02-
File is in use, will not delete... packages.conf.03-
File is in use, will not delete... packages.conf.04-
File is in use, will not delete... 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-espbase.03.12.01.S.154-2.S.pkg ... done.
Deleting file bootflash:Active_Dir/asr1000rp2-espbase.03.12.00.S.154-3.S-ext.pkg ... done.
Deleting file bootflash:Active_Dir/asr1000rp2-rpios-dventerprisek9.03.12.01.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-sipbase.03.12.00.S.154-3.S-ext.pkg ... done.
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:
Minimal Disruptive Restart ISSU

- 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.

For more information on ISSU upgrade for nonredundant platforms, see “Upgrade Process with Service Impact for Nonredundant Platforms” section on page 6-70.

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 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)
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`
   `dir URL-to-target-stby-location`
5. `issu checkversion rp upgrade-rp-number file URL mdr {force}`
6. `issu loadversion rp upgrade-rp-number file standby-file-system:filename mdr {force}`
7. `issu runversion`
8. `telnet ip-address port`
9. `issu acceptversion`
10. `issu commitversion`
11. `show version, show version active-RP running, show version active-RP provisioned`
    `show platform`
    `show running-configuration`
12. `hw-module slot RP slot number reload`
### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> <code>ip tftp source-interface gigabitethernet slot/port</code></td>
<td>Specifies the Gigabit Ethernet TFTP source-interface to be configured: &lt;br&gt;<strong>slot/port</strong>—Specifies the location of the TFTP source-interface. &lt;br&gt;Note: To copy a file using TFTP through the Management Ethernet interface, the <em>ip tftp source-interface GigabitEthernet 0</em> command must be entered before entering the <em>copy tftp</em> command.</td>
</tr>
<tr>
<td><strong>Example:</strong>&lt;br&gt;Router(config)# ip tftp source-interface gigabitethernet 0</td>
<td></td>
</tr>
</tbody>
</table>
| **Step 2** `copy tftp: URL-to-target-location`
`copy source-file-system:filename` <br>`standby-destination-file-system` | Copy the consolidated package onto the active RP. <br>Note: (Optional) Display the contents of the target directories to confirm the successful copy of the file package.                                                                                                                                                                                                                     |
| **Example:**<br>Router# copy tftp bootflash:                                           |                                                                                                                                                                                                                                                                                                                                                                                                |
| **Step 3** `copy source-file-system:filename` <br>`standby-destination-file-system` | Copy the consolidated package onto the standby RP. <br>Note: (Optional) Display the contents of the target directories to confirm the successful copy of the file package.                                                                                                                                                                                                                     |
| **Example:**<br>Router# copy bootflash:asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin stby-bootflash: |                                                                                                                                                                                                                                                                                                                                                                                                |
| **Step 4** `dir URL-to-target-location`
`dir URL-to-target-stby-location` | (Optional) Display the contents of the target directories to confirm the successful copy of the file package.                                                                                                                                                                                                                                                                                  |
| **Example:**<br>Router# dir bootflash:                                             |                                                                                                                                                                                                                                                                                                                                                                                                |
| **Step 5** `issu checkversion rp upgrade-rp-number file URL mdr` {force}`            | Checks the ISSU MDR software packaging compatibility on the standby Route Processor (RP).                                                                                                                                                                                                                                                                                                    |
| **Example:**<br>Router# issu checkversion rp 1 file stby-bootflash:asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin mdr |                                                                                                                                                                                                                                                                                                                                                                                                |
| **Step 6** `issu loadversion rp upgrade-rp-number file` `standby-file-system:filename mdr` {force}` | Load the target consolidated package onto the standby RP. <br>Note: (Optional) Display the contents of the target directories to confirm the successful copy of the file package.                                                                                                                                                                                                                     |
| **Example:**<br>Router# issu loadversion rp 1 file stby-bootflash:asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin mdr | After you receive the message indicating that the terminal state has been reached, go on to **Step 7**.                                                                                                                                                                                                                                                                                     |
### Step 7
**Command or Action**: `issu runversion`  
**Example**:  
```
Router# issu runversion
```
**Purpose**: 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
**Command or Action**: `telnet ip-address port`  
**Example**:  
```
[unix-server-1 ~]$ telnet 172.17.52.157 2003
```
**Purpose**: 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 9
**Command or Action**: `issu acceptversion`  
**Example**:  
```
Router# issu acceptversion
```
**Purpose**: (Optional) Stops the ISSU rollback timer.  
This step is optional as long as Step 10 is completed before the rollback timer expires.

### Step 10
**Command or Action**: `issu commitversion`  
**Example**:  
```
Router# issu commitversion
```
**Purpose**: Completes the ISSU upgrade.
### 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...CCCCCCC<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
```
### Using ISSU to Perform a Consolidated Package Upgrade in a Dual Route Processor Configuration with MDR

**Listing 1:**

```
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-   680   Sep 4 2012 23:29:00 +00:00  virtual-instance-upgrade.conf
```

**Listing 2:**

```
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
20883 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  16384  Jan 26 2011 16:57:39 +00:00 .ssh
12 -r--  577995644  Mar 12 2013 21:17:47 +00:00 asr1000rp2-adventerprisek9.03.12.01.S.154-2.S1.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-   680   Feb 26 2012 16:16:36 +00:00 virtual-instance-upgrade.conf
```

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

*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 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
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: %LINEPROTO-5-UPDOWN: Line protocol on Interface Lsmpi0, changed state to up
*Mar 14 20:02:17.757: %LINEPROTO-5-UPDOWN: Line protocol on 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 20:04:19.443: %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 20:05:35.125: %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 20:06:16.158: %CPPHA-7-READY: F0: cpp_ha: CPP 0 loading and initialization complete
*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 20:10:00.611: %NBAR_HA-5-NBAR_INFO: NBAR sync DONE!
*Mar 14 20:10:01.027: %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
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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

This section covers the following topics:

• Using ISSU to Upgrade the Subpackages on a Cisco ASR 1006 Router or Cisco ASR 1013 Router (issu Command Set) with MDR, page 6-162

• Using ISSU to Upgrade Subpackages on a Cisco ASR 1006 Router or Cisco ASR 1013 Router (request platform command set) with MDR, page 6-201
Using ISSU to Upgrade the Subpackages on a Cisco ASR 1006 Router or Cisco ASR 1013 Router (issu Command Set) with MDR

This section provides the instructions for performing an ISSU upgrade using subpackages with MDR on a Cisco ASR 1006 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 or ASR 1013 routers have two active RPs and both RPs are running subpackages.

**SUMMARY STEPS**

1. `show version`
   - `show version active-rp installed`
   - `dir filesystem:<directory>`
   - `show platform`
   - `show redundancy-states`
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 URL-to-consolidated-package`
8. `copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-active-RP`
   - `copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-active-RP`

   **Note** In step 9, each individual subpackage that was extracted in step 6 is copied to the directory where the subpackages that are currently running the standby RP are stored.

   - `copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-standby-RP`
   - `copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-standby-RP`
   - `copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-standby-RP`
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

**Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers**

10. `issu checkversion rp standby-RP file standby-file-system:asr1000rp*version*.pkg mdr {force}
12. `hw-module slot standby-RP reload
13. `issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp1-[sipbase,sipspa]*version*.pkg slot SIP-slot-number mdr {force}
   `issu commitversion
   **Note** Repeat this step for each SIP installed in the router before moving to the next step.

14. `issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-[elcbase,elcspa]*version*.pkg slot ELC-slot-number mdr {force}
   `issu commitversion
   **Note** Repeat this step for each ELC installed in the router before moving to the next step.

15. `issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot standby-ESP-slot
   `issu commitversion
   `issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot active-ESP-slot
   `issu commitversion
17. `show version active-RP provisioned
18. `show version active-RP installed
19. `redundancy force-switchover
20. `request platform software package clean
### DETAILED STEPS

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Command or Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>show version</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>show version active-rp installed</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>dir filesystem: directory</strong></td>
<td>Confirm that the files that were used to boot the router are located in the directory.</td>
</tr>
<tr>
<td><strong>show platform</strong></td>
<td>Confirm the current status of the active and standby RPs.</td>
</tr>
<tr>
<td><strong>show redundancy states</strong></td>
<td>Confirm the operational and configured redundancy states.</td>
</tr>
</tbody>
</table>

**Example:**

Router# show version
Router# show version active-rp installed
Router# dir filesystem: directory
Router# show platform
Router# show redundancy states

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Command or Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>copy running-config startup-config</strong></td>
<td>After you have confirmed that the system states are acceptable, save the current configuration to the startup configuration.</td>
</tr>
</tbody>
</table>

**Example:**

Router# copy running-config startup-config

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Command or Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>mkdir URL-to-directory-name</strong></td>
<td>Create a directory to store the consolidated package and subpackages.</td>
</tr>
</tbody>
</table>

**Example:**

Router# mkdir bootflash:tmp

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Command or Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ip tftp source-interface gigabitethernet port</strong></td>
<td>Specifies the Gigabit Ethernet TFTP source-interface to be configured:</td>
</tr>
<tr>
<td><strong>Example:</strong> Router(config)# ip tftp source-interface gigabitethernet 0</td>
<td>slot/port—Specifies the location of the TFTP source-interface.</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Command or Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>copy tftp: URL-to-target-location</strong></td>
<td>Copy the consolidated package file into the directory created in <strong>Step 3</strong>.</td>
</tr>
</tbody>
</table>

**Example:**

Router# copy tftp: bootflash:tmp

**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

**Command or Action**

```
request platform software package expand file
URL-to-consolidated-package
```

**Example:**

```
Router# request platform software package
expand file
bootflash:tmp/asr1000rp2-adventerprisek.9.03.13
 .00.S.154-3.S-ext.bin
```

**Purpose**

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

**Command or Action**

```
dir target-URL
```

**Example:**

```
Router# dir bootflash:tmp
```

**Purpose**

(Optional) Display the directory to confirm that the files were extracted.
### Command or Action

<table>
<thead>
<tr>
<th>Step 8</th>
<th>Purpose</th>
</tr>
</thead>
</table>

**Example:**

Router# `copy bootflash:/tmp/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg` bootflash:

Router# `copy bootflash:/tmp/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg` bootflash:

Router# `copy bootflash:/tmp/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg` bootflash:

Router# `copy bootflash:/tmp/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg` bootflash:

Router# `copy bootflash:/tmp/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg` bootflash:

Router# `copy bootflash:/tmp/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg` bootflash:

Router# `copy bootflash:/tmp/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg` bootflash:

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

Router# `copy bootflash:/tmp/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg` bootflash:

Router# `copy bootflash:/tmp/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg` bootflash:
### Command or Action

**Step 9**

<table>
<thead>
<tr>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>copy file-system:asr1000rp2-espbase.version.pkg</code></td>
<td>Copy the subpackages out of the temporary directory into the directory on the router where the subpackages running the standby RP are currently stored.</td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-espx86base.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpaccess.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpcontrol.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpios.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipspa.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcbase.version.pkg</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcspa.version.pkg</code></td>
<td></td>
</tr>
</tbody>
</table>

**Examples:**

| Router# copy bootflash:tmp/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
| Router# copy bootflash:tmp/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
| Router# copy bootflash:tmp/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
| Router# copy bootflash:tmp/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
| Router# copy bootflash:tmp/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
| Router# copy bootflash:tmp/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg |         |
| Router# copy bootflash:tmp/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
| Router# ccopy bootflash:tmp/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
| Router# copy bootflash:tmp/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
| Router# ccopy bootflash:tmp/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash: |         |
### Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 10</strong> issu checkversion rp standby-RP file standby-file-system:asr1000rp<em>version</em>.pkg mdr {force}</td>
<td>Checks the ISSU MDR software packaging compatibility on the standby Route Processor (RP).</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router# issu checkversion rp 1 file stby-bootflash:asr1000rp2-<em>03.13.00.S.154-3.S-ext</em>pkg mdr</td>
<td></td>
</tr>
<tr>
<td><strong>Step 11</strong> issu loadversion rp standby-RP file target-standbyRP-URL-for-sub-packages:asr1000rp<em>version</em>.pkg force</td>
<td>Upgrade the RP subpackages on the standby RP, where the &quot;rp*&quot; wildcard is specified to capture all of the RP subpackages for the desired upgrade release.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router# issu loadversion rp 1 file stby-bootflash:asr1000rp2-<em>03.13.00.S.154-3.S-ext</em>pkg force</td>
<td></td>
</tr>
<tr>
<td><strong>Step 12</strong> hw-module slot standby-RP reload</td>
<td>Reload the standby RP.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Router# hw-module slot R1 reload</td>
<td></td>
</tr>
<tr>
<td><strong>Step 13</strong> issu loadversion rp active-RP file URL-to-active-file-system:asr1000rp2-(sipbase,sipspa)<em>version</em>.pkg slot SIP-slot-number mdr {force} issu commitversion</td>
<td>Upgrade the SIP and SPA subpackages for each SIP on the router using MDR.</td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td>This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step.</td>
</tr>
<tr>
<td><strong>Tip</strong></td>
<td>You can use the <code>show ip interface brief</code> command to identify which slots contain SIPs and SPAs. The interfaces with three numbers (in the form <code>SIP-number/SPA-number/interface-number</code>) identify the SIP and SPA locations in the router.</td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td>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 on page 6-69 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.</td>
</tr>
</tbody>
</table>

---

**Cisco ASR 1000 Series Aggregation Services Routers Software Configuration Guide**

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OL-16506-17
### Step 14

**Command or Action:**

```bash
issu loadversion rp active-RP file
URL-to-active-file-system:asr1000rp2-{elcbase,elcspa}*version*.pkg slot ELC-slot-number mdr
{force}
issu commitversion
```

**Example:**

```bash
Router# issu loadversion rp 0 file
bootflash:asr1000rp2-{elcbase,elcspa}*03.13.00.S.154-3.S-ext*pkg mdr
Router# issu commitversion
```

**Purpose:**

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.

**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

**Command or Action:**

```bash
issu loadversion rp active-RP file
URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot standby-ESP-slot
issu commitversion
issu loadversion rp active-RP file
URL-to-active-file-system:asr1000rp2-esp*version*.pkg slot active-ESP-slot
issu commitversion
```

**Example:**

```bash
Router# issu loadversion rp 0 file
bootflash:asr1000rp2-esp*03.13.00.S.154-3.S-ext*pkg mdr
Router# issu commitversion
```

**Purpose:**

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 16

**Command or Action:**

```bash
issu loadversion rp active-RP file
URL-to-active-file-system:asr1000rp*version*.pkg
force
```

**Example:**

```bash
Router# issu loadversion rp 0 file
bootflash:asr1000rp*03.13.00.S.154-3.S-ext*pkg force
```

**Purpose:**

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

**Command or Action:**

```bash
show version active-RP provisioned
show version active-RP installed
```

**Example:**

```bash
Router# show version r0 provisioned
Router# show version r0 installed
```

(Optional) Confirm that the subpackages are provisioned and installed.
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

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

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>ASR1000-SIP40</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/0</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/1</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/2</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/3</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>4</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>4/0</td>
<td>BUILT-IN-2T+20X1GE</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1000-RP2</td>
<td>ok, active</td>
<td>1d03h</td>
</tr>
<tr>
<td>R1</td>
<td>ASR1000-RP2</td>
<td>ok, standby</td>
<td>1d03h</td>
</tr>
<tr>
<td>F0</td>
<td>ASR1000-ESP100</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>F1</td>
<td>ASR1000-ESP100</td>
<td>ok, standby</td>
<td>1d03h</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P2</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P3</td>
<td>ASR1013-PWR-AC</td>
<td>ps, fail</td>
<td>1d03h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slot</th>
<th>CPLD Version</th>
<th>Firmware Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>00200800</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>4</td>
<td>00200800</td>
<td>15.3(1r)S</td>
</tr>
</tbody>
</table>
```

Command or Action | Purpose
--- | ---
**Step 18** | redundancy force-switchover | Force an RP switchover to complete the upgrade.
**Example:**
```
Router# redundancy force-switchover
```

**Step 19** | request platform software package clean | (Optional) Removes all unused subpackages files from the router.
**Example:**
```
Router# request platform software package clean
```
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: a624f70f68c60292f4482433f43af9d2487a55c4

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: 3a967512890c350c4e42f0e37b9d9f4e48538

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: 87b11f863f67fd2610ee0762f3ba92bab4c3efad

<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-espbase.03.12.01.S.154-2.S.pkg
   24 -rw-  9059 Aug 3 2013 15:05:40 +05:30
     asr1000rp2-packages-adventerprisek9.03.12.01.S.154-2.S.conf
   25 -rw-  49899964 Aug 3 2013 15:05:40 +05:30
     asr1000rp2-rpaccess.03.12.01.S.154-2.S.pkg
   26 -rw-  46557940 Aug 3 2013 15:05:40 +05:30
     asr1000rp2-rpbase.03.12.01.S.154-2.S.pkg
   27 -rw- 114612988 Aug 3 2013 15:05:40 +05:30
     asr1000rp2-rpio-adventerprisek9.03.12.01.S.154-2.S.pkg
   28 -rw-  41954036 Aug 3 2013 15:05:40 +05:30
     asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
   29 -rw-  60957428 Aug 3 2013 15:05:40 +05:30
     asr1000rp2-sipbase.03.12.01.S.154-2.S.pkg
   30 -rw-  9838 Aug 3 2013 15:05:40 +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
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

communications = up
client count = 108
client_notification_TMR = 30000 milliseconds
RF debug mask = 0x0

Router# copy running-config startup-config
Building configuration...
[OK]
Router# mkdir harddisk:Target_Subs
Create directory filename [Target_Subs]?
Created dir harddisk:/Target_Subs
Router#
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
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- 95464656 Aug 4 2013 18:46:43 +05:30
asr1000rp2-sipbase.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- 49536216 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_Sub/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...CCCCCCCC80657364 bytes copied in 11.991 secs (6749005 bytes/sec)
Router#
Router# copy harddisk:Target_Sub/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
9546456 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:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-sipspa.03.13.00.S.154-3.S-ext.pkg bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:Active_Dir/
Hello in progress...CCCCC
Router# copy harddisk:Target_Subs/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:Active_Dir/
Hello in progress...CCCCC
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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...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: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# 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# 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...CCCCC61760468 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: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# 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...CCCCC51194832 bytes copied in 87.453 secs (585398 bytes/sec)
Router# issu checkversion rp 1 file
--- 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-esp86base.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
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

--- 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# 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-rphase.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
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

--- 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-esp86base.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-esp86base.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
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

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

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 19:14:03.594 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 19:19:08.380 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 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: 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:

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
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 19:20:49 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 19:20:50.017 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc: SPA0 initiated Minimal Disruptive Restart

Generating software version information
Notifying running software of updates
Unmuting 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 19:22:02.518 IST: %LINK-3-UPDOWN: SIP2/1: Interface EOBC2/1, changed state to up
*Aug 4 19:22:06.113 IST: %IOSXE_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot 2/1
*Aug 4 19:22:06.082 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: %IOSXE_OIR-6-ONLINECARD: SPA (SPA-1X10GE-L-V2) online in subslot 2/1
*Aug 4 19:22:08.080 IST: %LINK-3-UPDOWN: SIP2/1: 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 19:22:12.523 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

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#
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
Checking package specific compatibility
Finished compatibility testing
--- Starting mdr compatibility verification ---
Chapter 6 Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

WARNING:
ISSU between engineering builds with release strings in non-standard format.
Skipping MDR Software Compatibility checks.

WARNING:
ISSU between engineering builds with release strings in non-standard format.
Skipping MDR Software Compatibility checks.

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#
**Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers**

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

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**Jan 13 00:43:18.773** PST: %IOSXE_OIR-6-INSSPA: SPA inserted in subslot 4/0

**Jan 13 00:43:37.922** PST: %LINK-3-UPDOWN: SIP4/0: Interface E0/BC0/1, changed state to up

**Jan 13 00:43:46.366** PST: %SPA_OIR-6-ONLINECARD: SPA (BUILT-IN-2T+20X1GE) online in subslot 4/0

**Jan 13 00:43:45.525** PST: %CMCC-5-SPA_MDR_DONE: SIP4: cmcc: SPA0 completed Minimal Disruptive Restart

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-esppbase.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: 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-esp86base.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#
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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

--- Starting candidate package set construction ---
Verifying existing software set

--- Starting compatibility testing ---
Determining whether candidate package set is compatible

WARNING:
Candidate software combination not found in compatibility database

WARNING:
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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

```
*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_FILTER_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

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>ASR1000-SIP40</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/0</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/1</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/2</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/3</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>4</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>4/0</td>
<td>BUILT-IN-2T+20X1GE</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1000-RP2</td>
<td>ok, active</td>
<td>1d04h</td>
</tr>
<tr>
<td>R1</td>
<td>ASR1000-RP2</td>
<td>ok, standby</td>
<td>1d04h</td>
</tr>
<tr>
<td>F0</td>
<td>ASR1000-ESP100</td>
<td>ok, standby</td>
<td>1d04h</td>
</tr>
<tr>
<td>F1</td>
<td>ASR1000-ESP100</td>
<td>ok, active</td>
<td>1d04h</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P2</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>P3</td>
<td>ASR1013-PWR-AC</td>
<td>ps, fail</td>
<td>1d04h</td>
</tr>
</tbody>
</table>

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# issu loadversion rp 0 file
--- 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-esp86base.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
Chapter 6       Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

Creating pending provisioning file
Committing provisioning file
Finished commit of software changes

SUCCESS: Software provisioned. New software will load on reboot.
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: 8a0a45ea5c7a6560eef672617461584f182c78

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: 8a0a45ea5c7a6560eef672617461584f182c78

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: 8a0a45ea5c7a6560eef672617461584f182c78

Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
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
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
File SHA1 checksum: 8a0a45ea5ca656c0eeef6726174461584f182c78

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
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
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
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: 3b64a838972840a995ff22e73fd2bae910b268a7

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: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: 99f8d92e05b83b118626a4e82d93079050db6826

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: 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
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: SIP2/0
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: 3b6a4838972840a995ff22e73fd2bae910b268a7

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: 99f8dc925083b118626a4e82d93079050db96826

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: 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: 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: SIP2/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 99f8dc925083b118626a4e82d93079050db96826
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: 2013-07-29_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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 99f8dcd925083b118626a4e82d93079050db96826

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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

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: 2013-07-29_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: 2013-07-29_21.16, by: mcpre
File SHA1 checksum: 99f8dcd925083b118626a4e82d93079050db96826

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: 2013-07-29_21.16, by: mcpre
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: 94763274fc807489410e299a45fd73fcee9d67499

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: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
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: 94763274fc807489410e299a45fd73fcee9d67499

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: 94763274fc807489410e299a45fd73fcee9d67499

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

Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

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: 6d12280b5cc33d17d752f475bf340b77ef3451ca

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
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
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5cc33d17d752f475bf340b77ef3451ca

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: c79075780592a8c1312729f4a32357e3a034da2d3b

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: 3a9675142986e4dfca350d4e42f0e37bd9f4e48538

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
Built: 2013-03-25_18.48, by: mcpre
File SHA1 checksum: 87b11f863f67f2d100ee0269b9aaba6c3efad

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: b48713d319da8a327844d353c77e533c53c56053

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: 302bea36f74b19977b363243cc99f2041b5410d4

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: 87b11f863f67f2d100ee0269b9aaba6c3efad

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: b487136319da8a327844d353c77e533c53c56053
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: 87b11f86367dfdf2610ee0769b929baab4c3efad

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: b487136319da0a327844d353c7e533c53c56053

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: 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: 87b11f86367dfdf2610ee0769b929baab4c3efad

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: b487136319da0a327844d353c7e533c53c56053

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

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: 571b8bb3866341badd6ee24de677b98409f0c789c

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: 571b8bb3866341badd6ee24de677b98409f0c789c

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

Built: 2013-03-25_17.28, by: mcpre
File SHA1 checksum: fb815b5cbaf5fd20a0a0e2aeabdbd687347c6921d

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: fbd6ab055b191909bc78ccac23b964de15ab8e

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: 644364aee8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5ce189ec19440abffdd71c6

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: 644364aee8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5ce189ec19440abffdd71c6

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: 644364aee8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5ce189ec19440abffdd71c6

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: 644364aee8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5ce189ec19440abffdd71c6

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: fb815b5cbaf5fd20a0a0e2aeabdbd687347c6921d

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: fbd6ab055b191909bc78ccac23b964de15ab8e

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: 644364aee8ccebddd4af5b8d29367db50fc82b17

Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a

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

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: 2e6b6b1949261873ce5ce189ec19440abffdf71c6

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: 644364aee8ccbeb74af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5ce189ec19440abffdf71c6

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: 644364aee8ccbeb74af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5ce189ec19440abffdf71c6

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

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: fb1d6ab055b191909bc78ccac23b964de15ab8e

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: 2e6b6b1949261873ce5ce189ec19440abffdf71c6

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: 2e6b6b1949261873ce5ce189ec19440abffdf71c6
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: 6d12280b5cc3d17d752f475bf340b77ef3451ca

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 2e6b6b1949261873ce5ec1e189ec19440abfd71c6

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: 6d12280b5cc3d17d752f475bf340b77ef3451ca

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 2e6b6b1949261873ce5ec1e189ec19440abfd71c6

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: fb815b5cbaf5fd20a0e2aeabd2687347c6921d

File: bootflash:Active_Dir/asr1000rp2-elcbase.03.12.01.S.154-2.S.pkg, on: SIP3
Built: 2013-03-29_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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 644364aeea8cceb045b8d29367db50fc82b17

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 2e6b6b1949261873ce5ec1e189ec19440abfd71c6

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 644364aeea8cceb045b8d29367db50fc82b17

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 2e6b6b1949261873ce5ec1e189ec19440abfd71c6

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 644364aeea8cceb045b8d29367db50fc82b17

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 2e6b6b1949261873ce5ec1e189ec19440abfd71c6

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: 2013-03-29_17.28, by: mcpre
File SHA1 checksum: 644364aeea8cceb045b8d29367db50fc82b17
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: 2e6b6b1949261873ce5ce189ec19440abf71c6

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: 99f8dc925083b118626a4e82d93079050db96826

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: 943644eaa8ccedbbd4af58d29367db50fc82b17

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: 644364aeaa8ccedbbd4af58d29367db50fc82b17

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: 94763274fc807489410e299a45fd73f9c9d4799

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: 644364aeaa8ccedbbd4af58d29367db50fc82b17

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: 94763274fc807489410e299a45fd73f9c9d4799

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: 644364aeaa8ccedbbd4af58d29367db50fc82b17

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: 94763274fc807489410e299a45fd73f9c9d4799

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: 644364aeaa8ccedbbd4af58d29367db50fc82b17

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: 94763274fc807489410e299a45fd73f9c9d4799

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: f8b155bc6a5f2d20a0a0aeab2687347c6921d

Package: elcbase, version: 03.13.01.S.154-2.S, status: inactive
File: bootflash:Active_Dir/asr1000rp2-elcbase.03.13.01.S.154-2.S.pkg, on: SIP5
Built: 2013-03-25_17.28, by: mcpre
File SHA1 checksum: fb1d6ab056b191909bc78ccac23b964de15ab8e

Package: sipspsa, version: 03.12.01.S.154-2.S, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspsa.03.12.01.S.154-2.S.pkg, on: SIPS/0
Built: 2013-03-25_17.28, by: mcpree
File SHA1 checksum: 644364aae8ccee6ad4af5b8d29367db50fc82b17

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: SIPS/0
Built: 2013-03-25_17.28, by: mcpree
File SHA1 checksum: 2e6b6b1949261873ce5c189ec19440abfd71c6

Package: sipspsa, version: 03.12.01.S.154-2.S, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspsa.03.12.01.S.154-2.S.pkg, on: SIPS/1
Built: 2013-03-25_17.28, by: mcpree
File SHA1 checksum: 644364aae8ccee6ad4af5b8d29367db50fc82b17

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: SIPS/1
Built: 2013-03-25_17.28, by: mcpree
File SHA1 checksum: 2e6b6b1949261873ce5c189ec19440abfd71c6

Package: sipspsa, version: 03.12.01.S.154-2.S, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspsa.03.12.01.S.154-2.S.pkg, on: SIPS/2
Built: 2013-03-25_17.28, by: mcpree
File SHA1 checksum: 644364aae8ccee6ad4af5b8d29367db50fc82b17

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: SIPS/2
Built: 2013-03-25_17.28, by: mcpree
File SHA1 checksum: 2e6b6b1949261873ce5c189ec19440abfd71c6

Package: sipspsa, version: 03.12.01.S.154-2.S, status: n/a
File: bootflash:Active_Dir/asr1000rp2-sipspsa.03.12.01.S.154-2.S.pkg, on: SIPS/3
Built: 2013-03-25_17.28, by: mcpree
File SHA1 checksum: 644364aae8ccee6ad4af5b8d29367db50fc82b17

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: SIPS/3
Built: 2013-03-25_17.28, by: mcpree
File SHA1 checksum: 2e6b6b1949261873ce5c189ec19440abfd71c6

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-espxb.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-rpacess.03.13.00.S.154-3.S-ext.pkg
  File is in use, will not delete.
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
   show version active-rp installed
show version standby-rp installed

dir filesystem:<directory>

show platform

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 URL-to-consolidated-package

7. copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-active-RP
   copy file-system:asr1000rp2-elcspa.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
   copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-standby-RP
   copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-standby-RP

9. request platform software package verify rp slot file URL mdr {force}

10. request platform software package install rp standby-RP file
    URL-to-standby-file-system: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:image slot SIP-slot-number mdr {force}

Note Repeat this step for each SIP installed in the router before moving onto the next step.
13. request platform software package install rp active-RP file URL-to-active-file-system:image slot ELC-slot-number mdr {force}

Note Repeat this step for each ELC installed in the router before moving to the next step.


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
   show version active-RP installed

17. redundancy force-switchover

18. request platform software package clean
**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
</table>
| **Step 1**  
  show version  
  show version active-rp installed  
  show version standby-rp installed  
  dir filesystem:<directory>  
  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. |
| **Example:**  
  Router# show version  
  Router# show version r0 installed  
  Router# show version r1 installed  
  Router# dir bootflash:  
  Router# show platform |  |
| **Step 2**  
  mkdir URL-to-directory-name | 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. |
| **Example:**  
  Router# mkdir bootflash:tmp |  |
| **Step 3**  
  ip tftp source-interface gigabitethernet slot/port | 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. |
| **Example:**  
  Router(config)# ip tftp source-interface gigabitethernet 0 |  |
| **Step 4**  
  copy tftp: URL-to-target-location | 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. |
| **Example:**  
  Router# copy tftp: bootflash:tmp |  |
<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 5</strong> request platform software package expand file URL-to-consolidated-package</td>
<td>Extracts the subpackages out of the consolidated package file into the temporary directory.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Fiction: requests platform software package expand file bootflash:tmp/asr1000rp2-adventerprisek9.03.13.00.S.154-3.S-ext.bin</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Step 6</strong> dir target-URL</td>
<td>(Optional) Displays the directory to confirm that the files were extracted.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Fiction: dir bootflash:tmp</td>
</tr>
</tbody>
</table>
Step 7

```
copy file-system:/asr1000rp2-espbase.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-espx86base.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-rpaccess.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-rpbase.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-rpcontrol.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-rpios.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-sipbase.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-sipspa.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-elcbase.version.pkg
URL-to-directory-of-sub-packages-active-RP

copy file-system:/asr1000rp2-elcspa.version.pkg
URL-to-directory-of-sub-packages-active-RP
```

Covers the subpackages out of the temporary directory into the directory on the router where the subpackages running the active RP are currently stored.

**Example:**

```
Router# copy
bootflash:/tmp/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy
bootflash:/tmp/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy
bootflash:/tmp/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy
bootflash:/tmp/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy
bootflash:/tmp/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy
bootflash:/tmp/asr1000rp2-rpios-adventerprisek9.03.12.01.S.154-2.S1.pkg bootflash:
```

```
Router# copy
bootflash:/tmp/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg bootflash:
```

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

```
Router# copy
bootflash:/tmp/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg bootflash:
```

```
Router# copy
bootflash:/tmp/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg bootflash:
```
### Step 8

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>copy file-system:asr1000rp2-espbase.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td>Copies the subpackages out of the temporary directory into the directory on the router where the subpackages running the standby RP are currently stored.</td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-espx86base.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpaccess.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpbase.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpcontrol.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-rpios.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipbase.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-sipspa.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcbase.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
<tr>
<td><code>copy file-system:asr1000rp2-elcspa.version.pkg URL-to-directory-of-sub-packages-standby-RP</code></td>
<td></td>
</tr>
</tbody>
</table>

**Example:**

Router# `copy bootflash:tmp/asr1000rp2-espbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`

Router# `copy bootflash:tmp/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`

Router# `copy bootflash:tmp/asr1000rp2-rpaccess.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`

Router# `copy bootflash:tmp/asr1000rp2-rpbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`

Router# `copy bootflash:tmp/asr1000rp2-rpcontrol.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`

Router# `copy bootflash:tmp/asr1000rp2-rpios-adventerprisek9.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`

Router# `copy bootflash:tmp/asr1000rp2-sipbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`

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

Router# `copy bootflash:tmp/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`

Router# `copy bootflash:tmp/asr1000rp2-elcspa.03.13.00.S.154-3.S-ext.pkg stby-bootflash:`
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 9</strong></td>
<td></td>
</tr>
<tr>
<td><code>request platform software package verify rp slot file URL mdr {force}</code></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# request platform software package verify rp 1 file stby-bootflash:asr1000rp2-*03.13.00.S.154-3.S-ext*.pkg mdr</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 10</strong></td>
<td></td>
</tr>
<tr>
<td><code>request platform software package install rp standby-RP file target-standbyRP-URL-for-sub-packages:asr1000rp* version*.pkg force</code></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# request platform software package install rp 1 file stby-bootflash:asr1000rp2-*03.13.00.S.154-3.S-ext*.pkg force</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 11</strong></td>
<td></td>
</tr>
<tr>
<td><code>hw-module slot standby-RP reload</code></td>
<td>Reloads the standby RP.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Router# hw-module slot R1 reload</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 12</strong></td>
<td></td>
</tr>
<tr>
<td><code>request platform software package install rp active-RP file URL-to-active-file-system:asr1000rp2-{sipbase,sipspa}*version*.pkg slot SIP-slot-number mdr {force}</code></td>
<td>Upgrades the SIP and SPA subpackages for each SIP on the router using MDR.</td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td></td>
</tr>
<tr>
<td>This step must be completed one SIP at a time, and repeated for each SIP installed on the router before performing the next step.</td>
<td></td>
</tr>
<tr>
<td><strong>Tip</strong></td>
<td></td>
</tr>
<tr>
<td>You can use the <code>show ip interface brief</code> command to identify which slots contain SIPS and SPAs. The interfaces with three numbers (in the form <code>SIP-number/SPA-number/interface-number</code>) identify the SIP and SPA locations in the router.</td>
<td></td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td></td>
</tr>
<tr>
<td>The <code>pattern</code> options used in this CLI (<code>sipbase</code> and <code>sipspa</code>) 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 on page 6-69 for pre-Cisco IOS XE Release 2.1.2 ISSU upgrade procedures.</td>
<td></td>
</tr>
</tbody>
</table>
### Command or Action

<table>
<thead>
<tr>
<th>Step 13</th>
<th>request platform software package install rp active-RP file URL-to-active-file-system:asr1000rp2-{elcbase,elcspa}<em>version</em>.pkg slot ELC-slot-number mdr {force}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td>Router# request platform software package install rp 0 file bootflash:asr1000rp2-{elcbase,elcspa}<em>03.13.00.S.154-3</em>.pkg mdr</td>
</tr>
<tr>
<td>Purpose</td>
<td>Upgrades the ELC and SPA subpackages for each ELC on the router using MDR.</td>
</tr>
<tr>
<td>Note</td>
<td>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.</td>
</tr>
<tr>
<td>Tip</td>
<td>You can use the <code>show ip interface brief</code> command to identify which slots contain ELCs and SPAs. The interfaces with three numbers (in the form <code>ELC-number/SPA-number/interface-number</code>) identify the ELC and SPA locations in the router.</td>
</tr>
<tr>
<td>Note</td>
<td>The <code>pattern</code> options used in this CLI (<code>elcbase</code> and <code>elcspa</code>) were introduced in Cisco IOS XE Release 3.10S and are not available in previous Cisco IOS XE Releases.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 14</th>
<th>request platform software package install rp active-RP file URL-to-active-file-system:asr1000rp2-esp<em>version</em>.pkg slot standby-ESP-slot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td>Router# request platform software package install rp 0 file bootflash:asr1000rp2-esp<em>03.13.00.S.154-3.S-ext</em>.pkg slot 1</td>
</tr>
<tr>
<td>Purpose</td>
<td>Upgrades the ESP Base subpackage on the standby and the active ESPs.</td>
</tr>
<tr>
<td>Note</td>
<td>After entering the <code>issu loadversion rp</code> command on the active RP, the ESP switchover will occur automatically. Minimal traffic interruption will occur as a result of this switchover.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 15</th>
<th>request platform software package install rp active-RP file URL-to-active-file-system:asr1000rp<em>version</em>.pkg force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td>Router# request platform software package install rp 0 file bootflash:asr1000rp*-03.13.00.S.154-3.S-ext*.pkg force</td>
</tr>
<tr>
<td>Purpose</td>
<td>Upgrades all of the sub-packages on the active RP.</td>
</tr>
<tr>
<td>Note</td>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 16</th>
<th>show version active-RP provisioned show version active-RP installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td>Router# show version r0 provisioned Router# show version r0 installed</td>
</tr>
<tr>
<td>(Optional)</td>
<td>Confirms the subpackages are provisioned and installed.</td>
</tr>
</tbody>
</table>
### 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(2r)E, 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 420889K/6147K bytes of memory.
Processor board ID FOIX1343GJGC
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

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>ASR1000-SIP40</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/0</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/1</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/2</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>2/3</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>4</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>4/0</td>
<td>BUILT-IN-2T+20X1GE</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>R0</td>
<td>ASR1000-RP2</td>
<td>ok, active</td>
<td>1d03h</td>
</tr>
<tr>
<td>R1</td>
<td>ASR1000-RP2</td>
<td>ok, standby</td>
<td>1d03h</td>
</tr>
<tr>
<td>F0</td>
<td>ASR1000-ESP100</td>
<td>ok, active</td>
<td>1d03h</td>
</tr>
<tr>
<td>F1</td>
<td>ASR1000-ESP100</td>
<td>ok, standby</td>
<td>1d03h</td>
</tr>
<tr>
<td>P0</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P1</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P2</td>
<td>ASR1013-PWR-AC</td>
<td>ok</td>
<td>1d03h</td>
</tr>
<tr>
<td>P3</td>
<td>ASR1013-PWR-AC</td>
<td>ps, fail</td>
<td>1d03h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slot</th>
<th>CPLD Version</th>
<th>Firmware Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>002000800</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>4</td>
<td>002000800</td>
<td>15.3(1r)S</td>
</tr>
<tr>
<td>R0</td>
<td>10021901</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>R1</td>
<td>10021901</td>
<td>15.3(3r)S</td>
</tr>
<tr>
<td>F0</td>
<td>12071700</td>
<td>15.3(3r)S</td>
</tr>
</tbody>
</table>
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: a624f70f68c60292f4482433f43af9d2487a55c4

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
File SHA1 checksum: 3a9675142898cfac350d4e42f0e37bd9f4e8538

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
File SHA1 checksum: 87b11f863f67f67df2610ee0769b929baab4c3efad

<output removed for brevity>

Router# dir bootflash:Active_Dir/

    20  -rw-   41104112   Aug 3 2013 15:05:40 +05:30
    21  -rw-   50285296   Aug 3 2013 15:05:40 +05:30
    22  -rw-   82514676   Aug 3 2013 15:05:40 +05:30
    23  -rw-  101084628   Aug 3 2013 15:05:40 +05:30
    24  -rw-   29012724   Aug 3 2013 15:05:40 +05:30
    25  -rw-   49899864   Aug 3 2013 15:05:40 +05:30
    26  -rw-   46557940   Aug 3 2013 15:05:40 +05:30
    27  -rw-  114612988   Aug 3 2013 15:05:40 +05:30
    28  -rw-   41954036   Aug 3 2013 15:05:40 +05:30
    29  -rw-   60957428   Aug 3 2013 15:05:40 +05:30
    30  -rw-   9838   Aug 3 2013 15:05:40 +05:30

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 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
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- 38340500 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
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- 38340500 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
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- 38340500 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
7870444384 bytes total (925847932 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:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-espx86base.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCCCC95446456 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: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# 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# 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# 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...CCCCC118754284 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: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# 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...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:Active_Dir/
Destination filename [Active_Dir/asr1000rp2-elcbase.03.13.00.S.154-3.S-ext.pkg]?
Copy in progress...CCCCC37557200 bytes copied in 5.650 secs (6647292 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...CCCCC95446456 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: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# 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# 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)
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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# 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# 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...CCCC61760468 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: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# 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-esp86base.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
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

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.154-2.3]
As SIP4 does not support MDR none of the SPA's within 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
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_REDUCE_RANGENCY_STATE_CHANGE)
*Aug 4 19:14:03.584 IST: %RF-5-RF_RELOAD: Peer reload. Reason: EHSB 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_REDUCE_RANGENCY_STATE_CHANGE(5))


*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 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: Candidate software combination not found in compatibility database

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: Candidate software combination not found in compatibility database

WARNING: Candidate software combination not found in compatibility database

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
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
Chapter 6 Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

SIP2 to acquire provisioned software Applying final IPC and database definitions

Disruptive Restart
*Aug 4 19:20:58.017 IST: %CMCC-5-SPA_MDR_INIT: SIP2: cmcc: SPA1 initiated Minimal
Disruptive Restart
Disruptive Restart
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# 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
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: 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
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

--- 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
Disruptive Restart Generating software version information
  Notifying running software of updates
  Unblockig 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-INSTSPA: SPA inserted in subslot 4/0
*Aug 4 19:43:17.541 IST: %LINK-3-UPDOWN: SIP4/0: Interface EOB0/1, 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
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#
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

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: Candidate software combination not found in compatibility database

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-esp86base.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: cmd: 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#

--- 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#
--- 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 19:31:18.010 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand:  F0 redundancy state is Active with ready Standby
Constructing working set for candidate 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
Restoring 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: cmdnd: F1 redundancy state is Active
*Aug 4 19:32:46.539 IST: %CMRP-6-FP_HA_STATUS: R0/0: cmand: F1 redundancy state is Standby

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: %CMRP-6-FP_HA_STATUS: R0/0: cmdnd: F1 redundancy state is Standby
Router# show platform
Chassis type: ASR1013

<table>
<thead>
<tr>
<th>Slot</th>
<th>Type</th>
<th>State</th>
<th>Insert time (ago)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>ASR1000-SIP40</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/0</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/1</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/2</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>2/3</td>
<td>SPA-1X10GE-L-V2</td>
<td>ok</td>
<td>1d04h</td>
</tr>
<tr>
<td>4</td>
<td>ASR1000-2T+20X1GE</td>
<td>ok</td>
<td>1d04h</td>
</tr>
</tbody>
</table>
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

--- 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

--- 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-esp86base.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-slpbase.03.13.00.S.154-3.S-ext.pkg
  Found asr1000rp2-slp86base.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
Verifying image type compatibility
Checking IPC compatibility for candidate software
Checking candidate package set infrastructure compatibility
Checking infrastructure compatibility with running software
Checking candidate package set 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
  File SHA1 checksum: 4f655c5d4bb95b4dfb24a0d25ebf97cf8527c69e9

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

Chapter 6: Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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: 85e9eab826b6ff2194ef568a56c74653625383ad2

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
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
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: 85e9eab826b6ff2194ef568a56c74653625383ad2

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
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: RP1/0
File SHA1 checksum: 4f655c54bb95b4dfa24a0d25ebf97cf852769e9

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
File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78

Package: rpios-adventerprisek9, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25 23:00, 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
File SHA1 checksum: 8a0a45ea5c7a656c0eef6726174461584f182c78
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

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

Built: 2013-07-25 22.55, by: mcpre
File SHA1 checksum: a360dff0df76a9b1ae67cda9116c97b62f25ab09

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 21.21, by: mcpre
File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0

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 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 21.21, by: mcpre
File SHA1 checksum: 2fe0ede1545e3f8260b7d453653e812500f0d7b0

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 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 21.21, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73fd2b9e910b268a7

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 21.21, by: mcpre
File SHA1 checksum: 99f8dc925083b118626ada4e82d93079050db96826

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 21.21, by: mcpre
File SHA1 checksum: 6d12880b5cc33d17d752f475bf340b77ef3451ca

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 21.21, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73f6c9d67499

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 21.21, 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 21.21, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73f6c9d67499

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 21.21, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73f6c9d67499

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 21.21, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73f6c9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: SIP0/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73f2bae910b268a7

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: SIP1/0
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: 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: SIP1/1
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73f2bae910b268a7

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: SIP1/1
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: SIP1/1
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: SIP1/2
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: SIP1/2
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73f2bae910b268a7

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: SIP1/2
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: SIP1/2
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: SIP1/3
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: SIP1/3
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 3b6a4838972840a995ff22e73f2bae910b268a7
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: 94763274fc807489410e299a45fd73fcee9d67499

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: 94763274fc807489410e299a45fd73fcee9d67499

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: 3b6a4838972840a995f22e73fd2bae910b268a7

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: 94763274fc807489410e299a45fd73fcee9d67499
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: SIP3/1
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: SIP3/2
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
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
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: 99f88d925083b118626a4e82d93079050db96826

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
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fce9d67499

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: SIP4/2
Built: 2013-07-25_21.16, by: mcpre
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 94763274fc807489410e299a45fd73fcee9d67499

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: 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: SIP5/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 99f8dc925083b18626a4e82d93079050db96826

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: SIP5/0
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

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: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 6d12280b5c33d17d752f475bf340b77ef3451ca

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: 94763274fc807489410e299a45fd73fcee9d67499

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: 6d12280b5c33d17d752f475bf340b77ef3451ca

Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 94763274fc807489410e299a45fd73fcee9d67499

Package: sipspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca

Package: elcspa, version: 03.13.00.S.154-3.S-ext, status: n/a
Built: 2013-07-25_21.16, by: mcpre
File SHA1 checksum: 6d12280b5c33d17d752f475bf340b77ef3451ca
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: c79075780592aecc1312725f4a2357a034fda2d3b

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: 87b11f863f67df3df2610ee0769b929baab4c3efad

  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: 032bea36f74bf19977b363243c99f02413b54104d

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: 87b11f863f67df3df2610ee0769b929baab4c3efad

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: 032bea36f74bf19977b363243c99f02413b54104d

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: 87b11f863f67df3df2610ee0769b929baab4c3efad

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: 87b11f863f67df2610ee0769b929baab4c3efad

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: 032bea36f74b19977b363243c99f02413b54104d

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: 2fe0ede1545e3f8260b7d453653e5812500f0d7b0

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: 571b8bb3866341badd6e24de677b9840f0c789c

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: 2fe0ede1545e3f8260b7d453653e5812500f0d7b0

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: 571b8bb3866341badd6e24de677b9840f0c789c

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: fb15b5cbbf5fd20a0a0e2aeabd2687347ce6921d

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: fb1d6ab055b191909b78ccac23b964de15ab8e

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: 644364aee8c8c6bda4af5b8d29367db50f382b17

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: 2e6b6b1949261873e5ce189ec19440abfd71c6

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

Built: 2013-03-25_17.28, by: mcpre
File SHA1 checksum: 644364aeaa8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5c1e189ec19440abff71c6

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: 644364aeaa8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5c1e189ec19440abff71c6

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: 644364aeaa8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5c1e189ec19440abff71c6

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: fb815b5cbaf5f0d20aa0e2aeabd687347ce6921d

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: fb1d6ad0056b191909bc8ccac3b964de15ab8e

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: 644364aeaa8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5c1e189ec19440abff71c6

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: 644364aeaa8ccebddd4af5b8d29367db50fc82b17

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: 2e6b6b1949261873ce5c1e189ec19440abff71c6

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: 644364aeaa8ccebddd4af5b8d29367db50fc82b17

Package: elcspa, version: 03.12.01.S.154-2.S, status: n/a
Using ISSU to Upgrade the Subpackages in a Dual Route Processor Configuration with MDR

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: 2e6b6b1949261873ce5ce189ec19440abfd71c6

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: 644364aee8cc6bda4af5b8d29367db50f828b17

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: 2e6b6b1949261873ce5ce189ec19440abfd71c6

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: 3b6a4838972840a995ff22e73fd2b90b268a7

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: fb1d6ab055b191909bc78ccac23bc66a5eb808e

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: 6d12280b5cc33d17d7f52f475bf340b77ef3451ca

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: 2e6b6b1949261873ce5ce189ec19440abfd71c6

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: 6d12280b5cc33d17d7f52f475bf340b77ef3451ca

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: 2e6b6b1949261873ce5ce189ec19440abfd71c6

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: 6d12280b5cc33d17d7f52f475bf340b77ef3451ca

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: 2e6b6b1949261873ce5ce189ec19440abfd71c6

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: 6d12280b5cc33d17d7f52f475bf340b77ef3451ca

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: 2e6b6b1949261873ce5ce189ec19440abfd71c6
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

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: fb1d6abd05b01909bc7c5c64d156e8e8e

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: 644364ae88ccee24d4a5b829367db50c82b17

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: 644364ae88ccee24d4a5b829367db50c82b17

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: 644364ae88ccee24d4a5b829367db50c82b17

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: 644364ae88ccee24d4a5b829367db50c82b17

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: 99f8dc9250b4189ec01940a0b771c6

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: 644364ae88ccee24d4a5b829367db50c82b17
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: 94763274fc807489410e299a45fd73fcee9d67499

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: 644364aeaa8ccebdaaf5b8d29367db50fc82b17

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: 94763274fc807489410e299a45fd73fcee9d67499

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: 644364aeaa8ccebdaaf5b8d29367db50fc82b17

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: 94763274fc807489410e299a45fd73fcee9d67499

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: 644364aeaa8ccebdaaf5b8d29367db50fc82b17

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: 2013-03-25_17.28, by: mcpre
File SHA1 checksum: 644364aeaa8ccebdaaf5b8d29367db50fc82b17

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: fb815b5c9af5fd20a0a02aeabd2687347c6921d

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: fb1d66bd055b91909bc78ccac23b964dee15ab8e

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: 644364aeaa8ccebdaaf5b8d29367db50fc82b17

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: 2ede6b1949261873ce5ce189ec194400bf7d7f6c6

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: 644364aeaa8ccebdaaf5b8d29367db50fc82b17

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

File SHA1 checksum: 2e6b6b1949261873ce5ce189ec19440abfffd71c6

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: SIPS/2
Built: 2013-03-25_17.28, by: mcpre
File SHA1 checksum: 64a364aeea8cceb44f5b8d29367db50fc82b17

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: SIPS/2
Built: 2013-03-25_17.28, by: mcpre
File SHA1 checksum: 64a364aeea8cceb44f5b8d29367db50fc82b17

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

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-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:packages.conf.00- ... done.
SUCCESS: Files deleted.
Router#
Additional References

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

Related Documents

<table>
<thead>
<tr>
<th>Related Topic</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco IOS XE commands</td>
<td>Cisco IOS Master Commands List, All Releases</td>
</tr>
<tr>
<td>Performing an In Service Software Upgrade</td>
<td>High Availability Configuration Guide, Cisco IOS XE Release 3S</td>
</tr>
</tbody>
</table>

Standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.</td>
<td>—</td>
</tr>
</tbody>
</table>

MIBs

<table>
<thead>
<tr>
<th>MIB</th>
<th>MIBs Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>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: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a></td>
</tr>
</tbody>
</table>

RFCs

<table>
<thead>
<tr>
<th>RFC</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.</td>
<td>—</td>
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## Technical Assistance

<table>
<thead>
<tr>
<th>Description</th>
<th>Link</th>
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</thead>
<tbody>
<tr>
<td>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.</td>
<td><a href="http://www.cisco.com/cisco/web/support/index.html">http://www.cisco.com/cisco/web/support/index.html</a></td>
</tr>
</tbody>
</table>
Feature Information for Software Upgrade Process

Table 6-3 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 6-3 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 6-3  Feature Information for Software Upgrade Process

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>Releases</th>
<th>Feature Information</th>
</tr>
</thead>
</table>
| 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). |
| 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. |
Chapter 6  Software Upgrade Processes Supported by Cisco ASR 1000 Series Routers

Feature Information for Software Upgrade Process