Configuring the Cisco WebEx Node for the ASR 1000 Series Aggregation Services Routers

This chapter provides information about configuring the Cisco WebEx Node for ASR 1000 Series on the Cisco ASR 1000 Series Aggregation Services Routers, also referred to in this document as the Cisco WebEx Node SPA.

Prerequisites

Complete the following prerequisites to successfully activate your Cisco WebEx Node for ASR 1000 Series:

Registering with the WebEx Data Center and the Cisco WebEx Node Management System

To successfully activate a Cisco WebEx Node for ASR 1000 Series, certain registration and provisioning activities must be performed with the WebEx Data Center using the Cisco WebEx Node Management System. The Cisco WebEx Node Management System also provides monitoring and reporting for Cisco WebEx nodes.

Once the SPA is registered with the WebEx Data Center, certain node security information must be gathered and then configured on the Cisco WebEx Node for ASR 1000 Series.

Note Registering your Cisco WebEx Node SPA and establishing an account in the Cisco WebEx Node Management System are two separate activities. If you are responsible for the management of Cisco WebEx Node SPAs for your enterprise, then it is likely that you will also acquire an account in the Cisco WebEx Node Management System application. Otherwise, you will work with your enterprise WebEx administrator to exchange the appropriate information to properly provision your Cisco WebEx Node SPA with the WebEx Data Center and configure it locally at the Cisco ASR 1000 Series Router.

Note For details about working with the Cisco WebEx Node Management System, see the Cisco WebEx Node Management System Administrator's Guide.

Obtaining an Account in the Cisco WebEx Node Management System

If you will be monitoring and maintaining Cisco WebEx Node SPAs for your enterprise, then you will need to obtain an account in the Cisco WebEx Node Management System.

Consider the following important information about Cisco WebEx Node Management System accounts:

- You must change your password within 90 days. If you do not change your password, your account will move to "Inactive" status.
- If you do not successfully log in to the Cisco WebEx Node Management System after three attempts, the account moves to "Locked" status.

To acquire an account in the Cisco WebEx Node Management System, perform the following steps:

SUMMARY STEPS

1. Contact your Cisco WebEx administrator with the following information to set up your initial account information:
2. Once your Cisco WebEx Node Management System account is created, you can log in to the application by going to the following URL:
3. On the login page for the Cisco WebEx Node Management System, enter your username and temporary password in the appropriate boxes.
4. From the Account List page, go to the Edit Account page to change your password by checking the box next to your user account and click the pencil icon to access your account information page.
5. On the Edit Account page, click the **Change Password** link to open the Change Password dialog box.
6. In the Change Password dialog box, enter your old password and new password in the corresponding fields and click **OK**.

DETAILED STEPS

Step 1 Contact your Cisco WebEx administrator with the following information to set up your initial account information:
  Note The first account associated with a Cisco WebEx Node SPA will already have the organization name automatically created by the WebEx provisioning team.
  - User name—This name should be unique per organization.

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

2

OL-14127-17

- Password—Must contain at least 8 characters, a minimum of one mixed-case letters, and a minimum of one number. Your Cisco WebEx administrator will assign an initial password that you can change after logging into your account.

- Email address

Step 2 Once your Cisco WebEx Node Management System account is created, you can log in to the application by going to the following URL:
https://wma.webex.com

Step 3 On the login page for the Cisco WebEx Node Management System, enter your username and temporary password in the appropriate boxes.
Note You can obtain login assistance by submitting your email address and your login information will be sent to you.

Step 4 From the Account List page, go to the Edit Account page to change your password by checking the box next to your user account and click the pencil icon to access your account information page.

Step 5 On the Edit Account page, click the **Change Password** link to open the Change Password dialog box.

Step 6 In the Change Password dialog box, enter your old password and new password in the corresponding fields and click **OK**.

Registering a Cisco WebEx Node SPA in the Cisco WebEx Node Management System

This section describes the information required to perform initial activation of your Cisco WebEx Node SPA in the Cisco WebEx Node Management System.

Note This task must be performed by a registered Cisco WebEx Node Management user. This could be someone in the role of a Cisco WebEx administrator for your enterprise, or multiple individuals responsible for Cisco WebEx Node management for your enterprise.

SUMMARY STEPS

1. To register and provision your Cisco WebEx Node for the ASR 1000 Series, contact your Cisco WebEx administrator with the following information to register your Cisco WebEx Node SPA with the WebEx Data Center:

2. After the Cisco WebEx Node SPA is registered in the Cisco WebEx Node Management System, obtain the following information from the Node Information page for the SPA in the Cisco WebEx Node Management System:

DETAILED STEPS

Step 1 To register and provision your Cisco WebEx Node for the ASR 1000 Series, contact your Cisco WebEx administrator with the following information to register your Cisco WebEx Node SPA with the WebEx Data Center:

- Company name

- Phone number (this number uniquely identifies a customer location, not a actual number for contacting)

- Site name (for example, cisco.webex.com)

- SPA serial number (use the **show diag [all | chassis | slot | subslot] eeprom** command to view the serial number of the WebEx SPA, for example, router# **show diag subslot** *0/1* **eeprom detail**)

- Assigned hostname

- Conferencing mode (either web conferencing or voice and video conferencing)

Step 2   After the Cisco WebEx Node SPA is registered in the Cisco WebEx Node Management System, obtain the following information from the Node Information page for the SPA in the Cisco WebEx Node Management System:

- wma-passcode—Must match the value in the **service-engine wma-passcode** configuration command on the Cisco WebEx Node SPA.

- wma-token—Must match the value in the **service-engine wma-token** configuration command on the Cisco WebEx Node SPA.

- wma-url—The URL string from the Cisco WebEx Node Management System must be configured on the Cisco WebEx Node SPA using the **service-engine wma-url** command.

Note   This security information must be configured on the Cisco WebEx Node for ASR 1000 Series SPA using the CLI. For more information about configuring the CLI, see the Configuring the Virtual Service Engine Interface, on page 6.

Completing the Cisco WebEx Node SPA Configuration Prerequisites

Prior to configuring the Cisco WebEx Node SPA, you must ensure that the following tasks are completed:

- A Cisco IOS XE software image is loaded on your Cisco ASR 1000 Series Router that is compatible with the Cisco WebEx Node SPA. The Cisco WebEx Node SPA provides K9 encryption, and you must also download and install the optional *sipspawmak9* subpackage. To complete the installation of the Cisco Webex Node SPA, perform the steps mentioned in the following sections:

  ◦ Managing and Configuring a Router to Run Using Individual SubPackages From a Consolidated Package

  ◦ Managing and Configuring a Router to Run Using Optional SubPackages

For more information about Cisco IOS XE package compatibility and installation instructions, see the Consolidated Packages and Sub-Package Management chapter of the http://www.cisco.com/en/US/docs/routers/asr1000/configuration/guide/chassis/asrswcfg.html Cisco ASR 1000 Series Aggregation Services Routers Software Configuration Guide .

- After the router is configured to run using individual subpackages, download and install the webex *sipspawmak9* subpackage. Use the **request platform software package install rp** *rp-slot-number* **file** *storage-device:sipspa-package-name* command in the privileged EXEC mode or the diagnostic mode to upgrade the SIPSPA subpackage. For example:

```
router# request platform software package install rp
```

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

4

OL-14127-17

```
0
 file

bootflash:asr1000rp1-sipspawmak9.2011-11-23_09.34_cmaddine.pkg
.
```

- A DNS entry for the IP address is assigned to each Cisco WebEx Node SPA.

- An IP address is allocated for the Cisco IOS XE interface configuration on the Cisco ASR 1000 Series Aggregation Services Router side.

- An IP address is also allocated for the internal interface configuration on the Cisco WebEx Node SPA side.

- The IP address that is allocated for the Cisco IOS XE interface configuration on the Cisco ASR 1000 Series Router side and the IP address that is allocated for the internal interface configuration on the Cisco WebEx Node SPA side must be on the same subnet.

- Verify that certain WebEx Data Center servers (such as the Cisco WebEx Data Center SSL gateway and the Cisco WebEx Node Management server) are reachable and not blocked from access by the Cisco ASR 1000 Series Router. If access to these servers is blocked, then the Cisco WebEx Node SPA might not activate properly.

Configuration Tasks

This section describes how to configure the Cisco WebEx Node for ASR 1000 Series and verify the configuration. For information about managing your system images and configuration files, refer to the following:

- Cisco ASR 1000 Series Aggregation Services Routers Software Configuration Guide
- Cisco IOS Configuration Fundamentals Configuration Guide
- Cisco IOS Configuration Fundamentals Command Reference

Specifying the Service Engine Interface Address on the Cisco WebEx Node SPA

To configure or monitor SPA interfaces, you need to specify the physical location of the SIP, SPA, and interface in the CLI. The interface address format is *slot/subslot/port*, where:

- *slot*—Specifies the chassis slot number in the Cisco ASR 1000 Series Router where the SIP is installed.
- *subslot*—Specifies the secondary slot of the SIP where the SPA is installed.
- *port*—Specifies the number of the individual interface port on a SPA.

The following example shows how to specify the service engine interface on a Cisco WebEx Node SPA installed in the first subslot of a SIP (0) installed in chassis slot 2:

```
Router(config)# interface service-engine 2/0/0
```
For more information about identifying slots and subslots, see the "Identifying Slots and Subslots for the SIPs and SPAs" section in the *Configuring the SIP* chapter.

Configuring the Virtual Service Engine Interface

Configuration of the Cisco WebEx Node SPA begins with the setup of a virtual service engine interface. This Cisco IOS XE virtual interface is created to allow services running on the Cisco WebEx Node SPA to communicate through the Cisco ASR 1000 Series Router with the Internet. The interface simulates a 2.5-GB Ethernet interface and facilitates the connection between the Cisco WebEx Data Center and Cisco WebEx clients.

A service-engine interface on the Cisco WebEx Node SPA has two IP addresses:

- Router-side IP address—Configured with the **ip address** command. The IP address on the router side acts like a gateway to the WebEx services running on the SPA side.

- Internal SPA interface IP address—Configured with the **service-engine ip address** command.

Virtual Service-Engine Interface Configuration Guidelines

To successfully configure the virtual service-engine interface, complete the following guidelines:

- The Network Address Translation (NAT) must be configured to convert the private address of the service engine to the public address.

- The router-side IP address must be configured using the **ip address** command.

- The service-engine IP address must be on the same subnet as the router-side IP address for the service-engine interface (configured using the **ip address** command.)

- The **service-engine ip address** command must be configured before you configure the **service-engine default-gateway** command.

- The **service-engine default-gateway** IP address must match the router-side IP address.

✎

Note   Before you can configure the Cisco WebEx Node SPA, you must shut down the service-engine interface using the **shutdown** interface configuration command. To activate the service-engine interface, use the **no shutdown** command.

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

6

OL-14127-17

SUMMARY STEPS

1. Router(config)# **ip nat inside source static** *private-ip-address public-ip- address*
2. Router(config)# **interface service- engine** *slot/subslot/***0**
3. Router(config-if)# **ip address** *router-side-ip-address*
4. Router(config-if)# **service-engine ip address** *module-side-ip-address subnet-mask*
5. Router(config-if)# **service-engine default-gateway** *gateway-ip-address*
6. Router(config-if)# **service-engine nameserver** *name-server1-ip-address name-server2-ip-address*
7. Router(config-if)# **service-engine hostname** *module-side-hostname module-side-domain-name*
8. Router(config-if)# **service-engine wma-url** *url-string*
9. Router(config-if)# **service-engine wma-token** *token-string*
10. Router(config-if)# **service-engine wma-passcode** *name-string key-string*
11. Router(config-if)# **no shutdown**

DETAILED STEPS

	Command or Action	Purpose
Step 1	Router(config)# **ip nat inside source static** *private-ip-address public-ip-address*	Enables the NAT of the inside source address, which converts the private address of the service engine to the public address. • *private-ip-address*—The IP address of the service engine. • *public ip-address*—The public IP address that has Domain Name System (DNS) to register the Cisco Webex Node SPA in the Cisco WebEx Node Management System. The DNS name of the public IP address is the hostname of the Cisco Webex Node SPA.
Step 2	Router(config)# **interface service-engine** *slot/subslot/***0**	Specifies the service engine interface to configure, where:
Step 3	Router(config-if)# **ip address** *router-side-ip-address*	Specifies the IP address of the router-side interface.
Step 4	Router(config-if)# **service-engine ip address** *module-side-ip-address subnet-mask*	Configures the Cisco WebEx Node SPA service engine IP address, where: • *module-side-ip-address* —Specifies the IP address for the service engine interface. • *subnet mask* —Specifies the mask for the associated IP subnet. **Note** The service-engine IP address must be on the same subnet as the router-side IP address for the service-engine interface.
Step 5	Router(config-if)# **service-engine default-gateway** *gateway-ip-address*	Specifies the IP address for the service engine default gateway. **Note** This IP address must mach the IP address configured in the **ip address** command for the router-side IP address.
Step 6	Router(config-if)# **service-engine nameserver** *name-server1-ip-address name-server2-ip-address*	Specifies the primary and secondary domain name server that will be used by the WebEx Node SPA, where:

	Command or Action	Purpose
		• *name-server1-ip-address*—Specifies the IP address of the primary domain name server. • *name-server2-ip-address*—Specifies the IP address of the secondary domain nameserver.
Step 7	Router(config-if)# **service-engine hostname** *module-side-hostname module-side-domain-name*	Specifies the host name and domain name given to the Cisco WebEx Node SPA, where: • *module-side-hostname*—Specifies the host name of the service engine interface. The default host name is "service-spa." • *module-side-domain-name*—Specifies the domain name of the service engine interface. **Note** The domain name must be assigned as a preliminary step. See the Registering with the WebEx Data Center and the Cisco WebEx Node Management System, on page 1.
Step 8	Router(config-if)# **service-engine wma-url** *url-string*	Specifies the URL provided by registration and provisioning of the SPA in the Cisco WebEx Node Management System. For more information, see the Registering with the WebEx Data Center and the Cisco WebEx Node Management System, on page 1.
Step 9	Router(config-if)# **service-engine wma-token** *token-string*	Specifies the encrypted token string provided by the Cisco WebEx Node Management System. **Note** The *token-string* must match the code provisioned in the Cisco WebEx Node Management System for the named SPA. For more information, see the Registering with the WebEx Data Center and the Cisco WebEx Node Management System, on page 1.
Step 10	Router(config-if)# **service-engine wma-passcode** *name-string key-string*	Specifies the WebEx Node SPA name and key used for authentication, where: • *name-string*—Specifies the name assigned to the SPA. • *key-string*—Specifies the password used for encrypted authentication. **Note** The *key-string* must match the passcode provisioned in the Cisco WebEx Node Management System for the named SPA. For more information, see the Registering with the WebEx Data Center and the Cisco WebEx Node Management System, on page 1.
Step 11	Router(config-if)# **no shutdown**	Activates the interface.

What to Do Next

The following is an example of the use of these configurations:

```
ip nat inside source static 10.200.72.18 192.0.2.1
interface Service-Engine1/0/0
 ip address 10.200.72.17 255.255.255.252
 ip nat inside
```

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

8

OL-14127-17

```
ip virtual-reassembly
service-engine ip address 10.200.72.18 255.255.255.252
service-engine default-gateway 10.200.72.17
service-engine nameserver 10.100.4.10 10.100.4.20
service-engine hostname spawma1 cisco.com
service-engine wma-url https://wmabts.webex.com/wmams
service-engine wma-token 45484b3e-8ea5-41e5-b050-49409006d14e
service-engine wma-passcode SPAWMA1
0552055C271A4B5C4D5D424A5B5E007F73722B6B33264457125659500C0E555159
```

Note   Because the passcode is encrypted, the output will not reveal the configured token or passcode.

What To Do Next

Verify the configuration in the Verifying the Service Engine Configuration, on page 10.

Saving the Configuration

To save your running configuration to nonvolatile random-access memory (NVRAM), use the following command in privileged EXEC configuration mode:

Command	Purpose
Router# **copy running-config startup-config**	Writes the new configuration to NVRAM.

For more information about managing your system image and configuration files, refer to the Cisco IOS XE Configuration Fundamentals Configuration Guide and Cisco IOS Configuration Fundamentals Command Reference publications that correspond to your Cisco IOS XE software release.

Shutting Down and Removing the Cisco WebEx Node SPA

Because the Cisco WebEx Node SPA has a hard disk drive (HDD), it is necessary to shut down gracefully before physically removing the SPA from the Cisco ASR 1000 Series Router. This action allows the operating system to unmount the file system and put the HDD in standby mode to prevent data corruption or physical damage to the HDD.

The Cisco WebEx Node SPA can be shut down in one of two ways:

• You can use the **hw-module subslot stop** command to gracefully shut down the SPA before physically removing the hardware from the chassis. To shut down the Cisco WebEx Node SPA, use the following command in EXEC mode:

Command	Purpose
Router# **hw-module subslot** *slot/subslot* **stop**	Shuts down the Cisco WebEx Node SPA located in the slot and subslot locations indicated.

- You can use the Shutdown button located on the left side of the faceplate. Use the tip of a pen or other similar blunt object to press the button.

Once the shutdown operation is initiated by either method, the SYS LED starts to blink (green) to indicate the shutdown operation is in progress. Once the shutdown operation is completed, the SYS LED turns off to show that the SPA can now be removed.

⚠ **Caution** Make sure to wait until the SYS LED turns off before removing the SPA.

The following example shows the use of the **hw-module subslot stop** command:

```
Router# hw-module subslot 0/0 stop
ASR1004#
*Feb 18 12:37:32.260:%SPA_OIR-6-OFFLINECARD: SPA (SPA-WMA-K9) offline in subslot 0/0
*Feb 18 12:37:32.260:%ASR1000_OIR-6-SOFT_STOPSPA: SPA(SPA-WMA-K9) stopped in subslot 0/0,
interfaces disabled
ASR1004# show platform
Chassis type: ASR1004

Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
0         ASR1000-SIP10       ok                    16:20:50
 0/0      SPA-WMA-K9          stopped               00:00:13
 0/1      SPA-WMA-K9          ok                    16:18:32
R0        ASR1000-RP1         ok, active            16:20:50
F0        ASR1000-ESP10       ok, active            16:20:50
P0        ASR1004-PWR-AC      ok                    16:19:23
P1        ASR1004-PWR-AC      ok                    16:19:23

Slot      CPLD Version        Firmware Version
--------- ------------------- -------------------------------------
0         07091401            12.2(33r)XN2
R0        07062111            12.2(33r)XN2
F0        07051680            12.2(33r)XN2
```

Verifying the Service Engine Configuration

There are several commands that provide current information and status of the Cisco WebEx Node SPA, service engine, and other components.

Showing Cisco WebEx Node SPA Settings and Activity

You can use the **show interfaces service-engine** command to display Cisco WebEx Node SPA configuration settings and current activity. After configuration, make sure that the service-engine interface is "up" and the line protocol is "up" as shown in the following example:

```
Router# show interfaces service-engine
 1/0/0
Service-Engine0/1/0 is up, line protocol is up
  Hardware is SPA-WMA-K9, address is 001f.6c25.bd10 (bia 001f.6c25.bd10)
  Internet address is 10.200.72.18/30
  MTU 1500 bytes, BW 2500000 Kbit, DLY 1000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 03:43:59, output 00:00:35, output hang never
  Last clearing of "show interface" counters never
```

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

10

OL-14127-17

```
Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 2
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
   19 packets input, 1302 bytes, 0 no buffer
   Received 0 broadcasts (0 IP multicasts)
   0 runts, 0 giants, 0 throttles
   0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
   0 input packets with dribble condition detected
   1091 packets output, 371289 bytes, 0 underruns
   0 output errors, 0 collisions, 1 interface resets
   0 babbles, 0 late collision, 0 deferred
   0 lost carrier, 0 no carrier
   0 output buffer failures, 0 output buffers swapped out
```

Showing Service Engine Status

To show service engine status including a listing of the applications that are active, use the **show hw-module subslot service-engine status** command as shown in the following example:

```
Router# show hw-module subslot 1/0 service-engine status
Service Engine is Cisco SPA-WMA-K9
Service Engine state: Steady (0x300)
Service Engine OS Version: 1.0.0, Application Version: 1.0.0

Application: WebEx Node (Web Conferencing)
Application Status: Online
Configuration:
  Int ip address: 10.200.72.18 ,  mask: 255.255.255.252
  GW ip address: 10.200.72.17
  Nameserver 1: 10.100.4.10 ,  Nameserver 2: 10.100.4.20
  Hostname: spawma1, Domain name: cisco.com
  WMA URL - https://wmabts.webex.com/wmams
  WMA Token - 45484b3e-8ea5-41e5-b050-49409006d14e
  WMA Passcode Name - cisco_test, key:0552055C271A4B5C4D5D424A5B5E007F
```

Note Since the passcode and token are encrypted, the actual content is not displayed.

Verify that the service engine is reported in "Steady" state, and the Application Status is "Online." If the Application Status is "Online," then verify that the indicated operation mode ("Web Conferencing" or "Voice and Video Conferencing") is correct. If not, contact Cisco WebEx Technical Support to correct the problem.

If the Application Status field is "Offline" then the operation mode (indicated in parenthesis in "Application" field) will show that it is not configured, as shown in the following sample output:

```
Router# show hw-module subslot 1/0 service-engine status
Service Engine is Cisco SPA-WMA-K9
Service Engine state: Steady (0x300)
Service Engine OS Version: 1.0.0, Application Version: 1.0.0

Application: WebEx Node (operation mode not configured)
Application Status: Offline
```
This occurs when the connection to the Cisco WebEx Data Center fails, and therefore provisioning information about the operation mode can not be retrieved. For more information about provisioning, see the Registering with the WebEx Data Center and the Cisco WebEx Node Management System, on page 1. For additional troubleshooting information, refer to the *Troubleshooting the Cisco WebEx Node for the ASR 1000 Series Aggregation Services Routers* chapter.

Configuring the WebEx Node

The security patch for the WebEx Node has been integrated into Cisco IOS XE Release 3.8.2 and Cisco IOS XE Release 3.9.1S. To install the security patch, the Cisco ASR 1000 Series Aggregation Services Routers and the WebEx SPA modules need to be upgraded to either Cisco IOS XE Release 3.8.2 or Cisco IOS XE Release 3.9.1S.

You can only install the WebEx Node subpackage when the Cisco ASR 1000 Series Aggregation Services Router is rebooted in the subpackage mode.

If the router is already booted up in the subpackage mode with the required release (3.08.02 or 3.09.01), copy the optional subpackage (sipspawma) pertaining to the same release in the same directory in which the subpackages are stored, and then install the same optional subpackage (sipspawma). In this case, no router reload is necessary.

If the router is started with a consolidated image of any release, or is started in the subpackage mode with a release that is different from the required release, copy the required consolidated image (3.08.02 or 3.09.01) in an appropriate media, create and install the subpackages from the consolidated image to bootflash, copy the optional subpackage (sipspawma) in the same directory in bootflash, and reload the system in the subpackage mode. After the router is up and running, install the optional subpackage (sipspawma).

For more information, see the "C onsolidated Packages and Sub-Package Management" and "Software Upgrade Process" chapters in the Cisco ASR 1000 Series Aggregation Services Routers Software Configuration Guide.

Configuring the WebEx Node Using a USB Memory Stick as a Backup

To use this method, we recommend that you to use a 4-GB USB memory stick as a backup device.

Note If you do not want to create a backup with a USB memory device, a backup can be created through a bootflash.

Perform the following steps to configure the WebEx Node using a USB memory stick as a backup in Cisco IOS XE Release 3.8.2:

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

12

OL-14127-17

SUMMARY STEPS

1. Download the Cisco ASR 1000 Series Aggregation Services Router software from: http://software.cisco.com/download/navigator.html?mdfid=281716314&flowid=1362

2. Log in to a Cisco ASR 1000 Series Aggregation Services Router, and copy the consolidated package to the USB0 drive:

3. Copy the sipspawmak9 package to the USB0 drive:

4. Expand the consolidated package into the bootflash:

5. Copy the expanded packages and the packages.conf file from the USB drive to the bootflash:

6. Repeat step 1 to step 5 for the remaining packages.

7. If you are running a dual RP system (hardware redundant system), perform the following step, else skip to step 9.

8. Copy the expanded packages and the packages.conf file from the USB drive to the standby bootflash:

9. Enter the configuration mode:

10. Remove the old boot package from the bootflash:

11. Log in to the Cisco ASR 1000 Series Aggregation Services Router.

12. Verify if the new packages are running after the Cisco ASR 1000 Series Aggregation Services Router reboots:

13. Check whether the ROMMON version in the WebEx SPA is up-to-date by using the show platform command. If it is not, use the upgrade rommon all command to update the ROMMON.

14. Deploy the WebEx SPA package:

15. Verify that the SPA is active:

16. Go to https://wma.webex.com and log in.

17. Choose Administration > Node Management.

18. Select all the individual node names.

19. Copy the wma-passcode string to all the nodes:

20. Enter the configuration mode:

21. Enter the individual SPA interfaces, and re-enter the wma-passcodes:

22. Write the configuration to memory:

23. Verify that the running configuration is pointing to the correct node determined in Step 9.

24. Make sure that you are on the same network as the Cisco ASR 1000 Series Aggregation Services Router or VPN, and then start a WebEx meeting.

25. Verify that network traffic is traversing the WebEx SPA card on the Cisco ASR 1000 Series Aggregation Services Router by running the following commands:

26. Access the SIP console by using the request platform software console attach slot/subslot command.

DETAILED STEPS

Step 1 Download the Cisco ASR 1000 Series Aggregation Services Router software from: http://software.cisco.com/download/navigator.html?mdfid=281716314&flowid=1362

The consolidated package is asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin.

The WebEx Node package is asr1000rp2-sipspawmak9.03.08.02.S.153-2.S1.pkg

Step 2   Log in to a Cisco ASR 1000 Series Aggregation Services Router, and copy the consolidated package to the USB0 drive:

Example:

```
copy tftp: usb0:
IP address | name of remote host {1.1.1.1}
Source filename [asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin]
Destination filename [asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin]
```

Step 3   Copy the sipspawmak9 package to the USB0 drive:

Example:

```
copy tftp: bootflash:
Address or name of remote host {1.1.1.1}
Source filename [asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg]
Destination filename [asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg]
```

Step 4   Expand the consolidated package into the bootflash:

Example:

```
request platform software package expand file
bootflash:asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin to bootflash:
```

Step 5   Copy the expanded packages and the packages.conf file from the USB drive to the bootflash:

Example:

```
copy usb0:asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg bootflash:
copy usb0:packages.conf bootflash:
copy usb0:asr1000rp2-ipbase.03.08.02.S.153-1.S2.bin bootflash:
```

Step 6   Repeat step 1 to step 5 for the remaining packages.

Step 7   If you are running a dual RP system (hardware redundant system), perform the following step, else skip to step 9.

Step 8   Copy the expanded packages and the packages.conf file from the USB drive to the standby bootflash:

Example:

```
copy usb0:asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg stby-bootflash:
copy usb0:packages.conf stby-bootflash:
copy usb0:asr1000rp2-ipbase.03.08.02.S.153-1.S2.bin stby-bootflash:
```
Repeat this step for the remaining packages.

Step 9   Enter the configuration mode:

Example:

```
configure terminal
```

Step 10   Remove the old boot package from the bootflash:

Example:

```
Router(config)# no boot system
Router(config)# config-register 0x2102
Router(config)# boot system flash bootflash:packages.conf
Router(config)# exit
```

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

14

OL-14127-17

```
Router# write memory
Router# reload
```

Step 11 Log in to the Cisco ASR 1000 Series Aggregation Services Router.

Step 12 Verify if the new packages are running after the Cisco ASR 1000 Series Aggregation Services Router reboots:

Example:

```
show version running
```

Step 13 Check whether the ROMMON version in the WebEx SPA is up-to-date by using the show platform command. If it is not, use the upgrade rommon all command to update the ROMMON.

Step 14 Deploy the WebEx SPA package:

Example:

```
request platform software package install rp <rp-slot-number> file
bootflash:asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg
Here, rp-slot-number is active-rp-slot-number
```

For a dual RP system, perform this additional step:

Example:

```
request platform software package install rp <stby-rp-slot-number> file
stby-bootflash:asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg
```

Step 15 Verify that the SPA is active:

Example:

```
show platform
```

Step 16 Go to https://wma.webex.com and log in.

Step 17 Choose Administration > Node Management.

Step 18 Select all the individual node names.

Step 19 Copy the wma-passcode string to all the nodes:

Example:

```
mtg_webex-web d2bc97983456676fbb7ea5cfcc2c3a57
```

Step 20 Enter the configuration mode:

Example:

```
configure terminal
```

Step 21 Enter the individual SPA interfaces, and re-enter the wma-passcodes:

Example:

```
interface service-Engine 0/0/0
ip address <ip addr> <subnet mask>
shutdown
service-engine ip address <ip addr> <subnet mask>
service-engine default-gateway <ip addr>
service-engine nameserver <primary DNS nameserver> <secondary DNS nameserver>
service-engine hostname <spa name> <domainname>
```

```
service-engine wma-url <webex url for wma spa config>
no shutdown
show hw-module subslot <subslot> service-engine status
```
Repeat Step 19 for all the interfaces.

Step 22   Write the configuration to memory:

Example:

```
write memory
```

Step 23   Verify that the running configuration is pointing to the correct node determined in Step 9.

Example:

```
show running-configuration
```

Step 24   Make sure that you are on the same network as the Cisco ASR 1000 Series Aggregation Services Router or VPN, and then start a WebEx meeting.

Step 25   Verify that network traffic is traversing the WebEx SPA card on the Cisco ASR 1000 Series Aggregation Services Router by running the following commands:

Example:

```
show platform hardware qfp act interface if-name service-engine0/0/0 statistics
show platform hardware qfp act interface if name service-engine0/1/0 statistics
```

Step 26   Access the SIP console by using the request platform software console attach slot/subslot command.

Configuring the WebEx Node Using a USB Memory Stick as a Backup

Perform the following steps to configure the WebEx Node using a USB memory stick as a backup in Cisco IOS XE Release 3.9.1S.

Note   If you do not want to create a backup with a USB memory device, a backup can be created through bootflash.

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

16

OL-14127-17

SUMMARY STEPS

1. Download the Cisco ASR 1000 Series Aggregation Services Router software from: http:// software.cisco.com/download/navigator.html?mdfid=281716314&flowid=1362

2. Log in to a Cisco ASR 1000 Series Aggregation Services Router, and copy the consolidated package to the USB0 drive:

3. Copy the sipspawmak9 package to the USB0 drive:

4. Expand the consolidated package into the bootflash:

5. Copy the expanded packages and the packages.conf file from the USB drive to the bootflash:

6. Repeat step 1 to step 5 for the remaining packages.

7. If you are running a dual RP system (hardware redundant system), perform the following step, else skip to step 9.

8. Copy the expanded packages and the packages.conf file from the USB drive to the standby bootflash:

9. Enter the configuration mode:

10. Remove the old boot package from the bootflash:

11. Log in to the Cisco ASR 1000 Series Aggregation Services Router.

12. Verify if the new packages are running after the Cisco ASR 1000 Series Aggregation Services Router reboots:

13. Check whether the ROMMON version in the WebEx SPA is up-to-date by using the show platform command. If it is not, use the upgrade rommon all command to update the ROMMON.

14. Deploy the WebEx SPA package:

15. Verify that the SPA is active:

16. Go to https://wma.webex.com and log in.

17. Choose Administration > Node Management.

18. Select all the individual node names.

19. Copy the wma-passcode string to all the nodes, for example, mtg_webex-web d2bc97983456676fbb7ea5cfcc2c3a57.

20. Enter the configuration mode:

21. Enter the individual SPA interfaces, and re-enter the wma-passcodes:

22. Write the configuration to memory:

23. Verify that the running configuration is pointing to the correct node determined in Step 9:

24. Make sure that you are on the same network as the Cisco ASR 1000 Series Aggregation Services Router or VPN, and then start a WebEx meeting.

25. Verify that network traffic is traversing the WebEx SPA card on the Cisco ASR 1000 Series Aggregation Services Router by running the following commands:

26. Access the SIP console by using the request platform software console attach slot/subslot command.

DETAILED STEPS

Step 1   Download the Cisco ASR 1000 Series Aggregation Services Router software from: http://software.cisco.com/download/ navigator.html?mdfid=281716314&flowid=1362
The consolidated package is asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin

The WebEx Node package is asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg

Step 2 Log in to a Cisco ASR 1000 Series Aggregation Services Router, and copy the consolidated package to the USB0 drive:

Example:

```
copy tftp: usb0:
Address or name of remote host {1.1.1.1}
Source filename [asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin]
Destination filename [asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin]
```

Step 3 Copy the sipspawmak9 package to the USB0 drive:

Example:

```
copy tftp: bootflash:
Address or name of remote host {1.1.1.1}
Source filename [asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg]
Destination filename [asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg]
```

Step 4 Expand the consolidated package into the bootflash:

Example:

```
Request platform software package expand file
bootflash:asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin to bootflash:
```

Step 5 Copy the expanded packages and the packages.conf file from the USB drive to the bootflash:

Example:

```
copy usb0:asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg bootflash:
copy usb0:packages.conf bootflash:
copy usb0:asr1000rp2-ipbase.03.08.02.S.153-1.S2.bin bootflash:
```

Step 6 Repeat step 1 to step 5 for the remaining packages.

Step 7 If you are running a dual RP system (hardware redundant system), perform the following step, else skip to step 9.

Step 8 Copy the expanded packages and the packages.conf file from the USB drive to the standby bootflash:

Example:

```
copy usb0:asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg stby-bootflash:
copy usb0:packages.conf stby-bootflash:
copy usb0:asr1000rp2-ipbase.03.08.02.S.153-1.S2.bin stby-bootflash:
```
Repeat this step for the remaining packages.

Step 9 Enter the configuration mode:

Example:

```
configure terminal
```

Step 10 Remove the old boot package from the bootflash:

Example:

```
Router(config)# no boot system
Router(config)# config-register 0x2102
Router(config)# boot system flash bootflash:packages.conf
Router(config)# exit
```

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

18

OL-14127-17

```
Router# write memory
Router# reload
```

Step 11   Log in to the Cisco ASR 1000 Series Aggregation Services Router.

Step 12   Verify if the new packages are running after the Cisco ASR 1000 Series Aggregation Services Router reboots:

Example:

```
show version running
```

Step 13   Check whether the ROMMON version in the WebEx SPA is up-to-date by using the show platform command. If it is not, use the upgrade rommon all command to update the ROMMON.

Step 14   Deploy the WebEx SPA package:

Example:

```
request platform software package install rp <rp-slot-number> file
bootflash:asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg
```
Here, rp-slot-number is active-rp-slot-number.

For a dual RP system, perform this additional step:

Example:

```
request platform software package install rp <stby-rp-slot-number> file
stby-bootflash: asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg
```

Step 15   Verify that the SPA is active:

Example:

```
show platform
```

Step 16   Go to https://wma.webex.com and log in.

Step 17   Choose Administration > Node Management.

Step 18   Select all the individual node names.

Step 19   Copy the wma-passcode string to all the nodes, for example, mtg_webex-web d2bc97983456676fbb7ea5cfcc2c3a57.

Step 20   Enter the configuration mode:

Example:

```
configure terminal
```

Step 21   Enter the individual SPA interfaces, and re-enter the wma-passcodes:

Example:

```
interface service-Engine 0/0/0
ip address <ip addr> <subnet mask>
shutdown
service-engine ip address <ip addr> <subnet mask>
service-engine default-gateway <ip addr>
service-engine nameserver <primary DNS nameserver> <secondary DNS nameserver>
service-engine hostname <spa name> <domainname>
service-engine wma-url <webex url for wma spa config>
no shutdown
show hw-module subslot <subslot> service-engine status
```
Repeat Step 19 for all the interfaces.

Step 22   Write the configuration to memory:

Example:

```
write memory
```

Step 23   Verify that the running configuration is pointing to the correct node determined in Step 9:

Example:

```
show running-configuration
```

Step 24   Make sure that you are on the same network as the Cisco ASR 1000 Series Aggregation Services Router or VPN, and then start a WebEx meeting.

Step 25   Verify that network traffic is traversing the WebEx SPA card on the Cisco ASR 1000 Series Aggregation Services Router by running the following commands:

Example:

```
show platform hardware qfp act interface if-name service-engine0/0/0 statistics
show platform hardware qfp act interface if name service-engine0/1/0 statistics
```

Step 26   Access the SIP console by using the request platform software console attach slot/subslot command.

Configuring the WebEx Node from the Bootflash

Perform the following steps to configure the WebEx Node from the bootflash in Cisco IOS XE Release 3.8.2.

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

20

OL-14127-17

SUMMARY STEPS

1. Download the Cisco ASR 1000 Series Aggregation Services Routers software from: http://software.cisco.com/download/navigator.html?mdfid=281716314&flowid=1362

2. Copy the consolidated package to the bootflash:

3. Copy the sipspawmak9 package to the bootflash:

4. Expand the consolidated package into the bootflash:

5. If you are running a dual RP system (hardware redundant system), perform the following step, else skip to step 7.

6. Copy the consolidated image to the standby bootflash:

7. Expand the consolidated package into the standby bootflash:

8. Enter the configuration mode:

9. Remove the old boot package from the bootflash:

10. Log in to the Cisco ASR 1000 Series Aggregation Services Router.

11. Verify that the new packages are running after the Cisco ASR 1000 Series Aggregation Services Router reboots:

12. Check whether the ROMMON version in WebEx SPA is up-to-date by using the show platform command. If it is not, use the upgrade rommon all command to update the ROMMON version.

13. Deploy the WebEx SPA package:

14. Verify that the SPA is active:

15. Go to https://wma.webex.com and log in.

16. Choose Administration > Node management

17. Select all the individual node names.

18. Copy the wma-passcode string to all the nodes, for example, mtg_webex-web d2bc97983456676fbb7ea5cfcc2c3a57

19. Enter the configuration mode:

20. Enter the individual SPA interfaces, and re-enter the wma-passcodes:

21. Write configuration to memory:

22. Verify that the running configuration is pointing to the correct node determined in Step 8:

23. Make sure that you are on the same network as the Cisco ASR 1000 Series Aggregation Services Router or VPN, and start a WebEx meeting.

24. Verify that network traffic is traversing the WebEx SPA card on the Cisco ASR 1000 Series Aggregation Services Router by running the following commands:

25. Access the SIP console by using request platform software console attach slot/subslot command.

DETAILED STEPS

Step 1 Download the Cisco ASR 1000 Series Aggregation Services Routers software from: http://software.cisco.com/download/navigator.html?mdfid=281716314&flowid=1362
The consolidated package is asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin

The WebEx Node package is asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg

Step 2 Copy the consolidated package to the bootflash:

Example:

```
copy tftp: bootflash:
Address or name of remote host {1.1.1.1}
Source filename [asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin]
Destination filename [asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin]
```

Step 3   Copy the sipspawmak9 package to the bootflash:

Example:

```
copy tftp: bootflash:
Address or name of remote host {1.1.1.1}
Source filename [asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg]
Destination filename [asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg]
```

Step 4   Expand the consolidated package into the bootflash:

Example:

```
request platform software package expand file
bootflash:asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin
```

Step 5   If you are running a dual RP system (hardware redundant system), perform the following step, else skip to step 7.

Step 6   Copy the consolidated image to the standby bootflash:

Example:

```
copy bootflash:asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin stby-bootflash:
copy bootflash:asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg stby-bootflash:
```

Step 7   Expand the consolidated package into the standby bootflash:

Example:

```
Request platform software package expand file
stby-bootflash:asr1000rp1-adventerprisek9.03.08.02.S.153-1.S2.bin to stby-bootflash:
```

Step 8   Enter the configuration mode:

Example:

```
configure terminal
```

Step 9   Remove the old boot package from the bootflash:

Example:

```
Router(config)# no boot system
Router(config)# config-register 0x2102
Router(config)# boot system flash bootflash:packages.conf
Router(config)# exit
Router# write memory
Router# reload
```

Step 10   Log in to the Cisco ASR 1000 Series Aggregation Services Router.

Step 11   Verify that the new packages are running after the Cisco ASR 1000 Series Aggregation Services Router reboots:

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

22

OL-14127-17

Example:

```
show version running
```

Step 12 Check whether the ROMMON version in WebEx SPA is up-to-date by using the show platform command. If it is not, use the upgrade rommon all command to update the ROMMON version.

Step 13 Deploy the WebEx SPA package:

Example:

```
request platform software package install rp rp-slot-number file
bootflash:asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg
```
Here, rp-slot-number is active-rp-slot-number.

For a dual RP system, perform this additional step:

Example:

```
request platform software package install rp stby-rp-slot-number file
stby-bootflash: asr1000rp2-sipspawmak9.03.08.02.S.153-1.S2.pkg
```

Step 14 Verify that the SPA is active:

Example:

```
show platform
```

Step 15 Go to https://wma.webex.com and log in.

Step 16 Choose Administration > Node management

Step 17 Select all the individual node names.

Step 18 Copy the wma-passcode string to all the nodes, for example, mtg_webex-web d2bc97983456676fbb7ea5cfcc2c3a57

Step 19 Enter the configuration mode:

Example:

```
configure terminal
```

Step 20 Enter the individual SPA interfaces, and re-enter the wma-passcodes:

Example:

```
interface service-Engine 0/0/0
ip address <ip addr> <subnet mask>
shutdown
service-engine ip address <ip addr> <subnet mask>
service-engine default-gateway <ip addr>
servicepengine wma-passcode <wma-token>
service-engine nameserver <primary DNS nameserver> <secondary DNS nameserver>
service-engine hostname <spa name> <domainname>
service-engine wma-url <webex url for wma spa config>
no shutdown
show hw-module subslot <subslot> service-engine status
```
Repeat Step 19 for all the interfaces.

Step 21 Write configuration to memory:

Example:

```
write memory
```

Step 22   Verify that the running configuration is pointing to the correct node determined in Step 8:

Example:

```
show running-configuration
```

Step 23   Make sure that you are on the same network as the Cisco ASR 1000 Series Aggregation Services Router or VPN, and start a WebEx meeting.

Step 24   Verify that network traffic is traversing the WebEx SPA card on the Cisco ASR 1000 Series Aggregation Services Router by running the following commands:

Example:

```
show platform hardware qfp act interface if-name service-engine0/0/0 statistics
show platform hardware qfp act interface if name service-engine0/1/0 statistics
```

Step 25   Access the SIP console by using request platform software console attach slot/subslot command.

Configuring the WebEx Node from the Bootflash

Perform the following steps to configure the WebEx Node from the bootflash in Cisco IOS XE Release 3.9.1.

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

24

OL-14127-17

SUMMARY STEPS

1. Download the software of the Cisco ASR 1000 Series Aggregation Services Routers from: http://software.cisco.com/download/navigator.html?mdfid=281716314&flowid=1362

2. Copy the consolidated package to the bootflash:

3. Copy the sipspawmak9 package to the bootflash:

4. Expand the consolidated package into the bootflash:

5. If you are running a dual RP system (hardware redundant system), perform the following step, else skip to step 7.

6. Copy the consolidated image to the standby bootflash:

7. Expand the consolidated package into the standby bootflash:

8. Enter the configuration mode:

9. Remove the old boot package from the bootflash:

10. Log in to the Cisco ASR 1000 Series Aggregation Services Router.

11. Verify that the new packages are running after the Cisco ASR 1000 Series Aggregation Services Router reboots:

12. Check whether the ROMMON version in WebEx SPA is up-to-date by using the show platform command. If it is not, use the upgrade rommon all command to update the ROMMON version.

13. Deploy the WebEx SPA package:

14. Verify that the SPA is active:

15. Go to https://wma.webex.com and log in.

16. Choose Administration > Node management.

17. Select all the individual node names.

18. Copy the wma-passcode string to all the nodes, for example, mtg_webex-web d2bc97983456676fbb7ea5cfcc2c3a57

19. Enter the configuration mode:

20. Enter the individual SPA interfaces, and re-enter the wma-passcodes:

21. Write configuration to memory:

22. Verify that the running configuration is pointing to the correct node determined in Step 8:

23. Make sure that you are on the same network as the Cisco ASR 1000 Series Aggregation Services Router or VPN, and start a WebEx meeting.

24. Verify that network traffic is traversing the WebEx SPA card on the Cisco ASR 1000 Series Aggregation Services Router by running the following commands:

25. Access the SIP console by using the request platform software console attach slot/subslot command.

DETAILED STEPS

Step 1   Download the software of the Cisco ASR 1000 Series Aggregation Services Routers from: http://software.cisco.com/download/navigator.html?mdfid=281716314&flowid=1362
The consolidated package is asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin

The WebEx node package is asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg

Step 2   Copy the consolidated package to the bootflash:

Example:

```
copy tftp: bootflash:
Address or name of remote host {1.1.1.1}
Source filename [asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin]
Destination filename [asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin]
```

Step 3   Copy the sipspawmak9 package to the bootflash:

Example:

```
copy tftp: bootflash:
Address or name of remote host {1.1.1.1}
Source filename [asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg]
Destination filename [asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg]
```

Step 4   Expand the consolidated package into the bootflash:

Example:

```
request platform software package expand file
bootflash:asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin
```

Step 5   If you are running a dual RP system (hardware redundant system), perform the following step, else skip to step 7.

Step 6   Copy the consolidated image to the standby bootflash:

Example:

```
copy bootflash:asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin stby-bootflash:
copy bootflash:asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg stby-bootflash:
```

Step 7   Expand the consolidated package into the standby bootflash:

Example:

```
request platform software package expand file
stby-bootflash:asr1000rp1-adventerprisek9.03.09.01.S.153-2.S1.bin to stby-bootflash:
```

Step 8   Enter the configuration mode:

Example:

```
configure terminal
```

Step 9   Remove the old boot package from the bootflash:

Example:

```
Router(config)# no boot system
Router(config)# config-register 0x2102
Router(config)# boot system flash bootflash:packages.conf
Router(config)# exit
Router# write memory
Router# reload
```

Step 10   Log in to the Cisco ASR 1000 Series Aggregation Services Router.

Step 11   Verify that the new packages are running after the Cisco ASR 1000 Series Aggregation Services Router reboots:

**Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS
XE Fuji 16.7.x**

26

OL-14127-17

Example:

```
show version running
```

Step 12 Check whether the ROMMON version in WebEx SPA is up-to-date by using the show platform command. If it is not, use the upgrade rommon all command to update the ROMMON version.

Step 13 Deploy the WebEx SPA package:

Example:

```
request platform software package install rp rp-slot-number file
bootflash:asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg
```
Here, rp-slot-number is active-rp-slot-number.

For a dual RP system, perform this additional step:

Example:

```
request platform software package install rp stby-rp-slot-number file
stby-bootflash: asr1000rp1-sipspawmak9.03.09.01.S.153-2.S1.pkg
```

Step 14 Verify that the SPA is active:

Example:

```
show platform
```

Step 15 Go to https://wma.webex.com and log in.

Step 16 Choose Administration > Node management.

Step 17 Select all the individual node names.

Step 18 Copy the wma-passcode string to all the nodes, for example, mtg_webex-web d2bc97983456676fbb7ea5cfcc2c3a57

Step 19 Enter the configuration mode:

Example:

```
configure terminal
```

Step 20 Enter the individual SPA interfaces, and re-enter the wma-passcodes:

Example:

```
interface service-Engine 0/0/0
ip address <ip addr> <subnet mask>
shutdown
service-engine ip address <ip addr> <subnet mask>
service-engine default-gateway <ip addr>
service-engine wma-passcode <wma-token>
service-engine nameserver <primary DNS nameserver> <secondary DNS nameserver>
service-engine hostname <spa name> <domainname>
service-engine wma-url <webex url for wma spa config>
no shutdown
show hw-module subslot <subslot> service-engine status
```
Repeat Step 19 for all the interfaces.

Step 21 Write configuration to memory:

Example:

```
write memory
```

Step 22   Verify that the running configuration is pointing to the correct node determined in Step 8:

Example:

```
show running-configuration
```

Step 23   Make sure that you are on the same network as the Cisco ASR 1000 Series Aggregation Services Router or VPN, and start a WebEx meeting.

Step 24   Verify that network traffic is traversing the WebEx SPA card on the Cisco ASR 1000 Series Aggregation Services Router by running the following commands:

Example:

```
show platform hardware qfp act interface if-name service-engine0/0/0 statistics
show platform hardware qfp act interface if name service-engine0/1/0 statistics
```

Step 25   Access the SIP console by using the request platform software console attach slot/subslot command.

Configuration Examples

This section includes an example for configuring a Cisco WebEx Node SPA installed in a Cisco ASR 1000 Series Router:

```
Router# config t
Router(config)# ip nat inside source static 10.200.72.18 192.0.2.1
Router(config)# interface service-engine 1/0/0
Router(config-if)# ip address 10.200.72.17 255.255.255.252
Router(config-if)# service-engine ip address 10.200.72.18 255.255.255.252
Router(config-if)# service-engine default-gateway 10.200.72.17
Router(config-if)# service-engine nameserver 10.100.4.10 10.100.4.20
Router(config-if)# service-engine hostname spawma1 cisco.com
Router(config-if)# service-engine wma-url https://wmabts.webex.com/wmams
Router(config-if)# service-engine wma-passcode spawma1 2b51221d2c08f405913bbee1eb9f6ec6
Router(config-if)# service-engine wma-token 45484b3e-8ea5-41e5-b050-49409006d14e
Router(config-if)# no shutdown
```

Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Software Configuration Guide, Cisco IOS XE Fuji 16.7.x

28

OL-14127-17