



CHAPTER 22

Configuring the Cisco WebEx Node for ASR 1000 Series

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. This chapter includes the following sections:

- [Prerequisites, page 22-1](#)
- [Configuration Tasks, page 22-4](#)
- [Verifying the Service Engine Configuration, page 22-9](#)
- [Configuration Examples, page 22-10](#)

For information about managing your system images and configuration files, refer to the *Cisco IOS XE Configuration Fundamentals Configuration Guide, Release 2* and *Cisco IOS Configuration Fundamentals Command Reference* publications that correspond to your Cisco IOS XE software release.

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, page 22-1](#)
- [Completing the Cisco WebEx Node SPA Configuration Prerequisites, page 22-4](#)

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, refer to 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:

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.
- 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** In the Password field, click the **Change Password** link to open the Change your password dialog box. Enter your old password, new password, and confirmation of your new password in the specified 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.

- Step 1** To register and provision your Cisco WebEx Node for 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 is used to uniquely identify a customer location, not as a number for actual contact)
 - Site name (for example, cisco.webex.com)
 - SPA serial number
 - Assigned hostname
 - Conferencing mode (either Web Conferencing or Voice and Video Conferencing)
- Step 2** Once the Cisco WebEx Node SPA has been registered in the Cisco WebEx Node Management System, you need to 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”](#) section on page 22-5.

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 “sipsawmak9” sub-package.

For more information about Cisco IOS XE package compatibility and installation instructions, see the [Cisco ASR 1000 Series Aggregation Services Routers Software Configuration Guide](#).

- A DNS entry for the IP address is assigned to each Cisco WebEx Node SPA.
- An IP address is assigned for the Cisco IOS XE interface configuration on the Cisco ASR 1000 Series Router side.
- An IP address is also assigned for the internal interface configuration on the Cisco WebEx Node SPA side.
- A default gateway IP address is assigned for the SPA internal interface.
- The IP address that is assigned for the Cisco IOS XE interface configuration on the Cisco ASR 1000 Series Router side and the IP address that is assigned 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 includes information about verifying the configuration.

It includes the following topics:

- [Specifying the Service Engine Interface Address on the Cisco WebEx Node SPA, page 22-4](#) (Required)
- [Configuring the Virtual Service Engine Interface, page 22-5](#) (Required)
- [Saving the Configuration, page 22-7](#) (Required)
- [Shutting Down and Removing the Cisco WebEx Node SPA, page 22-8](#) (Optional)

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 Routers where the SIP is installed.
- *subslot*—Specifies the subslot of the SIP where the SPA is installed.

- *port*—Specifies the number of the individual interface port, which is virtual and always 0 on the Cisco WebEx Node 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 SIP and SPAs”](#) section on page 4-1.

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 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.

	Command	Purpose
Step 1	Router(config)# interface service-engine slot/subslot/0	Specifies the service engine interface to configure, where: <ul style="list-style-type: none"> • <i>slot/subslot/0</i>—Specifies the location of the interface. See the “Specifying the Service Engine Interface Address on the Cisco WebEx Node SPA” section on page 22-4. The port value is always 0.
Step 2	Router(config-if)# ip address router-side-ip-address	Specifies the IP address of the router-side interface.

	Command	Purpose
Step 3	Router(config-if)# service-engine ip address <i>module-side-ip-address</i> <i>subnet-mask</i>	Configures the Cisco WebEx Node SPA service engine IP address, where: <ul style="list-style-type: none"> <i>module-side-ip-address</i>—Specifies the IP address for the service engine interface. <i>subnet mask</i>—Specifies the mask for the associated IP subnet. <p>Note The service-engine IP address must be on the same subnet as the router-side IP address for the service-engine interface.</p>
Step 4	Router(config-if)# service-engine default-gateway <i>gateway-ip-address</i>	Specifies the IP address for the service engine default gateway. <p>Note This IP address must match the IP address configured in the ip address command for the router-side IP address.</p>
Step 5	Router(config-if)# service-engine nameserver <i>name-server1-ip-address</i> <i>name-server2-ip-address</i>	Specifies the primary and secondary domain name server that will be used by the WebEx Node SPA, where: <ul style="list-style-type: none"> <i>name-server1-ip-address</i>—Specifies the IP address of the primary domain name server. <i>name-server2-ip-address</i>—Specifies the IP address of the secondary domain nameserver.
Step 6	Router(config-if)# service-engine hostname <i>module-side-hostname</i> <i>module-side-domain-name</i>	Specifies the host name and domain name given to the Cisco WebEx Node SPA, where: <ul style="list-style-type: none"> <i>module-side-hostname</i>—Specifies the host name of the service engine interface. The default host name is “service-spa.” <i>module-side-domain-name</i>—Specifies the domain name of the service engine interface. <p>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” section on page 22-1.</p>
Step 7	Router(config-if)# service-engine wma-url <i>url-string</i>	Specifies the URL provided by registration and provisioning of the SPA in the Cisco WebEx Node Management System. <p>For more information, see the “Registering with the WebEx Data Center and the Cisco WebEx Node Management System” section on page 22-1.</p>
Step 8	Router(config-if)# service-engine wma-token <i>token-string</i>	Specifies the encrypted token string provided by the Cisco WebEx Node Management System. <p>Note The <i>token-string</i> 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” section on page 22-1.</p>

	Command	Purpose
Step 9	Router(config-if)# service-engine wma-passcode <i>name-string key-string</i>	Specifies the WebEx Node SPA name and key used for authentication, where: <ul style="list-style-type: none"> <i>name-string</i>—Specifies the SPA’s assigned name. <i>key-string</i>—Specifies the password to use for encrypted authentication. <p>Note The <i>key-string</i> 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” section on page 22-1.</p>
Step 10	Router(config-if)# no shutdown	Activates the interface.

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

```
interface Service-Engine1/0/0
 ip address 10.200.72.17 255.255.255.252
 ip nat inside
 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”](#) section on page 22-9.

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 images and configuration files, refer to the [Cisco IOS XE Configuration Fundamentals Configuration Guide, Release 2](#) 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, be 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
  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” section on page 22-1](#). For additional troubleshooting information, refer to [Chapter 23, “Troubleshooting the Cisco WebEx Node for ASR 1000 Series.”](#)

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)# 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
```