Overview of the Cisco WebEx Node for the Cisco ASR 1000 Series Routers

This chapter provides an overview of the release history, features, and MIB support for the Cisco WebEx Node on the Cisco ASR 1000 Series Aggregation Services Routers. The Cisco WebEx Node is a shared port adapter (SPA) that provides enhanced performance and reduced bandwidth consumption for WebEx web, VoIP, and video sessions in a large enterprise.

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Release History

Release	Modification
Cisco IOS XE Release 3.11.0	The steps to configure the Cisco WebEx Node have been added.
Cisco IOS XE Release 3.8.0	The WebEx Node SPA supports Version T28.4 of WebEx. This version supports Cisco TelePresence WebEx OneTouch 2.0.
Cisco IOS XE Release 3.6.0	The WebEx Node SPA supports Version WBS27SP32 of WebEx. This version supports both high-quality and high-definition video on the Audio and Video SPA.
Cisco IOS XE Release 2.4	Support for the Cisco WebEx Node was introduced on the Cisco ASR 1000 Series Aggregation Services Routers.

Overview of the Cisco WebEx Node SPA Environment

The Cisco WebEx Node is a SPA for the Cisco ASR 1000 Series Aggregation Services Routers that integrates transparently with the Cisco WebEx collaboration cloud. The SPA runs WebEx software that enables the Cisco WebEx Node module to act like a private extension of the WebEx service.

The Cisco WebEx Node for the Cisco ASR 1000 Series Aggregation Services Routers provides enhanced performance and reduced bandwidth consumption for WebEx web, VoIP, and video sessions in a large enterprise. This is achieved by extending the hosted Cisco WebEx collaboration cloud into a large enterprise by deploying primary software components of the WebEx platform to an embedded processor within the onsite router.

The Cisco WebEx Node SPA is a full-height SPA that is designed to run an application that is a part of the Cisco WebEx Data Center. The Cisco WebEx Node SPA improves the functionality of WebEx meeting services by adding the meeting servers into the SPA itself. This technology provides the following advantages:

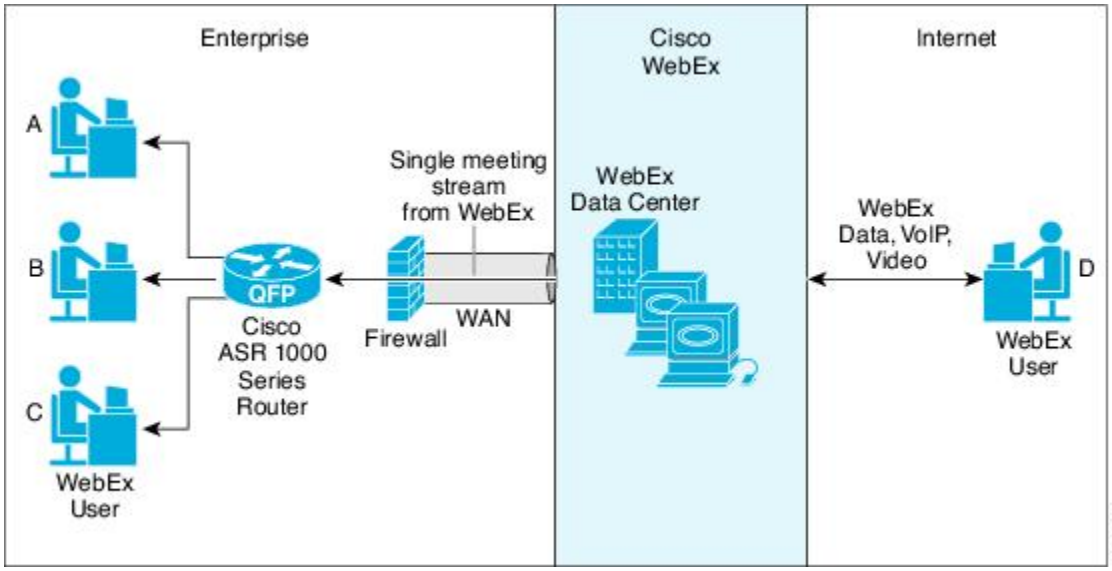
- Improves performance for users inside the company firewall.
- Reduces the bandwidth going out of the company firewall (to the WebEx Data Center).
- Provides better security by reducing traffic outside the company firewall.

Software that runs on the Cisco WebEx Node for the Cisco ASR 1000 Series Aggregation Services Routers includes Cisco WebEx collaboration cloud software components that are integral to meeting collaboration and voice and video conferencing. By moving these components and functions into the Cisco WebEx Node SPA, the Cisco WebEx clients in the enterprise network have to connect only to the Cisco WebEx Node SPA. This reduces the traffic between the enterprise network and the Cisco WebEx Data Center, greatly reducing the customer's internet bandwidth requirements.

By moving the switching components of the Cisco WebEx collaboration cloud into the Cisco WebEx Node for Cisco ASR 1000 Series Aggregation Services Routers, the Cisco WebEx clients in the enterprise network have to connect only to the Cisco WebEx Node SPA. This reduces the traffic between the enterprise network and the Cisco WebEx Data Center, greatly reducing the customer's internet bandwidth requirements, as shown in the following figure.

Instead of individual meeting streams from the Cisco WebEx Data Center to the enterprise, the use of the Cisco ASR 1000 Series Aggregation Services Routers to implement some of the Cisco WebEx conferencing functions allows for a single meeting stream from the Cisco WebEx Data Center to support enterprise conferencing traffic.

Figure 1: Cisco WebEx Network



Each Cisco WebEx Node SPA can be configured to perform either web conferencing or voice and video conferencing, but not both at the same time. Each Cisco WebEx Node SPA uses the same software package that includes both features; but the conferencing feature that actually runs on each SPA is determined by the Cisco WebEx Service Plan that the customer has purchased. The WebEx Data Center retains the Cisco WebEx Node SPA configuration files that the SPA retrieves each time the SPA boots. Multiple Cisco WebEx Node SPAs can be installed on the same Cisco ASR 1000 Series Aggregation Services Router to increase performance or to provide coverage for both media and video or VoIP sessions.

Cisco WebEx Node Management System

A web-based management tool located in the Cisco WebEx Data Center called the Cisco WebEx Node Management System (NMS) is available to perform the following tasks, and access the following information through a web browser:

- Administration Account Management
  - Add or delete users and change passwords
  - Login history
- System Information
  - Memory usage and memory history (previous 24 hours)
  - CPU usage and CPU usage history (previous 24 hours)
  - Basic OS information
- Server Process Information
  - Check server version number on the SPA. Show the server version number in the Cisco WebEx Data Center.
  - Check server status

- Number of server processes that are running and the uptime
- Memory and CPU usage of each server process
- Server restart history for the past 30 days

- Cisco WebEx Meeting Information
  - Number of meetings on the SPA
  - Number of attendees on the SPA
  - Number of connections to the Cisco WebEx Data Center
  - Number of audio sessions on each multimedia platform
  - Number of video sessions on each multimedia platform
  - Peak number of meetings and number of attendees in last 24 hours

- Server Management
  - Suspend, resume, or stop the server
  - Restart the server

- Troubleshooting and Support
  - Upload core and log files to the Cisco WebEx Data Center
  - Turn on details traces
  - Performance information such as round trip time (RTT) to the top Cisco WebEx Data Center, RTT to client average, and so forth
  - Test network connection to the Cisco WebEx Data Center
- Configuration
  - Configuration auto restart time

For more information about getting started with the Cisco WebEx Node Management System, see the *Configuring the Cisco WebEx Node for the ASR 1000 Series Aggregation Services Routers* chapter. For details about working with the Cisco WebEx Node Management System, see the Cisco WebEx Node Management System Administrator's Guide.

Supported Features

The Cisco WebEx Node for the Cisco ASR 1000 Series Aggregation Services Routers includes basic features:

- 4-GB RAM
- 250-GB hard disk drive, with self-monitoring, analysis, and reporting technology (SMART) support for application data and system log storage
- Faceplate LEDs to indicate SPA status, hard disk drive activity, and system status
- A Shutdown button to stop hard drive access activity before removing the SPA to prevent data corruption

- Voltage and temperature monitoring
- Online insertion and removal (OIR)
- Downloadable configuration from the WebEx Data Center
- Support for web conferencing or voice and video conferencing, and up to 500 clients for media or 600 streams for mixed audio and multipoint video
- Effective from Cisco IOS XE Release 3.6.0S, the Audio and Video SPA:
  - Supports HD video.
  - Collects QoS data, such as latency and jitter, for monitoring purposes. Note that the WebEx performance monitoring tools use the QoS data present in the server trace logs for debugging purposes.
  - Tracks the quality of media controller servers. This is used to track the connections between the Audio and Video SPA and the audio and video servers in the data center.
- Effective from Cisco IOS XE Release 3.8.0S, the WebEx Node SPA supports Version T28.4 of WebEx. This version supports Cisco TelePresence WebEx OneTouch 2.0.
- Secure Sockets Layer (SSL) connection between the Cisco WebEx Node SPA and the WebEx Data Center, and secure connection between the Cisco WebEx Node SPA and Cisco WebEx clients.
- Monitoring the Cisco WebEx Node SPA from the Cisco WebEx Data Center.
- Automatic recovery for service failures on a Cisco WebEx Node SPA by another Cisco WebEx Node SPA, or by the Cisco WebEx collaboration cloud.

For detailed information about the hardware features and benefits of the Cisco WebEx Node for the Cisco ASR 1000 Series Aggregation Services Routers, refer to the product data sheet at:

http://www.cisco.com/en/US/prod/collateral/vpndevc/ps10128/ps10339/ps10353/data_sheet_c78-530577.html

Restrictions

- Performance can be affected if there is a slow connection to the WebEx Data Center because communication between different Cisco WebEx Node SPAs has to go through the WebEx Data Center.
- Before the Cisco WebEx Node SPA is removed, the software and the hard drive should be gracefully shut down, either using the Shutdown button or the **hw-module subslot stop** command.
- Either web conferencing or voice and video conferencing are supported, but both are not supported on the same Cisco WebEx Node SPA.
- The Cisco ASR 1002-X Router was introduced in Release 3.7.0S. This router does not support the Cisco WebEx Node SPA.

Supported MIBs

The following MIBs are supported in Cisco IOS XE Release 2.4 for the Cisco WebEx Node SPA on the Cisco ASR 1000 Series Routerss:

Common MIBs

- ENTITY-MIB
- IF-MIB
- MIB-II

Cisco-Specific Common MIBs

- CISCO-ENTITY-EXT-MIB
- OLD-CISCO-CHASSIS-MIB
- CISCO-ENTITY-FRU-CONTROL-MIB
- CISCO-ENTITY-ASSET-MIB
- CISCO-ENTITY-SENSOR-MIB
- CISCO-ENTITY-VENDORTYPE-OID-MIB

For more information about MIB support on a Cisco ASR 1000 Series Routers, refer to the *Cisco ASR 1000 Series Aggregation Services Routers MIB Specifications Guide* , at:

http://www.cisco.com/en/US/docs/routers/asr1000/mib/guide/asr1kmib.html

To locate and download MIBs for the selected platforms, Cisco IOS releases, and feature sets, use the Cisco MIB Locator found at:

http://tools.cisco.com/ITDIT/MIBS/servlet/index

If the Cisco MIB Locator does not support the MIB information that you need, you can also obtain a list of supported MIBs and download the MIBs from the Cisco MIBs page at:

http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

To the access Cisco MIB Locator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com . An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions found at:

https://tools.cisco.com/RPF/register/register.do

Displaying the SPA Hardware Type

To verify the SPA hardware type that is installed in your Cisco ASR 1000 Series Routers, use the **show interfaces service-engine** command or the **show hw-module subslot service-engine status** command.

The following table shows the hardware description that appears in the **show** command output for each Cisco WebEx Node SPA that is supported on the Cisco ASR 1000 Series Routers.

Table 1: Cisco WebEx Node SPA Hardware Descriptions in show Commands

SPA	Description in show interfaces Command	Description in show hw-module subslot Command
Cisco WebEx Node for ASR 1000 SPA	Hardware is SPA-WMA-K9	“Service Engine is Cisco SPA-WMA-K9”

Example of the show interfaces service-engine Command

The following example shows an output of the **show interfaces service-engine** command on a Cisco ASR 1000 Series Aggregation Services Router with a Cisco WebEx Node SPA installed in subslot 0 of a SIP that is installed in slot 0:

```
Router# show interfaces Service-Engine 0/0/0
Service-Engine0/0/0 is up, line protocol is up
  Hardware is SPA-WMA-K9
```

Example of the show hw-module subslot service-engine status Command

The following example shows an output of the **show hw-module subslot service-engine status** command on a Cisco ASR 1000 Series Routers with a Cisco WebEx Node SPA installed in subslot 0 of a SIP that is installed in slot 0:

```
Router# show hw-module subslot 0/0 service-engine status
Service Engine is Cisco SPA-WMA-K9
```