



## Configuring Network Devices

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## Configuring Network Devices to Use SD-AVC

After the SD-AVC Network Service has been set up, use the information in this section to check the prerequisites for Cisco devices in the network to operate with the SD-AVC Network Service. Then activate and configure SD-AVC on the devices. This activates an SD-AVC agent that operates on the devices to communicate with the SD-AVC Network Service.

After configuration is complete, verify the status of each device using the SD-AVC Dashboard:

**Dashboard > Application Visibility page > SD-AVC Monitoring**

For High Availability SD-AVC, which employs more than one SD-AVC Network Service, see [SD-AVC High Availability](#).

## System Requirements: Network Devices Using SD-AVC

The following table describes the supported platforms and requirements for network devices to operate with SD-AVC. When operating with SD-AVC, network devices run the SD-AVC agent, which manages communication between the devices and the SD-AVC Network Service.

**Table 1: Network Device Requirements**

Platform	Recommended OS (extended maintenance release trains only)
Cisco ASR1001-X Aggregation Services Router	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later

Platform	Recommended OS (extended maintenance release trains only)
Cisco ASR1002-X Aggregation Services Router	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later
Cisco ASR1001-HX Aggregation Services Router	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later
Cisco ASR1002-HX Aggregation Services Router	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later
Cisco 1000 Series Integrated Services Routers Cisco 1100 Series Integrated Services Routers	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later
Cisco ISR4000 Series Integrated Services Routers: 4221, 4321, 4331, 4431, 4451	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later
Cisco Integrated Services Virtual Router	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later
Cisco CSR1000V Cloud Services Router	Cisco IOS XE Amsterdam 17.3.1a or later  (Requires the following license: AX, 2.5 Gbps or higher throughput. See the <a href="#">Cisco CSR1000V Data Sheet</a> .)
Cisco Catalyst 8000V Edge Software	Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later
Cisco Route Processor RP2	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later
Cisco Route Processor RP3	Cisco IOS XE Amsterdam 17.3.1a or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later

Platform	Recommended OS (extended maintenance release trains only)
Cisco DNA Center Traffic Telemetry Appliance (TTA)	Cisco IOS XE Amsterdam 17.3.1 or later Cisco IOS XE Bengaluru 17.6.1a or later Cisco IOS XE 17.7.1 or later



**Note** For questions about support for specific OS releases, please contact the SD-AVC team at: [cs-nbar@cisco.com](mailto:cs-nbar@cisco.com)

### Connectivity

For connectivity requirements and procedures, see [Configuring Connectivity](#).

## Configuration Prerequisites: Network Devices Using SD-AVC

The following are prerequisites for network devices to operate with SD-AVC:

- Application statistics:

SD-AVC functionality depends on receiving application statistics from each participating network device. Application statistics are collected on each interface (on participating devices) on which one of the following is enabled: Cisco Performance Monitor, Easy Performance Monitor (ezPM), PfR policy, or Protocol Discovery. Each of these activates NBAR2 on the interface.

Depending on the Cisco solution in place, application statistics must be collected as follows:

- **Application Assurance solution:** (No additional user configuration required) Collection of application statistics is enabled by the use of Performance Monitor or Easy Performance Monitor (ezPM), and PfR policy.
- **EasyQoS:** (Requires user configuration) Configure Protocol Discovery on WAN-side interfaces.
- **IWAN solution:** (No additional user configuration required) Collection of application statistics is enabled by the use of Easy Performance Monitor (ezPM) and PfR policy.

- Unique hostname:

Each network device operating with SD-AVC requires a unique hostname. The following is an example of how to configure the hostname on a device:

```
Device (config) #hostname host123
```

## Activating the SD-AVC Agent

Use the following procedure on a device in the network to activate the SD-AVC agent, enabling the device to communicate with the SD-AVC Network Service.




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**Note** See system requirements for network devices operating with SD-AVC .

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**Note** The term, SD-AVC Network Service, refers to the virtual service that operates on a host device and performs SD-AVC functions, such as aggregating application data. The **avc sd-service** command used in this procedure does not refer to the SD-AVC Network Service.

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1. Activate SD-AVC.

**avc sd-service**

**Example:**

```
(config)#avc sd-service
```

2. Configure the segment (group of devices that share the same purpose, such as routers within the same hub).

**segment cisco**

**Example:**

```
(config-sd-service)#segment cisco
```

3. Enter controller mode to configure the agent to use the SD-AVC Network Service (not related to the **avc sd-service** command used in an earlier step).

**controller**

**Example:**

```
(config-sd-service)#controller
```

4. Enter the service-IP used when the SD-AVC Network Service (running on a host device) was set up.

**address service-ip**




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**Note** For a high availability (HA) configuration, more than one SD-AVC Network Service is specified in this step. See: [SD-AVC High Availability](#)

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**Example:**

```
(config-sd-service-controller)#address 10.56.196.146
```

5. Configure VRF.

**vrf vrf\_mgmt**

**Example:**

```
(config-sd-service-controller)#vrf vrf_mgmt
```

The device is now configured to operate with SD-AVC, and begins:

- Sending collected application data to the SD-AVC Network Service
- Receiving application rules packs periodically from the SD-AVC Network Service

6. See [Scenarios that Benefit from Source Interface Configuration](#) to determine whether to specify a source interface for SD-AVC traffic.
7. Using the SD-AVC Dashboard confirm that the router appears as a device in the network.

### Configuration Example

The following is an example of the CLI steps used to configure the SD-AVC agent on a device.

```
(config)#avc sd-service
(config-sd-service)#segment cisco
(config-sd-service)#controller
(config-sd-service-controller)#address 10.56.196.146
(config-sd-service-controller)#vrf vrf_mgmt
```

## Deactivating the SD-AVC Agent

Use the following procedure on a device in the network to deactivate the SD-AVC agent and clear any SD-AVC agent configuration details that have been entered. This stops SD-AVC functionality on the device, and the device stops communicating with the SD-AVC network service.

1. Deactivate SD-AVC and remove SD-AVC agent configuration.

**no avc sd-service**

**Example:**

```
(config)#no avc sd-service
```

