Prerequisites

Prerequisites of IoT Service (Wireless)

Cisco Spaces: Connector Scale and Size Guidance for IoT Service

This section guides you on choosing a size for the Connector based on your scale of your deployment, such as

- number of APs in your network
- the messages that the Connector may have to send, and
- and the number of devices handled.

Note

- The table below is an approximation and assumes that only two services, namely Service manager service and IoT service (wireless), are in use. Also, every deployment is different and multiple factors impact the load on the Connector.
- Ensure that you have upgraded to the latest versions of these services to achieve the numbers mentioned in the table below.

Table 1: Cisco Spaces: Connector Scale and Size Guidance for IoT Service

Connector Size	Scale
Standard Connector (2vCPU, 4 GB RAM)	The **Standard** Connector can • Support up to 500 APs. • Send up to 25,000 outbound messages per second. • Process up to 1000 BLE tags or devices.

Connector Size	Scale
Advanced1 Connector (4vCPU, 8 GB RAM)	**Advanced1** Connector can • Support up to 2500 APs • Send up to 120,000 outbound messages per second. • Process up to 10,000 BLE tags or devices.

Prerequisites

The following prerequisites can get you started with Cisco Spaces: IoT Service.

- Install Cisco Spaces: Connector in your network.
- Install a Cisco Catalyst 9800 Series Wireless Controller with a Cisco IOS XE Amsterdam 17.3.x image.
- Deploy supported APs in your network (see the Compatibility Matrix for IoT Service (Wireless)).
- Ensure that Cisco Spaces is configured with maps either from Cisco Prime Infrastructure or Catalyst Center.
- If the Cisco Spaces: Connector is an Amazon Elastic Compute Cloud (EC2) Instance from Amazon Machine Images (AMI), ensure that the wireless controller and connector are in the same virtual private cloud (VPC). Ensure that the wireless controller has a private IP address so that the security group of connector does not block the traffic, allowing enabled IOT streams to function.
- Permit all the TCP traffic at the Virtual private clouds (VPC) level so that the Telemetry Data Logger (TDL) is established without any issues.
- Before adding a Cisco Catalyst 9800 Series Wireless Controller to a connector, run the following commands on the Catalyst 9800 controller in a sequence:
  - **aaa new-model**
  - **aaa authentication login default local**
  - **aaa authorization exec default local**

  These commands disable the connection services to Cisco Spaces.
- Cisco Spaces: IoT Service and Intelligent Capture (iCAP) feature can now co-exist on Cisco Catalyst 9800 Series Wireless Controller Cisco IOS XE Cupertino 17.7.x release and later. For releases earlier than Cisco IOS XE Cupertino 17.7.x, disable iCAP, if already enabled on the controller.
- Perform NTP synchronization over wireless controllers, a connector, and APs in the network.
- If a USB BLE module is inserted in an AP, reboot the AP.
- NETCONF must be enabled in Cisco Catalyst 9800 Series Wireless Controller in port 830, along with permission to use NETCONF.

Caution The application (app) installed and running over the AP uses the default 17.17.0.0/16 subnet. So, using this subnet for other purposes might create network issues.

- IPv6 is not supported on Cisco Spaces: Connector.
- If your require two connectors installed with 3.x to work with IoT service (wireless) and function as a high-availability pair, you must configure the connectors as Virtual IP (VIP) pair.

Access Points that support IoT Service (Wireless) are as follows:

- Cisco Catalyst 9105 Series Access Points
- Cisco Catalyst 9115 Series Access Points
- Cisco Catalyst 9117 Series Access Points
- Cisco Catalyst 9120 Series Access Points
- Cisco Catalyst 9130 Series Access Points
- Cisco Catalyst 9136 Series Access Points
- Cisco Catalyst 9162 Series Access Points
- Cisco Catalyst 9164 Series Access Points
- Cisco Catalyst 9166 Series Access Points
- Cisco Aironet 4800 Series Access Points

Compatibility Matrix for IoT Service (Wireless)

Application Name	Support for Cisco Spaces: IoT Service
Supported wireless controllers	• Supported on Cisco Catalyst 9800 Series Wireless Controllers, Release 17.3.1 and later • Not supported on Cisco AireOS Wireless Controller • Not supported on Cisco Embedded Wireless Controller on Cisco Catalyst Access Points (Cisco EWC-AP) • Supported on Catalyst 9800 Controller running on Catalyst Switches in SD-Access mode (ECA)
Cisco Spaces: Connector Docker	2.0.455 and later
Cisco Spaces: Connector OVA	2.3 and later
Cisco Prime Infrastructure	Cisco Prime Infrastructure Release 3.8 MR1 and later

Application Name	Support for Cisco Spaces: IoT Service
Catalyst Center (for map import)	Catalyst Center Release 2.1.1 and later
Access Points for advanced BLE gateway (Wi-Fi 6)	• Cisco Catalyst 9105 Series Access Points • Cisco Catalyst 9115 Series Access Points • Cisco Catalyst 9117 Series Access Points • Cisco Catalyst 9120 Series Access Points • Cisco Catalyst 9130 Series Access Points • Cisco Catalyst 9136 Series Access Points • Cisco Catalyst 9162 Series Access Points • Cisco Catalyst 9164 Series Access Points • Cisco Catalyst 9166 Series Access Points • Cisco Aironet 4800 Series Access Points
Access points for basic BLE gateway	• Cisco Aironet 1815 Series Access Points • Cisco Aironet 2800 Series Access Points (USB dongle needed. No in-built USB radio) • Cisco Aironet 3800 Series Access Points (USB dongle needed. No in-built USB radio)
Cisco IOx App Version	1.0.46 and later **Note** For Cisco Catalyst 9800 Series Wireless Controllers Cisco IOS XE Cupertino 17.7.x, ensure that the IoX Application version is upgraded to Version 1.3.x

IoT Service is not supported on the following:

- Directly connected and CMX Tethering connectors.

The following table lists the compatibility of the Advanced BLE Gateway for BLE and the Base BLE Gateway App with various AP modes. This table is not applicable to Cisco Embedded Wireless Controller on Cisco Catalyst Access Points (Cisco EWC-AP).

Table 2: AP Modes and App Support

AP Mode	Advanced BLE Gateway App	Base BLE Gateway App
PI: Local	• 11-AX: Supported • Wave2: Not supported	• 11-AX: Supported • Wave2: Supported

AP Mode	Advanced BLE Gateway App	Base BLE Gateway App
P1: Flex	• 11-AX: Supported • Wave2: Not supported	• 11-AX: Supported • Wave2: Supported
P2: Fabric	• 11-AX: Supported • Wave2: Not supported	• 11-AX: Supported • Wave2: Supported
P3: Mesh	• 11-AX: Supported • Wave2: Not supported	• 11-AX: Supported • Wave2: Supported