Cisco Sensor Connect for IoT Services Release Notes, 1.1

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Introduction to Cisco Sensor Connect for IoT Services

The Cisco Sensor Connect for IoT Services solution enables delivery of advanced BLE capabilities over Cisco Catalyst Wireless infrastructure. The key component of this solution is the IoT Orchestrator which is a Cisco IOx application that can be deployed on any existing Cisco Catalyst 9800 Wireless Controller platforms running software version Cisco IOS-XE 17.15.3 and later. With the Cisco Sensor Connect for IoT Services solution, you have capabilities to securely onboard and control BLE devices, and consume data telemetry using the Message Queuing Telemetry Transport (MQTT).

Release History

Date	Description
April 1, 2025	Release 1.1 is the first release for general availability.

Supported Licenses

- Cisco Spaces Smart Operation
- Cisco Spaces ACT
- Cisco Spaces Unlimited
- Cisco Wireless Advantage

System Configuration

The following Cisco APs are supported in this release.

Supported Access Points

Table 1. Supported Access Points

AP Model	Scan Mode	Transmission Mode	Dual Mode (Scan and Transmit Mode)	BLE Device Connection without Pairing	BLE Device Connection with Pairing	Maximum Concurrent BLE Device Connection Limit
Cisco Catalyst 9105AXI or 9105AXIT with VID 02 and lower	Yes	Yes	Yes	Yes	No	8

AP Model	Scan Mode	Transmission Mode	Dual Mode (Scan and Transmit Mode)	BLE Device Connection without Pairing	BLE Device Connection with Pairing	Maximum Concurrent BLE Device Connection Limit
Cisco Catalyst 9105AXI or 9105AXIT with VID 03 and higher	Yes	Yes	Yes	Yes	Yes	8
Cisco Catalyst 9105AXW or 9105AXWIT with VID 01 and lower	Yes	Yes	Yes	Yes	No	8
Cisco Catalyst 9105AXW or 9105AXWIT with VID 02 and higher	Yes	Yes	Yes	Yes	Yes	8
Cisco Catalyst 9115AX	Yes	Yes	No	No	No	NA
Cisco Catalyst 9120AX with VID 06 and lower	Yes	Yes	Yes	Yes	No	8
Cisco Catalyst 9130AX with VID 02 and lower	Yes	Yes	Yes	Yes	No	8
Cisco Catalyst 9120AX with VID 07 and higher	Yes	Yes	Yes	Yes	Yes	8
Cisco Catalyst 9124AX with VID 03 and higher	Yes	Yes	Yes	Yes	Yes	8
Cisco Catalyst 9130AX with VID 03 and higher	Yes	Yes	Yes	Yes	Yes	8

AP Model	Scan Mode	Transmission Mode	Dual Mode (Scan and Transmit Mode)	BLE Device Connection without Pairing	BLE Device Connection with Pairing	Maximum Concurrent BLE Device Connection Limit
Cisco Catalyst 9136 (I)	Yes	Yes	Yes	Yes	Yes	8
Cisco Catalyst 9162 (I)	Yes	Yes	Yes	Yes	Yes	8
Cisco Catalyst 9164 (I)	Yes	Yes	Yes	Yes	Yes	8
Cisco Catalyst 9166 (I)	Yes	Yes	Yes	Yes	Yes	8
Cisco Wireless 9172 (I) [From Cisco IOS XE 17.15.3]	Yes	Yes	Yes	Yes	Yes	8
Cisco Wireless 9172 (H) [From Cisco IOS XE 17.17.1]	Yes	Yes	Yes	Yes	Yes	8
Cisco Wireless 9176 (I/D1) Series Wi-Fi 7 Access Points	Yes	Yes	Yes	Yes	Yes	8
Cisco Wireless 9178 (I) Series Wi-Fi 7 Access Points	Yes	Yes	Yes	Yes	Yes	8

Note:

- Cisco Catalyst 9115 AP is supported with Sensor Connect for IoT Services feature for scanning and advertising. Cisco does not recommend using this AP model for delivering high density, latency-sensitive, or mission critical BLE use cases due to known hardware performance limitations.
- For information on the VIDs for the access points, see the **How to Identify Affected Products** section in the Field Notice.

Supported Platforms

- Cisco Catalyst 9800-L Wireless Controller
- Cisco Catalyst 9800-40 Wireless Controller
- Cisco Catalyst 9800-80 Wireless Controller
- Cisco Catalyst CW9800M Wireless Controller
- Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllers

Software Features

New Software Features 1.1

Feature	Description
Support for MQTT Message Batching	To improve network efficiency and achieve high MQTT throughput in scale scenarios, the IoT Orchestrator application supports MQTT message batching. As a result, a new protobuf message called **DataBatch** has been introduced. It acts as a wrapper for multiple data subscription messages, and each DataBatch message can contain multiple DataSubscription messages. The partner application that consumes MQTT messages from the IoT Orchestrator must update the data application protocol buffer from the Pre-GA Release prototype to the GA Release prototype. For information on the Data Application Protocol Buffer (Pre-GA Release), see the https://github.com/ietf-wg-asdf/asdf-nipc/blob/nipc-asdf-01/proto/data_app.proto. For information on the Data Application Protocol Buffer (GA Release), see the https://github.com/ietf-wg-asdf/asdf-nipc/blob/cisco-iot-orchestrator-1.1/proto/data_app.proto.
Support for Multiple MQTT Data Receivers with Shared Subscriptions	A Shared Subscription is a feature in MQTT that allows multiple clients (subscribers) to share the workload of receiving messages from a single topic. It also helps achieve high MQTT throughput by preventing a single subscriber client from becoming a bottleneck. For more information, see the *Cisco Sensor Connect for IoT Services Programmability Guide*.
Support for Application Events	Application events apply to use cases that require BLE device connection. If a BLE device is connected and any of the following scenarios occur: ▪ IoT Orchestrator application restarts ▪ Cisco Catalyst 9800 Wireless Controller reloads ▪ Cisco Catalyst 9800 Wireless Controller HA switchover Then the partner application must register for the **application_events** topic to receive notifications such as *Application Restarted* or *Application Stopped*. For more information, see the *Cisco Sensor Connect for IoT Services Programmability Guide*.

Release Image

Download the IoT Orchestrator (**Spaces Orchestrator Software**) image that will be posted in the following page:

https://software.cisco.com/download/home/286323456/type

For further help, you can reach out to Cisco TAC.

Issues

Open Issues for Cisco Sensor Connect for IoT Services 1.1

Click the bug ID to access the Bug Search Tool and see additional information about the bug.

Bug ID	Headline
CSCwh56683	The BLE module of the AP experiences a memory leak when switching from Spaces Sensor Connect for IoT Services (IoT Orchestrator) to the Cisco Spaces Connector setup
CSCwo00821	The IoT Orchestrator application fails to start after upgrading or reloading the system **Note:** This bug affects only the C9800-L model and is intermittent occurring infrequently.
CSCwo08759	The GRPC connection status on AP is not reported correctly to the wireless controller after a sudden flap of the AP uplink even though the connection is up from the AP
CSCwo66172	Application Hosting Conflict: Guest Shell and IoT Orchestrator co-existence issue in Cisco Catalyst 9800 Wireless Controller
CSCwo66956	Cisco Catalyst 9800-L Wireless Controller may crash if more than 6 VirtualPortGroup interfaces are configured
CSCwo52685	The GRPC connection status on AP is not reported correctly to the wireless controller after a switchover or full stack reload
CSCwo04177	AP does not send the AP inventory message due to the BLE MAC address being unavailable, as the IoT radio was disabled on the AP via the IoT Orchestrator. Workaround: To address this issue, you can follow these steps: 1. Reload the AP. 2. Manually enable the IoT radios by running the following command: **test iot ble poweron**

Resolved Issues for Cisco Sensor Connect for IoT Services 1.1

Bug ID	Headline
CSCwi77016	The IoT Services page in the Cisco Catalyst 9800 Wireless Controller becomes stuck while attempting to stop the IoT Orchestrator, if the application stopped using the CLI commands

Related Content

Document Title	Description
Cisco Sensor Connect for IoT Services Quick Start Guide	Cisco Sensor Connect for IoT Services Quick Start documentation
Cisco Sensor Connect for IoT Services Configuration Guide	Cisco Sensor Connect for IoT Services Configuration documentation
Cisco Sensor Connect for IoT Services Programmability Guide	Cisco Sensor Connect for IoT Services Programmability documentation
Cisco Sensor Connect for IoT Services Online Help	Cisco Sensor Connect for IoT Services Online Help documentation

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- To obtain general networking, training, and certification titles, visit Cisco Press.
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Cisco Bug Search Tool

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