

Revised: November 11, 2024

# Migrate Connector 2.x to Connector 3 from Cisco Spaces Dashboard

## Why Migrate Connector 2.x to Connector 3

Here are the reasons why you must consider migrating from Connector 2.x to Connector 3:

Table 1: Why Migrate to Connector 3

Improvement	Description
Improved Architecture:	• Uses a service-oriented architecture to create a modular Connector.
	• Each service is an independent module featuring lifecycle management, business logic, data channels, as well as command-line and user interfaces.
	• Simplifies management and development of services both in cloud environments and within the connector itself.
Enhanced Features:	Offers a comprehensive suite of advanced functionalities.
High Availability:	Supports Virtual IP-based high availability configurations.
	• Facilitates seamless IoT and Cisco FastLocate operations with automated failover mechanisms.
Advanced Troubleshooting:	Provides detailed, step-by-step troubleshooting tools to quickly identify and resolve connectivity issues.
Improved Monitoring:	• Delivers extensive metrics on system and service performance, including CPU usage, memory, connectivity, and traffic.
	• Enables monitoring through the Cisco Spaces dashboard for real-time insights.
Efficient Upgrades:	Enables streamlined and uninterrupted upgrades, including service updates and security patches, all managed through the Cisco Spaces dashboard.

### Features Support in Connector 2.x and Connector 3

Table 2: Connector 3 vs Connector 2.x Feature Matrix

Features	Connector 2.x	Connector 3
Location service	YES	YES
IoT Service (Wireless) and IoT Service (Wired)	YES	YES
OpenRoaming	YES	YES

Features	Connector 2.x	Connector 3
Cisco Spaces Apps	YES	YES
Cisco FastLocate	YES	YES
IPv4	YES	YES
IPv6	NO	YES
AMI support	YES	YES
Azure support	NO	YES
Hyper-V support	YES	YES
Local Firehose Service	YES	YES
External AAA support	YES	YES
Partner App Integration OR App Support	YES	YES
Dual Interface	YES	YES
High Availability	YES	YES
Advanced High Availability (IoT HA)	NO	YES

## **Before You Begin**

Download and configure Connector Release 3. Refer to the Configuration section of the Cisco Spaces: Connector Configuration Guide. Refer to the release note to find the latest installation. Release Notes for Cisco Spaces: Connector

Once you install the Connector 3 instance, ensure that the services relevant to your specific use case are enabled, ACTIVE, and updated to the latest version.

Table 3: Services to Install

Service	Instructions
IoT Service (Wired)	Configure IoT Service (Wired)
IoT Service (Wireless)	Configure IoT Service (Wireless)
Hotspot Service	Configure Hotspot Service, on page 22
Local Firehose Service	Configure Local Firehose Service, on page 23

Note

Make sure that the x86-64-v2 CPU is available for Enterprise Linux 9. Also, ensure that the x86-64-v2 CPU supports the following flags: SSE3, SSE4\_1, SSE4\_2, and SSSE3.

## **Migrate and Verify**

## Migrate Connector 2.x to Connector 3 from Cisco Spaces Dashboard

This procedure shows you how to migrate your existing Cisco Spaces: Connector 2.x configurations to Connector 3, from the Cisco Spaces dashboard.

Step 1 Log in to Cisco Spaces.

	$\equiv$
I	Note

The Cisco Spaces URL is region-dependent.

- **Step 2** In the Cisco Spaces dashboard, choose **Setup > Wireless Networks**.
- **Step 3** From the **2. Configure the Spaces Connector** area, click **View Connectors**.

### Figure 1: View Connectors

	figure spaces connector	
You will can opt	need a token to configure Spaces Connector. You n ionally configure Spaces Connector to connect via H	need to connect to https:// <your connector="" ip="">/ from a browser to configure the token. Y 4TTPS proxy.</your>
С	) / 6 connector(s) active	Create Connector View Connectors
Add Add and	Controllers d associate controllers to your Cisco DNA Spaces C	ionnector(s)
С	) / 3 controller(s) active	Add Controllers View Controllers
Prime/D	Ort Maps	t, Asset tracker, and IOT services, and proximity Report
Prime/E	ort Maps NAC map requires in order to work Locate & detect buildings imported	t, Asset tracker, and IOT services, and proximity Report
Prime/C	ort Maps NAC map requires in order to work Locate & detect buildings imported floors imported	t, Asset tracker, and IOT services, and proximity Report Import/Sync Maps Map Upload History Manage Maps
Impo Prime/C 1 3 Setu Once th	ort Maps NRAC map requires in order to work Locate & detect buildings imported filoors imported up location hierarchy e maps imported, you can add them into location hi	t, Asset tracker, and IOT services, and proximity Report Import/Sync Maps Map Upload History Manage Maps erarchy

Step 4From the list of connectors displayed, click the connector 3 you installed. Click Add Controller.Figure 2: Choose Connector 3

SU	IMMARY								
3 Co	1 nnectors Up	2 Down	1 location enabled						
Chadles No.		enterine in the mainte	and for the				addeal hug faces till Oath	2014 We	
ecomment	migrating to Connect	tor 3 and please refe	r this Connector 2 to 4	Connector 3 migration g	uide for more deta	sils.	citocal bug lives oil occ 2	024. He	
oppostoro		•							Croate New Connect
onnectors		•						C	Create New Connect
onnectors Name	Release	Instances	Switches	Controllers	APs	Status	Last Modified	Last Heard	Create New Connect Actions
onnectors Name conn2- migration	Release ova-2.3.506	Instances	Switches	Controllers	APs 0	Status O Vp	Last Modified Dec 3, 2023, 8:00:49 PM	Last Heard Dec 3, 2023, 8:31:08 PM	Create New Connect Actions
onnectors Name cons2- migration cons2-3- migration	Release ova-2.3.506 3.1	Instances NA D	Switches D	Controllers 1	APs 0 0	Status © Up @ Down	Last Modified Dec 3, 2023, 8:00:49 PM Dec 2, 2023, 9:14:28 PM	Last Heard Dec 3, 2023, 8:31:08 PM Never	Create New Connect Actions

**Step 5** From the **Add Controller** tab of this specific connector, click **Choose controllers from another connector**. From the **Choose connector** drop-down list displayed, choose the connector 2.x that you want to migrate configurations from.

Figure 3: Move Wireless Controllers from Connector 2.x

		Add Controller	×
tup > Connectors > conn2-3-migratio	in		
SUMMARY		Spaces Connector Name	
<b>D</b> 0 0	0	2 conn2-3-migration	
Instances Ac	tive Inactive	Si O Add new controller	
Configuration Instances	Matrice	Choose this option to add new controllers	
Configuration Instances	Metrics	Choose controllers from another connector	
		Choose this option to add controllers from another connector. Controllers will be removed from original connector	
Services		Choose connector	
Service Name	Version	Select Connector	
ပိုင္ပို Service Manager	3.1.1.56	conn2-3-migration	
Location	3.1.0.115	conn2-migration	
		Connector AMI 2.3.501	
0			
Controllers			

**Step 6** To migrate hotspot configurations from the connector 2.x, check the **Migrate hotspot configurations from the selected connector** check box.

Figure 4: Migrate Hotspot Configurations from Connector 2.x

≡ diada Spaces		Add Controller
Deshboard ~	SUMMARY 0 0 0 Instances Active Inactive	Spaces Connector Name Connector/30
<ul> <li>⟨<sub>x</sub>⟩ Home</li> <li>⊘ Location Hierarchy</li> <li>⊘ Integrations</li> </ul>	Configuration Instances Metrics	Add new controller     Character and marketerements     Characterements     Chara
Monitor     Admin Management     IoT Services	Service Name Version	Chonee connector COrnecotr20  Migrate hotspot configurations from the selected connector.
🔅 Setup	© Location 3.1.0.116	Warning! This will remove the existing lotspot configurations from 3.x connectors No consectors exailable to import controllars:
		Improvides         Improvi
	You have not added any Controllers yet. Click 'Add Controller' to configure controllers.	
		Add Cancel



The following points are related to the migration of Hotspot Service:

- Cisco Spaces sets up and enables the same hotspot configuration on the new Connector 3 instance as on the Connector 2.x.
- Cisco Spaces does not automatically route traffic from the wireless controller to the Connector 3 onstance.
- Users must manually update their wireless controller configurations to direct traffic to the Connector 3 instance. To migrate the wireless controller configuration to the Connector3 Instance, see Configure Cisco AireOS or Cisco Catalyst Network, on page 25.
- After setting up and confirming the new configuration, users must remove any references to Connector 2 to disable the previous Hotspot or OpenRoaming setup.
- Any existing hotspot settings on Connector 3 are overwritten when migrating from Connector 2.x to Connector 3.

### **Verify the Migration Status of Connector 3**

In the **Setup > Connector** window, observe the status of migration. Wait for the value of the **Status** cell of the Connector 3 to change from **Down** to **Up**.

#### Figure 5: Observe Status of Connector 3

	3 2 Connectors Up	1 Down	1 location enabled						
Starting recomm	Nov'2023 Connector 2.x end migrating to Connect	entering in to mainte or 3 and please refe	nance mode. Security this Connector 2 to C	updates will be availab connector 3 migration g	le till June'2024 ar uide for more deta	nd extended support to a	critical bug fixes till Oct*2	024. We	
onnectors									Create New Connect
Name	Release	Instances	Switches	Controllers	APs	Status	Last Modified	Last Heard	Actions
conn2- migration	ova-2.3.506	NA	0	0	0	Q Up	Dec 3, 2023, 8:00:49 PM	Dec 3, 2023, 8:47:38 PM	
	3.1	1	0	1	0	() Up	Dec 2, 2023, 8:14:26 PM	Dac 3, 2023, 8:47:14 PM	
conn2-3- migration						🕫 Down	May 25, 2023,	Never	
conn2-3- migration Connector AMI 2.3.501	ami-2.3.502	NA	0	3	0		3:21:44 AM		

### Verify Wireless Controllers, APs, and Location Service

Verify if the wireless controller is in **Active** state. Then, verify if the number of APs is the same as the Connector 2.x. This automatically verifies the Location service as well.

#### Figure 6: Status of Wireless Controller

Setup > Connectors > conn2-3-migration					ID : I	89136857539660760000   Last N	fodified : Dec 2, 2023, 9:14:26 P
SUMMARY							
<b>●</b> 1 1	0	2 1	0				
Instances Acti	ive Inactive	Services enabled Controllers	Switches				
	dente a					O Commit Trime	The Market Council
Configuration Instances in	Aetrics					G p Generate roken	gr mousieshoot connecto
Services							Add Service
ocritices							
Service Name	Version	Last Updated	Actions				
Service Manager	3.1.1.56	Dec 2, 2023, 9:	14:03 PM				
O Location	3.1.0.115	Dec 2, 2023, 9:	14:03 PM				
Controllors							Add Controller
Controllers						EQ Controller Name / Cont	roller P
Name	IP Address	# of APs	Last Modified	Last Heard	Status	Actions	
rfid-ewic	10 89 45 66		Day 3 2023 8-30-27 BM	Day 2 2022 8-47-42 DM	O Action		
Catalyst 9800 Wireless Controller	10.00.40.00	v		200 01 20201 0101102 1 M	- Autore		
(First Previous 1 Next   Last							(1 - 1 of 1): 1 page
·							
INOTE							

The time it takes for the controller to reach an ACTIVE state may differ based on the number of services chosen and the size of the deployment; however, we recommend that you wait a few minutes for this process to be completed.

### Verify IoT Service (Wireless)

If you had enabled the IoT service (wireless) for your use case, verify if the service is migrated.

- Step 1
   In the Cisco Spaces dashboard, choose Setup > Wireless Networks > 2. Configure the Spaces Connector area > View Connectors.
- **Step 2** From the list of Connectors displayed, choose the newly migrated connector 3.
- Step 3 From the list of services, click the gear icon on the IoT Wireless row and from the pop-up menu, choose IoT Stream.

### Figure 7: Choose IoT Stream

Configuration Instances	Metrics		
Services			
Service Name	Version	Last Updated	Actions
Service Manager	3.1.2.45	Apr 3, 2024, 1:55:12 PM	
Location	3.1.0.133	Apr 3, 2024, 1:55:12 PM	
쓿 loT Wireless	3.1.3.27	Apr 3, 2024, 2:08:24 PM	IOT Stream
local-firehose	3.1.0.78	Apr 3, 2024, 2:08:24 PM	

 Step 4
 In the Manage IoT Streams window, check the Operation Log and ensure that the status is Successfully set config.

 Figure 8: Status of IoT Service (Wireless)

$\leftrightarrow$ $\rightarrow$ $\mathcal{C}$ $\triangleq$ beta-itr-s2438.qa-	-dnaspaces.io/setup/connectors	🖞 🖈 💽 🌲 🔲 🚷 Relaunch to update
≡ diade Spaces	Salue 2. Company 2. com pix 2.1	Manage IoT Streams
🏮 dashboard-lib.homep 🗸	SUMMARY 1 1	Manage Connector SUCCESS Configure to enable Enable IoT Streams on Cisco DNA Spaces Connector
<ul> <li>Home</li> <li>Location Hierarchy</li> </ul>	Configuration Instances Metric	Use Manual Configuration to setup IoT Services in Controller when the configuration can not be applied automatically.
Integrations	Service Name Versic	Use the three dots action of Enable/Disable Stream to apply configuration changes to the Controller.
Admin Management	ျိုင်ရှိ Service Manager 3.1.1	Controller Connector Controller Operation Operation Log Last updated
loT Services	Q Location 3.1.0	ewic-66 10.22.244.104 172.20.239.66 SUCCESS Successfully set Dec 4, 2023, 10:20:16 : config AM
Setup	${}^{32}_{75}$ IoT Wireless 3.1.2	Manage Controller Sample configuration
	Controllers	Setup IoT Services stream authentication and certificate to allow APs to connect with the Cisco DNA Spaces Connector The WLC will be configured to send notifications to Cisco DNA Spaces Connector for AP configuration changes.
	Name IP #	
	ewic-66 172 Catalyst 9800 Wireless Controller	
	First   Previous 1 Next   Last	Cancel

## **Verify Hotspot Service**

If you had enabled the Hotspot service for your use case, verify if the service is migrated.

- **Step 1** In the Cisco Spaces dashboard, choose **OpenRoaming**. In the **OpenRoaming** left-navigation pane, choose **Setup**.
- Step 2 In the Hotspot-enabled Connectors area, choose Cisco Wireless Controllers.
- **Step 3** Verify if the new Connector 3 instance is in the ACTIVE state.

		Configure an OpenRoaming hotspot profile f	or your network				
	OpenRoaming ~	OpenRoaming profile(s) created				c	Create OpenRoaming Profile
	Home	Profile Name	SSID Name	Access Policy	Carrier Offload	Last Modi	fied Action
	Get Started	ORSSID	ORSSID	ALL	Not Configured	2024-02- 08T09:29:	30.665Z
	🔅 Setup	First   Previous 1 Next   Last					(1 - 1 of 1): 1 pages
	Q User Management						
	A Sensors	Hotspot-enabled Connec OpenRoaming Profiles can run on your Hotsp	tors				
	CD Related Links	Cisco Wireless Controllers Me	raki API				
		Connectors have Hotspot enable	ad .			Enst	le Hotspot for Connector(s)
		Name	Connector Status	# of Controllers	Last Modified	Last Heard	Action
		COnnecotr20	Active	0	Feb 8, 2024, 4:12:46 PM	Feb 8, 2024, 4:12:37 PM	
		Connector30	Active	1	Feb 8, 2024, 4:04:38 PM	Feb 8, 2024, 4:12:26 PM	
		First Previous 1 Next Last					(1 - 2 of 2) : 1 pages
Figure 9: Status of Hotspot Service							

## **Configure Local Firehose**

- **Step 1** In the Cisco Spaces dashboard left navigation pane, click **Setup** and choose **Wireless Networks**.
- Step 2In the Connect your wireless network window that is displayed, go to the Step 2 area and click View Connectors.Figure 10: View Connectors

E CISCO SPACE	5				
愆 Setup	€ ess network				
Wireless Network Wired Network Map Service	Wired Network Wired Network as to get your wireless network connected to Cisco DNA Spaces. No need to upgrade Wireless LAN Controllers or reconfigure your wireless network. Map Service				
	es Connector OVA pages Connector OVA as a virtual machine. viestor (3) Dagees Connector				
	You will need a token to configure Spaces Connector. You need to connect to https://-your connector IP-/ from a browser to configure the token. You can optionally configure Spaces Connector to connect via HTTPS proxy.           2         /         2         Create Connector				
3	Add Controllers Add and associate controllers to your Claco DNA Spaces Connector(s) Add Controllers Add Controllers				
	Import Maps				
	Prime/DNAC map requires in order to work Locate & detect, Asset tracker, and IOT services, and proximity Report           2         buildings imported         Import/Sync Maps				
	2 Roors Imported Manage Maps				
5	Setup location hierarchy Once the maps imported, you can add them into location hierarchy				

Step 3 In the connector details window that is displayed, choose a connector and click Add Services.

#### Figure 11: Add Service

←Back Setup > Connectors > Test	ID : 81424448212902120000   Last Modified : Apr 29, 2022, 11:04:25 AM
SUMMARY 0 0 0 0 0 Instances Active Inactive Service Switches enabled	
Instances Configuration Metrics	🖉 Generate Token 🛛 🚳 Troubleshoot Connector
Services	Add Services
You have not added any services yet. Click "Add Service" to configure services. Switches You have not added any switches yet. Click "Add Switch" to configure switches.	Add Switch

Step 4 In the Add Service window that is displayed, choose local-firehose and click Add.



To receive events such as Device\_RSSI for Received Signal Strength Indicator (RSSI)-based tags and Device BLE events for Bluetooth Low Energy (BLE) tags, ensure that location and iot-services services Note are also added.

You can see that the number of services enabled has increased.

Step 5 Login to the Connector GUI. Scroll downwards to the local-firehose tile. Verify if the running status is Up.

local-firehose 3.1.0. Upgrade: Success	69		
Last Heartbeat	6s ago		
Running Status	Up		
Up time	16m 11s 🛈		
Outgoing TAG RSSI events rate	36.46 events/second i)		
Incoming TAG RSSI events rate	53.09 events/second (i)		
Outgoing BLE RSSI events rate	14.26 events/second i)		
Incoming BLE RSSI events rate	20.38 events/second i		
Active gRPC Connection Count	1 count 🛈		
gRPC Server Channel Status	RUNNING Status 🛈		
Show Less			
Disk Usage (%)	11.41 % 🛈		
Disk Size	233.69 MB 🛈		
CPU Usage (%)	45.33 % i		
Memory Usage (%)	5.97 % i		
Memory Usage	475.11 MB 🛈		

### What's next

- Stanley customers using the Aeroscout Location Engine (ALE) should update the IP address of the Connector 2.x instance to the IP address of the Connector 3 instance.
- All other customers must update their applications with the new Connector 3 instance IP address.
- If the Connector3 is configured in High Availability VIP mode, both the primary and secondary Connector 3 instance IPs must be utilized in the ALE.
- The API key for the local firehose remains unchanged and is the same as the one generated for Connector 2.

## **Last Steps**

Once migrations is completed, and verified, remove Connector 2.x instances from the Cisco Spaces dashboard.

### Figure 13: Delete Connector 2.x Instance

Connectors								🕀 Create Ne	w Connec
							Modified		
conn2- 3- migration	3.1	1	0	0	0	🔕 Up	Jan 16, 2024, 11:52:51 AM	Jan 16, 2024, 11:54:36 AM	
conn2- migration	ova-2.3.506	NA	0	1	0	🗿 Up	Jan 16, 2024, 9:26:20 AM	Jan 16, 2024, 11:54:42 AM	0:
								Edit Connector	

## **For Your Reference**

## **Configure IoT Service (Wireless)**

- **Step 1** In the Cisco Spaces dashboard left navigation pane, click **Setup** and choose **Wireless Networks**.
- **Step 2** In the **Connect your wireless network** window that is displayed, go to the **Step 2** area and click **View Connectors**.

### Figure 14: View Connectors

≡ CISCO SPACE	:5
贷 Setup	€ ess network
Wireless Network Wired Network Map Service	rks exes Connector ay to get your wireless network connected to Cisco DNA Spaces. No need to upgrade Wireless LAN Controllers or reconfigure your wireless network.
	es Connector OVA
Webex	You will need a token to configure Spaces Connector. You need to connect to https://-your connector IP-/ from a browser to configure the token. You can optionally configure Spaces Connector to connect via HTTPS proxy.         2 / 2 connector(s) active       Create Connector         View Connectors       View Connectors
	Add and associate controllers to your Claco DNA Spaces Connector(s)           1 / 2 controller(s) active         Add Controllers           View Controllers         View Controllers
4	Import Maps Prime/DNAC map requires in order to work Locate & detect, Asset tracker, and IOT services, and proximity Report
	2     buildings imported     Import/Sync Maps       2     floors imported     Map Upload History       Manage Maps     Manage Maps
5	Setup location hierarchy Once the maps imported, you can add them into location hierarchy

**Step 3** In the connector details window that is displayed, click **Add Services**.

### Figure 15: Add Services

←Back Setup > Connectors > Test		ID : 81424448212902120000   Last Modified : Apr 29, 2022, 11:04:25 AM
SUMMARY 0 0 0 Instances Active Inactive	0 0 Service Switches enabled	
Instances Configuration Metrics		🖉 Generate Token 🛛 🍈 Troubleshoot Connector
Services		Add Services
You have not added any services yet. Click "A Switches You have not added any switches ye	dd Service" to configure services. t. Click " Add Switch" to configure switches.	

Step 4

In the Add Services window that is displayed, choose IoT Wireless and click Add.



service-manager is chosen by default.

Note

### Figure 16: Connector Details

←Back Setup > Connectors > Test		ID : 81424448212902120000   Last Modified : Apr 29, 2022, 11:04:25 AM
SUMMARY 0 0 0 Instances Active Inactive	2 0 Services Switches enabled	
Instances Configuration Metrics		🖉 Generate Token 🛛 🚳 Troubleshoot Connector
Services		Add Services
Service Name	Version	Last Updated
°¦o° service-manager	2.8.0.123	Never
.ill iot-services	2.8.0.33	Never
Switches		Add Switch

In the Connector Details window, you can see that the number of services that are enabled has increased.

## **Configure IoT Service (Wired)**

**Step 1** From the Cisco Spaces dashboard left-navigation pane, click **Setup** and choose **Wired Networks**.

Step 2From the Connect your wireless network window that is displayed, go to the Step 2 area and click View Connectors.Figure 17: View Connectors

E CISCO SPACE	s
🔅 Setup	€ ess network
Wireless Networ Wired Network Map Service	Ks ces Connector ay to get your wireless network connected to Clisco DNA Spaces. No need to upgrade Wireless LAN Controllers or reconfigure your wireless network.
Camera Sensors Webex	es Connector OVA spaces Connector OVA as a virtual machine. spaces Connector DVA paces Connector You will need a token to configure Spaces Connector to https://-your connector IPv/ from a browser to configure the token. You can optionally configure Spaces Connector to connect via
	ATTPS proxy.     Create Connector       2 / 2 connector(s) active     Create Connector       View Connectors     View Connectors
3	Add and associate controllers Add and associate controllers to your Claco DNA Spaces Connector(s)
	1 / 2 controller(s) active Add Controllers View Controllers
4	Import Maps Prime/DNAC map requires in order to work Locate & detect, Asset tracker, and IOT services, and proximity Report
	2     buildings imported     Import/Sync Maps       2     floors Imported     Map Upload History       Manage Maps     Manage Maps
5	Setup location hierarchy Once the maps Imported, you can add them Into location hierarchy

**Step 3** Click a connector 3 of your choice.



You can use the same connector that you used for Cisco Spaces: IoT Service (Wireless).

Step 4

Step 6

In the connector details window that is displayed, click Add Services.

### Figure 18: Add Services

←Back Setup > Connectors > Test	ID : 81424448212902120000   Last Modified : Apr 29, 2022, 11:04:25 AM
SUMMARY 0 0 0 0 0 0 Instances Active Inactive Service Switches enabled	
Instances Configuration Metrics	Denerate Token 💩 Troubleshoot Connector
Services	Add Services
You have not added any services yet. Click * Add Service* to configure services. Switches	Add Switch
Tou have not added any switches yet. Click Add Switch to conligue switches.	

### **Step 5** In the Add Service window that is displayed, choose IoT Wired and click Add.

### Figure 19: Adding a Service

←Back Setup > Connectors > Test		ID : 81424448	212902120000   Last Modified : Apr 29, 2022, 11:04:25 AM
SUMMARY 0 0 0 Instances Active Inactive	2. 0 Services Switches enabled		
Instances Configuration Metrics			🖉 Generate Token 🛛 🎡 Troubleshoot Connector
Services			Add Services
Service Name	Version		Last Updated
Service-manager	2.8.0.123	Never	
,() iot-services	2.8.0.33	Never	
Switches			Add Switch

In the **Connector Details** window, you can see that the **IoT Wired** service has been added. Click the gear icon near the **IoT Wired** row.

### Figure 20: Gear Icon of IoT Wired

tup > Connectors > dna-spaces-connector-lot-	wired-ga			ID : 5538393794401174000   Last Modified : May 13, 2023, 6:04:
SUMMARY 1 1 Instances Active	0 3 Inactive Services enabled	0 1 Controller Switches		
Configuration Instances Metrics				🗘 🖉 Generate Token 🔹 Troubleshoot Conn
Services				€Add Ser
Service Name	Version	Last Updated	Actions	
Service Manager	3.1.0.104	May 13, 2023, 6:04:18 AM		
Q Location		May 13, 2023, 6:04:18 AM	IOT Camina	1
🕴 IoT Wired	o 3.1.0.29	May 13, 2023, 6:04:18 AM	0	

- **Step 7** (Optional) In the **Manage IoT Streams** window that is displayed, check if the connector is not already enabled, and if it is not, click **Configure to Enable**.
- **Step 8** From the list of switches, click the vertical three-dot icon adjacent to the switch and select **Enable Service**.

Figure 21: Enable Service

Manage loT Sei	rvices				×
Manage Connector SUCCESS       Configure to enable         Enable IoT Services on Cisco Spaces Connector         Use Manual Configuration to setup IoT Services in switches when the configuration can not be applied automatically.					
Use the three dots action Switch Name	Connector IP	Stream to apply co Switch IP	nfiguration changes to th Operation Status	Operation Log	Last updated
catalyst-9300-qa-1	10.22.243.64	10.22.243.73	SUCCESS	Successfully set config	May 13, 2023, 7:07:10 AM :
Manage Switch Setup IoT Services strea The AireOS Controller w	m authentication and	d certificate to allo	w switches to connect w	ith the Cisco Spaces Conne	Disable Service on the control of the service of t



If you are using the same connector for both wired and wireless IoT services, the connector is already enabled.

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**Step 9** Enter the SPAN VLAN and the Cisco IOx App details.

- **Destination SPAN VLAN**: The VLAN used to send Encapsulated Remote Switched Port Analyzer (ERSPAN) traffic from Power over Ethernet (PoE) nodes to Cisco IOx App. You can use an existing VLAN or create a new one. This VLAN can also be local to the switch.
- **Destination SPAN VLAN IP address**: This is the Switched Virtual Interface (SVI) or the IP address of the destination VLAN that can be used to route traffic. If you are using an existing VLAN, you can provide the same IP address. We recommend that you create a new VLAN so that you can keep the ERSPAN traffic local without impacting the existing configuration. Note that this VLAN is used only within the switch for the SPAN traffic.
- Source SPAN VLAN list: List of VLANs to which the wired devices are connected. The traffic on these VLANs are monitored. If the wired devices are connected to multiple VLANs, enter the VLANs separated by a comma.
- Monitor SPAN origin IP address: This is the source IP address of the monitor session. This can be from the SPAN VLAN. This can also be the same as the destination VLAN IP address.
- IoX application Span IP Address
- Application Cisco Spaces Connector VLAN: This is the VLAN on which the connector is reachable (for management or data). You can configure the Cisco IOx App's second interface to use this VLAN to send traffic to the connector. This VLAN can be the same as the wired PoE node VLAN. The connector must be permitted to accept communications from the Cisco IOx application.
- **DHCP**: When enabled, DHCP allocates an IP address from the **Application DNA Spaces Connector VLAN** to the Cisco IOx App's second interface.
- **IoX application IP address**: This is the IP address that you must manually configure for the Cisco IOx App's second interface, and is used to communicate with the Connector. This is not required if you select DHCP.
- **IoX application netmask**: This is the IP subnet mask that you must manually configure for the Cisco IOx App's second interface, and is used to communicate with the connector. This is not required if you select DHCP.
- **IoX application gateway address**: This is the IP address that you must manually configure for the Cisco IOx App's second interface, and is used to communicate with the connector. This is not required if you select DHCP.

Configure Switch
Destination SPAN VLAN IP address
Enter the destination SPAN VLAN IP addres
Source SPAN VLAN list
Enter the source SPAN VLAN list
Use comma as a seperator for multiple vlan
Monitor SPAN origin IP address
Enter the Monitor SPAN origin IP address
IOx application SPAN IP address
Enter the IOx application SPAN IP address
Application Cisco Spaces Connector VLAN Enter the application Cisco Spaces Connec
Use DHCP
IOx application IP address
Enter the IOx application IP address
IOx application netmask
Enter the IOx application netmask
IOx application gateway address
Enter the IOx application gateway address
Cancel Configure

Figure 23: Configure Switch



### Step 10 Click Configure.

The configurations are deployed on the switch. The following diagram shows the corresponding CLI commands you can use in place of the GUI configuration.

Figure 25: GUI-Command Line Mapping

Destination SPAN VLAN	
1234	
Destination SPAN VLAN IP address	
124.124.124.1	
Source SPAN VLAN list	-Jan 1934
111	V(an 1234
Use comma as a seperator for multiple vian	interface AppGigabitEthernet1/0/1 description Uplink to Application
Monitor SPAN origin IP address	switchport mode trunk
124.124.124.1	interface Vlan1234 ip address 124.124.124.1 255.255.255.0
IOx application SPAN IP address	iox
124.124.124.50	monitor session 44 type erspan-source
Application DNA Spaces Connector VLAN	source vlan 111 destination erspan-id 44 mtu 9000 ip address 124.124.124.50 origin ip address 124.124.124.1
Use DHCP	app-hosting appld clsco_dnas_wired_low_app app-vnctAppSigabitEthernet trunk vlam 111 guest-interface 0
IOx application IP address	guest-ipaddress 10.10.111.13 netnask 255.255.0 vlan 1234 guest-interface 1
10.10.111.13	gunst-lphaarnes 1/4.1/4.1/4.104 nernetmask 2/3./3/3.0/ app-default-gatteway 10.104.111.6 gunst-interface 0 app-resource docker run-opts 1 = € GMPC_SERVER_IP-19.104.111.8"
IOx application netmask	run-opts 2 "-c GRPC_SERVER_PORT=0603" run-opts 3 "-c GRPC_SERVER_TOREN=0y1MGC101JTU21N1ISTORE run-opts 4 "-c APP_JOST_DDC01141fc101c0100" run-opts 5 "-c APP_JOST_DDc01141fc101c0100"
255.255.255.0	
IOx application gateway address	
10.10.111.6	

**Step 11** In the **Manage IoT Services** window that you are taken to, you can click on a name of the switch to see the list of steps executed on that switch.

Figure 26: Manage IoT Services



## **Configure Hotspot Service**

- **Step 1** In the Cisco Spaces dashboard left navigation pane, click **Setup** and choose **Wireless Networks**.
- **Step 2** In the **Connect your wireless network** window that is displayed, go to the **Step 2** area and click **View Connectors**.

Figure 27: View Connectors

≡ cisco space	is
贷 Setup	€ ess network
Wireless Network Wired Network Map Service	rks ces Connector ay to get your wireless network connected to Cisco DNA Spaces. No need to upgrade Wireless LAN Controllers or reconfigure your wireless network.
Camera Sensors Webex	es Connector OVA spaces Connector OVA as a virtual machine. spaces Connector You will need a token to configure Spaces Connector to https://your connector IP>/ from a browser to configure the token. You can optionally configure Spaces Connector to connect via
	2 / 2 connector(s) active     Create Connector       View Connectors
3	Add Controllers Add and associate controllers to your Cisco DNA Spaces Connector(s)           1 / 2 controller(s) active         Add Controllers View Controllers
•	Import Maps           Prime/DNAC map requires in order to work Locate & detect, Asset tracker, and IOT services, and proximity Report           2         buildings imported           2         buildings imported           2         filters           2         filters
5	Setup location hierarchy Once the maps Imported, you can add them Into location Hierarchy

Step 3In the connector details window that is displayed, choose a connector and click Add Services.Figure 28: Add Service

←Back Setup > Connectors > Test	ID : 81424448212902120000   Last Modified : Apr 29, 2022, 11:04:25 AM
SUMMARY 0 0 0 0 0 0 0 Instances Active Inactive Service Switches enabled	
Instances Configuration Metrics	🖉 Generate Token 🛛 🎄 Troubleshoot Connector
Services	Add Services
You have not added any services yet. Click *Add Service* to configure services. Switches You have not added any switches yet. Click *Add Switch* to configure switches.	

**Step 4** In the **Add Service** window that is displayed, choose **hotspot** and click **Add**.



service-manager is added by default.

### Note

In the Connector Details window, you can see that the number of services enabled has increased.

## **Configure Local Firehose Service**

- **Step 1** In the Cisco Spaces dashboard left navigation pane, click **Setup** and choose **Wireless Networks**.
- Step 2In the Connect your wireless network window that is displayed, go to the Step 2 area and click View Connectors.Figure 29: View Connectors

E CISCO SPACE	25
έδ. <b>ο</b> .	
i≈r Setup	⊘ ess network
Wireless Networ	rks
Wired Network	ces Connector
Map Service	ay to get your wireless network connected to Cisco DNA Spaces. No need to upgrade Wireless LAN Controllers or reconfigure your wireless network.
Comera	
Califora	es Connector OVA
Sensors	Spaces Connector OVA as a virtual machine. unector ⊡
Webex	Spaces Connector
	You will need a taken to configure Spaces Connector. You need to connect to https://-your connector IP>/ from a browser to configure the token. You can optionally configure Spaces Connector to connect via HTTRE room
	2 / 2 connector(s) active
3	Add Controllers
	Add and associate controllers to your Cisco DNA Spaces Connector(s)
	A L Controllers
	View Controllers
4	Import Maps
Prime/DNAC map requires in order to work Locate & detect, Asset tracker, and IOT services, and proximity Report	
	2 hulding import forms lange
	Map Upload History
	2 floors Imported Manage Maps
(5)	Setup location hierarchy
	Once the maps imported, you can add them into location hierarchy

Step 3 In the connector details window that is displayed, choose a connector and click Add Services.

#### Figure 30: Add Service

Center Support     Support     Support     Instances     Active     Services     Configuration     Methods     Services     Touse not added any services yet. Click * Add Swritch* to configure swritches.     Switches     Vou have not added any swritches yet. Click * Add Swritch* to configure swritches.		
SUMMARY   Instances   Active   Instances   Configuration   Metrics	←Back Setup > Connectors > Test	ID : 81424448212902120000   Last Modified : Apr 29, 2022, 11:04:25 AM
Instances Configuration Metrics Connector Services   Vou have not added any services yet. Click * Add Service* to configure services.   Switches   You have not added any switches yet. Click * Add Switch* to configure switches.	SUMMARY 0 0 0 0 0 0 Instances Active Inactive enabled Switches	
Services          You have not added any services yet. Click "Add Service" to configure services.         Switches         You have not added any switches yet. Click "Add Switch" to configure switches.	Instances Configuration Metrics	🖉 Generate Token 🛛 🆓 Troubleshoot Connector
You have not added any services yet. Click * Add Service* to configure services. Switches You have not added any switches yet. Click * Add Switch* to configure switches.	Services	Add Services
	You have not added any services yet. Click * Add Service* to configure services. Switches You have not added any switches yet. Click * Add Switch* to configure switches.	Add Switch

Step 4 In the Add Service window that is displayed, choose local-firehose and click Add.



To receive events such as Device\_RSSI for Received Signal Strength Indicator (RSSI)-based tags and Device BLE events for Bluetooth Low Energy (BLE) tags, ensure that location and iot-services services Note are also added.

You can see that the number of services enabled has increased.

Step 5 Login to the Connector GUI. Scroll downwards to the local-firehose tile. Verify if the running status is Up.

local-firehose 3.1.0. Upgrade: Success	69
Last Heartbeat	6s ago
Running Status	Up
Up time	16m 11s 🛈
Outgoing TAG RSSI events rate	36.46 events/second i)
Incoming TAG RSSI events rate	53.09 events/second
Outgoing BLE RSSI events rate	14.26 events/second i)
Incoming BLE RSSI events rate	20.38 events/second i
Active gRPC Connection Count	1 count 🛈
gRPC Server Channel Status	RUNNING Status 🛈
Show Less	
Disk Usage (%)	11.41 % 🛈
Disk Size	233.69 MB 🛈
CPU Usage (%)	45.33 % i
Memory Usage (%)	5.97 % 🛈
Memory Usage	475.11 MB 🛈

## **Configure Cisco AireOS or Cisco Catalyst Network**

Before you configure the Cisco AireOS or Cisco Catalyst wireless network, you must configure the SSID and AAA policy.

 Step 1
 In the OpenRoaming window, click Set Up OpenRoaming or choose

 The OpenRoaming Setup page is displayed.



If you have completed the OpenRoaming Profile configuration, click Continue OR Setup in the configuration wizard to proceed.

In the Network configuration section, under the AireOS/Catalyst controllers tab, a list of all the Cisco AireOS and Cisco Catalyst series controllers appears with details such as the Controller status and associated Connectors.

Under Network configuration > AireOS/Catalyst controllers, in the Action column, click the settings == icon Step 2 corresponding to the controller you want to configure.

The Configure Controller window is displayed.

Step 3 Under Generate Configuration, select the OpenRoaming profile from the drop-down list.

> If a non-default policy profile or policy tag is used, you must copy only the Access Network Query Protocol (ANQP) server settings and apply it to the wireless policy profile. Ensure that the policy tag uses the WLAN configured for OpenRoaming, and is mapped to the configured wireless policy profile.

Paste the selected OpenRoaming profile configuration in the Cisco AireOS or Catalyst controller CLI. Step 4



Only CLI-based configuration is supported.

Note

- Step 5 Click Continue.
  - A Controller configured with profile successfully message is displayed.
- Step 6 Choose the controller type between AireOS and Catalyst 9800.
- Step 7 In the WLAN ID field, enter a WLAN ID if your existing network is based on a Cisco AireOS Controller. Specify the WLAN name if it is based on a Cisco Catalyst Controller.
- Step 8 Click Close. The **OpenRoaming Setup** window is displayed.