

1.0

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Introduction to Cisco Spaces

Cisco Spaces is a multichannel engagement platform that enables you to connect and engage with visitors at your physical business locations. It covers various verticals of business such as retail, manufacturing, hospitality, healthcare, education, financial services, enterprises work spaces, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces provides business ready insights, and offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- A common platform for managing visitor engagements, assets, and resources.
- A single setup section to complete all the platform setups.
- Support to display promotions and offers to the customers connecting to your SSIDs.
- Support to target the customers individually or as a group based on their location, tag, visit frequency, visit duration, and so on using rules.
- Support to engage with multiple wireless networks simultaneously.
- Provision to view your business performance, and compare it with the industry performance.
- App to create captive portals, and to display them to the customers based on rules.
- App to send notifications to the customers when they are in your business premises.
- App to inform the employees when customers are near your business premises.
- App to group the customers and create tags.
- App to log in to Operational Insights.
- Provision to add third party partner apps.
- Support to import location hierarchy in the same structure as in your wireless network.
- Provision to create Cisco Spaces users with different privileges and location access.

- Provision to monitor the performance status of Cisco Spaces and its apps and latencies.

Cisco Spaces Features

Cisco Spaces consists of the following features:

Digitization Stats

On the **Home** page of the Cisco Spaces dashboard, the following cumulative statistics values are displayed at the top of the page.

- **Locations**: The total network locations configured in Cisco Spaces for various wireless networks.
- **Access Points**: The total number of APs added to Cisco Spaces.
- **Location Updates**: The total number of location updates received from the wireless networks from the date of deployment of Cisco Spaces.
- **Square Foot**: The total square foot area in your business locations that are covered by Cisco Spaces.
- **Visitors**: The total number of unique visitors that have visited your business locations from the date of deployment of Cisco Spaces.
- **Visits**: The total number of visits (including repeated visits of unique visitors) that occurred in your business locations from the date of deployment of Cisco Spaces.

Apps

Cisco Spaces provides different task-oriented apps using which you can perform various tasks such as creating captive portal, sending notification to the customers, grouping the customers using tags, monitoring assets, evaluating business performance, and so on.

The common Cisco Spaces apps are as follows:

- Behavior Metrics
- Captive Portal
- Engagements
- Location Personas
- Operational Insights
- Partner Apps

Behavior Metrics

The Behavior Metrics app enables you to view various reports that provide insights about the performance of your business. By default, the report includes the data from the date of installation of Cisco Spaces. The report will be shown for all the locations for which you have access. You can filter to view the report for a particular location and month.You can also the filter the report based on tags.

After installation of Cisco Spaces, it will take a month to show the initial report. You can view the sample report during this period. You can also see how your report is building up by switching to the “My Data” option during this period. After the report is ready, you will get a notification.

If you want exclude a particular location from the report, you can do so by defining a **ExcludeOutlier** meta data for that location in the Location Hierarchy. If a location has **ExcludeOutlier** meta data value set to **True**, that location will not be considered for defining any of the benchmarks such as Top or Bottom 3 locations or Important locations. Also, it will be excluded from all the graphs of Behavior Metrics including average visit duration and average visit duration per sq/ft. You can temporarily exclude a location from the report by setting the **ExcludeOutlier** meta data value as a future date. Then, the location will not be included in the report till the date specified.

The Behavior Metrics app consists of the following types of reports:

- **WiFi Adoption**: This report provides the metrics of Wi-Fi adoption in your business locations. It displays the count of visitors visiting your business locations, the count of visitors attempted to connect to your Wi-Fi, and the visitors who could successfully connect to your Wi-Fi. This report also provides the intent rate (ratio of *total footfall* to *devices tried to connect*), acquisition rate (ratio of *devices attempted to connect* to *successfully connected*), repeat visitor count, and AP density. The report shows the Wi-Fi connected distribution for various hours of a day, and days of a week.
- **Business Metrics (Retail Metrics)**: This report provides insights about the amount of time the visitors spent in your premises, how often they visit, distribution of visits by time of the date and day of week, concentration of repeat and new visitors, percentage of visits belonging to different ranges of visit duration, correlation between *area of the premise* and *time spent by visitors*, and so on. These information enables you to analyze your business, and reach out to customers at the right time.
- **Right Now**: The Right Now report displays the details of the visitors currently present at your locations. The report shows the number of visitors currently present along with the total number of new and returning visitors. It also shows the gender ratio of current visitors, their profile, tags they belong to, visit duration, and number of visits made by current visitors in the last 30 days. Location-wise distribution of current visitors is shown in a map and list view.

Right Now report has a passive duration of 10 minutes. So, a visitor will be shown in the Right Now report until the passive duration crosses for that visitor. For example, if a visitor in a location is moving from 1st floor to 2nd floor, the visitor will be shown in both 1st and 2nd floor. For 1st floor, the visitor count will be updated only after the passive duration is met.

Captive Portal

The Captive Portal app enables you create and display captive portals. This app will have the following options:

- **Portal**: The **Portal** option of the Captive Portal app enables you to create captive portals. A Captive Portal is the user interface that is displayed to your customers when they connect to your SSIDs. This app provides portal modules that facilitate you to add various features such as brand name, company logo, apps, maps, videos, promotions, and so on in the captive portal. You can also add customer modules to a portal, and link it to a URL with any custom protocol. You can preview the captive portal in different devices. You can reorder the portal modules as required.Cisco Spaces allows you to edit the portal style sheet, and add assets such as images, and use them in the style sheet. In the captive portal, you can configure the required authentication type which needs to be completed by the end user before internet provisioning. Cisco Spaces provides sample captive portals for various authentication types. You can use these sample portals and customize it according to your requirements.
- **Captive Portal Rule**: The **Captive Portal Rule** option enables you to create Captive Portal rules. A captive portal rule can be used to perform any of the following tasks:

- Manage the captive portal display and internet provisioning for the customers connecting to your SSIDs. You can configure to display captive portal, provision direct internet access, or deny internet access using a Captive Portal Rule.
- Create tags or modify existing tags.
- Send the details of the customers that are signed in to the captive portal to an external API.

- **Reports**: The **Captive Portal** app provides the following types of reports:
  - **Device Onboarding**: The **Device Onboarding** report provides information about the devices that have connected to your SSIDs.
  - **Customer Acquisition**: The **Customer Acquisition** report provides insights on the unique customers identified newly from the selected location during the specified period, and the data (personal and demographic) collected from the identified customers.

- **SSIDs**: The **SSIDs** option of the Captive Portal app enables you to import SSIDs from your wireless network. The **Meraki Network Sync Status** link displays the time at which the last synchronization happened for each Meraki network, and the duration for next synchronization.
- **Settings**: The **Settings** option enables you to configure Cisco Spaces support features such as apps and SMS gateways.
  - **SMS**: You can configure the SMS gateways for SMS authentication and SMS notification in this section.
  - **Social Apps**: You can configure the social apps for social authentication in this section. You can configure the apps for Facebook, Linked In, and Twitter.

Engagements

Cisco Spaces can function as a Wi-Fi beacon that identifies the customers in a Cisco Spaces enabled premises, and sends notifications to the customers and business users, based on the engagement rules defined.

The **Engagements** app facilitates you to create the engagement rules for sending notifications to the customers when they are near your business premises. A customer can be a user who has purchased from your business premises earlier, a potential buyer, or a visitor who has connected to your Wi-Fi at-least once. You can also configure engagement rules to send notifications to your business users such as employees, or to an API endpoint. For example, you can configure an engagement rule that informs your customer care representative when a privileged customer enters the premises so that the customer care representative can provide value added services to the customer.

For each Engagement Rule, you can view a report, which displays the performance of that particular rule.

You can configure to send the notification based on the customers connectivity to your Wi-Fi or closeness to a BLE Beacon.

You can send the notifications to customers using the following modes:

- SMS
- E-mail
- App notification
- Bluetooth Low Energy (BLE) notification

You can send the notifications to employees using the following modes:

- Cisco Webex Teams
- SMS
- E-mail
- Trigger API

Location Personas

The **Location Personas** app enables you to create tags with a group of customers. You can categorize similar customers using tags, and you can use these tags in the rules such as **Captive Portal Rule** to apply the rule for a group of customers. You can group a customer under multiple tags.

In addition to create tags, you can use the **Location Personas** app to add more customers to the existing tags, or to remove certain customers from an existing tag.

When you are creating a tag, you can use the existing tags to filter the customers from the selected locations. For example, if you want to create a tag with location A and location B, but only for android users, you can use the tag filter to remove the tag for iOS.

For each Location Personas Rule, you can view a report, which displays the performance of that particular rule.

Operational Insights

The **Operational Insights** app enables you to monitor assets, and optimize the performance of your assets, sensors, alerting system, and operational workflows. The app provides a range of tags and sensors to continually integrate, monitor, and manage your connected operations. Using its cloud-based interface, you can define the profile, category, and ownership of each assets. You can establish business rules to define workflows, and the expected operating range of your assets and sensors. The **Operational Insights** app will be available for Cisco Spaces customers with **Advanced** license package.

Partner Apps

The Cisco Spaces Partner App Center enables partners to extend Cisco Spaces using the data captured by Cisco Spaces to build up their own products and solutions. The Cisco Spaces partners can then make their applications available in the Cisco Spaces Partner App Center. The partner apps integrated with Cisco Spaces will be listed in the **Partner Apps** area in the Cisco Spaces dashboard.

Location Hierarchy

The **Location Hierarchy** option enables you to define your business locations in Cisco Spaces. You can import the locations in the same structure in which they are defined it your wireless network. The apps such as **Engagements**, **Captive Portals**, and **Location Personas** depend on the location hierarchy defined. Cisco Spaces provides universal account, and you can add the locations of multiple wireless networks to the location hierarchy.

Each Cisco Spaces customer is provided with a default customer name (root name), and this customer name acts as the root location of Cisco Spaces location hierarchy.

Location Hierarchy for Cisco Meraki network will be in the following order:

1. Meraki Organization

2. Network
3. Floor
4. Access Points

Location Hierarchy for Cisco Unified Wireless Network with Cisco CMX will be in the following order:

1. CMX Node
2. Campus
3. Network
4. Floor
5. Access Points

Location Hierarchy for Cisco Unified Wireless Network with Cisco Wireless Controller (without Cisco CMX installation) is as follows:

This wireless network allows you to import a Cisco Wireless Controller with networks under it. The networks are created with APs of similar naming conventions. The APs of the networks that are not selected when importing the Cisco Wireless Controller, and the APs that have not grouped under any network are categorized as **Unconfigured**. In the location hierarchy, you can create zones for this wireless network.

In addition, in the location hierarchy, you can create groups for locations. You can also group the locations using meta data. You can use these groups and meta data in Cisco Spaces rules to apply the same rule to all the locations in the group or with the same meta data. You can also add the geo location information such as name, address, city, state, country, and so on for each location.

You can view the count of locations, access points, BLE beacons, proximity rules, and users for any location in the location hierarchy. These counts for each location is displayed against that particular location in a cumulative manner.

The APs that you can add to the location hierarchy depends on the type of Cisco Spaces license you own.

Monitoring and Support

The **Monitoring** option enables you to monitor the performance status of Cisco Spaces, and its apps. The details such as whether all locations are connected, the count of location updates stopped in the last 60 days, details of Partnership and Enterprise integration, status of all types of apps including Cisco Spaces app, Partner apps, and Enterprise apps are displayed. It also displays the status of various Cisco Spaces latencies and anomalies.

The **Support** option enables you to manage the tickets raised by your customers. You can fetch the tickets raised in Freshdesk to the **Support** window in the Cisco Spaces.

Team

The Team option enables you to create Cisco Spaces users. You can restrict the privileges and locations for each user based on the their role.

Cisco Spaces provides the following type of privileges for Cisco Spaces users.

- **Account Admin**: This user has complete administrative rights in the Cisco Spaces dashboard.

- **Admin**: This user has all the privileges except user management on the specified location. For example, an Admin user cannot invite a user to join Cisco Spaces.
- **Portal Designer**: This user has access only to the Portal features of Cisco Spaces on the portals.
- **AccessCode Manager**: This user has access only to create and manage access codes for the locations for which access rights are provided.
- **Location Manager**: This user has access only to the portals, location meta data, and reports for the locations for which access rights are provided. This role is not applicable if your wireless network is CUWN.
- **Read Only Access**: This user has access only to view Cisco Spaces dashboardfor the specified location. That is, this user cannot edit Cisco Spaces configurations.
- **Reporting Analyst**: This user has access only to Cisco Spaces reports for the locations to which the access rights are provided.

Note For this release, only the **Account Admin** and **Admin** privileges are enabled. An Account Admin user has to accept the Terms and Conditions to activate their account.

Setup

The **Setup** option enables you to perform all the basic setups required to work with Cisco Spaces.

- Wireless Networks
- Cisco Spaces Connectors

Wireless Networks

- **Status**: This section displays the active status of various apps, and the percentage of apps that are active. The total count of networks are also displayed.
- **Wireless Networks**: The **Add New** button in this section enables you to add wireless networks such as Meraki and Cisco Unified Wireless Network to Cisco Spaces.

  Cisco Spaces supports the following wireless networks:

  - **Cisco Meraki**: You can use the **Cisco Meraki** option for this network.
  - **Cisco Unified Wireless Network with Cisco CMX**: You can use the **Cisco CUWN- CMX** option for this network.
  - **Cisco Unified Wireless Network with Cisco Wireless Controller (without Cisco CMX)**: You can use the **Cisco CUWN- WLC** option for this network.

    Both Cisco Wireless Controller and Cisco Catalyst 9800 Series Wireless Controller are supported for the Cisco Unified Wireless Network.

    You can add multiple wireless networks to Cisco Spaces. However, the wireless network specified when creating your customer account will be your base network.

- **Deployment Prerequisites**: This section provides Cisco Spaces Setup Guide with instructions to establish a connection between Cisco Spaces and your wireless network. Before starting to use Cisco Spaces, you must complete these setup to establish a communication between Cisco Spaces and your wireless network. Based on the wireless network you select, step-by-step instructions for that network is displayed.

Cisco Spaces Connectors

The **Spaces Connector** option enables you to add Cisco Spaces Connectors, and its associated Wireless Controllers. The Cisco Spaces Connector feature enables Cisco Spaces to communicate efficiently with multiple Wireless Controllers. Also, using Cisco Spaces Connector, the Wireless Controller can transmit high intensity client data accurately to Cisco Spaces without missing any client information.

Wireless Network Status

The **Wireless Network Status** option enables you to view the synchronization status of your wireless network. You can view the synchronization status of each network location for all the wireless networks.

CMX Cloud Tethering

The CMX Cloud Tethering feature enables you to automate the location update configurations in the Cisco CMX. The Cisco Spaces dashboard enables you to generate tokens for CMX Tethering. You can then add this token in the Cisco CMX to automate the location updates configurations required for notifications and reports.



Note CMX Tethering is supported for Cisco CMX Version 10.6 or later.

License Information

The **License Information** option shows the details of your Cisco Spaces license. Your Cisco Spaces account name, license type, license validity, access points limit, and the total number of access points currently in use are shown. Currently Cisco Spaces has **Base** and **Advanced** license packages.

Issues

Issues describe unexpected behavior in the Cisco Spaces application. The Resolved Issues and Open Issues sections list the issues in this release.

The following information is provided for each issue:

- Identifier: Each issue is assigned a unique identifier (ID) with a pattern of CSC*xxNNNNN*, where *x* is any letter (a-z) and *N* is any number (0-9). These IDs are frequently referenced in Cisco documentation, such as Security Advisories, Field Notices, and other Cisco support documents. Cisco Technical Assistance Center (TAC) engineers or other Cisco staff can also provide you with the ID for a specific issue.
- Description: A description of what is observed when the issue occurs.

This section contains the following topics:

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

Open Issues - Release 1.0

Table 1: Open Issues in Cisco Spaces Version 1.0

Issue Identifier	Issue Description
CSCvo17285	For Cisco Meraki, in the **Wireless Network Status** window, the locations are not left aligned to display near the location logo.
CSCvo05264	The network types listed in following two windows are not matching, and can cause confusion: • In the Cisco Spaces dashboard, choose **Location Hierarchy**, and then click **More Actions** icon for the root location, and choose **Add a Wireless Network**. In the **Add a Wireless Network** window that appears, network types are listed in the **Wireless Network** drop-down list. • In the Cisco Spaces dashboard, choose **Setup >Wireless Networks**, click the **Get Started** button,and then click the icon at the far right of the root location. Network types are listed in the **Network Setup** window. Ideally, the network types should be unique across the windows.
CSCvo19301	In the **Wireless Network** window, in the **Deployment Prerequisites** area, the links to various Wireless network instructions are not aligned properly.
CSCvn82672	After entering invalid credentials for Cisco Spaces login, if tries to log in using correct credentials, not able to log in, and the message **Session Expired** is displayed.
CSCvo18918	In the **Digitization Stats** section, the count for visitor, location updates, and visits are displayed with decimals. For example, 96.0399999999. This is occurring when the total count is less than 1000.

Issue Identifier	Issue Description
CSCvo00172	Locations newly added to the location hierarchy are not updated immediately in the Digitization Stats section. So, the location count in the Location Hierarchy window and Digitization Status section are not matching. Similarly, for APs also the count is not matching.
CSCvo17280	For Cisco Meraki, in the **Wireless Network Status** window, after clicking the **Expand-Collapse** button for a location, if you navigate to a different network tab and return to the window, the **Expand-Collapse** button appears as expanded, but locations are not displayed.
CSCvo09309	For the **Business Metrics** report, for the **WiFi Adoption** option, the graph in the overview section is not displayed horizontally as expected.