

Release Notes Archive for Cisco Spaces

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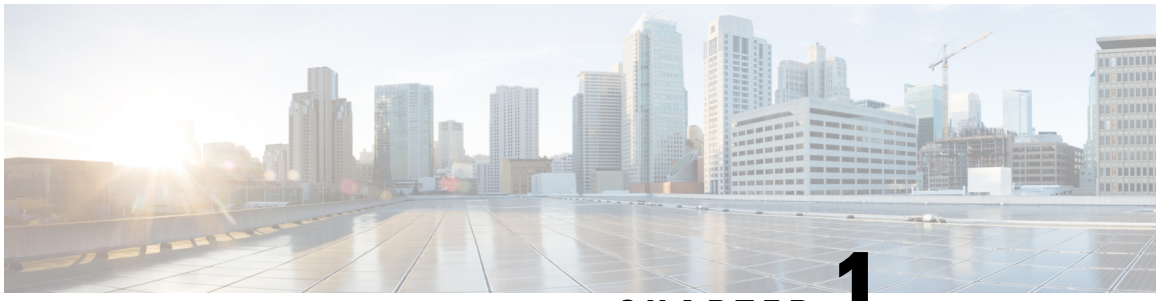
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CHAPTER 1

Overview

Note For Cisco Spaces Release Notes from 2024 onwards, see Release Notes for Cisco Spaces.

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Overview of Cisco Spaces

Cisco Spaces is a powerful location services platform that leverages the existing wireless as well as Internet of Things (IoT) and Bluetooth Low Energy (BLE) infrastructure to provide actionable insights and drive business outcomes through built-in applications in Cisco Spaces.

These insights include:

- **Location Analytics**: Provides the capability to slice and dice location data by time or location and get a deeper visibility into the behavior of users who are connected to your network.
- **Live Occupancy**: Provides a real-time count of the number of visitors (identified by the devices connected to Wi-Fi) within your physical space, and how this number compares with the historical average. Based on the authentication method that is in use, **Live Occupancy** reports can detect multiple devices belonging to a single user and count them as belonging to one visitor. The **Live Occupancy** app also provides reports based on the cameras deployed in customer locations, and whether these cameras are connected to the Cisco Spaces Cloud.
- **Visitor Trends**: Provides the capability to measure how frequently people visit your physical locations, and how much time they spend at these locations. This data is benchmarked monthly across all the locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group or by industry.
- **Impact Analysis**: Provides the capability to measure the impact of at-location events, campaigns, and layout changes on the behavior of users who are connected to your network. It is easy to create an **Event** using the Cisco Spaces application and measure its impact based on the following:
  - The time spent by a user at a given location
  - The frequency during specific timelines, such as **Before**, **After**, and **During** the occurrence of an event

The Cisco Spaces application includes customer experience management apps such as **Captive Portals**, **Location Personas**, and **Engagements** that allow you to connect with your customers in real time when they are at your physical location. Additional applications include an **Asset Tracking** app, a service manager to manage and configure IoT services (BLE), if any, as well as an open API framework for extracting this data and correlating or integrating it into other enterprise systems.

Cisco Spaces provides a single dashboard interface to avail these multiple services through various location-based technologies and intelligence. Cisco Spaces also enables you to connect and engage with visitors at your physical business locations. It can be used in various industries, such as retail, manufacturing, hospitality, healthcare, education, financial services, and so on. The asset-tracking application in Cisco Spaces provides solutions for monitoring and managing the assets in your premises. Cisco Spaces offers variety of toolkits, apps, and APIs to turn these insights into actions.

Through its partner program, Cisco Spaces offers businesses access to various partner applications across verticals.

Cisco Spaces is compatible across Cisco Catalyst, Cisco AireOS, and Cisco Meraki infrastructure.

In addition to the services specified, the scope of the Cisco Spaces apps is extended to meet the business requirements that have risen due to the COVID-19 pandemic. Extensions are built in existing applications, and newer applications are added to meet specific requirements that have risen because of COVID-19. Extensions to apps, such as **Impact Analytics**, **Location Analytics**, **Visitor Trends**, and **Live Occupancy**, allow you to analyze the impact of COVID-19 on your business locations and enable you to take appropriate actions. For example, you can now create a rule based on the device density at your location, and be automatically notified if the number of people at your location exceeds a specific count or density (people per area). The **Location Analytics** app also allows you to share executive summary reports with your colleagues within your organization. Additionally, COVID-19-based trend analysis for individual or group locations can now be done using the **Visitor Trends** app. This enables the comparison of specific business locations with that of the overall organization as well as with your specific industry.

The **Proximity Reporting** app in Cisco Spaces provides a quick way to review the location history as well as device proximity history of an impacted device. Based on the user ID or MAC address, a report for a device location in a building for the last 14 days is generated along with the proximity of other devices. You can export the report and also share the same using the **Share** functionality. For more information about the **Proximity Reporting** app, see the Cisco Spaces Proximity Reporting App Configuration Guide.

Similarly, the **Detect and Locate** app allows you to cluster devices into specific counts to check and report on areas that might be violating social distancing guidelines. For more information about the **Detect and Locate** app, see the Cisco Spaces Detect and Locate Configuration Guide.

Cisco Spaces: **IoT Services** is a platform service within Cisco Spaces that enables you to claim, manage, and monitor IoT devices using Cisco's wireless infrastructure. IoT Services is designed to enable the management of IoT devices across vendors, form factors, and technology protocols. BLE is the first technology available for management using IoT Services. For more information about IoT Services, see the Cisco Spaces IoT Services Configuration Guide.

Cisco Spaces enables you to integrate third-party apps - **Partner Apps** to Cisco Spaces. The third-party apps are listed as partnership apps in the Cisco Spaces dashboard.

For additional information about Cisco Spaces, including setup and configuration, see the Cisco Spaces Configuration Guide.

Cisco Spaces License Packages

Overview of Cisco Spaces License Packages

Cisco Spaces offers different license packages to support a range of deployment needs and use cases. You can choose higher-tier options such as **Cisco Spaces Premier** or **Cisco Spaces Premier CW** for advanced capabilities, or select **Cisco Spaces Advantage** or **Cisco Spaces Unlimited** for broader Cisco Spaces functionality. For targeted requirements, Cisco Spaces also provides focused options such as **Smart Operations** and **Smart Venues**.

The features available for your account depends on the type of Cisco Spaces license package you own.

For information about features included in the Cisco Spaces licenses, see the Cisco Spaces Data Sheet.

Cisco Smart Licensing

Cisco Smart Licensing is a flexible licensing model that provides you with an easier, faster, and more consistent way to purchase and manage software across the Cisco portfolio and across your organization. And it's secure – you control what users can access. With Smart Licensing you get:

- **Easy Activation**: Smart Licensing establishes a pool of software licenses that can be used across the entire organization—no more PAKs (Product Activation Keys).
- **Unified Management**: Cisco License Central provides a complete view into all of your Cisco products and services in an easy-to-use portal, so you always know what you have and what you are using.
- **License Flexibility**: Your software is not node-locked to your hardware, so you can easily use and transfer licenses as needed.

Note To use Smart Licensing, you must first set up a Smart Account on Cisco License Central. For a more detailed overview on Cisco Licensing, visit the Licensing Hub.

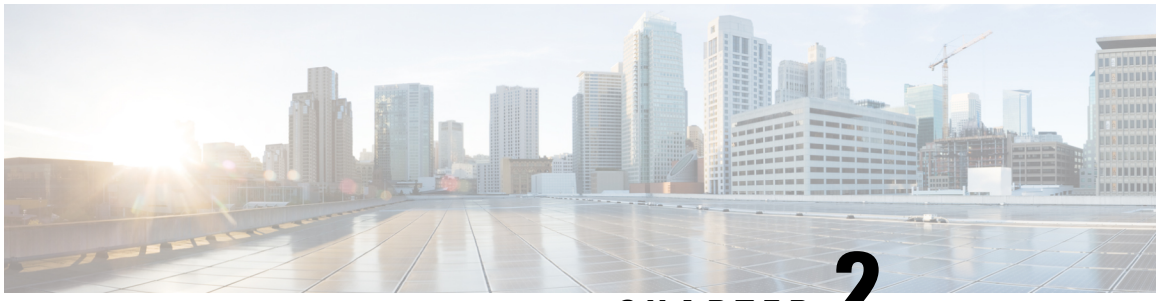
For more information about Cisco Licensing, see Cisco Software Licensing Guide.



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CHAPTER 2

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What's New in this Release

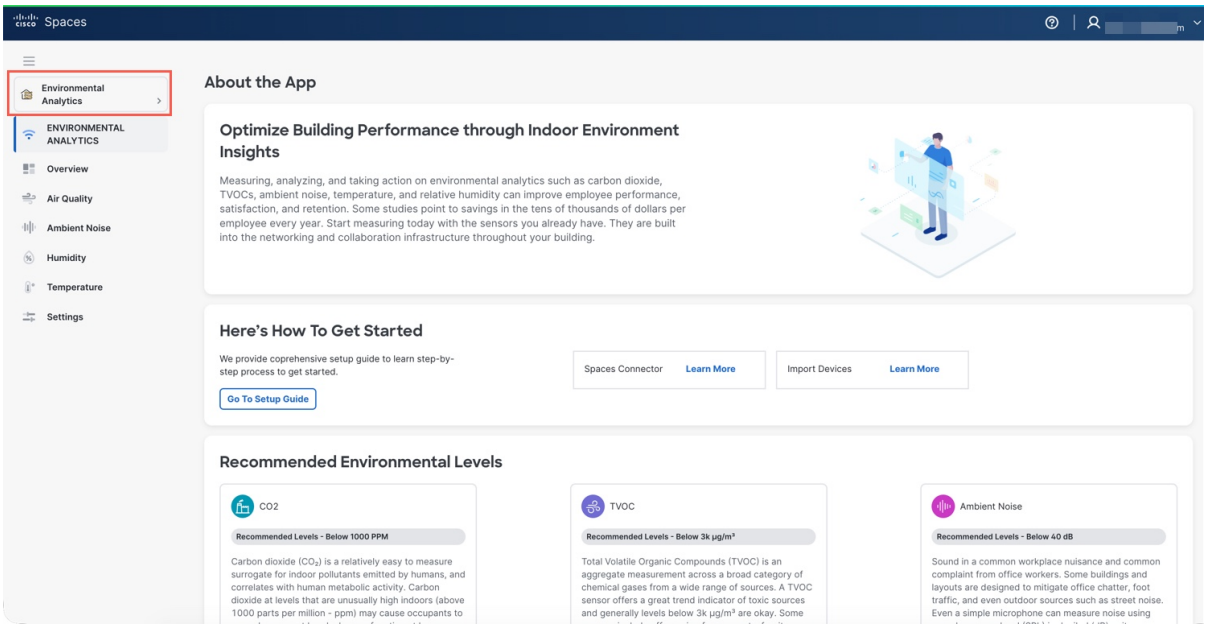
The following feature is introduced in Cisco Spaces:

Cisco Spaces: Environmental Analytics App

The Cisco Spaces Environmental Analytics app enables you to optimize the performance of buildings by leveraging indoor environment insights and metrics. These insights are derived from sensors integrated into the networking and collaboration infrastructure throughout your buildings within your network.

Use the Environmental Analytics app to measure and evaluate critical environmental metrics such as carbon dioxide levels, total volatile organic compounds (TVOCs), ambient noise, temperature, and relative humidity. Leverage this valuable data to take necessary corrective actions to ensure optimal indoor conditions and enhance the overall environmental quality within your facilities.

For more information, see the Cisco Spaces: Environmental Analytics App Configuration Guide.

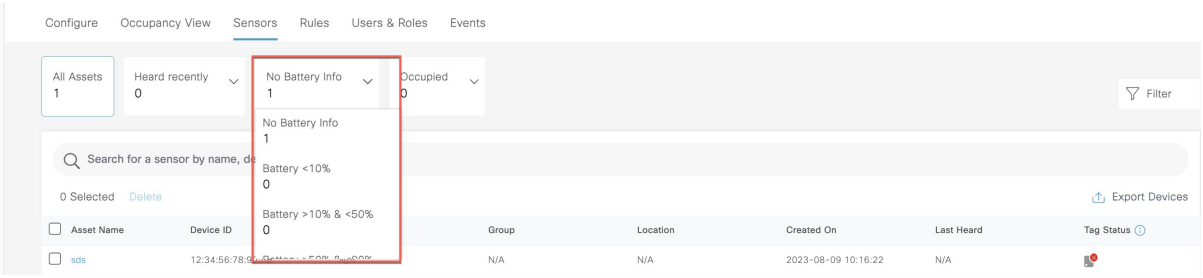


What's Changed in this Release

The following enhancements are made in Cisco Spaces:

Cisco Spaces: IoT Explorer App

- **Event Export Functionality**: The **Event Export** feature is enhanced to allow the export of a complete set of events. Before this enhancement, the event export was limited to 1,000 events.
- **Battery Information Filter Option**: In the **Assests** and **Sensors** tab, the **Battery Information** filter option is enhanced to include more filtering options based on battery percentage range.



Issues

Issues describe unexpected behavior in the Cisco Spaces application.

Open Issues

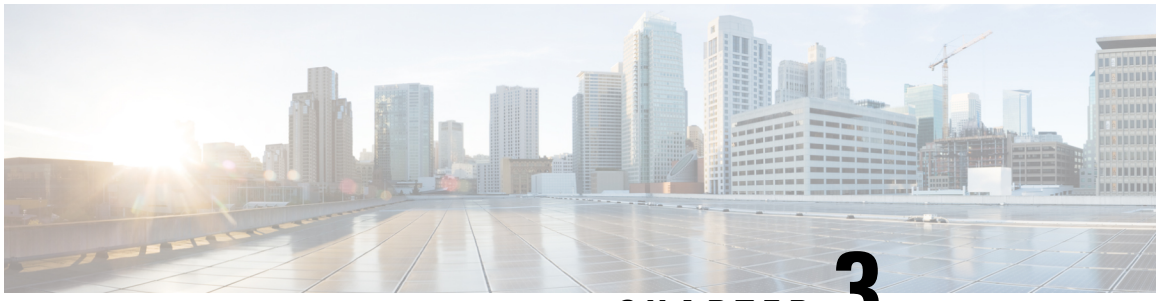
This section lists the open issues in this release of Cisco Spaces.

Table 1: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCwi11258	Failed to delete Building from Map Services

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



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November 2023

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What's New in this Release

The following features are introduced in the Cisco Spaces dashboard:

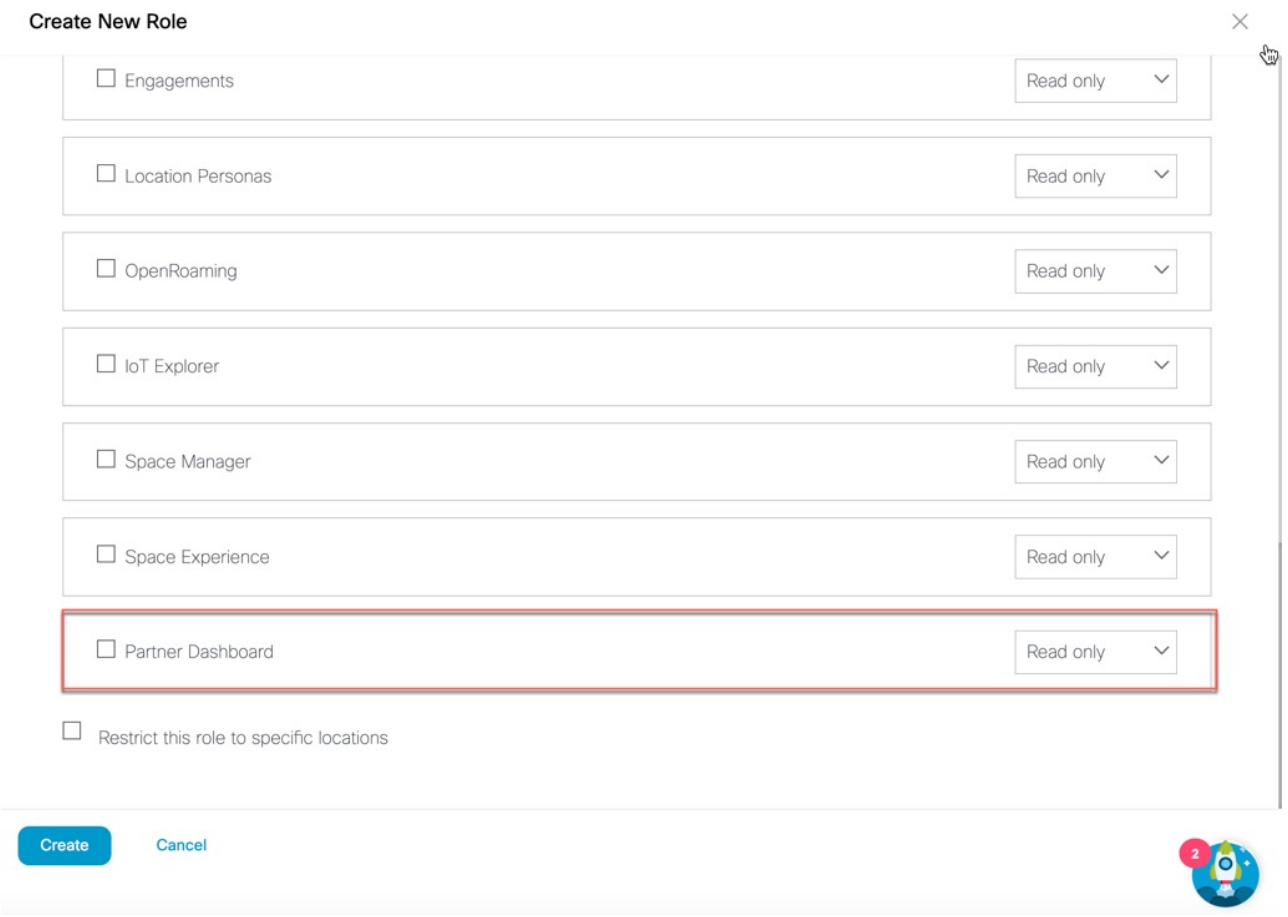
Cisco Spaces: Space Manager App

Room Occupancy Reports is a new feature that is introduced in the Cisco Spaces: Space Manager App. You can now generate an occupancy report with the data including the number of people present in the room that is aggregated in a window of every 15 minutes. This feature provides the flexibility to download and categorize the people count data based on their preferred reporting time intervals, such as 15, 30, or 60 minutes.

Admin Management

Role-based Access Control (RBAC) support for Cisco Spaces - Partner Dashboard is now introduced in Cisco Spaces. In **Admin Management**, under the **Roles** tab, a new app option **Partner Dashboard** is added with the permission options: **Read/Write** and **Read Only**. Use this role to provide Cisco Spaces - Partner Dashboard access to the tenants directly from the Cisco Spaces dashboard.

Note Before this release, RBAC for Cisco Spaces - Partner Dashboard was only supported through the **User Management** section in the Cisco Spaces - Partner Dashboard.



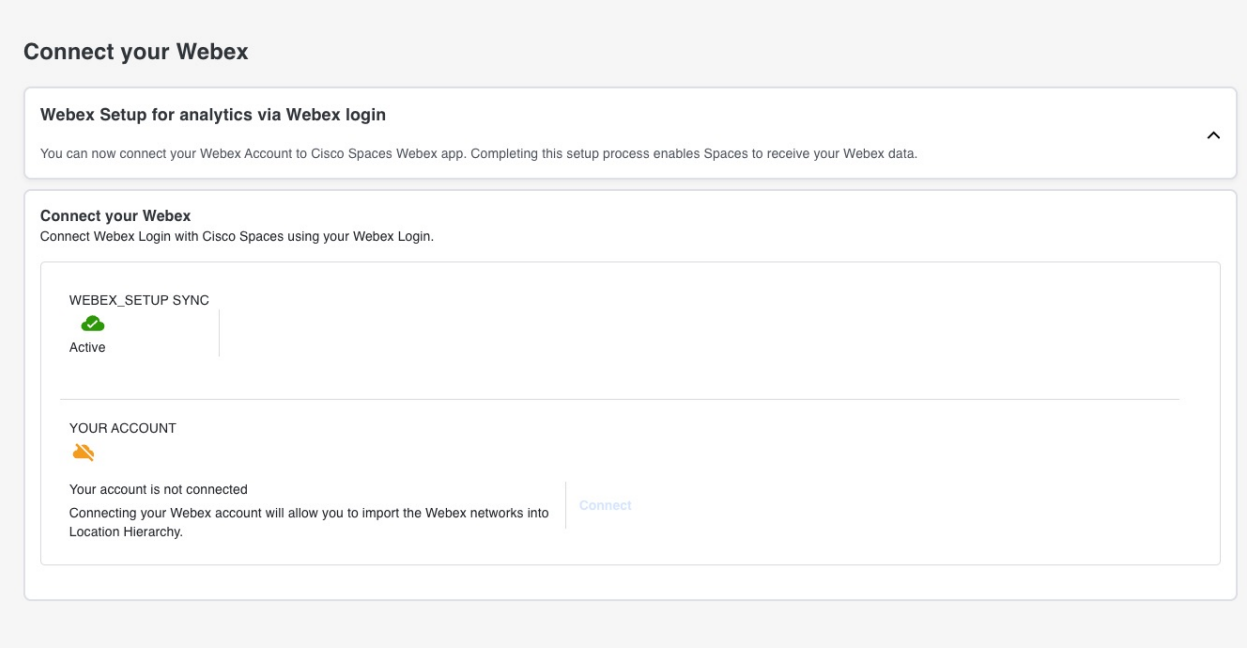
What's Changed in this Release

The following enhancements are made in the Cisco Spaces dashboard:

Cisco Webex Synchronization Status

In **Setup** > **Webex**, enhancement is made to display the **WEBEX_SETUP SYNC** status for all logged in users. The Cisco Webex synchronization status is displayed as **Active** for all active users in a specific tenant (account) if at least one user successfully connected their Cisco Spaces account with the Cisco Webex account while importing the Cisco Webex networks into **Location Hierarchy**.

Figure 1: Cisco Webex Synchronization Status



Cisco Spaces: IoT Explorer App

In the IoT Explorer app, support is added for processing and displaying random MAC Bluetooth Low Energy (BLE) devices with profiles associated to it in the **Temperature Monitoring** and **Asset Tracking** use cases.

Note Before this release, the IoT Explorer app did not support processing the random MAC BLE devices.

Issues

Issues describe unexpected behavior in the Cisco Spaces application.

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 2: Cisco Spaces Open Issues

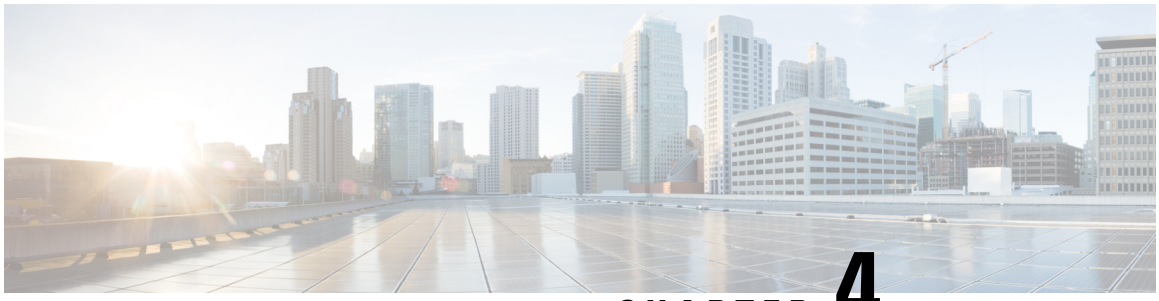
Issue Identifier	Issue Description
CSCwi11258	Failed to delete Building from Map Services

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 3: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwi40989	User data details are not sent as part of device association events
CSCwi24984	AppCenter_During AppActivation, Next button isn't visible when location hierarchies are more to select
CSCwi45279	Digital signage - The Richmap is not loaded in Webex device once the token has expired.



CHAPTER 4

October 2023

- What's New in this Release, on page 15
- What's Changed in this Release, on page 15
- Issues, on page 16

What's New in this Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

The following enhancements are made in the Cisco Spaces.

Cisco Spaces Dashboard

User Account Country Information Update: During the login process, a pop-up window is displayed for Cisco Spaces users who were on board before April 2022 to update their country information. You can either provide the required information or click **Skip & Continue** to skip and proceed to the Cisco Spaces dashboard. Once you provide the information, the pop-up window is not prompted again during subsequent logins.

Authentication Support for Camera Message Queuing Telemetry Transport (MQTT) Brokers: Cisco Spaces cloud is updated to support password-based authentication for receiving MQTT updates from Cisco Meraki cameras. The background network synchronization process will automatically update the authentication details to the Cisco Meraki dashboard.

Cisco Spaces: IoT Explorer App

The IoT Explorer app is enhanced to include stabilization fixes in the following areas:

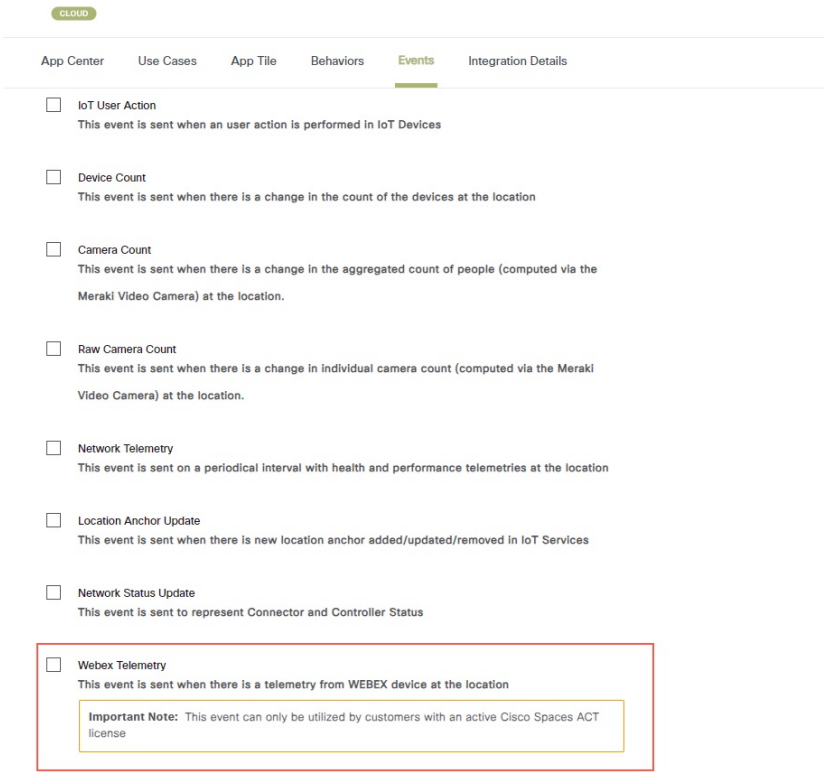
- **Device List**: All use cases are now enhanced to show devices that do not have a **Last Heard** status during the Location Hierarchy import process.
- **Asset Location History**: The Asset Tracking use case is now enhanced to track assets at the zone level. You can view this change in the **Asset Details** window.
- **Rule Events**: In the Asset Tracking use case, assets that are tracked under the **Asset not heard** rule are assigned an end timestamp of **N/A** until they are heard. If you delete this rule, the events under this rule still retain the end timestamp of **N/A**. With this enhancement, these events are now removed from the events list.

Note As part of the stabilization process, minor fixes are implemented throughout the Cisco IoT Explorer application.

Cisco Spaces Partner Dashboard

The **Webex Telemetry** event type is available under the **Events** tab. The **Webex Telemetry** event is an enhanced version of the **Telepresence** event type. Partners can use this event type during app creation and is triggered when there is a telemetry update from a Cisco Webex device at a particular location.

Figure 2: Events Tab



Note The **Webex Telemetry** event type is available only for an active Cisco Spaces **ACT** license.

The **Telepresence** event type under the **Events** tab is getting deprecated and is not available for new Partner App users.

Issues

Issues describe unexpected behavior in the Cisco Spaces application.

Open Issues

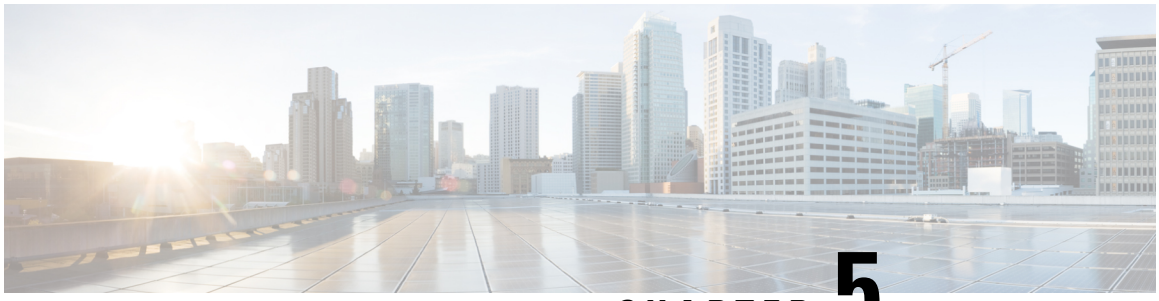
There are no open issues in this release of Cisco Spaces.

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 4: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwh84725	Unable to view floor map on **Cisco Detect and Locate**



CHAPTER 5

September 2023

- What's New in this Release, on page 19
- What's Changed in this Release, on page 20
- Issues, on page 20

What's New in this Release

Cisco Spaces

The following features are introduced in the Cisco Spaces:

Cisco Meraki Network: Create Zone Location Support

In Location Hierarchy 2.0 (Beta UI), you can now create polygon zones for the floor locations under the Cisco Meraki network. To create polygon zones on the floor map, use the **Polygon tool** ( ) that is available in the floor map view under the **Map** tab. The new polygon zones created are displayed under both Location Hierarchy and Location Hierarchy 2.0.

For more information, see Create a Zone for a Floor Location.

Before this release, the polygon zone creation was supported only for **Cisco CMX** locations.

Cisco Spaces: IoT Explorer App

In the IoT Explorer app, support is added for processing and displaying the associated random MAC Wi-Fi devices in the **Asset Tracking Use Case**.

Cisco Spaces: Connector Services Manager

The following features are introduced in the Cisco Spaces: Connector Services Manager:

- **High Availability**: Enhancements with respect to handling failover optimization during high CPU/memory usage of Docker containers. For more information, see High Availability.
- **Technical Support**: Log download options for troubleshooting from Cisco Spaces: Connector local GUI.
- **Commands**: New commands are introduced for proxy certificate validation.

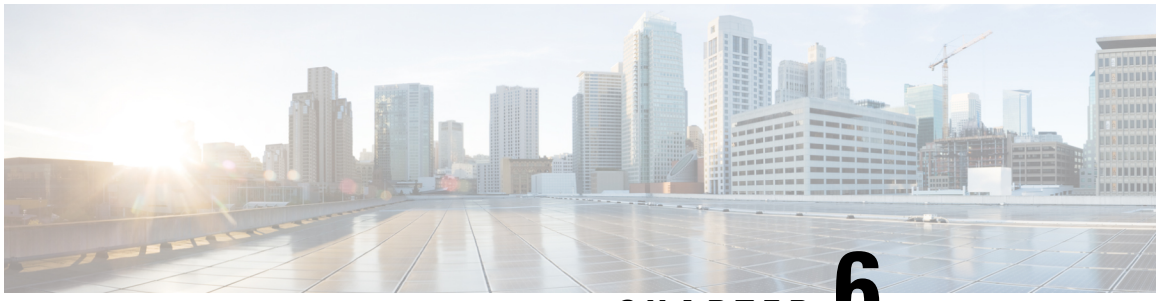
What's Changed in this Release

There are no enhancements in this release of Cisco Spaces.

Issues

Issues describe unexpected behavior in the Cisco Spaces application.

There are no Resolved Issues or Open Issues in this release.



CHAPTER 6

August 2023

- What's New in this Release, on page 21
- What's Changed in this Release, on page 21
- Issues, on page 23

What's New in this Release

The following feature is introduced in Cisco Spaces.

Access Point Auto Location

The Access Point Auto Location solution helps to effectively self-locate APs in a global coordinate by combining various ranging technologies and algorithms. The AP Auto Location solution automatically locates your APs on a digital map in Cisco Spaces. This solution delivers accurate, automated, up-to-date AP location leveraging Fine Timing Measurement (FTM) and Global Navigation Satellite System (GNSS) when available.

For more information, see the "Set Up Access Point Auto Location" section in the chapter "Setup" in the Cisco Spaces Configuration Guide.

What's Changed in this Release

The following enhancements are made in the Cisco Spaces dashboard:

Cisco Spaces dashboard

The Cisco Spaces GUI is enhanced to embrace the Magnetic design implementation. Magnetic design follows a persistent header and collapsible left navigation pane.

The Cisco Spaces dashboard window is enhanced to include the **Dashboard** drop-down list (in the left navigation pane) which allows you to search and view the available apps associated with your Cisco Spaces license. Use the **Dashboard** drop-down list to choose and navigate to any selected app. To navigate back to the **Cisco Spaces Home** window, choose **Dashboard** option from the drop-down list.

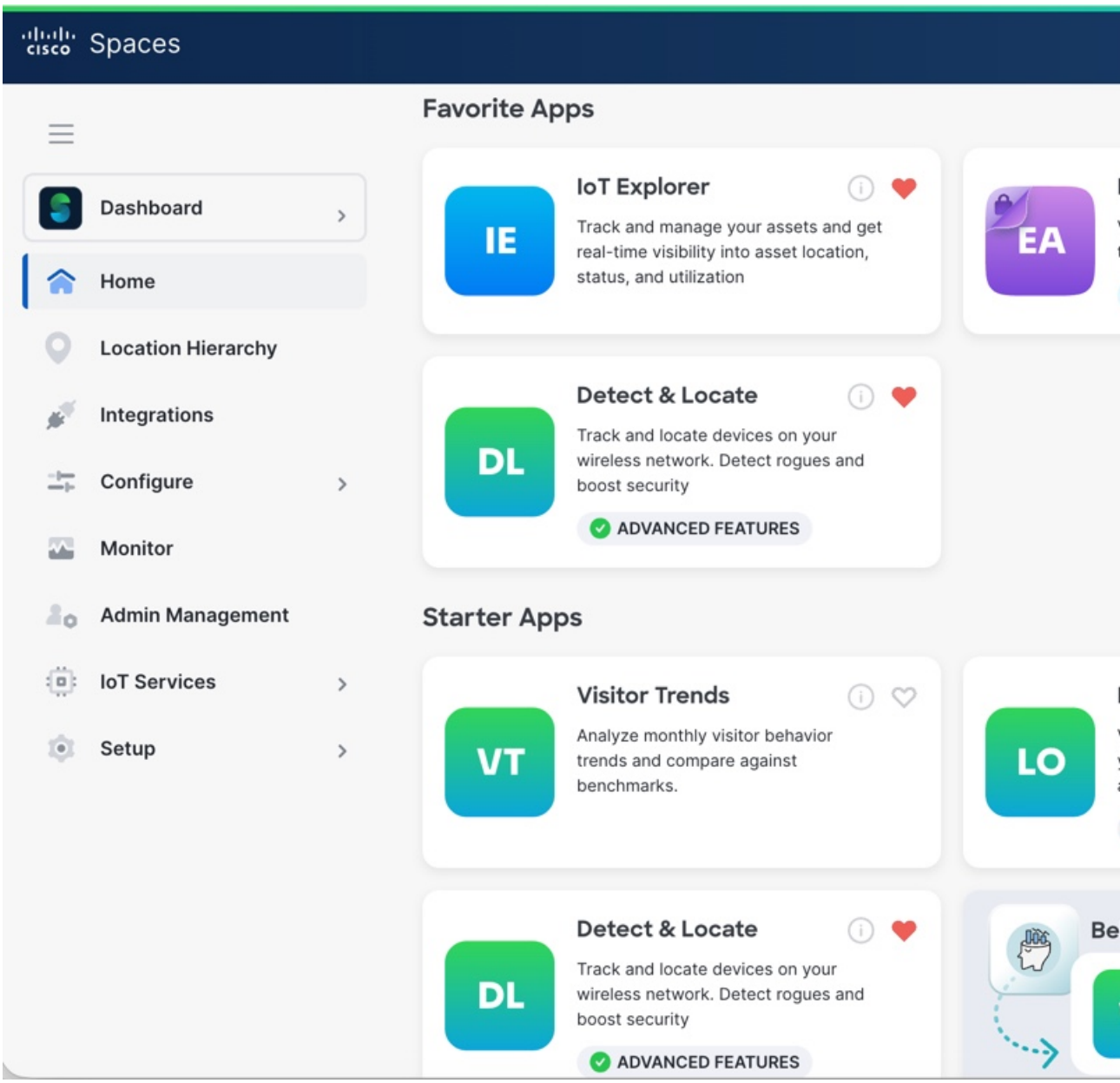


Table 5: Changes in the GUI before and after August 2023

Before	After
The option to search for apps was available on the top-right corner.	This app search option is available in the left navigation pane in the **Dashboard** drop-down list.
The information related to *License Units Consumed* (*Active APs*) count was displayed on the top-right corner.	The license information is available under **My Account** > **License Information** > **License Units Consumed**.

Cisco Spaces: IoT Explorer App

The **IoT Explorer** app is enhanced to filter only those devices that comply with the MAC Organisationally Unique Identifier (OUI) standards and the devices which continue to send updates after 24 hours from the initial appearance.

Partner Dashboard

The Cisco Spaces - Partner Dashboard GUI is enhanced to support the Magnetic design implementations. The GUI changes are implemented in the top header panel and the left navigation pane.

The **Pull Channels** options under the **Integration Details** tab are enhanced to support the *WEB_SOCKET* endpoint.

Issues

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

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 6: Cisco Spaces Open Issues

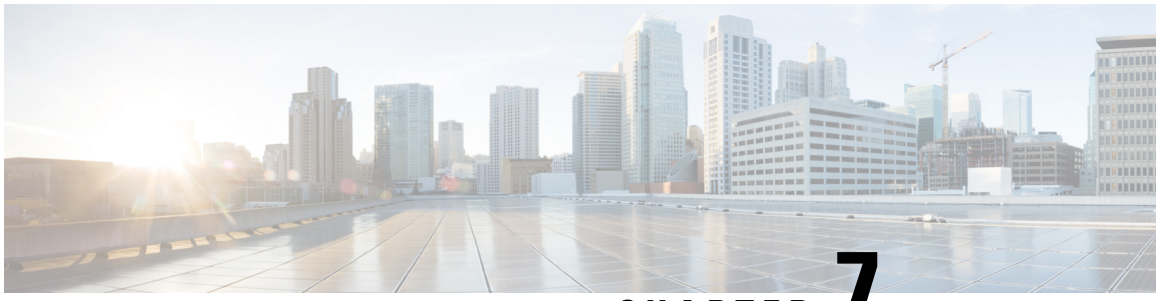
Issue Identifier	Issue Description
CSCwf47895	Search doesn't work using the IP address of the controllers under the Connector

Resolved Issues

This section lists the resolved issues in this release of Cisco Spaces.

Table 7: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwf16696	Asset Tracking - Number of assets shown to import into use case is greater than the available assets
CSCwf28503	Slowness when navigating to building list by clicking on Campus Name
CSCwh02942	Map Service sending map events without inclusion region impacting D&L devices location to be off
CSCwd41670	Required support for large Map file synchronization between Catalyst Center and Cisco Spaces



CHAPTER 7

July 2023

- What's New in this Release, on page 25
- What's Changed in this Release, on page 25
- Issues, on page 26

What's New in this Release

Cisco Spaces Dashboard

The following features are introduced in the Cisco Spaces dashboard:

To support **Cisco Smart Workspaces**, two new apps are added under the **ACT** license:

- **Space Manager**: Use this app to configure various devices, sensors, and workspaces and to provide access to real-time occupancy data and environment telemetry (heat map, indoor air quality, temperature, humidity, and noise levels) rendered on rich maps for a specific building, floor, or meeting room. In the **Devices** section, you can view the configured devices and their telemetry details on rich maps. The **Workspace Management** section displays the configured meeting room or workspace and allows you to view, add, or remove devices and sensors to and from the selected workspace.
- **Space Experience**: Use the **Space Experience** app to do the following:
  - Create and manage signage for **Cisco Smart Workspaces**
  - Onboard new signage for a Cisco Webex device or a non-Webex device.
  - Configure the telemetry parameters and publish the signage.

    The configuration updates are auto-notified to the corresponding signage devices.

What's Changed in this Release

The following enhancements are made in the Cisco Spaces dashboard:

Cisco Spaces License Package

The Cisco Spaces License package is enhanced to support the following three licenses, along with the existing licenses (**SEE**, **EXTEND**, and **ACT**).

- **SMART_OPERATIONS**: This license works in the same way as the existing **SEE** license with some additional entitlements. The **SMART_OPERATIONS** license includes all the access privileges under the **SEE** license along with access to the following apps:
  - Operational Insights
  - IoT Explorer
- **SMART_VENUES**: This license works in the same way as the existing **SEE** license with some additional entitlements. The **SMART_VENUES** license includes all the access privileges under the **SEE** license along with access to the following apps:
  - Captive Portal
  - Engagements
  - Profile Rules
- **SPACES UNLIMITED**: Cisco Spaces accounts with **UNLIMITED** license include all the entitlements similar to an existing **ACT** license.

  For a **Cisco Smart License**-enabled account with **UNLIMITED** license package, the license count is based on the total square foot area of all the floor locations calculated based on the maps uploaded to the Cisco Spaces platform.

Note Cisco Spaces users can now choose any of these licenses for a location using the **Split License** feature.

Cisco Spaces Dashboard Tile Enhancements

To support the **Cisco Spaces License Package** enhancement, the following GUI changes are made in the Cisco Spaces apps:

- Asset Locator and IoT Explorer apps are available under the **SMART_OPERATIONS** license.
- Captive Portals, Engagements, Location Personas apps are available under the **SMART_VENUES** license.

Note The **UNLIMITED** and **ACT** licenses include access to all Cisco Spaces apps (including the apps available under **SMART_OPERATIONS** and **SMART_VENUES** license).

Issues

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

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 8: Cisco Spaces Open Issues

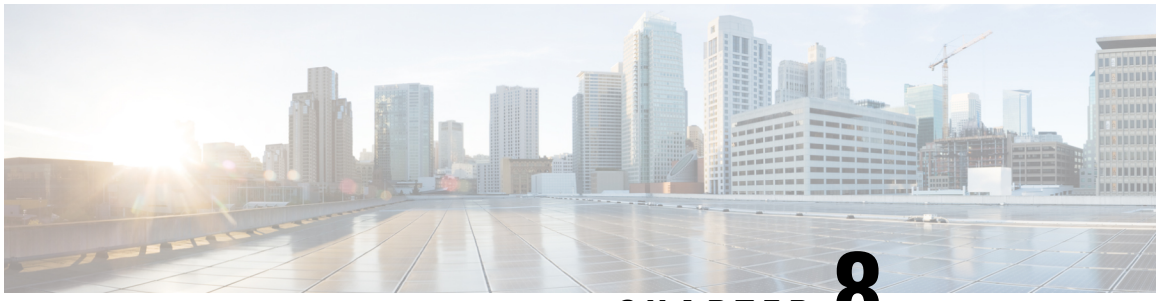
Issue Identifier	Issue Description
CSCwd41670	Required support for large Map file synchronization between Catalyst Center and Cisco Spaces
CSCwf16696	Asset Tracking - Number of assets shown to import into use case is greater than the available assets

Resolved Issues

This section lists the resolved issues in this release of Cisco Spaces.

Table 9: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwh18418	Inconsistency between data collected via Cisco Spaces Firehose API and Cisco CMX API.
CSCwh20943	If the legacy CMX node is present in the hierarchy, imported locations are being added under CMX.



CHAPTER 8

June 2023

- What's New in this Release, on page 29
- What's Changed in this Release, on page 29
- Issues, on page 29

What's New in this Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancements are made in the Cisco Spaces dashboard:

Captive Portal Reports

In the **Captive Portal** app, for the **Device Onboarding** report, the **Promos & Offers Performance** section is enhanced to include the promo view count. This feature enables you to track the number of views for a specific promotion along with the number of clicks.

Locations and Maps

The Locations and Maps feature is now enabled for all Cisco Spaces accounts. Before this release, support was only available for **Cisco Smart Workspaces** accounts.

Issues

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

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 10: Cisco Spaces Open Issues

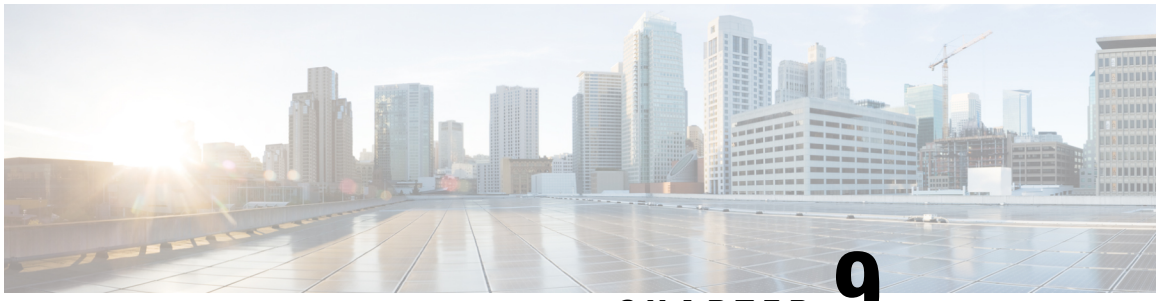
Issue Identifier	Issue Description
CSCwd41670	Required support for large Map file synchronization between Catalyst Center and Cisco Spaces

Resolved Issues

This section lists the resolved issues in this release of Cisco Spaces.

Table 11: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwf61446	Map synchronization process encountered an error when attempting to synchronize from Cisco CMX



CHAPTER 9

May 2023

- What's New in this Release, on page 31
- What's Changed in this Release, on page 32
- Issues, on page 32

What's New in this Release

Cisco Spaces Dashboard

The following features are introduced in the Cisco Spaces dashboard:

Locations and Maps

The Locations and Maps feature enables you to normalize and unify network hierarchies from various sources—Catalyst Center, Cisco Prime Infrastructure, and Cisco Meraki into a single business-orientated location hierarchy.

You can create a business-centric hierarchy in Cisco Spaces by uploading a Microsoft Excel (.xlsx) file containing location details. Moreover, the import from a Microsoft Excel (.xlsx) file allows you to add or update location metadata information for multiple locations at once.

Note Currently, this feature is only enabled for **Cisco Smart Workspaces** users.

Rich Maps

Rich Maps transforms flat floor plans into dynamic, interactive, and highly intuitive 3D maps. The **Rich Maps** feature in Cisco Spaces helps to logically deconstruct the Computer-Aided design (CAD) files and extract data such as meeting room details, workplace desk information, amenities, and so on. You can attach them to the location hierarchy to discover additional use cases.

Cisco Spaces: Connector 3 - Support for High Availability-Pair

Cisco Spaces Connector 3, May 2023 release supports **Dual Interface** and **High Availability** features. The dual interface model enables you to control traffic going into Cisco Spaces: Connector. This model supports two interfaces—**Primary** and **Secondary**.

The **Primary** interface is the default interface for all egress traffic and all the input ports are blocked. The **Secondary** interface allows you to configure networks or IP address endpoints from which ingress is allowed.

With **High Availability** support, at any given time, only one Cisco Spaces: Connector is active and the **Secondary** instance is always on standby mode. A virtual IP address is shared between these two instances. Thus, any device connecting to the Cisco Spaces: Connector uses the same IP address regardless of which system is active.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancement is made in the Cisco Spaces dashboard:

Map Service

When you import or synchronize maps from various sources—Catalyst Center, Cisco Prime Infrastructure or Cisco Meraki, support is extended to normalize and unify network hierarchies into a single business-orientated hierarchy.

Issues

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

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 12: Cisco Spaces Open Issues

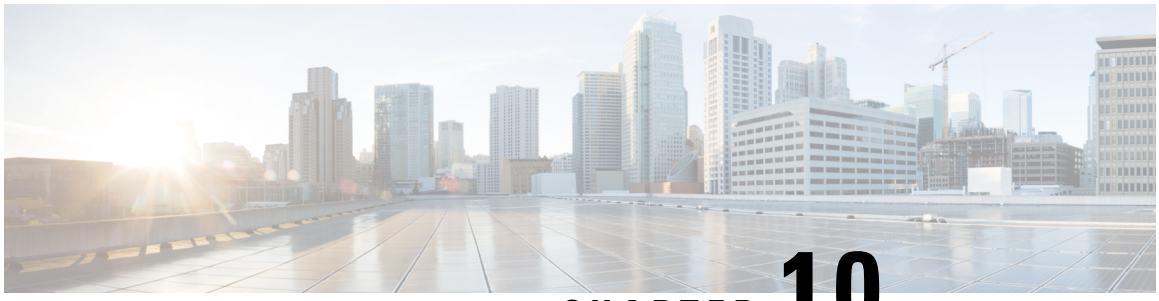
Issue Identifier	Issue Description
CSCwf16696	Asset Tracking - Number of assets shown to import into use case is greater than the available assets
CSCwd41670	Required support for large Map file synchronization between Catalyst Center and Cisco Spaces

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 13: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwf47913	IoT Explorer - Asset Entry rule is not triggered when a device exits and then enters the same location
CSCwe72447	Catalyst Center hierarchical change does not reflect in Cisco Spaces Location Hierarchy



CHAPTER 10

April 2023

- What's New in this Release, on page 33
- What's Changed in this Release, on page 33
- Issues, on page 33

What's New in this Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

Performance Optimization

This release includes performance improvements to the Cisco Spaces application. The backend performance of the application is optimized to improve the data-processing pipeline and reduce system overheads.

Cisco Spaces Dashboard

The following enhancements are made in the Cisco Spaces dashboard:

IoT Explorer

The **IoT Explorer** app is now enhanced with the ability to report the X and Y coordinates from AP sensor devices.

Cisco Spaces: Connector 3

By default **Location Service** is enabled when a new **Cisco Spaces: Connector 3** instance is added.

Issues

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

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 14: Cisco Spaces Open Issues

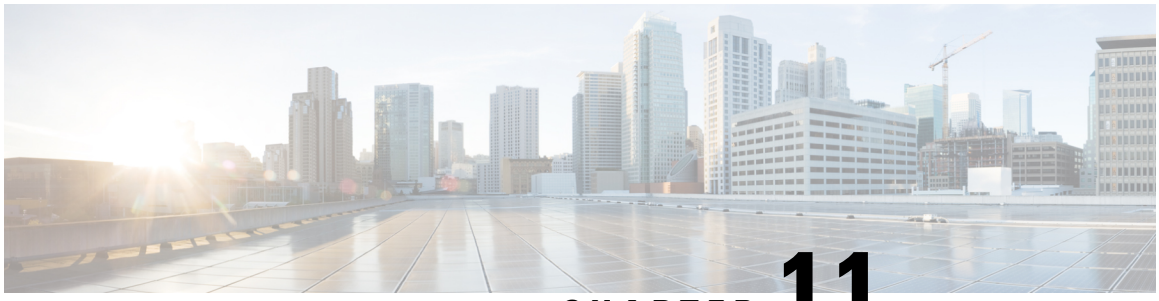
Issue Identifier	Issue Description
CSCwf16696	Asset Tracking - Number of assets shown to import into use case is greater than the available assets
CSCwd41670	Support for large Map file synchronization between the Catalyst Center and Cisco Spaces

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 15: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwe86258	Location Analytics - In Custom Reports, unable to change the SSID from the Edit window page
CSCwd00980	OpenRoaming - Under Network Configuration section, the no. of controllers deployed shows incorrect count
CSCwe89680	Meraki APs on floor map are not positioned correctly in Cisco Detect & Locate
CSCwe29576	Location Services is not automatically added to Cisco Spaces: Connnector 3



CHAPTER 11

March 2023

- What's New in this Release, on page 35
- What's Changed in this Release, on page 35
- Issues, on page 37

What's New in this Release

New Software Releases

Cisco Spaces: Connector 3 Amazon Machine Images (AMI) version is published to Amazon Web Services (AWS) Marketplace. For more information, see the Cisco Spaces: Connector3 Configuration Guide.

Cisco Spaces: Connector 3

By default, a location is added when a new **Cisco Spaces: Connector3** instance is added.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancements are made in the Cisco Spaces dashboard:

Location Analytics

The **Location Analytics** app GUI is revamped for an enhanced user experience. The revamp is centered around improving user experience and enhancing the value that users can generate from Location Analytics data.

This revamp does not impact the metrics computations or numbers.

The key benefits of this revamp include:

- Ability to compare two sets of locations, SSIDs, and time periods
- Ability to customize the report view by rearranging tiles and charts
- Ability to create custom reports using templates

Note The revamped custom reports do not have backward compatibility with the existing custom reports (the custom reports created prior to this release will not show up in the Cisco Spaces dashboard).

Global RBAC in Location Hierarchy 2.0

Location Hierarchy 2.0 is now enhanced to display only those locations that a Cisco Spaces user can access. Accessibility to these locations are defined when you create or edit roles, or invite or edit the Cisco Spaces user in **Admin Management**.

Note
- This Global Role-based Access Control (GRBAC) feature is supported in Location Hierarchy 1.0.
- The GRBAC feature is currently not supported for **Cisco Spaces: Detect and Locate** app users (**Cisco Spaces: Detect and Locate** > **User Management** > **App Users**).

Location Integration for Switches in Cisco Spaces Dashboard

In Cisco Spaces dashboard, when you add or edit a switch in **Wired Network**, click the **Add locations** option to choose a location and associate with the switch.

Test Connectivity

The **Test Connectivity** feature in Cisco Spaces is enhanced to support **Cisco Spaces: Connector3**. When you add a controller, use the **Test Connectivity** feature to verify the new controller's status.

Note The **Test Connectivity** feature is supported in **Cisco Spaces: Connector 2.x**.

Import Controller Features

The Cisco Spaces dashboard now supports the task of moving a controller or a Cisco switch to a different connector within the same account.

You can move a controller or a Cisco switch between:

- Cisco Spaces: Connector 2.x to Cisco Spaces: Connector 2.x
- Cisco Spaces: Connector 2.x to Cisco Spaces: Connector3
- Cisco Spaces: Connector3 to Cisco Spaces: Connector3
- Cisco Spaces: Connector3 to Cisco Spaces: Connector 2.x

Software Release Enhancements

Cisco Spaces: Connector3 Location Service Version 3.0.1.272 released.

Cisco Network Services Manager Version 3.0.4.13 released.

Issues

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

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 16: Cisco Spaces Open Issues

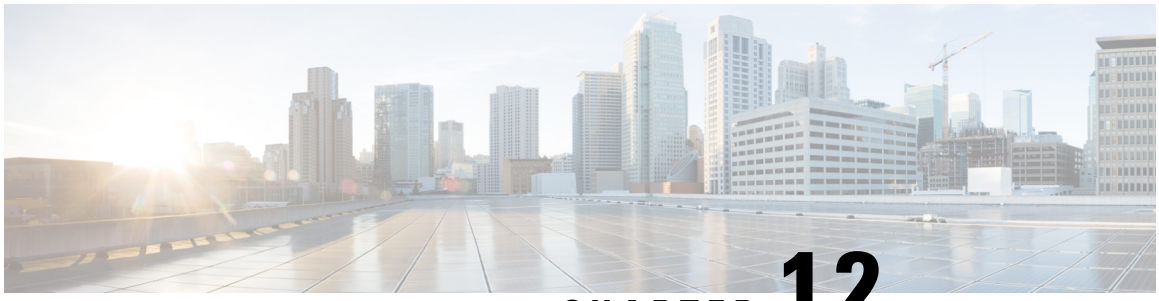
Issue Identifier	Issue Description
CSCwd41670	Support for large Map file synchronization between the Catalyst Centerand Cisco Spaces
CSCwe86258	Location Analytics - In Custom Reports, unable to change the SSID from the edit window page

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 17: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwe84200	IoT Explorer - Asset name getting overridden by the MAC address of the device
CSCwe15039	Floor map image is not shown in the mapservice UI section
CSCwe45698	In firehose events, expected to send mapid information in zone-level updates



CHAPTER 12

February 2023

- What's New in this Release, on page 39
- What's Changed in this Release, on page 39
- Issues, on page 40

What's New in this Release

Cisco Spaces Dashboard

The following features are introduced in the Cisco Spaces dashboard:

OpenRoaming support for Cisco Spaces: Connector3

OpenRoaming support is enabled now for **Connector3**. From the Cisco Spaces dashboard, use **Connector3** to:

- Add or remove hotspot as a service
- Add or remove controller for hotspot
- Enable debug logs and upload them to cloud

Location Hierarchy

A new version of the **Cisco Webex** workspace mapping algorithm that automatically maps the workspaces to the meeting rooms is deployed.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancement is made in the Cisco Spaces dashboard:

As part of **Cisco Webex** integration, Cisco Spaces now supports integration with persistent web app for **Cisco Webex** navigators. When a customer activates the control hub integration with Cisco Spaces, the necessary configuration supporting this integration is updated in the **Cisco Webex** control hub.

Note Currently, this integration is only available for **Cisco Smart Workspaces** users.

Cisco Spaces Partner Dashboard

The following enhancement is made in the Cisco Spaces Partner dashboard:

Disallow app deletion if the app has activations: The Cisco Spaces Partner dashboard does not support the deletion of an app if the app has activations. You must first delete the activations for the respective app and then delete the app.

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.

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 18: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCwd41670	Support for large Map file synchronization between the Cisco Catalyst Center and Cisco Spaces
CSCwe45698	In firehose events, mapid information is required to be sent in zone level updates

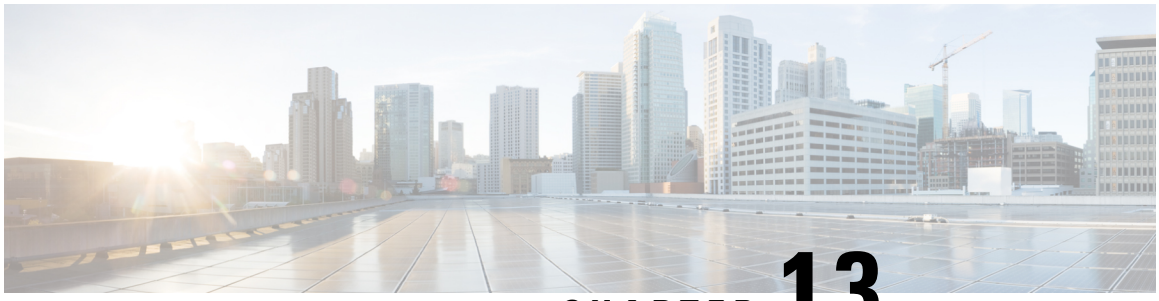
Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 19: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwe48569	IoT Explorer - On deleting BLE Tags from the Asset tracking use case, the tag got added again in the next update

Issue Identifier	Issue Description
CSCwe34833	SMS Apiserver not making bind with two SMPP gateway for same tenant
CSCwe14756	Partner app activation failed due to incorrect content type being passed to partner site
CSCwe37381	App configuration gets corrupted when a partner app with an app activation is deleted
CSCwd13553	In Cisco Partner dashboard, unable to navigate to the Home page once an app is open
CSCwe20037	Unable to see a client on Cisco Catalyst Center Floor in Network Hierarchy after Cisco Spaces Prod integration
CSCwe01529	Clients not shown on Cisco Catalyst Center due to subscription failure
CSCwe29685	App User with Read-Only Access in OpenRoaming App, page is not loading
CSCwd79229	Functional SJC Alpha Cisco Spaces Connector 3.0 'Test Connectivity' Fail while adding WLCs
CSCwe38494	Engagement rule is not matched as per frequency if configured as once in a day



CHAPTER 13

January 2023

- What's New in this Release, on page 43
- What's Changed in this Release, on page 43
- Issues, on page 43

What's New in this Release

Cisco Spaces Dashboard

The following feature is introduced in the Cisco Spaces dashboard:

Location Hierarchy: Auto-import support for Cisco Meraki networks tagged with Cisco Spaces

Cisco Meraki networks with **CiscoSpaces** tags are automatically imported into Cisco Spaces **Location Hierarchy** during the background synchronization process. The Meraki organization must be present in **Location Hierarchy** to support the auto import of these tagged networks.

Note **CiscoSpaces** should be the tag name added in Cisco Meraki network.

What's Changed in this Release

There are no enhancements in this release of Cisco Spaces.

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.

Open Issues

There are no open issues in this release of Cisco Spaces.

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 20: Cisco Spaces Resolved Issues

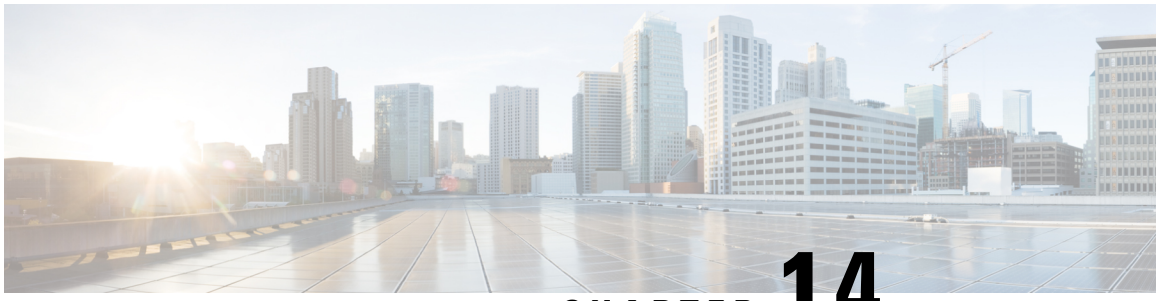
Issue Identifier	Issue Description
CSCwe14553	Shared report would be unviewable for Cisco Spaces users, who have not logged in to the dashboard



PART II

2022

- December 2022, on page 47
- November 2022, on page 51
- October 2022, on page 53
- September 2022, on page 57
- August 2022, on page 61
- July 2022, on page 63
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- February 2022, on page 79
- January 2022, on page 81



CHAPTER 14

December 2022

- What's New in this Release, on page 47
- What's Changed in this Release, on page 47
- Issues, on page 48

What's New in this Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancements are made in the Cisco Spaces dashboard:

IoT Explorer

- Import User Workflow: The **IoT Explorer** app is now enhanced to import new or existing users to a specific use case. Use the **Import Users** option to either import users from other use cases or add multiple users at once by uploading a Microsoft Excel (.xlsx) file containing user details.

  Choose **IoT Explorer** > **Use Case** > **Users/Roles** > **Import Users** to import users.

- Occupancy History: The **Occupancy History** tab displays user presence with the timeline for occupancy detected and not detected. You can view this in the timeline for the last 24 hours, 7 days, or 30 days. Choose **Presence Detection** > **Sensor** > **Asset Name** > **Occupancy History** to view the occupany history details.



- Cisco Webex and Trigger API Support: In addition to SMS and email, support is added to send Sensor notifications using Cisco Webex and Trigger API. Choose **IoT Explorer** > **Use Case** > **Rules** > **Add Rule** > **Actions sections** to configure notifications.
- Location History: For the **Asset Tracking** use case, the location history of the device is recorded and depicted on the map with **X** and **Y** coordinates. You can view this in the timeline for the last 24 hours, 7 days, or 30 days.

My Account

- Cisco Spaces dashboard is enhanced to include the **Enable Support Access** option. A Cisco Spaces customer can use the **Enable Support Access** option to enable or disable access to their account to the Cisco Spaces support team. Enabling this option helps the Cisco Spaces support team to detect and debug issues under exceptional situations.
- This option is available in the **My Account** > **Preferences** section. When access is enabled, the Cisco Spaces support team gets access to the customer's Cisco Spaces account.



Note By default, the **Enable Support Access** option is enabled.

Location Hierarchy

Location Hierarchy 2.0 is now enhanced to show rich maps, if they are available for a particular floor. The option to upload rich maps is currently managed by the Cisco Spaces support team.

Click the **3D** toggle button to switch between 2D and 3D floor maps.

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.

Open Issues

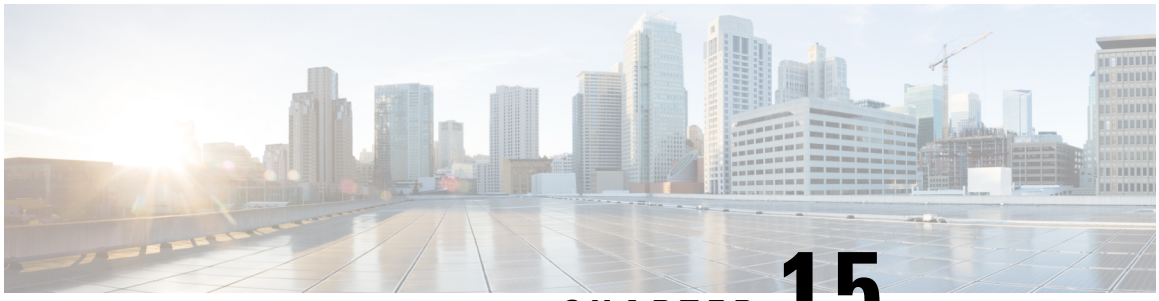
There are no open issues in this release of Cisco Spaces.

Resolved Issues

This section lists the bugs that have been resolved in this release of Cisco Spaces.

Table 21: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwd66507	Duplicate campuses shown in the Mapservice UI



CHAPTER 15

November 2022

- What's New in this Release, on page 51
- What's Changed in this Release, on page 51
- Issues, on page 52

What's New in this Release

Cisco Spaces Dashboard

The following feature is introduced in the Cisco Spaces dashboard:

The **Data Export** feature now supports new destinations. In addition to **SFTP**, you can create data exports for the following destinations:

- Amazon S3
- Microsoft Azure Blob Storage
- Google Cloud Storage
- Box

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancements are made in the Cisco Spaces dashboard:

Spaces Connector 3.0 - Wired Support

Cisco Spaces: Connector 3.0 is now available under the **Menu (** **)** > **Setup** > **Wired Network** section. You can create both 2.x and 3.0 connectors under the **Wired Network**.

Connector 3.0 capabilities such as service association, instance tracking, and metrics visualizations are available in the **Wired Network** section.

Cisco Spaces Dashboard GUI Enhancements

The following sections are enhanced in accordance with the Cisco Spaces branding changes:

- Login Section
- Home Page – Top Banner (Cisco Spaces Logo)

Location Hierarchy

The support for auto importing access points with model names starting with **CW** to **Location Hierarchy** (newly introduced by Cisco Meraki) is added. Prior to this release, support was only available for **MR** and **MX** access point models.

Cisco Spaces Partner Dashboard

The following enhancements are made in the Cisco Spaces Partner dashboard:

Singapore Region Support

Cisco Spaces Partner dashboard is enhanced to support Singapore region. Partners can now create and publish apps for the Singapore region.

Partner Dashboard GUI Enhancements

The following sections are enhanced in accordance with the Cisco Spaces branding changes:

- Login Section
- Home Page – Top Banner (Cisco Spaces Logo)

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.

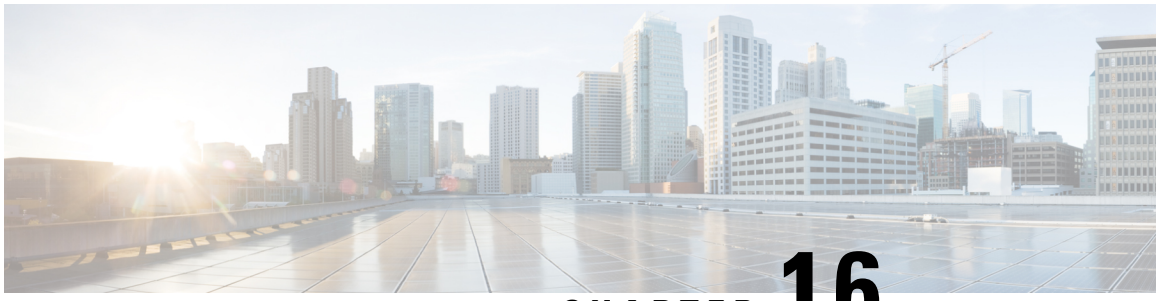
There are no open issues in this release of Cisco Spaces.

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 22: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwd09396	Page loading forever in Impact Analysis



CHAPTER 16

October 2022

- What's New in this Release, on page 53
- What's Changed in this Release, on page 53
- Issues, on page 54

What's New in this Release

Cisco Spaces Dashboard

The following new feature is introduced in the Cisco Spaces dashboard:

Cisco Spaces dashboard now supports **Split Licensing**.

The accounts that are registered with Smart Licensing include an option to upgrade or downgrade the license type at each location level. Use the **License Level Change** option available in the **Location Hierarchy** window.

Note To use **Split Licensing**, accounts must be registered with Smart Licensing.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancements are made in the Cisco Spaces dashboard.

Location-Based RBAC

Role-based Access Control (RBAC) is now enhanced to support specific locations. Use the **Restrict this role to specific locations** option to support specific locations while creating a role (**Admin Management** > **Roles** > **Create Role**) and inviting user flows (**Admin Management** > **Invite Admin**).

Profile

The **User Profile** feature is enhanced to include the **View Change Log** option. Click **View Change Log** to open the **Change Log** tab that displays the activity details of all the users in a particular account.

Firehose

The IoT Telemetry event in Firehose is enhanced to include the following three additional fields for Bluetooth Low Energy (BLE) devices:

- **Vendor**: The vendor ID when the device is claimed.
- **DeviceModel**: The model of the BLE device.
- **UniqueId**: The unique ID of the device.

These fields carry specific values after the beacons are claimed.

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.

Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 23: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCwd09396	Page loading forever in Impact Analysis.

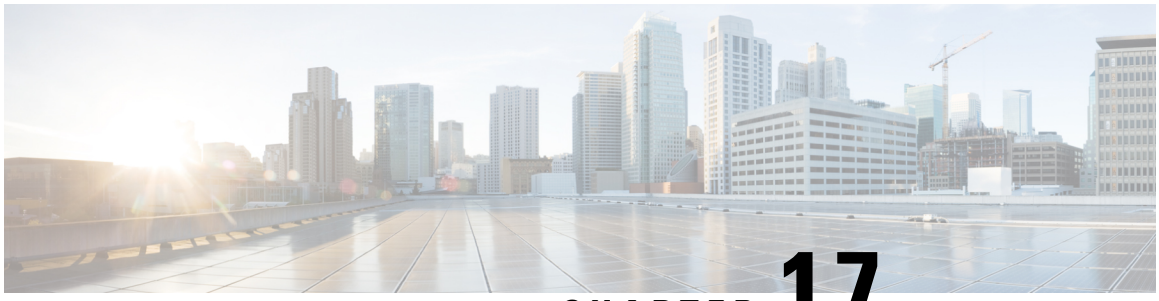
Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 24: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwd33465	On clicking get app menu does not redirect to landing page on desktop/laptop
CSCwd42802	Access code session duration value does not pass to controller in radius response
CSCwd23458	HotspotClient - Hotspot failing to load when certificate has expired
CSCwd31231	Delete user preferences and device preferences functionality is not working

Issue Identifier	Issue Description
CSCwd19227	Meraki OpenRoaming - Certificate renewal process is picking invalid APIKey



CHAPTER 17

September 2022

- What's New in this Release, on page 57
- What's Changed in this Release, on page 58
- Issues, on page 58

What's New in this Release

Location Hierarchy

The following new features are introduced in **Location Hierarchy**.

Location Hierarchy now supports Meraki MT. The configurations required for receiving the data from the MT sensors are updated using Cisco Spaces and Meraki integration. The MT sensors are automatically imported to **Location Hierarchy**.

Location Hierarchy 2.0 is the enhanced beta release of **Location Hierarchy** with a revamped user interface and performance improvement along with the existing **Location Hierarchy** features.

The new features include:

- Interactive global map for updating geolocation
- Option to create and edit polygon zones and AP markers on floor maps
- Uncategorised AP groups

Note In Cisco Spaces, click **Menu ( )** and choose **Location Hierarchy** > **Beta UI** to enable Location Hierarchy 2.0. Use the **Beta UI** toggle button to switch between Location Hierarchy 2.0 and the Location Hierarchy GUI.

Cisco Spaces Dashboard

The following new feature is introduced in the Cisco Spaces dashboard:

Cisco pxGrid Cloud

The Cisco Spaces dashboard now supports Cisco pxGrid Cloud implementation. Cisco pxGrid Cloud allows you to share contextual information between Cisco Identity Services Engine (Cisco ISE) and other cloud-based solutions.

To configure Cisco pxGrid Cloud in the Cisco Spaces dashboard, you require a token from Cisco DNA - Cloud. This token must be validated at pxGrid Cloud. After successful validation, the app is activated in the pxGrid Cloud, thereby allowing the services to be used in the Cisco Spaces dashboard.

Note Currently, only Cisco pxGrid Cloud GUI support is available in Cisco Spaces. Backend changes are expected to be included in the future.

Firehose

A new event called WEBEX Telemetry is added in Firehose. This event is initiated when telemetry data is received from the Cisco Webex devices from the location.

Note Currently, GUI support for enabling this event in Cisco Spaces **Partner Dashboard** is not available. Contact Cisco Spaces support to enable this new event from the backend.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancements are made in the Cisco Spaces dashboard:

- **Camera Zone Support for Meraki Networks:** In **Location Hierarchy**, for the newly added networks with camera zones in Meraki, zones are added to **Location Hierarchy** along with the networks.

  For existing networks, the camera zones that are added, modified, or removed in Meraki are synchronized with the **Location Hierarchy** during the background synchronization process.

Note Currently, GUI support to display the camera zones in the Cisco Spaces dashboard is not available.

- **IoT Explorer**: Cisco Spaces dashboard now supports the import of MT Sensor devices in the **Temperature Monitoring** section of the **IoT Explorer** app.

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.

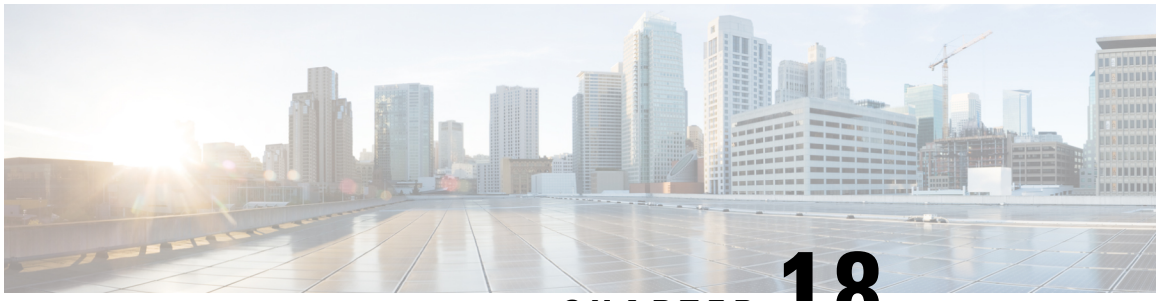
There are no open issues in this release of Cisco Spaces.

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 25: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwd19341	Dashboard view is not showing up in the Detect and Locate App
CSCwc46949	Custom widgets in location analytics keep loading when user selects multiple locations
CSCwc91835	On clicking report button from 503 error page is showing invalid email address
CSCwc93338	Meraki APs not positioned correctly in Detect and Locate
CSCwd02169	Floor map images are not rendered, and clients are not visible in Detect and Locate



CHAPTER 18

August 2022

- What's New in this Release, on page 61
- What's Changed in this Release, on page 61
- Issues, on page 62

What's New in this Release

Location Hierarchy

The following new features are introduced in **Location Hierarchy** to support the Cisco Smart workspaces use cases.

Location Hierarchy background synchronization now supports:

- Synchronization of the Meraki MT sensor devices in the Meraki networks or floor locations.
- Synchronization of Cisco Webex devices with meeting rooms and desks.

What's Changed in this Release

Cisco Spaces Partner Dashboard

The following enhancement is made in the Cisco Spaces Partner dashboard:

A new event called NETWORK_STATUS_UPDATE is added in the **Events** section. This event provides network information such as status, last heard, type, connector name, IP address and so on.

Cisco Spaces Dashboard

The following enhancement is made in the Cisco Spaces dashboard:

OpenRoaming SDK Profile

Cisco Spaces now supports configuration of OpenRoaming Wi-Fi profile using the **Menu** ( ) **Integrations** > **Cisco Spaces SDK** > **Configure Profile** window. You can create a customer specific profile for a particular tenant based on the values you provide in the **Configure Profile** window.

Prior to this enhancement, the profile used to be updated manually in the backend.

Data Export

Data export configuration now supports the following additional data export types:

- Captive portal - Customer Acquisition
- Right Now - People Count (Camera)



Note For Cisco Spaces dashboard SEE license customer accounts, data export types such as Captive portal, and Engagement and Location Personas are not available for export. For ACT license customer accounts, all data types are available for export.

Location Hierarchy

During the background synchronization process, the Meraki Scanning API Notification URL for configuration template networks are updated automatically.

Firehose API

A new field, **openRoamingUserId**, is added for the Wi-Fi events in the Firehose API. This field carries the identity of the OpenRoaming users who are onboarded by the SDK. In other cases, the value of this field is nil.

Map Service

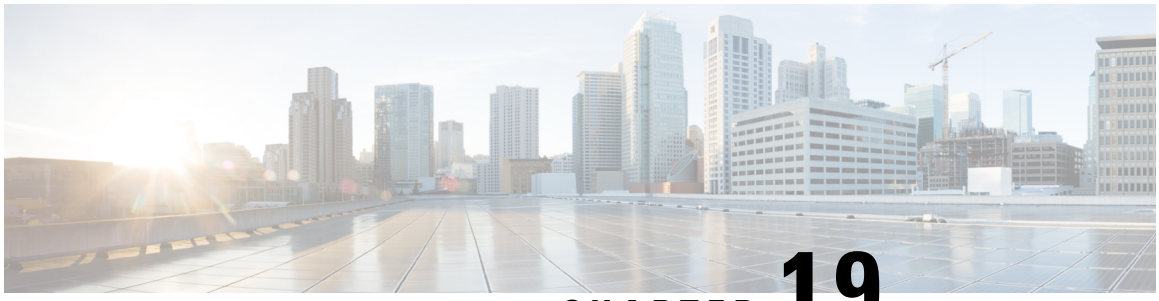
Map Service API performance is enhanced to get the import history and status.

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.



CHAPTER 19

July 2022

- What's New in this Release, on page 63
- What's Changed in this Release, on page 63
- Issues, on page 64

What's New in this Release

Cisco Spaces dashboard

The following feature is introduced in the Cisco Spaces dashboard:

Secure File Transfer Protocol (SFTP) data export configuration is now available in the Cisco Spaces dashboard.

In the Cisco Spaces dashboard, click the **Menu** icon ( ) and choose **Setup** > **Data Export**. Use this option to configure the automatic export of raw data as CSV files to SFTP servers.

The following are the different types of data available for export:

- Visits
- Right Now - People Count (Wi-Fi)
- Engagement - Rule Activity
- Location Personas - Rule Activity
- Open Roaming - User Data

For more information about routing the SFTP connection over VPN, contact Cisco Spaces support.

What's Changed in this Release

Map Service

The following enhancements are made in Map Service:

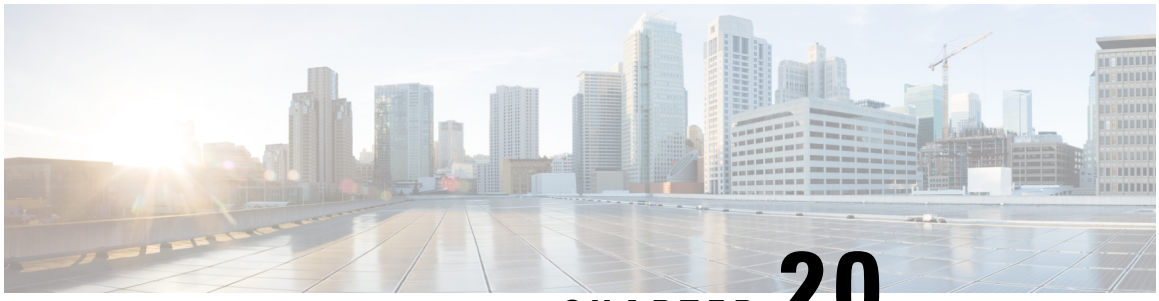
- **Support for Map Hierarchy Migration from Cisco Prime Infrastructure to Cisco Catalyst Center**: Cisco Spaces Location Hierarchy now supports import of migration data with nested sites from Cisco Prime Infrastructure to Cisco Catalyst Center.
- **Support for Cisco Catalyst Center Nested Site Hierarchy**: You can now import or synchronize new sites from Cisco Catalyst Center to Cisco Spaces on top of the existing site hierarchy.
- **Support for Planned Access Point (AP) Import**: You can now import planned APs into Map Service.

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.



CHAPTER 20

June 2022

- What's New in this Release, on page 65
- What's Changed in this Release, on page 65
- Issues, on page 66

What's New in this Release

Cisco Spaces dashboard

The following feature is introduced in the Cisco Spaces dashboard:

IoT Explorer Application

Internet of Things (IoT) Explorer application is the 3rd generation enhanced version of Operational Insights and Cisco Asset Locator applications. The **IoT Explorer** application is designed to bring in quick value to users exploring device driven IoT use cases in Cisco Spaces and to add value to IoT services at the ACT licensing level.

This application accomplishes the three use cases listed below:

- Asset Tracking
- Space Occupancy/Presence Detection
- Temperature Monitoring

Within each of these use cases, you can create rules/alerts, view data logs, view the real time location and status of the device or sensor. The **IoT Explorer** application UI is designed to set up the use case in a simplified way.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancement is made in the Cisco Spaces dashboard:

Cisco Spaces: Connector 3.0

Cisco Spaces: Connector 3.0 (referred to as Connector in all subsequent references in this document) is a fully redesigned version of the Connector with the capability to efficiently manage multiple services that connect to different network devices such as Cisco Wireless controller and switches for data. The Connector platform makes it easy to add/remove new services from the cloud. It enables enhanced troubleshooting with debugging, log upload, and restart functionalities from the cloud. Connector also provides detailed metrics for each service with CPU, Memory, Connectivity and Up/Down status.

Connector is the next generation connector of Cisco Spaces that provides an enhanced user experience, architecture to support multiple services, simplicity, modularity, seamless upgrade and High Availability. Connector supports an active-active High Availability setup. Unlike the earlier releases of Connector 2.x, you can specifically configure and monitor the High Availability pair. All services and device configurations are managed at the Connector level to make it easy to pair with High Availability.

The Connector and device status is also aggregated at the Connector level from each instance for easy monitoring. Connector provides full visibility to each instance of a High Availability pair. You can view how the services are running on each instance, their upgrade status and so on. You can also perform actions on a particular instance, such as restarting of services.

Right Now

The following enhancement is made in the Right Now app:

The **Right Now** app is enhanced to address issues with counts when there are any changes in the **Location Hierarchy**.

Prior to this enhancement, changes in **Location Hierarchy** such as adding new locations, removing existing locations or updating vital parameters such as **TimeZone** introduced stale or incorrect counts for Wi-Fi.

Note With this enhancement, the **Presence** chart count gets reset (removes all existing numbers until the current time) for the present day because the counts are invalid after the **Location Hierarchy** changes.

Map Service

The following enhancement is made in Map Service:

When you delete a zone location from the **Map Service** UI, the same is deleted from **Location Hierarchy** as well.

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.

Cisco Bug Search Tool

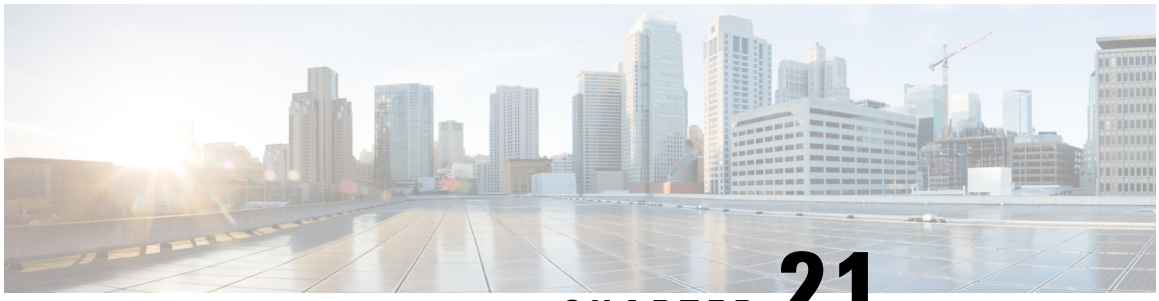
Cisco Bug Search Tool (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

Open Issues

There are no open issues in this release of Cisco Spaces.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 21

May 2022

- What's New in this Release, on page 69
- What's Changed in this Release, on page 69
- Issues, on page 70

What's New in this Release

Cisco Spaces dashboard

The following features are introduced in the Cisco Spaces dashboard:

Cisco Webex Integration

Cisco Webex is now integrated with Cisco Spaces. This integration enables Cisco Webex devices in the **Webex Control Hub** account to perform a cloud-to-cloud integration between **Webex Control Hub** and Cisco Spaces.

This integration supports:

- Synchronization of Cisco Webex entities such as Cisco Webex workspaces, devices, workspace locations, and floor details from the **Webex Control Hub**. The synchronization process is scheduled in the backend every three hours after the token is configured in the Cisco Spaces dashboard. Choose **Setup** > **Webex** to configure the tokens.
- Cisco Webex devices to send device data such as temperature, air quality, occupancy, and so on, which is then used in **Cisco Smart Workspaces**

Note Currently, this integration is only intended for **Cisco Smart Workspaces** users.

What's Changed in this Release

Cisco Spaces dashboard

The following enhancements are made in the Cisco Spaces Dashboard:

Single Use Access Code in Cisco Spaces

Cisco Spaces is enhanced to support the creation of a single-use access code. Choose **Captive Portal** > **Access Code** > **Create Access Code** to create a new single-use access code. The generated access code is for one-time use only. You can choose either the **Numeric** or the **Alphanumeric** option while creating the access code.

The status of the new access code is shown as **Available** in the **View Access Codes** window. After the access code is used, the status changes to **Used**.

Captive Portal

The following enhancement is made in the Cisco Spaces Captive Portal:

Single Use Access Code Support in Captive Portal Runtime

The Cisco Spaces Captive Portal is enhanced to support single-use access codes. The generated access code is for one-time use only. If the access code is already used once, the following error message is displayed: `invalid access code`.

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.

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

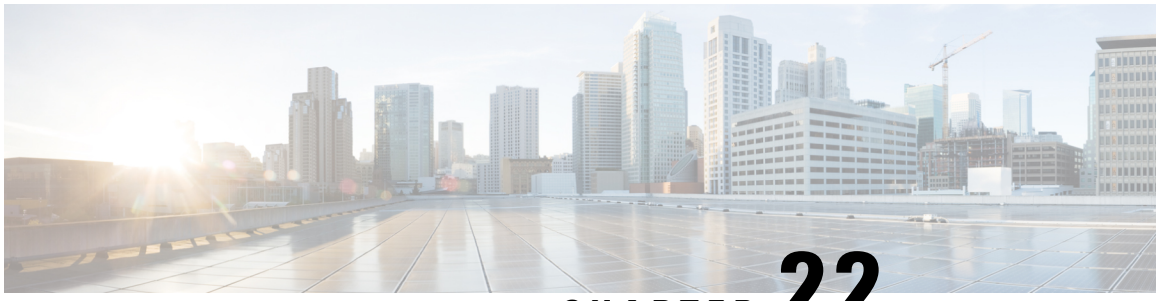
There are no open issues in this release of Cisco Spaces.

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 26: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwb99689	Clients are not showing up in the Detect and Locate app due to null ancestor IDs in the map floor API response.



CHAPTER 22

April 2022

- What's New in this Release, on page 73
- What's Changed in this Release, on page 73
- Issues, on page 74

What's New in this Release

There are no new features in this release.

What's Changed in this Release

Cisco Spaces Dashboard

The following enhancements are made in the Cisco Spaces Dashboard:

Cisco Customer Identity Integration with Cisco Spaces

Cisco Spaces is now integrated with the Cisco Customer Identity (CCI) application for the login workflow. Cisco Spaces users are now redirected to the CCI application window for login authentication and then proceed to log in to the Cisco Spaces Dashboard.

The new workflow is applicable for the following users:

- Cisco domain users
- Customer domain non-SSO users

With the introduction of CCI integration, you can now use the **Switch Users** option to switch between different email addresses in the Cisco Spaces login window.

Note Customer domain SSO users can continue to use the existing login workflow.

Location Analytics

Location Analytics now shows the hierarchy path of the filtered location. The filtered location path is displayed in the widgets available in the home page and the **Custom Reports** section except for the **Path** widget.

Cisco Spaces Partner Dashboard

The following enhancement is made in the Cisco Spaces Partner Dashboard:

CCI Integration with Partner Dashboard

The Cisco Spaces Partner Dashboard is now integrated with the CCI application for login workflow. This feature is similar toCisco Spaces the Cisco Spaces Dashboard.

The Cisco Spaces Partner Dashboard users can switch between different email addresses using the **Switch Users** option available in the Cisco Spaces Partner Dashboard login window.

Map Service

The following enhancements are made in the Cisco Spaces **Map Service**:

GPS Markers Warning Message

The GPS markers warning message that is displayed in the **Import History** section shows only the floor name if an imported location has invalid GPS markers. With this enhancement, the message shows the entire hierarchy in the **Import History** section for the floor with invalid GPS markers.

Cisco Catalyst Wireless 9164I Wi-Fi 6E Series Access Points (AP) Support

- The Cisco Catalyst Wireless 9164I Wi-Fi 6E Series AP support is added in the **Map Service**.
- You can now import the Cisco Catalyst Wireless 9164I Wi-Fi 6E Series APs into Cisco Spaces using the **Map Service**.

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 caveat 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 caveat.
- 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

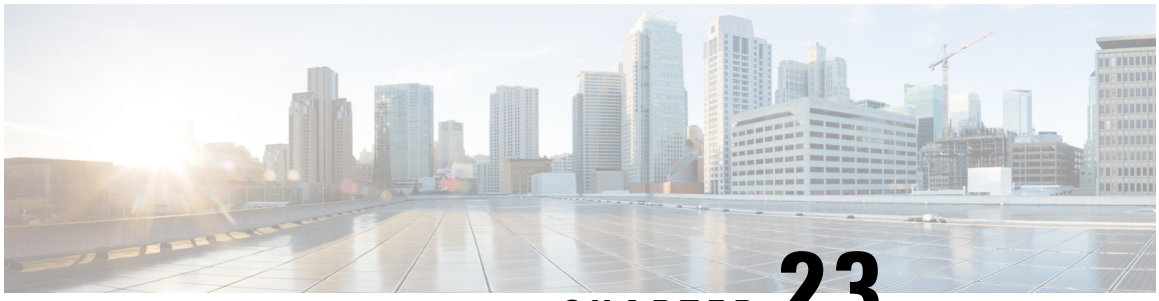
There are no open issues in this release of Cisco Spaces.

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 27: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCwb33270	Internal failure error while doing Cisco Spaces sync manually.



CHAPTER 23

March 2022

- What's New in this Release, on page 77
- What's Changed in this Release, on page 77
- Issues, on page 77

What's New in this Release

Partner Dashboard

The following features have been introduced in the Cisco Spaces Partner Dashboard:

Trace Firehose

A new feature called **Trace Firehose** is introduced in the Cisco Spaces Partner Dashboard. This feature is available under **Your Apps** > **App Tile** > **More** > **Trace Firehose**. This feature provides the following two options to view the firehose data from the Cisco Spaces Partner Dashboard:

- **Download historical data**: Use this option to download hourly data for the last 24 hours. Choose a required time slot to download a text file with firehose events triggered within the selected time slot.
- **Download present data**: Use this option to view the live stream of firehose events in the Cisco Spaces Partner Dashboard UI for a period of five minutes.

What's Changed in this Release

Mapservice

The following enhancement is made in the Cisco Spaces **Mapservice**:

Import of planned Access Points into **Mapservice** and **Location Hierarchy** is not supported.

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.
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Cisco Bug Search Tool

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Open Issues

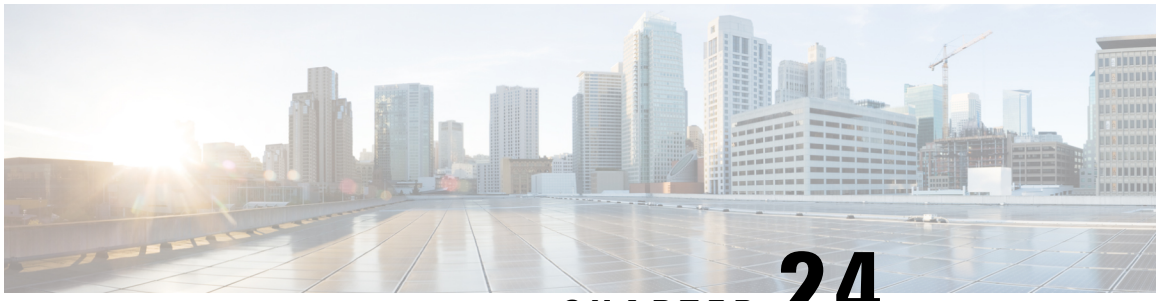
This section lists the open issues in this release of Cisco Spaces. An issue that was open for a prior release and is still unresolved applies to all future releases until it is fixed.

Table 28: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCwb30644	OpenRoaming stats are not shown when integrated with Meraki.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 24

February 2022

- What's New in this Release, on page 79
- What's Changed in this Release, on page 79
- Issues, on page 79

What's New in this Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

Partner Dashboard

The following enhancement is made in the Cisco Spaces Partner Dashboard:

For the Multi-Tenant Cloud applications, under the **Integration Details** tab, the API keys for a **Live** app are now displayed as follows:

- You can only renew and copy the production API keys if the app is in **Live** state.
- To renew and copy the sandbox and pre-production API keys of an app in **Live** state, partner needs to create a new version of the app and copy and renew the keys in the **Draft** version of app.

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.

Cisco Bug Search Tool

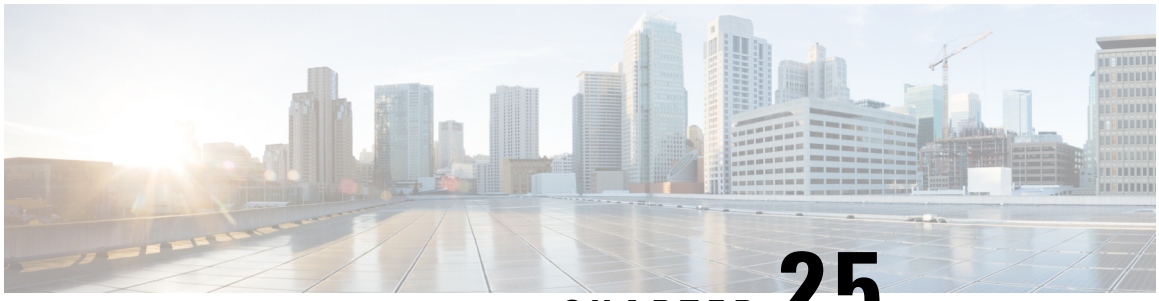
Cisco Bug Search Tool (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

Open Issues

There are no open issues in this release of Cisco Spaces.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 25

January 2022

- What's New in this Release, on page 81
- What's Changed in this Release, on page 81
- Issues, on page 81

What's New in this Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

Dashboard

The following enhancement is made in the Cisco Spaces Dashboard:

Behavior Metrics

The Behavior Metrics is enhanced to show **Sub Vertical** level benchmark metrics. This is applicable for category average metrics and accounts where a sub vertical is defined.

If a sub vertical is not defined, category average metrics are computed based on the vertical level benchmark.

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.

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

There are no open issues in this release of Cisco Spaces.

Resolved Issues

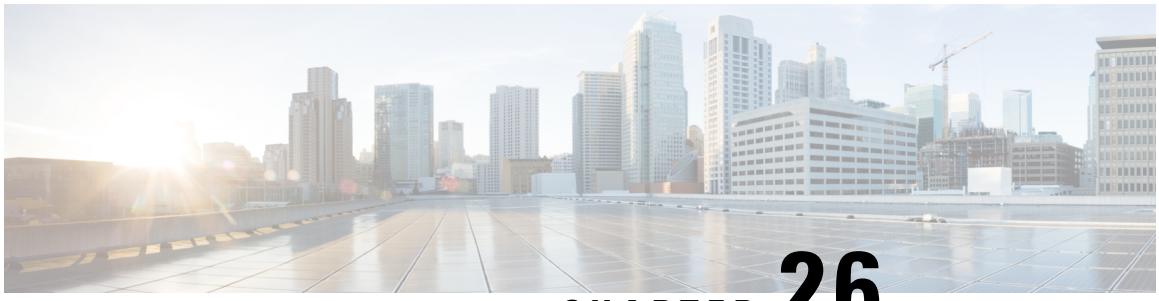
There are no resolved issues in this release of Cisco Spaces.



PART III

2021

- December 2021, on page 85
- November 2021, on page 87
- October 2021, on page 89
- September 2021, on page 91
- August 2021, on page 95
- July 2021, on page 97
- June 2021, on page 99
- May 2021, on page 103
- April 2021, on page 107
- March 2021, on page 111
- February 2021, on page 115
- January 2021, on page 119



CHAPTER 26

December 2021

- What's New in this Release, on page 85
- What's Changed in this Release, on page 85
- Issues, on page 86

What's New in this Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

Dashboard

The following enhancements are made in the Cisco Spaces Dashboard:

Right Now

- **Right Now WiFi** is enhanced to show the count of excluded devices that are not considered as visitors, or filtered during data processing.
- The excluded device count is displayed as a message in the **Note** section of the **Right Now Wifi**.

Captive Portal Runtime

- **Access Code Authentication**: The **Session Duration** and **Bandwidth Limit** configured at the access code level will now be considered by the captive portal. During authentication, the values are passed to the controller and override any default settings done at the controller for session duration and bandwidth.

Partner Dashboard

The following enhancements are made in the Cisco Spaces Partner Dashboard:

Event Notification: When a Cisco Spaces partner adds a new event to an already activated app, it will be sent through Firehose APIs only when the customer subscribes to the new event by accepting the permissions. Prior to this enhancement, customer permission was not required for new events.

- You are prompted with the `New Permission Required` notification message on the app tile, and you must click and accept the new app permission to subscribe to these new app events.

- An email notification is also sent to the customer indicating that a new event is added to the app.

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.
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Cisco Bug Search Tool

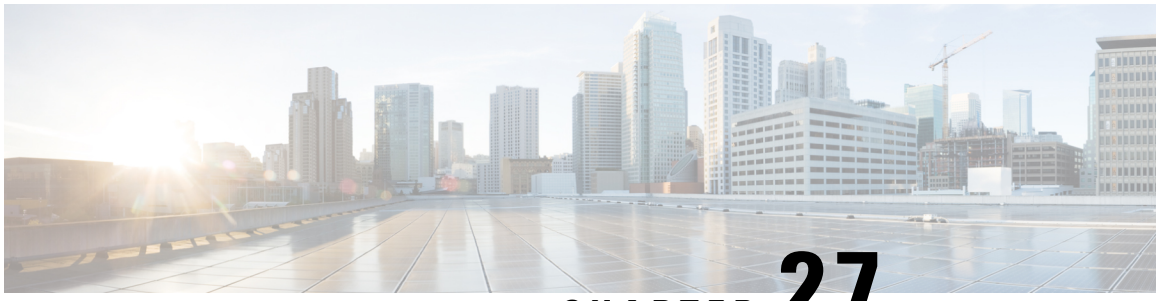
Cisco Bug Search Tool (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

Open Issues

There are no open issues in this release of Cisco Spaces.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 27

November 2021

- What's New in this Release, on page 87
- What's Changed in this Release, on page 87
- Issues, on page 88

What's New in this Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

Dashboard

The following enhancements are made in the Cisco Spaces Dashboard:

Partial Import of Access Points from Controller

- Prior to this enhancement, when adding locations using the **AP prefix** option (**Connect WLC/Catalyst 9800 Directly** or **Connect via Spaces Connector**):
  - AP import was not allowed if the number of APs exceeded the license limit. With this enhancement, you can now import APs as per the license limit.
  - If the license limit was reached, APs over and above the license limit that were available under the controller were not synchronized with **Location Hierarchy**. With this enhancement, priority is given to the APs with a common prefix over the APs present under the **Unconfigured** location. Those APs that are present under the **Unconfigured** location are removed during the synchronization process, making way for the synchronization of the APs with a common prefix, under the controller.

Impact Analysis

- Event creation is restricted if the visits data that is available for an account is less than 30 days. In this scenario, default data is displayed.

Mapservice

The following enhancements are made in **Mapservice**:

- Import of duplicate payload from Cisco Catalyst Center to **Mapservice** is restricted. In the **Import History** section, the following error message is displayed: `Warning:Import ignored due to no changes in request payload`.

Note Cisco Spaces uses Java library Apache log4j for logging. Vulnerability CVE-2021-44228 currently impacts Apache log4j versions from 2.0 to version 2.14.1. To address this vulnerability, Cisco Spaces has upgraded Apache log4j version to 2.16.0.

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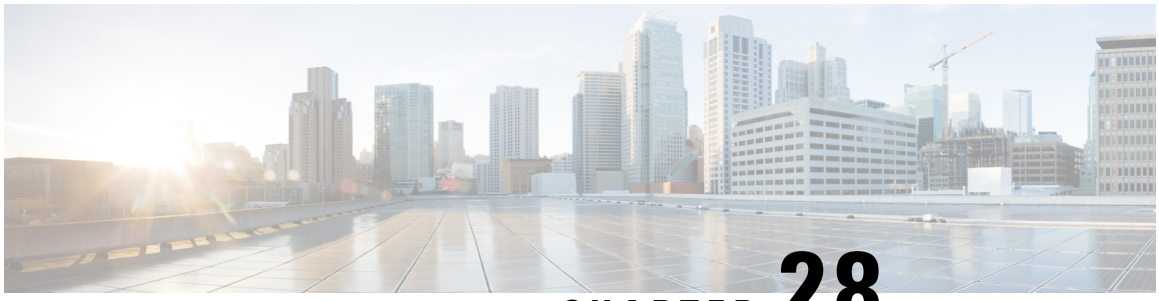
Cisco Bug Search Tool (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

Open Issues

There are no open issues in this release of Cisco Spaces.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 28

October 2021

- What's New in This Release, on page 89
- What's Changed in this Release, on page 89
- Issues, on page 89

What's New in This Release

There are no new features in this release of Cisco Spaces.

What's Changed in this Release

Location Analytics

The following enhancements are made in the Cisco Spaces Dashboard:

- Visits having a duration of less than five minutes are excluded. This helps to exclude transient and transitory visitors, who contribute to inflating the visitor and visits count.
- Visits having a duration of more than 1440 minutes are excluded. This helps to exclude devices that are always on, and contribute to inflating the average duration metric.

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.
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This section contains the following topics:

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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

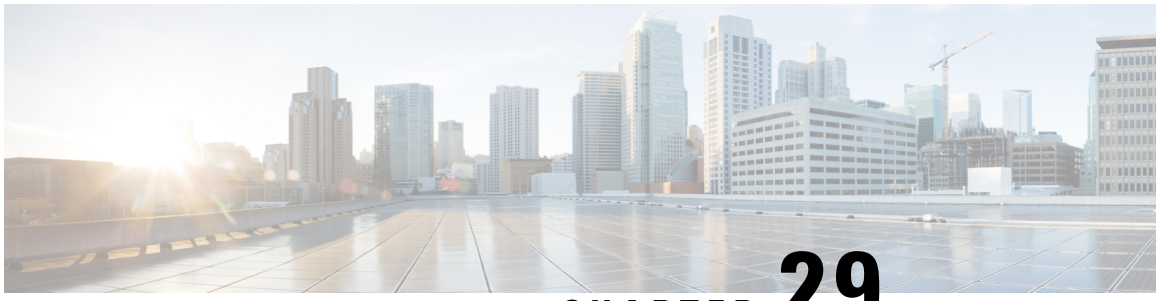
There are no open issues in this release of Cisco Spaces.

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 29: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues
CSCvz89535	Mapservice-Map import/sync is failed on re-importing the same file with location changes
CSCvz89525	Mapservice-Floor map image appeared as blank when the re-sync happened for the same DNAC map file



CHAPTER 29

September 2021

- What's New in This Release, on page 91
- What's Changed in this Release, on page 92
- Issues, on page 93

What's New in This Release

Dashboard

Smart License Integration: Cisco Smart License is a flexible licensing model that streamlines the way you activate and manage software. The solution allows you to easily track the status of your license and software usage trends. To enable Cisco Smart License in Cisco Spaces, you must have a smart account that is configured with Cisco Smart Software Manager (CSSM). In the Cisco Spaces dashboard, choose **Profile Icon** > **Activate Smart License** to activate Cisco Smart License.

- **License Upgrade/Downgrade**: After you activate your Cisco Smart License, you can upgrade or downgrade the Cisco Spaces license. To do this, choose **Profile Icon** > **License info** > **Select License Level**.
- **Trial Support**: After Cisco Smart License activation, you can contact the Cisco Spaces support team to enable trial support. If trial mode is enabled, the smart agent will not update license usage to CSSM.

For more information, see Cisco Smart License.

Behavior Metrics

Workspaces Vertical: Campus-level computation is implemented for the **Workspaces** vertical. Earlier, network nodes in the location hierarchy were used to derive metrics. To improve the quality of the data reported for the **Workspaces** vertical, campus nodes are used to track visits and derive insights. In most real-time deployments for enterprises and universities, people move between multiple buildings that are close by within a campus. This behavior of people moving between networks is the motivation behind moving to campus node as the single contiguous space to track visits and derive insights.

- If you select a campus node from the **Location** option, campus average is displayed for the following charts: **Workday Duration**, **Employee Frequency**, **Density Index**, **Entry Time** and **Exit Time** charts.
- New floor and zone level charts are added. Select a network location to see the following charts:
  - **Presence by Floor/Zone**

- **% Share by Floor/Zone**
- **Density by Floor/Zone**
- **Visit Duration by Floor/Zone**

Note By default, the campus and group location data are displayed at the root-level view. Network location data is displayed when no campus location is defined in the location hierarchy.

Education Vertical: Support for a new vertical called **Education** is added in the **Behavior Metrics** app. All the key charts reflect information based on student metrics. The **Education** vertical chart resembles all the metrics similar to the **Workspaces** vertical.

Cisco Spaces SDK

The Cisco Spaces **Software Development Kit** (SDK) leverages OpenRoaming technology to attach users, seamlessly and securely, to Wi-Fi networks, without the need for user interaction. The Cisco Spaces SDK allows an iOS or Android application developer to configure iOS and Android devices with an identity of choice that can be verified with the back-end system. The Cisco Spaces SDK also allows the developer to add more information about the users, and engage with them, directly on their device, through the iOS and Android notification framework.

The SDK configuration section is accessible through **Hamburger menu icon** > **Integrations** > **Cisco Spaces SDK**. This allows the customers to register their native app (iOS and/or Android) with Cisco Spaces.

For more information, see Cisco Spaces SDK Integration.

What's Changed in this Release

Dashboard

The following enhancements are made in the Cisco Spaces Dashboard:

- The **Connect via Meraki Login** widget is removed from the Cisco Spaces Dashboard.
- An existing user who is already connected using Cisco Meraki credentials will continue to be active and able to view the **Connect via Meraki Login** wireless network option in the Cisco Spaces Dashboard.
- The **Connect via API** key is the preferred way for customers to integrate Cisco Spaces with their Meraki account.

Behavior Metrics

The following charts and options are removed from the **Behavior Metrics** app for the **Workspaces** vertical:

- **Top & Bottom**, **Important** and **Pinned Locations** options
- **Occupancy Index** chart and all **Line** charts

Right Now

The **Right Now** app now supports wired devices. Use the **Include Wired Devices** option in the **Settings** menu to include wired devices as part of active visitors. By default, wired devices are excluded.

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*xxNNNN*, 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

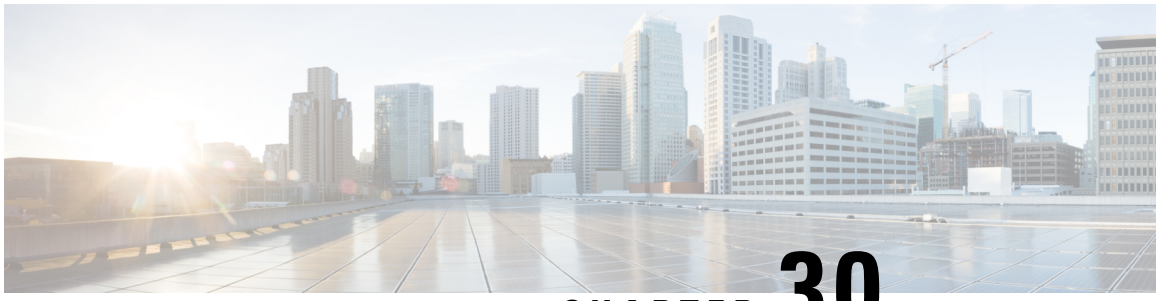
This section lists the open issues in this release of Cisco Spaces.

Table 30: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 30

August 2021

- What's New in this Release, on page 95
- What's Changed in this Release, on page 95
- Issues, on page 96

What's New in this Release

Partner Dashboard

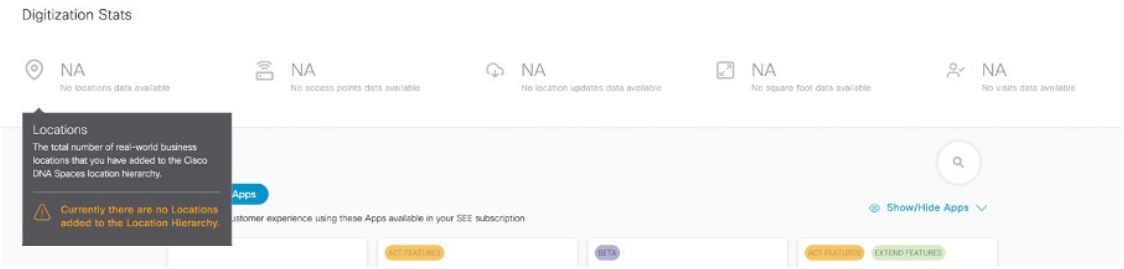
A new app type called **Single Tenant Cloud** is introduced in the Cisco Spaces - Partner Dashboard. We recommend the **Single Tenant Cloud** app when a partner wants to have one deployment per customer.

What's Changed in this Release

Dashboard

The following enhancements are made to the **Digitization Stats** section in the home page of the Cisco Spaces Dashboard:

- The **Visitors** counter is removed from the **Digitization Stats** section.
- You can now view the **Digitization Stats** section as a single row.
- You can now click or hover your cursor on any counter to view the tooltip with the corresponding information, as shown in the following image:



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.
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Open Issues

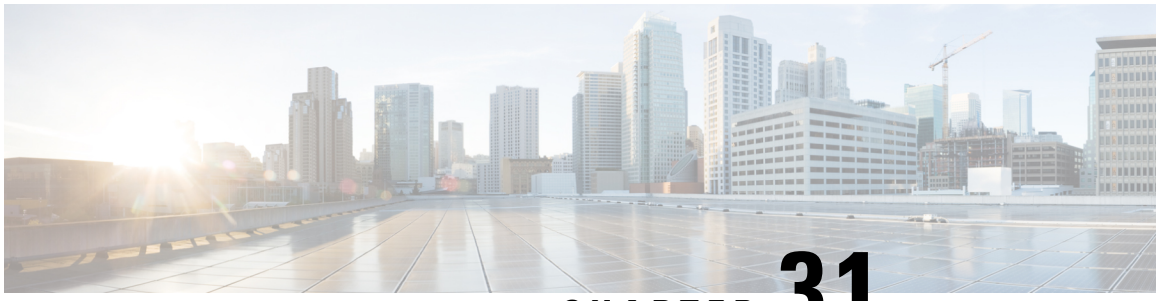
This section lists the open issues in this release of Cisco Spaces.

Table 31: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 31

July 2021

- What's New in this Release, on page 97
- What's Changed in this Release, on page 97
- Issues, on page 97

What's New in this Release

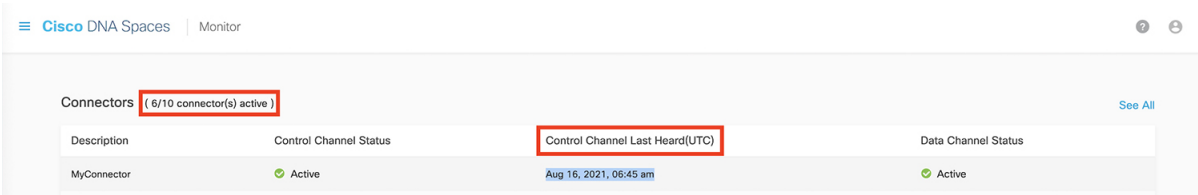
There are no new features in this release.

What's Changed in this Release

Dashboard

The following enhancements are made to the **Monitor** section of the Cisco Spaces Dashboard:

- At the top of the **Connectors** and **Controllers** tables, the count of active connectors and controllers for tenants is displayed instead of the count of inactive devices.
- UTC is now added to all time-related labels such as **Last Modified**, **Last Heard**, and so on to indicate the UTC timezone.



- The duration for which the NMSP message rates graph is computed is now increased from 24 hours to 30 days.

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.
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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

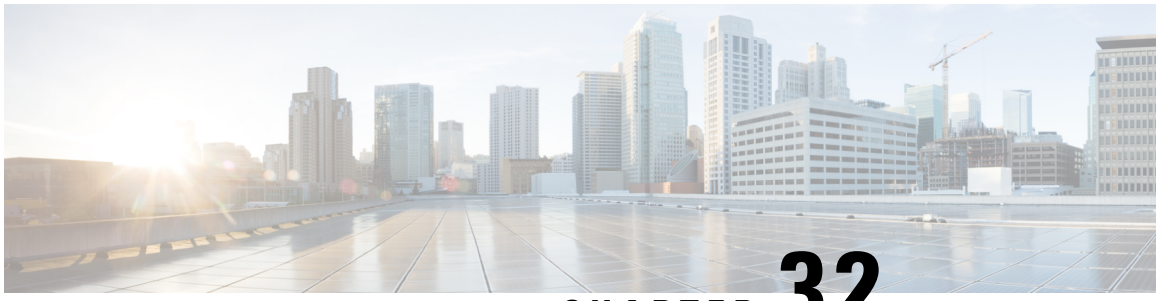
This section lists the open issues in this release of Cisco Spaces.

Table 32: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 32

June 2021

- What's New in this Release, on page 99
- What's Changed in this Release, on page 100
- Issues, on page 100

What's New in this Release

Partner Dashboard

Role-based access control is introduced for Cisco Spaces - Partner Dashboard users. As a partner, you can now assign one of the following roles to your users through the Cisco Spaces - Partner Dashboard:

- **PartnerDashboardReadWrite**: A Cisco Spaces - Partner Dashboard user with read and write permissions can perform the following actions in the Cisco Spaces - Partner Dashboard:
  - Create, edit, preview, and delete partner apps
  - View partner app configuration
  - Submit, activate, and update partner apps
  - Make a copy of partner apps
  - Modify the roles for all Cisco Spaces - Partner Dashboard users
- **PartnerDashboardReadOnly**: A Cisco Spaces - Partner Dashboard user with read-only permission is restricted to the following actions:
  - View partner app configuration
  - Preview and activate partner apps

Note Partners can invite new users to the Cisco Spaces - Partner Dashboard only from the Cisco Spaces Dashboard. This enables the new users to access both the Cisco Spaces Dashboard and the Cisco Spaces - Partner Dashboard.

What's Changed in this Release

Dashboard

Location-specific role-based access control is introduced for the following apps in the Cisco Spaces Dashboard:

- **Engagements**
- **Location Personas**
- **Captive Portal**

By default, Cisco Spaces Dashboard administrators have access to these apps and can assign read-write or read-only access to any of the above apps for specific locations. These permissions can be assigned for specific locations while inviting a user to use the selected app, or modified later through the specific app's **User Management** window.

Location Analytics

Under **Location Analytics**, the **Dwell Time Distribution** chart is shown instead of the **Dwell Time** and **Dwell Time Breakdown** charts on the home page and under the custom reports section.

The **Dwell Time Distribution** chart shows the total dwell time, total visits count, and the percentage of visits that are recorded for different categories of dwell ranges.

Issues

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

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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

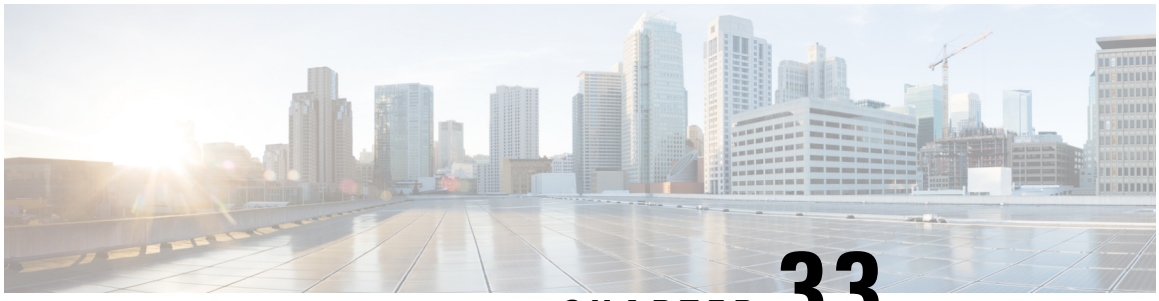
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Table 33: Cisco Spaces Open Issues

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CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.

Resolved Issues

There are no resolved issues in this release of Cisco Spaces.



CHAPTER 33

May 2021

- What's New in this Release, on page 103
- What's Changed in this Release, on page 103
- Issues, on page 104

What's New in this Release

Dashboard

- **Wired Network**: You can now configure switches for Cisco Spaces connectors from the Cisco Spaces Dashboard. Choose **Setup** > **Wired Network** > **Add Switches** to add a new wired switch and map it to an existing Cisco Spaces connector. For more information, see the Cisco Spaces Connector Configuration Guide.
- **Profile-based Open Roaming**: The Cisco Spaces Dashboard now allows you to configure profile-based OpenRoaming for Cisco AireOS series and Cisco Catalyst series controllers and Cisco Meraki networks.
- **Sensor**: You can now onboard sensors from the Cisco Spaces Dashboard and map these sensors to an OpenRoaming profile:
  - **Claim sensor**: Choose **Setup** > **Sensors** > **Claim Sensors**.
  - **Connect sensor to OpenRoaming SSID**: Choose **OpenRoaming** > **Sensors**.

What's Changed in this Release

Dashboard

- **Tile Redesign**: The Cisco Spaces Dashboard has been enhanced to display an additional tile for applications that project count details. Additionally, banners, providing details about license-based features, appear on each tile.
- **Captive Portals**: You can now configure custom labels for data capture form fields and authentication fields from the **Captive Portals** section of the Cisco Spaces Dashboard.

Captive Runtime

Captive Portal Runtime now supports custom labels in the GUI. You can configure these labels in the Cisco Spaces Dashboard and these custom labels appear in the runtime GUI.

Partner Dashboard

The following enhancements have been made to the Cisco Spaces Partner Dashboard:

- The **Push Channels** configuration is now masked while an app is created or being edited.
- During app creation, the Cisco OAuth URL fields are prepopulated. Partners can can either choose to use these default Cisco OAuth URLs or edit them for app activation.

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:

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Open Issues

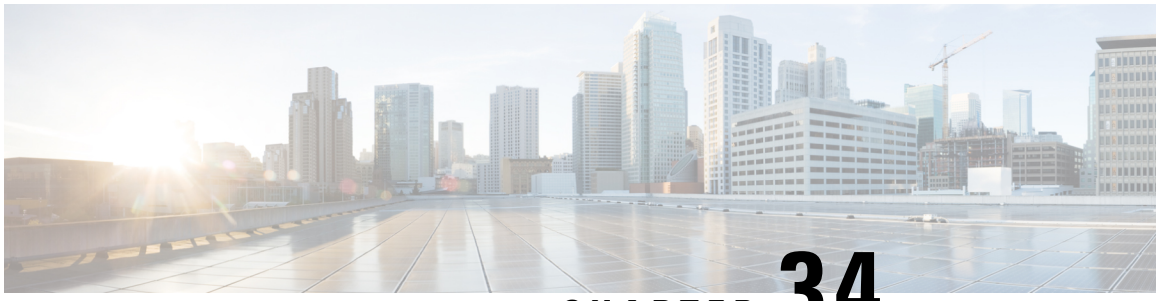
This section lists the open issues in this release of Cisco Spaces.

Table 34: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.

Resolved Issues

There are no fixed issues in this release of Cisco Spaces.



CHAPTER 34

April 2021

- What's New in this Release, on page 107
- What's Changed in this Release, on page 108
- Issues, on page 108

What's New in this Release

Captive Runtime

Social Authentication using Facebook: Cisco Spaces now supports the removal of publicly available user data such as the first name, last name, gender, and email ID that is stored in the Cisco Spaces backend during the authentication process.

To enable removal of publicly available user data from Cisco Spaces, configure the **Data Deletion Callback URL** for that app in your Facebook Developer account. The format for the **Data Deletion Callback URL** is **`https://<live_domain>/p/<customerName>/fb_revoke`**. For example, https://splash.dnaspaces.io/p/ciscotest/fb_revoke. For the detailed procedure, see the Working with the Captive Portal App chapter in the *Cisco Spaces Configuration Guide*.

To remove user data from Cisco Spaces, the app user must do the following on their Facebook profile settings page:

1. Remove the signed-in app by clicking **Settings & Privacy** > **Settings** > **Apps and Websites** > **Active**.
2. Send a data delete request by clicking **Settings & Privacy** > **Settings** > **Apps and Websites** > **Removed**.

Dashboard

Role-based access control is introduced for the following apps in the Cisco Spaces Dashboard:

- Engagements
- Location Personas
- OpenRoaming

By default, Cisco Spaces Dashboard administrators have access to these apps. Using the **User Management** option for each of these apps, the Dashboard administrators can manage user access to the individual apps.

What's Changed in this Release

Map service

The timezone of a location is now obtained from the corresponding latitude and longitude values present in the source map file. This timezone value is saved to the Cisco Spaces back-end during map import.

The timezone is shown on the **Location Info** page corresponding to that location, under **Location Hierarchy**. The location's address, based on the information present in the imported source map file, is also displayed on the **Location Info** page.

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:

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Open Issues

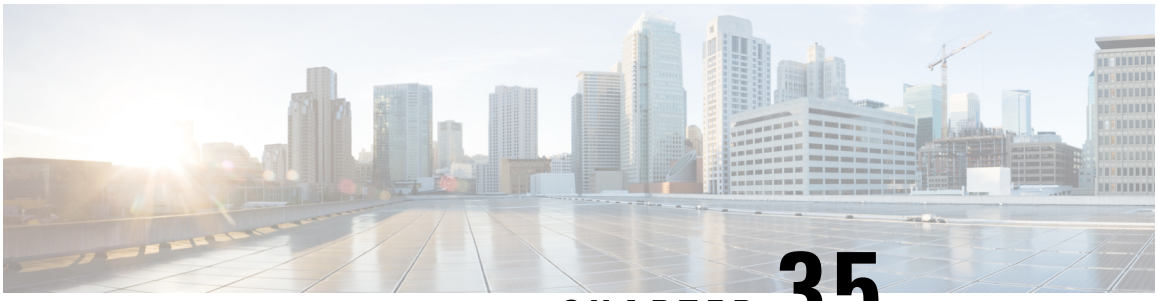
This section lists the open issues in this release of Cisco Spaces.

Table 35: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.

Resolved Issues

There are no fixed issues in this release of Cisco Spaces.



CHAPTER 35

March 2021

- What's New in this Release, on page 111
- What's Changed in this Release, on page 112
- Issues, on page 112

What's New in this Release

Partner Dashboard

The following features are introduced in the Cisco Spaces - Partner Dashboard:

- **Partner self-onboarding**: Even if your Cisco Spaces account has not been enabled with partner privileges, you can still log in to the Cisco Spaces - Partner Dashboard. With the introduction of self-onboarding, you can choose your account type from the following options in the **Spaces Partner Onboarding** dialog box, which appears when you first log in to the Cisco Spaces - Partner Dashboard:
  - **I want to create apps for my organization**: Choose this option and click **Continue** if you want to create apps that are internal to your organization only. This option does not allow you to publish your apps to the Cisco Spaces - Partner App Center.
  - **I'm a developer who provides solutions to** Cisco Spaces **customers**: Choose this option and click **Continue** if you want to create and publish apps to the Cisco Spaces - Partner App Center for global customers.
- **Retrieve forgotten password**: You can now retrieve or change your password from the Cisco Spaces - Partner Dashboard login window.
- **Partner Onboarding**: You can use the new **Partner Onboarding** tile in the Cisco Spaces - Partner Dashboard to view the **Partners Onboarding Helper** window.

  The **Partners Onboarding Helper** window contains videos and documents that explain how to use the Cisco Spaces - Partner Dashboard. This includes information about the **Onboarding Process**, the **IoT Service Marketplace**, and about configuring partner apps for the Cisco Spaces - Partner App Center.
- **Location Anchor Update**: A new event, LOCATION_ANCHOR_UPDATE, is added under the **Events** section, in the Cisco Spaces - Partner Dashboard.

Partner Firehose API

The following enhancement is made to the Cisco Spaces - Partner Firehose API:

- **Location Anchor Update**: A new event, LOCATION_ANCHOR_UPDATE, is added to support WayFinding use cases.

What's Changed in this Release

Dashboard

The following enhancements are made to the Cisco Spaces Dashboard:

- **SSID Configuration Enhancements**: The following updates are made to the SSIDs window (**Dashboard** > **Captive Portals** > **SSIDs**):
  - When you click **Import/Configure SSID** to create an SSID, the options in the **Wireless Network** drop-down list are changed as follows:
    - The option **Meraki** is changed to **Cisco Meraki**.
    - The option **CUWN** is changed to **Cisco AireOS/Cisco Catalyst 9800**.
  - The **Cisco Aironet SSIDs** section is renamed as **Cisco AireOS/Cisco Catalyst 9800 SSIDs**. You can also view the SSID and RADIUS server configuration steps for the Cisco Catalyst 9800 Series Wireless Controller. Click the **Configure Manually** link to view these steps.
- **Density Rule**: Under the **Actions** section, you can now select new options for the notification frequency for density rules. The newly added options are **Once in** every **15 Minutes**, **30 Minutes**, and **45 Minutes**.

Map Service

The following enhancement is made to **Map Service** in Cisco Spaces:

- In **Map Service**, you can now import **Planning Mode** APs along with regular APs using the map file from Cisco Prime Infrastructure. These imported APs are displayed under both **Location Hierarchy** and **Map Service**.

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:

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This section contains the following topics:

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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

This section lists the open issues in this release of Cisco Spaces.

Table 36: Cisco Spaces Open Issues

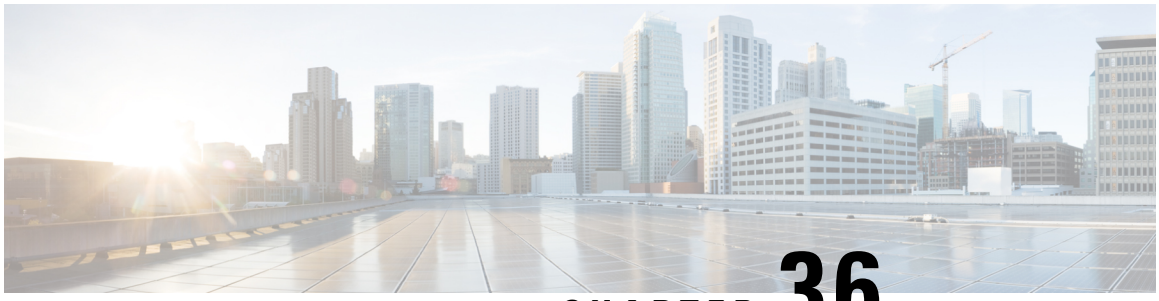
Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 37: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCvv91424	Density rule report do not appear when the specific rule's match or skip count crosses a threshold
CSCvx97571	Location mismatch between Map Service and Location Hierarchy



CHAPTER 36

February 2021

- What's New in this Release, on page 115
- What's Changed in this Release, on page 116
- Issues, on page 116

What's New in this Release

Dashboard

The following feature is introduced in the Cisco Spaces Dashboard:

- Role-based access control is introduced for the following apps:
  - **Business Insights**
  - **Impact Analysis**
  - **Camera Metrics**

  By default, Cisco Spaces Dashboard administrators have access to these apps. Using the **Admin Management** option, these administrators can manage user access to these apps.

Note In the Cisco Spaces Dashboard, the **Business Insights**, **Impact Analysis**, and **Camera Metrics** app tiles appear disabled for users who do not have access to the apps.

Note Static device filtering is now disabled in the **Right Now** app in the Cisco Spaces Dashboard.

Partner Dashboard

The following feature is introduced in the Cisco Spaces Partner Dashboard:

- During app activation, you can now see the groups defined under IoT services. However, these groups are displayed only if you have selected one of the following events:
  - **IOT_TELEMETRY**
  - **IOT_USER_ACTION**
  - **BLE_RSSI_UPDATE**

  To manage the groups selected during app activation, in the **Activation** window, click the **Groups** tab. Here, you can add or edit the groups.

Note

- For this feature to work, you must enable IoT services for the specified Cisco Spaces account. You must enable IoT services through both the Cisco Spaces Dashboard and the Cisco Spaces - Partner Dashboard for EXTEND accounts in order to use this feature.
- You can see the groups mentioned above during app activations for activations done through both the Cisco Spaces Dashboard and the Cisco Spaces - Partner Dashboard.

What's Changed in this Release

Partner Firehose API

The following enhancement is made to the Cisco Spaces Partner Firehose API:

- IoT telemetry event with PIR trigger information: When the PIR sensor is triggered, information related to the PIR trigger and the PIR timestamp is updated under the **IoT Telemetry** event.

Issues

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

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Open Issues

This section lists the open issues in this release of Cisco Spaces.

Table 38: Cisco Spaces Open Issues

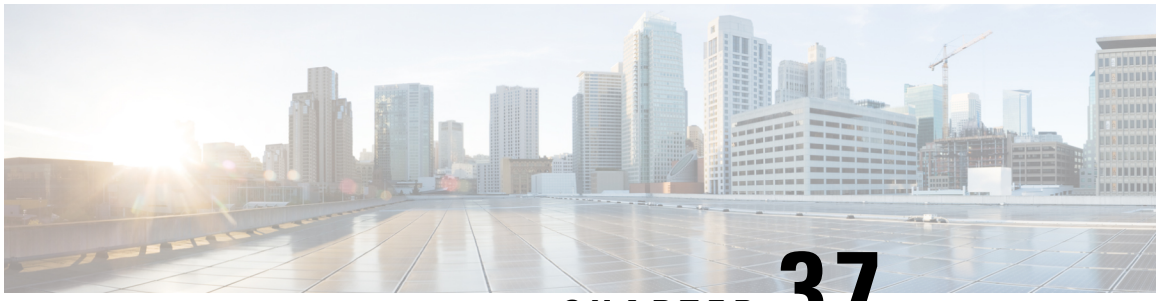
Issue Identifier	Issue Description
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CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.
CSCvv28936	Under **Detect & Locate**, provide an option to filter Kontakt BLE devices.
CSCvv34216	Connector restarts in HA pair causing ControllerChannel and APChannel to split between connectors
CSCvv64362	Provide an option to auto-enable GRPC and app host for custom AP groups
CSCvv91424	Density rule reports does not show up when the specific rule's match/skip count crosses a threshold

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

Table 39: Cisco Spaces Resolved Issues

Issue Identifier	Issue Description
CSCvw96992	CP Runtime—The CPF field validates only the format, but not the verification digit.



CHAPTER 37

January 2021

- What's New in this Release, on page 119
- What's Changed in this Release, on page 120
- Issues, on page 120

What's New in this Release

Right Now

The following features have been introduced in the **Right Now** app:

- Role-based access control: For the **Right Now** app, role-based access is implemented now to restrict its access to the Cisco Spaces Dashboard users. For the Cisco Spaces Dashboard administrator role, access to **Right Now** app is provided by default. For other roles, you must assign access separately using the **Admin Management** option. The **Right Now** tile is disabled for Cisco Spaces user accounts that do not have access to the **Right Now** app.
- RFID or BLE tag: RFID and BLE tags are now displayed as part of the active visitors. Use the **Include BLE Tags** and **Include RFID Tags** options in the **Settings** menu to enable RFID or BLE tags to be included as active visitors. By default, BLE or RFID tags are excluded.

Partner Dashboard

The following features have been introduced in the Cisco Spaces Partner Dashboard:

- IoT event permissions: During the app activation, if you select either the **iot_telemetry** or the **iot_user_action** event, a new clause called the **IOT Device Data** is added under the **Permissions** window.
- To consume these events using firehose APIs, IOT services must be enabled for that Cisco Spaces account. If IoT service is not enabled, then under **IOT Devices Data**, you are prompted with a note: `You are not using this feature, to enable reach out to Spaces support team`.
- The above mentioned changes are applicable for activation done through both Cisco Spaces Partner Dashboard and Cisco Spaces dashboard.

What's Changed in this Release

Right Now

The following enhancements are made in the **Right Now** app:

- Visitor composition chart: This chart is enhanced to display visitor count breakup, based on SSID.
- Categorize visitors: A new tab called **Categorize Visitors** is added in the **Right Now** > **Settings** menu. You can now categorize visitors based on types such as **Guest** or **Employee**, or a custom category based on SSID. These categorizations are displayed in the **Visitor Composition** chart. The default category is set to **Auto**. If you select this category, visitors are categorized based on the visitors' behavior at the location.
- Static device filtering: Devices that are continuously active get identified as static devices and are not included in the active visitors count.
- Map view: Map view is enhanced to display floor maps along with visitor count. An estimated number of visitors present at the floor level is also plotted in the Map view. Zone plotting can be done in floor map view only if polygon zones are added in the floor map. If no zones are added, only the floor map is visible.

Note Visitors seen by all locations chart, key locations chart, and new vs repeat visitors chart are removed.

Cisco Spaces Dashboard

The following enhancement is made in the Access code Manager section:

- Customers onboarded through **Spaces Connector**, **WLC/Catalyst 9800 Direct** options will now be able to create/manage access codes using **Access code Manager**.

Issues

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

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Open Issues

This section lists the open issues in this release of Cisco Spaces. An issue that was open for a prior release and is still unresolved applies to all future releases until it is fixed.

Table 40: Cisco Spaces Open Issues

Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorized as `needs config mode` due to timing issues.
CSCvv28936	Under **Detect & Locate**, provide an option to filter Kontakt BLE devices.
CSCvv34216	Connector restarts in HA pair causing ControllerChannel and APChannel to split between connectors
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Resolved Issues

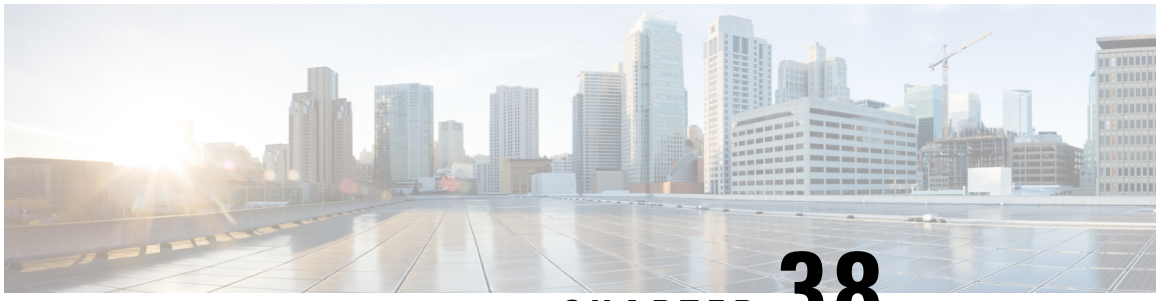
There are no fixed issues for this release.



PART IV

2020

- December 2020, on page 125
- November 2020, on page 129
- October 2020, on page 135
- September 2020, on page 141
- August 2020, on page 147
- July 2020, on page 155
- June 2020, on page 163
- May 2020, on page 171
- April 2020, on page 177
- March 2020, on page 183
- February 2020, on page 189
- January 2020, on page 193



CHAPTER 38

December 2020

- Overview of Cisco Spaces, on page 125
- What's New in this Release, on page 126
- What's Changed in this Release, on page 127
- Issues, on page 127

Overview of Cisco Spaces

Cisco Spaces is a powerful location services platform that leverages the existing wireless as well as Internet of Things (IoT) and Bluetooth Low Energy infrastructure to provide actionable insights and drive business outcomes through built-in applications in Cisco Spaces.

These insights include:

- **Location Analytics**: Provides the capability to slice and dice location data by time or location and get a deeper visibility into the behavior of users who are connected to your network.
- **Right Now**: Reports that provide a real-time count of the number of visitors (identified by the devices connected to Wi-Fi) within your physical space, and how it compares to the historical average. Based on the authentication method in use, **Right Now** reports can detect multiple devices belonging to a single user and count them as belonging to one visitor. The **Right Now** app also provides reports based on cameras deployed in customer locations, and whether these cameras are connected to the Cisco Spaces cloud.
- **Business Insights**: Provides the capability to measure how frequently people visit your physical location, and how much time they spend at these locations. This data is benchmarked monthly across all the locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group, or by industry.
- **Impact Analysis**: Provides the capability to measure the impact of at-location events, campaigns, and layout changes on the behavior of users who are connected to your network. It is easy to create an **Event** using the Cisco Spaces application and measure its impact based on the following:
  - The time spent
  - The frequency during specific timelines, such as, **Before**, **After**, and **During** a given timeline

Cisco Spaces include customer experience management apps, such as, **Captive Portals**, **Location Personas**, and **Engagements** that allow you to connect with your customers in real time when they are at your physical

location. Additional applications also include an **Asset Tracking** app, a service manager to manage and configure Internet of Everything (IoT) services (Bluetooth Low Energy), if any, as well as an open API framework for extracting this data and correlating or integrating it into other enterprise systems.

Cisco Spaces provides a single dashboard interface to avail these multiple services through various location-based technologies and intelligence. Cisco Spaces also enables you to connect and engage with visitors at your physical business locations. It finds applications in various industries, such as, workspaces, retail, manufacturing, hospitality, healthcare, education, financial services, and so on. The asset-tracking application in Cisco Spaces provides solutions for monitoring and managing the assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into actions.

Through its partner program, Cisco Spaces offers businesses access to various partner applications across verticals.

Cisco Spaces is compatible across Cisco Catalyst, Cisco AireOS, and Cisco Meraki infrastructure.

In addition to the services specified, the scope of Cisco Spaces apps have been extended to meet the business requirements that arise due to the global pandemic, COVID-19. Extensions have been built into existing applications, and newer applications have been added to meet specific requirements relating to COVID 19. Extensions to apps, such as, **Impact Analytics**, **Location Analytics**, **Behavior Metrics**, and **Right Now**, allow you to analyse the impact of COVID-19 at your business locations, as well as take appropriate actions. For example, you can now create a rule based on the device density at your location, and be automatically notified if the number of people at your location exceed a specific count or density (people per area). The **Location Analytics** app also has the capability to share executive summary reports with your colleagues in the organization. Additionally, COVID-19-based trend analysis for individuals or group locations can now be done using the **Behavior Metrics** app. This enables the comparison of specific business locations with that of the overall organization as well as with your specific industry.

The **Proximity Reporting** app in Cisco Spaces provides a quick way to review the location history as well as device proximity history of an impacted device. Based on the user ID or MAC address, a report for the device location in a building over the last 14 days is generated along with the proximity of other devices. This report can also be exported or shared using the share functionality. Similarly, the **Detect and Locate** app now has the capability to cluster devices into specific counts to check and report on areas that may be violating social distancing guidelines.

For additional information about Cisco Spaces, including setup and configuration, see the Cisco Spaces Configuration Guide.

What's New in this Release

Partner Dashboard

The following features have been introduced in the Cisco Spaces Partner Dashboard.

Partners can do the following tasks in the Cisco Spaces Partner Dashboard:

- Copy, view, or delete an app
- Copy apps within and between the U.S. and EU regions
- Delete apps that are in **New**, **Testing**, and **Submitted** status
- Use the **View** option to view all the configurations of an app

What's Changed in this Release

Partner Dashboard

The following enhancements are made to the Cisco Spaces Partner Dashboard:

- API keys: For cloud apps, the API keys will be the same for both **Live** and **Draft** apps. The *_draft* suffix in the API keys for draft apps (cloud) is removed.
- Draft App: Draft configurations are applied if the app is created and activated using the same Cisco Spaces account.
- Live App: Live configurations are applied if the app is created and activated using different Cisco Spaces accounts.

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

This section lists the open issues in this release of Cisco Spaces. An issue that was open for a prior release and is still unresolved applies to all future releases until it is fixed.

Table 41: Cisco Spaces Open Issues

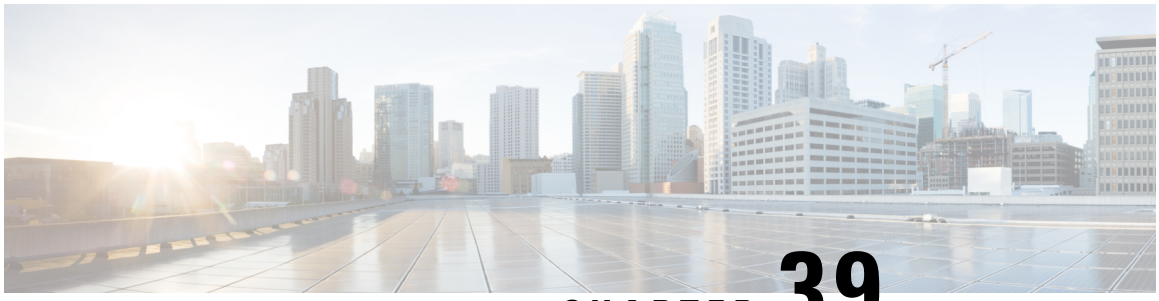
Issue Identifier	Issue Description
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration

Issue Identifier	Issue Description
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorised as `needs config mode` due to timing issues.
CSCvv28936	Under **Detect & Locate**, provide an option to filter Kontakt BLE devices.
CSCvv34216	Connector restarts in HA pair causing ControllerChannel and APChannel to split between connectors
CSCvv64362	Provide an option to auto-enable GRPC and app host for custom AP groups
CSCvv91424	Density rule reports doesn't show up when the specific rule's match/skip count crosses a threshold

Resolved Issues

This section lists the issues that have been resolved in this release of Cisco Spaces.

There are no resolved issues for this release.



CHAPTER 39

November 2020

- Overview of Cisco Spaces, on page 129
- What's New in this Release, on page 130
- What's Changed in This Release, on page 131
- Issues, on page 132

Overview of Cisco Spaces

Cisco Spaces is a powerful location services platform that leverages the existing wireless as well as Internet of Things (IoT) and Bluetooth Low Energy (BLE) infrastructure to provide actionable insights and drive business outcomes through built-in applications in Cisco Spaces.

These insights include:

- **Location Analytics**: Provides the capability to slice and dice location data by time or location and get a deeper visibility into the behavior of users who are connected to your network.
- **Right Now**: Reports that provide a real-time count of the number of visitors (identified by devices connected to Wi-Fi) within your physical space, and how it compares to the historical average. Based on the authentication method in use, **Right Now** reports can detect multiple devices belonging to a single user and count them as belonging to one visitor.
- **Business Insights**: Provides the capability to measure how frequently people visit your physical location, and how much time they spend at these locations. This data is benchmarked monthly across all the locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group, or by industry.
- **Impact Analysis**: Provides the capability to measure the impact of at-location events, campaigns, and layout changes on the behavior of users who are connected to your network. It is easy to create an **Event** using the Cisco Spaces application and measure its impact based on the following:
  - The time spent
  - The frequency during specific timelines such as **Before**, **After**, and **During** its occurence

Cisco Spaces applications include customer experience management apps such as **Captive Portals**, **Location Personas**, and **Engagements** that allow you to connect with your customers in real time when they are at your physical location. Additional applications also include an **Asset Tracking** app, a service manager to

manage and configure IoT services (BLE), if any, as well as an open API framework for extracting this data and correlating or integrating it into other enterprise systems.

Cisco Spaces provides a single dashboard interface to avail these multiple services through various location-based technologies and intelligence. Cisco Spaces also enables you to connect and engage with visitors at your physical business locations. It finds applications in various industries such as work spaces, retail, manufacturing, hospitality, healthcare, education, financial services, and so on. The asset-tracking application in Cisco Spaces provides solutions for monitoring and managing the assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into actions.

Through its partner program, Cisco Spaces offers businesses access to various partner applications across verticals.

Cisco Spaces is compatible across Cisco Catalyst, Cisco AireOS, and Cisco Meraki infrastructure.

In addition to the services specified, the scope of Cisco Spaces apps have been extended to meet the business requirements that arise due to the global pandemic, COVID-19. Extensions have been built on existing applications and newer applications have been added to meet specific requirements for COVID 19. Extensions to apps, such as **Impact Analytics**, **Location Analytics**, **Behavior Metrics**, and **Right Now**, allow you to analyse the impact of COVID-19 at your business locations, as well as take appropriate actions. For example, you can now create a rule based on the device density at your location and be automatically notified if the number of people at your location exceed a specific count or density (people per area). The **Location Analytics** app also has the capability to share executive summary reports with your colleagues in the organization. Additionally, COVID-19-based trend analysis for individual or group locations can now be done using the **Behavior Metrics** app. This enables the comparison of specific business locations with that of the overall organization as well as with your specific industry.

The **Proximity Reporting** app in Cisco Spaces provides a quick way to review the location history as well as device proximity history of an impacted device. Based on the user ID or MAC address, a report for the device location in the building for the last 14 days is generated along with the proximity of other devices. This report can also be exported or shared using the share feature. Similarly, the **Detect and Locate** app now has the capability to cluster devices into specific counts to check and report on areas that may be violating social distancing guidelines.

For additional information about Cisco Spaces, including setup and configuration, see the Cisco Spaces Configuration Guide.

What's New in this Release

Location Analytics

The following features have been introduced in the **Location Analytics** app:

- **Share report**: An option to share **Custom Report** is introduced in the **Location Analytics** app. You can share reports with both Cisco Spaces users and non-Cisco Spaces users. Non-Cisco Spaces users must perform a one-time registration to access the reports. If you do not have the necessary permissions to access the report, request access from the administrator or the user who initiated the report. You cannot access a report if it is deleted or revoked. Only an administrator or a sender can revoke a report.
- **Path widget**: A new widget called **Path** is added in **Custom Report**. The Path widget shows the visitor traverse pattern between locations and displays the percentage of visits at various floors or zones within the same **Network**. In your custom report, hover the cursor over any floor or zone in the Path widget to

view the exact visit count. You can filter using only the locations available below the **Network** to view the path analytics. The **Path** widget is only available for the Cisco Spaces ACT license accounts.

Right Now - Density Rules

The following features have been introduced in the **Density Rules** feature:

- **Density Rules**: The **Density Rules** option allows you to create rules that trigger notifications to business users based on the number of people captured by the Meraki Camera located in the business location.
- **Test Rule**: The **Test Rule** option enables you to test the configured notification channel. The message configured on the rule is delivered through the configured notification channel.

Cisco Spaces Dashboard

The following feature is introduced in the **Cisco Spaces Dashboard**:

- **Idle Timeout**: A user who is logged in to the Cisco Spaces dashboard can remain idle only for a specific time period. If inactive for 20 minutes, the user is automatically logged out of the dashboard. A notification is displayed 5 minutes before the idle timeout and the title of the browser window where the Cisco Spaces application is open changes to `INACTIVE: You will be logged out in 5 mins.` Any action performed on the corresponding window extends the user's session.

What's Changed in This Release

IoT Device Marketplace

When you click the **IoT Device Marketplace** tile on the Cisco Spaces dashboard, it automatically redirects you to the **IoT Device Marketplace** application. Before this enhancement, you had to provide the login credentials again to log in to the IoT Device Marketplace application.

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

- Meraki Service Account Workflow: When you connect Meraki using **Connect via Meraki Login** or **Connect via Meraki API key** widgets, the **Enable Service Account** window is displayed with the **Continue with Service Account** and **Continue without Service Account** options. If you select **Continue with Service Account**, the service account instructions are included as part of Meraki configuration steps.
- Meraki Sync: The user count that is currently getting synchronized with Meraki is displayed under the **Connect your Meraki** options (**Connect via Meraki Login** and **Connect via Meraki API Key**).
- **Setup** window enhancement: You can now manage maps from the **Setup** window under **Connect WLC/Catalyst 9800 Directly** and **Connect Via Spaces Connector**. The following new links are introduced:
  - **Import/Sync Maps**: Upload a **Cisco Prime Infrastructure** or the **Cisco Catalyst Center** map in order to work with **Detect & Locate**, **Asset Tracker**, and **IoT Services** seamlessly.

- **Map Upload History**: View the list of uploaded maps. You can view the filename, source type, status and other related information.
- **Manage Maps**: Navigate to the **Map Service** application to manage maps.

- **Captive Portals** Asset Upload restriction: When you upload a new asset in the **Stylesheet editor** > **Asset Library** of **Captive Portals**, the maximum file size supported per attachment is 15 MB. Before this enhancement, the maximum file size supported per attachment was 50 MB.
- **Location Hierarchy**: In the **More Actions** menu, the **Add Wireless Networks** option is removed. The **Connect Wireless Networks** option is added with the **Go to Setup** option. Click **Go to Setup** to navigate to the **Setup** > **Wireless Networks** window, to configure the wireless networks.

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.
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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 Caveats

This section lists the open caveats in this release of Cisco Spaces. A caveat that was open for a prior release and is still unresolved applies to all future releases until it is fixed.

Table 42: Cisco Spaces Open Caveats

Caveat Identifier	Caveat Description
CSCvt93539	In the **Right Now** > **Visits by floor** section, floor names are not displayed on the X-axis in the charts.
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration

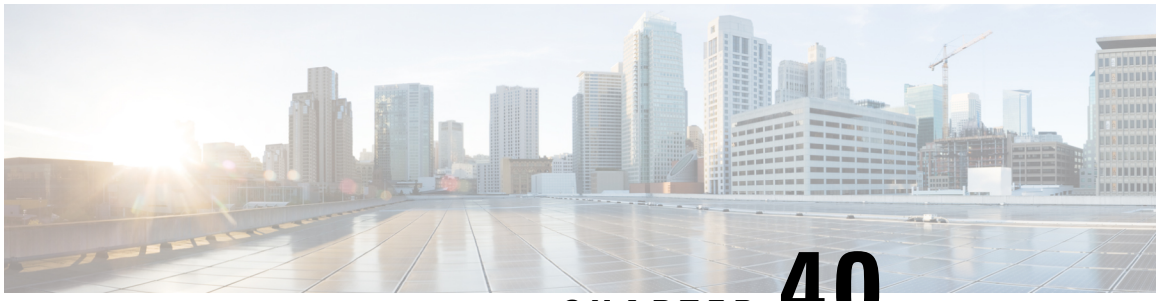
Caveat Identifier	Caveat Description
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorised as `needs config mode` due to timing issues.
CSCvv28936	Under **Detect & Locate**, provide an option to filter Kontakt BLE devices.
CSCvv34216	Connector restarts in HA pair causing ControllerChannel and APChannel to split between connectors
CSCvv64362	Provide an option to auto-enable GRPC and app host for custom AP groups
CSCvv91424	Recent activity for density rule report shows no data when the number of density triggers are large

Resolved Caveats

This section lists the bugs that have been resolved in this release of Cisco Spaces.

Table 43: Cisco Spaces Resolved Caveats

Caveat Identifier	Caveat Description
CSCvv74810	The **Integrations** hamburger link is not shown when a read-only Cisco Spaces user logs in to the **Dashboard**.
CSCvw18656	**Map Service** - Upload does not fail when a user uploads multiple map files
CSCvu78949	Unable to import locations in location hierarchy if there is an extra space in the location name
CSCvv60285	The active APs link on the **Home** page disappears while refreshing the page in the browser
CSCvs79627	Meraki camera - Users are able to import non-camera devices as well
CSCvu46143	Display appropriate error message when a user is trying to use the a previously accepted invitation
CSCvv74806	The **IOT Device Marketplace** app icon displays as a broken image in the **Switch Apps** menu.



CHAPTER 40

October 2020

- Overview of Cisco Spaces, on page 135
- What's New in this Release, on page 136
- What's Changed in this Release, on page 137
- Issues, on page 138

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manage and configure IoT services (BLE), if any, as well as an open API framework for extracting this data and correlating or integrating it into other enterprise systems.

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For additional information about Cisco Spaces, including setup and configuration, see the Cisco Spaces Configuration Guide.

What's New in this Release

Right Now

The following features have been introduced in the **Right Now** app:

- Presence chart: The **Presence Trend** chart replaces the **Cumulative Visitors** chart. The **Presence Trend** chart is plotted every ten minutes and depicts the location capacity, which is based on a location's occupancy limit. The location's occupancy limit is configured from **Location Hierarchy**.
- Exclude SSID: From the **Settings** menu, you can now exclude specific SSIDs from the visitor count processing.

What's Changed in this Release

Map Service

The following enhancements have been made to **Map Service** to keep **Location Hierarchy** in sync with the imported map data:

- Maps exported from Cisco Prime Infrastructure or Cisco Catalyst Center and imported into Cisco Spaces using **Map Service** now appears automatically under **Location Hierarchy**.
- If you delete a location from **Location Hierarchy**, it will also be removed from **Map Service**.
- AP import restrictions have been implemented based on the AP license limits for the Cisco Spaces account.



Note If your locations have maps, create a map-based location hierarchy. However, if you have already created a location hierarchy through **WLC Direct** > **AP prefix**, **CMX On-Prem Auto-Sync**, or **CMX Manual Upload** and have imported the maps containing the overlapping APs, then the APs will be moved to a map-based hierarchy.

If a location is deleted from **Map Service**, then only the corresponding access points are removed from **Location Hierarchy**.

Dashboard

The following changes have been made to the Cisco Spaces dashboard on the home page and under **Location Hierarchy**:

- The enhancements on the Cisco Spaces home page are listed below:
  - **Detect and Locate**: The tracked devices count is now displayed on the **Detect and Locate** app tile.
  - **Proximity Reporting**: The count of proximity reports created is now displayed on the **Proximity Reporting** app tile.
- **Location Hierarchy** now automatically reflects the hierarchical structure defined in maps imported from Cisco Prime Infrastructure or Cisco Catalyst Center. To support this enhancement, the following changes have been made:
  - The **Dashboard** now restricts the import of locations, under **Location Hierarchy** > **Add Wireless Networks**, using **CMX On-Prem** or **WLC Direct Connect** > **Import from Maps**.
  - The **Dashboard** now restricts the selective import of locations, like a campus, building, or floor, into the **Location Hierarchy** using the below methods:
    - **Add AP Zones**
    - **Add Building**
    - **Add Campus**
    - **Add CMX zones**

- **Add Floor**

Note If a location, like a campus, building, or floor, is deleted from **Location Hierarchy**, it can be added back to **Location Hierarchy** by uploading the previously uploaded map using **Map Service** > **Maps Upload**.

Location Analytics

Under **Location Analytics**, the **Without SSID** filter is removed from the report.

Behavior Metrics

The following charts have been added under **Behavior Metrics** for the workspaces vertical; these charts will be displayed in both group and location views:

- **Workday Duration Distribution**: This graph displays the time spent by an employee at the workplace, as a percentage of visits.
- **Employee Frequency Distribution**: This graph displays the number of visits by each employee to the workplace.

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.
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Open Caveats

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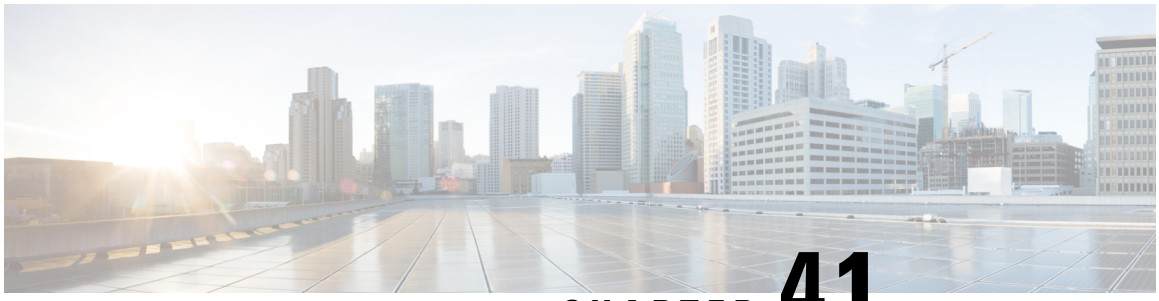
Caveat Identifier	Caveat Description
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CSCvt93539	In the **Right Now** > **Visits by floor** section, floor names are not displayed on the X-axis in the charts.
CSCvu78949	Unable to import locations in location hierarchy if there is an extra space in the location name
CSCvu98859	Telemetry such as **Button Click** and **Movement** data gets reset to 18+ hours when applying new configuration
CSCvv16880	During gateway deployment workflow, the AP is sometimes erroneously categorised as `needs config mode` due to timing issues.
CSCvv28936	Under **Detect & Locate**, provide an option to filter Kontakt BLE devices.
CSCvv34216	Connector restarts in HA pair causing ControllerChannel and APChannel to split between connectors
CSCvv60285	The active APs link on the **Home** page disappears while refreshing the page in the browser
CSCvv64362	Provide an option to auto-enable GRPC and app host for custom AP groups
CSCvv74806	The **IOT Device Marketplace** app icon displays as a broken image in the **Switch Apps** menu.
CSCvv74810	The **Integrations** hamburger link is not shown when a read-only Cisco Spaces user logs in to the **Dashboard**.
CSCvv91424	Recent activity for some **Density Rule Reports** shows no data available due to a 504 error
CSCvv91536	**Density Rule Reports** - Capacity is spelt wrongly as `capcity` in the **Recent Activity** section
CSCvw18656	**Map Service** - Upload does not fail when a user uploads multiple map files

Resolved Caveats

This section lists the bugs that have been resolved in this release of Cisco Spaces.

Table 45: Cisco Spaces Resolved Caveats

Caveat Identifier	Caveat Description
CSCvv56842	Add support for AP9117 BLE Antenna PID for map generation from Cisco Prime Infrastructure



CHAPTER 41

September 2020

- Introduction to Cisco Spaces, on page 141
- New Features - September 2020, on page 142
- Enhancements - September 2020, on page 143
- Cisco Spaces Runtime, on page 144
- Issues, on page 144

Introduction to Cisco Spaces

Cisco Spaces is a powerful location services platform that leverages existing wireless and/or IoT (BLE) infrastructure to provide actionable insights and drive business outcomes through spaces built-in applications.

Insights from Cisco Spaces include:

- Location Analytics provides the capability to slice and dice location data by time or location and get a deeper visibility into behavior of people that are connected to your network.
- Right Now Reports provide real-time count of the number of visitors (identified by devices connected to WiFi) within your physical space and how it compares to the historical average. Based on the authentication method in use, Right Now reports can detect multiple devices belonging to a person and count them as one visitor.
- Business Insights gives the capability to measure how frequently people visit your physical location and how much time do they spend at your business locations. This data is benchmarked monthly across all locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group or by industry.
- Impact Analysis provides the capability to measure the impact of at-location events, campaigns and layout changes on behaviour. It is easy to create an Event using the tool and measure the impact of this event based on specific timeline such as Before, After and During the impact on time spent and frequency.

Cisco Spacesapplications include customer experience management apps such as Captive Portals, Location Personas, and Engagemens that allows you to connect with your customers in real time when they are at your physical location. Additional applications also include an Asset Tracking app, a service manager to manage and configure IoT Services (Bluetooth Low Energy (BLE)) as well as an open API framework in case you would like to extract this data and correlate it or integrate it into other enterprise systems.

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The Proximity Reporting App in Cisco Spaces provides a quick way to review the location history as well as device proximity history of any impacted device. One needs to just enter the user ID or MAC address, and a report for the device location in the building for the last 14 days along with the proximity of other devices is generated. This report can be exported or shared using the share feature. Similarly the Detect and Locate app now has the capability to cluster devices into specific counts to check and report on areas that may be violating social distancing guidelines.

The following are the major features of this release:

- New app **IOT Device Marketplace** to learn about devices tailored to your industry and use cases and order them.
- Enhanced the **Right Now** app to display **Density Rule** reports.
- Restricted the Partner app activation for accounts with the SEE license.
- Role-based access for the **Location Analytics** app.
- Provision to show sample report for Camera Metrics.

New Features - September 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

IOT Device Marketplace

A new app **IOT Device Marketplace** is now available in the Cisco Spaces dashboard. This app will be available only for the **ACT** license users. For the SEE and EXTEND accounts, the **IOT Device Marketplace** tile will be shown in the disabled mode.

The **IOT Device Marketplace** app enables you to learn about devices tailored to your industry and use cases and order them.

When you click the **IOT Device Marketplace** tile on the home page, you will be redirected to the **IOT Device Marketplace(IDM)** website from where you can order the devices.

The **IOT Device Marketplace (IDM)** website login page enables you to login using Cisco Spaces account or Linked In account. If you are logging in using the **Sign In with Cisco Spaces** option, you have to provide your login credentials and customer name once again for now. You can proceed further to select your industry and the usecase, and can view the IoT devices available for the selected use case. You can then view the device details and can request a quote. Once the quote request is submitted, it will be redirected to the respective vendor along with your contact details. The remaining purchase procedures will be directly between you and the vendor where there will be no involvement of Cisco Spaces.

Density Rule Report

Cisco Spaces now enables you to view the Density Rule report for each Density Rule. In the **Right Now** app, when you click a Density Rule name in the **Density Rule** window, the report for that rule is displayed.

The **Density Rule** report will have the following details:

- **Rule Summary**: Displays the total number of times the notification is triggered for the particular rule along with the top three locations with highest number of notifications.
- **Recent Activity**: Lists all the activities occurred for the particular rule with details such as location, time, count of people, and result. The recent activities will be listed at the top.
- **Trigger History**: Shows the notification details for each day of particular month in a calendar. By default, it will show the month for which the notifications are triggered recently along with the cumulative notification count. Also, the notifications for various location types (Campus, Building, Floor, Zone) for each date are shown in the calendar. When you click on a date in the calendar, the notification details such as location, time, count of people and result is shown for that particular day.

Enhancements - September 2020

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Get Partner Apps

In **Get Partner Apps**, app activation is now restricted for SEE license accounts. However, these account users can view the apps in App Centre. When a SEE license account user clicks **Activate App** for an app, the error message “Your license does not have access to App Activation.” is displayed. Previously, app activation was enabled for all license types.

RBAC-Location Analytics

For the **Location Analytics** app, role-based access is implemented now so that you can restrict its access to your users. For the **Dashboard Admin** role, access to **Location Analytics** is provided by default. For other roles, you must assign the access separately using the **Admin Management** option. However, you can assign **Location Analytics** to a role only along with the **DNASpaces** service. For example, you can create a role

with read and write access to **Location Analytics** and Read Only access to **DNASpaces**. The **Location Analytics** tile will be disabled for Cisco Spaces user accounts that do not have access to **Location Analytics**.

Note The existing accounts with **Dashboard Admin**, **Dashboard Read**, and **Dashboard Read & Write** roles will continue to have access to **Location Analytics** as earlier.

To support this enhancement, a new option **LocationAnalytics** is now available under **APPS** in **Admin Management**> **Roles**> **Create New Role**.

Camera Metrics

For Camera Metrics, the following changes are made:

- For Cisco Spaces user accounts that have not yet configured Meraki Camera or have no data for Meraki Camera, a sample report will be shown.
- For Cisco Spaces user accounts that have not yet configured Meraki Camera, a notice "Looks like you haven't setup your Meraki Camera" is shown along with a **Setup Guide** link to navigate to the Meraki Camera configuration window.

Cisco Spaces Runtime

The following changes are made to the Cisco Spacess runtime:

Enhancements for Enterprise Captive Portal

Cisco Spaces now provides the following support for the Enterprise Captive Portals.

- Support to send notifications to an API endpoint using Trigger API.
- Support to tag the Captive Portal Users based on their actions.

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 Bugs

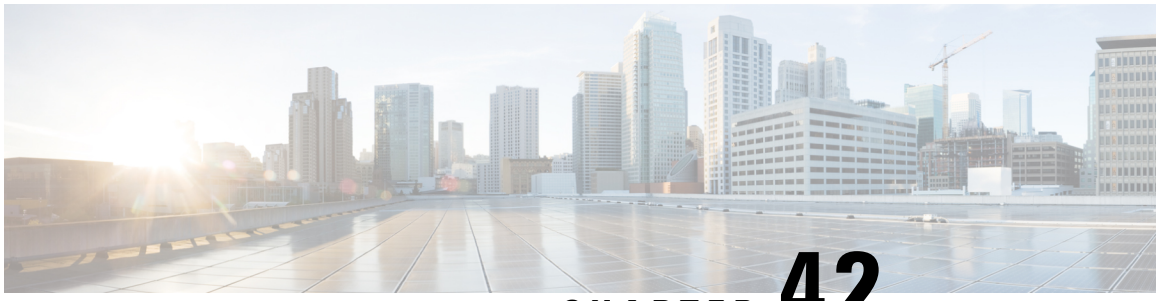
Table 46: Open Bugs

Caveat Identifier	Caveat Description
CSCvq83680	RBAC - Admin users who have access only to specific locations are not able to login to dashboard.
CSCvt29202	By default Visitor and Visits counts are displayed for newly created account in Digitization Stats.
CSCvs79627	Meraki camera - User is able to import non camera devices as well.
CSCvu46143	Proper error message should be displayed when trying to use the already accepted invitation.
CSCvt93539	In the Right Now -Visits by floor section, Floor names are not shown in tooltip text, when count of visits is low.
CSCvv22691	When activating deactivated users,'My Profile' information is not getting saved for the first time.

Fixed Bugs

Table 47: Fixed Bugs

Caveat Identifier	Caveat Description
There are no fixed bugs for this release.	



CHAPTER 42

August 2020

- Introduction to Cisco Spaces, on page 147
- New Features - August 2020, on page 149
- Enhancements - August 2020, on page 150
- Cisco Spaces Runtime, on page 151
- Issues, on page 152

Introduction to Cisco Spaces

Cisco Spaces is a powerful location services platform that leverages existing wireless and/or IoT (BLE) infrastructure to provide actionable insights and drive business outcomes through spaces built-in applications.

Insights from Cisco Spaces include:

- Location Analytics that provides the capability to slice and dice location data by time or location and get a deeper visibility into behaviour of people that are connected to your network.
- Right Now Reports provide real time count of the number of visitors (identified by devices connected to WiFi) within your physical space and how it compares to the historical average. Based on the authentication method in use, Right Now reports can detect multiple devices belonging to a person and count them as one visitor.
- Business Insights gives the capability to measure how frequently people visit your physical location and how much time do they spend at your business locations. This data is benchmarked monthly across all locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group or by industry.
- Impact Analysis provides the capability to measure the impact of at-location events, campaigns and layout changes on behaviour. It is easy to create an Event using the tool and measure the impact of this event based on specific timeline such as Before, After and During the impact on time spent and frequency.

Cisco Spaces applications include customer experience management apps such as Captive Portals, Location Personas, and Engagemens that allows you to connect with your customers in real time when they are at your physical location. Additional applications also include an Asset Tracking app, a service manager to manage and configure IoT Services (Bluetooth Low Energy (BLE)) as well as an open API framework in case you would like to extract this data and correlate it or integrate it into other enterprise systems.

Cisco Spaces provides a single dashboard interface to avail these multiple services through various location based technologies and intelligence. Cisco Spaces enables you to connect and engage with visitors at your

physical business locations. It covers various verticals of business such as work spaces, retail, manufacturing, hospitality, healthcare, education, financial services, and so on. The asset tracking application in Cisco Spaces provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps and APIs to turn these insights into actions.

Cisco Spaces through its partner program, offers businesses access to various different partner applications across verticals.

Cisco Spaces is compatible across Cisco Catalyst, Cisco AireOS and Cisco Meraki infrastructure.

In addition to the above services, the scope of Cisco Spaces apps have been extended to meet the business requirements that arise due to the global pandemic, COVID 19. Extensions have been built on existing applications and newer applications have been added to meet specific requirements for COVID 19. Extensions to apps such as Impact Analytics, Location analytics, Behaviour Metrics, and Right Now, allow you to analyse the impact of COVID 19 at your business locations as well as take appropriate actions. For example you can now create a rule based on device density at your location such that you will be automatically notified if the number of people at your location exceeds a specific count or density (people/area). The Location Analytics app now has the capability to share executive summary reports with your colleagues in the organization. Additionally, COVID-19 based trend analysis for individual/group locations can now be done using the Behaviour Metrics app, and you can compare specific business locations with that of the overall organisation as well as specific industry vertical.

Cisco Spaces has added a new Proximity Reporting App that provides a quick way to review the location history as well as device proximity history of any impacted device. One needs to just enter the user ID or MAC address, and a report for the device location in the building for the last 14 days along with the proximity of other devices is generated. This report can be exported or shared using the share feature. Similarly the Detect and Locate app now has the capability to cluster devices into specific counts to check and report on areas that may be violating social distancing guidelines.

The following are the major features of this release:

- Provision to add and view the profile details of the Cisco Spaces user.
- Added a new license type **Extend** in Cisco Spaces.
- New option, Cisco Spaces: IoT Services that enables you to claim, manage, and monitor IoT devices using Cisco's wireless infrastructure.
- Opt In support for the **SMS with Link Verification** authentication.
- Enhanced the location hierarchy to display the **More Actions** menu when hover over a location name.
- Provision to display controller IP address for access points.
- Restricted the Total Area value that can be defined for the locations to avoid impractical entries.
- Displays the **Detect and Locate** app under the **SEE** license.
- Support to provide independent access rights to Map Services and DNASpaces using Roles.
- Updated the Terms and Conditions for the Partner dashboard.

New Features - August 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Profile Information

Cisco Spaces now supports to add the profile information such as first name, last name, and mobile number of the Cisco Spaces dashboard user.

- A new tab, **My Profile**, is now available in the **Account Preferences** window to add the profile information. You can specify the first name, last name, and mobile number in this window, where mobile number and its verification are optional. When you specify the mobile number, a **Verify Mobile Number** link appears, which allows you to verify the mobile number using One Time Password. Once the mobile number is verified, the status **Verified** is shown. The **Verify Mobile Number** link will appear again when you change your mobile number.
- The Login workflow for Cisco Spaces is modified to display the **Update Profile Information** dialog box as part of the login process if the Profile Information is not available for the particular Cisco Spaces user. You can skip this step, and can proceed to log in. You can then add the profile details through the **Account Preferences** window any time later. However, the Profile Information dialog box is shown as part of the Login workflow till the time information is provided.



Note The SSO users will not be able to edit the profile information or verify the mobile number. Also, the **Update Profile Information** dialog box will not be shown to SSO users during login.

Extend License Type

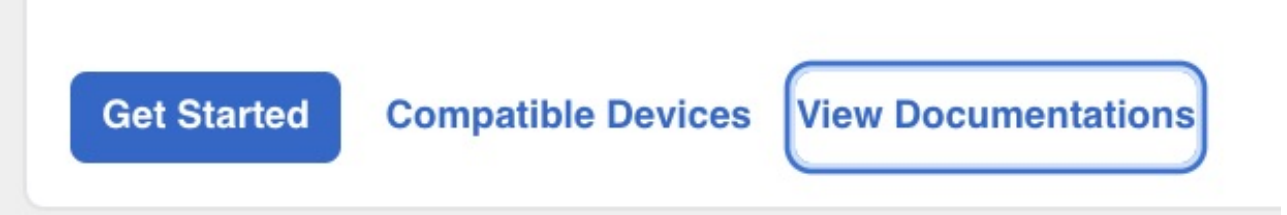
Cisco Spaces now provides a new license type **Extend**. The **Extend** license offers all the apps that are available for the **SEE** license along with access to activate the Partner apps in **Get Partner Apps** > **App Center**.

Overview of Cisco Spaces: IoT Service (Wireless)

Cisco Spaces: IoT Service (Wireless) is a platform service within Cisco Spaces that enables you to claim, manage, and monitor IoT devices using Cisco's wireless infrastructure. IoT Service is designed to enable management of IoT devices across vendors, form factors, and technology protocols. Bluetooth Low Energy (BLE) is the first technology available for management using IoT services.

IoT service (wireless) encompasses hardware, software, and partner components to enable the management of devices that support critical business outcomes. IoT service (wireless) uses Cisco Catalyst 9800 Series Wireless Controllers, Cisco Spaces: Connector, Cisco Wi-Fi6 access points, and Cisco Spaces. IoT service (wireless) adopts a next-generation approach to manage complexity in an enterprise environment.

Figure 3: Spaces IoT in a nutshell tab options



Click the **Get Started** button to learn more about getting started. This action redirects to the Cisco Spaces: IoT Service Configuration Guide (Wireless).

Click the **Compatible Devices** button to view the list of supported devices. This action redirects to the Cisco Spaces IoT Device Marketplace website.

Click the **View Documentation** button to see how to set up the product. This action redirects to the Cisco Spaces Setup Guide.

Using the IoT service (wireless), you can perform these IoT management activities:

- Deploy BLE gateways on supported APs in your network.
- Claim the BLE beacons that you acquired from Cisco Spaces: IoT Device Marketplace.
- Configure APs and manage floor beacons.
- Monitor device attributes such as location, telemetry, battery status, and movement status.

The section **Outcome Apps** describes these two sections:

1. **Smart Workspaces**: Smart Workspaces helps you prepare your workspace for hybrid work. Click on the **Know More** button to visit the Cisco Spaces: Smart Workspaces page.
2. **Detect and Locate**: Detect and Locate simplifies IoT with eBLE technology powered by Cisco Spaces. Click on the **Know More** button to visit the Cisco Spaces: Detect and Locate page.

Enhancements - August 2020

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

SMS with Link Verification Authentication-Opt In Support

The **Captive Portals** app now supports the **Opt In** option for the authentication type, **SMS with Link Verification**. In the **Portal** window, when you choose the **Authentication Type** as **SMS with Link Verification**, the **Allow users to Opt in to receive message** check box is displayed.

Location Hierarchy

To notify the actions that you can perform for each location in the location hierarchy, the **More Actions** menu is now displayed for a couple of seconds when you hover over the location name. You can then access the **More Actions** menu at any time by clicking the three dot (ellipsis) icon as earlier.

Controller IP Address

When Cisco Spaces is connected through **Cisco Spaces Connector** or **WLC Direct Connect**, in **Location Hierarchy**, the IP address of the controller is now displayed in the **Access Points** tab for a location. In the **Access Points** tab, a new column **Controller IP Address** is now available to display the controller IP address.

Location Information

In the **Location Data** window under the **Location Info** tab, the Total Area that can be specified for a location is restricted to avoid unrealistic values. A tooltip that states the area allowed in Square Feet is between 100 and 10,00,000 and in Square Meter is between 10 and 100,000 is displayed, when you are entering the **Total Area** value.

Detect and Locate

In the Cisco Spaces dashboard, the **Detect and Locate** app is now available for the **SEE** license. Previously, the **Detect and Locate** was available only for the **ACT** licenses. However, the app functionality remains the same.

RBAC Map Services

RBAC now provides access rights to Map Services separately so that you can restrict the users who can access the Maps. Access to Map Services are no more provided as part of the **DNASpaces** as earlier However, you can assign **MapServices** to a role only with **DNASpaces**. For example, you can create a role with read and write access to Map Services and Read Only access to DNASpaces.

To support this enhancement, a new option **MapServices** is now available under **APPS** in **Admin Management** > **Roles** > **Create New Role**. If **MapService** is not assigned when defining a role, the users with that role will not have the **MapService** option displayed under **Setup**.

Note This enhancement is applicable only for new users. All the existing users of Cisco Spaces will continue to have full permission to Map Services.

Cisco Spaces Partner Dashboard

The following enhancements are made to the Cisco Spaces Partner dashboard:

Terms and Conditions

The Terms aand Conditions for the Cisco Spaces Partner dashboard has changed. Now, the updated Terms and Conditions will be shown during your first login after this update. The access to the dashboard will be permitted only after accepting the Terms and Conditions.

Cisco Spaces Runtime

The following changes are made to the Cisco Spaces runtime:

Enhancements for Enterprise Captive Portal

Cisco Spaces now provides the following support for the Enterprise Captive Portals.

- Support to send notifications to an API endpoint using Trigger API.
- Support to tag the Captive Portal Users based on their actions.

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

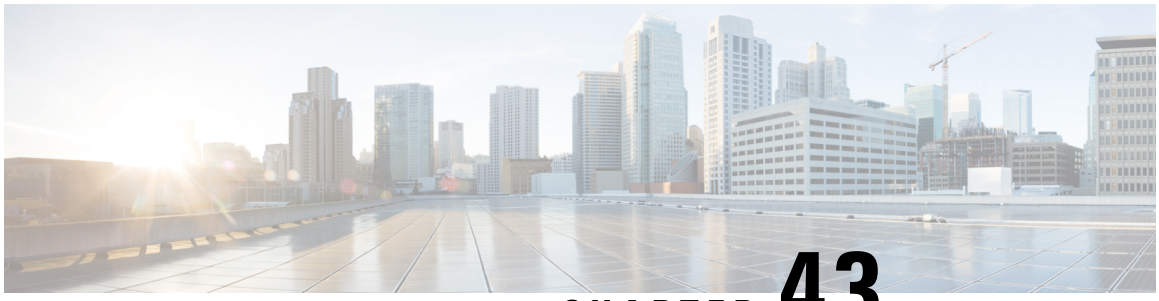
Table 48: Open Issues

Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who have access only to specific locations are not able to login to dashboard.
CSCvt29202	By default Visitor and Visits counts are displayed for newly created account in Digitization Stats.
CSCvs79627	Meraki camera - User is able to import non camera devices as well.
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CSCvt93539	In the Right Now -Visits by floor section, Floor names are not shown in tooltip text, when count of visits is low.
CSCvv22691	When activating deactivated users,'My Profile' information is not getting saved for the first time.

Resolved Issues

Table 49: Resolved Issues

Caveat Identifier	Caveat Description
CSCvs97445	Incorrect “Users Count” is displayed in location hierarchy.



CHAPTER 43

July 2020

- Introduction to Cisco Spaces, on page 155
- New Features - July 2020, on page 156
- Enhancements - July 2020, on page 159
- Cisco Spaces Runtime, on page 160
- Issues, on page 161

Introduction to Cisco Spaces

Cisco Spaces is a powerful location services platform that leverages existing wireless and/or IoT (BLE) infrastructure to provide actionable insights and drive business outcomes through spaces built-in applications.

Insights from Cisco Spaces include:

- Location Analytics that provides the capability to slice and dice location data by time or location and get a deeper visibility into behaviour of people that are connected to your network.
- Right Now Reports provide real time count of the number of visitors (identified by devices connected to WiFi) within your physical space and how it compares to the historical average. Based on the authentication method in use, Right Now reports can detect multiple devices belonging to a person and count them as one visitor.
- Business Insights gives the capability to measure how frequently people visit your physical location and how much time do they spend at your business locations. This data is benchmarked monthly across all locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group or by industry.
- Impact Analysis provides the capability to measure the impact of at-location events, campaigns and layout changes on behaviour. It is easy to create an Event using the tool and measure the impact of this event based on specific timeline such as Before, After and During the impact on time spent and frequency.

Cisco Spaces applications include customer experience management apps such as Captive Portals, Location Personas, and Engagemens that allows you to connect with your customers in real time when they are at your physical location. Additional applications also include an Asset Tracking app, a service manager to manage and configure IoT Services (Bluetooth Low Energy (BLE)) as well as an open API framework in case you would like to extract this data and correlate it or integrate it into other enterprise systems.

Cisco Spaces provides a single dashboard interface to avail these multiple services through various location based technologies and intelligence. Cisco Spaces enables you to connect and engage with visitors at your

physical business locations. It covers various verticals of business such as work spaces, retail, manufacturing, hospitality, healthcare, education, financial services, and so on. The asset tracking application in Cisco Spaces provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps and APIs to turn these insights into actions.

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Cisco Spaces is compatible across Cisco Catalyst, Cisco AireOS and Cisco Meraki infrastructure.

In addition to the above services, the scope of Cisco Spaces apps have been extended to meet the business requirements that arise due to the global pandemic, COVID 19. Extensions have been built on existing applications and newer applications have been added to meet specific requirements for COVID 19. Extensions to apps such as Impact Analytics, Location analytics, Behaviour Metrics, and Right Now, allow you to analyse the impact of COVID 19 at your business locations as well as take appropriate actions. For example you can now create a rule based on device density at your location such that you will be automatically notified if the number of people at your location exceeds a specific count or density (people/area). The Location Analytics app now has the capability to share executive summary reports with your colleagues in the organization. Additionally, COVID-19 based trend analysis for individual/group locations can now be done using the Behaviour Metrics app, and you can compare specific business locations with that of the overall organisation as well as specific industry vertical.

Cisco Spaces has added a new Proximity Reporting App that provides a quick way to review the location history as well as device proximity history of any impacted device. One needs to just enter the user ID or MAC address, and a report for the device location in the building for the last 14 days along with the proximity of other devices is generated. This report can be exported or shared using the share feature. Similarly the Detect and Locate app now has the capability to cluster devices into specific counts to check and report on areas that may be violating social distancing guidelines.

The following are the major features of this release:

- Relabelled the **Monitoring and Support** feature to **Monitor**, and the **Support** tab is removed.
- Replaced Cumulative Visits chart in **Right Now on WiFi** with Cumulative Visitors chart.
- Removed the "Total Visitors" chart for All locations and Key locations from **Right Now on WiFi**.
- In the **Right Now on Camera** report, the **Cumulative visits during the day** chart is replaced with **Cumulative Footfall during the day**.
- The Partner dashboard is unified across all regions.
- New workflow for app approval process through Partner dashboard.
- In the Partner dashboard, new events to support **IOT** services.

New Features - July 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Proximity Reporting App

A new app, **Proximity Reporting** is now available in the Cisco Spaces dashboard home page to generate Proximity Reports. Currently, the app is in Beta.

The **Proximity Reporting** app helps the workplace administrators to create a safe environment for employees who are returning to work during the COVID-19 pandemic. The wireless devices of the reporting users (people to be monitored) must be associated with the wireless networks and mapped to physical locations. The Proximity Reporting app enables you to trace the movement of a person tested positive for COVID-19.

Some of the key capabilities of the Proximity Reporting app are as follows:

- It helps you understand the locations where an affected person was during a particular period (usually 14-28 days).
- Provides a list of other people who were in the same location as a affected person.
- Provides a timeline that shows when an affected person entered and exited a location.

The report will be having the following sections:

- **Location Summary**: Provides a summary of locations that a reporting person has traversed in a particular period.
- **Proximity Report**:
  - **Proximity Summary**: Provides a summarized report of the impact a reporting person has on other users in the location.
  - **Proximity Tracing**: Provides a detailed history of other users who have been in contact with a reporting person.
- **Daily Journey Report**: Visually traces the day-by-day journey of a reporting user across various locations(Campus, Building, Floor), along with the time spent by the reporting user on each location.

Camera Metrics

A new app **Camera Metrics** is now available in the Cisco Spaces dashboard. This app enables you to view a Metrics report based on the data captured using Meraki Camera.The report will be shown for a particular month.

The report currently will be having the following details:

- **Monthly Footfall**: Displays the total footfall count for the entire month.
- **Daily Footfall**: Displays the total footfall count for each day of the selected month.
- **Footfall Distribution: By hour of day**: Displays the average footfall for each hour of the day on the selected month.
- **Presence Index : By hour of day**:Displays the average number of the people present for each hour of the day for the selected month.
- **Peak Presence : By hour of day**: This graph will be available only for network locations. Displays the cumulative number of the peak presence of people for each hour of the day for the selected month. Also, it displays the average number of the people present for each hour of the day on the selected month.

Note All the charts are based on the entry and exit of visitors through tripwire line drawn for the cameras.

Right Now Report on Camera

The Right Now app now shows the Right Now report for the Meraki Cameras installed on your locations. A new option **Right Now on camera** is now available in the **three-line** menu that appears at the top-left of the **Right Now** window.

The report will be having the following details:

Note The **# of the people present: Key Cameras Zones** chart will be based on the people on camera's vicinity, and all the remaining charts will be based on entry and exit of people through tripwire line drawn for the cameras.

- **# of people present**: The total number of people currently present at the selected location and its child locations..
- **#of people present: Key Locations**: The total number of people currently present at each of the child location. If the total number of locations are more than or equal to 15, it will display the count for top and bottom three locations. In such cases, you can pin upto three locations to view the current presence count for the locations of your choice. This graph will appear only for the root location.
- **# of the people present: Key Cameras**: The total number of people currently present for each Camera in the filtered location. If the total number of Cameras are more than Six, it will display the count for top and bottom three Cameras. In such cases, you can pin upto three cameras to view the current presence count for the cameras of your choice This graph will appear only for network level locations.
- **# of the people present: Key Cameras Zones**: The total number of people currently present for each camera zones defined for the cameras in the filtered location. If the total number of Camera Zones are more than Six, it will display the count for top and bottom three Camera Zones. In such cases, you can pin upto three camera zones to view the current presence count for the camera zones of your choice.This graph will appear only for network level locations.
- **Cumulative visits during the day**: Displays the total number of visits during each hour of the day on which the Right Now report is viewed, in a cumulative manner. For example, the total number of visits at 3 am will be total number of visits that occurred from 00 am to 3 am.
- **Presence: By Location**: The location selected for the report, and its child locations are displayed in the Global Map, along with the count of vistors currently present at these locations in the **Map View** . You can also know the present visitor count as a hierarchy using the **List View**

Enhancements - July 2020

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard

Monitoring and Support

In the Cisco Spaces dashboard, the following changes are made to the **Monitoring and Support** option:

- Removed the **Support** tab in the **Monitoring and Support** window. Previously, the ticket details were shown in the **Support** section. You can now check the status of the tickets through the support emails.
- The **Monitoring and Support** option is renamed as **Monitor**.

Right Now

The following changes are made to the Right Now on WiFi report:

- The **Cumulative Visits: All Locations** chart is replaced with **Cumulative Visitors: All Locations**. This chart will show the cumulative visitors during each hour of the day. The cumulative count chart will be displayed based on the time zone of the network locations.
- The charts, **Total Visitors present last 3 hours: All locations** and **Total Visitors present last 3 hours: Key Locations**, are removed.

Right Now on Camera

The following changes are made to the Right Now on Camera report:

- The **Cumulative visits during the day** chart is replaced with **Cumulative Footfall during the day**. This chart will show the cumulative footfall during each hour of the day. Previously, cumulative visitis during each hour of the day was shown.
- The time zones of the network locations will be considered when displaying the **Cumulative Footfall during the day** chart.
- The **Historical Average** graph is removed from **#of people present: Key Locations** , **# of the people present: Key Cameras**, and **# of the people present: Key Cameras Zones** charts.

Cisco Spaces Partner Dashboard

The following enhancements are made to the Cisco Spaces Partner dashboard:

Partner Dashboard

The following changes are made to the Partner dashboard:

- A unified dashboard for creating, managing, and publishing apps for both **Europe** and **Rest of the World** regions. Previously, there were seperate dashboards for creating apps for **Europe** and **Rest of the World** regions.

To suport this feature, in the **App Center** window, **Europe Region** and **Rest of the world (except Europe region)** options are displayed under the **Choose the Region** area.

Note After creating the app, the Sandbox activation for the apps created for Europe must be conducted in **https://partners.dnaspaces.eu** itself.

- New workflow for app approval process through dashboard.

  Once the app is created and tested, the Partners can submit the app for approval by clicking **Submit**. Then the Cisco Spaces team evaluates the app, and takes the necessary actions. If approved, the app status gets changed to **Approved**, and the Partners can publish the app using **Publish**. Once the app is published, it will become live and will be available under **Get Partner Apps** > **App Center** section in the Cisco Spaces dashboard.

Note As earlier, the apps published for europe region will be listed only in the **https://dnaspaces.eu**, and for the Rest of the world will be listed in **https://dnaspaces.io**.

Events

The following new events are added to the Partner dashboard:

- **IOT_TELEMETRY**: This event is triggered when there are telemetry updates from IOT devices such as BLE or RFID.
- **IOT_USER_ACTION** : This event is triggered when an user action (such as button click) is performed on the IOT devices.
- **DEVICE_COUNT** : This event is triggered when there is a change in count of devices at the location.

As **BLE Manager** is replaced with **IOT** services, the event **BLE_UPDATE** is removed.

Cisco Spaces Runtime

The following changes are made to the Cisco Spaces runtime:

Enhancements for Enterprise Captive Portal

Cisco Spaces now provides the following support for the Enterprise Captive Portals.

- Support to send notifications to an API endpoint using Trigger API.
- Support to tag the Captive Portal Users based on their actions.

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

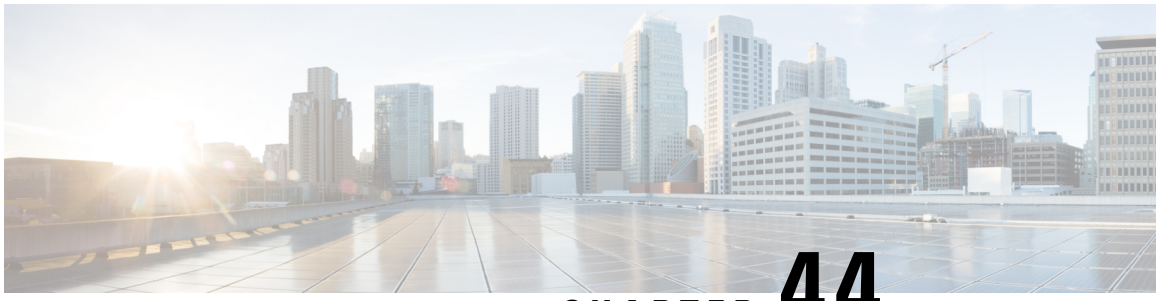
Table 50: Open Issues

Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who have access only to specific locations are not able to login to dashboard.
CSCvt29202	By default Visitor and Visits counts are displayed for newly created account in Digitization Stats.
CSCvs79627	Meraki camera - User is able to import non camera devices as well.
CSCvs97445	Incorrect “Users Count” is displayed in location hierarchy.
CSCvu46143	Proper error message should be displayed when trying to use the already accepted invitation.
CSCvt93539	In the Right Now -Visits by floor section, Floor names are not shown in tooltip text, when count of visits is low.

Resolved Issues

Table 51: Resolved Issues

Issue Identifier	Issue Description
CSCvu87384	sub_type event is not captured as "Promotions" for promos click.
CSCvv07571	Promos & Menu clicks doesn't have language-based event logging.



CHAPTER 44

June 2020

- Introduction to Cisco Spaces, on page 163
- New Features - June 2020, on page 164
- Enhancements - June 2020, on page 167
- Issues, on page 168

Introduction to Cisco Spaces

Cisco Spaces is a powerful location services platform that leverages existing wireless and/or IoT (BLE) infrastructure to provide actionable insights and drive business outcomes through spaces built-in applications.

Insights from Cisco Spaces include:

- Location Analytics that provides the capability to slice and dice location data by time or location and get a deeper visibility into behaviour of people that are connected to your network.
- Right Now Reports provide real time count of the number of visitors (identified by devices connected to WiFi) within your physical space and how it compares to the historical average. Based on the authentication method in use, Right Now reports can detect multiple devices belonging to a person and count them as one visitor.
- Business Insights gives the capability to measure how frequently people visit your physical location and how much time do they spend at your business locations. This data is benchmarked monthly across all locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group or by industry.
- Impact Analysis provides the capability to measure the impact of at-location events, campaigns and layout changes on behaviour. It is easy to create an Event using the tool and measure the impact of this event based on specific timeline such as Before, After and During the impact on time spent and frequency.

Cisco Spaces applications include customer experience management apps such as Captive Portals, Location Personas, and Engagemens that allows you to connect with your customers in real time when they are at your physical location. Additional applications also include an Asset Tracking app, a service manager to manage and configure IoT Services (Bluetooth Low Energy (BLE)) as well as an open API framework in case you would like to extract this data and correlate it or integrate it into other enterprise systems.

Cisco Spaces provides a single dashboard interface to avail these multiple services through various location based technologies and intelligence. Cisco Spaces enables you to connect and engage with visitors at your physical business locations. It covers various verticals of business such as work spaces, retail, manufacturing,

hospitality, healthcare, education, financial services, and so on. The asset tracking application in Cisco Spaces provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps and APIs to turn these insights into actions.

Cisco Spaces through its partner program, offers businesses access to various different partner applications across verticals.

Cisco Spaces is compatible across Cisco Catalyst, Cisco AireOS and Cisco Meraki infrastructure.

In addition to the above services, the scope of Cisco Spaces apps have been extended to meet the business requirements that arise due to the global pandemic, COVID 19. Extensions have been built on existing applications and newer applications have been added to meet specific requirements for COVID 19. Extensions to apps such as Impact Analytics, Location analytics, Behaviour Metrics, and Right Now, allow you to analyse the impact of COVID 19 at your business locations as well as take appropriate actions. For example you can now create a rule based on device density at your location such that you will be automatically notified if the number of people at your location exceeds a specific count or density (people/area). The Location Analytics app now has the capability to share executive summary reports with your colleagues in the organization. Additionally, COVID-19 based trend analysis for individual/group locations can now be done using the Behaviour Metrics app, and you can compare specific business locations with that of the overall organisation as well as specific industry vertical.

Cisco Spaces has added a new Proximity Reporting App that provides a quick way to review the location history as well as device proximity history of any impacted device. One needs to just enter the user ID or MAC address, and a report for the device location in the building for the last 14 days along with the proximity of other devices is generated. This report can be exported or shared using the share feature. Similarly the Detect and Locate app now has the capability to cluster devices into specific counts to check and report on areas that may be violating social distancing guidelines.

The following are the major features of this release:

- New app **Proximity Reporting** is available now in Cisco Spaces dashboard to generate proximity reports.
- New app **Camera Metrics** to view the data captured using Meraki Camera.
- New feature **Right Now on Camera** to view the Right Now report for Meraki Camera.
- New activity **Occupancy** is added to **Density Rules** to trigger notifications based on the occupancy limit.
- Provided COVID 19 portal templates in the **Captive Portals** app.
- In **Location Analytics**, floor and zone level location filtering support is added for ACT and Extend licenses.
- **Trigger API** and **Action Tags** support for the Enterprise Captive Portals.(Runtime)

New Features - June 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Proximity Reporting App

A new app, **Proximity Reporting** is now available in the Cisco Spaces dashboard home page to generate Proximity Reports. Currently, the app is in Beta.

The **Proximity Reporting** app helps the workplace administrators to create a safe environment for employees who are returning to work during the COVID-19 pandemic. The wireless devices of the reporting users (people to be monitored) must be associated with the wireless networks and mapped to physical locations. The Proximity Reporting app enables you to trace the movement of a person tested positive for COVID-19.

Some of the key capabilities of the Proximity Reporting app are as follows:

- It helps you understand the locations where an affected person was during a particular period (usually 14-28 days).
- Provides a list of other people who were in the same location as a affected person.
- Provides a timeline that shows when an affected person entered and exited a location.

The report will be having the following sections:

- **Location Summary**: Provides a summary of locations that a reporting person has traversed in a particular period.
- **Proximity Report**:
  - **Proximity Summary**: Provides a summarized report of the impact a reporting person has on other users in the location.
  - **Proximity Tracing**: Provides a detailed history of other users who have been in contact with a reporting person.
- **Daily Journey Report**: Visually traces the day-by-day journey of a reporting user across various locations(Campus, Building, Floor), along with the time spent by the reporting user on each location.

Camera Metrics

A new app **Camera Metrics** is now available in the Cisco SpacesCisco Spaces dashboard. This app enables you to view a Metrics report based on the data captured using Meraki Camera.The report will be shown for a particular month.

The report currently will be having the following details:

- **Monthly Footfall**: Displays the total footfall count for the entire month.
- **Daily Footfall**: Displays the total footfall count for each day of the selected month.
- **Footfall Distribution: By hour of day**: Displays the average footfall for each hour of the day on the selected month.
- **Presence Index : By hour of day**:Displays the average number of the people present for each hour of the day for the selected month.
- **Peak Presence : By hour of day**: This graph will be available only for network locations. Displays the cumulative number of the peak presence of people for each hour of the day for the selected month. Also, it displays the average number of the people present for each hour of the day on the selected month.

Note All the charts are based on the entry and exit of visitors through tripwire line drawn for the cameras.

Right Now Report on Camera

The Right Now app now shows the Right Now report for the Meraki Cameras installed on your locations. A new option **Right Now on camera** is now available in the **three-line** menu that appears at the top-left of the **Right Now** window.

The report will be having the following details:

Note The **# of the people present: Key Cameras Zones** chart will be based on the people on camera's vicinity, and all the remaining charts will be based on entry and exit of people through tripwire line drawn for the cameras.

- **# of people present**: The total number of people currently present at the selected location and its child locations..
- **#of people present: Key Locations**: The total number of people currently present at each of the child location. If the total number of locations are more than or equal to 15, it will display the count for top and bottom three locations. In such cases, you can pin upto three locations to view the current presence count for the locations of your choice. This graph will appear only for the root location.
- **# of the people present: Key Cameras**: The total number of people currently present for each Camera in the filtered location. If the total number of Cameras are more than Six, it will display the count for top and bottom three Cameras. In such cases, you can pin upto three cameras to view the current presence count for the cameras of your choice This graph will appear only for network level locations.
- **# of the people present: Key Cameras Zones**: The total number of people currently present for each camera zones defined for the cameras in the filtered location. If the total number of Camera Zones are more than Six, it will display the count for top and bottom three Camera Zones. In such cases, you can pin upto three camera zones to view the current presence count for the camera zones of your choice.This graph will appear only for network level locations.
- **Cumulative visits during the day**: Displays the total number of visits during each hour of the day on which the Right Now report is viewed, in a cumulative manner. For example, the total number of visits at 3 am will be total number of visits that occurred from 00 am to 3 am.
- **Presence: By Location**: The location selected for the report, and its child locations are displayed in the Global Map, along with the count of vistors currently present at these locations in the **Map View** . You can also know the present visitor count as a hierarchy using the **List View**

Enhancements - June 2020

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard

Density Rules

The following changes are made to the Density Rules:

- Density Rules is enhanced to trigger notifications based on the occupancy in a particular location. You can define the ocuppancy limit, and can configure to trigger notification when the occupancy meets certain percentage of the occupancy limit set.

  To support this feature, the following changes are made in **Density Rules**:

  - A new option **Occupancy** is available now in the drop-down list that appears after **When devices are connected to WIFI**. When you choose **Occupancy** and condition type, a **Percent** drop-down list appears where you can specify the percentage of occupancy limit based on which the notification is to be triggered.
  - In the **Location Information** window, a number list **Occupancy limit (Max Capacity)** is added to specify the occupancy limit in terms of number of people.

- Added the following smart link variables to all the notification types such as SMS, Email, and so on:
  - $buildingName: The building of the location for which the notification is triggered.
  - $floorName: The floor of the location for which the notification is triggered.
  - $zoneName: The zone for which the notification is triggered.
  - $deviceCount: The device count for the location for which the notification is triggered.
  - $locationPath: The location path (Parent Hierarchy) for the location for which the notification is triggered.
  - $TotalCapacity: The occupancy limit for the location for which the notification is triggered.

Covid 19 Enhancements for the Captive Portals app

To support the COVID 19 business requirements, the following enhancements are made in the **Captive Portals** app:

- In the **Captive Portals** window, **COVID-19** specific portal templates are now available.
- A banner **COVID-19 Templates** is added to the **Captive Portals** tile in the Cisco Spaces home page.

Location Analytics

The following changes are done to the Location Analytics report:

- The percentage chart displayed at the top-right of each graph will now appear as pie charts. Previously, bar charts were displayed.

- For ACT and EXTEND licenses, you can now view the report for floors and zones. The floors and zones will be enabled for selection in the **Location** drop-down list.

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.
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This section contains the following topics:

Cisco Bug Search Tool

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Open Issues

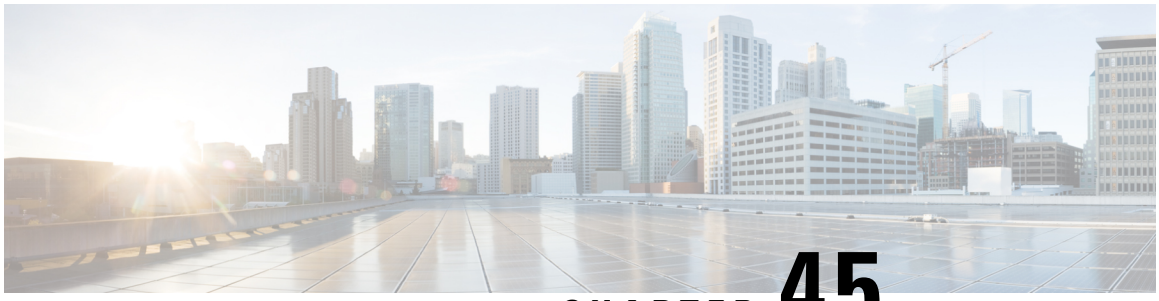
Table 52: Open Issues

Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who have access only to specific locations are not able to login to dashboard.
CSCvt29202	By default Visitor and Visits counts are displayed for newly created account in Digitization Stats.
CSCvs79627	Meraki camera - User is able to import non camera devices as well.
CSCvs97445	Incorrect “Users Count” is displayed in location hierarchy.
CSCvu46143	Proper error message should be displayed when trying to use the already accepted invitation.
CSCvt93539	In the Right Now -Visits by floor section, Floor names are not shown in tooltip text, when count of visits is low.

Resolved Issues

Table 53: Resolved Issues

Issue Identifier	Issue Description
CSCvu76687	Clicking on activated app tile in app activation sandbox redirects leads to "page not found" error.
CSCvt56362	Location Analytics -When more SSIDs are there, dwell time and dwell time breakdown are not loading.
CSCvt90496	Switch app option is not available for few of the apps.
CSCvu49171	URL smartlink is not working for webex notification.
CSCvu49183	Density rules based on sqft / sqmtr value should work for all location types.
CSCvu43730	Dashboard Login is failing when password contains foreign characters and few special characters.
CSCvt99974	In the Right Now -Visitor vs Employee chart section, Proportion of Employee count is shown less.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser.



CHAPTER 45

May 2020

- Introduction to Cisco Spaces, on page 171
- New Features - May 2020, on page 173
- Enhancements - May 2020, on page 174
- Cisco Spaces Runtime, on page 174
- Issues, on page 175

Introduction to Cisco Spaces

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Insights from Cisco Spaces include:

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- Right Now Reports provide real time count of the number of visitors (identified by devices connected to WiFi) within your physical space and how it compares to the historical average. Based on the authentication method in use, Right Now reports can detect multiple devices belonging to a person and count them as one visitor.
- Business Insights gives the capability to measure how frequently people visit your physical location and how much time do they spend at your business locations. This data is benchmarked monthly across all locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group or by industry.
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physical business locations. It covers various verticals of business such as work spaces, retail, manufacturing, hospitality, healthcare, education, financial services, and so on. The asset tracking application in Cisco Spaces provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps and APIs to turn these insights into actions.

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The following are the major features of this release:

- New navigation option to switch between apps.
- New feature **Density Rule** in the **Right Now** app to track the density of visitors in your locations.
- Provision to view Release Notes from the dashboard.
- Support for Telenor SMS Gateway in Cisco Spaces dashboard.
- Provision to change the password even after password expiry date.
- Support to customize the bandwidth limit in Captive Portal Rule.
- Removed the **Filter by App Status** option in all rules.
- Removed **Manual Upload** and **Auto Sync** options for Cisco CMX.
- Changed the listing criteria for rules, to list the last modified live rules on top.
- Enabled Radius Authentication Support for Enterprise Captive Portals.(runtime)

New Features - May 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Switch Menu for Apps

An app launcher (Grid) icon now appears at the top-right of the dashboard using which you can easily navigate from one app to another app. Previously, to navigate from one app to another app, you had to return to the Cisco Spaces home page. When you click the app launcher icon, it lists all the Cisco Spaces apps activated for the user.

Density Rule

As s response to one of the COVID-19 use case, a new feature "Density Rule" is introduced in the **Right Now** app to enable customers to track the number of people in a physical location or maximum capacity allowed in a given size of space and get alerted/notified when the set limits are exceeding. This option is available only for the **Act** license.

The **Density Rule** option allows you to create rules that triggers notifications to the business users based on the count of unique devices in the business location. You can configure to send notifications through SMS, e-mail, webex or using Trigger API.

A new three-line menu icon is added at the top-left of the **Right Now** window, that has the following menu items:

- **Right Now on WiFi**- Displays the Right Now report.
- **Density Rules**- Displays the window to create the Density Rule.

Release Notes Link

You can now access the Release Notes forCisco Spaces from the dashboard itself. When you click the Help icon for **Cisco Spaces Support** at the top-right of the dashboard, the following two options will be available:

- **Latest Release Note**: Link to the latest monthly release note for Cisco Spaces.
- **Release Notes History**: Link to the Release Notes home page in Cisco.com, where all the historical release notes for Cisco Spaces are listed.

Support for Telenor SMS Gateway

Cisco Spaces dashboard now supports Telenor SMS Gateway. In the **Captive Portals** app, under **Settings** > **SMS**, a new option **Telenor** is available for selection in the **SMS Gateway Type** drop-down list for **Add SMS Gateway**.

Enhancements - May 2020

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard

Support to Change Passsword after Expiry Date

Cisco Spaces now allows you to change your password even after your password is expired. After entering your credentials when you click the **Continue** button, a pop up window to change the password appears. Previously, if the password is expired, you had to reset the password using the **Forgot Password** option.

Custom Manual Bandwidth in Captive Portal Rule

Cisco Spaces now allows you to manually enter the bandwidth allowed for a Captive Portal Rule. This enhancement enables you to configure the exact bandwidth you want to set rather than the predefined values. You can specify the bandwidth in KBPS, MBPS, GBPS, or TBPS.

In the **Captive Portal Rule** window, under the **Show Captive Portal** area, when you check the **Bandwidth Limit** check box, a **Show Manual Configuration** link appears below the Bandwidth slide bar. When you click this link, the fields to manually enter the bandwidth appears. Now, the link name is changed to **Show Slider Configuration** using which you can return to the slide bar.

Removed the "Filter by App Status" Option

As the push notification is no more supported as a notification mechanism by Cisco Spaces , the **Filter by App Status** option in the Captive Portal Rule , Engagement Rule, and Location Personas Rule are removed.

Active (Live) Rules Sorted by Modified Date at Top of List

The **Cisco Rules** page listing is enhanced to show the Active (Live) rules at the top and Paused rules at the bottom sorted based on their modified date and time. This change is applicable to the Rules section under Captive Portal, Engagements, Location Personas and Right Now app.

Removed Manual Upload and Auto Sync Options for Cisco CMX

Cisco Spaces no more supports Cisco CMX version 10.5 or below. To support this enhancement, the **Connect your Wireless Network** window for **Setup** > **Wireless Networks** is modified. When you click **Add New**, and click **Cisco AireOS/Catalyst**, the **Via CMX On-Prem** option that used to appear is now removed, and is replaced with **Connect Via CMX Tethering**.

Based on this enhancement:

- Existing connections to Cisco Spaces using Cisco CMX 10. 5 or below will continue to function.
- Will not be able to establish new connections with Cisco Spaces using Cisco CMX 10.5 or below, and must use Cisco CMX 10.6 or later with Cisco CMX Tethering.

Cisco Spaces Runtime

The following changes are made to the Cisco Spaces runtime:

Radius Authentication for Enterprise Captive Portal

Cisco Spaces is enhanced to support radius authentication for Enterprise Captive Portals. This enhancement will allow you to use the following features of Captive Portal Rule for your enterprise captive portal:

- Seamlessly Provision Internet
- Deny Internet
- Extending Session Duration and Bandwidth

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.
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This section contains the following topics:

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Open Bugs

Table 54: Open Bugs

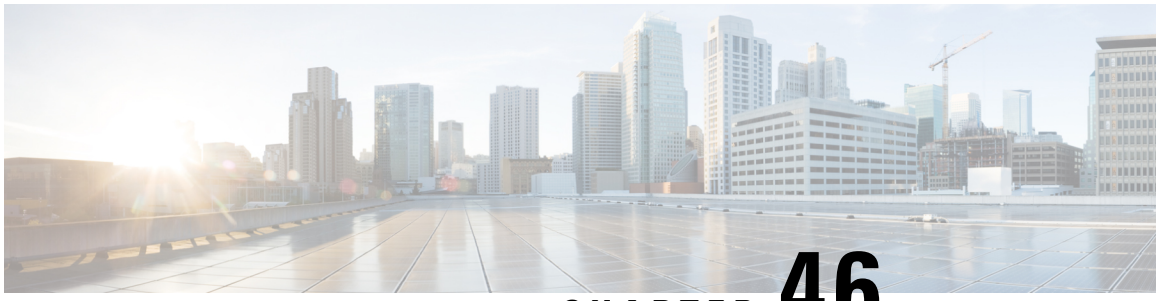
Caveat Identifier	Caveat Description
CSCvq83680	RBAC - Admin users who have access only to specific locations are not able to login to dashboard.
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CSCvs79627	Meraki camera - User is able to import non camera devices as well.
CSCvs97445	Incorrect “Users Count” is displayed in location hierarchy.
CSCvu43730	Restricted characters are allowed when setting the password.

Caveat Identifier	Caveat Description
CSCvu46143	Proper error message should be displayed when trying to use the already accepted invitation.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser.
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CSCvu49171	URL smartlink is not working for webex notification.
CSCvt99974	In the Right Now -Visitor vs Employee chart section, Proportion of Employee count is shown less.

Fixed Bugs

Table 55: Fixed Bugs

CDETS ID Number	Description
CSCvu39949	Unable to edit roles for the EDM enabled accounts.
CSCvt97747	Firefox Browser - Cisco Spaces dashboard is displaying blank white screen.
CSCvu01155	Clicking location hierarchy menu from monitoring section redirects to home page.
CSCvt62394	User should not be able to save total area value without selecting total area unit value.



CHAPTER 46

April 2020

- Introduction to Cisco Spaces, on page 177
- New Features - April 2020, on page 177
- Enhancements - April 2020, on page 179
- Cisco Spaces Runtime, on page 179
- Issues, on page 179

Introduction to Cisco Spaces

Cisco Spaces is a location services cloud platform that provides wireless customers with location-based services, including location analytics, business insight, customer experience management, asset tracking, Bluetooth Low Energy (BLE) management, and API. It provides a single dashboard interface to avail these multiple services through various location based technologies and intelligence. Cisco Spaces 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, and so on. The asset tracking feature of Cisco Spaces provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action. In addition, Cisco Spaces through its partner program, offers different apps for different verticals. Cisco Spaces is compatible across Cisco Catalyst, Cisco AireOS or Cisco Meraki infrastructure.

The following are the major features of this release:

- Support to integrate Cisco Spaces with Catalyst Center.
- The right now reports is completely revamped, and a new **Right Now** app is introduced.
- Support to analyze the impact of Covid 19 in the locations using the **Impact Analysis** report.
- Added active user count, **Device by Operating System** graph, and **Data Consumed per User** graph in the **OpenRoaming** app.

New Features - April 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Cisco Catalyst Center Integration

Cisco Spaces is now enhanced to integrate with Catalyst Center. This enhancement enables Cisco Spaces:

• To synchronize maps from Catalyst Center.

• To provide location information to Catalyst Center.

However, Cisco Spaces can be integrated as a BETA feature, with an optional package on top of Catalyst Center which is expected to be available by July 2020. Contact your account team after the specified time period to obtain the Cisco Spaces optional package .

The pre-requisites for integration are:

- Catalyst Center version 2.1.1 or higher with Cisco Spaces optional package.
- The wireless network connected to Cisco Spaces using Cisco Spaces connector.

A new option **Integrations** > is now available in the three-line menu that appears at the top-left of the Cisco Spaces dashboard to support this integration. You can create a token for an instance using the **Create Token** option. You can then configure this token in the Catalyst Center to integrate it with Cisco Spaces.

Right Now

The **Right Now** report is now removed from the **Behavior Metrics** app and is made available as a separate app in the Cisco Spaces dashboard. This enhancement will facilitate to provide a much advanced **Right Now** report. The **Right Now** report will now have the following charts:

By default, the report shows the details of visitors currently present at all the locations. You can filter the data for network level locations.

- **Active Visitors present**: Displays the total number of visitors in the filtered location including its child locations during the last 10 minutes.
- **Total Visitors present** : Displays the total number of visitors in the filtered location including its child locations during the last 3 hours. For the **Workspaces** vertical, the data will be for last 10 hours.
- **Active Visitors present in Key Locations**: Displays top three locations with highest number of active visitors and bottom three locations with lowest number of active visitors during last 10 minutes.
- **Total Visitors present in Key Locations**: Displays top three locations with highest number of visitors and bottom three locations with lowest visitors during last 3 hours. For the **Workspaces** vertical, the data will be for last 10 hours.
- **Visits Cumulative**: Displays the total number of visits for each hour of the day in a cumulative manner.
- **Composition: First Time and Repeat Visitors**: Displays the percentage of new and repeat visitors among the active visitors.
- **Composition: Visitor and Employees** : Displays the percentage of visitors and employees among the active visitors.
- **Presence: By Location**: Displays location-wise count of active visitors in the child locations of the filtered location. The location-wise count is displayed in Map view and list view.

Enhancements - April 2020

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Impact Analysis

To notify that the effect of Covid 19 can be analyzed through the **Impact Analysis** app, a **Covid 19 Analytics** banner is added to the **Impact Analysis** app tile. A default **Covid19** event is now available in the **Impact Analysis** window to measure the impact.

OpenRoaming

In the **OpenRoaming** app, in the **Statistics** window, the following new options are added under the **Custom** tab:

- **Users Active Right Now**: Displays the total number of users currently connected to the internet from the filtered location and its child locations.
- **Devices by Operating System**: Displays a pie chart to show the total number of devices that are connected from the filtered location and its child locations during the date range specified, based on the operating system of the devices. The total number of devices with a particular operating system is displayed at the centre of the pie chart when you hover over that operating system name in the pie chart.
- **Data Consumed per User** : Displays a bar graph that shows the average data consumed by each user on each day of the date range specified.

Cisco Spaces Runtime

The following changes are made to the Cisco Spaces runtime:

Auto-Fill Issue on Browsers

The **Data Capture form** is enhanced to resolve the auto-fill issue for phone number during customer acquisition. In the Data Capture form, the country code was blanked out after entering the phone number using the auto-fill option. This issue, which occurred for the browsers, Apple Safari and CNA, is now fixed.

Place Holder Text for Phone Number-Data Capture Form

During customer acquisition, incorrect place holder text was shown in the **Phone Number** field in **Data Capture form**. This is fixed to show the correct place holder configured in Dashboard Portal.

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

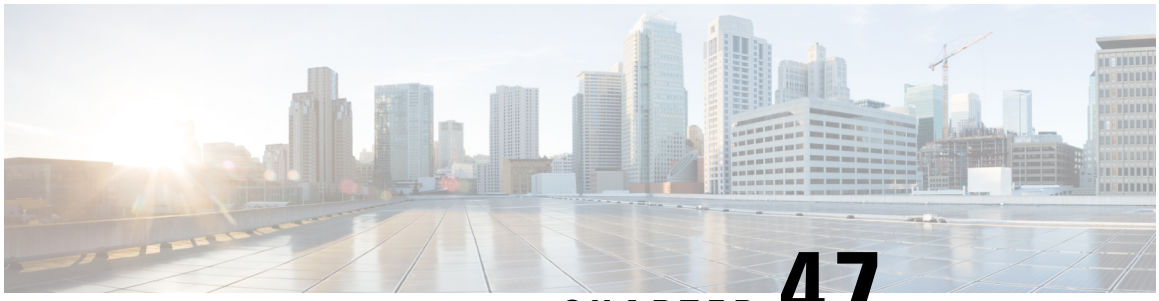
Table 56: Open Issues

Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who have access only to specific locations are not able to login to dashboard.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser.
CSCvs79627	Meraki camera - User is able to import non camera devices as well.
CSCvs97445	Users count is showing wrong in location hierarchy page.
CSCvt29202	By default Visitor and Visits count are displayed for newly created account in Digitization Stats.
CSCvt62394	User should not be able to save total area value without selecting total area unit value.
CSCvt65983	Away rule time selection should be limited as per the vertical visit end time for each account.
CSCvu01155	UI - Clicking location hierarchy menu from monitoring section redirects user to home page.
CSCvt99974	In the Right Now -Visitor vs Employee chart section, Proportion of Employee count is shown less.
CSCvt93539	In the Right Now -Visits by floor section, Floor names are not shown in tooltip text, when count of visits is low

Resolved Issues

Table 57: Resolved Issues

Issue Identifier	Issue Description
CSCvt83390	Error message not displayed when submitting the form without entering an access code.
CSCvt86059	T&C text is shown on loading screen while doing access code authentication.



CHAPTER 47

March 2020

- Introduction to Cisco Spaces, on page 183
- New Features - March 2020, on page 184
- Issues, on page 186

Introduction to Cisco Spaces

Cisco Spaces is a location platform that leverages existing Wi-Fi infrastructure to give you actionable insights and drive business outcomes. It 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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action. In addition, Cisco Spaces through its partner program, offers different apps for different verticals.

The following are the major features of this release:

- Multiple Prefix support for adding APs to network for Cisco Wireless Controller.
- Moved the **Location Info** in the **Location Hierarchy**, and added new **Zip/postal code** field.
- Support to select multiple locations in location selection options.
- In the **Engagement** rules, removed support for notification through Apps and BLE.
- In **Engagement** and **Location Personas** rules, replaced **Exiting Location** with **Away from the Location** option that has provision to filter visits that are away for a particular duration.
- Updated the **Square Foot** value in **Digitization Stats** to represent the total area configured for network locations.
- Single Sign-On support for the **Cisco Spaces Partner** dashboard.
- In the **Cisco Spaces Partner** dashboard, for Cloud Apps, support to configure customer-defined OAuth URLs.

New Features - March 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Location Info

In the **Location Hierarchy**, the **Location Info** option is now moved from the **More Actions** menu. A new tab, **Location Info**, is now available to add or view the location information, in the window that appears when you click a location. Also, a new field, **Zip/Postal Code**, is now available in the **Location Information** window to specify the zip/postal code of the location. If location info fields are inherited from the parent location, then fields are shown in orange color.

Multiple Prefix Support for Cisco Wireless Controller

For Cisco Wireless Controller, Cisco Spaces now enables you to group access points with different prefixes under a single network. After importing the networks to the location hierarchy, click the network to add the APs of multiple prefixes. In the location hierarchy, when you click a network location, a new **Access Points Prefix Used** option will now be available in the **Location Info** tab to add APs of multiple prefixes to that network. After adding the prefix, the APs under the **unconfigured** network with the specified prefix will be moved under this network. The **Access Points Prefix Used** option will be available only for network locations. However, the **Access Points Prefix Used** option will not be available for the **Unconfigured** network.

Multiple Location Selection

Cisco Spaces now enables you to select multiple locations for activities such as Creating Portals, Creating Rules, Importing Network for Cisco Meraki Camera, and so on. When you select a location, the check box corresponding to its parent locations get highlighted in blue and the selected location is expanded to display its child locations. You can then select multiple child locations. Previously, if you have selected a location, you had to unselect it for selecting its child location. This enhancement is applicable to the location selection option in the following features:

Table 58: Multiple Location Selection Enabled Options

Feature	Windows /Fields Affected
Captive Portals App > Portal	• Portal Creation • Import Portal • Edit Locations
Captive Portals App > User Management	Invite User
Rule (Captive Portal, Engagement, Location Personas)	• Add Locations
Setup > Camera	Import Network

Feature	Windows /Fields Affected
Partner App	• App Settings • App Activation

Removed Support for Notification through Apps and BLE

In the **Engagement Rule**, the provision to send notifications through Apps and BLE are removed. In the **Create Engagement Rule** window, in the **Actions** area, the following options that were available for **Consumer** have been removed:

- **Via Push**
- **Via BLE**

Away from the Location Feature

The **Engagements** and **Location Personas** rules are now enhanced to filter the visits that are away for a particular duration. For example, you can define a rule to filter the visits that are away for 10 minutes. In the **Create New Rule** window, the **Exiting Location** option that was available for **When a user is on WiFi and** is now replaced with the **Away from the Location** option. When you select the **Away from the Location** option, a **For** drop-down list will appear to specify the time the visitor needs to be away to get filtered for the rule. The time will be specified in minutes.

Even if a visitor is physically present in the location, but gets disconnected from the Wi-Fi for the minutes specified in the **For** drop-down list, the visitor will be considered for the rule.

If you are editing an existing **Engagements** or **Location Personas** rules with **Exiting Location** configured, the **Choose User Activity** drop-down list will appear without any selection. You must choose the required option from the **Choose User Activity** drop-down list to save the rule successfully.

Digitization Stats

In the **Cisco Spaces** dashboard, in **Digitization Stats**, the **Square Foot** value now represents the Total Area configured for network locations in the **Location Info** option in the **Location Hierarchy**. Previously, the **Square Foot** value was calculated based on number of APs configured for locations. However, if total area is not configured for network locations in the **Location Hierarchy**, then the **Square Foot** value will be displayed based on APs as earlier.

Partner Dashboard- SSO Support

Cisco Spaces Partner dashboard now supports Single Sign-On (SSO). If you want to enable SSO for your Partner dashboard account, contact the Cisco Spaces support team .

To support SSO login for Cisco Spaces, the login screen for Cisco Spaces Partner dashboard is renovated. When you click the **Login** button, only the **Email** field will appear in the **Login** window along with a **Continue** button. If the user is having a Partner account and is already logged into the SSO-enabled domain, then the user will be directly taken to the the **Select Partner** window after clicking the **Continue** button. If the user has not logged into the domain, then the user will be redirected to the IDP page for login authentication, and user can login by specifying the SSO credentials.

Partner Dashboard- OAuth

For **Cloud Apps**, the Cisco Spaces dashboard is now enhanced to make the **OAuth** configuration more generic, and now supports to specify OAuth URLs defined by customers. In the **App Title** window, the **OAuth Base URL** field is now replaced with three new OAuth URL fields to specify the login, access token, and partner app info URLs separately. Previously, the login, access token, and partner app info URLs were generated internally based on this base URL. For existing apps, the three URL fields will be filled automatically based on the base OAuth URL.

If the **OAuth** check box is selected, the three OAuth URL fields are mandatory.

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

Table 59: Open Issues

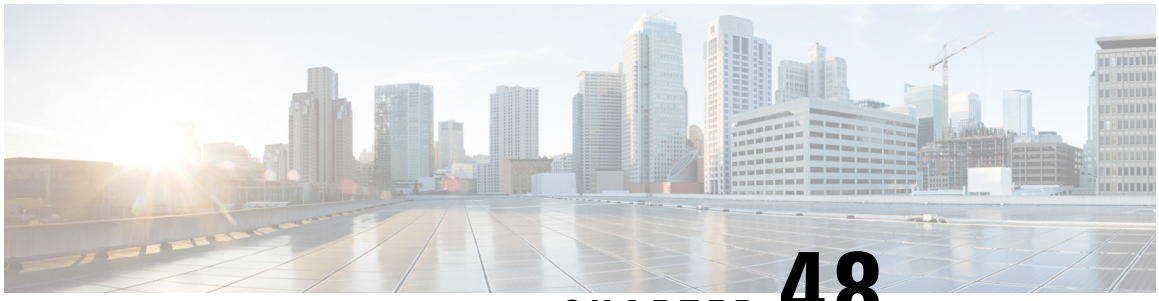
Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who have access only to specific locations are not able to login to dashboard.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser.
CSCvs79627	Meraki camera - User is able to import non camera devices as well.
CSCvs97445	Users count is showing wrong in location hierarchy page.
CSCvt29202	By default Visitor and Visits count are displayed for newly created account in Digitization Stats.
CSCvt62394	User should not be able to save total area value without selecting total area unit value.

Issue Identifier	Issue Description
CSCvt65983	Away rule time selection should be limited as per the vertical visit end time for each account.

Resolved Issues

Table 60: Resolved Issues

Issue Identifier	Issue Description
CSCvs67712	By default first SMS gateway is displayed in all rules eventhough different gateway is configured.
CSCvs76739	Camera - No option provided to enter meraki credential in meraki camera page.
CSCvs37999	Import from maps - Not able to view all the floors due to scroll issue in mozilla browser.
CSCvs67256	While adding CMX Token ,'Add API' call is getting cancelled and page is not loading.
CSCvs90108	User not able to login to partner dashboard while using an email id of a SSO enabled domain.



CHAPTER 48

February 2020

- Introduction to Cisco Spaces, on page 189
- New Features - February 2020, on page 190
- Enhancements - February 2020, on page 190
- Cisco Spaces Runtime, on page 191
- Issues, on page 191

Introduction to Cisco Spaces

Cisco Spaces is a location platform that leverages existing Wi-Fi infrastructure to give you actionable insights and drive business outcomes. It 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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action. In addition, Cisco SpacesCisco Spaces through its partner program, offers different apps for different verticals.

The following are the major features of this release:

- In the Partner dashboard, a new event **BLE Update** is added to receive BLE device updates.
- Support for Captive Portal authentication through Instagram.
- Enhanced the **Access Code** window to display content in different color and fonts.
- Support to export access codes as PDF.
- Support to delete multiple access codes simultaneoulsy, including expired access codes.
- Provision to display the total count of expired access codes.
- A new graph, **Retail Experience Grid**, in Behavior Metrics Retail vertical to view the consolidated report for all the locations for a particular month.
- Enhanced the Network Topology API to provide Floor Number support for the network hierarchies created using Cisco Catalyst Center.

New Features - February 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Partner Dashboard

A new event **BLE Update** is added to the **Events** tab in the Partner dashboard to receive BLE device updates. This event is triggered when there is telemetry update from the BLE devices.

Enhancements - February 2020

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Access Code Manager

The following changes are made to the **Access Code** option in the **Captive Portals** app:

- The Access Code window is enhanced to display text in different color and font.
- You can now delete multiple access codes simultaneously. A check box will appear for each access code, so that you can select multiple access codes at a time, and delete them simultaneously. You can also delete the expired access codes now.
- You can now export the access codes in PDF format. A new option **Export as PDF** is displayed under the **Export** menu that appears at the far right of the **Access Code** window.
- The total count of expired access codes will now be displayed at the top of the **Access Code** window.

Behavior Metrics

A new graph **Retail Experience Grid** will now be available in the Behavior Metrics report for the **Retail** vertical. This graph provides a consolidated report of the visit duration and visit frequency for the entire month from all the locations. The graph will be displayed only for root locations and group locations. The visit duration will be displayed in the X-axis and the visit frequency will be displayed in the Y-axis.

Partner Apps-Network Topology API

The Network Topology API is enhanced to provide Floor Number support for the network hierarchies created using Catalyst Center. Catalyst Center does not support Floor Numbers when you create network hierarchy. This has an impact on the Network Topology API, and the floor number is returned as 1 for all the floors. To resolve this, the Network Topology API will now overwrite the floor number using the metadata set at location hierarchy.

Cisco Spaces Runtime

The following new features are added to the Cisco Spaces runtime:

Captive Portal Authentication through Instagram

Cisco Spaces now supports Instagram as an authentication option in the captive portals. During customer acquisition, the customers can complete the captive portal authentication using their Instagram credentials. Currently, there is no dashboard support for this feature. You must contact the Cisco Spaces support team to avail this feature. You have to create an Instagram app using the Facebook developers app and, configure the valid website URL in it. Then configure the Instagram APP ID and Secret Key in Cisco Spaces dashboard under **Settings** > **Social Apps** in the Captive Portals app.

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

Table 61: Open Issues

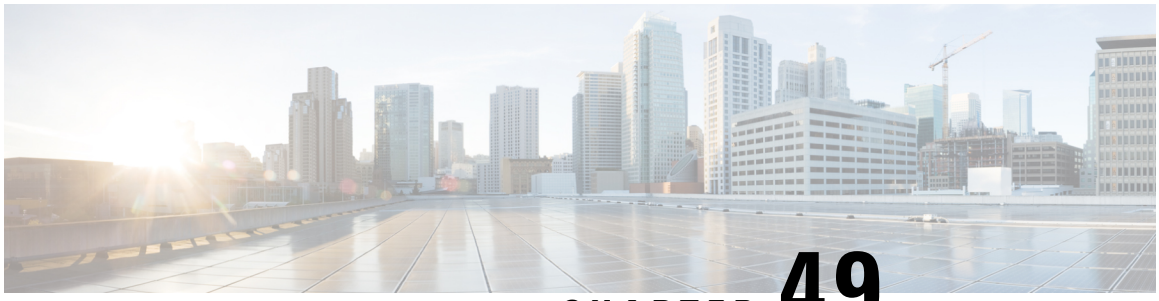
Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who have access only to specific locations are not able to login to dashboard.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser.
CSCvs79627	Meraki camera - User is able to import non camera devices as well.
CSCvs76739	Camera - No option provided to enter meraki credential in meraki camera page.

Issue Identifier	Issue Description
CSCvs90108	User not able to login to partner dashboard while using an email id of a SSO enabled domain.
CSCvs97445	Users count was showing wrong in location hierarchy page.
CSCvs67256	While adding CMX Token ,'Add API' call is getting cancelled and page is not loading.

Resolved Issues

Table 62: Resolved Issues

Issue Identifier	Issue Description
CSCvs08343	When a connector configured with hotspots is deleted, the associated hotspots do not get deleted.
CSCvs69816	CMX Tethering - When floor is deleted the floor access points were moved to building (network).
CSCvs86351	Captive Portal Edit Page - unwanted 'accesscode' text is displaying in email authentication module.
CSCvs75816	On deleting & adding the floor again, floor map is not getting displayed in the location hierarchy.



CHAPTER 49

January 2020

- Introduction to Cisco Spaces, on page 193
- New Features - January 2020, on page 194
- Enhancements - January 2020, on page 195
- Cisco Spaces Runtime, on page 195
- Issues, on page 195

Introduction to Cisco Spaces

Cisco Spaces is a location platform that leverages existing Wi-Fi infrastructure to give you actionable insights and drive business outcomes. It 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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action. In addition, Cisco Spaces through its partner program, offers different apps for different verticals.

The following are the major features of this release:

- Cisco 9800 Series wireless controller support for Cisco Spaces Connector.
- In the Cisco Spaces dashboard, new option **View Stream Auth Key** to do the configurations for the upcoming **Cisco Edge Device Manager** app.
- In the Captive Portals app, support to add **Access Code** as authentication type for the captive portals.
- In the Captive Portals app, support to add **Date of Birth** in the Data Capture form.
- In Partner apps, new parameter **uncertainty** added for the event **Device_Locate_Update** in Firehose API for Cisco Meraki network.
- In Partner apps, Device LookUp API is now enhanced to work when the clientIP is unique across networks.
- Enhanced the Impact Analysis app to display sample reports and new event period options.
- Access Code authentication support for Captive Portals (Runtime).

New Features - January 2020

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Cisco Catalyst 9800 Series Wireless Controller Support for Cisco Spaces Connector

Cisco Spaces Connector now supports Cisco Catalyst 9800 Series Wireless Controller. You can configure the Cisco Catalyst 9800 Series Wireless Controller for Cisco Spaces Connector using the Cisco Spaces dashboard. To configure the Cisco Catalyst 9800 Series Wireless Controller in the Cisco Spaces dashboard, in the **Connect via Spaces Connector** widget under **Setup** > **Wireless Networks**, a new option **Catalyst WLC** is now available for selection in the **Controller Type** drop-down list in in the **Add Controller** window.

View Stream Auth Key

In the Cisco Spaces dashboard, a new option **View Stream Auth Key** option is now available to enable BLE and ZigBee data stream between AP and Cisco Spaces for an upcoming app **End Device Manager** . In the **Connect via Spaces Connector** widget, when you click **View Connectors**, the **View Stream Auth Key** will appear in the menu at the far right of the connectors. As **End Device Manager** is under development and not currently available, this feature has limited access.

Captive Portal

The following changes are made to the captive portal wizard that appears when you click **Create New** in the Captive Portal app:

- In the Authentication window, a new option **Access Code** is now available in the **SELECT THE AUTHENTICATION TYPE** drop-down list to support authentication of the captive portals using access codes. The Access Code authentication supports **Inline authentication** , and allows for users to opt in to receive messages.
- In the **Data Capture** window, a new option **Date of Birth** is now available under **Add Field Element** to include the **Date of Birth** field in the Data Capture form. If you add the **Date of Birth** field, you are not allowed to select the **Moderate** option in the **Enable Age Gating** area in the **User Agreements** window.

Partner Apps

- **FireHose API**: For the **DEVICE_LOCATION_UPDATE** event, a new parameter **uncertainty** is added to capture the **unc** value that is part of the event. This enhancement is for Cisco Meraki. The **unc** value denotes the distance of the device from the Meraki AP. This value will be converted to square feet, and the converted value is passed as **uncertainty** parameter. Also, **AP Topology** event is enhanced to show the floors without APs in the Error Topology list.
- **Device Lookup API**: Device LookUp API is now enhanced to work when the clientIP is unique across networks. In such cases, customer is neither required to supply remoteIP in the request nor required to configure the remoteIP for a network in the metadata. Device LookUP also does the fallback to clientIP specific LookUp when it cannot find the device associated with the supplied {remoteIP + clientIP}.

Enhancements - January 2020

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Impact Analysis

The following changes are made to the the Impact Analysis app

- In the **Measure Impact** window, the **Same Period Last Year** option has been removed from the **Choose the event period that you like to measure** area. Also, renamed the **Daily Average during Past 365 days** option to **Period DURING Event**.
- A new option **Period AFTER Event** has been added to the **Choose the event period that you like to measure** area. This option enables you to specify a date range as event period. For this option, the Impact Analysis report displays a graph that compares "the data for the same duration before the date range specified" with "the data for the the same duration after the date range specified". For example , if you are specifying the date range, January 01, 2020 to January 10, 2020 (10 days), the Impact Analysis report displays a Bar graph with data for the time period December 22, 201 9 to December 31, 2019 (10 days) and the data for the time period January 10, 2020 to January 19, 2020 (10 Days). Total number of locations also will be displayed at the bottom of the graph.
- Sample reports are displayed if there are no events or if there is no data for the particular Cisco Spaces account. If data exists, the **Create an Event** button will appear. If there is no data for the date range specified for an event, the message "There is no data available for the selected period" will appear. If you create an event with a future date, the message " This event has not yet completed" will be displayed.
- You can now delete multiple events at a time. When you select multiple events, a **Delete** button will appear at the bottom of the window.

Cisco Spaces Runtime

The following changes are made to the Cisco Spaces runtime:

Access Code Based Authentication Support

In addition to E-mail, SMS, and Social authentication, Cisco Spaces runtime now supports to authenticate the captive portals using access codes. If the captive portal is configured with access code authentication, the user will be prompted with an UI to enter the access code. Upon entering a valid access code, the user is provisioned with internet.

You can generate the access codes and share it with the user using the **Access Code** option available in the menu of the **Captive Portals** app.

Issues

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Open Issues

Table 63: Open Issues

Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who has access to specific locations are not able to login to dashboard.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser
CSCvs08343	When a connector configured with hotspots is deleted, the associated hotspots do not get deleted.
CSCvs15189	SSO user(A alone) - Duplicate "Captive portal" app is displayed in apps drop down button.
CSCvs75816	Map - On deleting & adding floor again, map is not imported in the location hierarchy.
CSCvs48740	Map Service - Last login account mapservices data reflected in other customers map service.
CSCvs79627	Meraki camera - User is able to import non camera devices as well.
CSCvs76739	Camera - Not able to provide meraki credential in meraki camera page.
CSCvs90108	User not able to login to partner dashboard while using an email ID of a SSO enabled domain.
CSCvs34730	SSO - Proper error message is not displayed if SSO user tried to reset the password.

Resolved Issues

Table 64: Resolved Issues

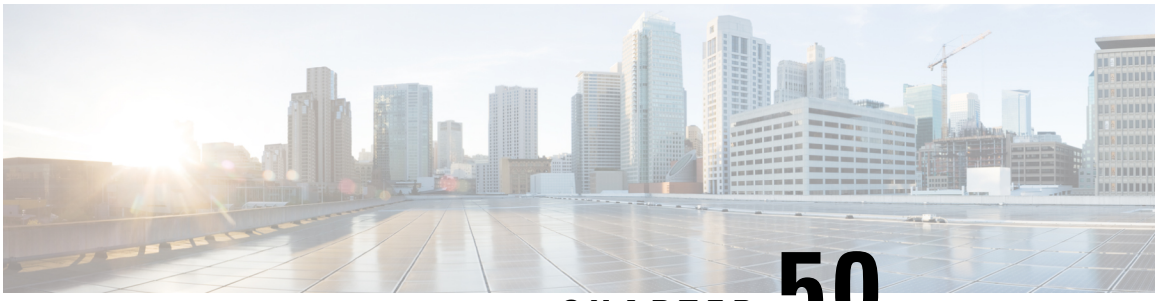
Issue Identifier	Issue Description
CSCvs34747	SSO - Not able to login to dashboard account selection page keeps on spinning
CSCvs34610	SSO - Auto activation of any email address is happening as part of SSO release
CSCvs15469	Resend invite feature has been removed from live for SSO users.
CSCvs25540	Meraki Camera - Camera detail with APs is not displayed in the location detail page.



PART V

2019

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CHAPTER 50

December 2019

- Introduction to Cisco Spaces, on page 201
- New Features - December 2019, on page 202
- Enhancements - December 2019, on page 203
- Issues, on page 203

Introduction to Cisco Spaces

Cisco Spaces is a location platform that leverages existing Wi-Fi infrastructure to give you actionable insights and drive business outcomes. It 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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- Single sign-on(SSO) support for Cisco Spaces.
- For OpenRoaming app, support to add hotspot for Cisco Spaces connectors through the Cisco Spaces dashboard.
- Provision to view the wireless controller configurations required for the OpenRoaming app in theCisco Spaces dashboard.
- In the Cisco Spaces Partner dashboard, provision to display the total number of activations occured for each app.
- Updated the App Activation wizard in the Cisco Spaces Partner dashboard to be same as in Cisco Spaces to provide a real time app activation experience for partners.
- Enhanced the network synch server to synchronize the cameras in Cisco Meraki with Cisco Spaces.
- Support to add partner app status through Cisco Spaces Partner Admin dashboard, and thereby control the partner apps to be displayed in Cisco Spaces.

New Features - December 2019

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Login Window Changes for SSO Support

Cisco Spaces now supports Single Sign-On (SSO) so that the users can login to Cisco Spaces using their SSO credentials. For example, if the domain **Cisco** is SSO-enabled, the Cisco employees, who have Cisco Spaces account, can access Cisco Spaces using their Cisco e-mail address and password. If a Cisco employee is already logged in to Cisco domain through any particular website or application, that Cisco employee can access Cisco Spaces by simply specifying the Cisco e-mail address.

To support SSO login for Cisco Spaces, the login screen for Cisco Spaces is renovated. Now, when you click the **Login** button, only the e-mail ID field will appear in the **Log In** window along with a **Continue** button. If the user is already logged into the SSO-enabled domain, then the user will be directly taken to the Cisco Spaces dashboard after clicking the **Continue** button. If the particular Cisco Spaces account supports multiple customer names, then the **Select Customer** window will be displayed. If the user has not logged into the domain, then the user will be redirected to the IDP page for login authentication, and user can login by specifying the SSO credentials.

Hotspot OpenRoaming

For the OpenRoaming app, the following dashboard support is added:

- **Add Hotspot for Connector**: You can now add hotspot for Cisco Spaces connectors from the Cisco Spaces dashboard. In the **Connect via Spaces Connector** widget under **Setup** > **Wireless Networks**, a new option **Add OpenRoaming** will be available at step 2 using which you can configure the hotspots.
- **Controller Configurations** : The configurations to be done in the wireless controllers for using the OpenRoaming app is now displayed in the Cisco Spaces dashboard. In the **Connect via Spaces Connector** widget under **Setup** > **Wireless Networks**, a new option **OpenRoaming Controller Configuration** will be available at step 2 to view the configurations. The configurations required for both Cisco AireOS and Cisco Catalyst 9800 Series can be viewed separately.

Partner dashboard

The following new features are added to the Cisco Spaces Partner dashboard:

- **Activation Count for Apps**: In the Partner dashboard, now for each app, the total number of activations occurred for that app will be displayed. To view the number of activations for an app, in the Partner dashboard, click the **Activation** link for that app.
- **Partner App Activation Flow**: In the Partner dashboard, the app activation flow is now made similar to that in Cisco Spaces. So the app activation wizard that appears in Cisco Spaces dashboard and Cisco Spaces partner dashboard will be same. This will give a real time activation experience for partners during app testing.

Network Sync Server

Cisco Spaces Network Sync Server is enhanced to support synchronization for Cisco Meraki Camera. Cameras added to or deleted from Cisco Meraki get synchronized automatically in Cisco Spaces. Cameras placed in Cisco Meraki floors will not be moved to floors in Cisco Spaces. It will be retained in network locations only.

Enhancements - December 2019

Cisco Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Partner Admin Dashboard

Cisco Spaces Partner Admin dashboard is enhanced to control the status of partner apps. The Partner apps can have any of the following status :

- LIVE
- APPROVED
- UNDER-REVIEW-COMING-SOON
- UNDER-REVIEW
- NEW

The apps with status, LIVE, APPROVED, or UNDER-REVIEW-COMING-SOON, only will be displayed in the Cisco Spaces dashboard.

The app status will be set by Cisco Spaces support team using Cisco Spaces Partner Admin dasboard. Partners must inform the Cisco Spaces support team the status to be assigned for each app, and get it updated when a change in status is required.

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

Table 65: Open Issues

Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who has access to specific locations was not able to login to dashboard.
CSCvq24076	Right Now - On modifying location hirearchy, existing associated counters not cleared.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser
CSCvs34747	SSO - Not able to login to dashboard account selection page keeps on spinning
CSCvs34730	SSO - Proper error message is not displayed if SSO user is tried to reset the password
CSCvs34610	SSO - Auto activation of any email address is happening as part of SSO release
CSCvs15469	Resend invite feature has been removed from live for SSO users.
CSCvs08343	SSO - Hotspot once added unable to delete or not removed when connectors are deleted.
CSCvs15189	SSO user(A alone) - Duplicate "Captive portal" app is displayed in apps drop down button.
CSCvs25540	Meraki Camera - Camera detail with ap's is not displayed in the location detail page.

Resolved Issues

Table 66: Resolved Issues

Issue Identifier	Issue Description
CSCvs10018	Not able to find current session . please login again error displayed in live dashboard.
CSCvs05071	Meraki API Key - Wireless Network status was not displayed as connected after authenticating Meraki .
CSCvr99306	Engagement rule link template no validation available for Link , accept plain text as well.
CSCvr99286	Renaming any portal name with existing portal name error message is not correct.

Issue Identifier	Issue Description
CSCvr93655	CMX Tethering - Only one Floor is getting added and rest all got cleared and not imported.
CSCvr89015	Activation page keeps on loading when wrong password is entered during activation.
CSCvr88647	All locations - No validation message displayed on renaming same location name.
CSCvr88600	Search and rename the searched location displayed html tags on rename text box.
CSCvs36774	Forgot - If user provides their email id in camel case, then user is not able to reset the password.
CSCvs17068	SSID - Not able to delete the meraki's SSID, if network name has starting with the space.
CSCvr95954	On clicking captive portal tile, observed blank page for few sec while loading the portal list page.



CHAPTER 51

November 2019

- Introduction to Cisco Spaces, on page 207
- New Features - November 2019, on page 208
- Enhancements - November 2019, on page 209
- Issues, on page 210

Introduction to Cisco Spaces

Cisco Spaces is a location platform that leverages existing Wi-Fi infrastructure to give you actionable insights and drive business outcomes. It 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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- New app **Impact Analysis** to measure the impact of an event based on before and after analytics.
- The **Monitoring & Support** section now shows the health and uptime of all the partner apps..
- Enhanced the Partner dashboard to display **Sign up and Onboarding** window as the first window in the Activation wizard.
- Provision to download the Terms and Conditions for the app from the Activation wizard.
- Added two new Firehose API events in the Partner dashboard, and decprecated two existing events.
- New text field in the Partner dashboard to add Sign Up URL.
- Support to display total number of app activation for a partner in the Partner dashboard.
- Network Synchronization support for Meraki floors when connected using Meraki API key.
- In Behavior Metrics, instead of displaying "locations" and "visitors", the sub vertical specific terms are displayed.
- Enabled Support to add custom variables in **Engagement Rule** for **Trigger API**.
- In Partner dashboard, enabled the validation of the OAuth Base URL field, and added a note to include only https protocol in the URL.

New Features - November 2019

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Impact Analysis

A new app **Impact Analysis** is now available in Cisco Spaces dashboard. Impact Analysis is a way of measuring the effect of any action you made based on before and after analytics. You can see the impact of events and changes to your business location on your behavior metrics.

This helps you to analyze the metrics in a location during a particular period, and compare it with daily average in last 365 days or with the same period in the previous year. This app will be available for SEE, ACT, and Extend license types.

You can create an event with a particular time period, and can compare the metrics during the period of the event with the metrics of :

- Daily Average during Past 365 days
- Same period last year.

You can compare the following metrics:

- Visit duration
- Visit Count

The report displays the comparison report. The report will have the following data:

- **Impact on Visit Duration**: Displays a bar chart with the average visit duration for the event, and the average visit duration for the selected time window, in minutes.
- **Impact on Visit Count**: Displays a bar chart with the average visit count for the event and the average visit count for the selected time window, in percentage.

For example, you can define an event with **From** date as 10-1-2019, **To** date as 10-10- 2019, and Business Location as B. Choose **Same period last year** for comparing. You will get a report showing the performance in location B during 1st and 10th of October 2019 along with the performance in location B during 1st and 10th of October 2018.

Monitoring & Support

The **Monitoring & Support** section now displays the health of the partner apps the customer has activated. In the **Monitoring** tab, a new section, **Partner Apps** is now available that displays the uptime and health status of all the apps the customer has activated. The overall status of partner apps is shown in the **Summary** section.

App Activation Flow

For partner apps, the first window in the **App Activation** wizard will now be **Sign up and Onboarding**.

In the **Sign up and Onboarding** window, if you select "I dont have an account with <partner name>, and would like to sign up for an account", a **Sign Up** button appears in the window. The **Sign Up** button will be redirected to Sign Up URL configured for the app in the Partner dashboard. The **Sign Up** button appears only if the partner has configured the **Sign Up URL** field in the **App Title** tab in the Partner dashboard.

App Activation Terms

For partner apps, in the **Accept Terms & Conditions** window of the Activation wizard, a link will be available to download the Terms and Conditions . You can download the Terms and Conditions in the Text format.

Partner dashboard

The following new features are added to Cisco Spaces Partner dashboard:

- **Event Types**: Two new Fire Hose API events , **Device Presence** and **User Presence** are newly added for partner apps. The events **Device Active** and **Device Passive** are deprecated.
- **Sign Up URL** Field: In the **App Title** tab for an app, a new field **Sign Up URL** is added to specify the URL to which the customer will be redirected after clicking the **Sign Up** button during activation.
- **Total Count of Activated Apps**: When a partner logs in to the Partner dashboard, the total number of activations happened for all of the apps of the particular partner is displayed at the top-right of the dashboard.

Network Sync Server

Network Sync Server now supports synchronization for the Meraki floors when Cisco Spaces is connected to the Meraki Network using a Meraki API Key. So, now the floors are imported to the location hierarchy, and are synched with Cisco Meraki by the network sync server. Previously, if connected using Meraki API Key, floors were not imported and syncronization was not happening.

Enhancements - November 2019

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Behavior Metrics

In Behavior Metrics report, for the Retail vertical, the terms for **Visitors** and **Location** in descriptions can be changed based on the sub vertical of your business. Suggested text for various sub verticals will be as shown in the following table:

Table 67: Text for Various Sub Verticals

Text	Restaurant	Gym	Museum	Club	Casino	Financial Retail	Auto Retail	Default/ All Others
Visitors	Diners	Members	Visitors	Members	Gamers	Customers	Customer	Visitor
Location	Restaurant	Gym	Museum	Club	Casino	Branch	Dealership	Location

However, the suggested sub vertical terms will be used only on request basis. You can contact the Cisco SpacesCisco Spaces support team if you want to avail this feature.

Custom Variable Support for Trigger API

In the Engagements Rule, for Trigger API, you can now define custom variables for the methods, GET, POST FORM, POST BODY, and POST JSON. When you click on a variable field for a method, a **Custom Variable** button is displayed along with the pre-defined variables. For the POST BODY method, currently there is no custom variable support for POST BODY DATA field, but it is expected in the upcoming releases. However, the URI field will not have custom variable support.

Validation of App Dashboard URL

In the Partner dashboard, in the **App Title** tab for the apps, a note is added in the **OAuth Base URL** field asking only to include **https** protocol in URLs. In addition, the Partner dashboard is enhanced to validate this URL during saving, and to display an error message if the validation failed or the URL is not a secure one (HTTPS).

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

Table 68: Open Issues

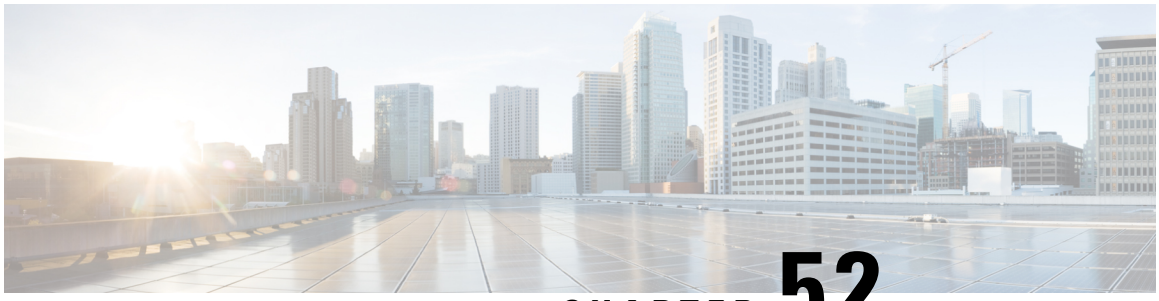
Issue Identifier	Issue Description
CSCvq83680	RBAC - Admin users who has access to specific locations was not able to login to dashboard.
CSCvq24076	Right Now - On modifying location hirearchy, existing associated counters not cleared.

Issue Identifier	Issue Description
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser
CSCvr99306	Engagement rule link template no validation available for Link , accept plain text as well.
CSCvr99286	Renaming any portal name with existing portal name error message is not correct.
CSCvr89015	Activation page keeps on loading when wrong password is entered during activation.
CSCvr88600	Search and rename the searched location displayed html tags on rename text box.
CSCvr95954	On clicking captive portal tile, observed blank page for few sec while loading the portal list page .
CSCvs17068	SSID - Not able to delete the Meraki's SSID, if network name has starting with the space..

Resolved Issues

Table 69: Resolved Issues

Issue Identifier	Issue Description
CSCvs06204	Date/day is wrong in Cisco Spaces report.
CSCvr21932	RBAC - Unable to create controller using V3 SNMP version "Failed to create controller"
CSCvs10018	Not able to find current session . please login again error displayed in live dashboard.
CSCvs05071	Meraki API Key - Wireless Network status was not displayed as connected after authenticating Meraki.
CSCvr93655	CMX Tethering - Only one Floor is getting added and rest all got cleared and not imported
CSCvr88647	All locations - No validation message displayed on renaming same location name.
CSCvr95920	Rules - Success message is not displayed if user selects "seamlessly provision internet" option.



CHAPTER 52

October 2019

- Introduction to Cisco Spaces, on page 213
- New Features - October 2019, on page 213
- Enhancements - October 2019, on page 214
- Issues, on page 215

Introduction to Cisco Spaces

Cisco Spaces is a location platform that leverages existing Wi-Fi infrastructure to give you actionable insights and drive business outcomes. It 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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- Cisco Spaces dashboard menu is collapsed by default.
- Support to capture all public user information through social authentication (runtime).
- In Behavior metrics, enhanced the metrics computation for the Workspaces vertical to display more accurate employee and visitor counts.
- A new support icon is added to the Cisco Spaces dashboard with links to Cisco Spaces support, and removed the existing Chat option.
- Partners Apps are now available in Cisco Spaces dashboard.
- Enhanced the **Client ID** field for partner apps to make it editable by partner.

New Features - October 2019

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Dashboard Display Changes

The Cisco Spaces dashboard is modifed to display its menu only when the user opts for it. After log in, the dashboard now displays a single pane with Digitization Status and Apps. A three-line menu icon is displayed at the top-left of the Cisco Spaces dashboard using which you can access the Cisco Spaces menu. After selecting a menu item, the menu will be hidden, and only the window corresponding to the selected menu item is displayed. Previously, the menu was displayed always in a separate pane in the left side of the dashboard.

Partner Apps

The partner apps that are integrated with Cisco Spaces Partner dashboard will now be available in Cisco Spaces dashboard. The Apps can be accessed from **Extended Partner Apps** available under the title, **Extend**. The apps will be displayed based on the order ID assigned to them internally. You can download and use the app with the approval of the partner who owns the app.

Cisco Spaces Support Icon

A new Cisco Spaces dashboard **Support** icon that provides links to Cisco Spaces documentation and support is now available at the top-right of the Cisco Spaces dashboard. When you click this icon, you can see the following menu items:

- **Help Center**: Links to the Cisco Spaces articles.
- **Documentation**: Links to the Cisco Spaces documentation in cisco.com.
- **Support**: Links to the Cisco Spaces support page. This support page contains phone number and e-mail address to reach out the Cisco Spaces support team. It also has provision to raise TAC tickets.

The chat icon that was displayed at the bottom-right of the Cisco Spaces dashboard is now removed. You can use the above TAC support links for any further communication to the Cisco Spaces support team.

Enhancements - October 2019

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Partners Dashboard

The Cisco Spaces Partner dashboard is enhanced to make the **Client ID** field on the **App Title** tab editable by partners. Previously, it was not editable and was set as "DNASpaces".

Behavior Metrics

The algorithm for computing behaviour metrics for the Workspaces vertical is enhanced. Now the employee / guest identification depends on the SSID to which the user's device is connected to. The guest SSIDs have to be configured in Cisco Spaces. Currently there is no dashboard support for configuring guest SSIDs. For configuring guest SSIDs, contact the Cisco Spaces support team.

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

Table 70: Open Issues

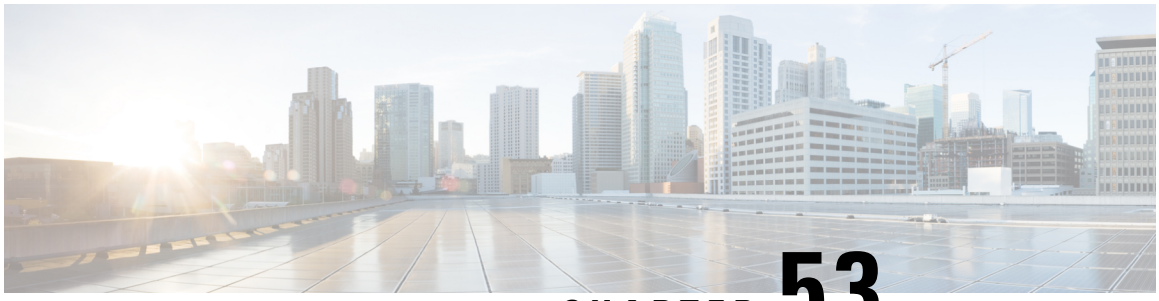
Issue Identifier	Issue Description
CSCvr21932	RBAC - Unable to create controller using V3 SNMP version "Failed to create controller"
CSCvq83680	RBAC - Admin users who has access to specific locations was not able to login to dashboard.
CSCvq24076	Right Now - On modifying location hirearchy, existing associated counters not cleared.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser

Resolved Issues

Table 71: Resolved Issues

Issue Identifier	Issue Description
CSCvr70362	Generic - CMX Manual Upload - User is able to view the MSE text in the sample curl command
CSCvr70310	Generic Issue - User is not allowed to copy any text in the location hierarchy page

Issue Identifier	Issue Description
CSCvq41890	RBAC - While login ACM user, First it's redirected to CP and then ACM page is displayed
CSCvq79930	RBAC-If the token is expired,On clicks activation link it throws "Failed to get activate the user".
CSCvq99869	Portal - On copying a portal with the asset, Asset is not added in the newly created portal.
CSCvr31508	Setup Page - Read only user is able to create a new token for spaces connector in Edge browser
CSCvp96608	Setup Widget Import Controllers Count is wrong for Spaces Connector.
CSCvq31873	LIVE - Unable to get the URL option for Webex teams and email option in engagement rule
CSCvr48736	Data Capture - Mobile Number default country code dropdown shows different country name
CSCvq83686	Unable to launch the dashboard when ad blockers are enabled.
CSCvr12826	Unable to login to dashboard , throws type error Upper case is not function.



CHAPTER 53

September 2019

- Introduction to Cisco Spaces, on page 217
- New Features - September 2019, on page 217
- Enhancements - September 2019, on page 218
- Issues, on page 219

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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- Support for Meraki network synchronization using Meraki Service account.
- OpenRoaming app that enables mobile users to automatically and seamlessly roam across Wi-Fi and Mobile networks.
- For Brazil, Area Code validation for phone number entered in Data Capture form, and the phone number specified for Soft or Hard SMS authentication (runtime).
- Provision to auto format the numeric value entered in the **CPF** field of the **Data Capture** form (runtime).
- Support to capture data from Enterprise Captive Portals (runtime).

New Features - September 2019

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Service Account Workflow for Meraki

The details of Meraki network such as organization, networks, APs and so on will now be fetched to Cisco Spaces using a Meraki Service account. Previously, Meraki customer account was used for fetching Meraki details, and for network synchronization thereafter.

To avail this support, customers using Cisco Meraki network must invite the Meraki service account from their Meraki customer account. You can invite the Meraki Service account using the **Organization** > **Administrators** > **Add Admin** option in the Cisco Meraki dashboard for the filtered Organization. You can contact the Cisco Spaces support team for the e-mail ID of Meraki Service account.

However, to connect Cisco Spaces to Cisco Meraki, you must still use your Meraki customer account. The customer's Meraki account is used for importing the networks into location hierarchy, for which the user has access to. The service account is used for background network synchronization to keep the Location Hierarchy up-to-date.

OpenRoaming App

The OpenRoaming app is now available for the customers who have opted for it.

The OpenRoaming app enables you to allow the mobile users to automatically and seamlessly roam across Wi-Fi and Mobile networks. The Identity Provider (IDP) will identify and authenticate the Wi-Fi users through the integration mechanism defined by the customer, and share the profile details of the users with the Cisco Spaces OpenRoaming platform.

Openroaming supports both Cisco AireOS and Cisco Meraki networks. For both networks, you must use a Cisco Spaces Connector for utilizing this app. To enable OpenRoaming, you must contact the Cisco Spaces support team.

The Open Roaming app provides various reports based on the data it collected. The details such as total number of devices connected to the OpenRoaming enabled network, the internet traffic (data exchange occurred through the network), total number of connections, average visit duration, Unique Devices chart, Devices by IDP, Monthly Internet Traffic (Data Exchange on the network during the particular month), Daily Average Visit Duration, and Data used per Customer (these can be filtered for a specific time duration such as daily, weekly, monthly or a custom duration) are displayed in the report.

Enhancements - September 2019

Cisco Spaces Runtime

The following changes are made to Cisco Spaces Runtime:

Brazil Area Code Validation

The Phone number validation for the Brazil is now enhanced to include area code validation. Phone number with dial code "+55" must be followed by any of the area code for Brazil. Only valid area codes are accepted. For example, **+5500xxxxxxx** is invalid as **00** is not a valid area code. This validation is applicable for mobile numbers captured anywhere in the captive portal.

CPF Field Masking

In the **Data Capture** form, the **CPF** field is now enhanced to convert the value entered in it to the "000.000.000-00" format. The number will be formatted automatically as the user enters the CPF number

value. So now the captive portal users do not have to add dots or hyphen manually to maintain the required format.

Enterprise Portal Data Exchange

The captive portal runtime now supports data exchange between the enterprise captive portals and Cisco Spaces. This allows the customers to have their own enterprise captive portal, and store the data it collects with Cisco Spaces. This enables the customer to provide personalized experiences to their end users.

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.
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Open Issues

Table 72: Open Issues

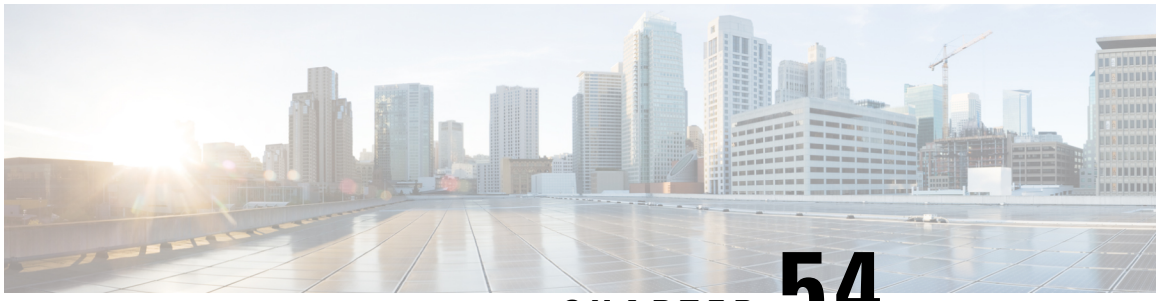
Issue Identifier	Issue Description
CSCvr12826	Unable to login to dashboard , throws type error Upper case is not function
CSCvq31873	LIVE - Unable to get the URL option for Webex teams and email option in engagement rule.
CSCvr21932	RBAC - Unable to create controller using V3 SNMP version "Failed to create controller"
CSCvq83680	RBAC - Admin users who has access to specific locations was not able to login to dashboard.
CSCvq83686	Unable to launch the dashboard when ad blockers are enabled.
CSCvq99869	Portal - On copying a portal with the asset, Asset is not added in the newly created portal.

Issue Identifier	Issue Description
CSCvp96608	Setup Widget Import Controllers Count is wrong for Spaces Connector.
CSCvq79930	RBAC-If the token is expired,On clicks activation link it throws "Failed to get activate the user"
CSCvq41890	RBAC - While login ACM user, First it's redirected to CP and then ACM page is displayed.
CSCvq24076	Right Now - On modifying location hirearchy, existing associated counters not cleared.
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser

Resolved Issues

Table 73: Resolved Issues

Issue Identifier	Issue Description
CSCvr12782	Unable to view Token for WLC Direct widget for Base subscription accounts.
CSCvr22232	User is not able to change the password when the password is going to expire.
CSCvq89946	Connector container upgrade doses not work from qa-dnaspaces cloud.
CSCvq99180	Connector status displayed on Cisco Spaces cloud does not match the Connector UI status.
CSCvr39336	API server - Event details were missing for new floor added to existing activation.
CSCvr46654	Connection terminated while editing any one app, where more than one app activated to same location.
CSCvr23534	Visitor count is not proper when SSID info is not received during visit start and received later.



CHAPTER 54

August 2019

- Introduction to Cisco Spaces, on page 221
- New Features - August 2019, on page 222
- Cisco Spaces Runtime, on page 223
- Enhancements - August 2019, on page 223
- Issues, on page 223

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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- Role-Based Access Control for Cisco Spaces user accounts.
- Visitor Engagement report for Engagement Rules.
- Partner API Documentation in new outlook (Partner dashboard).
- Provision to renew API Keys for partner apps (Partner dashboard).
- AP removal support for Cisco CMX.
- For Meraki, support for location updates from bluetooth devices.
- Enhancement to display failed login attempts in log history.
- D3 framework for Behavior Metrics reports to optimize the accuracy of graphs.
- Support to include the Date of Birth field in the Data Capture form (runtime).

New Features - August 2019

Cisco Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Role Based Access Control

Cisco Spaces user account management feature is now enhanced to provide role-based user accounts. This role-based access control feature enables you to invite users with access rights to individual apps.You can now create user roles with different access rights to different apps. For example, you can create a user role with read and write permisision in the Captive Portals app, and read only permission in the Operational Insights app. You can create another user role with read only in Operational Insights and BLE Manager app. Similarly, you can create as many user roles you want combining various services provided. Previously, Cisco Spaces provided only certain predefined user roles, and there was no provision to create custom user roles.

In addition, for certain apps such as Captive Portals you can invite and manage the users from the particular app itself. The Captive Portals app has a **User Management** option to manage the users. The Captive Portals app has user roles **Creative User** and **AccessCodeManager** .

In the Cisco Spaces dashboard, the **Users** option to invite Cisco Spaces users is now renamed to **Admin Management**.

When a Cisco Spaces account is created, a Dashboard Admin Role user is created for the account with the e-mail ID provided. This Dashboard Admin can invite other users for Cisco Spaces.

Cisco Spaces provides only one default user role, **Dashboard Admin Role**.

- For the ACT license, by default, Dashboard Admin Role will have read and write access rights to the services, DNASpaces (including menu items in the left pane of the dashboard, and the apps Behavior Metrics, OpenRoaming, Location Analytics, Engagements, and Location Personas), CaptivePortals, and OperationsInsights.
- For the SEE (Base) license, by default, a Dashboard Admin Role will have access only to DNASpaces.
- If the Dashboard Admin Role requires access to any other services(apps) such as BLE Manager, you must contact the Cisco Spaces support team.

Engagement Rule- Visitor Engagement Report

A new report, **Visitor Engagement**, is now available in the **Engagements** App. The Visitor Engagement report shows the details of engagements with the visitors based on the Engagement Rule you have configured. A new option **Visitor Engagement** is now available in the menu that appears when you click the three parallel line icon in the **Engagements** window.

Partner Dashboard

In the Partner Dashboard, the online Help that appears when you click the **API Documentaion** is now revamped to appear in a different outlook. The new online Help is enpowered by XMART.

For the Partner apps that are integrated with Cisco Spaces Partner dashboard, you can now renew the API Keys for connecting Cisco Spaces with the particular App. Ninety days after defining an API Key, a message is displayed recommending you to renew the API Key. However, API Key renewal is optional. A new **Renew**

button now appears when you hover over the API Key. You can renew the API key separately for Sandbox, Pre Production, and Production environment.

Network Sync Server-AP Removal Support

Network sync server now supports to delete the APs that are removed from Cisco CMX. Previously, such APs had to be removed manually from backend.

Support for location Updates from Bluetooth Devices-Meraki

For Meraki network, Cisco Spaces now supports to receive location updates from Bluetooth devices. The location updates from bluetooth devices are reflected in the Behavior Metrics report.

Cisco Spaces Runtime

The following new features are add to Cisco Spaces Runtime:

Data Capture Form

The Data Capture form in Captive Portals now supports to add the **Date of Birth** field. If you have enabled GDPR, you cannot include the **Date of Birth** field in the Data Capture form. The Date of Birth is captured in runtime either from the **Enable Age Gating** or **Date of Birth** field. Currently, there is no dashboard support for this field. If you want to add the **Date of Birth** field in the Data Capture form, you must contact Cisco Spaces support team.

Also, for **GDPR-Age Gating** with **Strict** mode, the drop-down list for selecting the age is now replaced with a Date Picker.

Enhancements - August 2019

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Log History Enhancements

The log history that appears when you click the **View History** link is enhanced to display failed log in attempts to the particular Cisco Spaces account. Previously, only successful logins were logged.

Behavior Metrics

D3 Framework has been implemented for Behaviour Metrics charts. Previously, JQwidget was used for Behavior Metrics charts. This enhancement enables to display more accurate charts without gaps.

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

Table 74: Open Issues

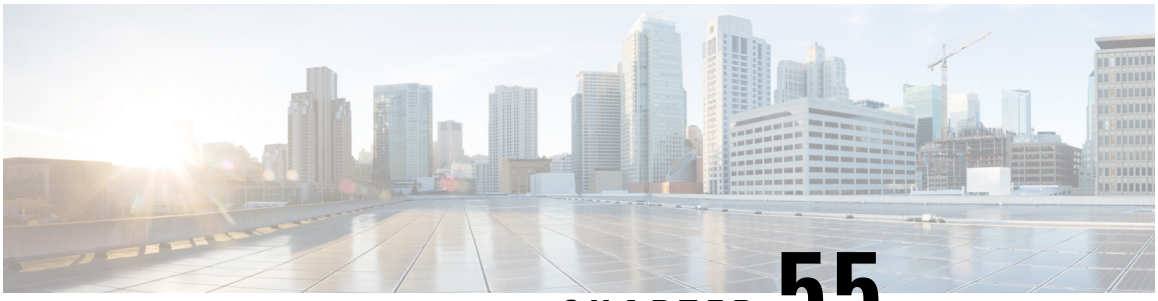
Issue Identifier	Issue Description
CSCvr12826	Unable to login to dashboard , throws type error Upper case is not function
CSCvq31873	LIVE - Unable to get the URL option for Webex teams and email option in engagement rule
CSCvr21932	RBAC - Unable to create controller using V3 SNMP version "Failed to create controller"
CSCvq83680	RBAC - Admin users who has access to specific locations was not able to login to dashboard.
CSCvq83686	Unable to launch the dashboard when ad blockers are enabled.
CSCvr22232	User is not able to change the password when the password is going to expire
CSCvq99869	Portal - On copying a portal with the asset, Asset is not added in the newly created portal.
CSCvp96608	Setup Widget Import Controllers Count is wrong for Spaces Connector.
CSCvq09339	Controller version gets changed from actual version configured on WLC.
CSCvq79945	RBAC - License type logo is clickable but nothing happened when clicked.
CSCvq79930	RBAC-If the token is expired,On clicks activation link it throws "Failed to get activate the user"
CSCvq41890	RBAC - While login ACM user, First it's redirected to CP and then ACM page is displayed.
CSCvq24076	Right Now - On modifying location hirearchy, existing associated counters not cleared.

Issue Identifier	Issue Description
CSCvp57525	Location Analytics- Dwell time range % is overlapping in Dwell time break down chart when dwell time values are lesser
CSCvr23534	Visitor count is not proper when SSID info is not received during visit start and received later.

Resolved Issues

Table 75: Resolved Issues

Issue Identifier	Issue Description
CSCvp46851	Retail Metrics - Tooltip had multiple pointer while placing cursor in the scatter plot charts.
CSCvr12782	Unable to view Token for WLC Direct widget for Base subscription accounts



CHAPTER 55

July 2019

- Introduction to Cisco Spaces, on page 227
- New Feature - July19, on page 229
- Enhancements - July19, on page 230
- Issues, on page 230

Introduction to Cisco Spaces

Cisco Spaces is a powerful location services platform that leverages existing wireless and/or IoT (BLE) infrastructure to provide actionable insights and drive business outcomes through spaces built-in applications.

Insights from Cisco Spaces include:

- Location Analytics that provides the capability to slice and dice location data by time or location and get a deeper visibility into behaviour of people that are connected to your network.
- Right Now Reports provide real time count of the number of visitors (identified by devices connected to WiFi) within your physical space and how it compares to the historical average. Based on the authentication method in use, Right Now reports can detect multiple devices belonging to a person and count them as one visitor.
- Business Insights gives the capability to measure how frequently people visit your physical location and how much time do they spend at your business locations. This data is benchmarked monthly across all locations. It also provides the capability to compare and benchmark the performance of your locations historically, by group or by industry.
- Impact Analysis provides the capability to measure the impact of at-location events, campaigns and layout changes on behaviour. It is easy to create an Event using the tool and measure the impact of this event based on specific timeline such as Before, After and During the impact on time spent and frequency.

Cisco Spaces applications include customer experience management apps such as Captive Portals, Location Personas, and Engagemens that allows you to connect with your customers in real time when they are at your physical location. Additional applications also include an Asset Tracking app, a service manager to manage and configure IoT Services (Bluetooth Low Energy (BLE)) as well as an open API framework in case you would like to extract this data and correlate it or integrate it into other enterprise systems.

Cisco Spaces provides a single dashboard interface to avail these multiple services through various location based technologies and intelligence. Cisco Spaces enables you to connect and engage with visitors at your physical business locations. It covers various verticals of business such as work spaces, retail, manufacturing,

hospitality, healthcare, education, financial services, and so on. The asset tracking application in Cisco Spaces provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps and APIs to turn these insights into actions.

Cisco Spaces through its partner program, offers businesses access to various different partner applications across verticals.

Cisco Spaces is compatible across Cisco Catalyst, Cisco AireOS and Cisco Meraki infrastructure.

In addition to the above services, the scope of Cisco Spaces apps have been extended to meet the business requirements that arise due to the global pandemic, COVID 19. Extensions have been built on existing applications and newer applications have been added to meet specific requirements for COVID 19. Extensions to apps such as Impact Analytics, Location analytics, Behaviour Metrics, and Right Now, allow you to analyse the impact of COVID 19 at your business locations as well as take appropriate actions. For example you can now create a rule based on device density at your location such that you will be automatically notified if the number of people at your location exceeds a specific count or density (people/area). The Location Analytics app now has the capability to share executive summary reports with your colleagues in the organization. Additionally, COVID-19 based trend analysis for individual/group locations can now be done using the Behaviour Metrics app, and you can compare specific business locations with that of the overall organisation as well as specific industry vertical.

Cisco Spaces has added a new Proximity Reporting App that provides a quick way to review the location history as well as device proximity history of any impacted device. One needs to just enter the user ID or MAC address, and a report for the device location in the building for the last 14 days along with the proximity of other devices is generated. This report can be exported or shared using the share feature. Similarly the Detect and Locate app now has the capability to cluster devices into specific counts to check and report on areas that may be violating social distancing guidelines.

The following are the major features of this release:

- Provision to add and view the profile details of the Cisco Spaces user.
- Added a new license type **Extend** in Cisco Spaces.
- New App, Cisco Spaces: IoT Services that enables you to claim, manage, and monitor IoT devices using Cisco's wireless infrastructure.
- Opt In support for the **SMS with Link Verification** authentication.
- Enhanced the location hierarchy to display the **More Actions** menu when hover over a location name.
- Provision to display controller IP address for access points.
- Restricted the Total Area value that can be defined for the locations to avoid impractical entries.
- Displays the **Detect and Locate** app under the **SEE** license.
- Support to provide independent access rights to Map Services and DNASpaces using Roles.
- Updated the Terms and Conditions for the Partner dashboard.

New Feature - July19

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Cisco CMX-CMX Zone Support

Cisco Spaces dashboard now supports to import the CMX Zones added to **Cisco CMX**. CMX Zones can be added under floors.

CMX Zones will just have X,Y cordinates, and will not have any access points associated with them.

You can now import the CMX Zone manually using the **Add CMX Zone** option.

In the Cisco Spaces dashboard, in the **Location Hierarchy** window, a new option **Add CMX Zone** is now available under the **More Actions** menu for floors.

Map Services - CMX Zone Support

Cisco Spaces dashboard now provides CMX Zone support for **Map Services**. The CMX Zones added to **Setup** > **Map Services** can now be imported to Cisco Spaces location hierarchy.

CMX zones will just have X,Y cordinates, and will not have any access points associated with them.

For the existing locations in Cisco Spaces, if any CMX Zone was created in **Map Services** before this CMX Zone support, that CMX Zone will not be imported automatically during synchronzation. You have to manually add it to the location hierarchy using the **Add CMX Zone** option. Once added, all the updates done for this partucular CMX Zone will be synchronized automatically. All the CMX Zones added to **Map Services** after this CMX Zone support, will get imported automatically to Cisco Spaces location hierarchy.

In the Cisco Spaces dashboard, in the **Location Hierarchy** window, a new option **Add CMX Zone** is now available under the **More Actions** menu for floors.

Map Services for WLC Direct Connect

Cisco AireOS customers connected through Wireless Controller Cloud Connect can now import the locations using the **Setup** > **Map Services** option in the Cisco Spaces dashboard. This functionality enables you to import the locations in the same hierarchy structure (Campus-Building-Floor) in which they are defined in Cisco Prime. Previously, Cisco AireOS customers connected through Wireless Cloud Connect could import only the Wireless Controller IPs and access points as locations.

To use the **Map Services** feature, you have to download the required locations from the **CMX Prime**, and then import them to the **Map Services** option. Then, you can import these locations to the location hierarchy. To support this feature, in the **Add a Wireless Network** window, for **WLC Direct Connect**, two separate options **Access Point Prefix** and **Map Services** are now available.

Network Sync Server-CMX Zone Support

Cisco Spaces network sync server now supports the synchronization of CMX Zones. The support is available for CMX Zones added to **Cisco CMX** and **Map Services**.

Network Sync server will add, update, and delete the CMX Zones in the location heirarchy based on the changes made in Cisco CMX or Map Services.

However, for the existing locations in Cisco Spaces, if any CMX Zone was created in **Map Services** before this CMX Zone support, that CMX Zone will not be imported automatically during synchronization. You have to manually add it to the location hierarchy using the **Add CMX Zone** option. Once added, all the updates done for this particular CMX Zone will be synchronized automatically. Also, the CMX zones added previously from backend will get updated or deleted based on changes in **Map Services**.

Enhancements - July19

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

License-Exclude Security Appliances

During network Synchronization, the Security Appliances are now excluded when counting the access points for a Cisco Spaces license. Previously, security appliances were also counted along with access points, which did not allow for using all the permitted number of access points for a given license.

Behavior Metrics

The following changes are made to the **Behavior Metrics** report.

- If there is no data for a particular chart or graph for the selected period, the graph will be dimmed, and the label "No data available for the selected time period" appears in the chart. Previously, the label "Report data unavailable" appeared in red if data was not available.
- If there is no data for a sub brand defined, the graph for the sub brand appears as dimmed in the report. Also the label, "You have not created any brands" appears in the chart. Previously, the label "Report data unavailable" appeared in red if there is no data for a sub brand.

SSIDs- Support for Independent Deletions

Cisco Spaces now enables you to delete the SSIDs even if they are not deleted from the wireless network such as Meraki. This enhancement enables you to delete unwanted SSIDs during delay in network synchronization.

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.
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Cisco Bug Search Tool

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Open Issues

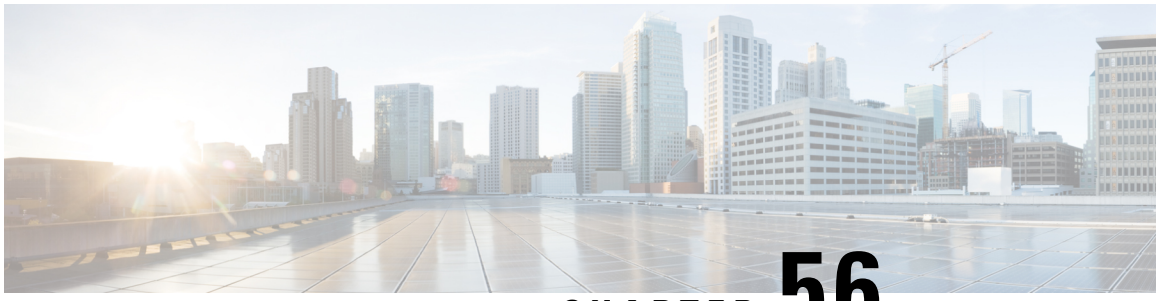
Table 76: Open Issues

Issue Identifier	Issue Description
CSCvp46851	Tooltip had multiple pointer while placing cursor in the scatter plot charts.

Resolved Issues

Table 77: Resolved Issues

Issue Identifier	Issue Description
CSCvp28767	LocationDistribution API response giving only one AP Mac when there are 2 APs with same names.
CSCvo00172	Cumulative Stats - Location Count and AP counts are mismatched
CSCvo19097	Visitor, Locupdate and Visits data is displayed as N/A after removing the location



CHAPTER 56

1.4

- Introduction to Cisco Spaces, on page 233
- New Features in Release 1.4, on page 234
- New Features in Release 1.4, on page 236
- Enhancements in Release 1.4, on page 238
- Issues, on page 239

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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- New app, **Location Analytics (Beta)**, which provides reports of location visits.
- New feature, **Access Code Manager** user role to manage the internet provisioning using access codes.
- Grouped Apps based on the license for which they are available.
- Provision to redirect new Cisco Spaces users to the Setup window for configuring the wireless network.
- Displays License Type along with Cisco Logo in the Cisco Spaces dashboard banner.
- Tool Tips for Digitization Stats.
- Expand-Collapse functionality for Side Menu Bar.
- OpenRoaming App icon enabled to display sample data.
- Single Sign On support for DCloud application.
- Meraki API 3.0 support.
- Support to add additional information in the SMS sent for captive portal authentication.
- Default Country Code support for ZIP code and CPF code.
- Enhanced security for finger print verification.

- Device classification based on the device details captured.

New Features in Release 1.4

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Access Code Manager

Cisco Spaces now provides a new User Role, Access Code Manager. This user role enables you to control the internet provisioning in your business premises using the access codes. You can create access codes for your various locations and restrict the internet access for these locations using the access codes. That is, the customers can access the internet only after providing an access code configured for that location.

Cisco Spaces enables you to share with the customers the access codes that you have created. You can specify the validity period for an access code.You can configure to have a single code value for an access code, or to change the code value weekly or monthly. You can define the time for which the customers can access the internet using an access code. Cisco Spaces also enables you set the bandwidth limit, including download and upload bandwidth limits for access codes.

You can define multiple access codes for a single location. For example, if you want to provide a high speed internet only for your platinum members, you can create an access code with maximum bandwidth and create another access code with limited bandwidth. You can then share the access codes based on the type of the customer.

Location Analytics(Beta)

Cisco Spaces now provides a new app, **Location Analytics**. This app enables you to view reports of visits in your locations.The visits of your employees are also counted in the report. By default , the report is shown for the root location. The default date range is January 01, 2019 till todate. You cannot generate report for the data before January 01, 2019. You can view the following information in the report:

- Visitors: Displays total number of visitors in the filtered location during the period specified. The count for New Visitors and Repeat Visitors are shown separately along with their percentage. Also a graph is shown that displays the visitor count for each day of the specified period.
- Visits: Displays total number of visits in the filtered location during the period specified . The count for New Visits and Repeat Visits are shown separately along with their percentage. Also a graph is shown that displays the visit count for each day of the specified period
- Dwell Time: Displays the average dwell time for the visits occurred in the filtered location during the period specified. The average dwell time for New Visits and Repeat Visits are shown separately along with their percentage. A graph that displays the average dwell time of visits on each day is also shown.
- Dwell Time Breakdown: Displays the total number of visits for various dwell time ranges for the filtered location and period. For example, the count for 0-5 min represents the total number of visits of the duration 0 to 5 minutes in the filtered locations.

You can filter the report by location, date, and SSID.

You can create custom reports with widgets with different filters. ACT(Advanced) subscription customers are allowed to apply all filters (Location, SSID, Time Ranges , and Visit Range) in the widgets. See (Base) subscription customers are restricted to apply Location, SSID, and Visit Ranges filters .

Apps Displayed Based on License

In the Home window, the Cisco Spaces apps are now grouped based on the license for which they are available.

The apps are grouped as follows::

- **SEE (Base)**: The apps Behavior Metrics, OpenRoaming, and Location Analytics are listed under this license type
- **ACT (Advanced)**: The apps Captive Portals, Engagements, Location Personas, Operational Insights, BLE Manager, Location SDK, and Detect and Locate are listed under this license type.
- **EXTEND**: Partner Apps will be listed under this license type



Note For all types of licenses, all the apps will be listed in the Home window, but are enabled only based on the license type for the account.

For advanced license types, the apps grouped under lower license types will be available.

Different Banner for New Cisco Spaces Account

For new Cisco Spaces accounts for which wireless network is not configured, the dashboard home page banner appears with the following message at the top of the dashboard:

"You have not connected to any wireless network yet. Click Here to connect your wireless network with Cisco Spaces."

When you click the **Click Here** link, you are taken to the **Setup** window where you can configure the wireless network.

License Icon in the Cisco Spaces Home Page

The license type for the Cisco Spaces account is now displayed in the Home page. After logging in to the Cisco Spaces dashboard, you can view the license type adjacent to the Cisco logo at the top-left of the window.

Tooltips for Digitization Statistics

Tooltips are provided for Digitization Statistics values displayed in the Home page of the Cisco Spaces dashboard.

Expand-Collapse Functionality for Side Menu Bar

In the Cisco Spaces dashboard, you can now collapse the side menu bar for a broad view. This is applicable for all the side menu bars, including the one within the apps such as **Captive Portals**. A new icon, with three parallel lines, now appears above the side menu bar using which you can expand or collapse it. By default, the side menu bar will be in the expanded state.

OpenRoaming App

The OpenRoaming icon is now enabled to display static data that gives a brief idea about the OpenRoaming app.

SSO Login Support

Cisco Spaces now supports single sign on for Cisco Dcloud users. If you have already logged into the Dcloud application, you can directly access Cisco Spaces dashboard without logging in again.

New Features in Release 1.4

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Access Code Manager

Cisco Spaces now provides a new User Role, Access Code Manager. This user role enables you to control the internet provisioning in your business premises using the access codes. You can create access codes for your various locations and restrict the internet access for these locations using the access codes. That is, the customers can access the internet only after providing an access code configured for that location.

Cisco Spaces enables you to share with the customers the access codes that you have created. You can specify the validity period for an access code.You can configure to have a single code value for an access code, or to change the code value weekly or monthly. You can define the time for which the customers can access the internet using an access code. Cisco Spaces also enables you set the bandwidth limit, including download and upload bandwidth limits for access codes.

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- Dwell Time Breakdown: Displays the total number of visits for various dwell time ranges for the filtered location and period. For example, the count for 0-5 min represents the total number of visits of the duration 0 to 5 minutes in the filtered locations.

You can filter the report by location, date, and SSID.

You can create custom reports with widgets with different filters. ACT(Advanced) subscription customers are allowed to apply all filters (Location, SSID, Time Ranges , and Visit Range) in the widgets. See (Base) subscription customers are restricted to apply Location, SSID, and Visit Ranges filters .

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Note For all types of licenses, all the apps will be listed in the Home window, but are enabled only based on the license type for the account.

For advanced license types, the apps grouped under lower license types will be available.

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"You have not connected to any wireless network yet. Click Here to connect your wireless network with Cisco Spaces."

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Expand-Collapse Functionality for Side Menu Bar

In the Cisco Spaces dashboard, you can now collapse the side menu bar for a broad view. This is applicable for all the side menu bars, including the one within the apps such as **Captive Portals**. A new icon, with three

parallel lines, now appears above the side menu bar using which you can expand or collapse it. By default, the side menu bar will be in the expanded state.

OpenRoaming App

The OpenRoaming icon is now enabled to display static data that gives a brief idea about the OpenRoaming app.

SSO Login Support

Cisco Spaces now supports single sign on for Cisco Dcloud users. If you have already logged into the Dcloud application, you can directly access Cisco Spaces dashboard without logging in again.

Cisco Spaces Runtime

The following new features are added to Cisco Spaces Runtime:

Support to Add Additional Information in SMS

In the Soft SMS and Hard SMS that are sent as part of captive portal authentication, you can include additional information that needs to be passed to the SMS gateways. For example, if you want to send the SMS in a language other than English to your customers, provision is now available to include that information in the SMS sent to the SMS Gateways.

Enhancements in Release 1.4

Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Meraki API 3.0 Support-Location Receiver

Cisco Spaces now supports to receive and process data with Meraki API Version 3.0.

Cisco Spaces Runtime

The following changes are made to Cisco Spaces Runtime:

Default Country Support for CPF and ZIP code

When zip code or CPF is added as fields in the Data Capture form, Cisco Spaces tries to show the input field place holder and format specific to the locale of the country. Customers can choose a default country for zip code / CPF while configuring the portal, so that if the country detection fails the fields format and place holder will be shown based on the selected country.



Note Currently the default country selection for zip code or CPF cannot be done through the dashboard. Please contact Cisco Spaces support for configuring the same. CPF will be shown only for Brazil.

Enhanced Security of Finger Print Verification

Finger print verification done as part of Soft SMS authentication is now made more secure by moving to an advanced encoding technique.

Device Classification

Cisco Spaces is now enhanced to classify the devices based on the device details captured. The information such as Device OS, OS version, Model, Device Type, and Manufacturer are captured as part of subscriber details.

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.

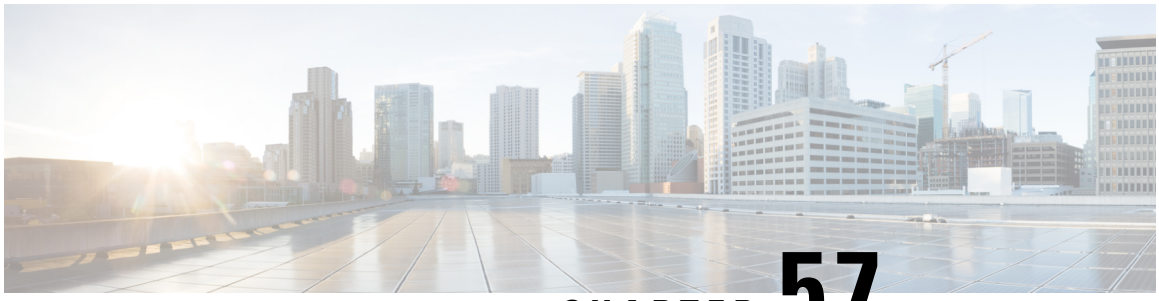
Open Issues - Release 1.4

Table 78: Open Issues

Issue Identifier	Issue Description
CSCvp46851	Tooltip had multiple pointer while placing cursor in the scatter plot charts.
CSCvo00172	Cumulative Stats - Location Count and AP counts are mismatched
CSCvo19097	Visitor, Locupdate and Visits data is displayed as N/A after removing the location

Resolved Issues - Release 1.4

There are no resolved issues for this release.



CHAPTER 57

1.3

- Introduction to Cisco Spaces, on page 241
- New Features in Release 1.3, on page 241
- Enhancements in Release 1.3, on page 243
- Issues, on page 243

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, and so on. Cisco Spaces also provides solutions for monitoring and managing assets in your premises. Cisco Spaces offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- Behavior metrics for the vertical, Workspaces, to get insights on employees and other resources.
- AP synchronization support for Cisco CMX Tethering.
- Enterprise Captive Portal support (runtime).
- Enhanced security for Reset API for subscriber management(runtime).
- Accessibility support for visually challenged with appropriate navigation (runtime).

New Features in Release 1.3

Cisco Spaces Dashboard

The following new features are added to the Cisco Spaces dashboard:

Workspaces Vertical in Behavior Metrics

The Behavior Metrics feature now provides a new vertical "Workspaces". The Workspaces vertical enables you to get insights into employees and other resources such as visitors in your office premises.

The Behavior Metrics section for Workspaces will be different from other verticals. It will be having the following information: .

Core Metrics

Workday Duration: The workday duration for employees.

Workday Presence: The percentage of workday the employee spent in the premises.

Workday Density: The density of employees in a workspace.

Occupany Rate :Actual man hours as a percentage of prescribed man hours.

For all the above types of reports, separate graphs are provided with data across locations and data for key locations.

Diagnostics

Entry Time: The average entry time for employees. The entry time trend across locations and at key locations are shown.

Exit Time: The average exit time for employees. The exit time trend across locations and at key locations are shown.

Entry Time Distribution: Number of employees that falls under various entry time ranges.

Exit Time Distribution: Number of employees that falls under various exit time ranges.

Employee Presence- By hour of day: Number of employees that are present in the locations at various hours of a day.

Visitor Presence - By hour of day: Number of visitors that are present in the locations at various hours of a day.

Employee Presence: Day of the Week: Number of employees that are present in the locations on various days of a week.

Visitor Presence: By day of week: Number of visitors that are present in the locations on various days of a week.

Visitor Index: Number of Visitors: Visitors as percentage of employees. Separate graphs are shown for Visitor Index across locations and Visitor Index at key locations.

AP Synchronization Support for CMX Tethering

Cisco Spaces Network Sync Server now supports AP synchronization for CMX Tethering. For CMX Tethering (Using **CMX On Prem** in the **Add a Wireless Network** option), the changes made to APs in Cisco Prime now get updated in Cisco Spaces location hierarchy. To synchronize the AP changes, do any of the following:

- In Cisco CMX On-Prem, click **SYSTEM**. In the dashboard that appears, choose **Settings > Controllers and Maps Setup > Import**. In the window that appears, provide Cisco Prime Username, Password and IP Address. Then click **Import Controllers and Maps** to get latest map changes. Click **Save**.
- Download updated map from Cisco Prime and upload it to Cisco CMX On-Prem.
- Download updated map from Cisco Prime and upload it to **Map Services** in **Cisco Spaces**.

Cisco Spaces Runtime

The following new features are added to Cisco Spaces Runtime:

Support for Enterprise Captive Portal

Cisco Spaces now supports Enterprise Captive Portal. This support enables you to use externally developed captive portals (not developed using Cisco Spaces) in the devices connecting to your Wi-Fi. Currently there is no dashboard support for this feature. To configure the enterprise captive portal, you must contact Cisco Spaces support team.

Enhancements in Release 1.3

Cisco Spaces Runtime

The following changes are made to Cisco Spaces Runtime:

Reset Subscriber API

Reset Subscriber API, which enables Cisco Spaces customers to delete their subscribers, is now made more secure. In Reset API, Customer Name is replaced with Customer Code to avoid any external manipulation of subscriber details. The customer code can be generated using internal API.

Note The Customer Code is different from Tenant ID or Customer ID.

Accessibility for Visually Challenged

Cisco Spaces is now enhanced to make the captive portals and onborading process completely accessible for visually challenged people. The captive portal web content, and navigation during onboarding process now support the accessibility for visually challenged.

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.

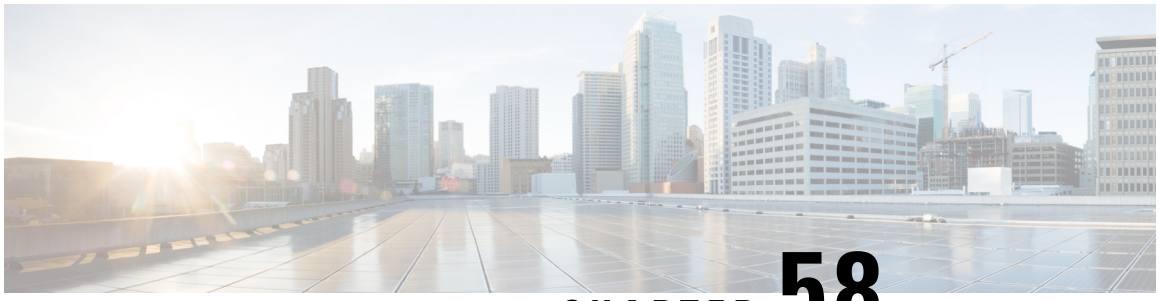
Open Issues - Release 1.3

Table 79: Open Issues

Issue Identifier	Issue Description
CSCvp46851	Tooltip had multiple pointer while placing cursor in the scatter plot charts.
CSCvo00172	Cumulative Stats - Location Count and AP counts are mismatched
CSCvo19097	Visitor, Locupdate and Visits data is displayed as N/A after removing the location

Resolved Issues - Release 1.3

There are no resolved issues for this release.



CHAPTER 58

1.2

- Introduction to Cisco Spaces, on page 245
- New Features in Release 1.2, on page 245
- Enhancements in Release 1.2, on page 247
- Issues, on page 247

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 offers a variety of toolkits, apps, and APIs to turn these insights into action.

The following are the major features of this release:

- New Setup feature to easily connect and configure wireless network.
- Updated Cisco Spaces Connector and CMX Tethering configuration process.
- Behavior Metrics with segregated core and diagonastic metrics.
- Enhanced Soft SMS Fingerprint verification with device properties.
- Provision to auto update notification URL in Cisco Meraki when importing network location to Cisco Spaces location hierarchy.
- Restricted invalid login attempts to Cisco Meraki during network synchronization to avoid account locking.

New Features in Release 1.2

The following new features are added to the Cisco Spaces dashboard:

Setup

To ease the connection between Cisco Spaces and Wireless network, and to do the required configurations in the wireless nerwork, Cisco Spaces now provides a new setup (Setup v2) flow. The new setup has provision

to connect Cisco Spaces to Cisco AireOS or Cisco Meraki. Based on the wireless network you select, various methods through which you can connect to the particular network are displayed. When you select a particular method, the steps to connecting through that method is displayed along with the configuration instructions.

In the Cisco Spaces dashboard, when you choose **Setup > Wireless Network**, in the **Connect your wireless Network** window, a new button **Add New** is displayed. You can get the configuration instructions for a particular method using this button. For example, suppose you want to connect the Cisco Spaces to Cisco AireOS using a Cisco Spaces Connector. For that, click the **Add New** button, and click **Select** for **Cisco AireOS/Catalyst**. Then click **Select** for **Via Spaces Connector**. The Prerequisities for uisng this method is displayed. Click **Customize Setup**. Now a new bar **Connect via Spaces Connector** appears in the **Connect your wireless network** window. Click the drop arrow at the far right of the bar to view the configuration instructions for this method. The steps required for configuration such as **Create a new token**, **Add Controllers**, and **Import Controllers** , and so on will be available in the corresponding step at which they are required.

Cisco Spaces Connector and CMX Tethering

In the **Cisco Spaces** dashboard, the **CMX Connector** and **Spaces Connector** options are no more available directly under **Setup**. A new option **Wireless Networks** is added under **Setup** for configuring the connetors.

The **Add New** button in the **Connect your wireless network** window enables you to display the configuration instructions for **Cisco Spaces Connector** and **CMX Tethering**.

Once added, a bar correpsonding to the wireless network and method selected appears in the **Connect your wireless Network** window. For **Cisco Spaces Connector**, a bar **Connect via Spaces Connector** appears. You can create the token using **Create a new token** provided at Step 2 of the configuration instructions, and you can add wireless controllers using **Add Controllers** provided at Step 3. You can then import the wireless controllers using **Import Controllers** provided at Step 4.

For CMX Tethering, a bar **Connect via CMX Tethering** appears. You can create the token using **Create New Token** provided at Step 2, and after configuring the token in Cisco CMX, you can add the Cisco CMX node to the location hierarchy using **Add CMX** provided at Step 3.

Behavior Metrics

The Behavior Metrics feature is enhanced to display performance on core metrics and the impacting factors separately. The report tabs now displayed are **Behavior Metrics**, **WiFi Adoption**, and **Right Now**. The **Business Metrics** tab is renamed as **Behavior Metrics**. The report tabs that were displayed at the far left of the window are now displayed at the top of the window. By default, now the **Behavior Metrics** report tab is shown.

The Behavior Metrics tab will now have the following sections:

Performance Benchmarking: Performance on Core Metrics relative to Peers

Visit Duration across locations, Visit Duration for key locations, Visit Duration for sub brands, Visit Duration Distribution along with Visit Frequency across locations, Visit Frequency for key locations, Visit Frequency for sub brands, and Visit Frequency Distribution are shown in this section.

Diagnostics: Factors that Impact or are Impacted by the Core Metrics

The graphs for Visit Duration by Visit Number, Repeat Visitors and Visit Recency across locations, Repeat Visitors and Visit Recency for key locations, and Repeat Visitors and Visit Recency for sub brands are shown in this section. In addition, Visit Distribution for Hour of day and Visit Distribution for day of week are displayed. Graphs showing the impact of store size on visits such as **Size of Store and visit duration** and **Size of store and No. of Visits** are also shown.

Auto Update Notification URL during Network Location Import

If the wireless network is Cisco Meraki , when you import a Meraki network location to Location Hierarchy, now the Notification URL automatically gets configured in Cisco Meraki. Previously, you had to manually configure the notification URL in Cisco Meraki for location updates.



Note This support is not applicable for the Meraki networks added using Meraki API Key.

Enhancements in Release 1.2

The following enhancements are made to the Cisco Spaces in this release:

Cisco Cisco Spaces Dashboard

The following changes are made to the Cisco Spaces dashboard:

Behavior Metrics

For Repeat Visitors charts in the Behavior Metrics tab, the tool tips are updated.

Restriction for Invalid Login Attempts for Meraki

When Cisco Spaces connects to Cisco Meraki automatically for network synchronization, the login attempt with false credentials is now restricted to one. The login attempt usually fails if any change is made to credentials for the particular Meraki account. This enhancement helps to avoid the Cisco Meraki account getting locked due to false login attempts.

Cisco Spaces Runtime

The following changes are made to Cisco Spaces Runtime:

Soft SMS Fingerprint Validation

To make the Soft SMS fingerprint verification more secure, the verification process based on mobile number alone has been enhanced to include device properties such as “hardware concurrency” and “deviceMemory” that are available as browser properties. So when a fingerprint verification is done from a different device than the one from which the authentication request is initiated, the customer is asked to confirm, for completing the fingerprint verification.

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 1.2

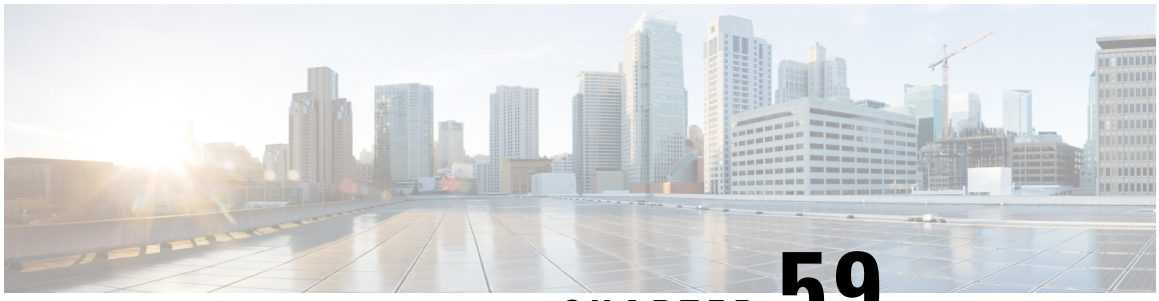
Table 80: Open Issues

Issue Identifier	Issue Description
CSCvp46851	Tooltip had multiple pointer while placing cursor in the scatter plot charts.
CSCvo00172	Cumulative Stats - Location Count and AP counts are mismatched
CSCvo19097	Visitor, Locupdate and Visits data is displayed as N/A after removing the location

Resolved Bugs - Release 1.2

Table 81: Resolved Bugs

Issue Identifier	Issue Description
CSCvo05264	Wireless Network names displayed differently in Location hierarchy and network setup page



CHAPTER 59

1.1

- Introduction to Cisco Spaces, on page 249
- New Features in Release 1.1, on page 249
- Enhancements in Release 1.1, on page 251
- Issues, on page 252

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:

- Auto provision access to Cisco Spaces for customers having multiple apps that are integrated with Cisco Spaces.
- Industry, Country, State, and Branch benchmarks in the Behavior Metrics report.
- Display of geographical details for network locations.
- Provision to auto login to the integrated apps such as Operational Insights, Location SDK, BLE Manager, and so on from the Cisco Spaces dashboard.
- A new Cisco Spaces user role, **Installer**, in the **Team** option.
- Provision to send password update notifications.

New Features in Release 1.1

The following new features are added to the Cisco Spaces dashboard:

Auto Provision Access to Cisco Spaces

If a customer is having access to multiple apps that are integrated with Cisco Spaces, that customer is auto provisioned access to Cisco Spaces dashboard. Such customers can log in to Cisco Spaces dashboard using the same credentials used for the apps they own.

The following are the apps that are integrated with Cisco Spaces:

- Operation Insights
- BLE Manager
- Location Analytics
- Location SDK
- Detect and Locate

If you are having access only to one of these apps, and if you try to log in to Cisco Spaces using the credentials for that app, you will be redirected to the dashboard of that particular app.

Benchmarks in Behavior Metrics

The Behavior Metrics option now supports to show industry, country, state, and brand benchmarks in the reports. You can tag the locations under country, state, and brand benchmarks by defining meta data for the locations.

Industry Benchmark: Displays the average value for the industry to which your business belongs. For example, if you are in retail sector, in the Visit Duration Distribution graph, the average visit duration for retail is displayed. The industry benchmark average value is restricted to the data obtained from other clients who have installed Cisco Spaces.

Country Benchmark: Displays the average value for the locations tagged under the particular country. For example, if you choose US as tag, in the Average Visit Duration graph, a bar corresponding to US is displayed which is the average visit duration for all the locations tagged under US. The total number of locations associated with the country tag is also displayed. If the locations under the particular country tag is associated with any other tag, in certain graphs such as Average Visit Duration, the average value for that tag is also shown.

State Benchmark: Displays the average value for the locations tagged under that particular state. If you select a state tag, in certain reports two additional bars appear in the graph. One displays the average value with the state name, and the other bar displays the same average value with total number of locations in the state. For example, Average Visit Duration graph.

Brand Benchmark: Displays the average value for the brand name. A brand name can be used as meta data only for the locations of a particular state.If you choose a brand, in certain graphs such as Average Visit Duration, the average value for the state to which the brand is tagged is also displayed.



Note

- The country, state, and brand benchmarks are displayed based on the data for the particular customer.
- When you filter the report for a brand, do not filter a state name that is not associated with it.
- Do no filter the report for two brands simultaneously.

Geo Location for Network Location

For network locations, now the geographical details of that location such as country, state, city, and address are displayed in the Cisco Spaces dashboard. The geographical location details are fetched during the network synchronization. The geographical details of the first AP will be considered for the network location.

In the Location Hierarchy window, in the **More Actions** menu for a network location, if you click the **Locations Info** option, the geo location details for that network location is displayed. The information is displayed only for locations at network level.

Note This is applicable only if you using Cisco Spaces with Cisco Meraki.

Enhancements in Release 1.1

The following changes are made to the Cisco Spaces dashboard:

Auto Login to Apps

Cisco Spaces is now enhanced to support auto log in to the following apps available in the Cisco Spaces dashboard:

- Operation Insights
- Location SDK
- Detect and Locate

Installer Role

A new Cisco Spaces user role, **Installer**, is now available in the **Team** option.

A user in this role will have access only to the basic Cisco Spaces features such as the following:

- Settings
- SSIDs
- Connectors
- Wireless networks
- Behavior Metrics.

Password Expiry Notification

Cisco Spaces is now enhanced to notify the customers about password expiry date. When you log into Cisco Spaces dashboard, if your password expiry date is just 10 days ahead, then a dialog box appears stating that the password is going to expire. The dialog box contains **Change Password** and **Do it later** buttons. If you click the **Change Password** button, you are redirected to the **Change Password** window. You must provide the old password and new password to change the password.

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 1.1

Table 82: Open Issues

Issue Identifier	Issue Description
CSCvo19097	If a location is removed or modified from the location hierarchy, the corresponding change in the Visitor, Visit, and location update count are not updated in the **Digitization Stats** section. The location name and count are not updated in the **Right Now** report also. For example, the Top Locations displayed in the **Right Now** report will be affected.
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 the **More Actions** icon for the root location, and click **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.

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.

Resolved Issues - Release 1.1

Table 83: Resolved Issues

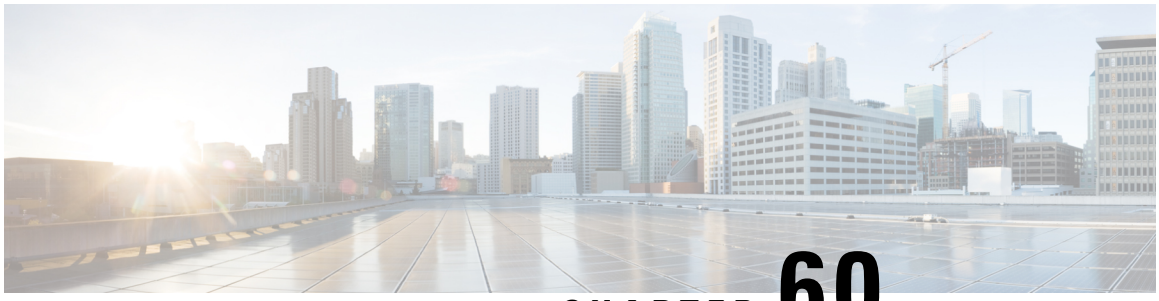
Issue Identifier	Issue Description
CSCvp11522	Following changes are made to the Cisco Spaces user interface: • Renamed DNA Spaces to Cisco Spaces everywhere. • **Cisco Spaces User Invitation Email** • Removed the **About DNA Spaces** link. • Removed the**Product Updates** link. • Updated the Copyright Year. • **Log in Page** • Removed the **Product Updates** link. • Updated the **Learn More** link. • **Home Page** • Removed the **Close** button in the **Active APs** window • Changed the status of **BLE Manager** and **Locate and Detect** apps to **Beta**. • **Engagements App** • Renamed **Via Cisco Webex Team** to **Via Cisco Webex Teams**. • **Team** Removed the following user roles that are currently not supported by Cisco Spaces: • Portal Designer • Location Manager • Access Code Manager • Reporting Analyst

Issue Identifier	Issue Description
CSCvo49148	Cisco Spaces now allows the **Account Admin** to activate the account by specifying the email ID in any case. Previously, the email ID was case sensitive and was not allowing to activate if mentioned any letter in a different case. Also, Cisco Spaces users can now activate their account by specifying the email ID in any case. Previously the email ID specified by the **Account Admin** to invite users was case sensitive, and was not allowing the invited users to activate the account if any letter in the e-mail ID is mentioned in a different case.
CSCvo09309	In the **Behavior Metrics** report, in the **WiFi Adoption** section, the line bar in the Overview section appears as straight bar if the count for **Clicked on SSID** and **Internet Provisioned** are same.
CSCvo31524	If the Meraki locations are imported using the Meraki API key, after importing SSIDs, the **Delete** button was not appearing for the SSIDs. Now the **Delete** button is appearing for such SSIDs.
CSCvo22915	You can now edit the name of the Cisco Spaces Connectors added to Cisco Spaces. Previously, the **Edit** option was not allowing to edit the name of Cisco Spaces Connectors.
CSCvo59773	In the **Wireless Networks** window, in the configuration instructions for Cisco Spaces Connector under **Deployment Prerequisites**, the OVA link was not working as expected. Now the link is redirecting to the appropriate web page.

CSCvp18798	Cisco Spaces has the following navigation issues:
	• When in the **Team** window, if you click the **Refresh** button, the cursor keeps on spinning, but the **Team** window is not displayed.
	• From the Cisco Spaces dashboard, if you access any of the following apps, and navigate to the previous window, the expected window is not displayed.
	  • Operation Insights
	  • BLE Manager
	  • Location Analytics
	  • Location SDK
	  • Detect and Locate
	Now these navigation issues are resolved

Cisco Spaces Runtime	
CSCvo97772	If an Inline **No Authentication** captive portal add edited to add a **Data Capture** form, the repeat users who had already completed authentication were not able to proceed further after loading the captive portal. Now both the new and repeat users can proceed further to view the Data Capture form.

Issue Identifier	Issue Description
CSCvp13861	Cisco Spaces now supports captive portal authentication for Internet Explorer 11.0. Previously, captive portal authentication was not happening if the browser is Internet Explorer 11.0.
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.
CSCvo17285	For Cisco Meraki, in the **Wireless Network Status** window, the locations are not left aligned to display near the location logo.
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.
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.



CHAPTER 60

1.0

- Introduction to Cisco Spaces, on page 257
- Cisco Spaces Features, on page 258
- Issues, on page 264

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

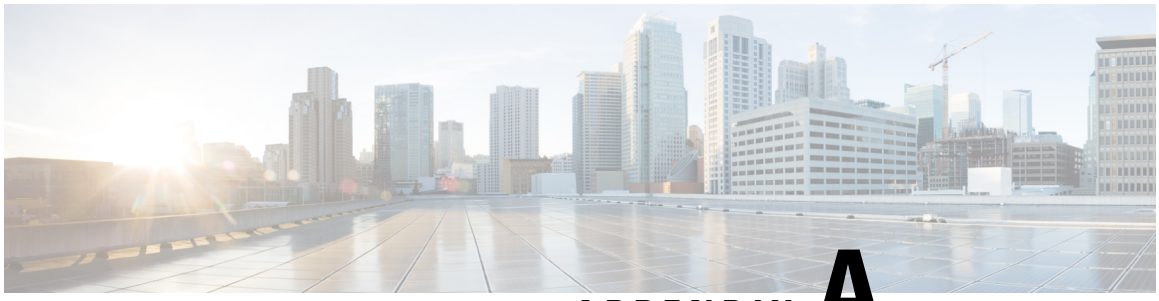
Cisco Bug Search Tool (BST) is a gateway to the Cisco bug-tracking system, which maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. The BST provides you with detailed defect information about your products and software.

Open Issues - Release 1.0

Table 84: 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.



APPENDIX A

Support Information

- Related Documentation, on page 267
- Communications, services, and additional information, on page 268

Related Documentation

- All user documentation for Cisco Spaces is available at https://www.cisco.com/c/en/us/support/wireless/dna-spaces/series.html.
  - Cisco Spaces Data Sheet
  - Cisco Spaces Configuration Guide
  - Cisco Spaces Federal Support Configuration Guide
  - Release Notes for Cisco Spaces: Connector
  - Guide to Migrating Location Services to Cisco Spaces
  - Cisco Spaces compatibility with other Cisco products
  - Cisco Wireless Solutions Software Compatibility Matrix
- For information on Cisco Spaces feature compatibility depending on type of connection, refer to *Table 3 Feature compatibility depending on type of connection* in the Cisco Spaces Data Sheet.
- For information on migrating Location Services to Cisco Spaces, refer to https://www.cisco.com/c/en/us/solutions/collateral/enterprise-networks/dna-spaces/guide-c07-744932.html.
- For information on the integration of Cisco Spaces with Catalyst Center, refer to the Chapter "Cisco Catalyst Center Integration" in the *Cisco Spaces Configuration Guide* at:

  https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/DNA-Spaces/cisco-dna-spaces-config/dnaspaces-configuration-guide/m_dnac.html
- For more information on Cisco Prime Infrastructure to Catalyst Center data migration, refer to Cisco Digital Network Architecture Center Data Migration Guide or Migrate Data from Cisco Prime Infrastructure to Catalyst Center.
- All user documentation for Cisco Prime Infrastructure is available at:

  https://www.cisco.com/c/en/us/support/cloud-systems-management/prime-infrastructure/series.html

- All user documentation for Catalyst Center is available at:

  https://www.cisco.com/c/en/us/support/cloud-systems-management/dna-center/series.html
- For Cisco Spaces support information, refer to Support or contact Cisco Spaces support team.

Communications, services, and additional information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.
- To get the business impact you're looking for with the technologies that matter, visit Cisco Services.
- To submit a service request, visit Cisco Support.
- To discover and browse secure, validated enterprise-class apps, products, solutions, and services, visit Cisco DevNet.
- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

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.

Documentation feedback

To provide feedback about Cisco technical documentation, use the feedback form available in the right pane of every online document.