



Release Notes for Cisco CMX, Release 10.1

Last Updated: May 25, 2017

These release notes describe what is new in Cisco Connected Mobile Experiences (CMX), Release 10.1, and the system requirements, upgrade scenarios, and open caveats for this release. Unless otherwise noted, Cisco Connected Mobile Experiences is referred to as Cisco CMX in this document.

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Introduction

Cisco CMX Release 10.1 unveils a newly redesigned, high performance scalable software platform to meet the mobility services needs of high density Wi-Fi deployments.



System Requirement

CMX Release 10.1 can be installed on a physical or virtual MSE appliance. Virtual MSE appliance requires VMWare ESXi 5.1 or later.

Hardware Guidelines

[Table 1](#) lists the CMX Release 10.1 hardware guidelines for the virtual MSE appliance.

Table 1 Hardware Guidelines

Hardware Platform	Basic Appliance	Standard Appliance	High-End Appliance
CPU	8 vCPU (2.4 GHz core)	16 vCPU (2.4 GHz core)	20 vCPU (2.4 GHz core)
RAM	24 GB	32 GB	64 GB
HDD	500 GB	500 GB	1 TB

Browser Support

CMX Release 10.1 has been tested with the following browser:

- Google Chrome 40 and later

Solution Compatibility Matrix

[Table 2](#) lists the CMX 10.1 solution compatibility matrix.

Table 2 CMX Solution Compatibility Matrix

Platform	Prime Infrastructure	WLC	Converged Access
MSE Virtual Appliance 10.1.0-rc.22	Any Maps exported from Cisco Prime Infrastructure are imported into the CMX.	8.x	3.6.1
MSE 3365		7.x	3.7.0
	Note See the “Important Notes” section on page 10.		

Upgrade Scenarios

CMX 10.1 release is available as software that can be run on physical or virtual MSE appliance. No database migration on inline upgrade is supported from Cisco MSE 8.0 or earlier to CMX 10.1. You can upgrade from CMX 10.0 to CMX 10.1. We recommend that you run CMX 10.1 in parallel with the existing Cisco MSE 8.0 or earlier, and utilize the evaluation license for 120 days. After the evaluation period, you have an option to decommission the older Cisco MSE system.



Note For more information about upgrading a 10.0 Deployment to 10.1 see the [Cisco MSE Virtual Appliance Installation Guide](#).

Licensing Information

- CMX 10.1 continues to use two tier licensing—CMX Base and CMX Advanced. CMX Connect is now included as part of CMX Base license.

CMX Base license provides the following services:

- Detect and Locate —The ability to determine the location of Wi-Fi clients, BLE beacons, devices, and RFID tags
- CMX Connect—Visitor Wi-Fi onboarding platform
- APIs—3rd party integration using standard REST APIs

CMX Advanced license provides the following services:

- Includes all the CMX Base services—CMX Detect and Locate, APIs, CMX Connect
- CMX Analytics

- Starting with CMX 10.1, Cisco CleanAir is natively built-in with MSE appliance (physical and virtual) and does not require a license.
- The Evaluation License of CMX 10.1 provides full functionality for an evaluation period of 120 days. Evaluation of CMX Base and CMX Advanced licenses are built in with every CMX 10.1 instance. There are no limitations with the functionalities when you use the Evaluation License in the current release.
- Every CMX 10.1 box/image ships with a 120 day evaluation license for all services. The countdown starts when you start CMX and enable a service.
- Accounting starts from the day you start using the CMX 10.1 software. Each day the evaluation license is decremented by one.
- The license page shows a summary of the current licenses and their state. If a service is running and its license is expired, it shows “Out of Compliance”. But the service is still allowed to run (see the first point). The “Out of Compliance” licenses running in CMX 10.1 will not receive any support from TAC/Cisco in case of any issues.
- You can add any license file from the MSE 8.0 or prior releases to CMX 10.1.
- In CMX 10.1, the licenses are not node-locked to a box.

Software Release Recommendation

Table 3 lists the recommended CMX software releases and their benefits.

Table 3 Software Release Recommendation

CMX/MSE Release	Benefits
MSE 8.0.110.0	This release should be used in production environments that require full suite of Cisco MSE features.
CMX 10.1.0-rc.2	<p>This release is suitable for deployments where the following features are a requirement:</p> <ul style="list-style-type: none"> • CMX Detect & Locate • CMX Analytics • CMX Connect <p>This release is NOT suitable for deployments where the following features are a requirement:</p> <ul style="list-style-type: none"> • aWIPS • CMX SDK • FIPS Deployment • Stanley(AeroScout) Certification • Cisco Prime Infrastructure integration for location services and Cisco CleanAir

Installing Cisco MSE Virtual Appliance

For information about installing Cisco MSE Virtual Appliance, see the *Cisco MSE Virtual Appliance Installation Guide, CMX Release 10.1* at the following URL:

http://www.cisco.com/c/en/us/td/docs/wireless/mse/10-1/installation/guide/installation_guide.html

What's New in This Release

This section provides a brief description of what is new in Release 10.1.

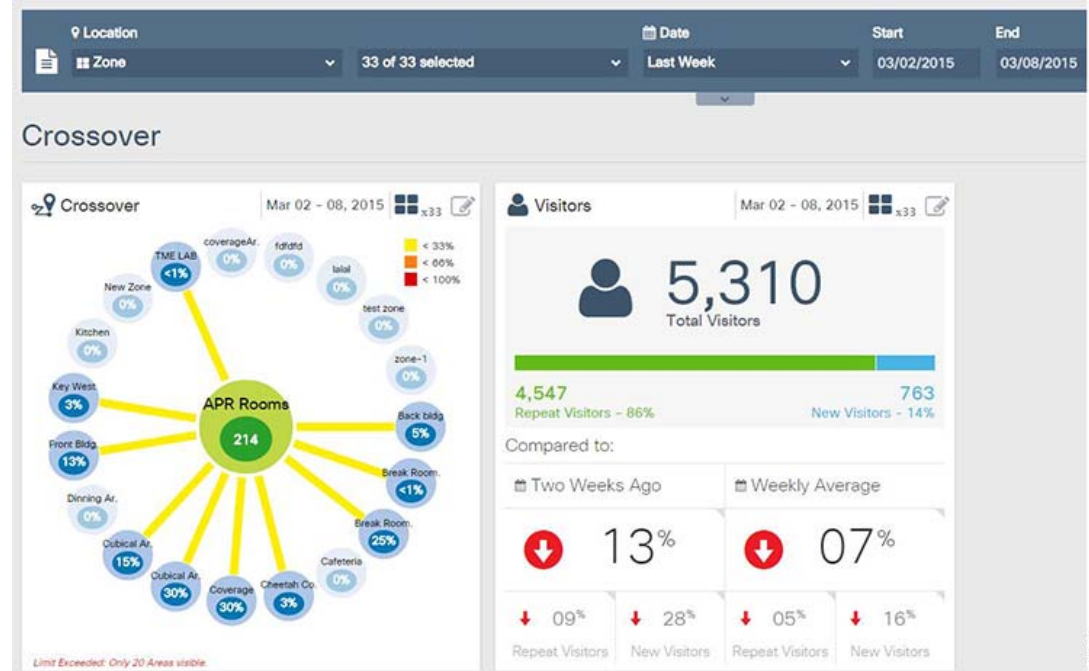
This section contains the following topics:

- [New User Experience Features in CMX Release 10.1, page 5](#)
- [CMX Detect and Locate Features, page 5](#)
- [Bluetooth Low-Energy Beacon Management Platform Features, page 6](#)
- [CMX Connect Features, page 6](#)
- [CMX Analytics Features, page 7](#)
- [Standards Based REST API, page 8](#)
- [System Scaling, page 8](#)
- [Serviceability and Troubleshooting Features, page 9](#)

New User Experience Features in CMX Release 10.1

CMX Release 10.1 introduces a new user interface designed to inform, engage, and communicate trends from large volumes of data. You can customize the widgets to focus on key insights and surface actionable information like percentage of visitors crossing from one area to another area (see [Figure 1](#)).

Figure 1 Analytics Tab—Crossover and Visitors Widget



CMX Detect and Locate Features

[Table 4](#) table lists the Detect and Locate features and benefits.

Table 4 Detect and Locate Features

Feature Name	Benefit
Wi-Fi client location on map	Locates probing as well as connected Wi-Fi clients.
Cisco CleanAir Wi-Fi interferer	Locates, tracks, and co-relates devices such as video cameras that interferers with Wi-Fi across multiple Cisco Wireless LAN Controllers (WLC) and provides a report on zones of impact on the map.
Asset tag location	Locates and tracks Cisco Compatible Extensions (CCX) and provides a report on physical attributes such as temperature, battery level, and so on.

Table 4 *Detect and Locate Features*

Feature Name	Benefit
Streaming notification JSON/XML	Allows administrators to programmatically provide events such as Wi-Fi enabled assets that are crossing into out of restricted zones, BLE beacon movement crosses threshold distance.
Zone, search, and filter	Create logical zones on the map and searches for users by username, IP address, MAC, or filter to quickly locate assets or spot trends in different areas.

Bluetooth Low-Energy Beacon Management Platform Features

CMX 10.1 makes use of Cisco CleanAir technology and provides a centralized platform to monitor and manage Bluetooth Low Energy (BLE) Beacon. This capability is available in all Cisco CleanAir Wi-Fi environments.

[Table 5](#) lists the BLE Beacon management platform features.

Table 5 *Bluetooth Low-Energy Beacon Management Platform Features*

Feature Name	Benefits
Monitor BLE Beacons	Gains visibility into beacon health from a convenient centralized platform and eliminates costly on-site trips with IT team and mobile applications to inspect beacon health.
Detect missing or misplaced beacons	Monitors beacon placement to ensures that the detect and locate services are advertised and are in the desired locations.
Detect rogue beacons	Tracks and alerts when unauthorized or rogue beacons are detected in your facility.

CMX Connect Features

Table 6 *CMX Connect Features*

Feature Name	Benefits
Custom guest portal	User friendly tool for IT and marketing managers to create custom guest portals with dynamic content. For example, custom portals can collect visitors' information and change promotions for different location. Guest portals are aesthetically rendered on all mobile devices.
Facebook Wi-Fi	You can increase your brand recognition and gain insights through Facebook Wi-Fi. You can access free Wi-Fi from your mobile devices after checking into your Facebook account.

Table 6 *CMX Connect Features (continued)*

Feature Name	Benefits
Guest Analytics Enablement	Enable guest analytics by collecting data through registration form or social authentication. We currently support three types of social authentication in this release—Facebook, Instagram and Foursquare.
Location-based guest experience	Enable different guest onboarding experiences based on the current location of the visitor. For example, when visitors connect to Wi-Fi from the retail bank office located in the west wing of the building, they could be served the guest portal of the bank while visitors connecting to the same Wi-Fi from the grocery store in the east wing can be served with grocery portal with deals for the day.

CMX Analytics Features

The analytics dashboard in CMX 10.1 provides real-time information on Wi-Fi clients and intuitive reports that retail and enterprise customers can use to understand the traffic behavior across their sites.

[Table 7](#) lists the analytics features.

Table 7 *Analytics Features*

Feature Name	Benefits
Real-time analytics—dwell times and device count	The analytics dashboard provides real-time information on Wi-Fi client count and dwell time. Use this data to get information about the number of visitors, amount of time spent, frequency of visits, and number of new visitors vs. repeat visitors within a venue.
Zones	Creates logical zones within a venue to allow you to understand relative utilization of different areas. Filtering and comparing dwell time and device count across zones helps you identify trends such as foot traffic in different parts of a retail store.
Reports and widgets	Use reports and widget tools to measure common trends and patterns that occur over a period of time in a particular zone.
Default, custom, and scheduled reports	Dwell-time report—This report is generated by default and indicates the average wait time of visitors within a venue. Device count report—This report shows total number of devices that are available in a location. You can customize these reports for a selected location and date/time range. You can use different widgets to customize these reports.
Crossover reports	A crossover report helps quantify the flow of visitors between different zones. For example, this report shows interesting trends such as customers visiting store A or store B in a shopping mall.
Rewind and play back aggregate movement patterns in a venue	Allows administrators to rewind the clock and visualize flow of traffic and identify hotspots over a 24-hour period from historical location data.

Standards Based REST API

CMX 10.1 Release features a robust and capable RESTful API interface that can be used to programmatically apply the location of various assets, process analytics, manage beacons, add or delete notifications, and so on. One of the features of REST API is the live documentation available on the CMX 10.1 user interface. This enables you to rapidly learn API syntax by trying it live from the system via `https://<cmx ip address>/apidocs/`. Input and output of API uses the standard JSON format.

[Table 8](#) lists the CMX10.1 REST API features.

Table 8 *Standards Based REST API Features*

Feature Name	Benefits
Configuration API	Programmatically access configuration such as maps, notifications, alerts, user roles, and so on.
Location API	Programmatically access location information such as geo-coordinates, zone information, associated and nearby APs, and connected Cisco WLC for Wi-Fi clients. Full support is also provided for programmatically extracting the BLE Beacons and place them on the map.
Analytics API	Programmatically access dwell time, device count, summary metrics, and system health indicators.
Connect API	Programmatically access user session information.

System Scaling

You can install and run the CMX 10.1 software platform on machines with different CPU cores, RAM, and disk sizes. The limit listed in [Table 9](#) identify the maximum scale on a single box deployment.

[Table 9](#) lists system-scaling information.

Table 9 *System Scaling*

System Feature	Maximum Limit
Number of clients, assets tracked	Up to 150,000
Number of access points	Up to 10,000
Number of Cisco Wireless LAN Controllers	Up to 100
Number of years analytics records can be stored	Up to 8



Note You can install and run the CMX 10.1 software on machines with different CPU cores, RAM, and disk sizes. The limit listed in [Table 9](#) identify the maximum scale on a single box deployment on a High-End Appliance.

Serviceability and Troubleshooting Features

CMX 10.1 software platform is designed for increased scale and robust performance. An important capability towards achieving serviceability and troubleshooting is to capture and log all critical health information about various processes and subsystems. While many software platforms share this goal, these metrics are available deep in the system that is accessible only through command line tools.

CMX 10.1 brings an intuitive design and simplicity and displays information about system health and tracks various health metrics as shown in [Figure 2](#).

Figure 2

System Summary



[Table 10](#) lists serviceability and troubleshooting features.

Table 10 Serviceability and Troubleshooting Features

Feature Name	Benefit
System-at-Glance	Summarizes system health indicators of all the subsystems in a single view.
CPU, Memory, Disk Usage	Allows administrators to view the overall usage of the system now and also roll back to see performance over time.
Key Performance Metrics	Allows administrators and engineers to look at key performance metrics, such as processing time, incoming and outgoing rates, and understand how system behaves when it is under load.

Important Notes

- Starting with CMX 10.1 release, Cisco CMX, Cisco Wireless LAN Controller (WLC) and Cisco Prime Infrastructure will be independently version numbered. See the [Solution Compatibility Matrix, page 2](#) to identify release numbers of individual components for your deployment.
- CMX 10.1 is loosely coupled with Cisco Prime Infrastructure, which is the network management platform. Cisco Prime Infrastructure discovers access points and offers tools to place them on site maps. These populated maps are reused by CMX using an export and import process supported by Cisco Prime Infrastructure and CMX respectively. This process is done at setup time and is repeated when maps are modified or added to the system. Once the process of importing maps on CMX is complete, the CMX and Cisco Prime Infrastructure do not have run time dependencies.
- Unlike in releases earlier than CMX 10.1, zones are created in CMX 10.1 after the maps have been imported from Cisco Prime Infrastructure.

Caveats

- [Cisco Bug Search Tool, page 10](#)
- [Open Caveats, page 10](#)

Cisco Bug Search Tool

The Bug Search Tool (BST), which is the online successor to the Bug Toolkit, is designed to improve the effectiveness of network risk management and device troubleshooting. The BST allows partners and customers to search for software bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. The tool has a provision to filter bugs based on credentials to:

1. Access the BST (using your Cisco user ID and password) at <https://tools.cisco.com/bugsearch/>
2. Enter the bug ID in the **Search For:** field.



Note

Using the BST, you can also find information about the bugs that are not listed in this section.

Open Caveats

Use the Bugs Search Tool (BST) to view the details of the caveats listed in this section. For more information about the BST, see the [“Cisco Bug Search Tool” section on page 10](#).

Table 11 Open Caveats

Bug ID	Description
CSCut56577	After pairing a global location to a Facebook page, you cannot change the assignment to a Facebook page on a different account.
CSCut56648	After connecting to SSID, try perform a search with >1 word query. Go through authentication. You will notice that after successful authentication, redirection fails.

Table 11 Open Caveats (continued)

Bug ID	Description
CSCut56492	A blank screen appears after successfully signing into social website. There is no option to proceed other than clicking the Cancel button. CMX does not redirect.
CSCut81365	When you change the Registration field name, it does not retain existing user data.
CSCut85641	Images that are more than 32KB do not appear on Internet Explorer 8.0.

Troubleshooting

For the most up-to-date, detailed troubleshooting information, see the Cisco TAC website:

<http://www.cisco.com/cisco/web/support/index.html>

1. Choose Product Support > Wireless.
2. Select your product.
3. Click **Troubleshoot and Alerts** to find information on the problem you are experiencing.

Related Documentation

For additional information on CMX, see:

- <http://www.cisco.com/c/en/us/solutions/enterprise-networks/connected-mobile-experiences/index.html>
- <http://www.cisco.com/c/en/us/support/wireless/mobility-services-engine/tsd-products-support-series-home.html>

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: <http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>.

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