

Cisco Connected Mobile Experiences (CMX) Cloud

Subscription-based, cloud-delivered Wi-Fi guest access solution that engages visitors and enables analytics and insights

Overview

Cisco Connected Mobile Experiences (CMX) Cloud is a cloud-delivered version of the on-premises CMX 10 software. CMX Cloud revolutionizes the delivery of wireless services, integrating seamlessly with the Cisco wireless infrastructure and creating out-of-the-box capabilities that are intuitive as well as quick and easy to deploy and use. The affordable subscription billing model helps reduce up-front investments in equipment (CapEx) and IT resources. Ultimately, CMX Cloud accelerates how wireless infrastructure can deliver business outcomes by:

- Detecting all Wi-Fi devices that are in the proximity of access points in the venue and providing analytics on their presence, including dwell times, new vs. repeat visitors, peak times, etc.
- Providing a simplified guest access solution to onboard visitors through a custom drag-and-drop portal using various authentication methods (social, self-registration, SMS, guest vouchers, sponsor email approval, etc.).
- Enabling you to engage visitors directly on the guest portal page with external content based on location. Clickable menu items in the captive portal editor create interactive experiences. Alternatively, CMX APIs can be used to engage users via a mobile app.
- Providing the ability to create profile rules to define criteria for in-location personas, for a better understanding of and insights into customers visiting physical locations, enabling the delivery of more personalized engagements and content.
- Turning insights into action by delivering personalized engagements to consumers' mobile devices using the best available channel based on location, user preferences, and type of engagement. Multichannel engagement capabilities include SMS, email, app push notification, and API trigger.

Product summary

Built on an advanced cloud infrastructure, Cisco CMX Cloud delivers unprecedented benefits, as listed in Table 1.

Table 1. CMX Cloud overview

Feature	Benefits
Cloud delivered	<ul style="list-style-type: none">• Easy to order, provision, and set up with minimal on-premises involvement• Faster delivery of ongoing innovation• Easier to integrate with other software and systems in the public domain through APIs
Software as a Service (SaaS)	<ul style="list-style-type: none">• Less technical and operational overhead needed to set up, operate, and maintain servers and software• Ability to seamlessly add capacity, scale, and features, securely and reliably• Frees you to focus on business objectives and reduces technical infrastructure
Subscription pricing	<ul style="list-style-type: none">• Flexibility of payments, with a 1-, 3-, or 5-year initial term and annual renewals• Lower up-front CapEx and overall Total Cost of Ownership (TCO)• Ability to add capacity or term as needed to meet business requirements

Feature	Benefits
Simplified guest access (CMX Connect)	<ul style="list-style-type: none"> • Prebuilt templates to get a quick start with Wi-Fi guest portals • Easy drag-and-drop components to create a custom look and function for the portal pages—no web programming skills needed • Multiple access methodologies to choose from, including simple registration, SMS, quest vouchers, email authentication, sponsor email, and social login • Combined with CMX location, enables you to create unique pages per site, zone, SSID, etc. • Engages guest users with advertisements and external content • Separate option of a “success page” to engage repeat visitors while bypassing the login page • Guest user analytics: All data accessible as new vs. repeat visitors, network usage, portal and SMS success ratio, language used
Presence Analytics	<ul style="list-style-type: none"> • Fastest path to analytics. No need for maps; just enlist access points into sites and perform analytics based on the proximity of clients around those sites, as measured by their signal strengths (thresholds can be customized) • Dashboard provides quick insights into both current and historical numbers of visitors, average dwell time, busiest hour or day, conversion rate, and top device manufacturer • Detailed charts over time or in aggregate for a given time range show client device classification (passersby vs. visitors vs. connected), dwell time, repeat visitors by their frequency of visit, etc.
Insights and engagements (CMX Engage)	<ul style="list-style-type: none"> • Location hierarchy that maps wireless network infrastructure to business hierarchy and allows administrators to run reports and define rules at any level of the hierarchy • Smart captive portals to deliver a personalized Wi-Fi onboarding experience based on location, schedule, location-based persona, and user profile • Location-based personas: Immediately start seeing data-driven location personas (device, type of traveler, dwell and activity patterns) and get a detailed picture of guest at-location behavior • Multichannel engagement: Deliver contextual engagements to visitors via SMS, app notification, email, or captive portal • Integration with enterprise systems and workflows: Add customer data to CRM, determine loyalty status, and integrate with enterprise marketing engagement systems
Beacon Center	<ul style="list-style-type: none"> • Eliminates the need for battery-operated physical beacons for proximity engagement or wayfinding • Enables you to easily create, move, and replace virtual beacons from an intuitive dashboard with the click of a mouse • Uses the power of advanced machine learning to dramatically simplify the beacon experience across all mobile device types

License tiers

CMX Cloud supports five solution licenses: 1. CMX Connect, 2. CMX Connect with Presence Analytics, 3. CMX Engage, 4. CMX Engage Advanced, and 5. CMX Cloud Beacon Center.

CMX Connect

This Business-to-Consumer (B2C) guest access solution is designed for flexible, easy onboarding to the guest Wi-Fi network. It provides a location-aware captive portal optimized for mobile devices. CMX Connect helps venue owners monetize their guest Wi-Fi networks.

The following capabilities are offered within CMX Connect, which also includes base CMX capabilities:

- Easy-to-use portals
 - Prebuilt templates allow you to get started quickly with Wi-Fi guest portals
 - With easy drag-and-drop components, you can create a custom look and function for the portal pages that works across all mobile devices and computers; no web programming skills required
 - Multiple languages allow easy creation of portals specific to user language preference
- Multiple onboarding options
 - Simple registration options to capture customer-specified name, email, phone number, or any other custom field or option to do quick polls
 - SMS option for customer phone number verification, which is a common and useful customer identifier
 - Social login (Facebook, Instagram, Foursquare) option not only allows for better verification but also gathers additional social media data on that user
 - Guest voucher can provide front-desk or kiosk-based voucher generation and onboarding for the guest Wi-Fi
 - Sponsor option allows guest users to be authenticated by a host without overhead, including lobby admin, voucher management, or other

- Policy controls include upload and download bandwidth; access duration can be specified on a per-portal basis
- Engagement
 - Information collected through these onboarding methods is available via API and in CSV format and provides visitor demographic insights for follow-up marketing and engagement
 - Better engagement experience with clickable menu items that allow a variety of relevant information accessible on the guest portal and deliver a web app experience
 - Ability to create unique pages on a site or venue basis and engage guest users with relevant advertisements and external content
 - Dedicated success page for engaging with repeat visitors to your site
- Analytics
 - Visitor search and exportable table containing historical data on all visitors
 - Visitor reports:
 - Pages served vs. pages submitted
 - SMS sent vs. authenticated
 - Languages used
 - New and repeat users
 - Network usage

CMX Connect with presence analytics

Connect

Location-based experience: The CMX Connect dashboard provides an option for the IT admin, location manager, or zone manager to import infrastructure details (Wi-Fi access points and their location) and create sites. Portals can be assigned on a per-site basis (grouped using the access point radios' MAC addresses).

Presence analytics

Presence Analytics provides analytics based on the proximity of the devices to a Wi-Fi access point. A collection of Wi-Fi access points can be grouped to form a site, and analytics can be defined on a per-site basis. Presence Analytics provides the following benefits:

- Location statistics to improve customer engagement and loyalty across sites
- Insight into mobile behavior across locations, enabling you to enhance customers' on-site experience, make better decisions about how to engage visitors, and optimize business strategies
- Statistics on the number of first-time vs. repeat visitors and number of devices passing by vs. devices spending time at the site

Presence Analytics reports the following:

- Passersby, visitors, and connected devices over time for a given time range
- Distribution by connected state: Passersby vs. visitors, probing vs. connected visitors
- Dwell time distribution for a given time range
- Device mix with different dwell times at any given time within a specified time period
- Repeat visitors (at any given time or aggregate) by frequency of the visit within a specified time period

Presence Analytics supports API programmability and flexibility as follows:

- Ability to ignore MAC addresses, wireless networks (SSIDs), or devices with certain dwell times or repeat behavior
- Ability to export analytics in current shape or for custom analytics using external pull APIs

CMX Engage and Engage Advanced

Identify and acquire customers. Discover new insights. Deliver personalized engagement—across all your locations. Cisco CMX Engage and Engage Advanced are cloud software that use your wireless infrastructure to create captivating mobile experiences and deliver valuable location-based insights. Choose from CMX Engage or CMX Engage Advanced (Table 2).

Customer acquisition through Wi-Fi onboarding

Identify and acquire new customers through simplified Wi-Fi onboarding.

- Smart captive portal that builds your brand
Create captive portals that are in line with the look and feel of your brand. Build and manage as many portals as you need to deliver personalized experiences and relevant information to users.
- Optimized Wi-Fi onboarding for comprehensive in-venue customer acquisition
Increase adoption with a minimal number of clicks for Wi-Fi provisioning. Onboarding options include authentication through phone numbers, emails, access codes, and social login, including Google+, Facebook, LinkedIn, and Twitter. When customers return, they are automatically authenticated.
- Captive portal rules
Define captive portal rules to deliver portals based on user profile, location, and schedule. Integrate content from marketing platforms. Define bandwidth and time limits for Wi-Fi access. Integrate customer data into back-end systems in real time with captive portal API rules.
- Smart location hierarchy
Set up a logical location hierarchy based on how you want to gain Insights and engage with your customers, or import an existing location hierarchy from the infrastructure. Get started quickly by importing your access points and Bluetooth Low-Energy (BLE) beacons and adding them to the new locations created.

Reports and analytics

Gain actionable insights about your customers:

- Visitor behavior and preferences
Use the dynamic reporting and analytics tool to better understand visitor behavior and preferences. Measure visitor authentication success across social login, SMS, custom forms, and more. Segment the results based on customer demographics to better understand preferences. Gain insights into customer behavior with detailed engagement rules analysis. Learn which content and offers are effective, when, and where. Analyze repeat frequency, dwell time, and exit surveys.
- Build location-based personas
Use profile rules to create personas based on in-location behavior, and integrate with information from enterprise systems. Understand how different customer profiles behave in physical locations to optimize operations and deliver highly targeted engagements.

Context-aware engagement

Turn insights into action by delivering personalized mobile experiences that engage your customers in context on their mobile devices:

- Proactive, personalized engagement
Using the CMX Engage rules engine, engage your customers based on who they are, where they are, what they are doing, and how long they've been doing it. For example, you can set rules to push a coupon to a repeat visitor at a specific location based on dwell

time. The powerful yet easy-to-use engagement rules engine gives you drop-down options to easily select the criteria you want to apply. You can set rules based on CMX Engage customer profiles.

- Multichannel notifications

Use the best available channel based on location, user preferences, and behavior to initiate the engagement, including SMS, email, and application push notification.

- Trigger notification

Notify employees and integrate with enterprise systems and workflows based on the criteria set using the CMX Engage engagement rules engine. Act on insights immediately or integrate them with your overall customer engagement strategy.

- Incorporate in-venue location awareness into your mobile apps

Get the most out of your mobile native app investments. With CMX Engage Software Development Kits (SDKs), you can embed in-venue location awareness into your mobile apps. Enable easy-to-use Wi-Fi onboarding with preprovisioned Wi-Fi profiles from your mobile apps. In the venue, push CMX Engage engagement on mobile apps with BLE technology and Wi-Fi.

Enterprise connectivity through APIs

Connect to enterprise systems using APIs. Customer profile data gained from Wi-Fi onboarding can be posted to loyalty and CRM systems using APIs:

- APIs for enterprise systems (loyalty and CRM)

Post user profile data gained from the CMX Engage onboarding process to your loyalty and CRM systems using APIs. Understand and complete your omnichannel strategy by filling the missing gap—your in-venue visitors. Reap the benefits by engaging your customers on a more personalized level.

- Enterprise rules triggered through APIs

Extend your business rules to CMX Engage. Use the engagement rules engine to trigger an action based on your business rules.

Table 2. Feature comparison for CMX Engage and CMX Engage Advanced

Feature	CMX Engage	CMX Engage Advanced
Smart location hierarchy	Included	Included
Captive portal creation tools	Included	Included
Captive portal rules	Included	Included
Reports and analytics	Included	Included
Real-time API to integrate customer data at onboarding	Included	Included
Export of customer data	Included	Included
Profile rules for location-based personas and insights	–	Included
Multichannel engagement (SMS, email, applications, API)	–	Included
Rules-driven API post to third-party systems	–	Included
SDK for easy Wi-Fi onboarding for application users	–	Included
Location-based application push notification with SDK	–	Included

Cisco CMX Cloud Beacon Center

CMX Cloud Beacon Center works with Cisco Beacon Points to create virtual beacons. Unlike physical Bluetooth Low-Energy (BLE) beacons, virtual BLE beacons do not need a battery to operate. Virtual beacons can be created on demand simply by dropping a pin on the map. As smartphones and devices approach the virtual beacon, the virtual beacon SDK notifies the application and triggers a proximity message and/or action.

- Typical experience for a mobile client, accurate within 10 feet (3 m), with latency less than 5 seconds

- Wayfinding or navigation
- Proximity messaging
- Zone-based metrics with peak hourly visits and minimum and maximum visits
- Machine learning across iOS and Android device types
- Enterprise-grade management of beacon points

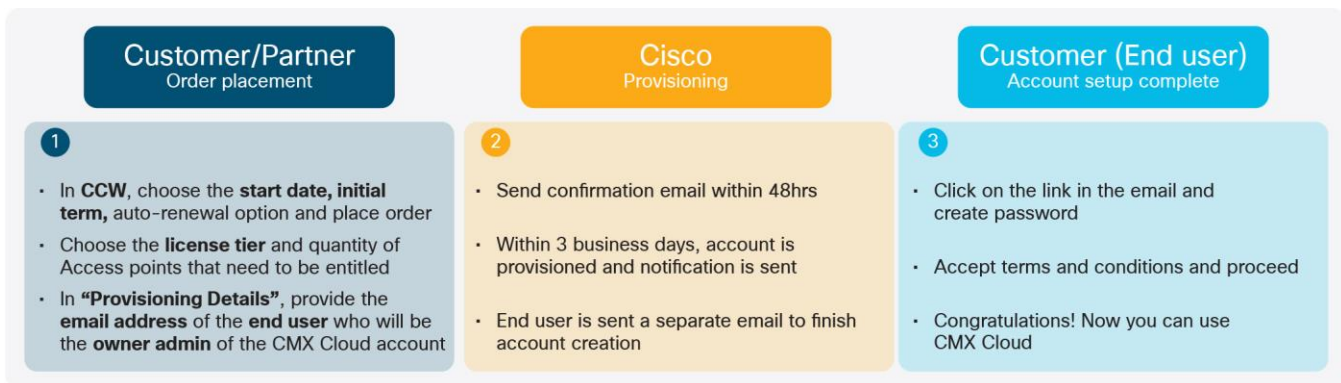
Licensing structure and orderability

CMX Cloud license tiers in the price list are metered per access point per month and are available as a 12-, 36-, or 60-month prepaid initial term, with the option of automatic annual renewals. An inherent multiyear discount is built in based on the initial term length. The SKUs needed to place the order are listed in Table 3. CMX Cloud Beacon Center licenses are metered per beacon point per month. A one-time purchase of Cisco Beacon Point hardware, AIR-VBLE1-K9, is required to match the quantity of CMX Cloud Beacon Center licenses.

Table 3. Ordering information

SKU	Description
AIR-CMX-CLOUD	Top-level SKU for CMX Cloud
AIR-CMX-SVC-CX	CMX Cloud Connect only
AIR-CMX-SVC-CPAX	CMX Cloud Connect with Presence Analytics
AIR-CMX-SVC-ENG	CMX Engage
AIR-CMX-SVC-ENG-ADV	CMX Engage Advanced
AIR-CMX-SVC-VBLE	CMX Cloud Beacon Center

Figure 1. Recommend ordering flow for CMX Cloud



Recommended flow for ordering the CMX Cloud service is as follows (Figure 1):

1. Establish the email of the end user who will be the default owner of the CMX Cloud account. This user will own and operate the account. If you have an existing free trial account, use the email for that account and it will be converted from trial to paid without loss of any data or disruption to the deployment.
2. Determine the license tier, the start date and initial term of the license, and the quantity of licenses in terms of the number of access points that need to be entitled.
3. Search for AIR-CMX-CLOUD in the ordering tool and follow the instructions to complete the order. Note that the existing subscription can be changed to add quantity or to change the service level or term at any time. This allows you to avoid multiple orders and complexity.

4. Please fill out the "Provisioning Details" section carefully. The email address you provide here is the one that the activation link is sent to. This user will be the owner and administrator for the CMX Cloud account. Note that an email address can be associated with only one subscription. To avoid duplicate orders, change the existing subscription.
5. Please file a support case if the provisioning information needs to be corrected at any time.

CMX Cloud uses the SaaS billing process. We recommend that partners and distributors review the [training](#).

Following are the next steps to complete the provisioning workflow:

1. Cisco will provision the service within three business days and send a "provision complete" confirmation email to the end customer.
2. To complete the account creation, a separate email will be sent to the end user provided in the "Provisioning Details" section of the order.
3. The end customer will open the email, accept the terms and conditions, and create a password for the CMX Cloud account. This completes the CMX Cloud account setup. As mentioned above, if the email is an existing trial account, it will be seamlessly converted to the paid account.

To access CMX Cloud, go to <https://cmxcloud.cisco.com/> and use the above email and password to start using CMX.

For more information

- To learn more about the service description for CMX Cloud, visit https://www.cisco.com/web/about/doing_business/legal/service_descriptions/docs/connected-mobile-experiences-cloud.pdf.
- To learn how to use and deploy CMX Cloud, visit <https://support.cmxcisco.com/hc/en-us/articles/217123567-Cisco-CMX-Cloud-Deployment-Guide>.
- To learn more about the Cisco Virtual BLE Beacon Solution, visit <https://www.cisco.com/c/en/us/solutions/enterprise-networks/virtual-ble-beacon.html>.
- For more information about Cisco Connected Mobile Experiences, visit <https://www.cisco.com/go/cmxc>.

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