



Configure Push Notifications

- [Push Notifications Overview, on page 1](#)
- [Push Notifications Configuration, on page 5](#)

Push Notifications Overview

When your cluster is enabled for Push Notifications, and the IM and Presence Service use Google and Apple's cloud-based Push Notification service to push notifications for voice and video calls, instant message notification to Cisco Jabber or Cisco Webex on Android and iOS clients that are running in suspended mode (also known as background mode). Push Notifications allows your system to maintain a persistent communication with Cisco Jabber or Cisco Webex. Push Notifications is required both for Cisco Jabber and Cisco Webex on Android and iOS clients that connect from within the enterprise network, and for clients that register to an on-premise deployment through Expressway's Mobile and Remote Access feature.

How Push Notifications Work

At startup, clients that are installed on Android and iOS platform devices register to , the IM and Presence Service and to the Google and Apple cloud. With Mobile and Remote Access deployments, the clients registers to the on-premises servers through Expressway. So as long as the Cisco Jabber and Cisco Webex client remains in foreground mode, and the IM and Presence Service can send calls and instant messages to the clients directly.

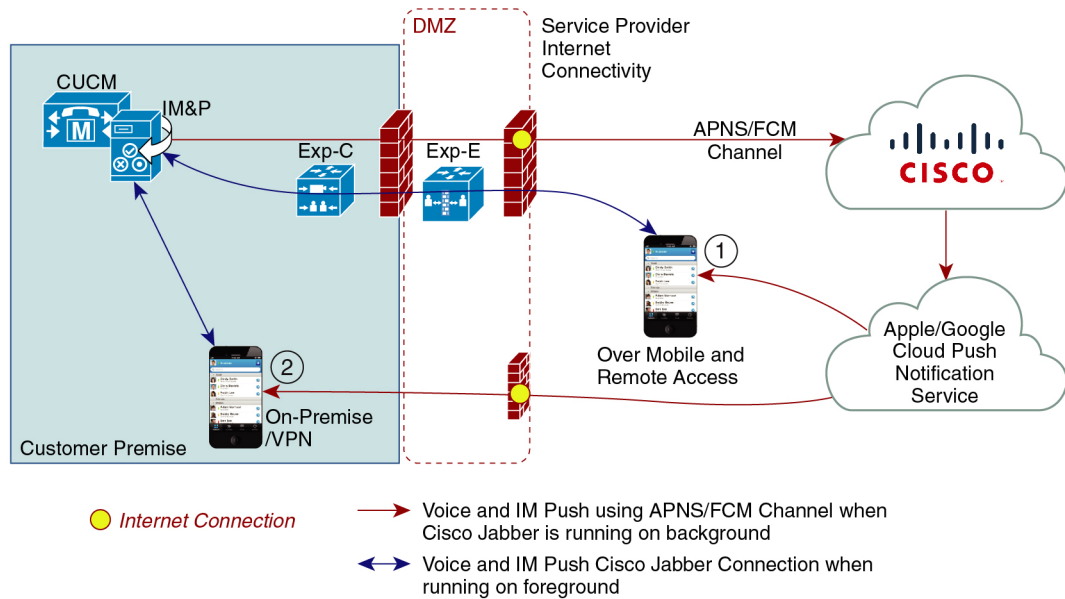
However, once the Cisco Jabber or Cisco Webex clients moves to suspended mode (for example, to maintain battery life), the standard communication channel is unavailable, preventing and IM and Presence Service from communicating directly with the clients. Push Notifications provides another channel to reach the clients through the partner clouds.



Note Cisco Jabber and Cisco Webex is considered to be running in suspended mode if any of the following conditions are true:

- the Cisco Jabber or Cisco Webex application is running off-screen (in the background)
 - the Android or iOS device is locked
 - the Android or iOS device screen is turned off
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Figure 1: Push Notifications Architecture



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The above diagram displays what happens when Cisco Jabber or Cisco Webex for Android and iOS clients run in the background or are stopped. The figure illustrates: (1) an Mobile and Remote Access deployment where the clients that connects with an on-premises Cisco Unified Communications Manager and IM and Presence Service deployment through Expressway, and (2) a Cisco Jabber or Cisco Webex for Android and iOS clients that connects directly to the on-premises deployment from within the enterprise network.



Note As of iOS13 for Apple clients and supported Android clients, voice calls and messages use separate Push Notifications channels ('VoIP' and 'Message') to reach a client that is running in background mode. However, the general flow is the same for both channels. With iOS 12, voice calls and messages are delivered using the same channel.

Push Notifications Behavior for Cisco Jabber and Cisco Webex

The following table describes the behavior under iOS 12 and iOS 13 for Cisco Jabber or Cisco Webex iOS clients that are registered to and the IM and Presence Service.

Cisco Jabber or Cisco Webex client is running in...	Cisco Jabber is running on an iOS12 Device	Cisco Jabber is running on an iOS13 Device or Android Device
Foreground Mode	<p><u>Voice and Video Calls</u></p> <p>sends voice and video calls to Cisco Jabber or Cisco Webex clients directly using the standard SIP communications channel.</p> <p>For calls, also sends Push Notifications to Cisco Jabber or Cisco Webex clients that are in foreground mode. However, the standard SIP channel gets used to establish the call, rather than the Push Notifications channel.</p> <p><u>Messages</u></p> <p>The IM and Presence Service sends messages to the client directly using the standard SIP communication channel. For messages, Push Notifications are not sent to clients that are in foreground mode.</p>	The behaviour is the same as with iOS12.

Cisco Jabber or Cisco Webex client is running in...	Cisco Jabber is running on an iOS12 Device	Cisco Jabber is running on an iOS13 Device or Android Device
Suspended Mode (Background mode)	<p><u>Voice or Video Calls</u></p> <p>Standard communication channel is unavailable. Unified CM uses the Push Notifications channel.</p> <p>Upon receiving the notification, the Cisco Jabber or Cisco Webex client re-enters foreground mode automatically, and the client rings.</p> <p><u>Messaging</u></p> <p>Standard communication channel is unavailable. IM and Presence Service uses the Push Notifications channel to send IM notifications as follows:</p> <ol style="list-style-type: none"> 1. IM and Presence Service sends the IM notification to the Push REST service in the Cisco cloud, which forwards the notification to the Apple cloud. 2. The Apple cloud pushes the IM notification to the Cisco Jabber or Cisco Webex client and a notification appears on the Cisco Jabber or Cisco Webex client. 3. When the user clicks the notification, the Cisco Jabber or Cisco Webex client moves back the foreground. The Cisco Jabber or Cisco Webex client resumes the session with the IM and Presence Service and downloads the instant message. <p>Note While the Cisco Jabber or Cisco Webex client is in suspended mode, the user's Presence status displays as Away.</p>	<p>With iOS13, call traffic and message traffic is split into separate Push Notifications channels: a 'VoIP' channel for calls, and a "Message" channel for messaging.</p> <p><u>Voice or Video Calls</u></p> <p>Standard communication channel is unavailable. Unified CM uses Push Notifications 'VoIP' channel.</p> <p>Upon receiving the VoIP notification, Jabber launches CallKit with Caller ID.</p> <p>This behavior holds for Cisco Jabber or Cisco Webex iOS clients.</p> <p><u>Messaging</u></p> <p>Standard communication channel is unavailable. IM and Presence Service uses Push Notifications 'Message' channel.</p> <ol style="list-style-type: none"> 1. IM and Presence Service sends the IM notification to the Push REST service in the Cisco cloud, which forwards the notification to the Apple cloud. 2. The Apple cloud pushes the IM notification to the Cisco Jabber or Cisco Webex client. 3. When the user clicks the notification, Cisco Jabber or Cisco Webex client moves to foreground mode. Cisco Jabber or Cisco Webex client resumes the session with the IM and Presence Service and downloads the message. <p>Note While Cisco Jabber or Cisco Webex client is in suspended mode, the user Presence displays as Away.</p>

Supported Clients for Push Notifications

Client	OS	Platform Cloud	Cloud Service
Cisco Jabber on iPhone and iPad	iOS	Apple	Apple Push Notification Service (APNS)
Cisco Jabber on Android	Android	Google	Android PNS Service
Webex on iOS	iOS	Apple	Apple Push Notification Service (APNS)

Client	OS	Platform Cloud	Cloud Service
Webex on Android	Android	Google	Android PNS Service

How Push Notifications Work in iOS13

In iOS13, Apple processes Push Notifications for suspended apps with type **VoIP** differently in comparison with iOS12. From July 2020, all new apps and app updates are built with iOS 13 SDK.

Cisco Unified Communications Manager and the IM and Presence Service use VOIP notification channel for Pushing both Voice and IM messages.

- For all audio video calls, the CUCM server sends a push notification of type "**VoIP**"
- For all messages, the IM&P server sends a push notification of type "**message**"

CUCM considers VoIP push Notifications as high priority notifications and delivers without delay.

The following diagrams display how Apple processes push notifications in **iOS12** and **iOS13**.

Image Here

Image Here

For a detailed description of what happens with each use case and between the versions, see the following table:

Push Notifications Configuration

For details on how to configure and deploy Push Notifications, refer to *Deploying Push Notifications for Cisco Jabber on iPhone and iPad* at <https://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-installation-and-configuration-guides-list.html>.

