



# Cisco Tech Club Collaboration

Jaroslav Martan, Ivan Sýkora

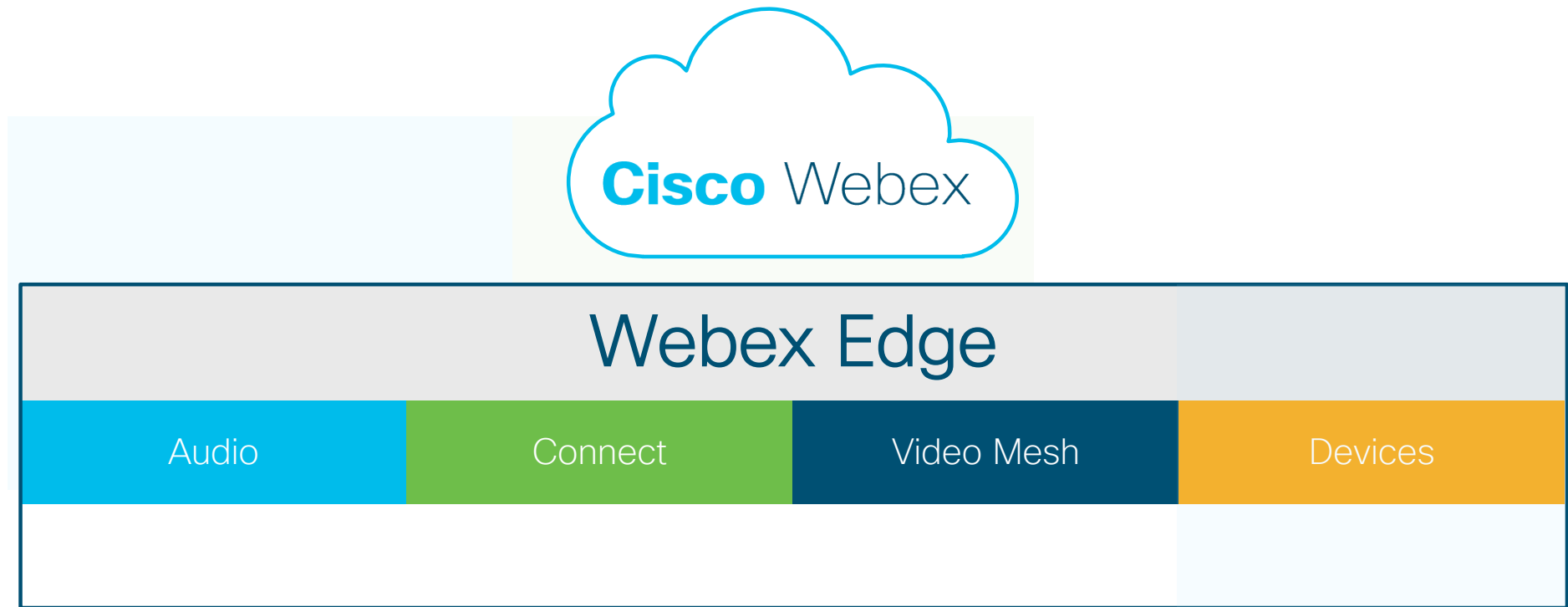
9.6.2020

# Agenda

- Cisco Webex Edge – Hybrid Services for the Cloud
  - Edge Audio
  - Edge for Devices
  - Video Mesh
  - Edge Connect
- Jabber 12.9 & Integrations

# Components of Webex Edge

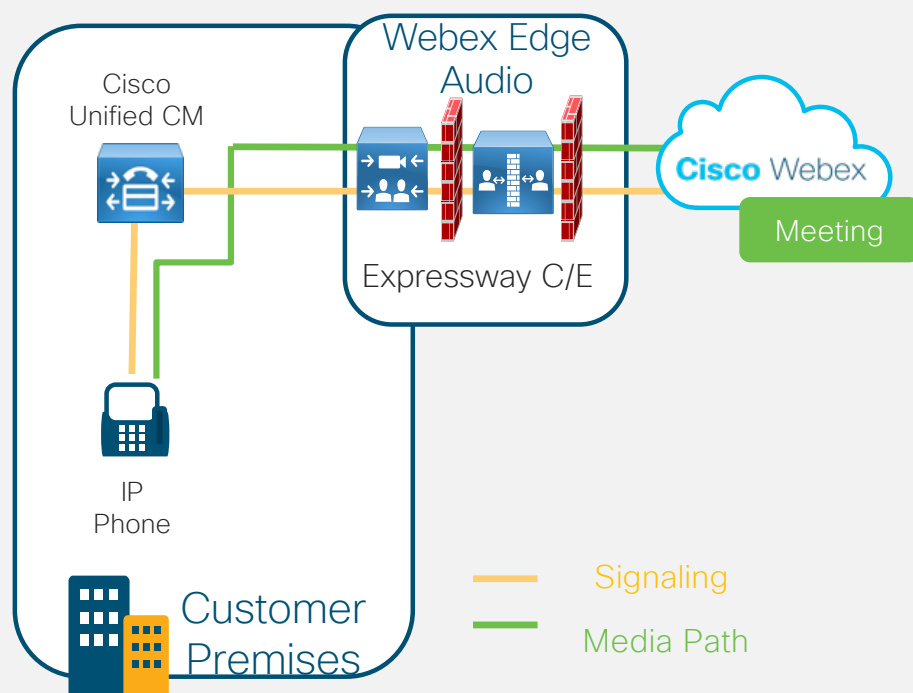
## High Level Overview



Edge Audio

# Cisco Webex Edge Audio

## Intelligent audio routing

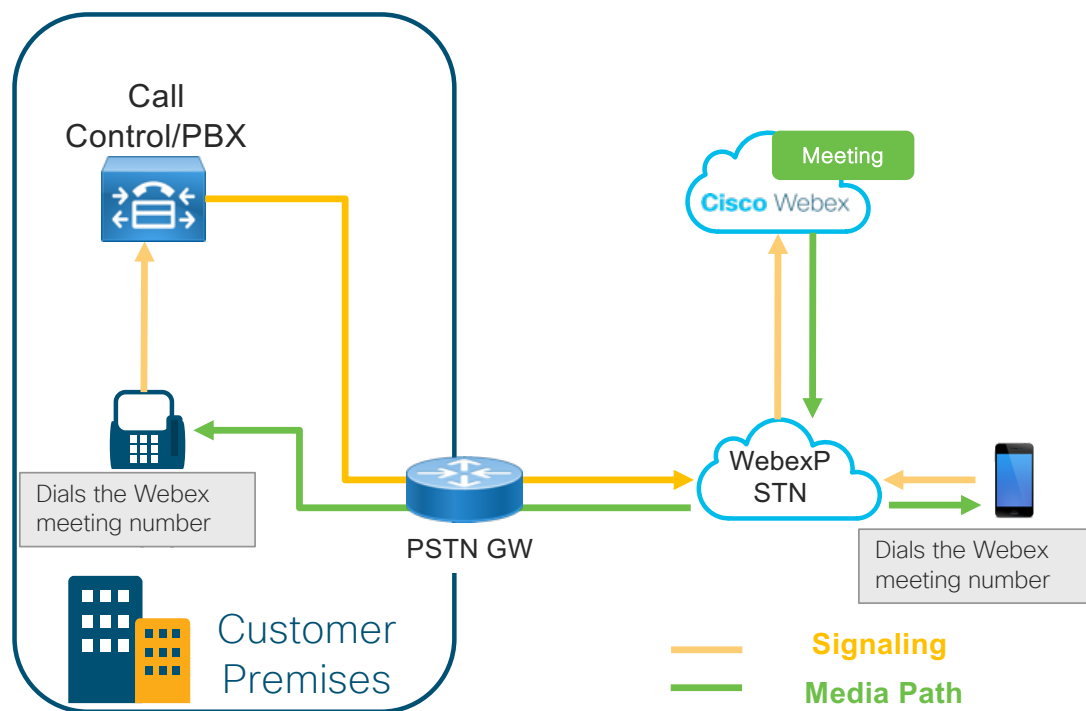


- Intelligent audio routing: integrating Webex with Unified CM
  - Creates end-to-end VoIP path for Unified CM registered devices (callback and dial-in)
  - Uses company's own PSTN for any other device (callback savings)
  - No SIP trunks or peering arrangements required
- Geo-country code configurable
- Included in Collaboration Flex Plan – no extra charge. No port charges on Expressway
- Supports Webex Meetings, Events, Training

No user training, no change in user behavior, easy for IT

# Cisco Webex PSTN Audio

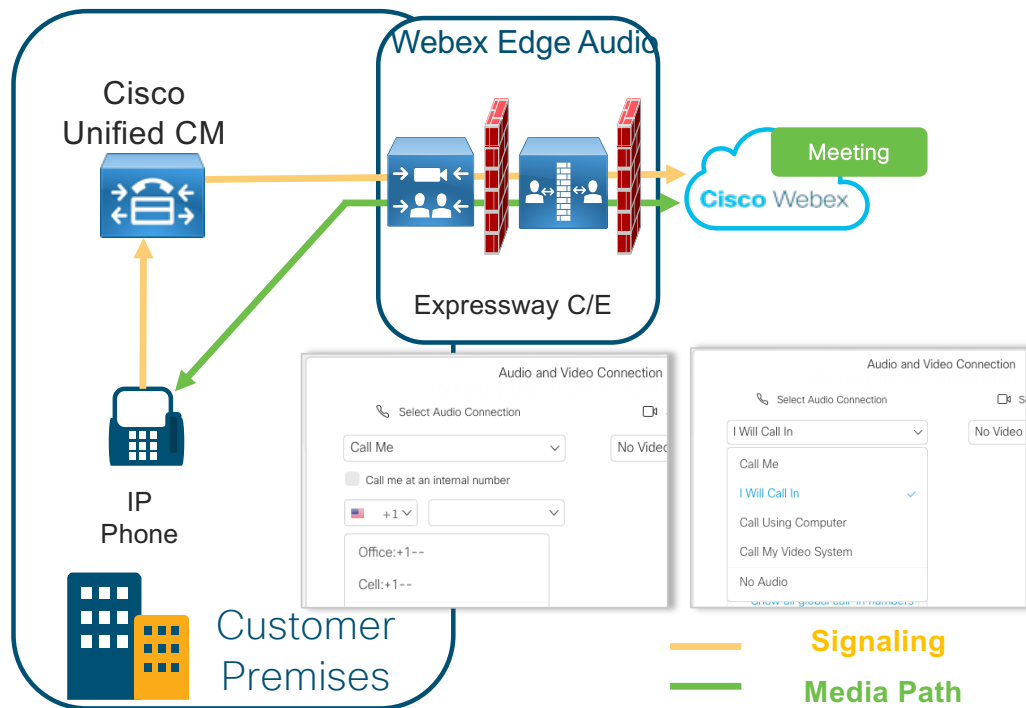
## High level overview



1. On-premises telephone or cell phone dials the Webex meeting number to get connected by audio into the meeting.
2. Signaling is routed via the on-premises call control device/PBX or by the cell phone network to Webex Meetings audio service.
3. Audio media (the sound) is connected via the Webex PSTN connection between the Webex meeting and the on-premises phone or cell phone.

# Cisco Webex Edge Audio

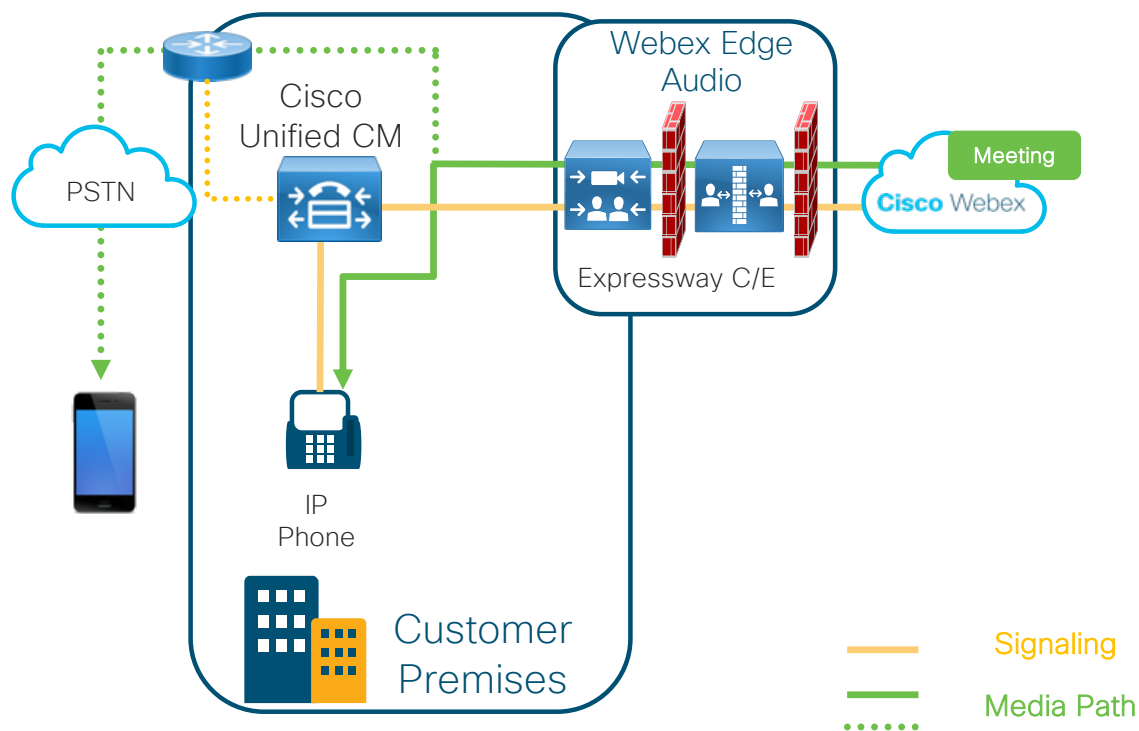
High level overview



1. On-premises telephone dials the Webex meeting number or gets a call back from the Webex meeting to get connected by audio into the meeting.
2. Signaling is routed via the on-premises call control device (Unified CM) through the Expressway C and E to Webex Meetings audio service.
3. Audio media (the sound) is routed from the Webex meeting to the Expressway E and C and then to the on-premises phone for callback and the reverse for call in.

# Cisco Webex Edge Audio

## Overview Architecture configuration - Call Back



### Overview of the Webex Edge Audio Callback Set Up Steps:

1. Apply Webex Edge Audio Callback Settings
  - Define country callback parameters in Control Hub
  - Ensure the proper SRV record configuration for Expressway - E
  - Ensure connectivity checks are successful.
2. Configure Expressway- E to accept calls and route to Expressway - C
3. Configure Expressway - C to accept calls and route them to Cisco UCM
4. Cisco UCM routes the +E.164 audio call to the IP phones or local PSTN

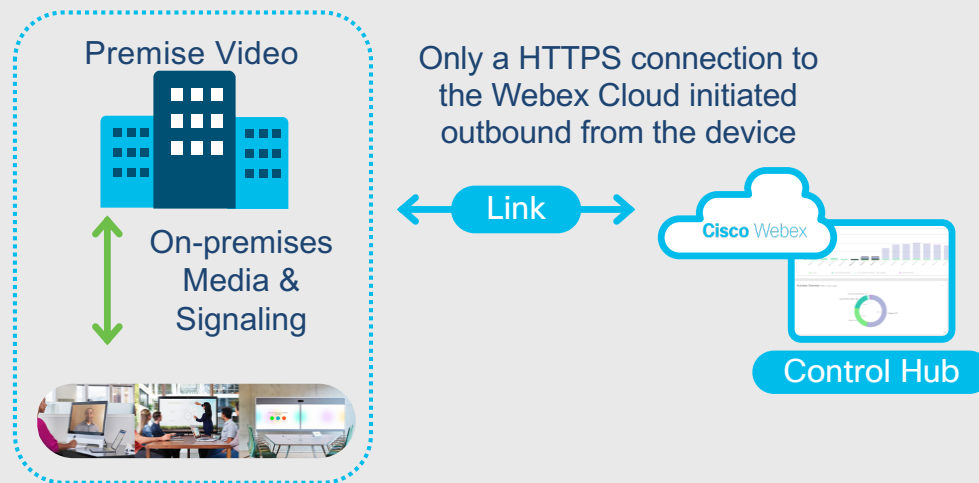


Edge for Devices

# Webex Edge for on-premises Webex Devices

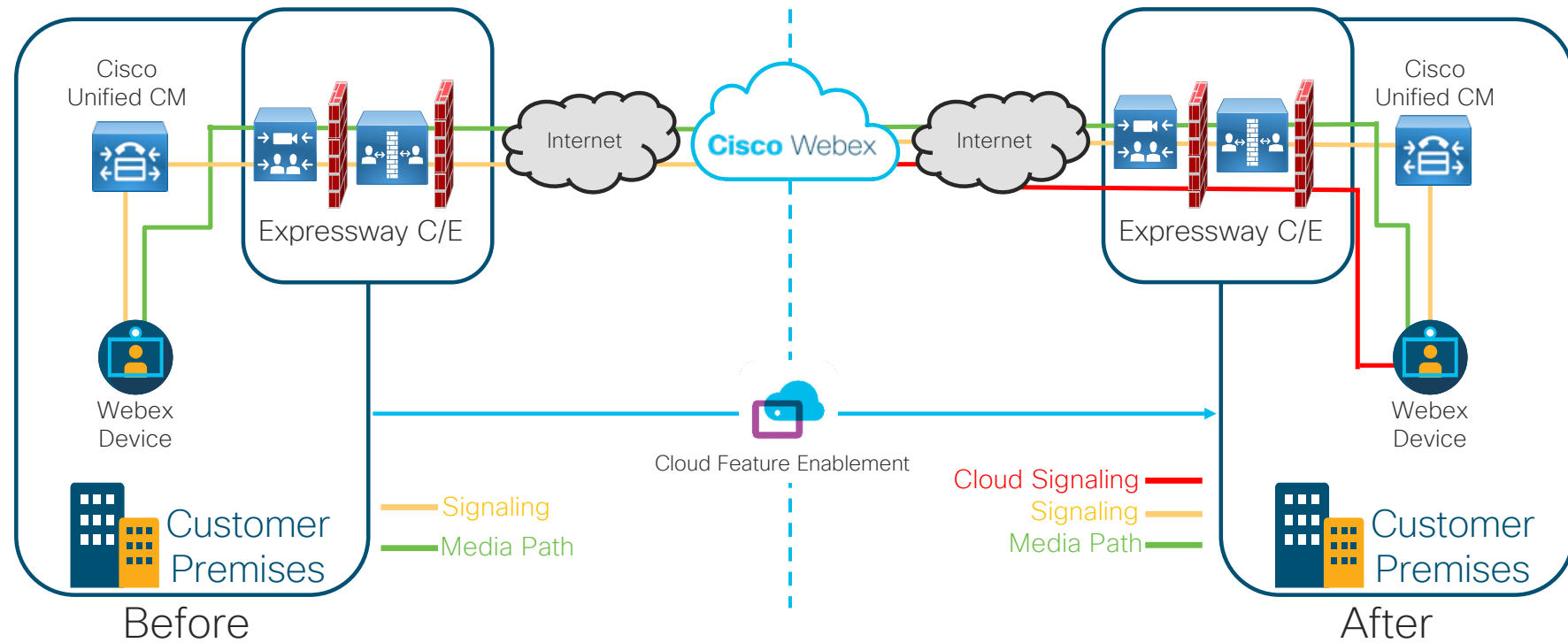
## High Level Overview

Deliver insights and diagnostics for on-premises Webex Devices by linking them to the Webex cloud platform.



- Business-critical calling and media stays on-premises
- Hybrid deployment and customer migration at their pace
- “One-click migration” – one button to Cloud Link
- Simplified single pane of glass with insights through Control Hub
- This feature will enable more cloud services with time in phases

# Cloud Feature Enablement



# Cloud features for on-premises registered devices

Phase 1 Webex Control Hub supported standard services

- Historical analytics
- Online/Offline connection status
- Device Diagnostics
- Cloud xAPI access

Additional options available for configuration within Phase 1

- Hybrid Calendar services
- Webex Assistant (pro-active join meeting)

# Prerequisites

For on-premises registered Webex devices with Cloud features

- Software version on Webex device is CE9.10 or later
- Latest release of VCS/Expressway
- Unified CM version 12.5SU1 or 11.5.x with latest device pack or COP file
- AXL enabled Application user (if linking Webex devices through Unified CM)
- Webex Control Hub Full Administrator or Device Administrator access
- Active Webex Control Hub instance
- Device Licenses available in Webex Control Hub
- Device Connector tool installed (as detailed earlier in this deck)
- For Expressway, you need HTTPS connectivity enabled on your Webex Devices for the Device Connector tool

# Onboarding Flow

Migration from on-premises registration to cloud



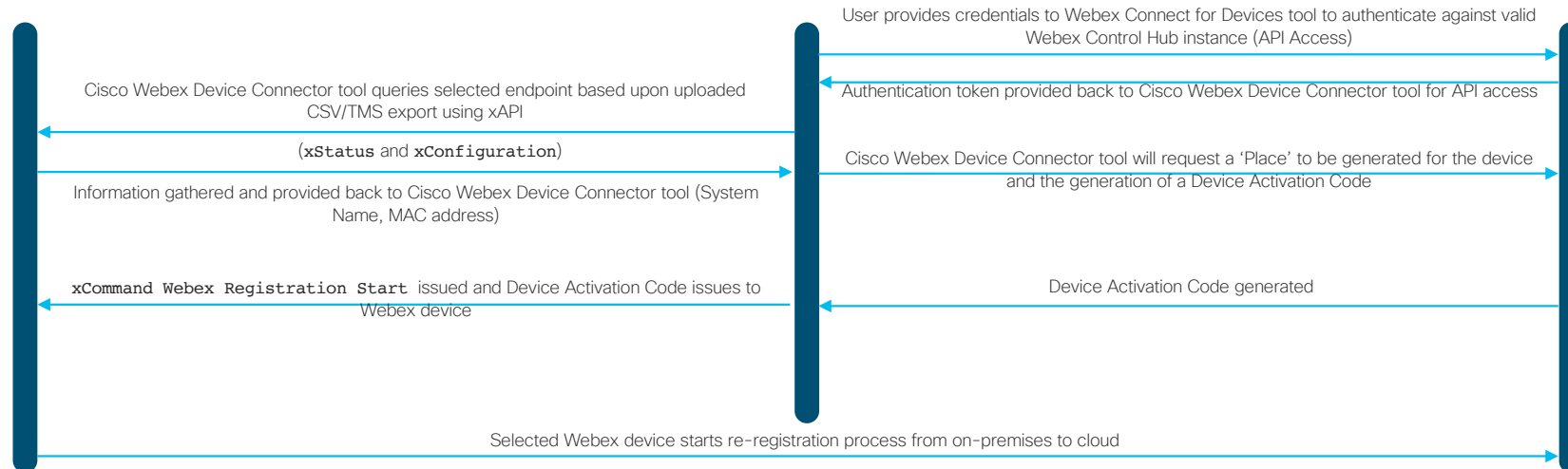
On-premises Webex device



Cisco Webex Device Connector tool



Cisco Webex Cloud



# Video Mesh

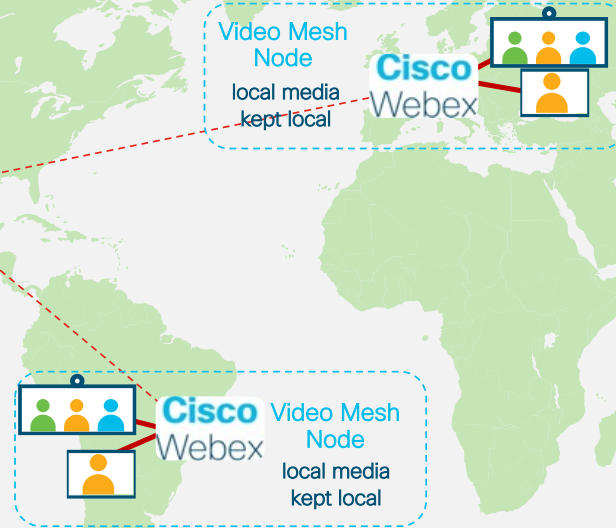
# Webex Edge Video Mesh

On-premises video quality and bandwidth savings



## Webex Edge Video Mesh

- Software extends cloud to the premises  
- media stays local for on-premises attendees
- Cloud simple: managed by & registered to Webex cloud
- Automatic overflow if local capacity is full or unavailable





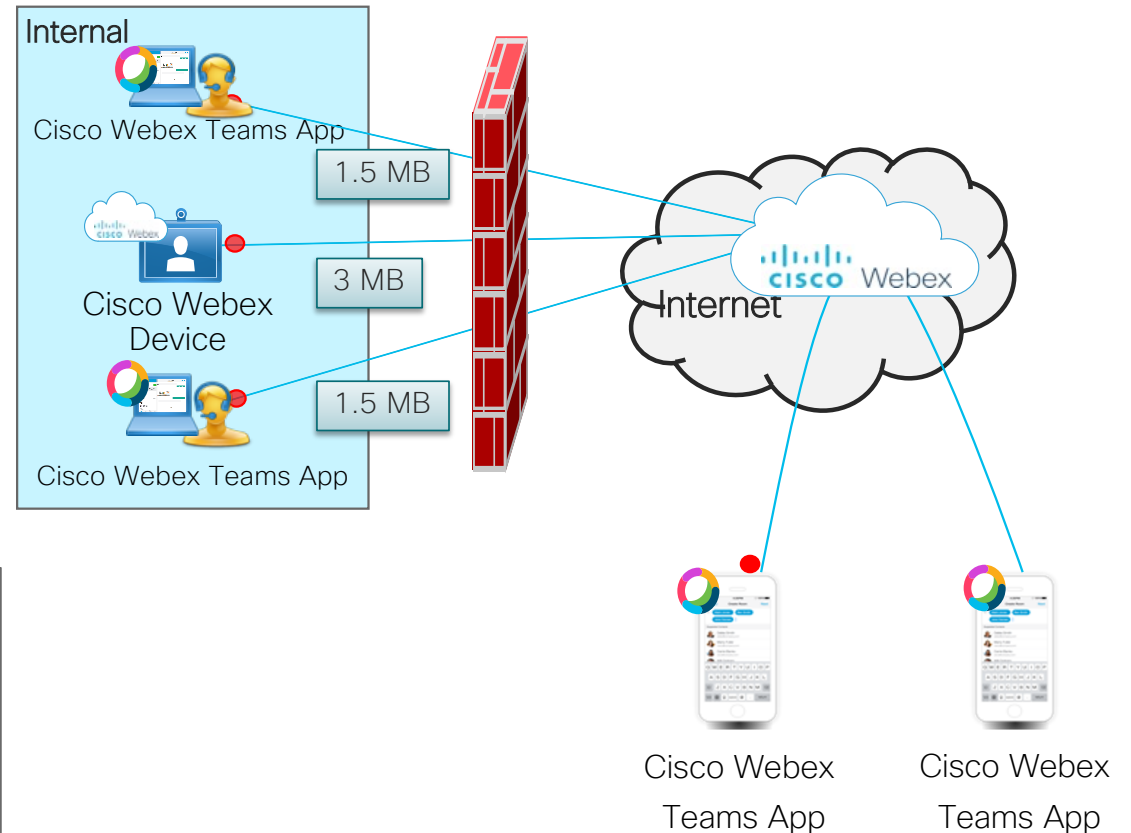
# Webex Video Mesh

## Problem

- 1:1 meetings use a cloud resource to meet
- Multiparty meetings use a cloud resource to meet
- Signaling and media go to and from the cloud
- Increased bandwidth requirement for the Internet with adoption of Cisco Webex Meetings

## Solution

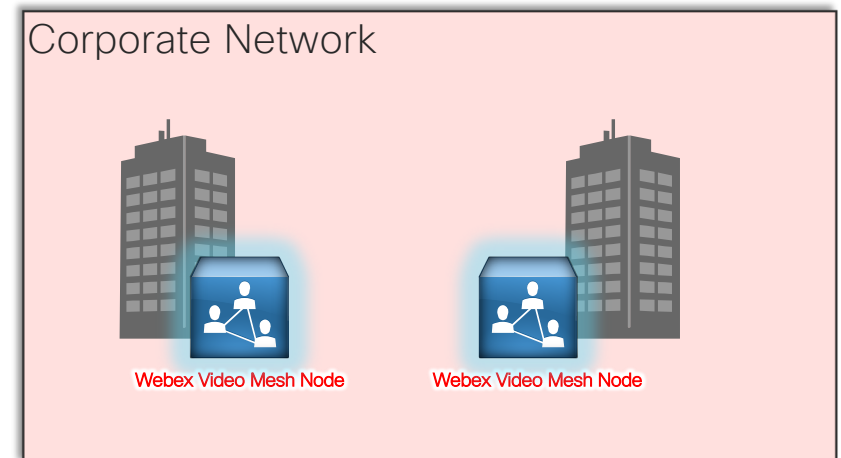
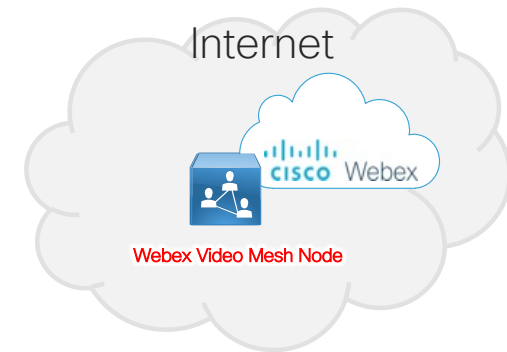
Cisco Webex Video Mesh



# Webex Video Mesh

## What is it?

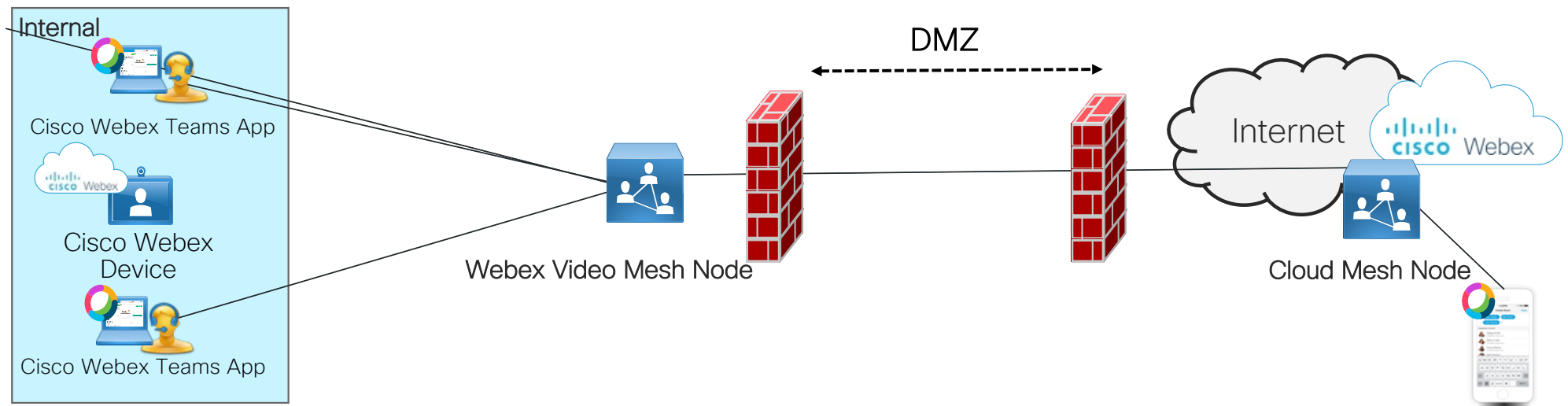
- A little piece of our cloud on your premises
- Cisco cloud meeting capabilities packaged in a software image for on-premises deployment
- Ability to provide local media processing on the corporate network.
- Customers can deploy Video Mesh Nodes across multiple locations, optimizing media quality within a location and bandwidth across locations
- Automatic overflow from on-premises Video Mesh Node to cloud nodes
- Automatic upgrades of Video Mesh Nodes
- Single pane of glass for management, resource monitoring and usage metrics





# Architecture

## Webex Video Mesh – Option 1



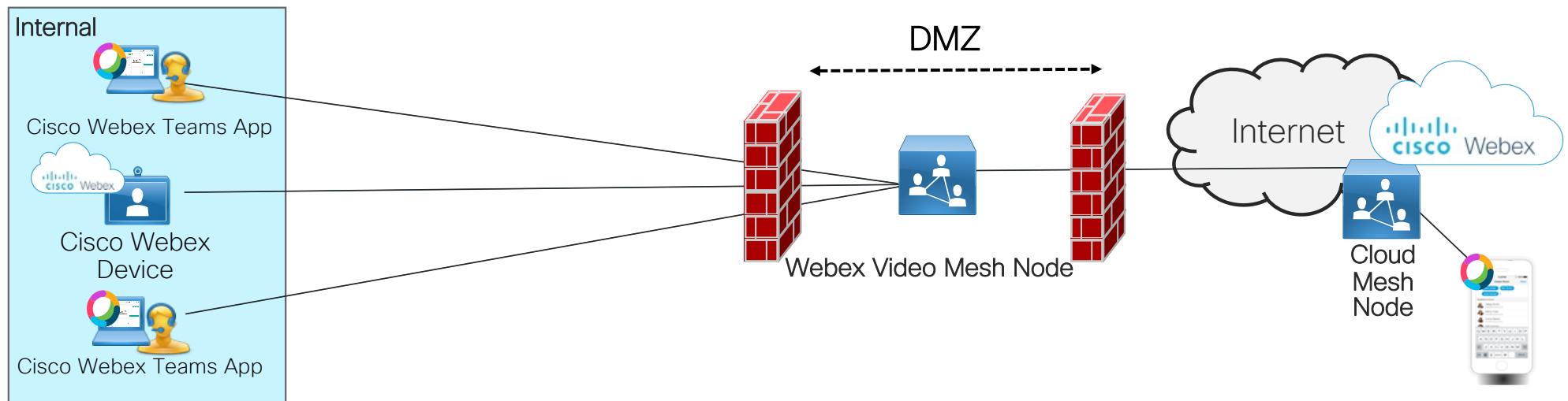
### Internal installation considerations:

- All media for internal participants stay internal
- Placed with other collaboration infrastructure devices
- Single connection per conference to Cloud Mesh Nodes



# Architecture

## Webex Video Mesh – Option 2



### DMZ installation considerations:

- External media does not traverse the internal network.
- All media for internal participants goes to the DMZ.
- Security policy does not allow Cisco Webex network ports to be opened outbound for media directly to the Internet from the internal network.

# What devices and scenario can the Video Mesh node be used?

## Uses the Node



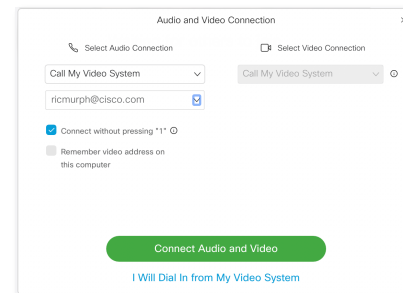
- Any Cisco Webex-registered device
  - SX, MX, DX, Room-series, Webex Board
- Cisco Webex Teams app
  - Desktop and Mobile
- CUCM-registered devices
  - Calling a Cisco Webex scheduled meeting or personal room.
  - SX, MX, DX, Room-series, Jabber, Jabber VDI (12.6 or higher)



## Uses the Node



- Cisco VCS/Exp.-registered devices
  - Calling a Cisco Webex scheduled meeting or personal room.
  - SIP or H.323 (requires Interworking)
- Cisco Webex VDI client (39.3 or higher)
- Cisco Webex *Call My Video System* to Webex-registered endpoints



# What devices and scenario can the video mesh node be used?



Can NOT use the Node

- Webex Teams browser client
  - teams.webex.com



- Webex Calling-registered phones

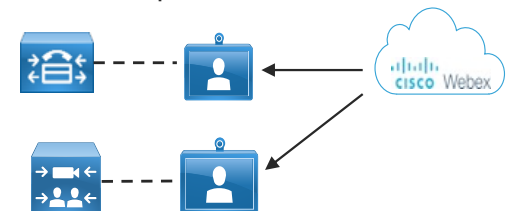


Can NOT use the Node

- Webex Meetings app

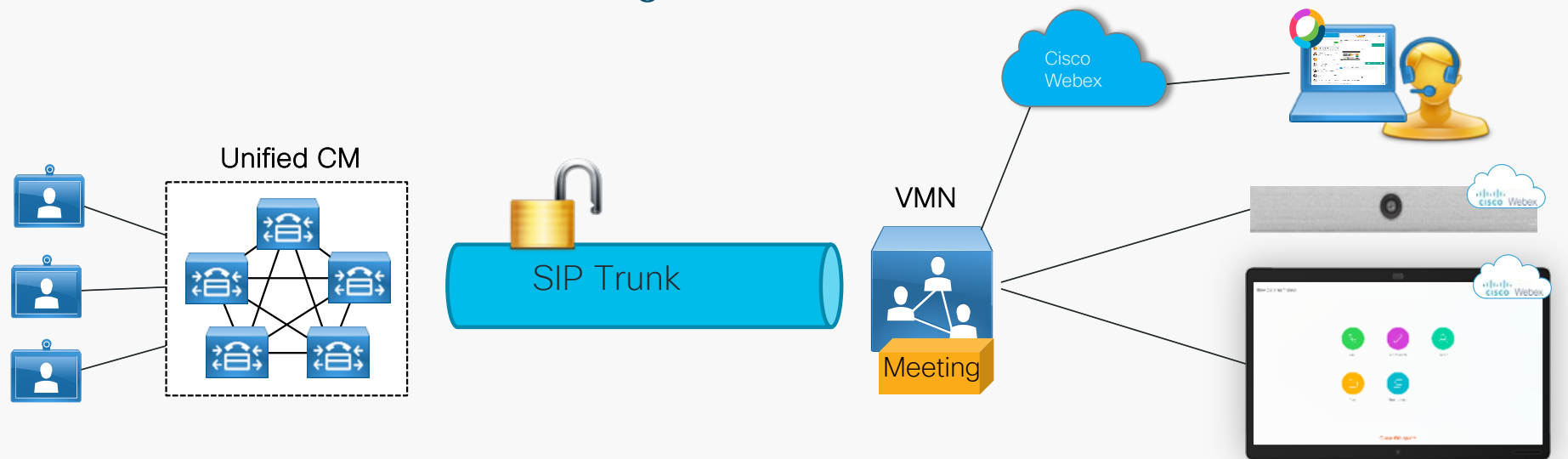


- Cisco Webex *Call My Video System* to premises-registered endpoints



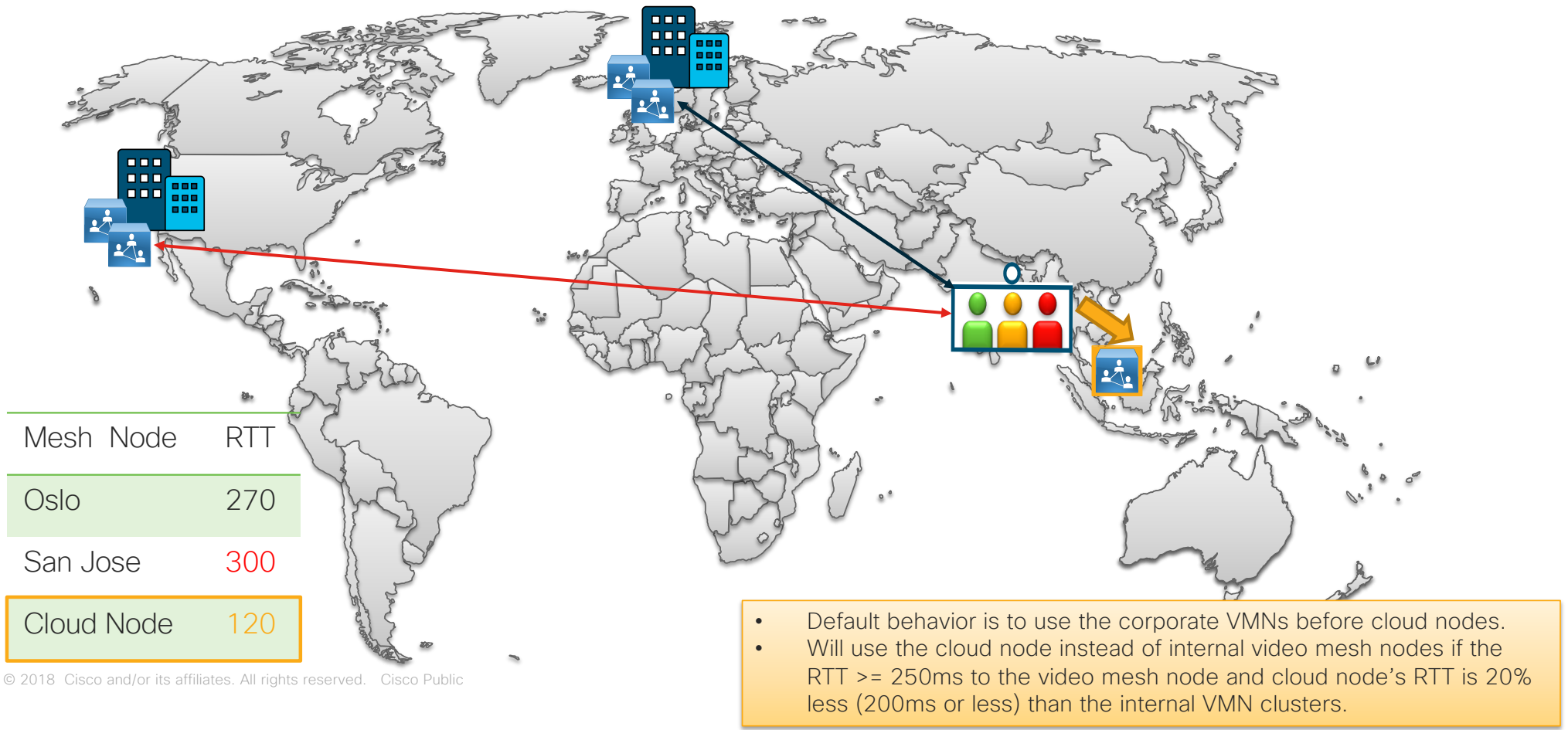
# Call Control Connectivity

## Cisco Unified Communications Manager



- Supported with Unified CM version 11.5(1) and higher. Recommended versions 12.5(1) and higher.

# Reachability to the cloud

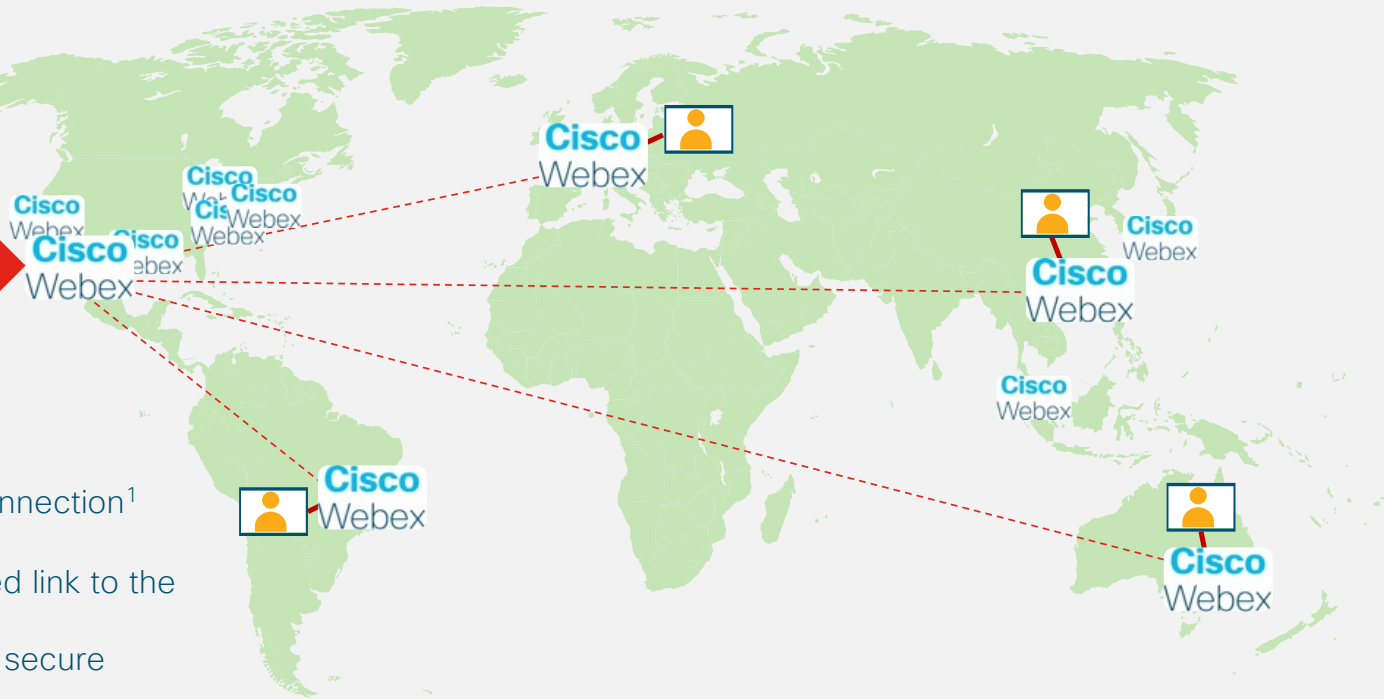




Edge Connect

# Webex Edge Connect

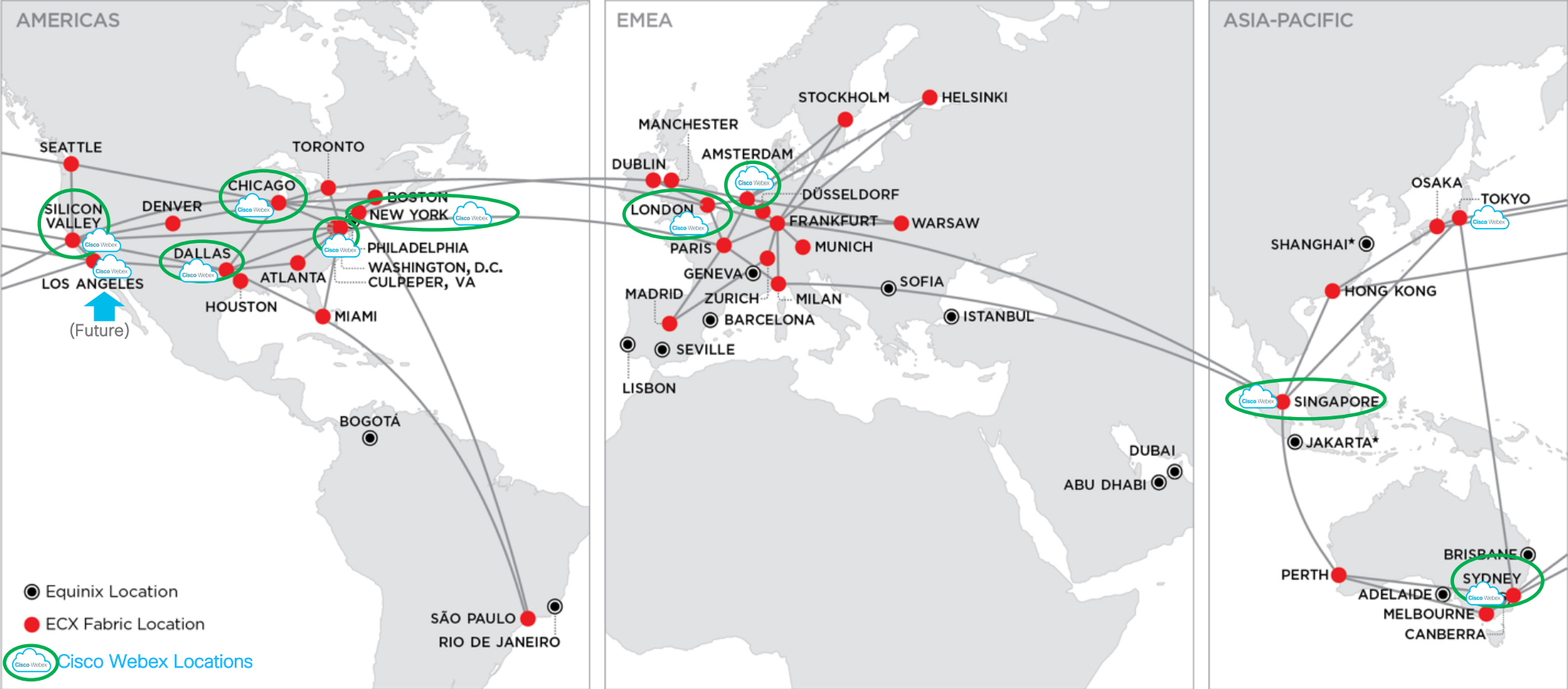
Brings the power of the Webex backbone directly to your data centre



## Webex Edge Connect

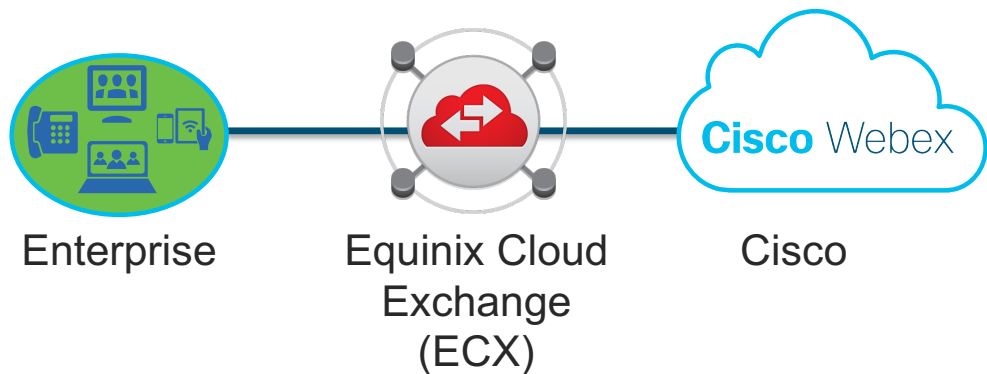
- A direct peering at Equinix data centers
- Bypasses the Internet by providing a direct connection<sup>1</sup> to the Webex data center
- All Webex media traffic traverses the dedicated link to the meeting. (VoIP, video, content sharing)
- When used with Video Mesh provides a more secure end-to-end experience

# Equinix ECX Fabric™



# Overview

## Peering connection with Cisco Webex



### Benefits

- Private circuit (not over Internet)
- Deterministic network path
- Predictable and stable latency and jitter
- Guaranteed bandwidth
- Speed options: 500M, 1G, 5G, 10G

### Available Services

- Webex Meetings
- Webex Teams Media \*
- Video Device-Enabled Webex Meetings (CMR)
- Webex Edge Audio

\* Webex Teams, Board, Cloud Registered Endpoints and Video Mesh require Internet access for signaling

# Webex Edge Connect Benefits

- Enhanced Meeting Quality – Your day-day core business conducted over the internet does not interfere with meetings and vice-versa. This means you can be assured of a consistent, reliable, cost effective, and secure meeting experience for all
- Added Security – Webex Edge Connect direct peering insulates your meetings from the variability of the Internet and provides protection from the public Internet and the potential threats and attacks.

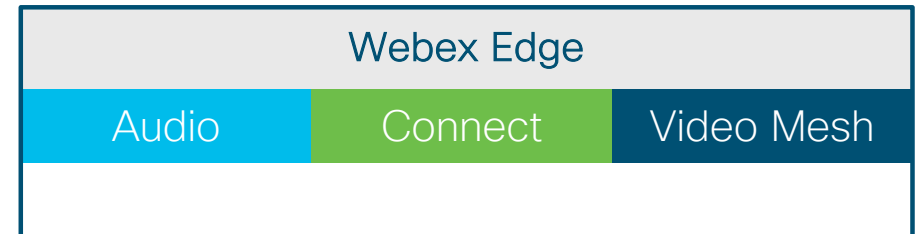
Things to Remember

# Webex Edge



- 1** Webex Edge Audio provides dial in and call back functionality to Webex meetings for the audio connections to and from the customer premises.
  - Uses existing Cisco Unified CM and Expressway products and the Internet.
  - Uses +E.164 and extension numbering for audio communications
  - Does not require Edge Connect, but is recommended to be used with Edge Audio.
  - Does not require Video Mesh, functions independently from this service.
- 2** Webex Edge Connect provides a peering connection to Webex datacenters for meetings media.
  - Provides direct link from the customer premises to a Webex datacenter.
  - Can be used with Webex Edge Audio.
  - Can be used with Video Mesh.
  - Not required for Edge Audio or Video Mesh service to operate but recommended for Edge Audio.

# Webex Edge



- 3 Webex Edge Video Mesh provides on premises meeting resources for devices and Teams app.
- Uses SIP URI dialing for video communications (main video, content and audio channels) to a Webex meeting.
  - Cascades to the Webex cloud meeting to join inside and external participants or for overflow scenarios when not enough resources are available on premises for the number of users in the meeting.
  - Does not require Edge Connect, but can utilize the direct peering link.
  - Does not require Edge Audio, functions independently from this service.



Cisco Jabber

A group of call center agents wearing headsets, smiling and working in a bright office environment. The image is overlaid with a semi-transparent white box containing the text 'Jabber 12.9 Update'.

# Jabber 12.9 Update

# Jabber 12.9 Feature Summary



## Application

- Force Jabber upgrade
- Accessibility improvements – Shortcut keys
- TMM – XMPP Federation



## Calling & Meetings

- Contact Centre Calling Features
  - Agent greeting
  - Play ZIP tone for CUCM Auto Answer call
  - Supervisor call barge (cbarge)
  - Silent Monitoring (cbarge)
- Remote diagnostics
- Auto answer on iPad



## Jabber VDI

- MacBook support (Limited Availability)
- Linux: non-full screen mode
- Presence improvement
- Remove 3rd party in UCM conference
- eLux 6.7 support

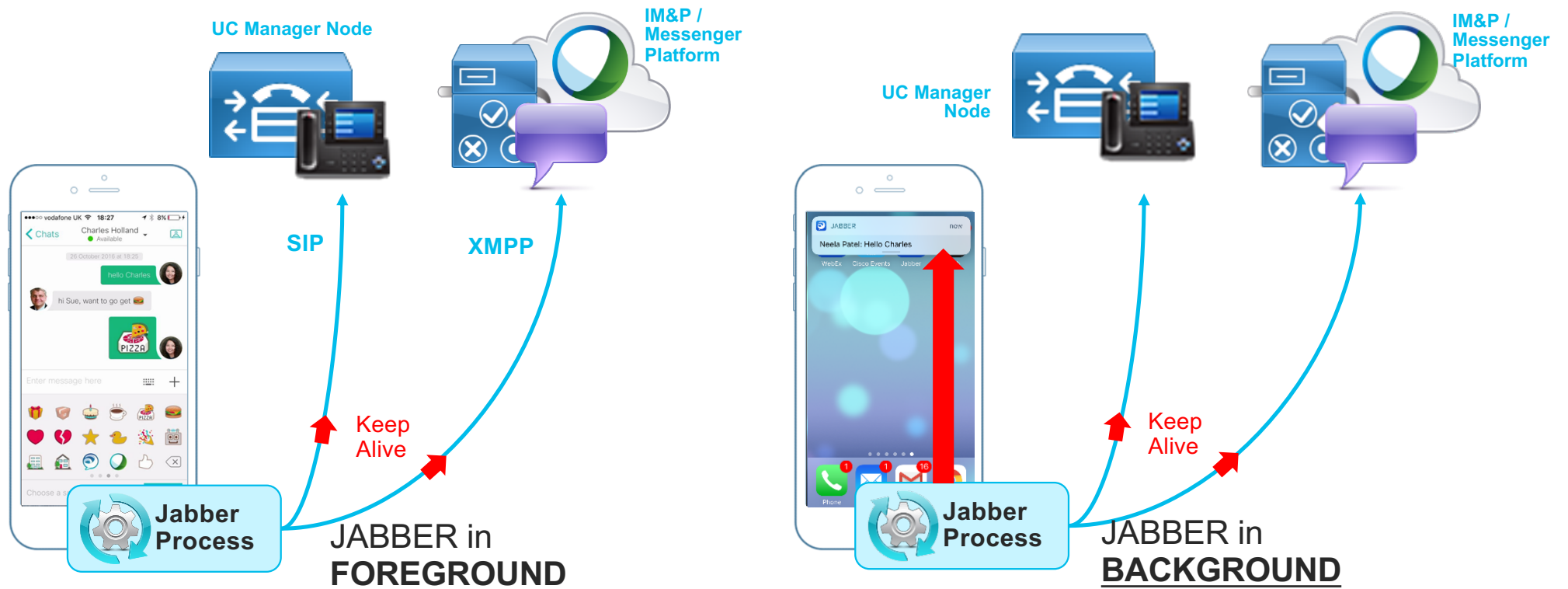


## System/Devices

- Cisco Headset
  - DND presence Sync
  - Firmware upgrade UX enhancement
  - Dongle firmware upgrade
- Reload custom tab once VPN is connected
- Custom Tabs – Determine Dark Mode (Programmatically)
- iOS 13 SDK alignment
- Android Push Notification

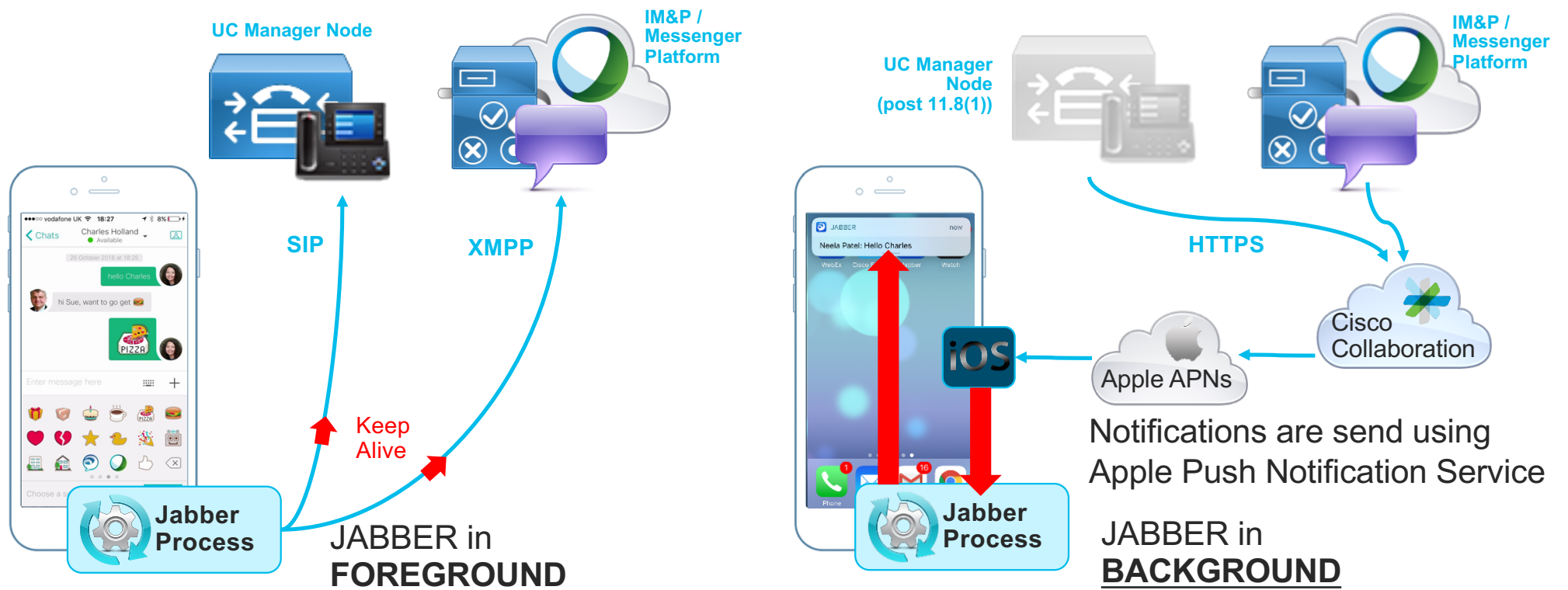
Jabber APNS

# Jabber without APNS Jabber 11.8 and prior versions



# Jabber with APNS

## Jabber 11.8(1)MR and later



# Changes that affect Push Notification service

Jabber users on Apple devices have two options to receive calls and messages notifications while app is in background

- VOIP socket
- Apple Push Notification service(APNs)

## August 2020: VOIP socket deprecated

- Jabber will not receive calls/messages while in background mode
- Upgrade CUCM to 11.5(1)SU4 (minimum) or 12.5(1)SU2 or higher.
- APNs must be enabled to resolve this
- Reference [Field Notice](#) for release calendar and Recommended Migration schedule

## April 2021: iOS 13 APNS Changes

- There are changes in iOS13 that will affect Jabber / Webex Teams clients on Apple devices
- CUCM 11.5SU8 or 12.5SU3 implement changes to support these changes.
- Organizations already using APNs must upgrade for users to continue to receive calls/messages.
- Reference [Field Notice](#) for release calendar and Recommended Migration schedule

# iOS13 SDK Apple Push Notification service

## Compatibility with iOS13 SDK changes



### iOS 13 SDK APNS changes

- All VOIP call notifications must show the CallKit
- Call notifications are sent via high priority VoIP channel
- Message notifications are sent via message channel

### User Impact without UCM Update

- Cisco Jabber client may be terminated, and Apple will stop delivering voice and messaging push notifications
- Cisco Jabber and Webex Teams client on iOS 13 will get voice call notification with CallKit which would show caller id as “Unknown Caller”

### Solution

- Call notifications are sent via high priority VoIP channel
- Message notifications are sent via message channel
- Client shows the Callkit view immediately after getting notification

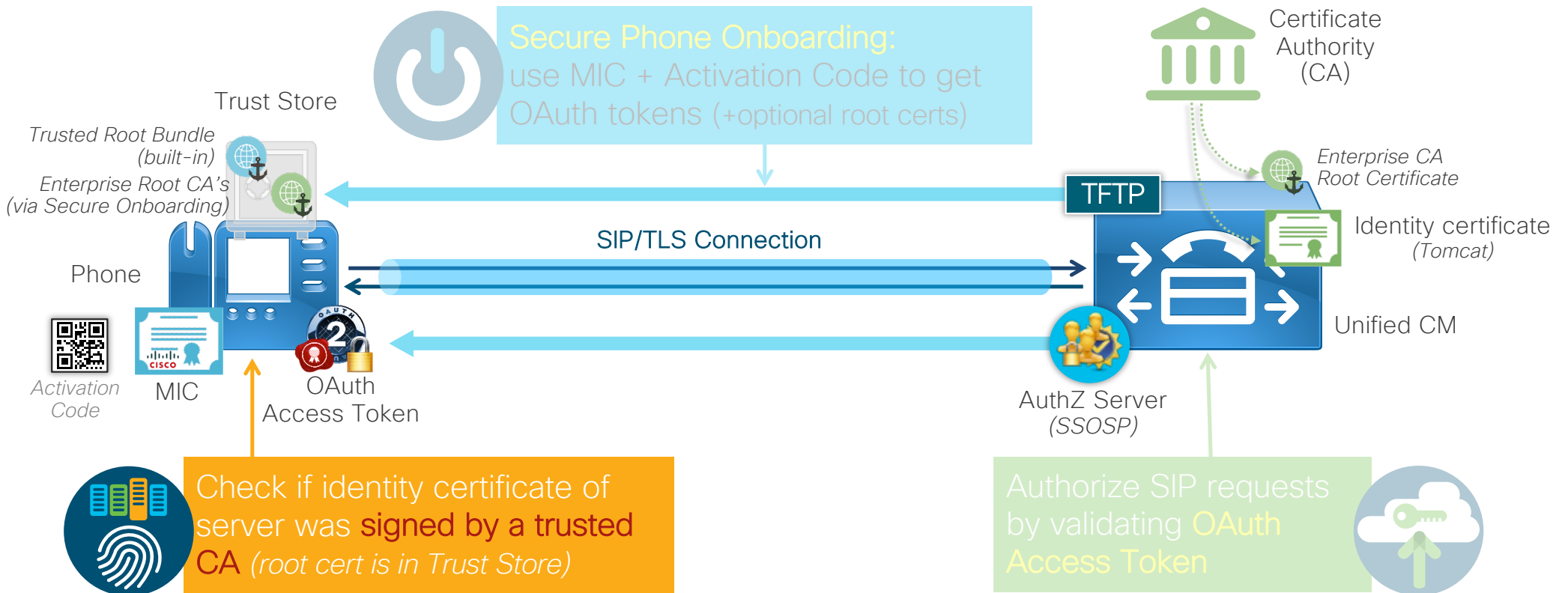
### Benefits

- Cisco Jabber App is not terminated
- Improved User Experience: Users get caller-id on the Callkit view and can answer the call directly from the lock screen on Apple devices

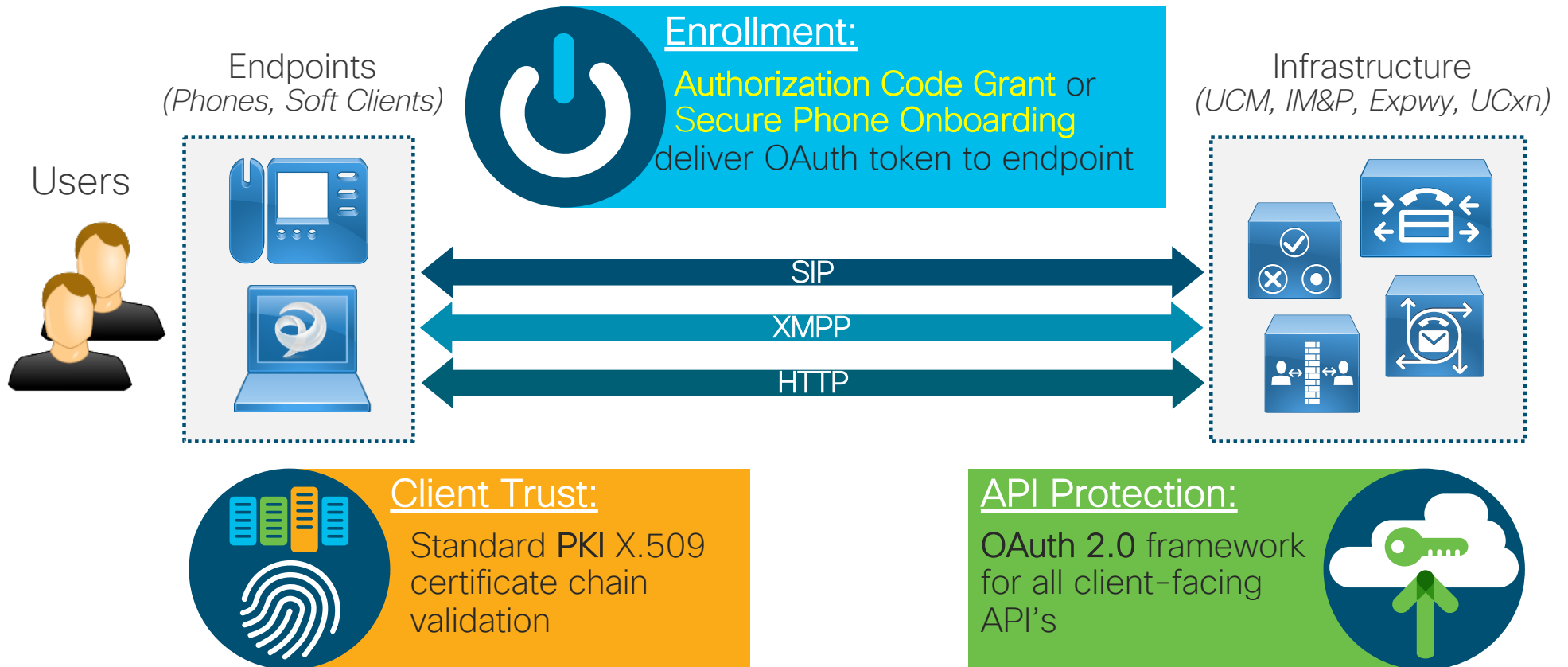


# New UC Security Architecture

## Client Trust for Phones



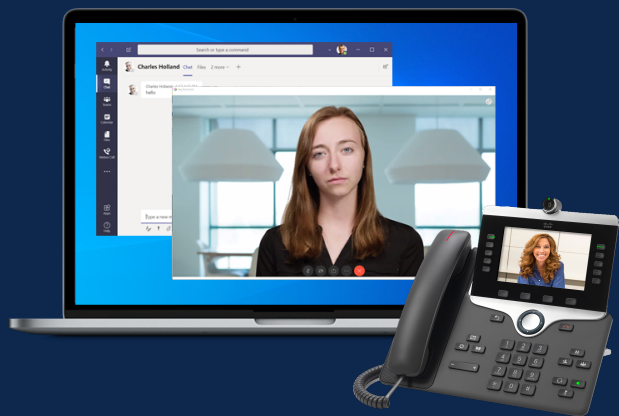
# New UC Security Architecture Principles



# Jabber Calling in MS Teams & Slack

# Cisco Calling Integrations for Microsoft Teams

## The simple way to integrate Microsoft Teams Messaging and Cisco Calling.



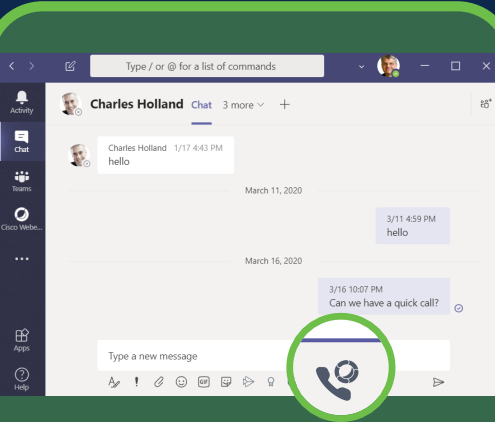
Use your existing Cisco Calling infrastructure

Click to call with your existing Cisco phones from Microsoft Teams

Flexible Work Styles - No compromise on calling features and functionality

Choice of Cisco calling platforms - On Premise, Hybrid and Cloud.

# Microsoft Integration Features



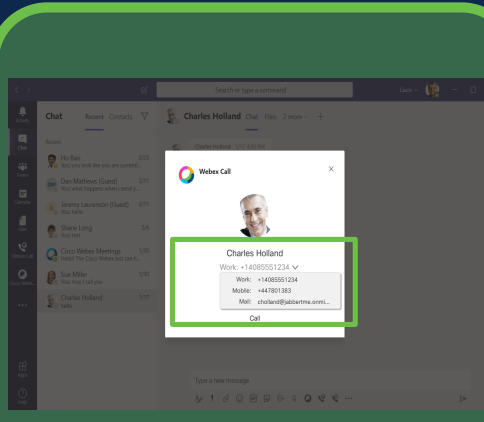
A screenshot of a Microsoft Teams chat window titled "Charles Holland Chat". The chat history shows messages from March 11, 2020, and March 16, 2020. A message from March 16, 2020, at 10:07 PM says "Can we have a quick call?". At the bottom of the chat, there is a text input field and a toolbar with various icons. The "Call" icon, which is a telephone handset, is circled in green.

Click the Call button to start a Cisco Call in an existing chat



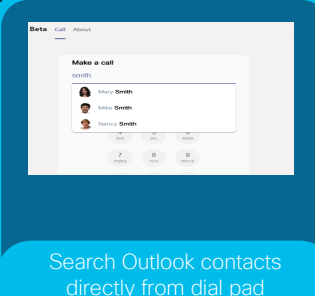
A screenshot of the "Webex Call" interface. It shows a "Make a call" dialog box with a numeric dial pad. The dial pad has buttons for digits 1-9, 0, \*, and #. Below the dial pad is a green "Call" button.

Use the dial pad enter a phone number SIP address



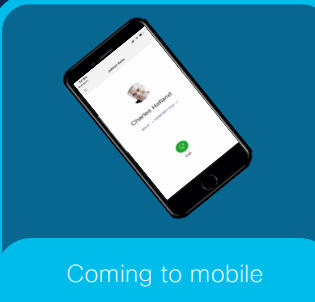
A screenshot of a Microsoft Teams chat window showing a contact card for "Charles Holland". The card displays his name, a profile picture, and contact information: "Work: +14085551234", "Mobile: +447901383", and "Mail: charweb@getnetma.com...". A green box highlights the contact information.

Contact details are displayed with phone numbers from Azure AD



A screenshot of the "Make a call" dialog box in a Teams chat. It shows a search bar and a list of search results. The results include "Mary Smith" and "Henry Smith".

Search Outlook contacts directly from dial pad



An image of a smartphone displaying the Webex Call app interface. The screen shows a contact card for "Charles Holland" and a green "Call" button.

Coming to mobile

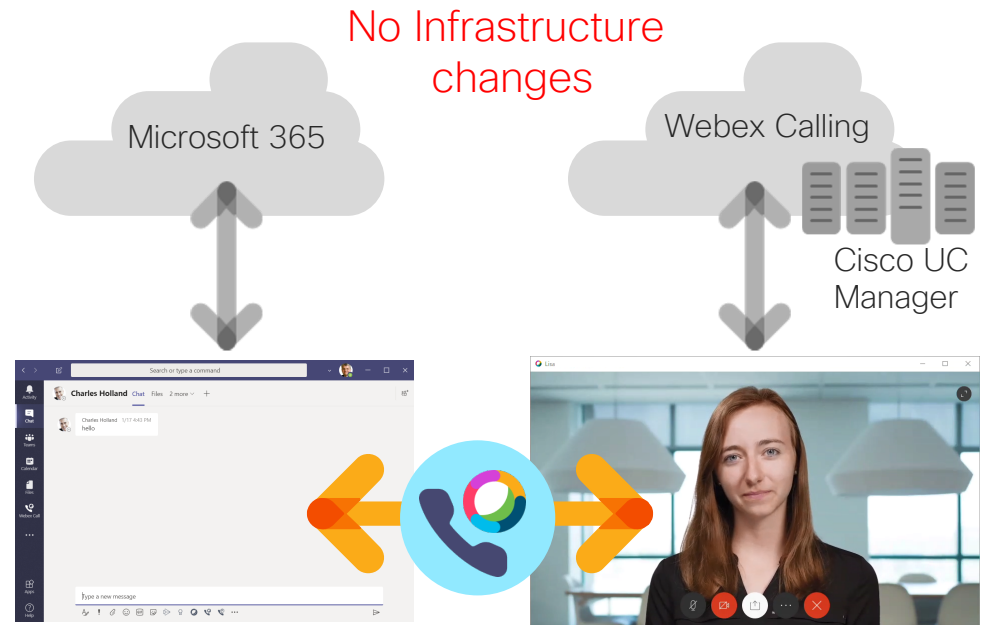
Available now

Coming May 2020

Additional Updates every 2 months

# Client based integration

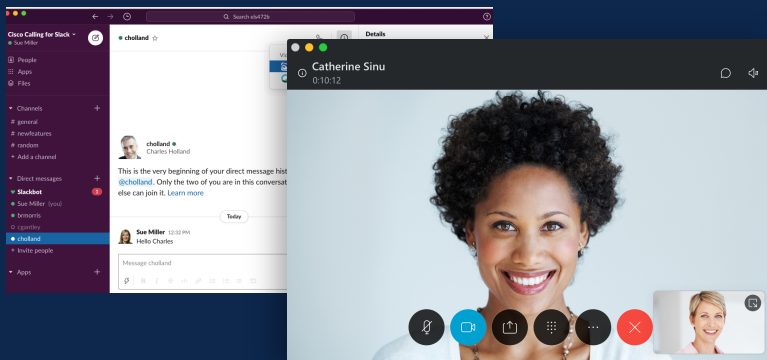
- Simple to deploy Client side integration which works with your existing Cisco Calling Apps
- Client side means NO changes to Infrastructure or configuration
- Works with a choice of Cisco clients



Cisco Calling App added to MS Teams Client

# Cisco Calling Integrations for Slack

## The simple way to integrate Slack Messaging and Cisco Calling



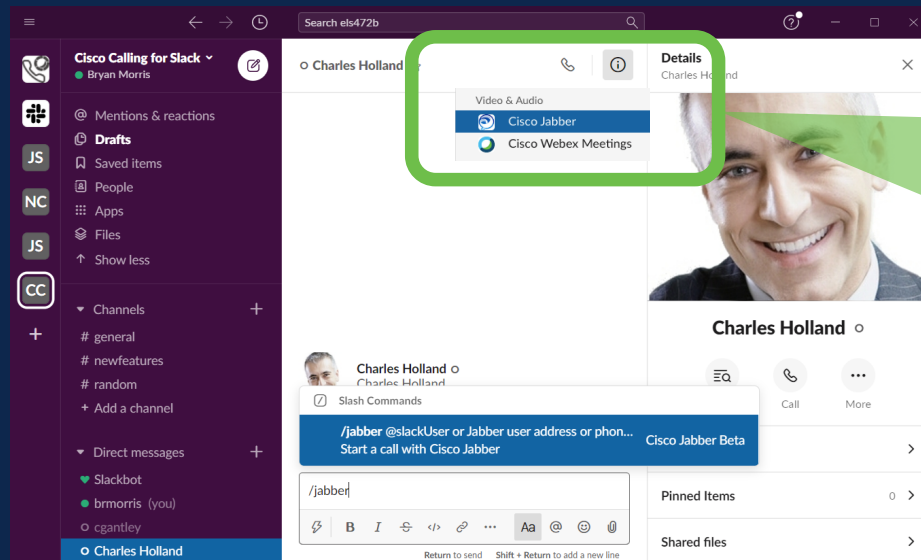
Leverages native calling user interface in Slack

Works with your existing calling platform - Voice & Video directly from Slack

Easy to Deploy calling integrations - Works with a choice of Cisco Clients: Jabber & Webex Teams

Choice of Cisco calling platforms - On Premise, Hybrid and Cloud.

# Slack Integration Features



Coming to Webex Teams end of May 2020

Integration uses native Slack UX controls.

Clicking Call button launches call to SIP address\* of contact

Integration coexists with other call providers



