



# Co je nového v Cisco Collaboration

Jaroslav Martan

1. listopadu 2022

# Obsah

- **Interoperabilita** – připojení Cisco video zařízení do libovolné konference (MS Teams, Google, Zoom, Webex, SIP, ...)
- **On-premise řešení** – CallManager, Jabber, Cisco Meeting Server
- **Digitální kanály** – Webex Connect (IM/Imobile) **CPaaS** pro chatbot a jiné automatizované komunikace

# Směry rozvoje Cisco Collaboration

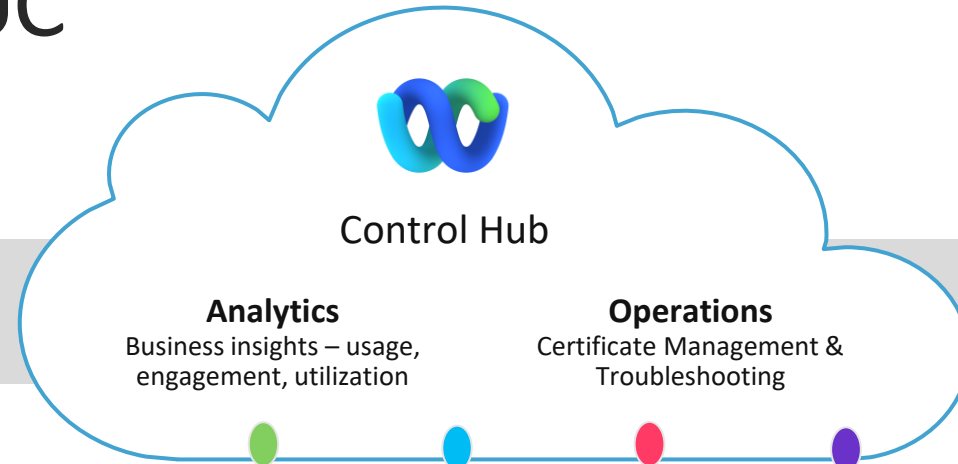
- **Cloud-first but not cloud-only** – cloud, on-premise, hybrid
- **Video** – přenos mimoslovní komunikace – Speaker Track, People Focus
- **Kreativita** – interaktivní spolupráce – kreslení na chytré tabuli, flipchartu nebo na stěně (JIBB)
- **Interoperabilita** – zařízení pro jakoukoli konferenci (MS Teams, Google, Zoom, Webex,...)
- **Produktivita** – integrace s O365 nebo Google, Apple CarPlay,...
- **Analytika** – dohledové nástroje, integrace s ThousandEyes
- **Smart workplace** – facility management

On-premise řešení

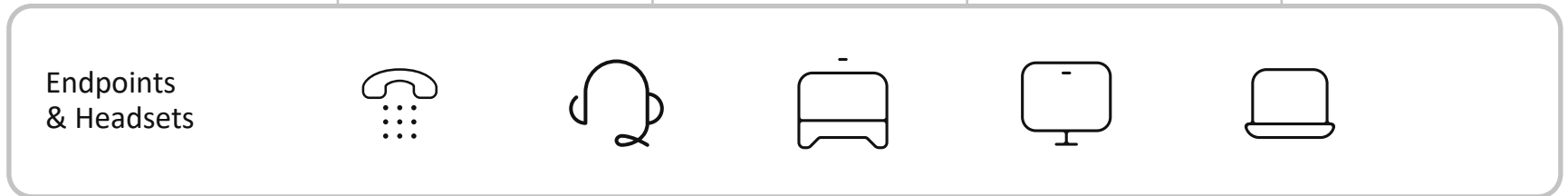
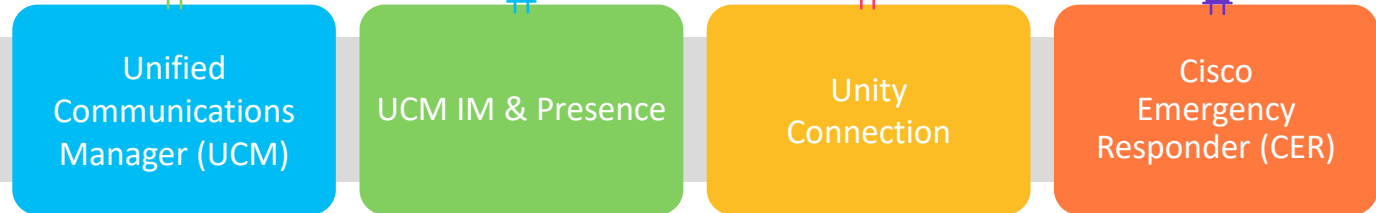
CUCM, Jabber, CMS

# Webex Cloud-Connected UC

Single stop visibility from Control Hub



Direct connectivity to the cloud



# Analytics features

## Quality of experience

- Call success & failures
- Call quality metrics

## Traffic Analysis

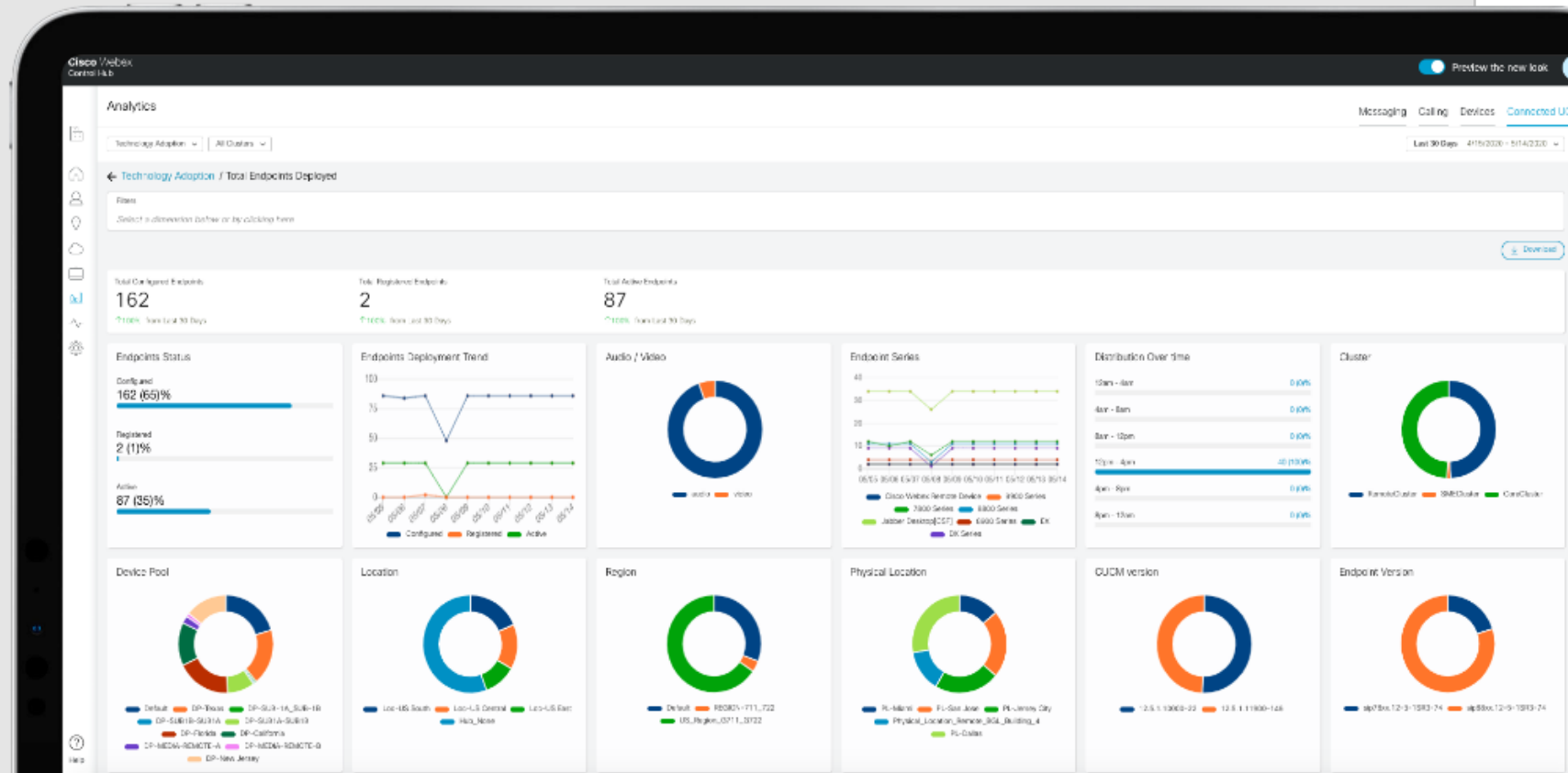
- Number of calls by CAC  
Locations & Call Types

## Capacity analysis

- Trunk usage

## Asset usage and inventory

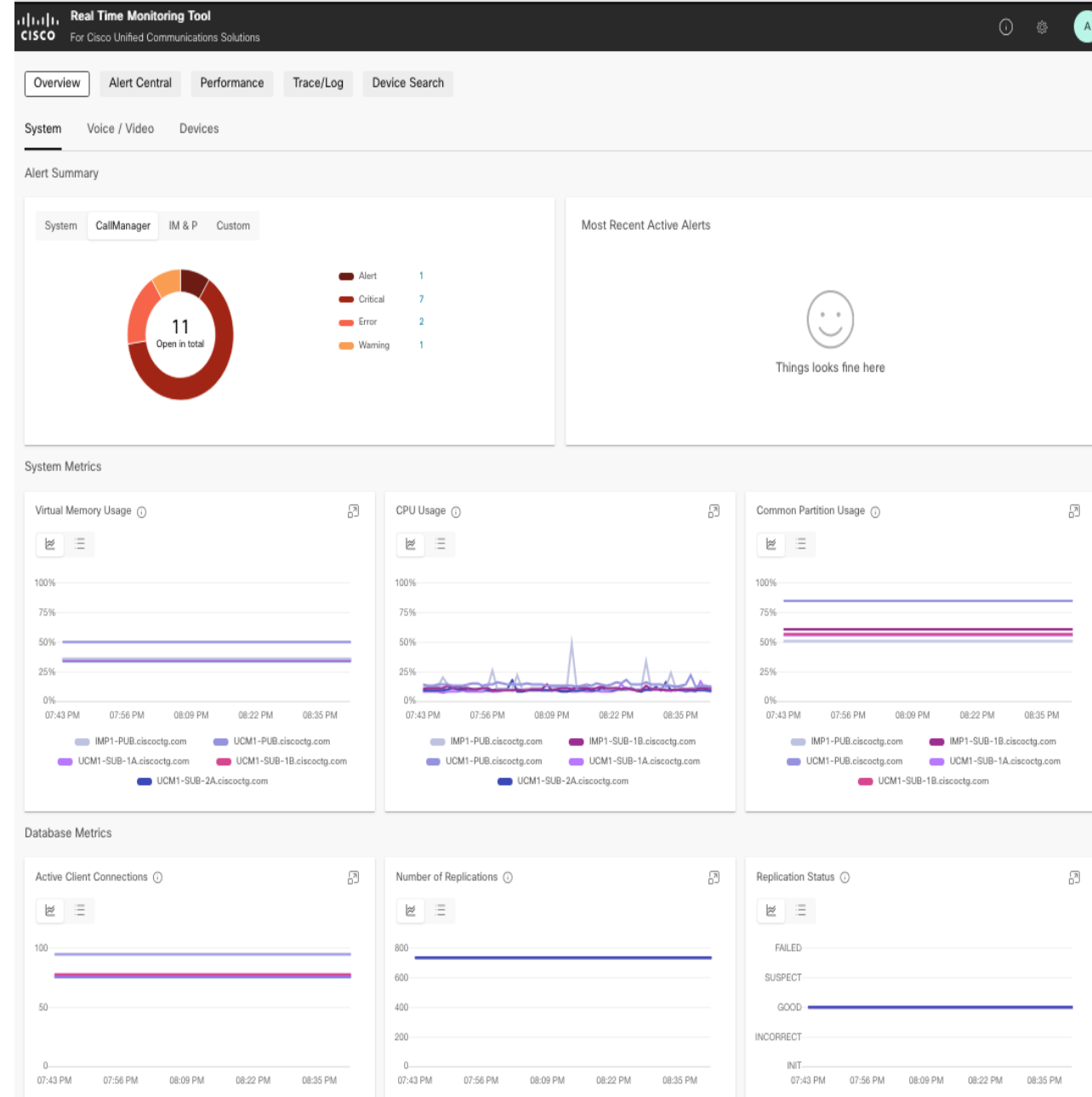
- Number of calls, talk time
- Endpoints & headset usage



# Web RTMT Overview

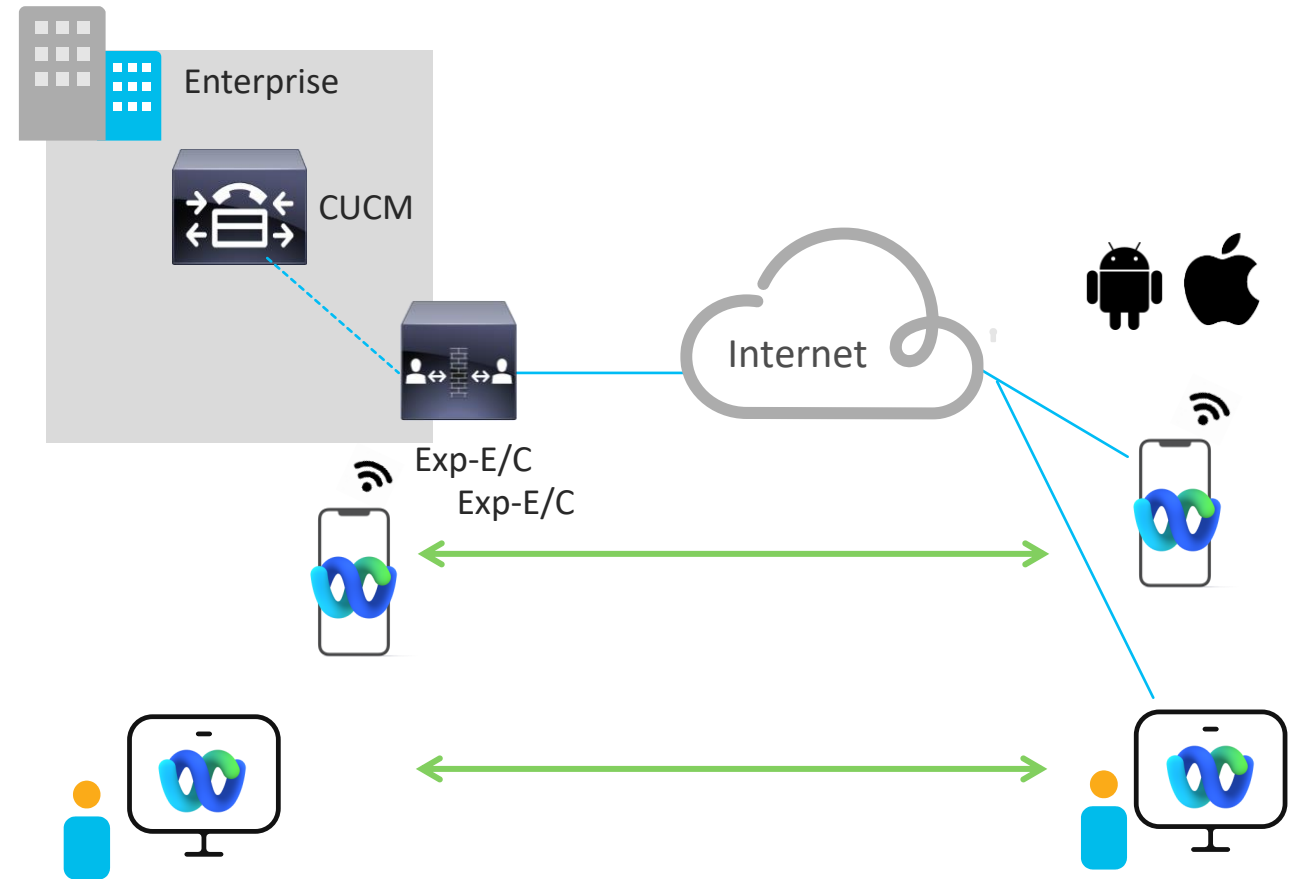
New tool that simplifies and enhances the administration and troubleshooting experience

- Unified Web-based interface to monitor the real-time behavior of your system components, configure alerts to take suitable action in CUCM, IM&P and Unity Connection.
- Available via Operations Dashboard to troubleshoot and collect logs per cluster or node basis.
- No dependency on Java and OS/Browser platform.
- The data displayed remains on-prem.
- Cloud upgradeable via Cloud Connected UC.



# Webex App call persistency - LTE to Wi-Fi and vice versa (session persistency)

- Client reconnects the call over a different network after it detects network change
- When CUCM detects the client has lost connection, CUCM maintains the call. If the client connects back within 12 sec, media is resumed with client's updated IP and port information
- Feature requires following Cisco® UCM, Webex® App releases
  - Cisco UCM - 14 (Preview mode)
  - Webex App Mobile – Release TBD
  - Expressway™ – version compatible with CSR 14



Preview Mode in CSR  
14, Webex App  
Release date TBD

Flexibility for users on Webex App to switch between networks  
without getting disconnected from active calls



# Certificate Count Reduction - Example

Common scenario with 9-node cluster

Certificate	Pre 14	14+
Tomcat (CA-signed/MS)	1	1
Tomcat-ECDSA	9	1
CallManager (CA-signed/MS)	1	0
CallManager-ECDSA	9	0
TVS	9	1
CAPF	9	1
IPsec	9	9*
ITLRecovery	1	1
<b>TOTAL COUNT</b>	<b>48</b>	<b>14**</b>

\* 0 in a future release (plans to remove IPsec certificates if not in use)

\*\* 5 in a future release (plans to remove IPsec certificates if not in use)

- Multi-SAN for self-signed cert
- Certificate reuse
- Certificate reuse
- Multi-SAN for self-signed cert
- Remove unnecessary certificates
- Remove unnecessary certificates

# Simple phone refresh – End user experience

**1** Unplug a deprecated or faulty phone from the network

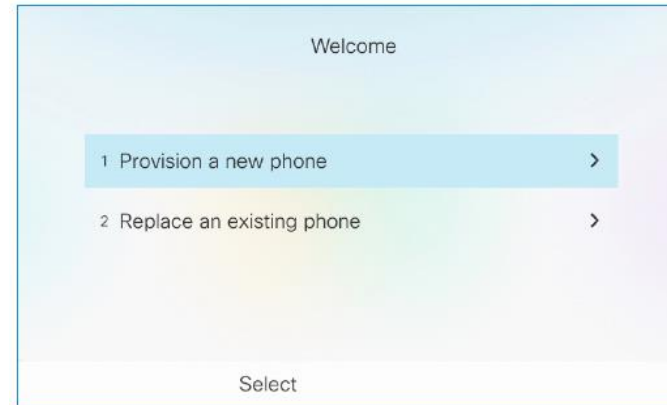


**2** Unbox and plug in new phone

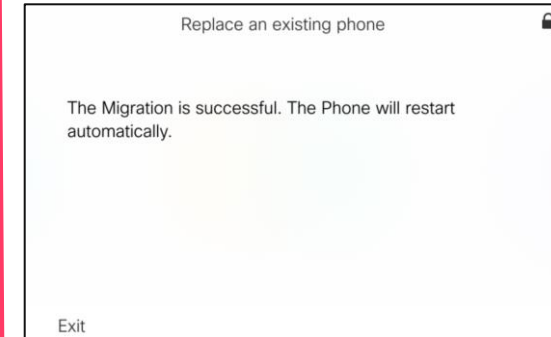


Phone downloads a new firmware that supports simple phone refresh

**3** Enter Primary DN, (optionally) PIN

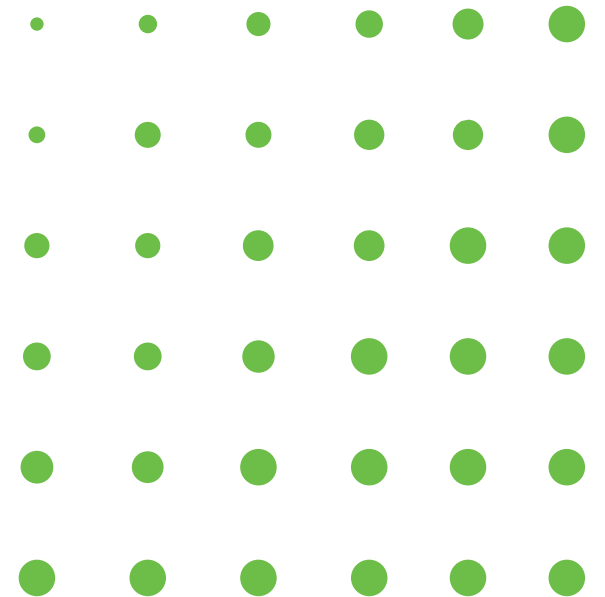


**4** Migration successful



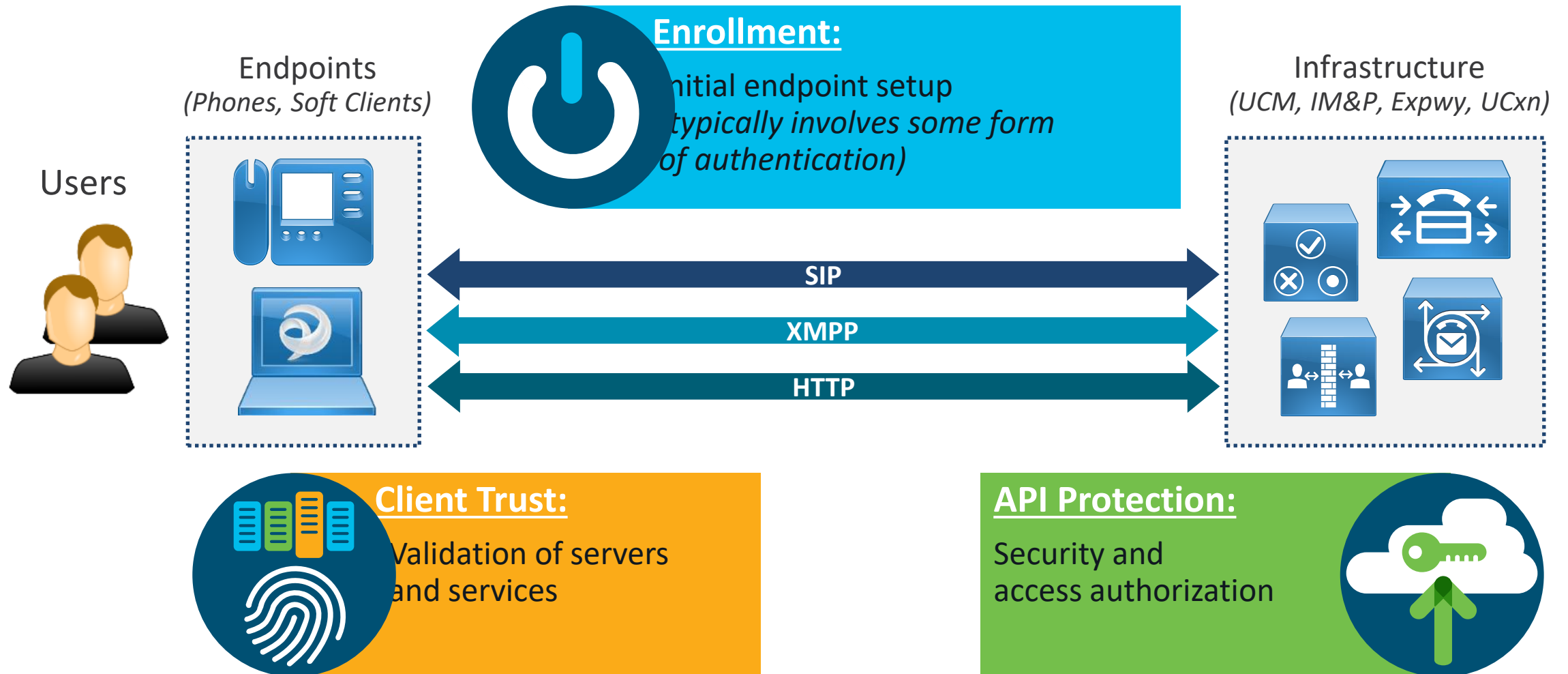
New phone with all the settings from the old phone is provisioned

# Secure Phone Onboarding



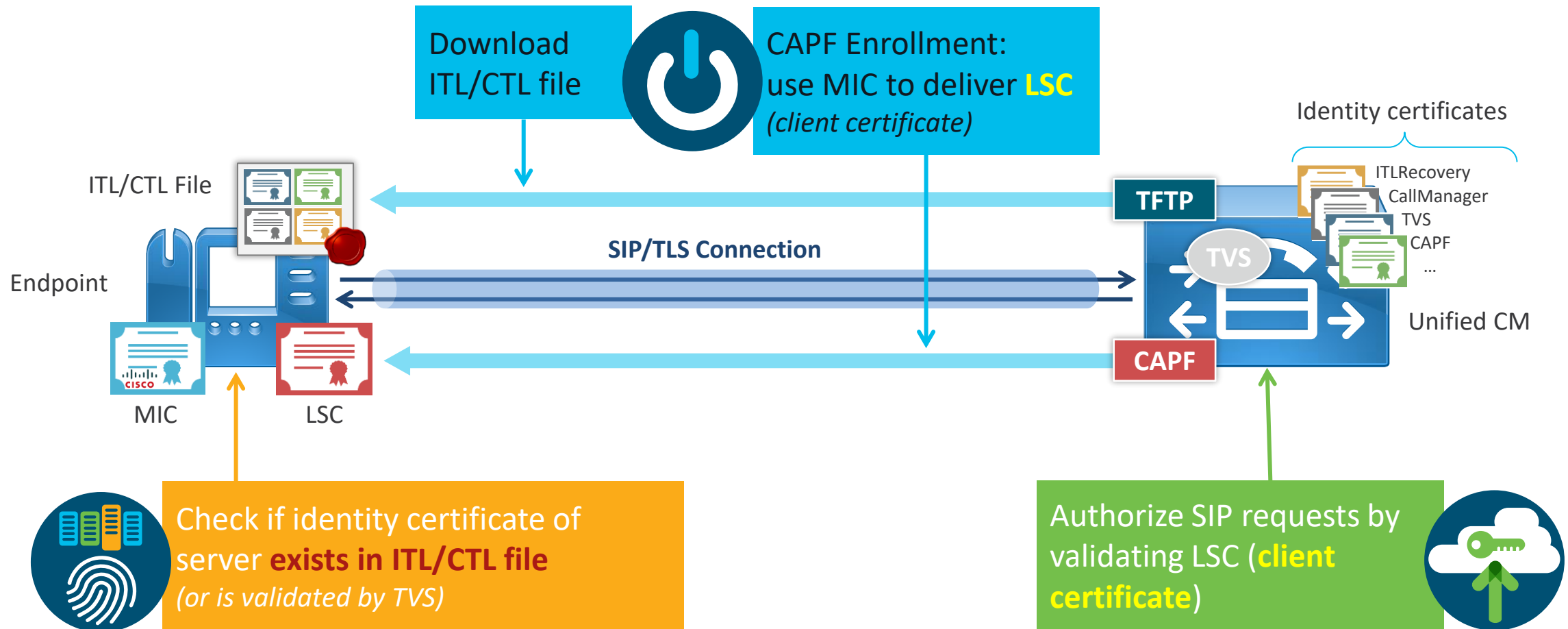
# Security Architecture Overview

## Key Areas for UC Security



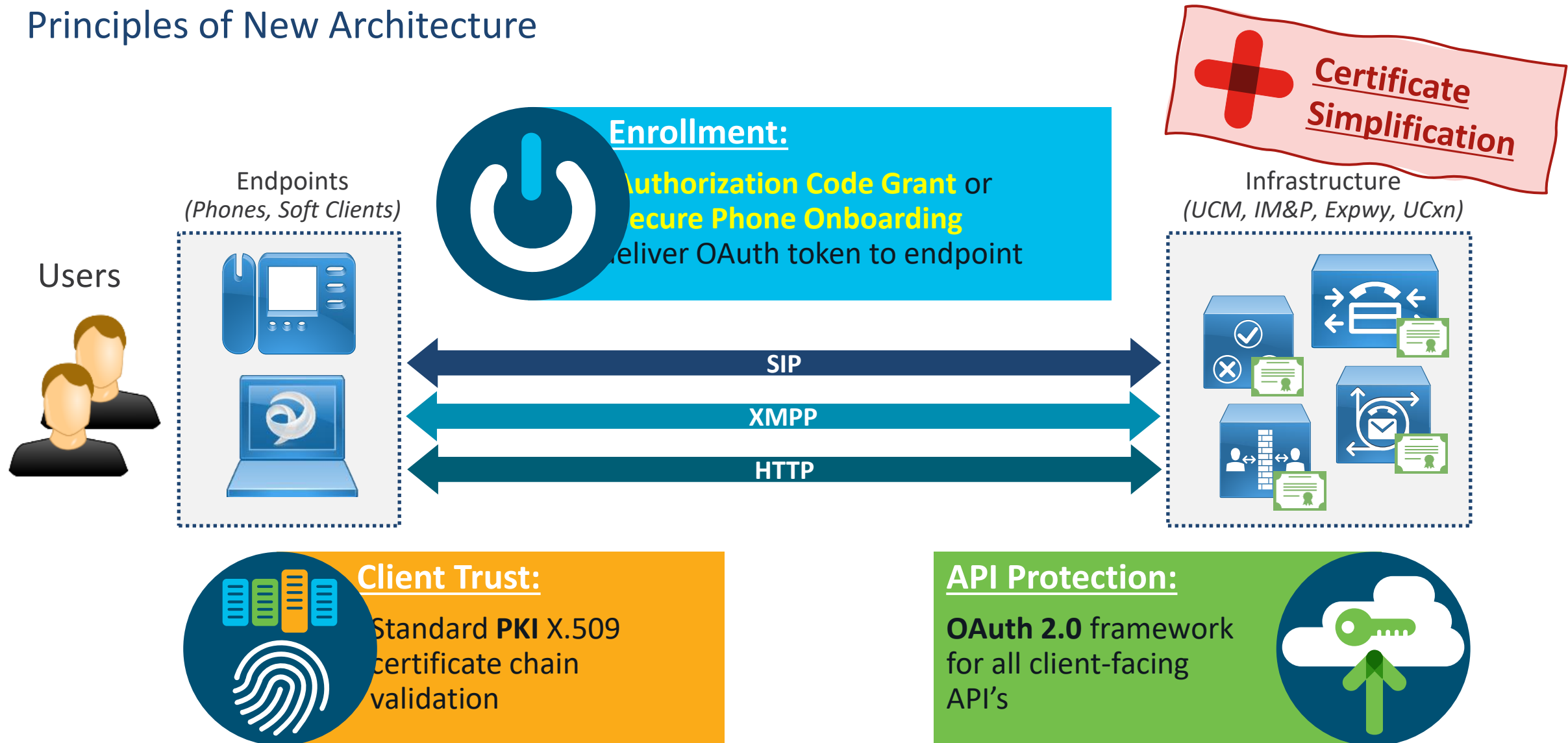
# Security Architecture Overview

## Existing UC Security Model (CAPF etc.)



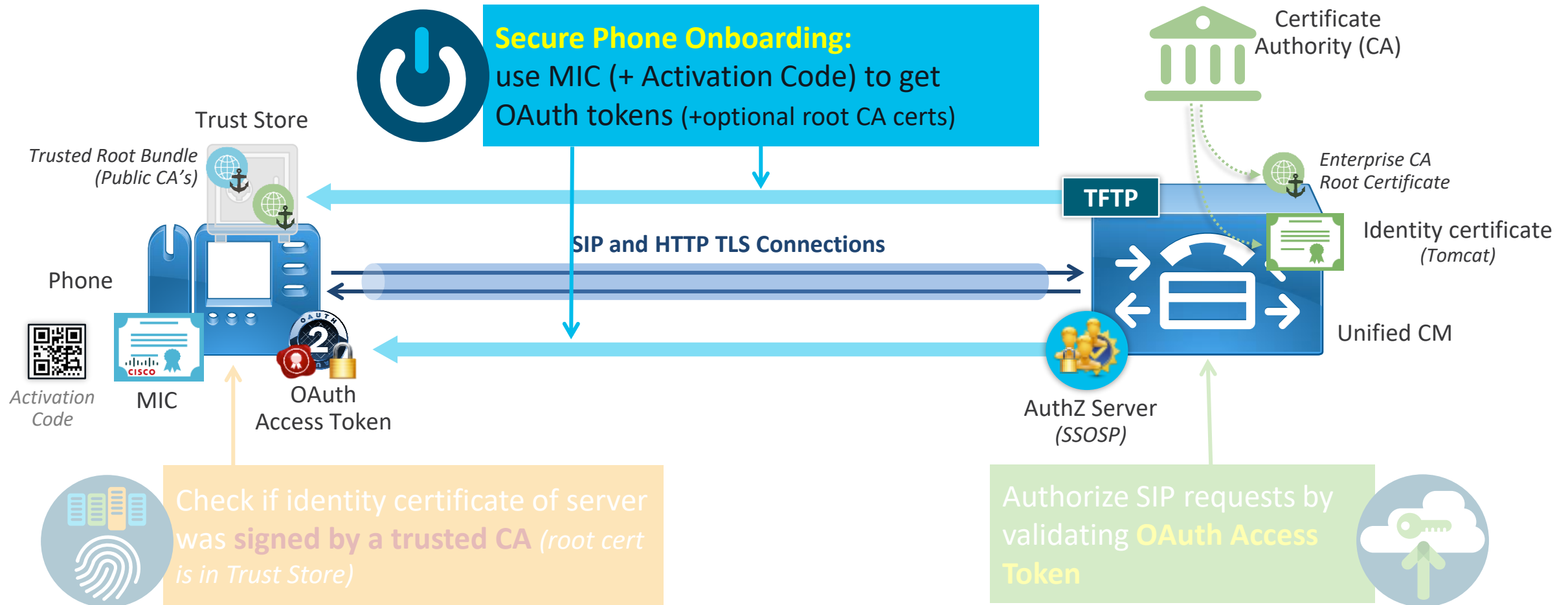
# Security Architecture Overview

## Principles of New Architecture



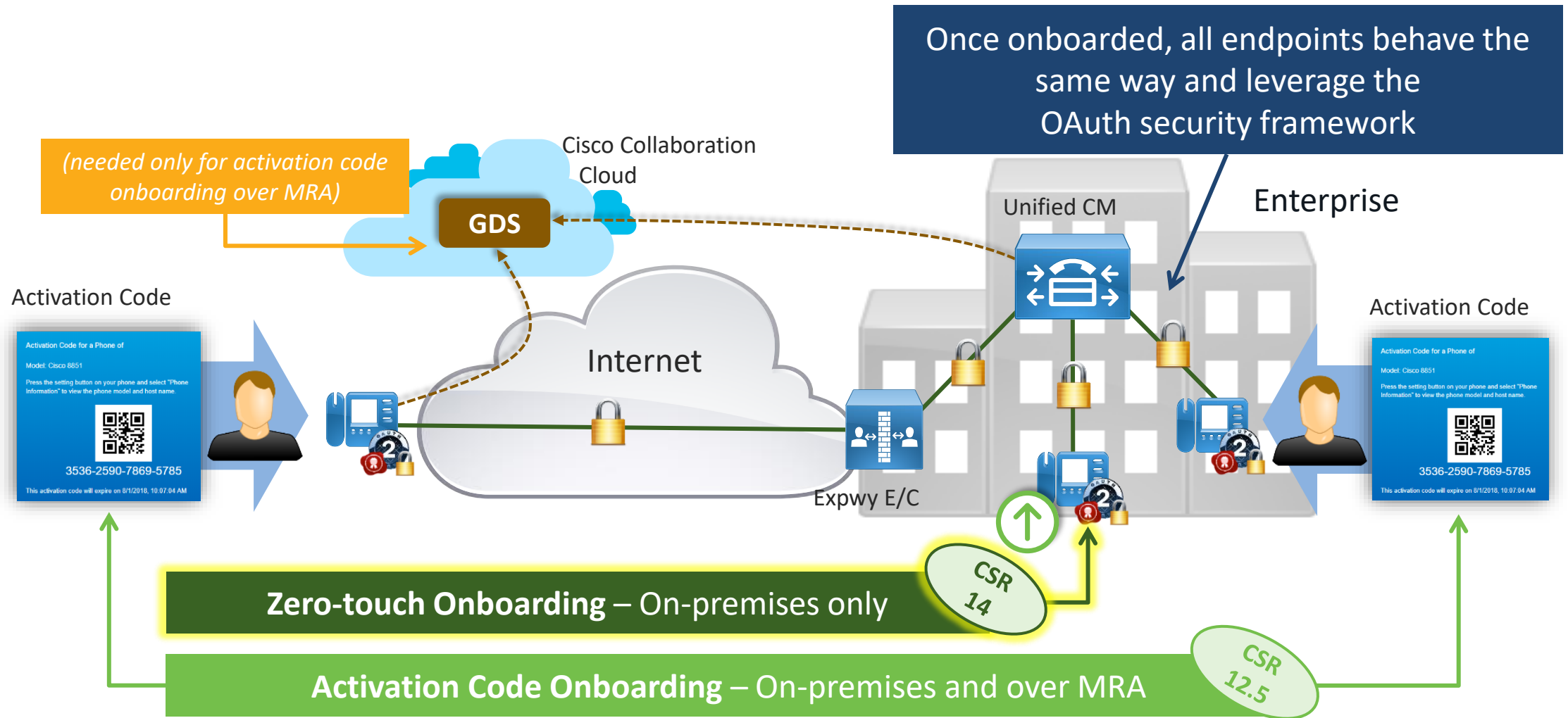
# Always-secure Phones with OAuth

## Enrollment: Secure Phone Onboarding



# Secure Phone Onboarding

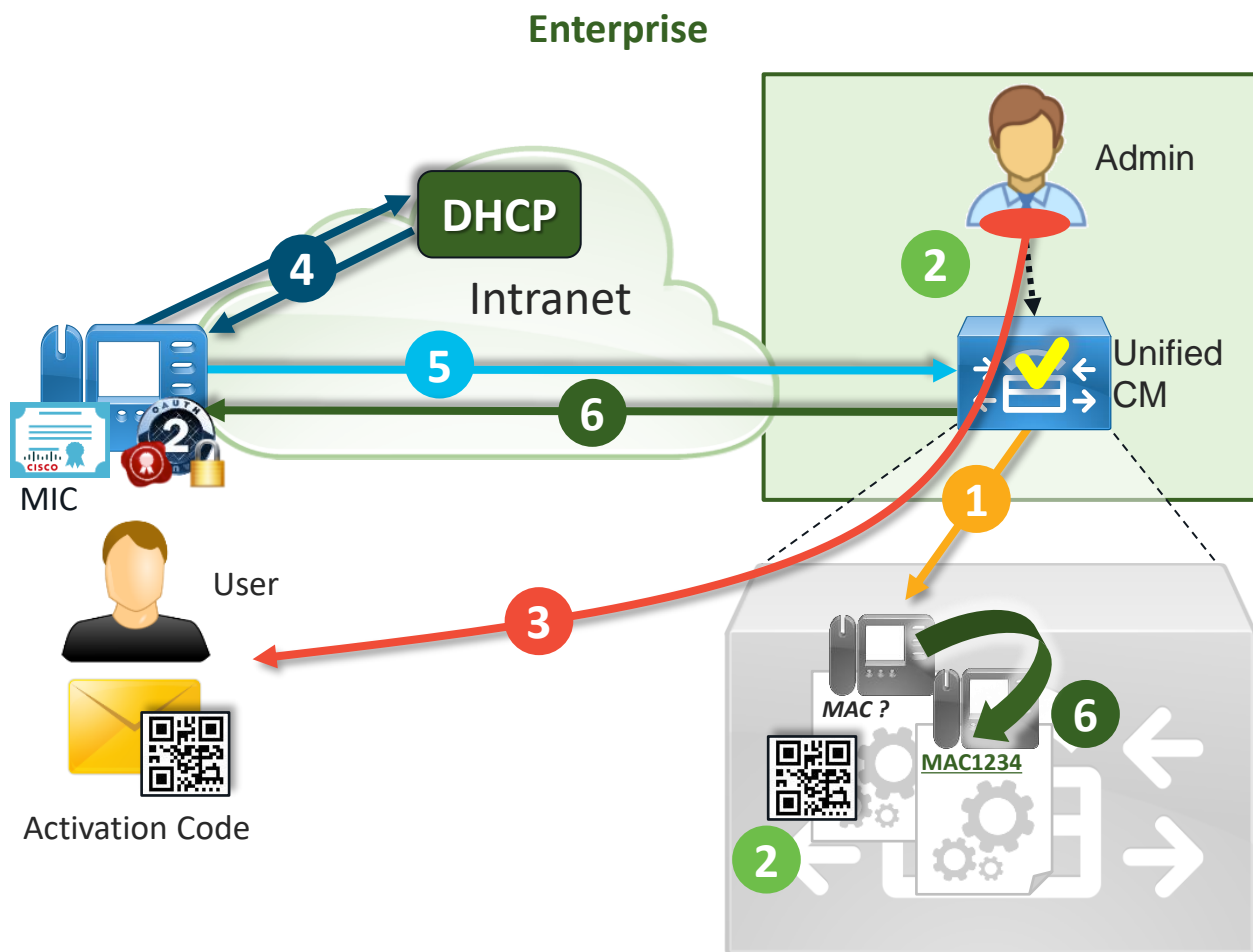
## New Option with CSR 14: Zero-Touch Onboarding





# Activation Code Onboarding

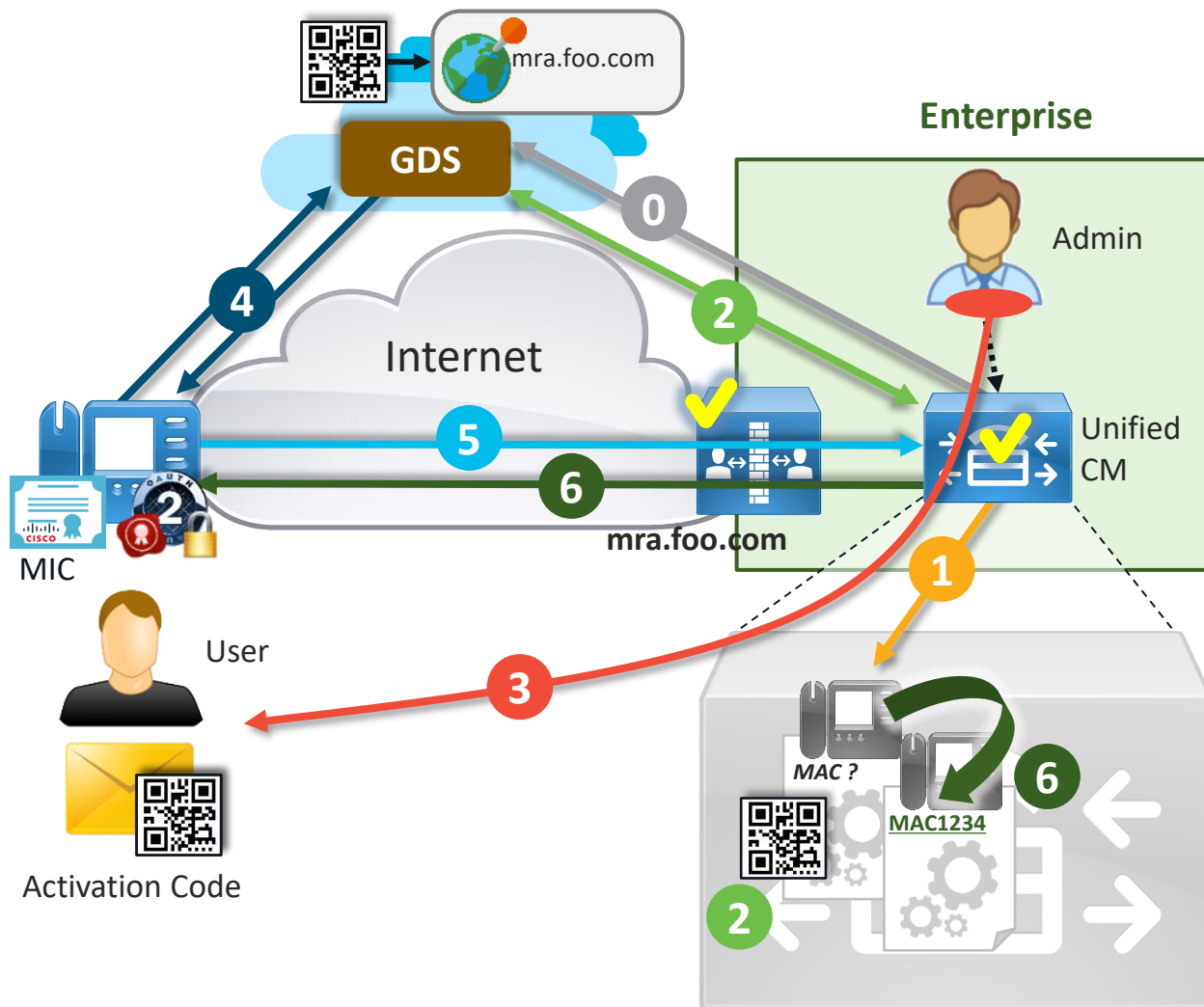
## On-Premises Flow



- 1** Admin creates full device config, may leave MAC address blank
- 2** Admin requests activation code for this device (CUCM-generated)
- 3** Activation code sent to/retrieved by user
- 4** Phone gets CUCM target from DHCP opt 150/TFTP, user enters act. code
- 5** Phone authenticates to CUCM using MIC + activation code
- 6** CUCM updates device config with phone MAC. Phone can now get its config from TFTP and register

# Activation Code Onboarding

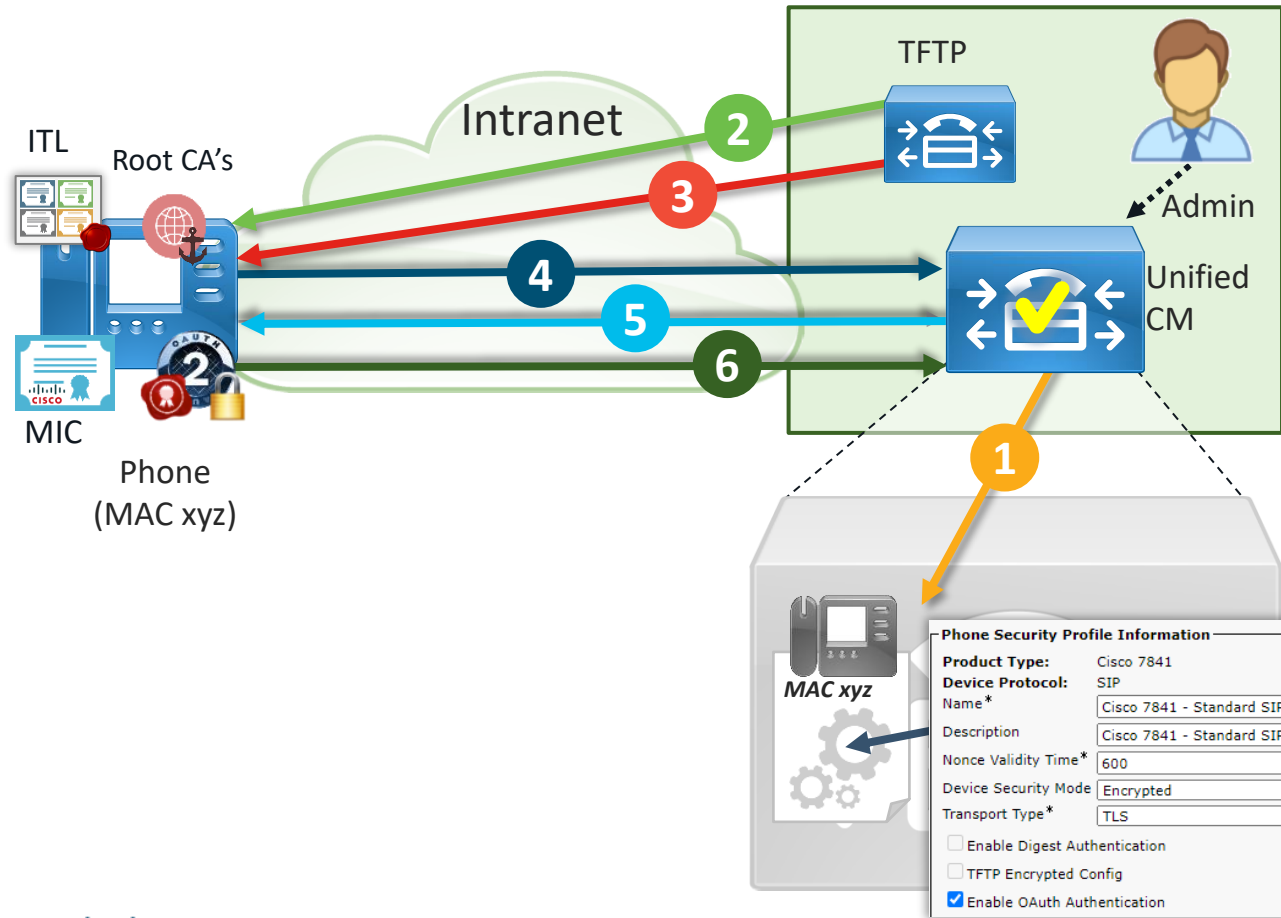
## MRA Flow



- 0** CUCM onboards with cloud/GDS, creates MRA target (+optional CA)
- 1** Admin creates full device config, may leave MAC address blank
- 2** Admin requests activation code for this device (Act. ID from GDS, OTP from CUCM)
- 3** Activation code sent to a user/admin
- 4** User enters activation code, phone gets MRA target (+ opt. CA) from GDS
- 5** Phone authenticates to Expwy/CUCM using MIC + activation code
- 6** CUCM updates device config with phone MAC, sends tokens (+CA) to phone. Phone can now download config and register

# Zero-Touch Onboarding

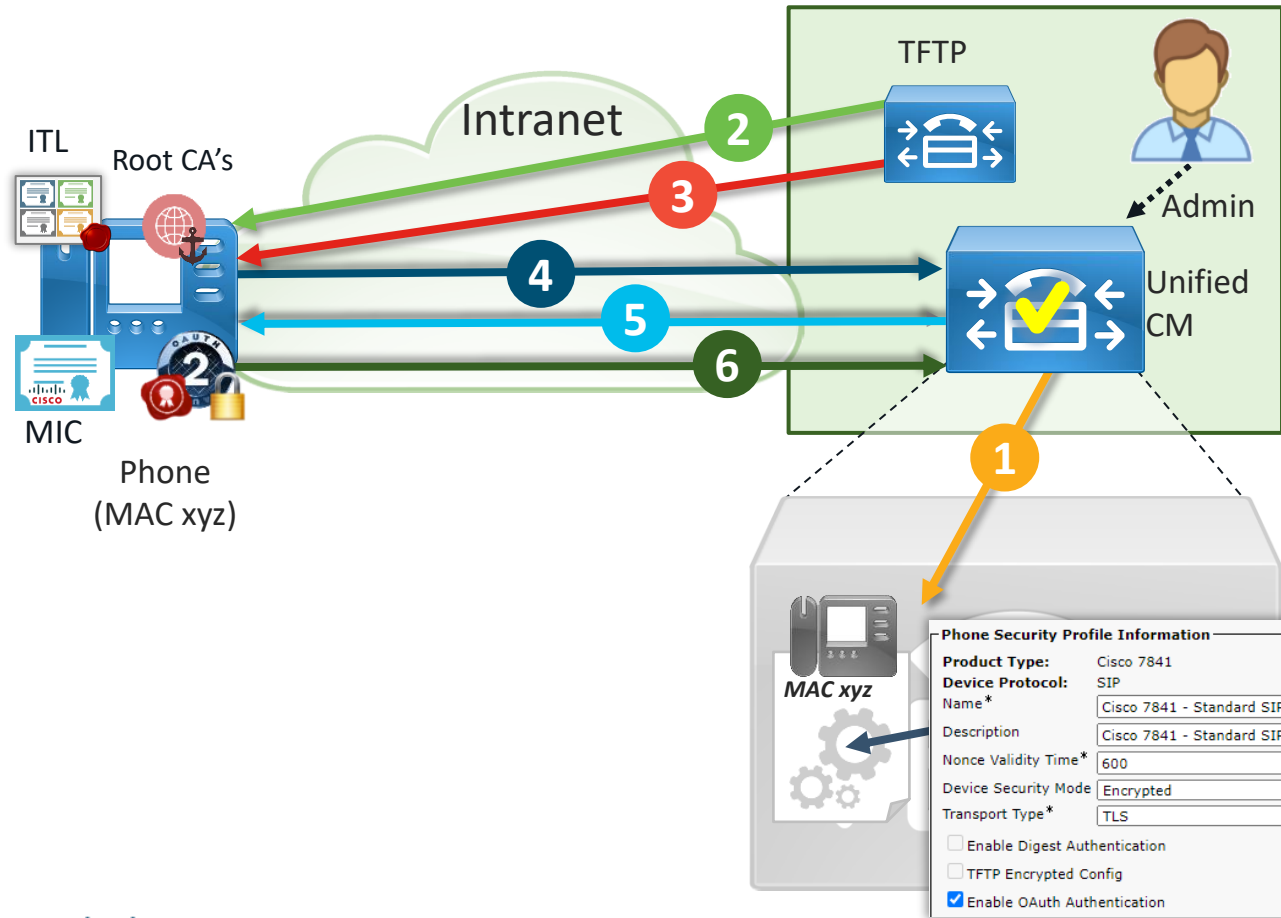
On-premises Only – CSR 14



- 0 Phone is registered in non-secure mode
- 1 Admin configures Phone Security Profile with Encrypted mode and OAuth Authentication, then resets phone
- 2 Phone gets new "mini-config" from TFTP that indicates SIP OAuth mode
- 3 Phone downloads signed CA trust anchor file over from TFTP (uses ITL to validate)
- 4 Phone requests OAuth tokens from CUCM over HTTPS, validates cert with trust store and is challenged for MIC/LSC
- 5 CUCM checks MAC address in MIC is present in DB and issues OAuth tokens
- 6 Phone can now register with SIP OAuth

# Zero-Touch Onboarding

On-premises Only – CSR 14



- 0 Phone is registered in non-secure mode
- 1 Admin configures Phone Security Profile with encrypted mode and OAuth authentication, then resets phone
- 2 Phone gets new config from TFTP that indicates SIP OAuth mode
- 3 Phone downloads signed trust anchor file from TFTP (uses ITL to validate)
- 4 Phone requests OAuth tokens from CUCM over HTTPS, validates cert with trust store and is challenged for MIC/ITL
- 5 CUCM checks if IP address in MIC is present in DB and issues OAuth tokens
- 6 Phone can now register with SIP OAuth

**This Happens Automatically**



# OAuth for Phones

## Configuration: Enable OAuth with Refresh Login Flow

Unified CM Admin > System > Enterprise Parameters :

**Enterprise Parameters Configuration**

Save Set to Default Reset Apply Config

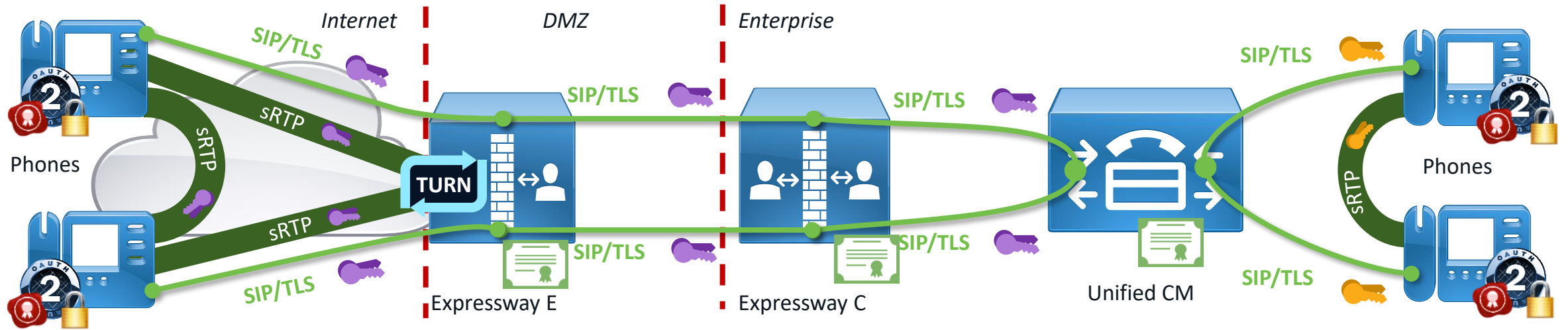
SSO and OAuth Configuration			
<a href="#">OAuth Access Token Expiry Timer (minutes)</a> *	<input type="text" value="60"/>		60
<a href="#">Jabber OAuth Refresh Token Expiry Timer (days)</a> *	<input type="text" value="60"/>		60
<a href="#">Physical Phone OAuth Refresh Token Expiry Timer (days)</a> *	<input type="text" value="60"/>		60
<a href="#">Redirect URIs for Third Party SSO Client</a>	<input type="text"/>		
<a href="#">SSO Login Behavior for iOS</a> *	<input type="text" value="Use embedded browser (WebView)"/>	▼	Use embedded browser (WebView)
<a href="#">OAuth with Refresh Login Flow</a> *	<input type="text" value="Enabled"/>	▼	Disabled
<a href="#">Use SSO for RTMT</a> *	<input type="text" value="False"/>	▼	True
<a href="#">OAuth Access Token for Devices</a> *	<input type="text" value="Implicit: Already registered devices"/>	▼	Implicit: Already registered devices

- **Enable** OAuth with Refresh Login Flow (disabled by default)
- If needed, **adjust** refresh token expiry timers



# OAuth for Phones

## SIP and Media Security – CSR 14



### Phones over MRA:

- SIP signalling is authenticated (TLS + OAuth token) and encrypted
  - Expwy-C uses mTLS with Unified CM
- Media is encrypted end-to-end
- ICE media path optimisation is possible

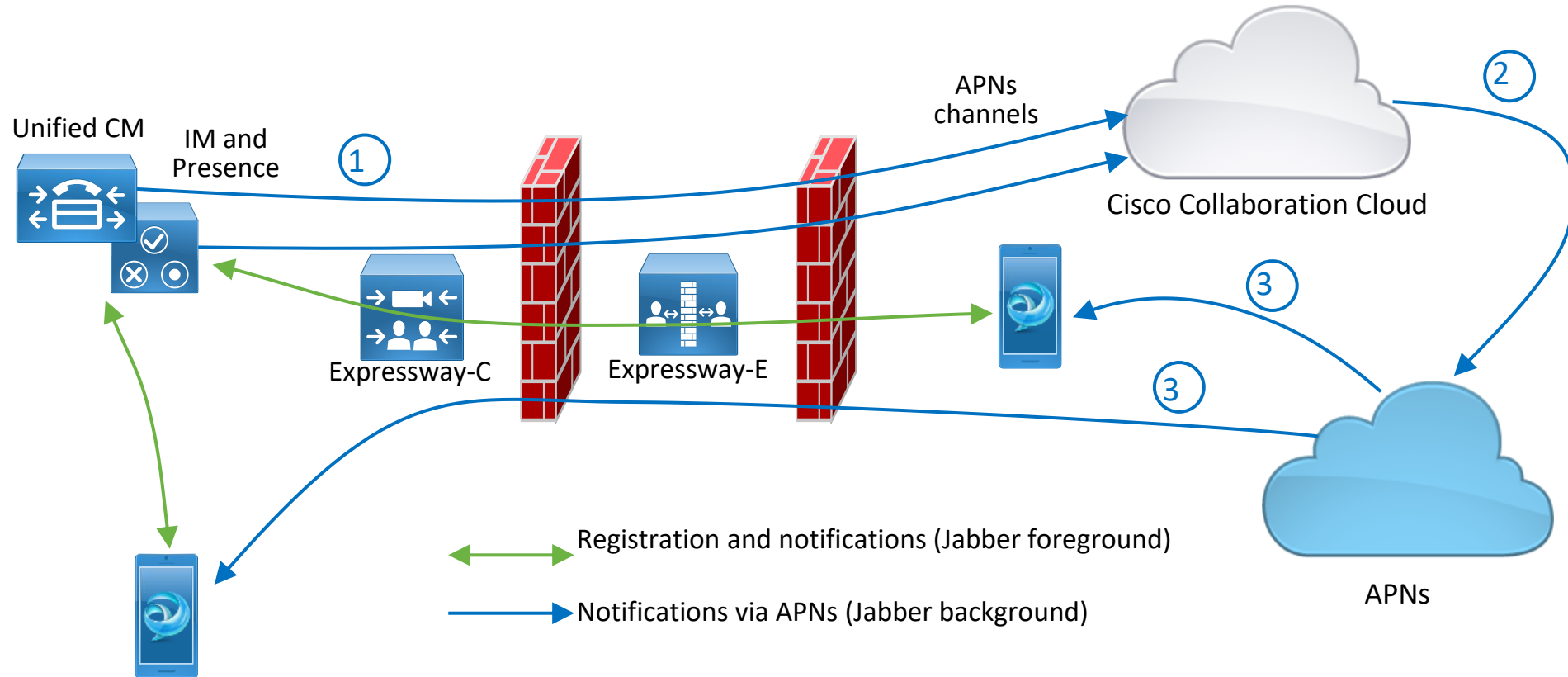
### Phones on-premises:

- SIP signalling is authenticated (TLS + OAuth token) and encrypted
- Media is encrypted (no need for CAPF enrollment or mixed-mode)

Jabber



# Apple Push Notification Service



1. Onboard Unified CM and IM/P Clusters to the Cisco Collaboration Cloud
2. All push notifications from Unified CM/ and IM/P are relayed over REST from the Collaboration Cloud to APNs
3. APNs forwards notifications to Apple IOS devices

# Contact Center feature summary

- The following features have been added, updated, or verified in Jabber 12.9
- Features have been tested in typical contact center call flows



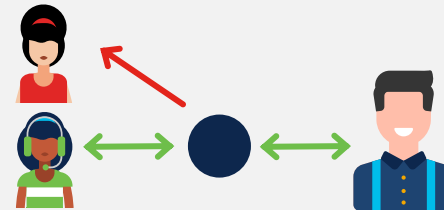
**Auto Answer**

Verified in Jabber 12.9



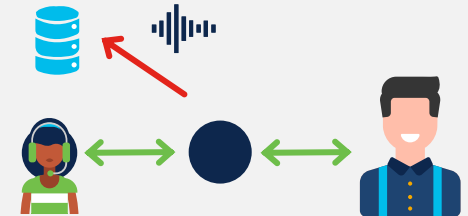
**Whisper Announcement**

Updated in Jabber 12.9



**Silent Monitor**

Verified in Jabber 12.9



**Call Recording**

Verified in Jabber 12.9



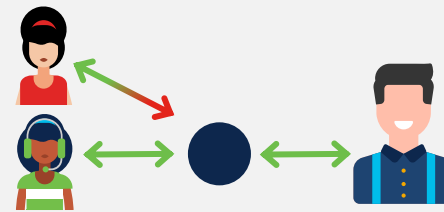
**ZIP Tone**

Updated in Jabber 12.9



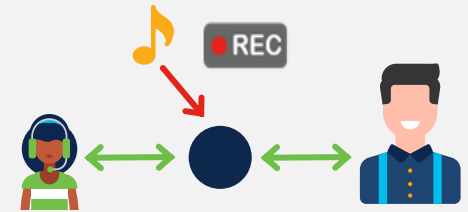
**Agent Greeting**

NEW in Jabber 12.9



**Supervisor Barge\***

Verified in Jabber 12.9



**Recording Tone**

PLANNED for Jabber 12.9MR

# Cisco Meeting Server

# Video, audio, and web conferencing

## Video conferencing

- Feel as though you are really there with high-quality video experiences
- Make meetings more enjoyable with consistent experience on room, desktop, and mobile devices
- Make the experience work for you with flexible layouts and controls



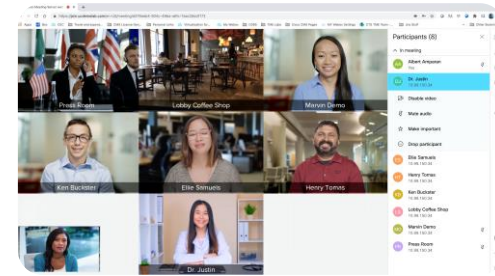
## Audio conferencing

- Reduce IT effort with a solution that integrates with your existing dial plan
- Give your users more flexibility with:
  - Multiple ways to join
  - Customizable DTMF controls
  - Interactive voice response (IVR)



## Web conferencing

- Attend meetings on the move; join from your browser as user or guest
- Fully participate with audio, video, content sharing, and controls
- No plug-ins or downloads with WebRTC on PC or mobile device
- Maintain security with guest access or user login



# Cisco Meeting Management

Simplifying meeting administration

## Live meeting management, configure LDAP sync, provision spaces with templates & licensing management

- Mute/unmute some or all, mute on entry, identify active speakers, filter meetings
- Control layouts and mark important speaker(s) to always be seen
- Use with Cisco TelePresence Management Suite (TMS) for scheduling and endpoint management
- Required for licensing usage reporting and integration with Cisco Smart Licensing

The screenshot displays the Cisco Meeting Management web interface. The top navigation bar includes the Cisco logo, the title 'Cisco Meeting Management', and user information for 'admin User'. The main content area is titled 'Executive sample meeting' and shows a meeting overview with columns for 'Active meeting', 'Owner', 'Start time', 'Duration', 'Layout', 'Recording', 'Streaming', and 'Add participant'. Below this is a search bar and a list of participants with status indicators (green checkmarks for active, red X for disconnected). The right sidebar shows the current user 'Colin Read' with their IP address, start time, and encryption status. Below this are controls for 'Mute', 'Mute video', and 'Drop'. A video layout selector is visible, with 'Prominent' selected. At the bottom right, there are two tables showing audio and video statistics for transmitting and receiving streams.

Audio		Transmitting	Receiving
Protocol		opus	opus
Channel rate		63 kbps	68 kbps
Current packet loss		0 %	0 %
Jitter		0 ms	6 ms
RTT		0 ms	-

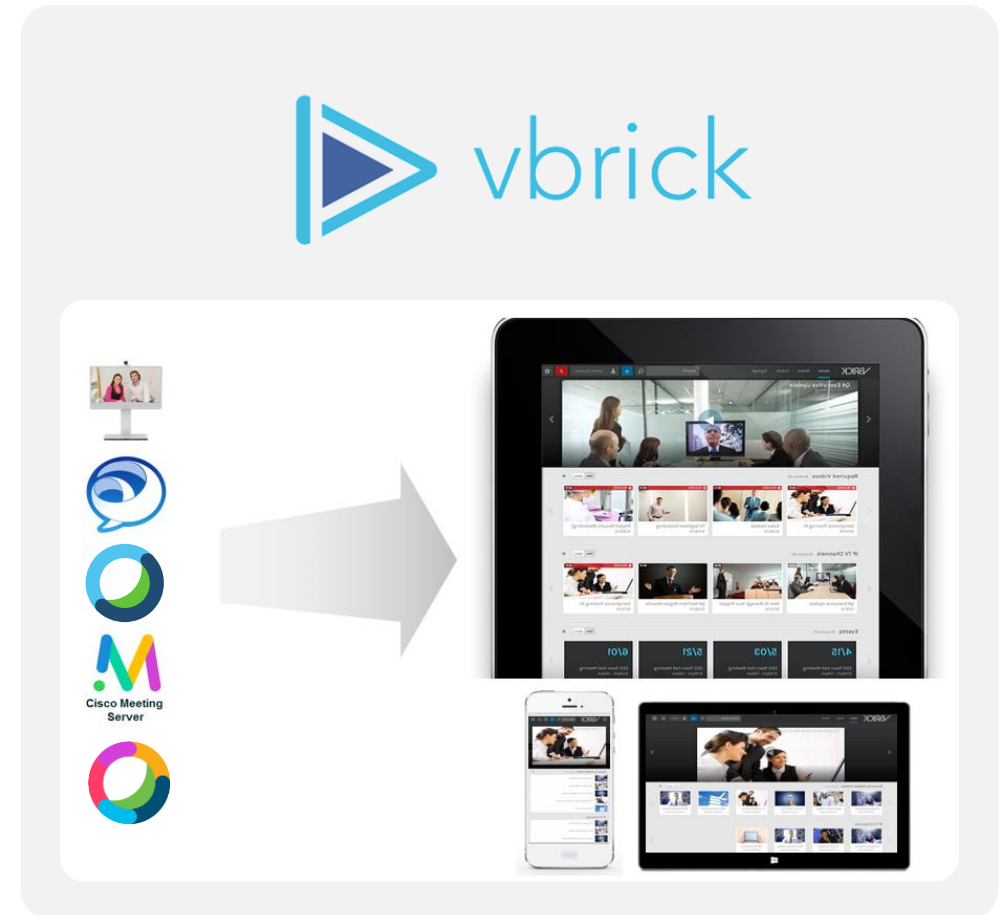
  

Video		Transmitting	Receiving
Protocol		h264	h264
Resolution		512x288	1920x1080
Frame rate		13.3 fps	25.6 fps

Included with Cisco Meeting Server

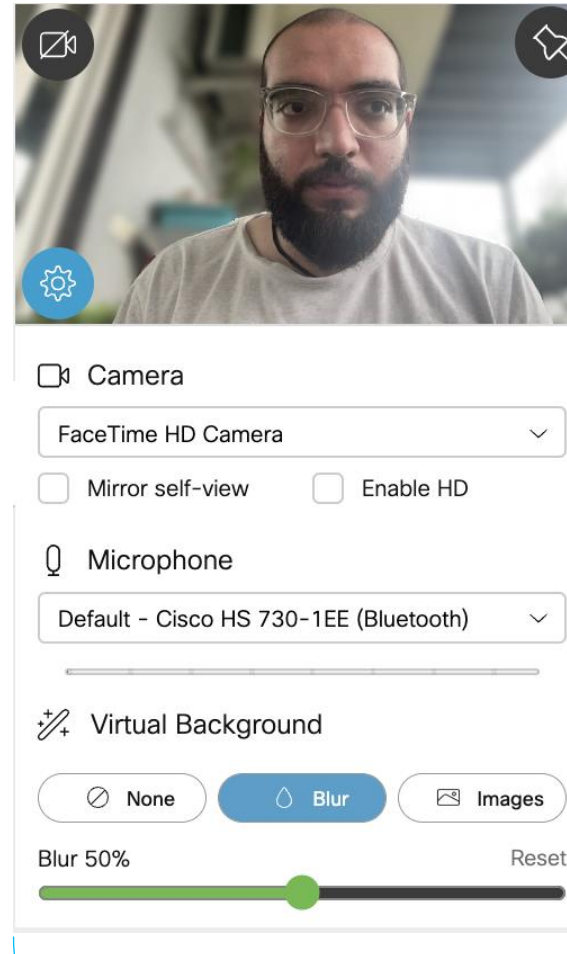
# Video streaming and recording

- Stream live meetings to large audiences and record video at up to 1080p to access later
- Automatically push recordings from NFS to Solution Partner Vbrick Rev for distribution with API integration
- Identified owner is notified so they can edit/distribute
- Easily access live stream using third-party video portal, such as Vbrick Rev, Youtube or Facebook
- Each port can be used for recording or streaming
  - Record your conference for distribution and playback
  - Standard MPEG-4 record format for easy video playback

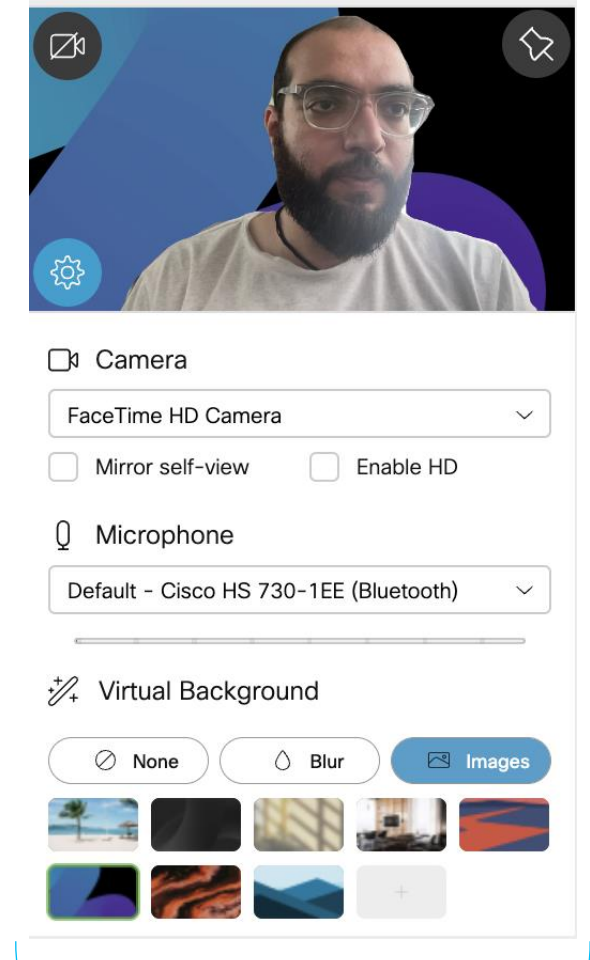


# Background Blur & Virtual Background (CMS Web app)

- New updated Video Segmentation library
- Adjust blur intensity as per your need
- Pick any virtual background while in a meeting
- Browser Dependencies:
  - Google Chrome browser
- System Dependencies:
  - 4 vCPU, 8GB RAM (minimum)
  - GPU System for better performance



Choose the right blur



Pick any background

# Cisco Meeting Management: Meeting Media Statistics

- Get to know your meeting quality right from the web app
- Web app notifies participants when change in experience (more packet loss or jitter)
  - **Green:** Full Experience
  - **Red:** high packet drops/jitter/latencies
- Recommendations from CMS when experience starts degrading

The screenshot displays a notification at the top: "You are having full meeting experience" with a green signal icon. Below it, the "Audio and Video Statistics" panel is visible, containing a table of metrics for both audio and video.

	Send	Receive
<b>Audio</b>		
Jitter	-	2 ms
Packet Loss	0 %	0 %
Codec Negotiated	opus	opus
<b>Video</b>		
Jitter	-	3 ms
Packet Loss	0 %	0 %
Codec Negotiated	H264	H264
Resolution	480p	128p
Frames per second	30	5



# Flexible Cisco UCS based servers

## Cisco® Meeting Server 1000

Get started with video:

- Up to 120 simultaneous HD calls per server\*
- 2200 max audio calls per call bridge
- Product ID: CTI-CMS1KM52BUN-K9
- Works with VMware



## Cisco® Meeting Server 2000

When you need more capacity:

- Highest capacity in the industry to keep up with meeting adoption
  - Up to 875 simultaneous HD calls per server\*
  - 3000 max audio calls per call bridge
  - Based on Cisco UCS 5108 and B200 blades
  - Product ID: CTI-CMS2KM52BUN-K9
- Bare-metal hardware with no virtualization



\*Additional participants can join, adapting resolution for each connection

Interoperabilita

# Webex Video Interop for Microsoft Teams

- Easy to join with One Button to Push using Meeting ID
- Multi-screen experience with full HD
- Richer meeting controls with layout a



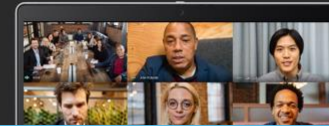
## Webex Microsoft Teams Direct Guest Join

- Device WebRTC providing
- No license required
- Easy to join with One Button
- Single screen support



## Webex Google Meet Video Interop

- Device WebRTC providing
- Easy to join with One Button Meeting ID
- Preserves layout, name labels
- Device controls are available and hang-up are part of Call



## Webex Zoom Video Interop

- Easy to join with One Button Meeting ID
- Supports DTMF command controls
- Dual-screen experience



## USB Passthrough

- Join any meeting from your laptop via USB Cable
- Supports intelligent video with best overview and people count
- Supports audio fencing using built in microphone and delivers premium sound



# Giving our customers additional flexibility and choice



Webex experience



Microsoft Teams, Google, Zoom Interop



Teams experience



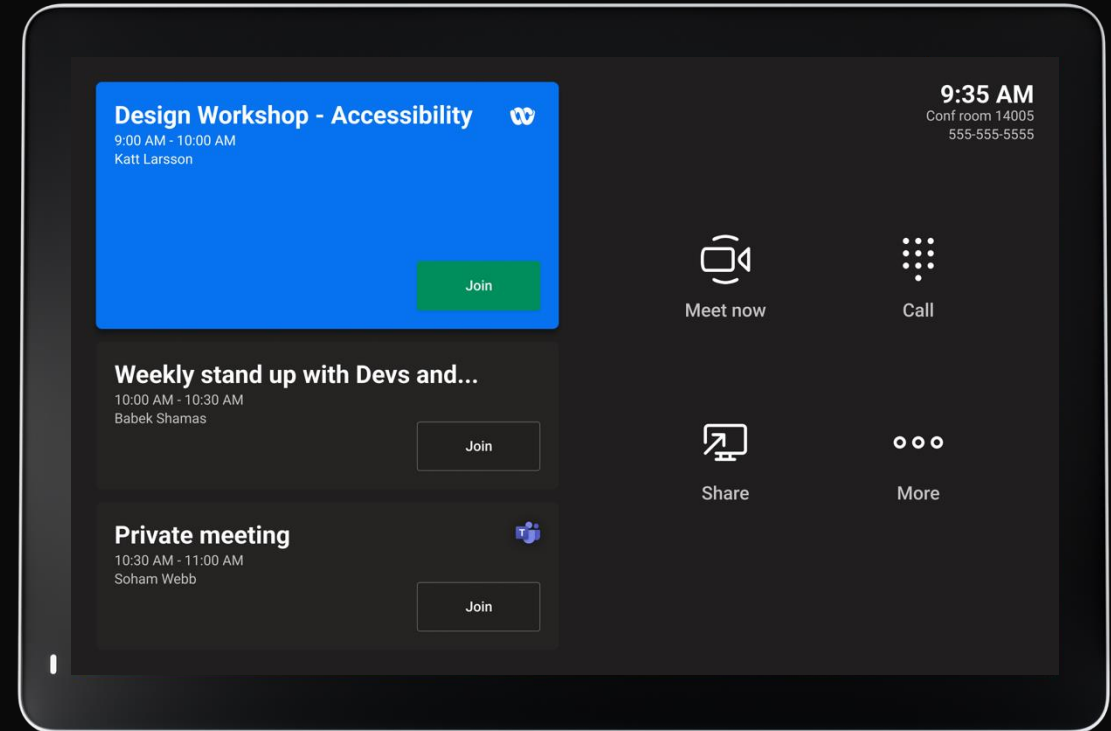
Includes native Webex Meetings and Events

OR

Same device, powered by Cisco RoomOS

# Enjoy fully-featured Webex meetings

Join from Microsoft Teams calendar view with one button to push



# Enjoy fully-featured Webex meetings

## Including:

- Flexible layouts
- People Focus
- Breakouts
- Whiteboarding
- Webinars
- Polling
- Assistant
- Embedded apps





# Make content sharing simple

With a wide range of wired and wireless options:

- HDMI
- USB-C
- Miracast
- Direct Network
- Microsoft Teams Sharing



Block out unwanted distractions with AI-powered background noise removal





# Digitální kanály

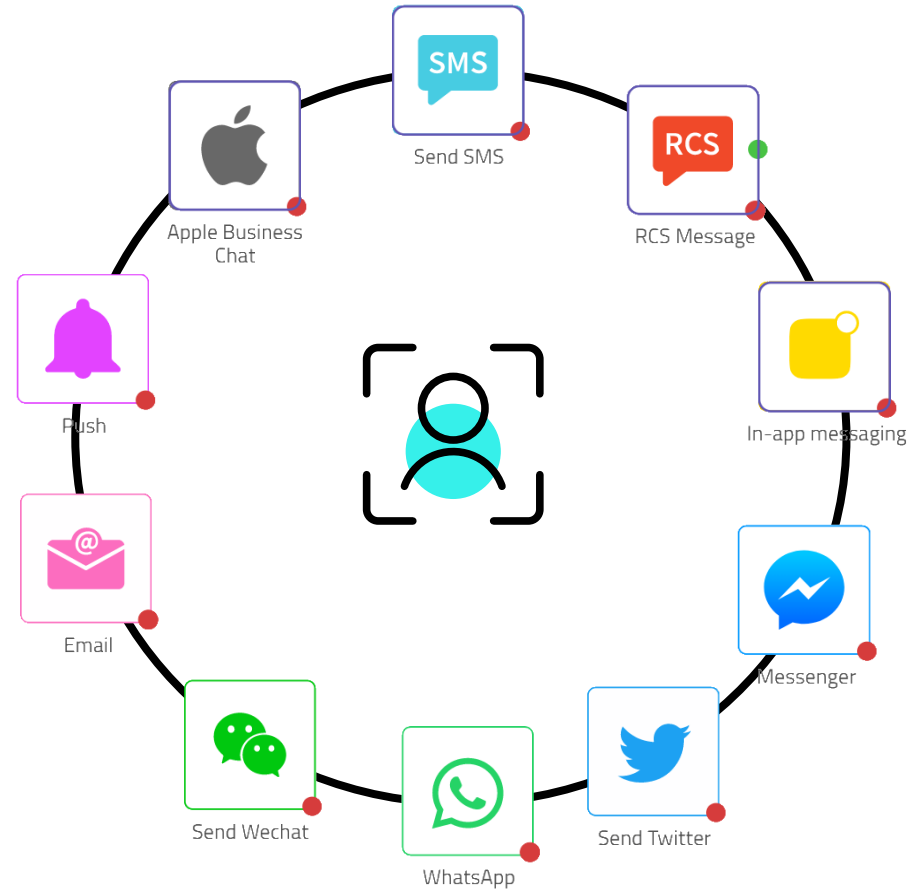
# Customer expectations of frictionless CX set by digital first pioneers

“Everything at my finger tips”

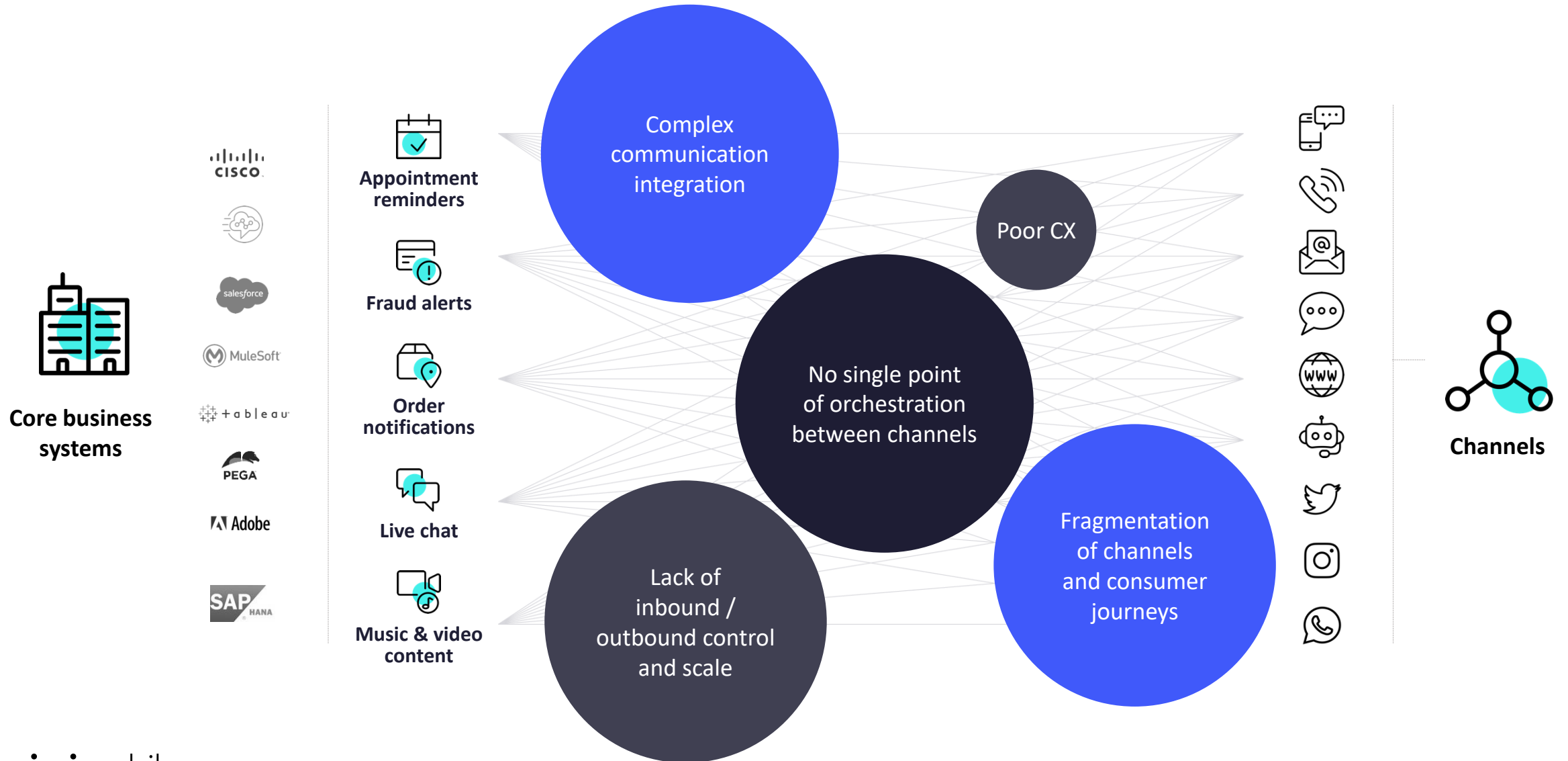
“Give me the tools to serve myself”

“Fast, real-time communications just for me”

“I want a frictionless messaging-based experience”



# We help simplify the complexity in creating a delightful customer experience...





**Demo:**  
Consumer acquisition journey over  
business messaging channel

# Sim-only Deals

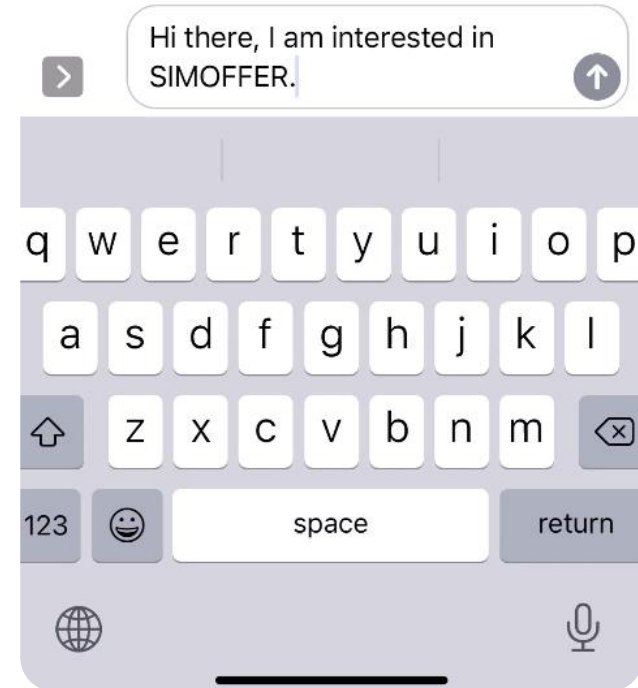
- Demo on consumer acquisition experience over Apple Business Chat messaging channel via above-the-line (ATL) marketing activity.

Scan the code from your iOS device



Start your conversation with Webex by sending a message.

Usually responds in a few hours  
[About Messages for Business & Privacy](#)

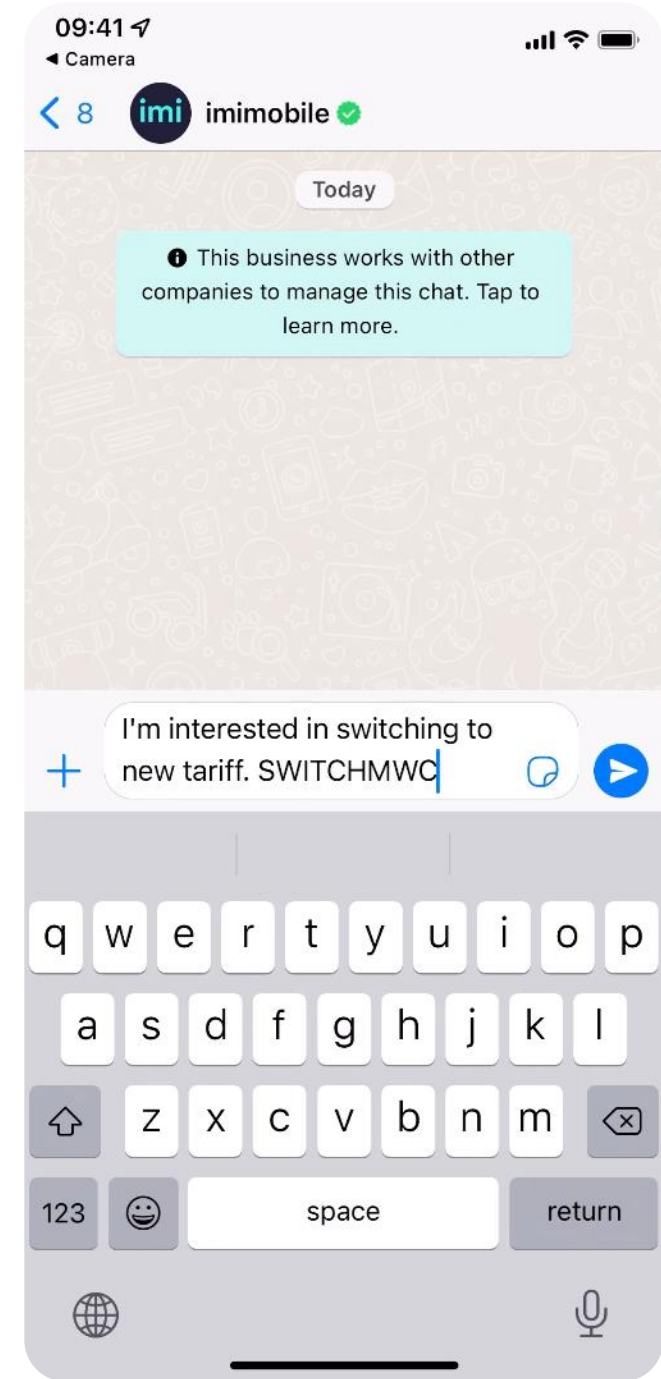


# Tariff Switch

SPaaS | Utility Sector (Energy)

- Demo on product activation experience over WhatsApp for business via above-the-line (ATL) marketing activity.

Scan the code from your mobile device



# Demo

Apple Messaging for Business



WhatsApp



