




Webex Calling

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Agenda

- Calling overview
- Clients – calling, Teams, phones
- Design – PSTN integration, migration
- Commercial
- Conclusion


The challenges with calling today

Cost and complexity 

70% of IT buyers expect to reduce IT support effort when moving to cloud calling


Disconnected calling experience 

78% of IT leaders see cloud UC as a core part of their digital transformation

Penalizes workforce mobility 

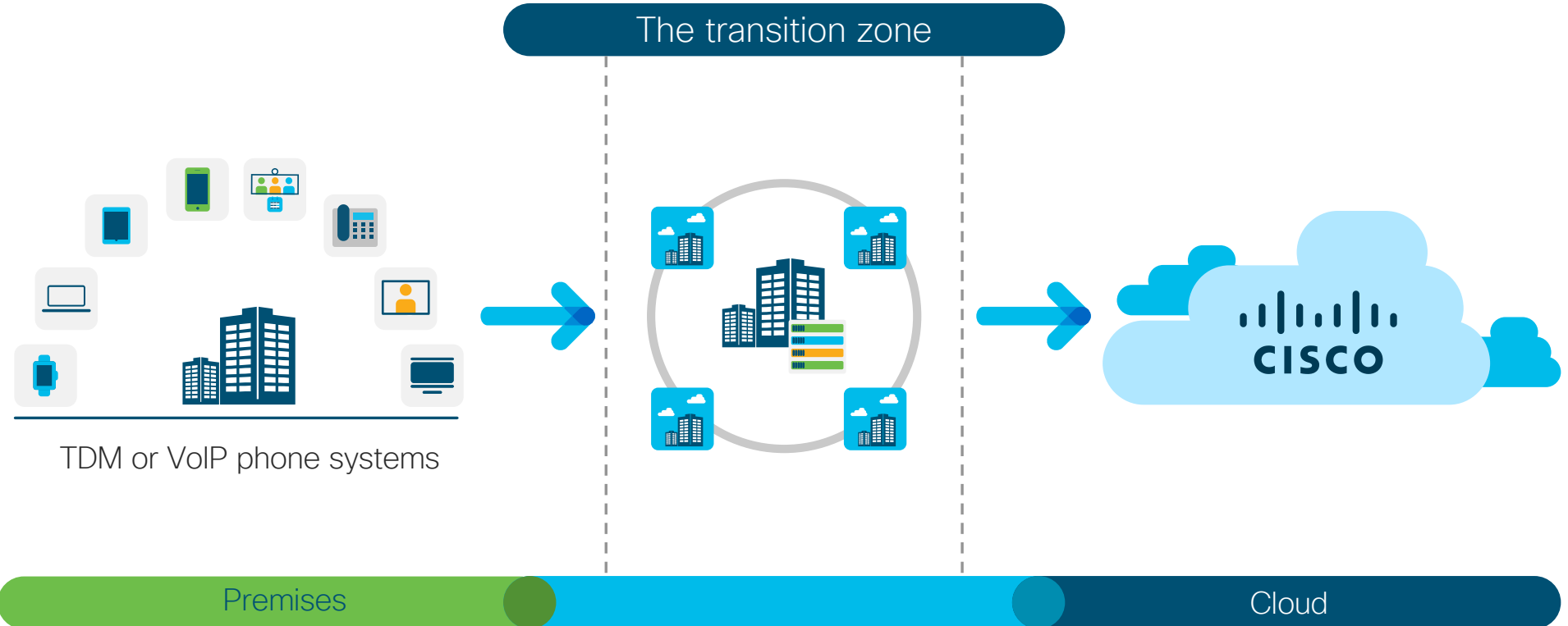
79% of buyers want better service for mobile and remote workers

Benefits of **integration of services** for calling, team collaboration, and customer care

-  Higher overall productivity
-  Reduced cost and complexity
-  Better customer interactions

Cisco BroadSoft® survey of 1000+ enterprise IT decision makers from seven countries, all continents. November 2017

The journey to the Cloud

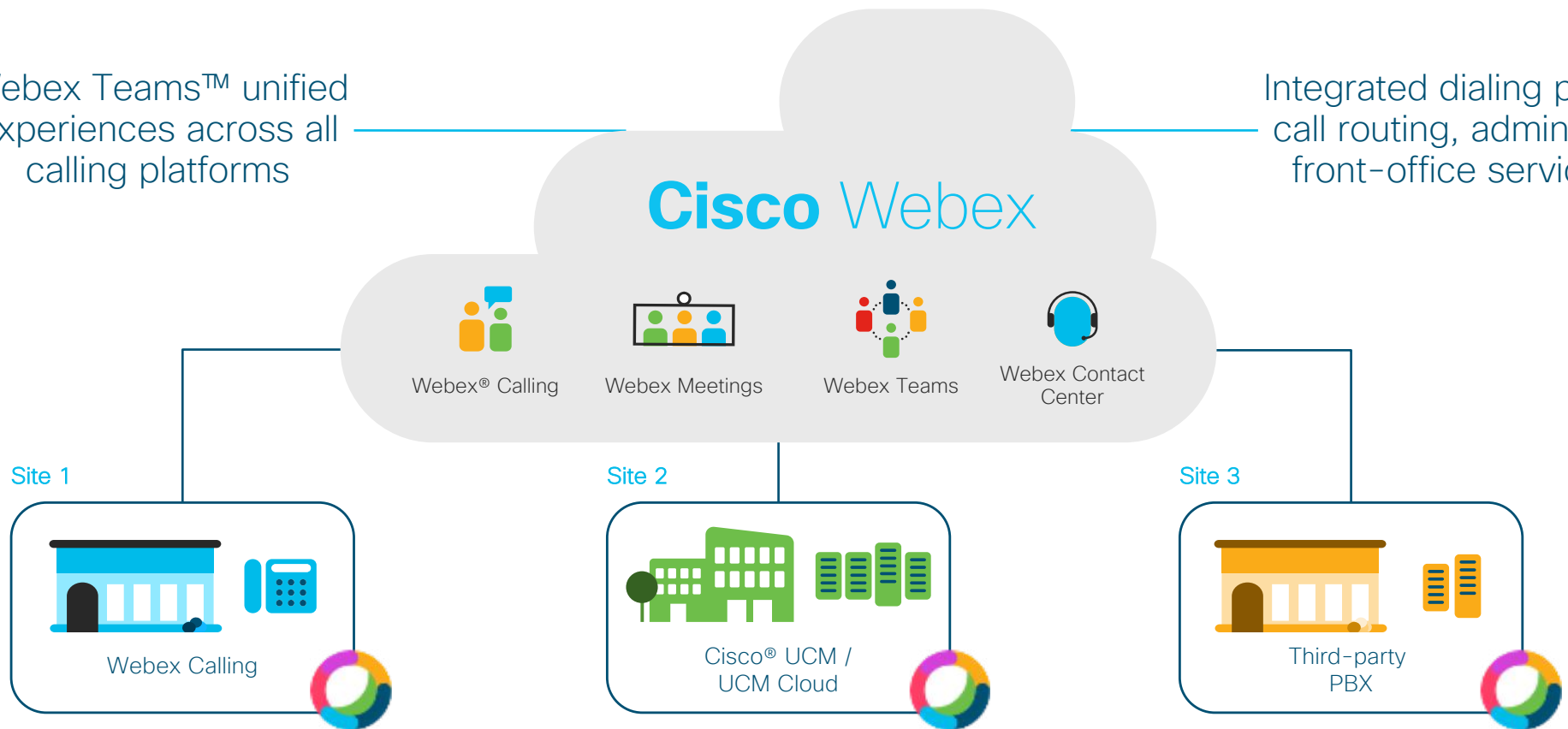


Cloud transition and hybrid deployment

Unified user experiences and calling interworking

Webex Teams™ unified experiences across all calling platforms

Integrated dialing plans, call routing, admin and front-office services



Premises to cloud migration

Only Cisco can offer you this flexibility. Take the journey at your pace.



Reuse existing
PSTN
connectivity

Cloud devices,
phones, and
telephony adapters

Interworking
with UCM

Reuse newer
UCM phones
Firmware upgrade
to MPP included in
Flex license

Interworking
with legacy PBX

Overview

Cisco calling portfolio overview



Unified Communications Manager (UCM)

- All business sizes
- On premises
- Feature-rich



Cisco Webex® UC-One¹

- SMB and basic UC
- Multi-tenant cloud
- Service provider-led and branded



Cisco Webex® Calling

- Mid-market and large enterprises
- Multi-tenant cloud
- Proven cloud PBX



UCM Cloud

- Complex migrations
- Large enterprises and gov't agencies
- UCM/Jabber® features

New Webex Teams unified and modular client experience supports all platforms

Broad portfolio | All customer segments | Flexible deployment and migration

1. Working name for new simplified SMB bundle to replace UC-One brand, based on the Webex services, delivered and branded by Cisco service provider channel partners

Webex cognitive collaboration platform

Leveraging the synergistic value of our assets



Webex Access

Audio Devices

Video Devices



Unified, Modular Client

Webex Platform Applications



Calling



Meetings



Teams

Contact Center

Webex Shared Microservices

Control Hub

Analytics and Telemetry

Presence, Directory, Contacts

App Integrations

Common Identity

Webex Infrastructure

Multi-tenant

Local and Geo redundancy

Infinitely scalable

Device Management /Onboarding

Edge

Webex Security

Security, Privacy and encryption

ISO 27001:2013 Compliant

NIST 800-53 Compliant

Fraud Detection

Secure Software Development Lifecycle



Key elements

- Packed with the features and applications your business needs
- Simplified all-in-one package
- Part of Webex® - the world's favorite collaboration suite - 54% market share*

*Synergy Research, Dec. 2018

Enterprise-grade platform

Meetings



Cisco Webex
Meetings

Team
collaboration



Cisco Webex
Teams

Calling



Cisco Webex
Calling



Award-winning
devices



Secure



Powerful cloud
architecture

Webex global cloud infrastructure

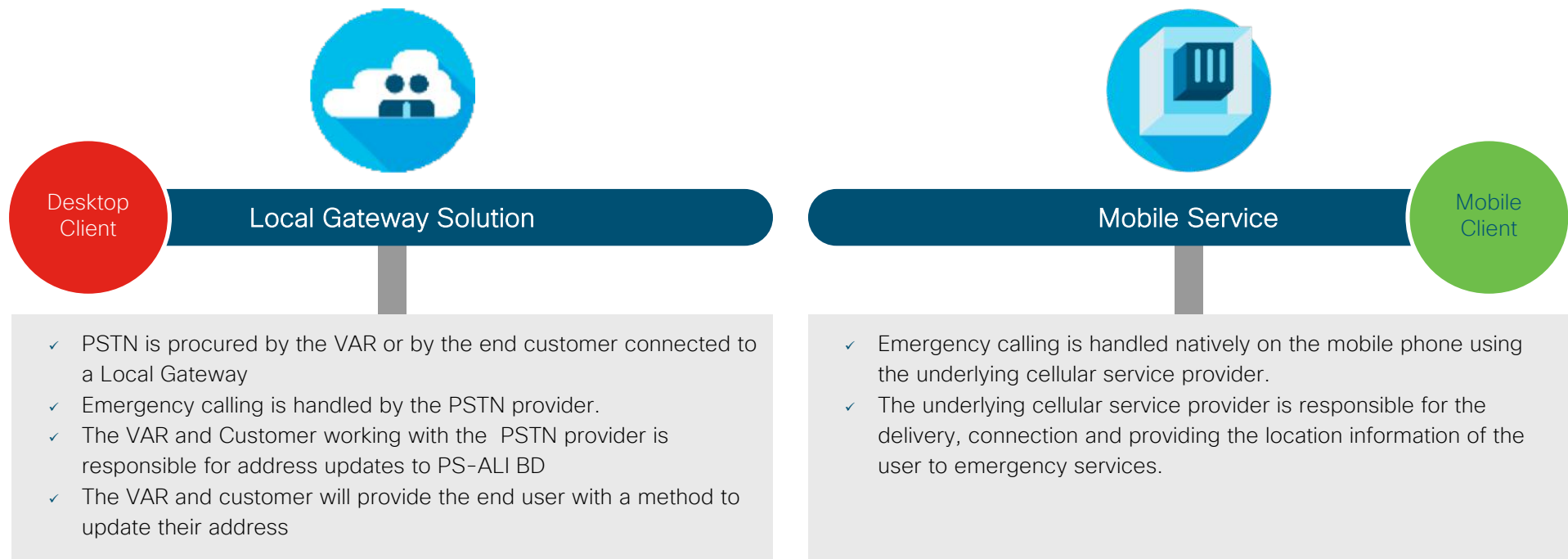
20 Service Data Centers + 8 Points of Presence globally

Global backbone purposely designed for audio and video transport

Low loss 100+ Gigabit interconnectivity with multiple redundant paths



Emergency Calling – 911, 112, 999



Note: Cisco will not provide, nor is responsible for any of the underlying PSTN services or obligations. Address information and address updates in Control Hub will not automatically update the PSTN provider or PS-ALI database for E-911 service. The Service Provider partner, VAR and/or Customer is solely responsible for maintaining, updating and the accuracy of Automatic Number Identification and Automatic Location Information databases with the PSAP.

Emergency calling and lawful intercept



Emergency calling

Webex® Calling dial plans in each country are configured to send emergency calls to the PSTN provider. It is the PSTN provider's responsibility to handle these calls appropriately.

Lawful intercept

Webex Calling sends all calls between enterprises (even if both are on Webex Calling) to the PSTN provider. This ensures that the relevant in-country authorities are able to perform lawful intercept transparently from Webex Calling in the local country PSTN network.

Both services are the responsibility of the PSTN provider

Webex common identity

Single identity across all Webex services

- Webex® Meetings
- Webex Teams™
- Webex Calling

Identity sync from premises to cloud

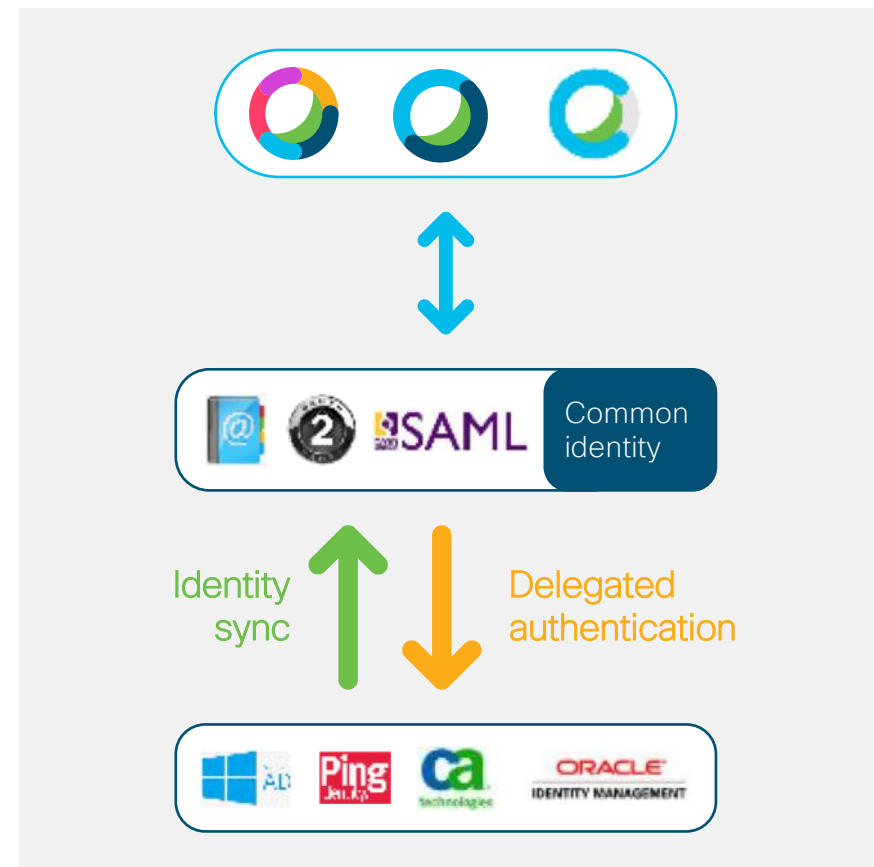
- Agent install on Active directory

Authentication and authorization for all Webex services

Single-sign on across all Webex services

Delegated authentication from cloud to premises

- The customer owns the authentication policy



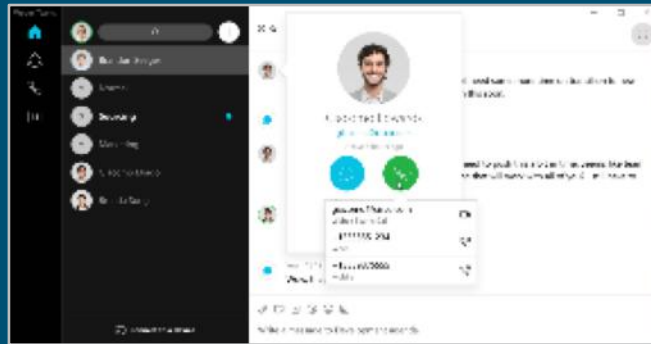
Clients

Current calling user experience options

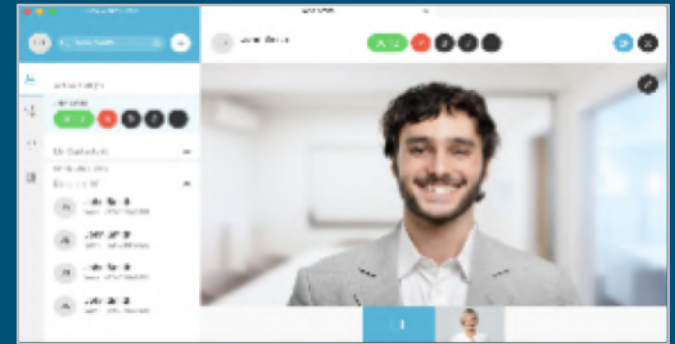
 Integrated Devices
across the Cisco suite



 Webex Teams
with Click-to-Call



 Webex Calling
Soft Client App

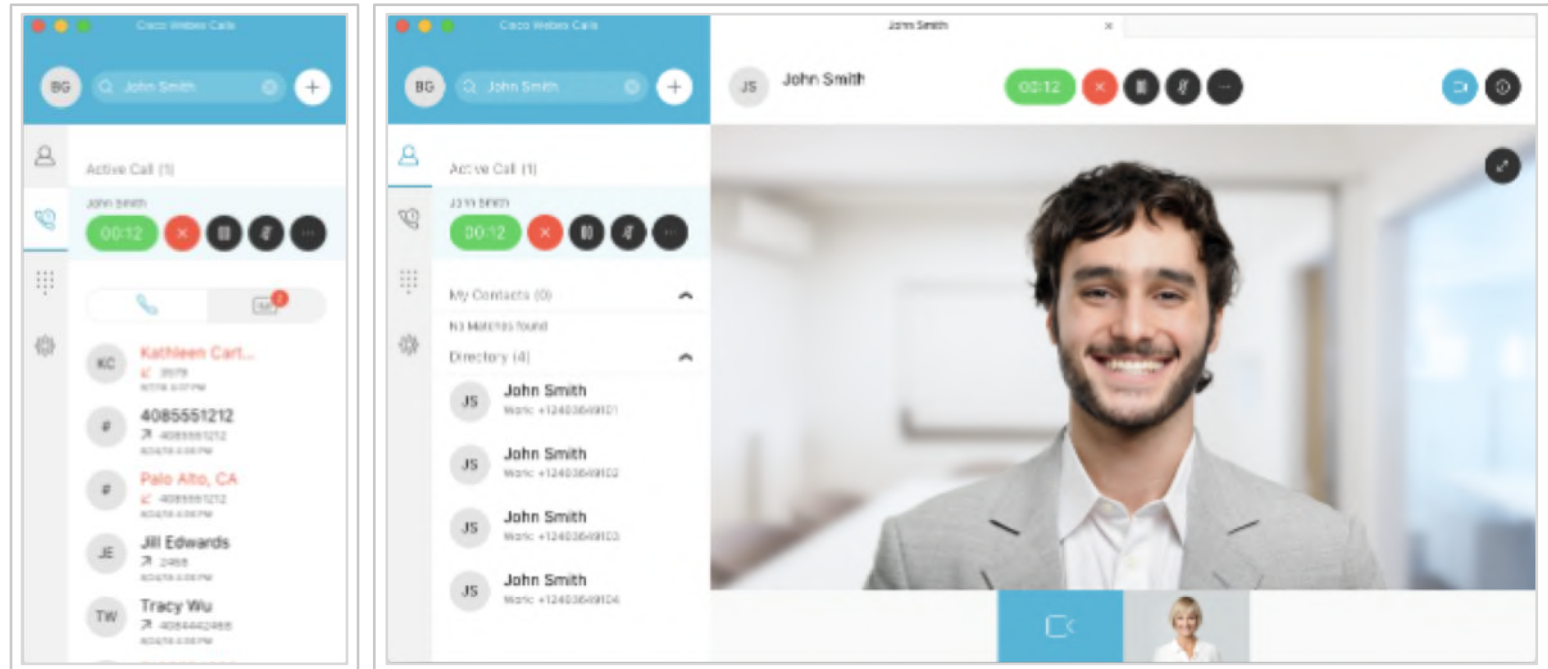


Converging to a unified integrated Webex Teams experience

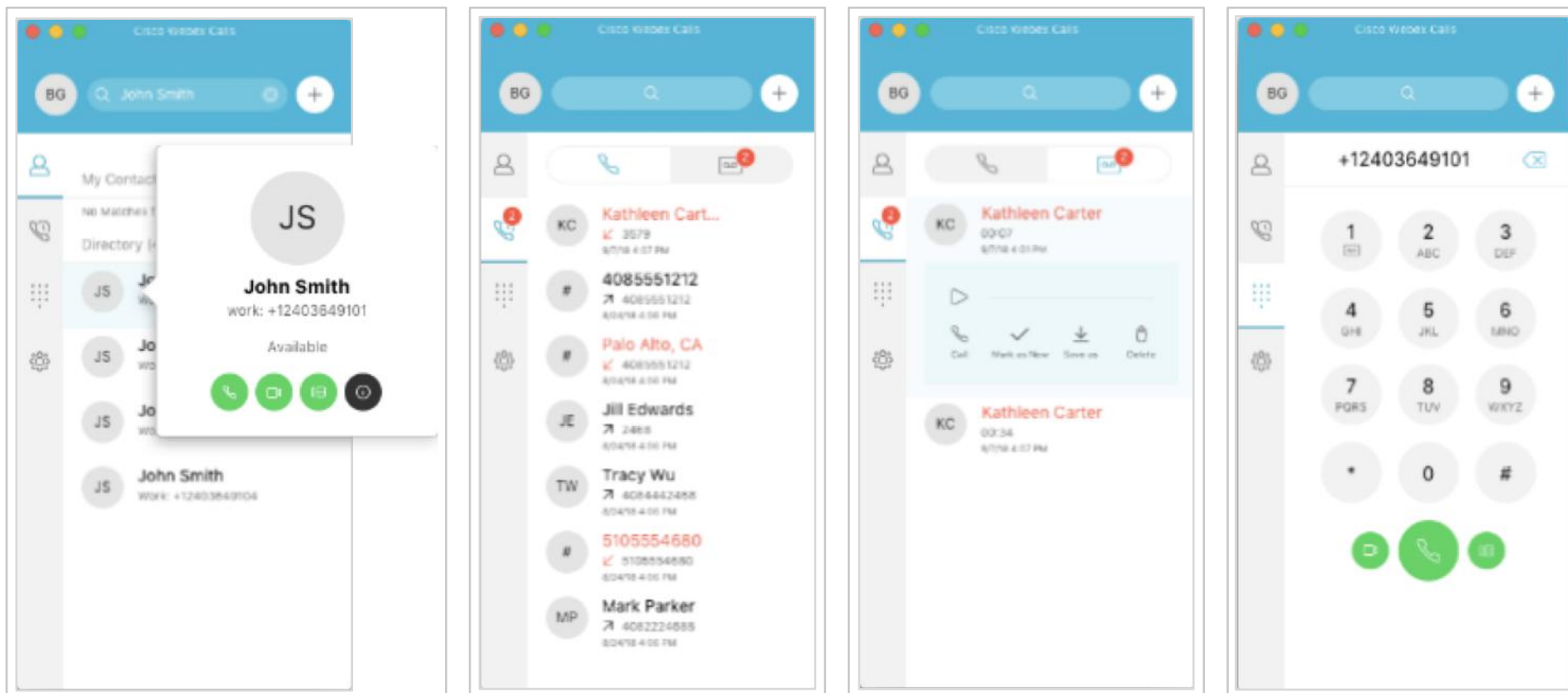
Webex Calling standalone app



- Advanced Calling
- N-Way Calling
- Desktop/Mobile
- Hold/retrieve
– with MoH
- Transfer/
Consultation
- Call history
- Visual voicemail
- S4B integration



Webex Calling app for mobile



Cisco Collaboration Device Portfolio

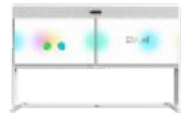
Collaboration room



Webex Board 55,
70 and 85S



Room 55 and
Room 55 Dual



Room 70 G2
Single and dual



MX700 and MX800



IX5000 Series



SX10 and SX20
Quick Sets



Room Kit Pro for
custom/industry
applications

In-room sharing



Webex Share*



8845 and 8865



DX80



Jabber



Webex
Meetings



Webex
Teams

Collaboration desktop video

Soft clients

Headsets



500 Series



6800, 7800, and 8800 Series

Voice devices

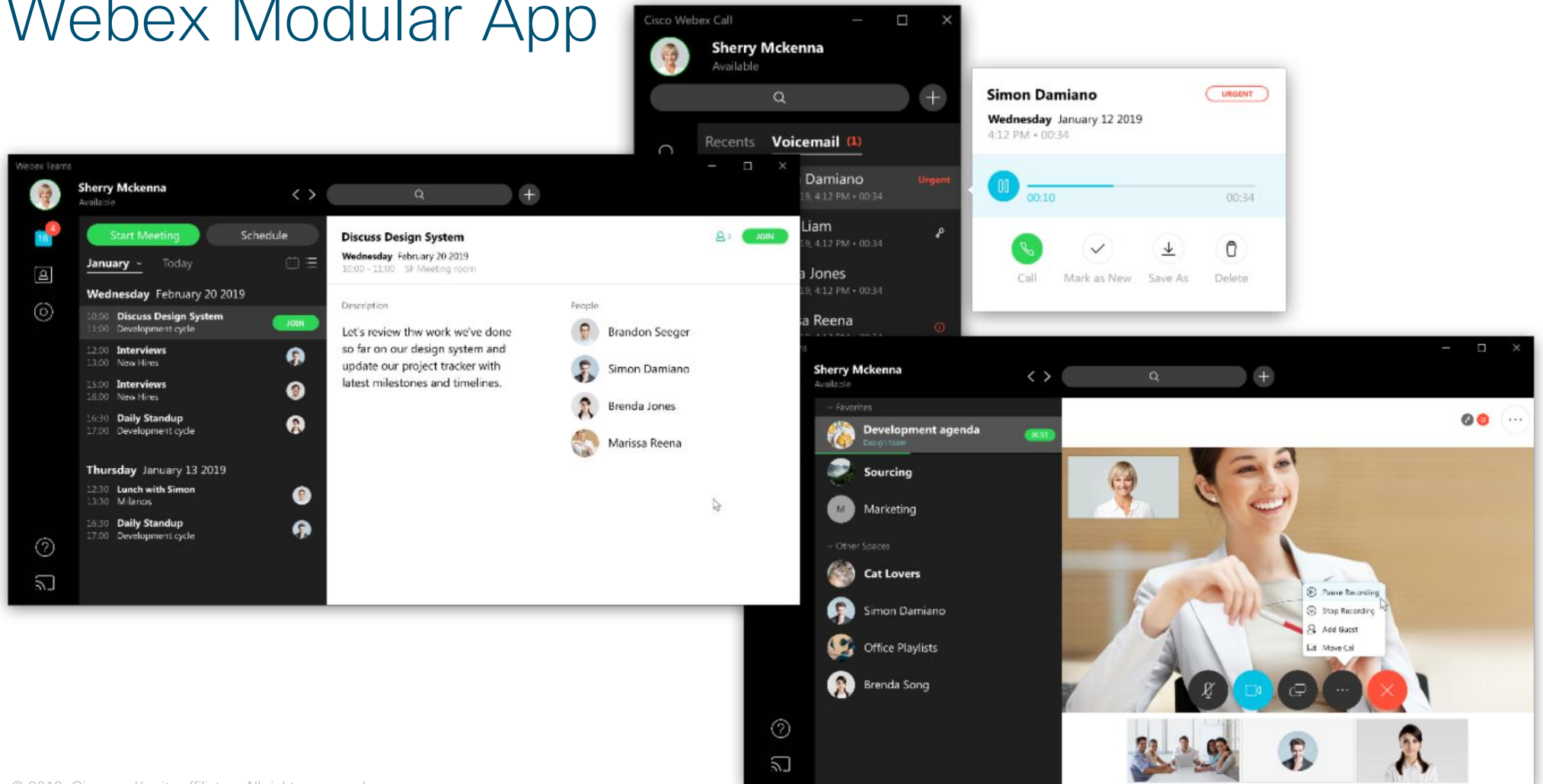


IP Wireless Phone



IP Conferencing

Webex Modular App



Calling in Webex Teams

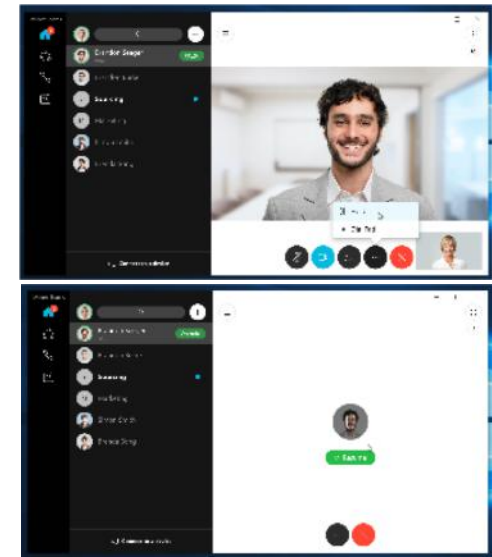
Enabled by Cisco Unified CM

Overview

- Native registration to your existing Unified CM infrastructure – underscoring Cisco’s commitment to a unique cloud first, not cloud only architecture
- Enables high-quality and reliable extension dialing and PSTN calling within Webex Teams
- Delivers a simpler, more scalable solution for hybrid calling in Webex Teams
- Initial preview release best suited for knowledge workers with the following desktop-only features:
 - Hold/Resume
 - Deskphone control and softphone modes
 - In-call presence

Customer Benefits

- Enhance the value of your existing calling infrastructure investments as you evolve other workloads to the cloud
- More elegant hybrid enterprise calling architecture, eliminating additional software and infrastructure to manage



Webex Teams Calling (UCM / HCS)

Q3

Calling Features

- Conference
- e911 Support
- Call Forward Settings
- Click to Call
- Cisco Headset support
- Secured and Encrypted Calls
- SIP-URI calling enhancements

OS and Platform

- CUCM (Mobile)
- Broadcloud (Desktop and Mobile)

Q4 & 1H20

Calling Features

- Ease of calling (personal contacts)
- Call Settings (Mobility, Hunt Group Login)
- Desk phone Control enhancements (Meeting Join)
- Escalation to Meeting
- Visual Voicemail
- Room System Enhancements
- VDI support
- 3rd party Headset Support
- Sharing Annotation & Live Whiteboard enhancement
- Remote Desktop Control
- Call Blocking
- Common Call History
- Multi-device Disaggregated Media
- Call Park
- Multi lines
- Boss / Admin
- Group Pickup

Webex Teams Calling (Webex Calling)

Q3

Q4 & 1H20

Calling Features

- Make call
- Answer
- End call
- Mute
- Hold / Resume (Single Client) - Desktop
- Local Call History
- Shared Line Appearance
- In-a-call Presence
- E911 Support (Native mobile)
- SIP-URI via Teams

OS and Calling Platform Support

- Desktop & Mobile

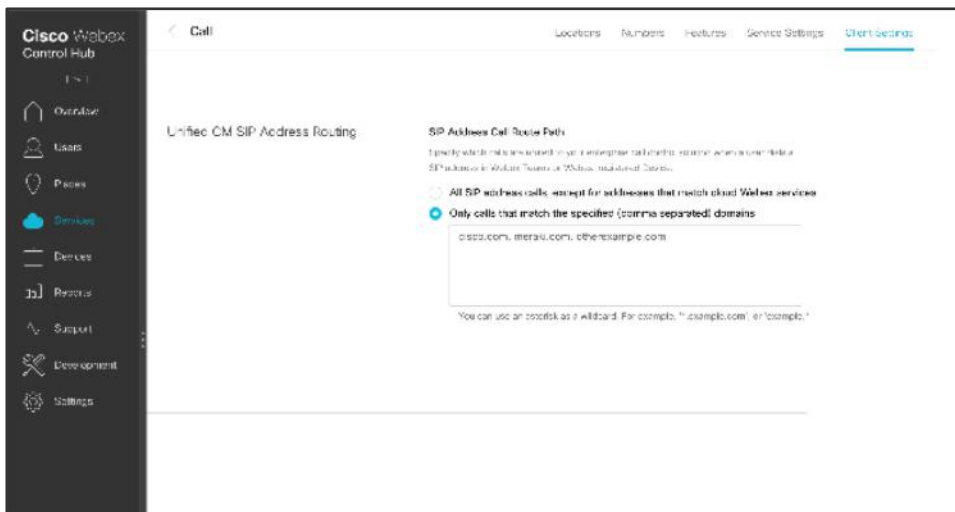
Devices Integration

- Basic Desk phone Control

- Hold/Resume (Single Client) [Mobile]
- Multi-Call Support [Mobile]
- In-Call "Screen Share" via Teams [Desktop]
- Hold/Resume (Multi-Device)
- Call Transfer
- Conference/Merge
- Call Recording
- Call Pull
- SIP-URI via Webex Calling with mid call features
- Basic Webex Device Integration
- Favorites & personal contacts
- Call Settings (CFW, Mobility/SNR, Hunt Group)
- Message Wait Indicator
- Do Not Disturb for Calling
- Visual Voicemail
- Headset Support
- In-Call Sharing (BFCP)
- 911 Location Support via RedSky
- Click-to-call via Cellular [Mobile] - Need mobile network integration
- Call Through
- Deskphone Control Enhancements
- Room System Enhancements
- Sharing Annotation & Live Whiteboard Enhancement
- Remote Desktop Control
- Call Blocking
- Call Park
- Multi lines
- Boss / Admin
- Group Pickup
- Escalation to Meeting
- AI Integration (Intelligent screen Pop)

SIP URI Routing

Routes SIP calls via CUCM or Webex Cloud



Concept Design

- Allows Admin to decide which SIP URIs are routed via Webex Cloud
- Default is for all SIP URIs to be routed via CUCM except for Webex services



Cisco Headset Support

Use Cisco Headsets to join Calls and Meetings

- You will now be able to join your calls and meetings using your Cisco Headset
- Features coming include:
 - Basic Call Control (Answer / End Call)
 - Mute / Unmute
 - Volume Control
 - Hold/Resume



Screen Share in Webex Calling

Share and view content in calls and meetings

Expected: Q4 2019



Screen share

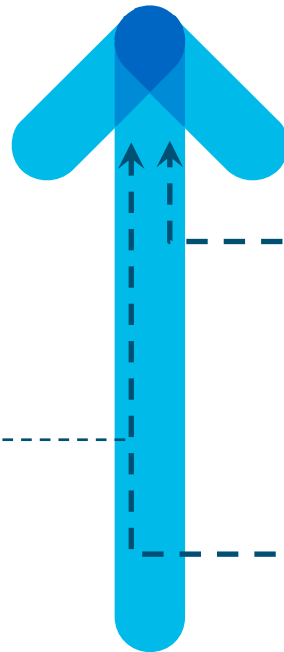
- Share your screen in calls and meetings when using Webex Calling
- View content shared by other participants
- Share both audio and video (content requiring high frame rates) in calls and meetings



Design

Flexible cloud migration path

Cisco Webex
Calling



Reuse newer UCM phones



Adopt new cloud devices



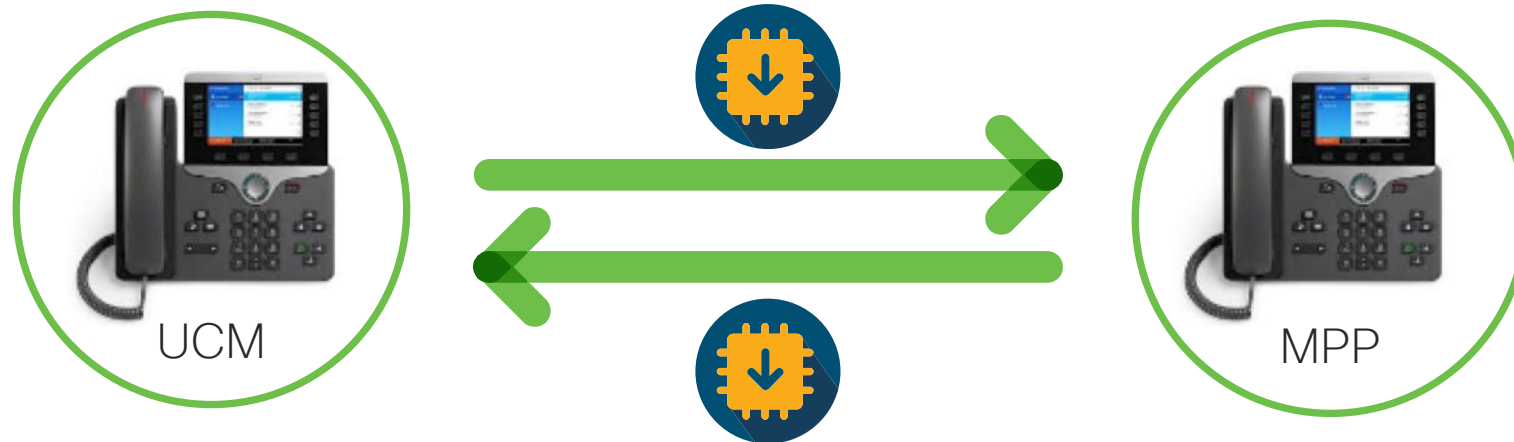
- Reuse existing PSTN connectivity
- Interworking with UCM
- Interworking with legacy PBX

Connectivity

On-premises PBX

Devices

Phone firmware migration



Migration firmware

- All 7800s: Some hardware limitation (pre-CY2016)
- All 8800s except 8821, 8831, 8851NR, 8865NR
- KEMs do not require migration
- Partial data loss - call history, local contacts



Migration license

- Flex plan includes 1 license per user
- Locked to MAC address
- One-way migration per license

Webex Calling: PSTN quick facts



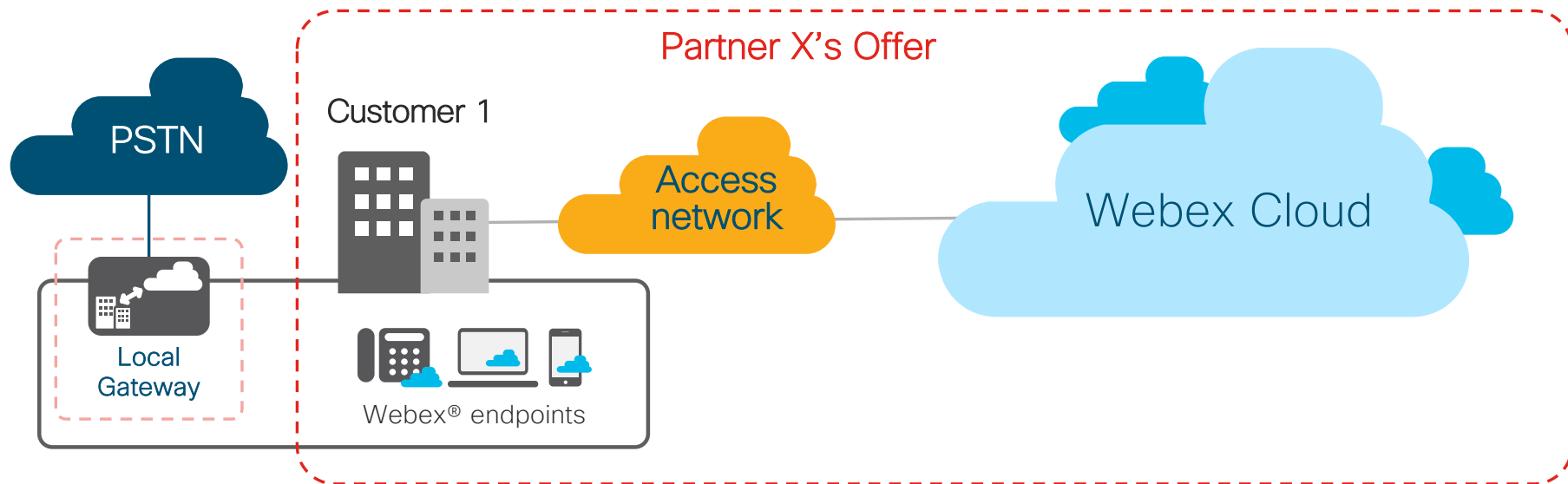
Cisco never supplies the PSTN

PSTN required for all off-net calling and between enterprises

PSTN dial plan supports the E.164 format

Emergency calls and lawful intercept are the responsibility of the PSTN provider

Webex Calling PSTN option: Local Gateway PSTN through customer premises

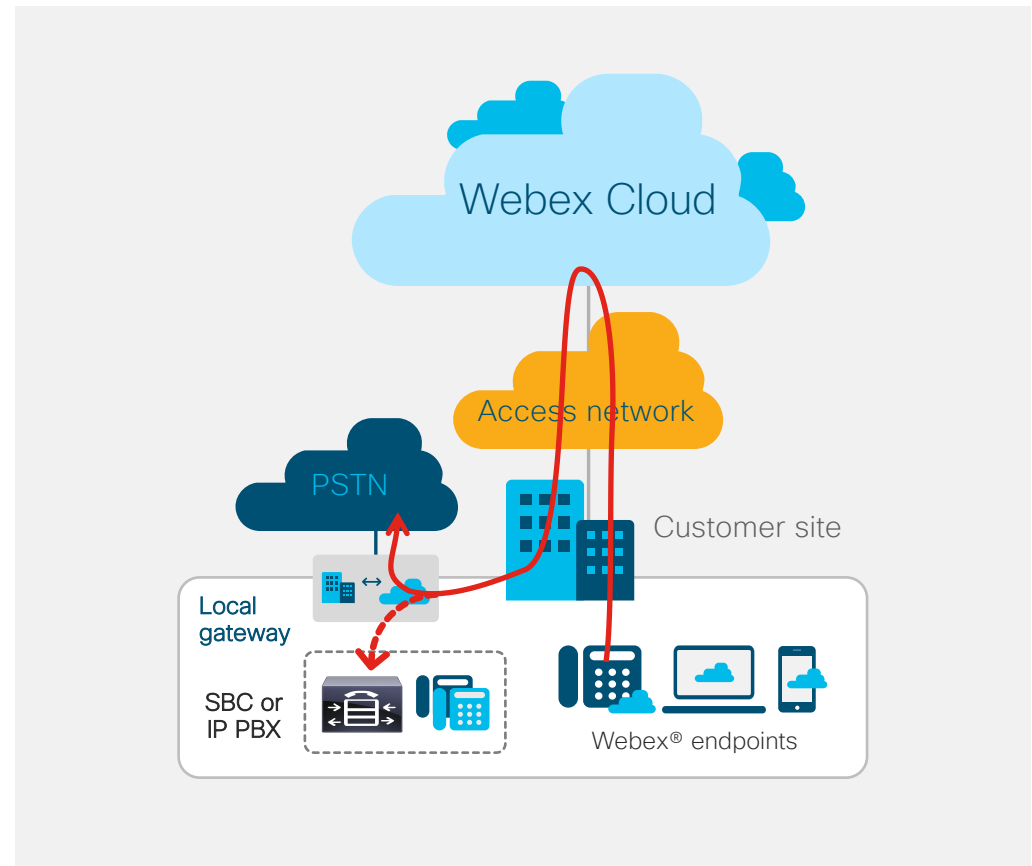


- PSTN access through a **Local Gateway** device at the customer site and the customer's PSTN service (SIP Trunk, PRI, etc.)
- PSTN service **decoupled** from Cisco® Webex Calling service

Local Gateway architecture

Local Gateway

- Enables a BYOPSTN option for Webex Calling
- Provides connectivity to a customer-owned PSTN service
- May also provide connectivity to an on-premises IP PBX or SBC

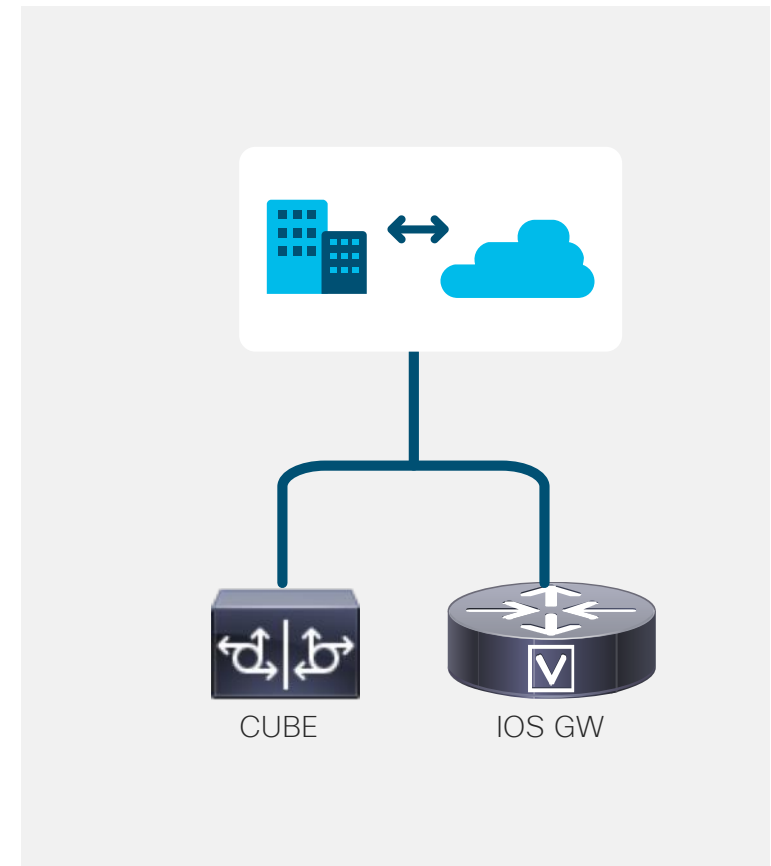


Local Gateway

Product support in phase 1: CUBE and Cisco® IOS gateway

- Cisco® Unified Border Element (CUBE) for IP-based connectivity, or Cisco IOS® gateway for TDM-based connectivity
- Hardware and software requirements:
- 4321, 4331, 4351, 4431, 4451 ISRs (IOS XE 16.9(3))
- Cisco CSR 1000V (vCUBE) (IOS XE 16.9(3))
- 1100 Integrated Services Router (ISR) (IOS XE 16.11)
- CUBE calling licenses are included in the Webex® Calling Flex License

Note: Platform requirements are driven by encryption/decryption needs (signaling and media to Webex® are always secure)



Local Gateway

CUBE feature support and platform sizing

- Standard CUBE feature support (no need for dedicated platform)
- Standard platform sizing using sRTP-RTP concurrent session numbers (based on Cisco IOS® XE 16.9(3))
- Number of corresponding users depends on BHCA etc.

Platform	sRTP-RTP sessions
4321 ISR	40
4331 ISR	125
4351 ISR	250
4431 ISR	750
4451 ISR	1500
CSR 1000V (1 vCPU)	225
CSR 1000V (4 vCPUs)	800

Reference:

<https://www.cisco.com/c/en/us/products/collateral/unified-communications/unified-border-element/guide-c07-742037.htm>

CUBE deployments for Webex Calling

The ordering guide specifies that additional CUBE hardware and licensing is required:

- Webex Calling requires a local gateway connection for PSTN, which will require the purchase of additional CUBE hardware and licensing. To learn more about CUBE and how to order visit [here](#).

Beginning in December 2019 (with Cisco IOS® XE version 17.1) we will introduce automated detection of trunks to Webex® Calling.

- Without the need for additional explicit CUBE licenses
- The licenses will be considered as included in the Webex Calling subscription
- 1 CUBE license will be provided for every 2x subscribers to Webex Calling in order to provide for high-call ratio customers

Prior to Version 17.1, CUBE entitlement will be included as part of the Webex Calling subscription using a manual process, which will involve contacting the Cisco® licensing help desk.

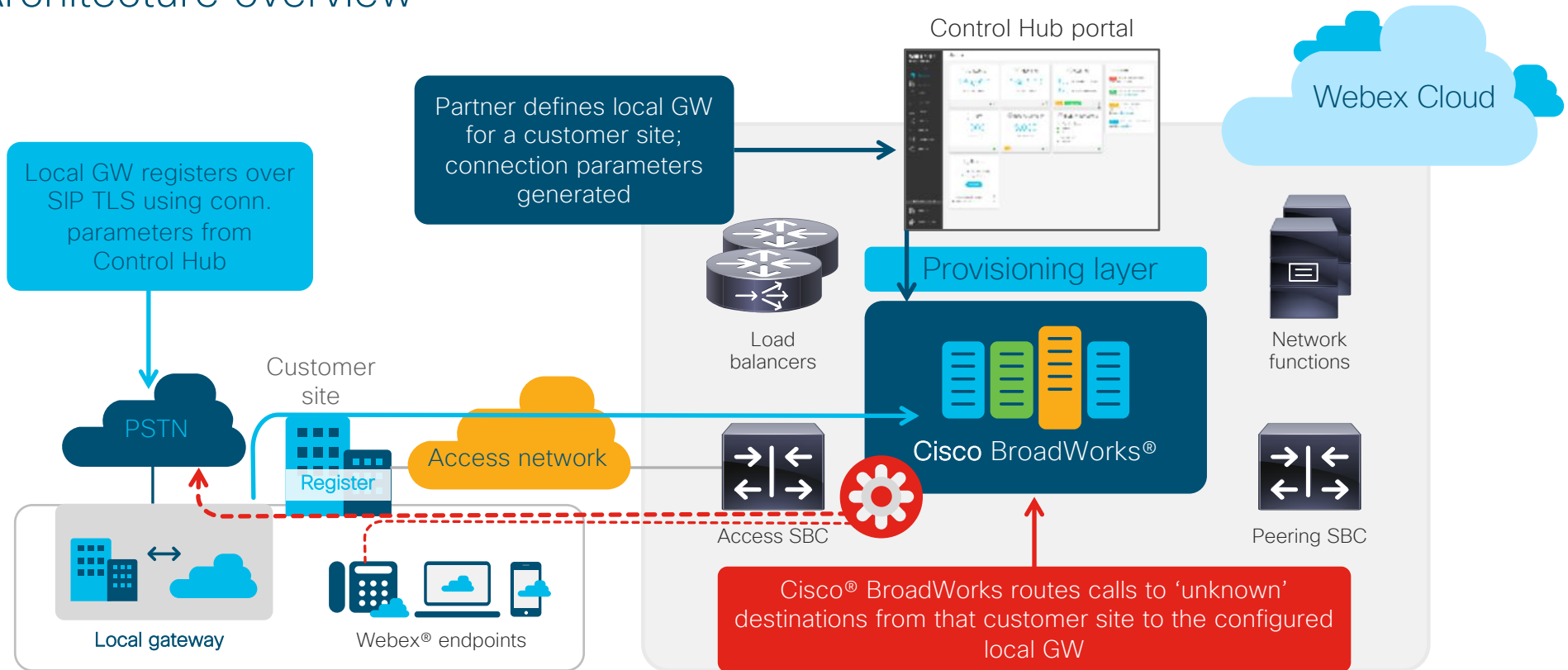
- State the number of Webex Calling users to purchase and request the CUBE licenses
- Time limited (expiry February 2020) CUBE per-session trunk licenses (CUBE-T-RED) will then be supplied

If required, appropriate hardware can be separately purchased.

The ordering guide will be modified to reflect the new policy.

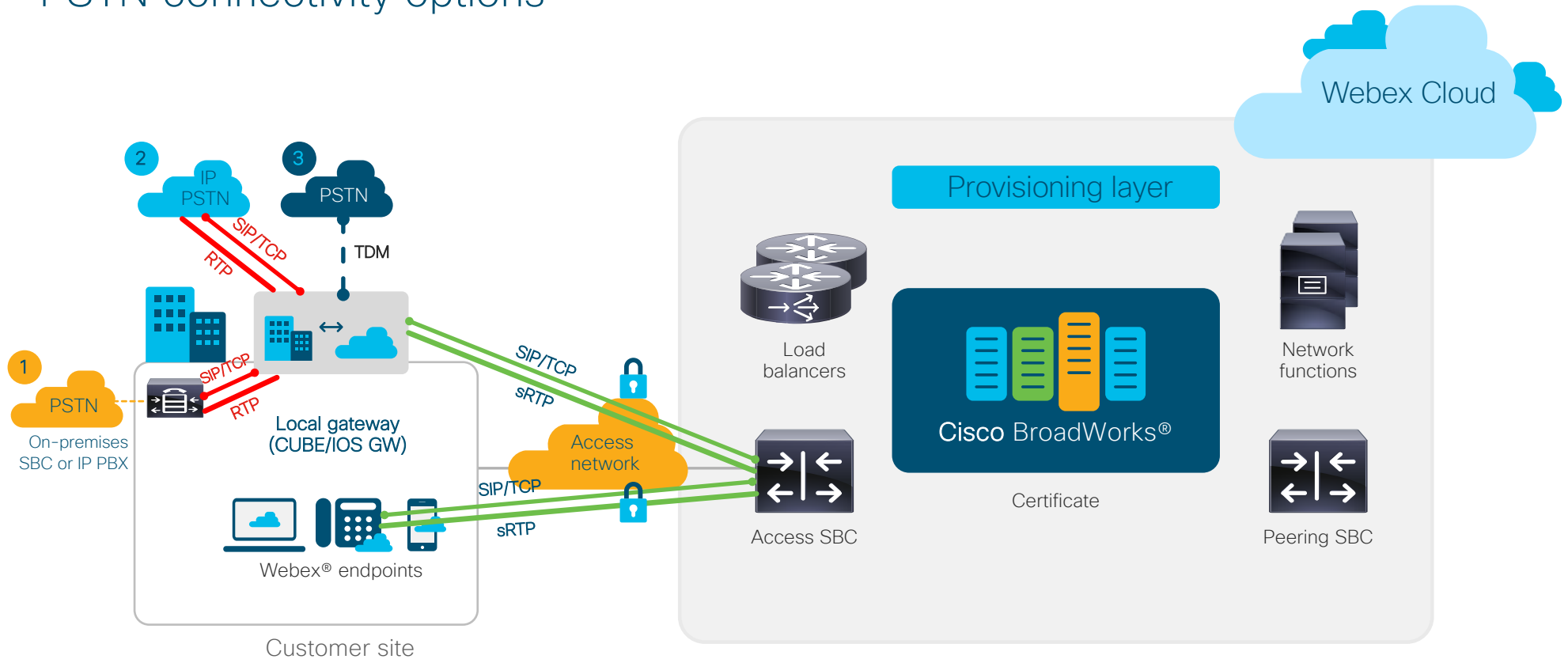
CUBE as local gateway

Architecture overview



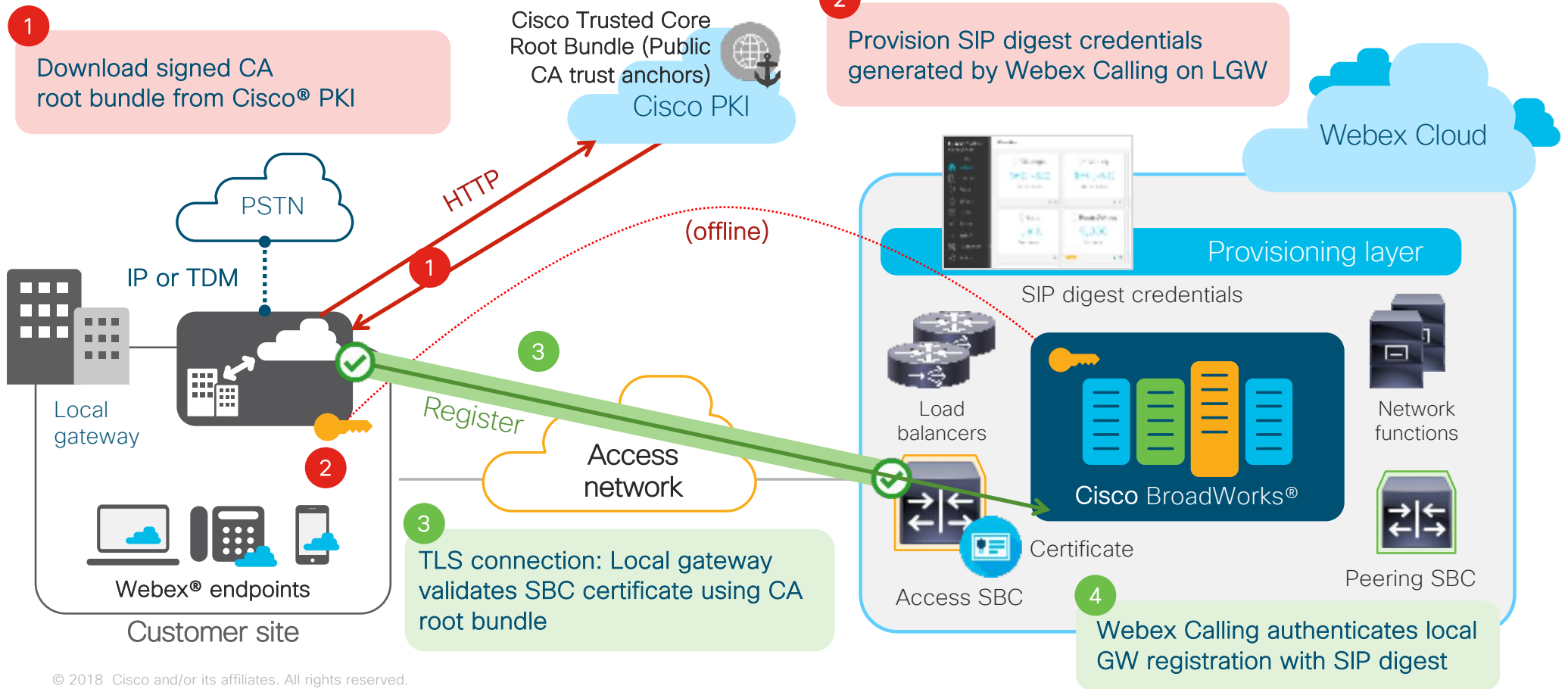
CUBE as local gateway

PSTN connectivity options



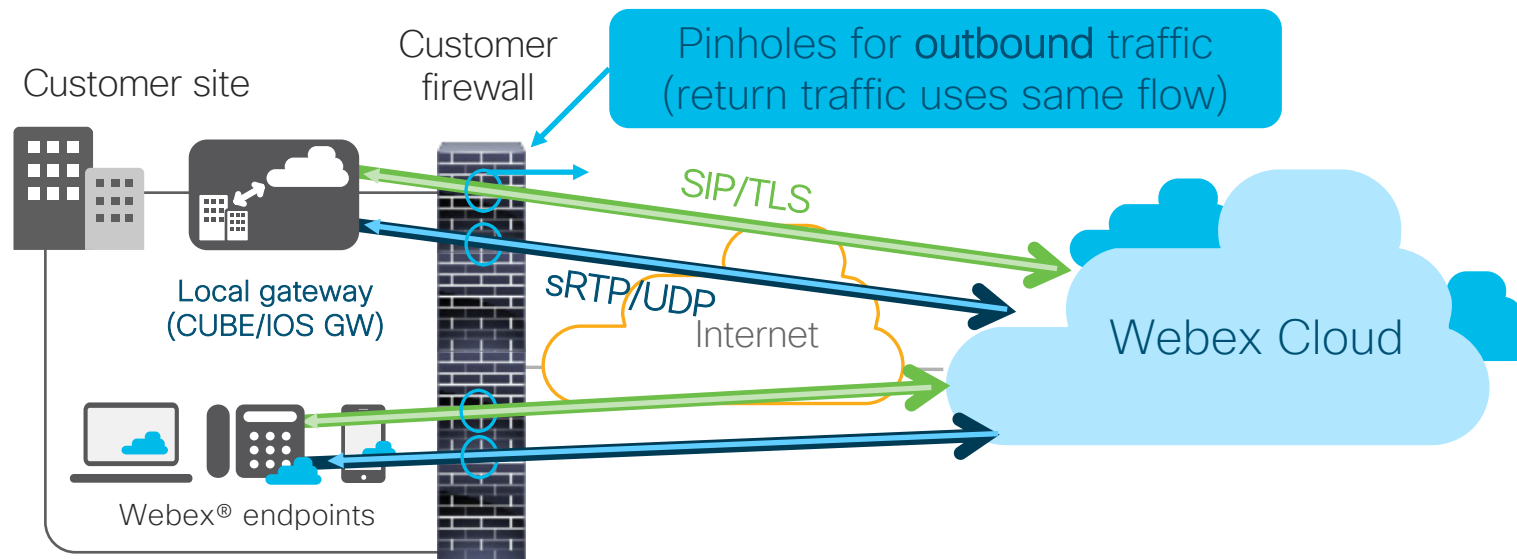
CUBE as local gateway

Security and authentication



CUBE as local gateway

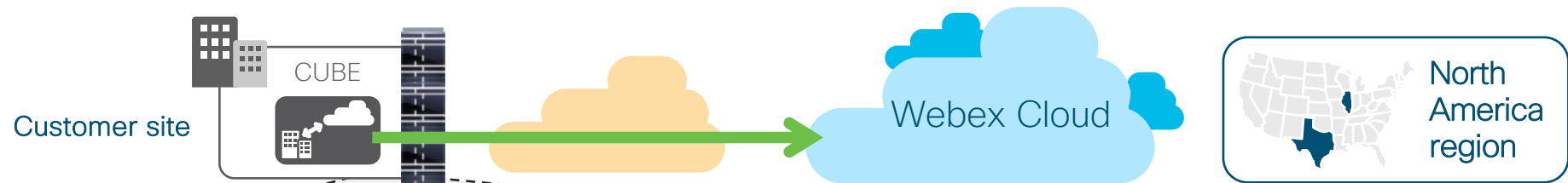
Firewall and NAT traversal



- In most cases, the local gateway and endpoints can sit on the **internal** customer network using private IP addresses (with NAT and PAT)
- Firewall needs to allow **outbound** traffic (SIP, RTP/UDP, HTTP) to specific IP addresses/ports (see updated Webex® Calling firewall and network configuration guide)

CUBE as local gateway

Firewall and NAT traversal – IP addresses and ports (NA)



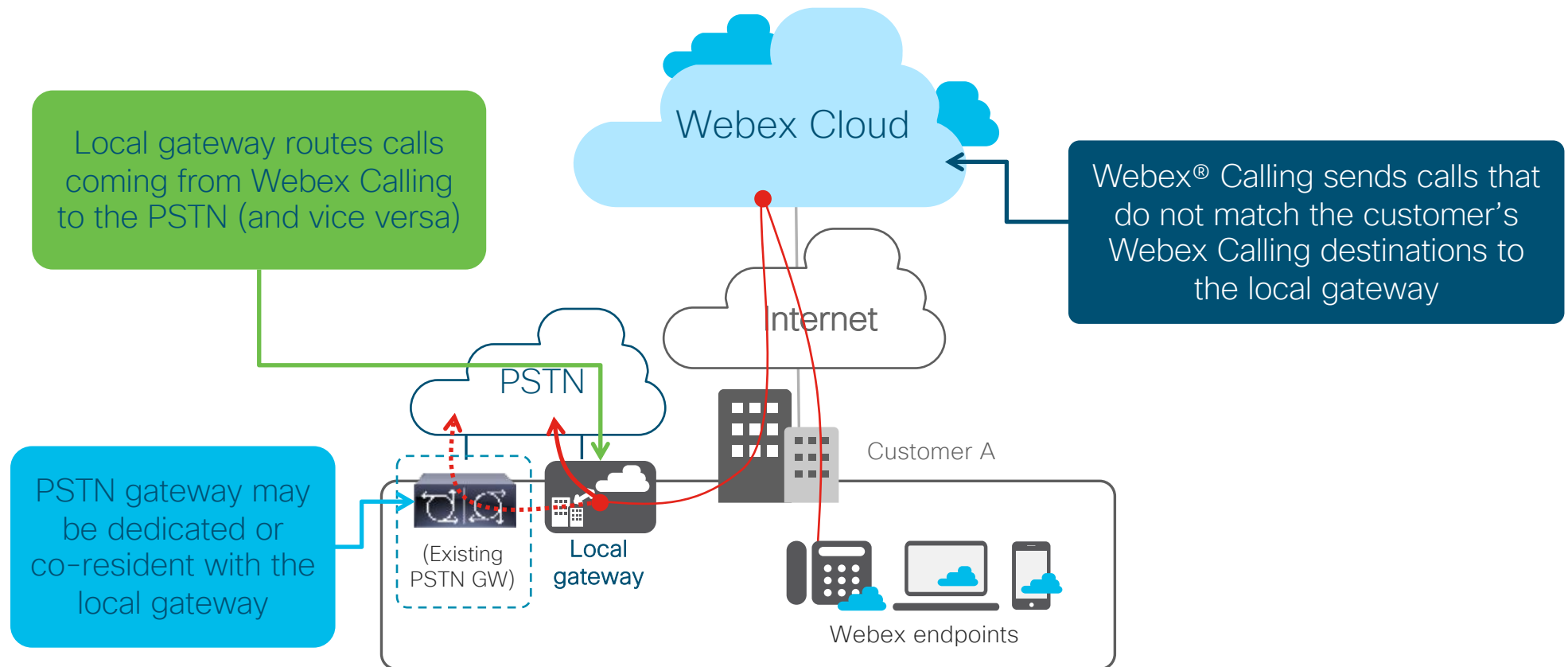
Purpose	Source IP	Source ports	Protocol	Dest IP	Dest ports
SIP signaling	CUBE WAN interface	8000-65535	TCP	199.59.65.0/25 199.59.66.0/25 199.59.70.0/25 199.59.71.0/25	8934
RTP media	CUBE WAN interface	8000-48000*	UDP	199.59.65.0/25 199.59.66.0/25 199.59.70.0/25 199.59.71.0/25	19560-65535

*:Default range. Can be reduced based on the number of concurrent sessions (4 UDP ports per session)

Call routing with
local gateway

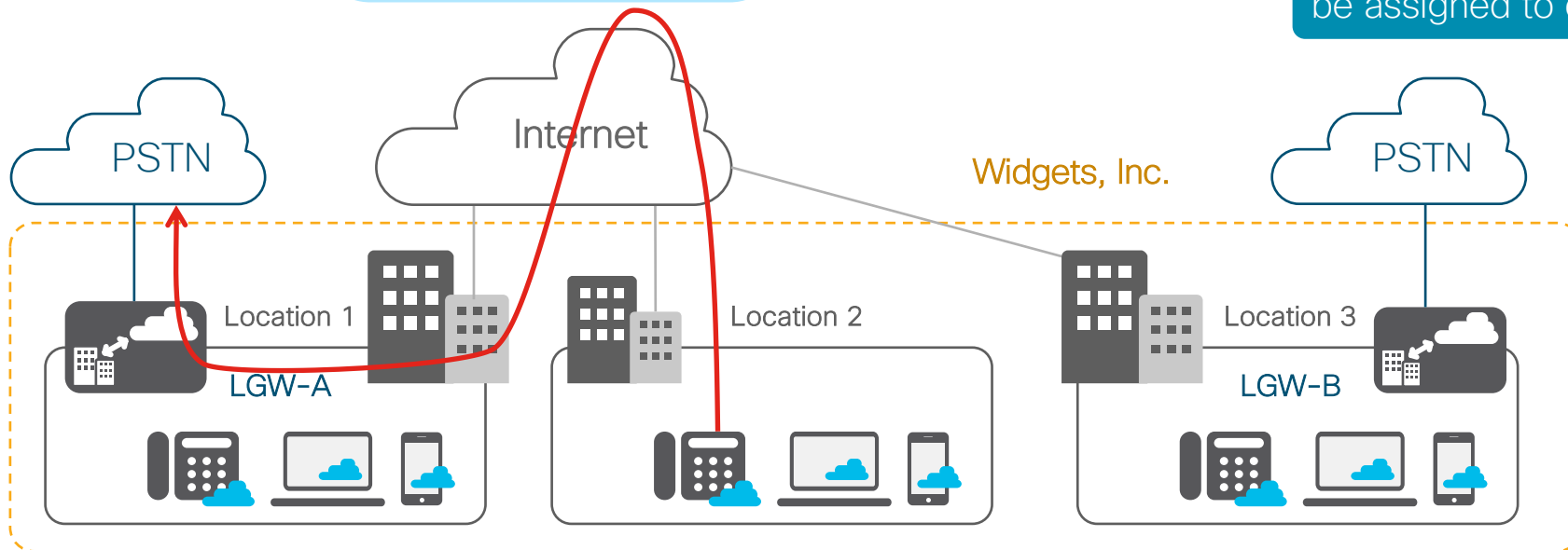
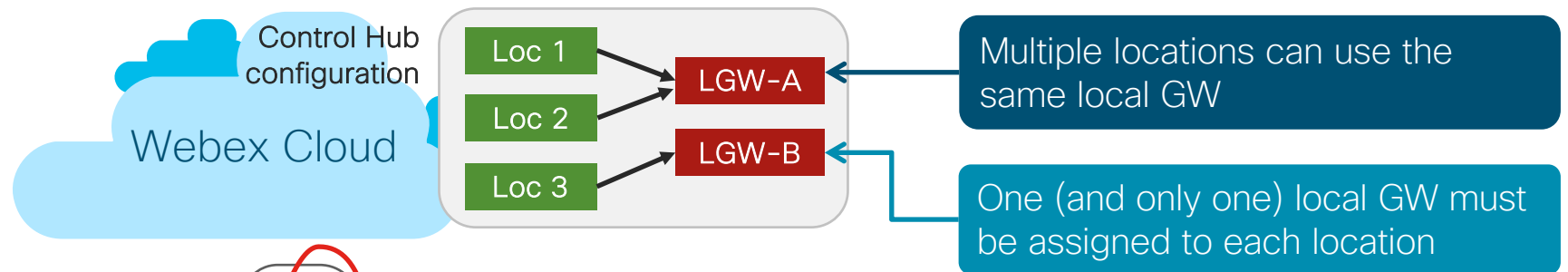
Call routing

Single local gateway



Call routing

Multiple local gateways



Call routing

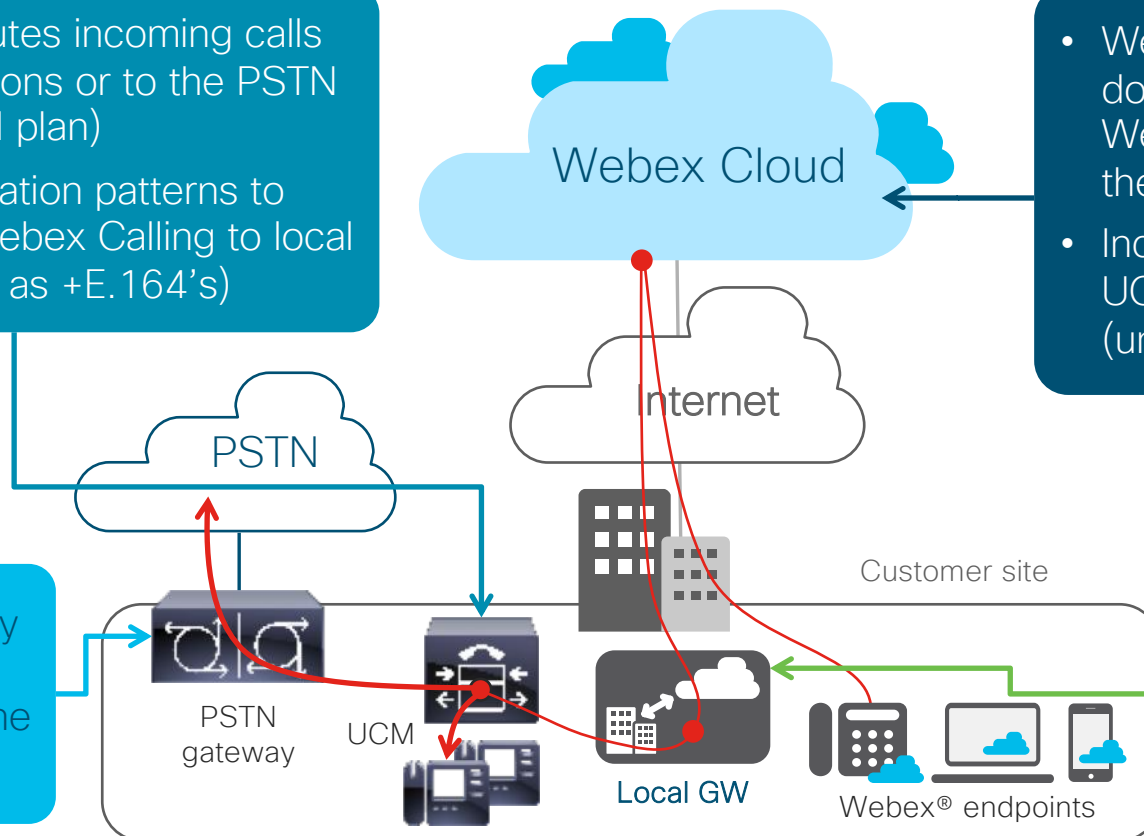
With an IP PBX/CUCM

- Cisco® UCM routes incoming calls to local destinations or to the PSTN (per existing dial plan)
- Add route/translation patterns to send calls for Webex Calling to local GW (normalized as +E.164's)

- Webex Calling sends calls that do not match the customer's Webex Calling destinations to the local gateway
- Includes PSTN numbers and UCM internal extensions (unknown to Webex Calling)

PSTN gateway may be dedicated or co-resident with the local gateway

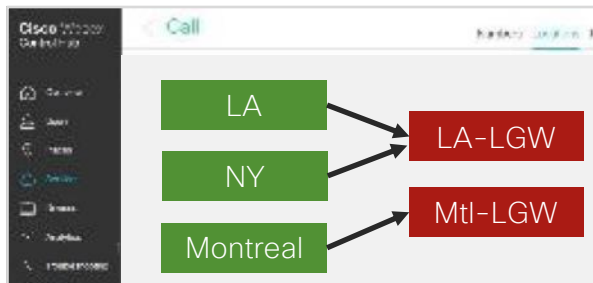
Local gateway routes calls coming from Webex Calling to UCM (and vice versa)



Call examples

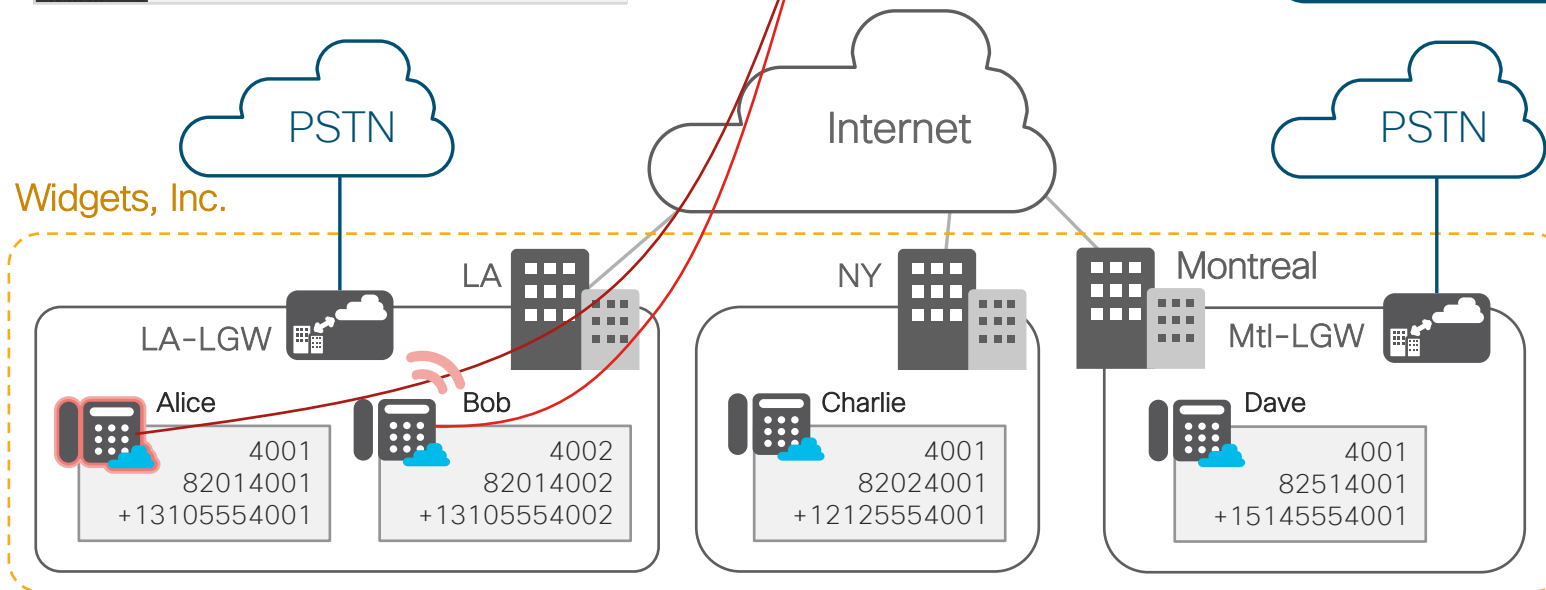
Call examples

Intra-customer, intra-site call



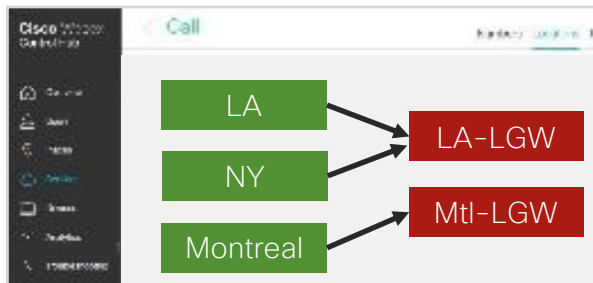
Alice calls Bob in LA by dialing:

- 4002
- 82014002
- +14155554002



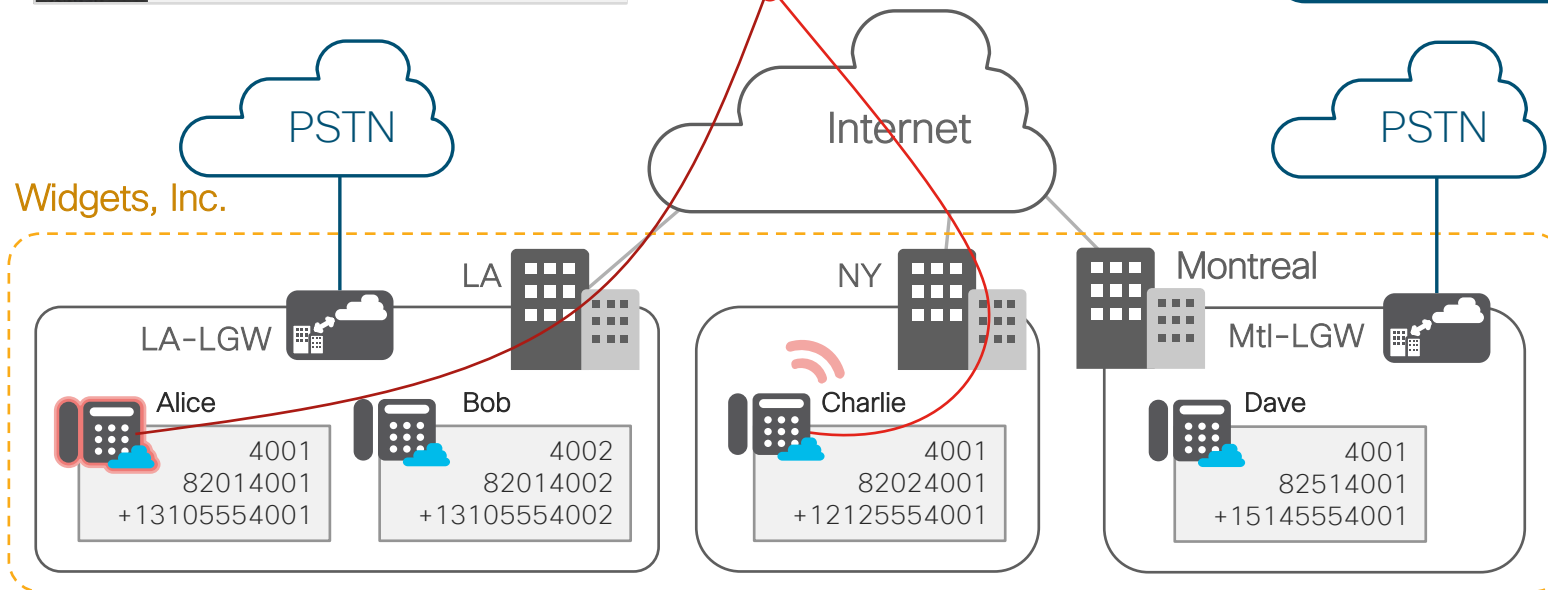
Call examples

Intra-customer, inter-site call



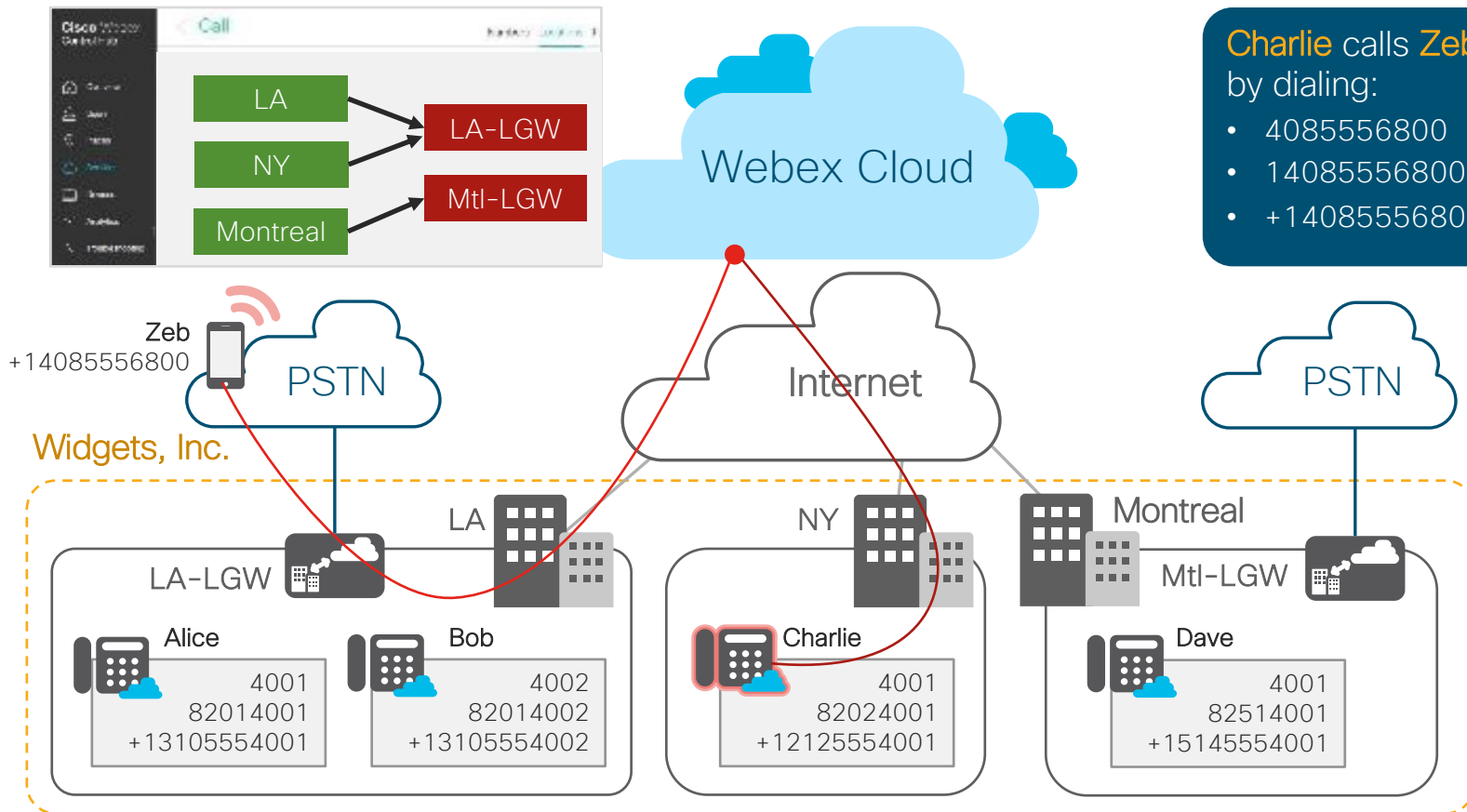
Alice calls Charlie in NY by dialing:

- 82024001
- +12125554001



Call examples

PSTN call

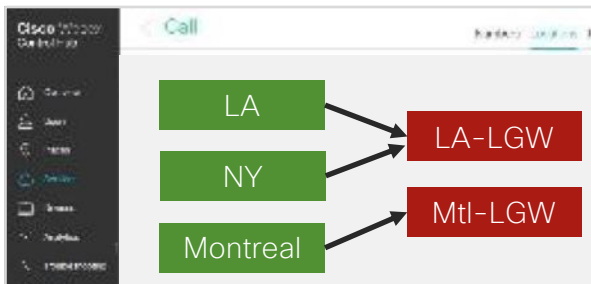


Charlie calls Zeb on his cell
by dialing:

- 4085556800
- 14085556800
- +14085556800

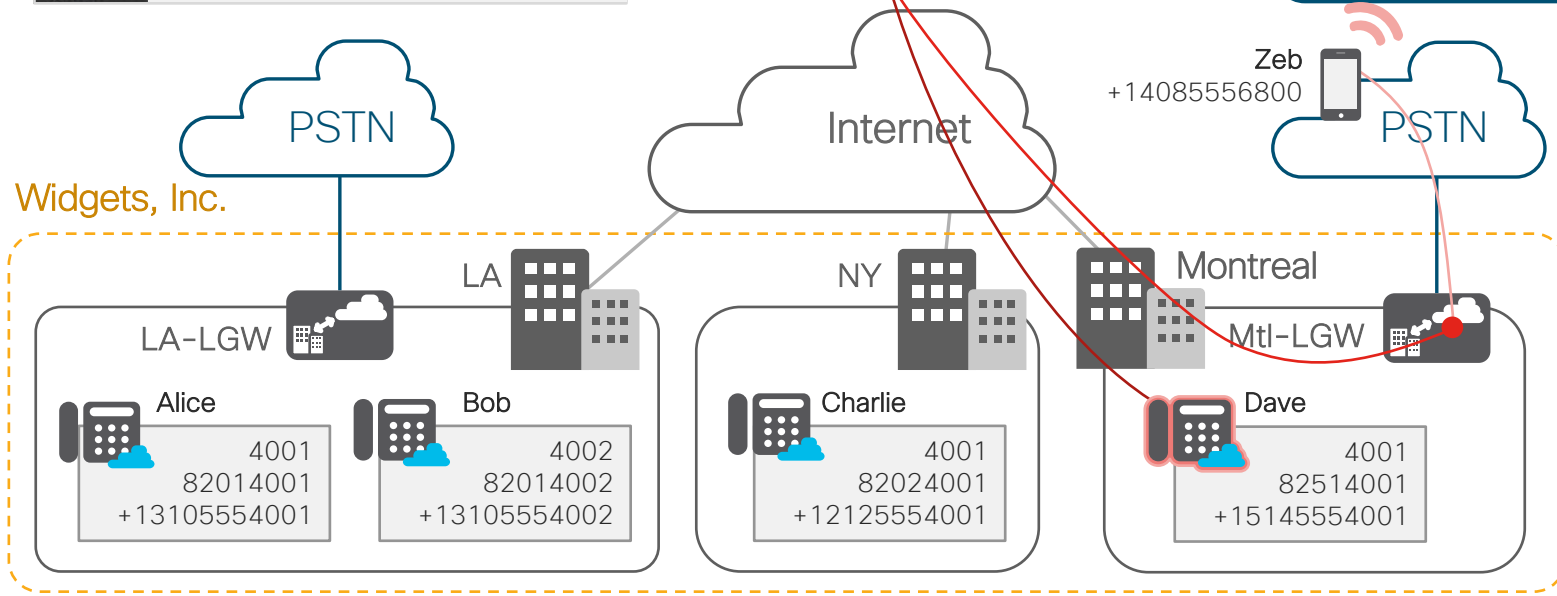
Call examples

PSTN call (2)



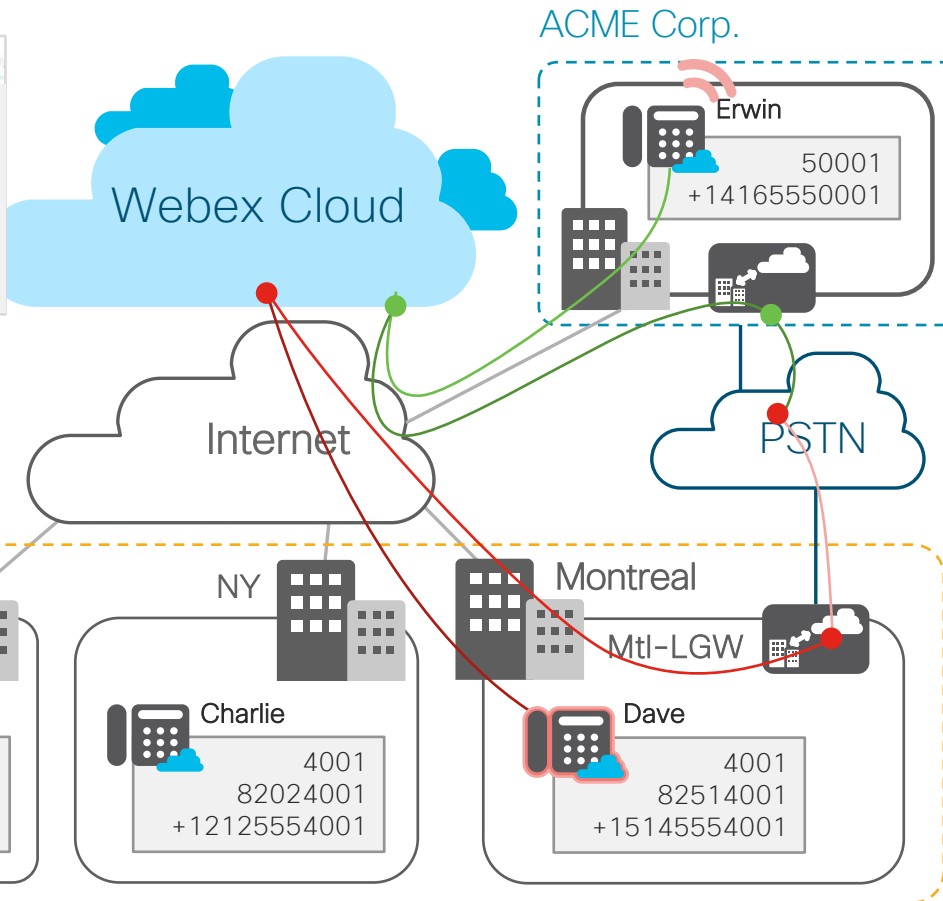
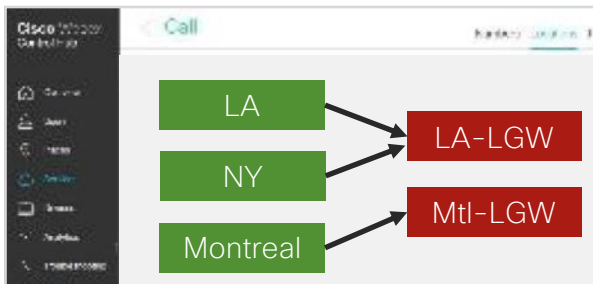
Dave calls Zeb on his cell by dialing:

- 4085556800
- 14085556800
- +14085556800



Call examples

Inter-customer call

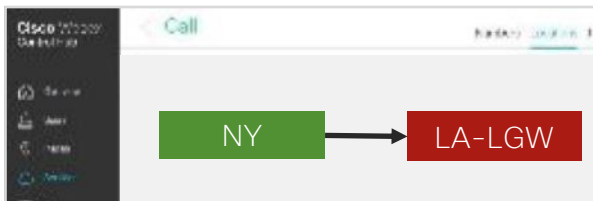


Dave calls Erwin at ACME Corp. by dialing:

- 4165550001
- 14165550001
- +14165550001

Call examples

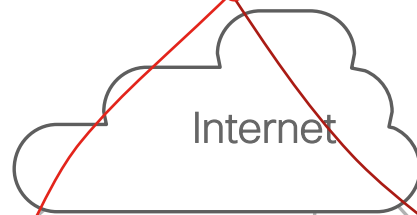
Call to on-premises PBX



Charlie calls Alice in LA by dialing:

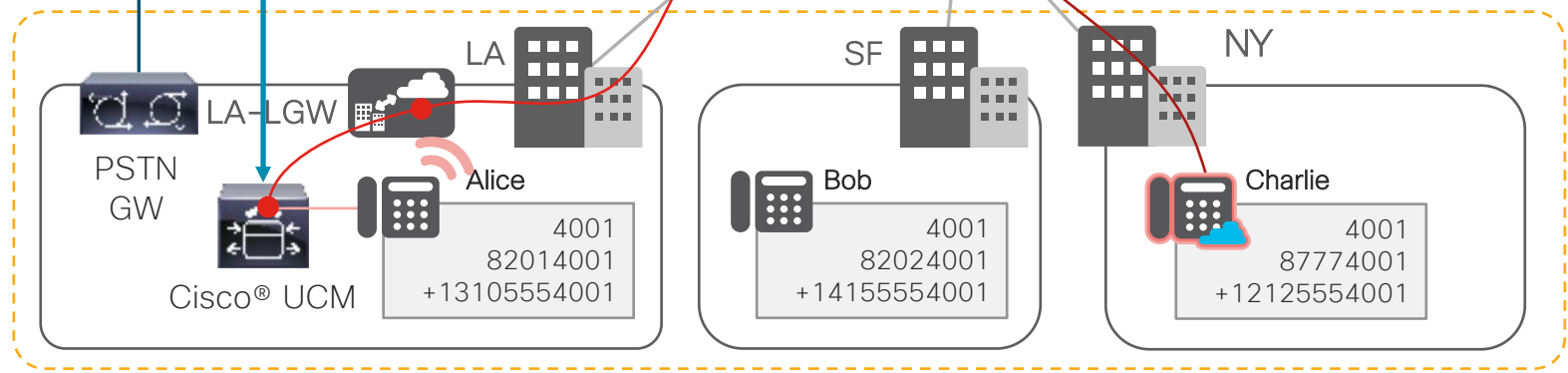
- 82014001
- 13105554001
- +13105554001

Webex® Calling sends unknown digit strings (82014001) to local GW



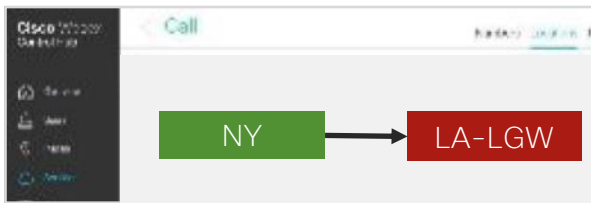
UCM rejects unknown numbers

Widgets, Inc.



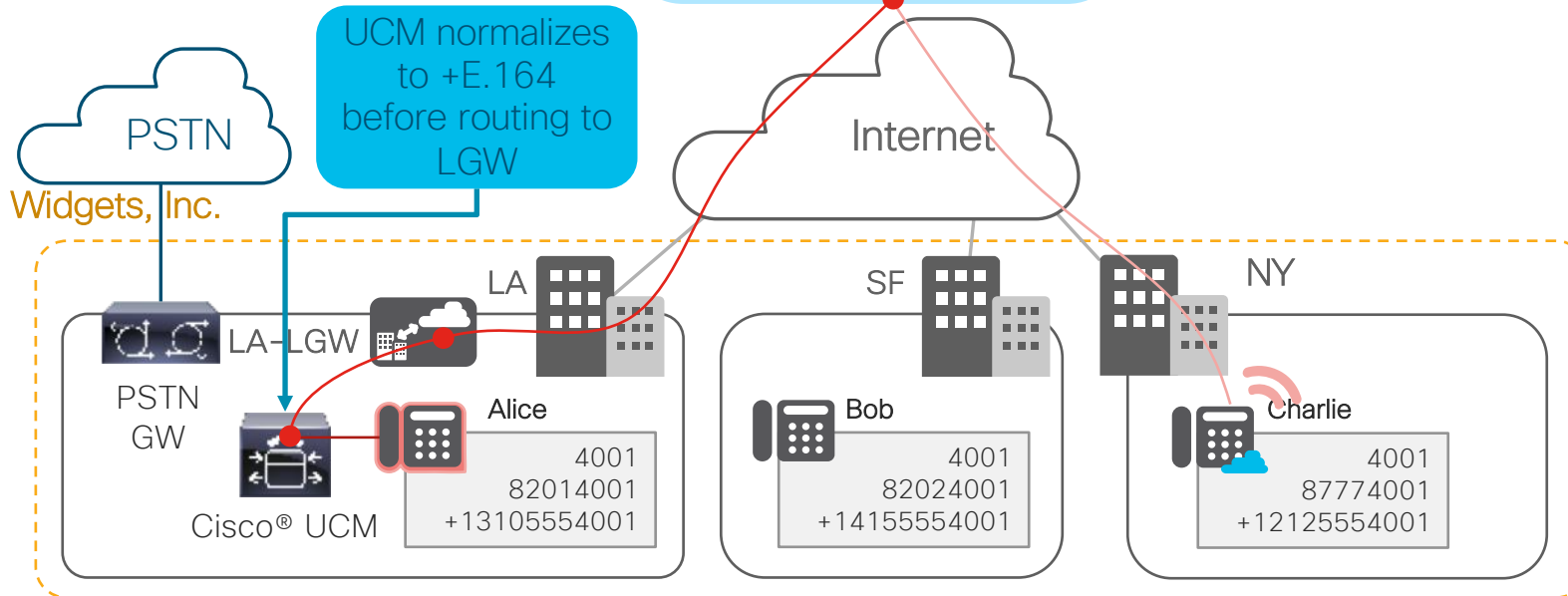
Call examples

Call from on-premises PBX



Alice calls Charlie in NY by dialing:

- 87774001
- 912125554001
- +12125554001



Commercial

Market availability

Contract and satellite countries



Contract countries

Australia	Finland	Luxembourg	Slovenia*
Austria	France	Malta	Spain
Belgium	Germany	Mexico*	Sweden
Bulgaria	Greece	Netherlands	Switzerland
Canada	Hungary	New Zealand	U.K.
Croatia	Ireland	Norway	U.S.
Cyprus	Italy	Romania	
Czech Republic	Japan*	Poland	
Denmark	Latvia*	Portugal	
Estonia*	Lithuania*	Slovakia	



Satellite countries

Algeria*	Macau*
Angola*	Malaysia
Argentina	Mexico
Azerbaijan*	Singapore
Benin*	South Africa*
Bosnia & Herzegovina*	South Korea*
Brazil	Taiwan*
Hong Kong*	Thailand*
Indonesia	Turkey*
Kenya*	Vietnam*

Relationship between Cisco® and partner only in contract countries

* Target availability as contract, or satellite country, as indicated, in August, 2019

Webex Calling Provisioning flow



Webex Calling trial creation

Webex® Calling will offer partners the ability to create trials on behalf of customers with the service

- Duration is configurable (30, 60, or 90 days)
- Internal dialing only (by default)
- Trials can be converted to paid after an order is placed
- At launch, devices need to be supplied by the partner or customer
 - Working to enable a “Webex Trial” (formerly Try and Buy) program, which would include a preset number of trial devices we can ship to a customer’s or partner’s site

Cisco is providing Webex Calling EPE partners with an MPP device trial kit following the summit in Richardson

Trial

Order

Fulfill

Implement

MAC

Conclusion

Benefits of Webex Calling

1

Secure,
enterprise-grade
cloud calling from
a trusted brand

2

Offers a more
intelligent
collaboration
experience

3

Enables a more
responsive, agile
organization

4

Management
without the
complexity

5

Makes IT strategic
again

Complete, integrated UCaaS functionality

Webex Calling

- Fully featured PBX functionality
- Seamless Webex Teams and Webex Meetings Integration
- Apps, open SIP, and Cisco integrated device support
- Webex Teams centered experience
- Full PSTN connectivity
- Unique, native mobile integration
- Secure, redundant, carrier grade global cloud

Webex Teams

- Secure group messaging
- Persistent team spaces
- Native file sharing with option to use Microsoft OneDrive/ SharePoint
- White boarding in the app and on the Webex Board
- Rich integrations: Microsoft, Google, Salesforce , Asana, Jira, Trello, ServiceNow...
- Video meetings on any device with interop to SIP and Skype for Business users

Webex Meetings

- World's leading meetings service
- Award winning Webex video devices
- Secure, redundant, managed, QoS optimized global network
- Leading mobile experience: customizable video views, native screen sharing, hands-free joining
- Intelligence: Webex Assistant, People Insights, one-push/pairing join
- Rich integrations: Google, MSFT, Slack, LMS, Ford cars, etc.

Common Identity, Calendar, UX, Management, Licensing, Ordering ...

