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The next-gen Webex Customer Experience architecture overview

Amy Ryan, Principal Solutions Engineer BRKCCT-2535



Cisco Webex App

Questions?

Use Cisco Webex App to chat with the speaker after the session

How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click "Join the Discussion"
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until November 15, 2024.

https://ciscolive.ciscoevents.com/ciscolivebot/#BRKCCT-2535





Agenda

What is Webex Contact Center

Delivering media and PSTN services from the cloud

Webex Global media network

How Webex delivers media services globally

Voice Channel Integration Options

 Customers options for connecting to Webex Contact Centre

Deploying Voice Channels with Webex Common Edge Services

How to deploy media services for voice channels

Contact Center Agents

 Options for connecting agents to Webex Contact Centre

Summary and Q&A

Webex Contact Center



Webex Contact Center is a cloud-based enterprise Contact Center solution.





Webex Contact Center is a cloud-based enterprise Contact Center solution.

We need to route calls in and out of the cloud

Voice processing is performed in the cloud









Interactions

Answer/Make calls, →Play Prompts, DTMF Input, Virtual Agent....

Recording and Reporting

Review data and media from interactions





Receive and make calls to PSTN

Agent

Deliver calls to agents

Voice Media in Webex Contact Center





Webex provides access to a global network of service providers



Delivering PSTN services to Contact Center

Receive and make calls to PSTN



Bring Your Own, Route calls into Webex from your on-premise environment



Interactions

Answer/Make calls, <->Play Prompts,

The DTMF Input, Virtual Agent....

Recording and Reporting

Review data and media from interactions



Receive and make calls to PSTN

Media Processing layer will terminate media in the cloud

- Hosts a conference session which can
 - Play Media to a calling
 - Collect Input from a user
 - Provide Virtual Agent services
 - Hold calls in a queue
 - Record media streams
 - Report on Interactions
 - Extend a call leg out to an agent or supervisor.....



Interactions

Play Prompts, Take input, Virtual Agent....

Recording and Reporting

Review data and media from interactions



Receive and make calls to PSTN

Agent

Deliver calls to agents

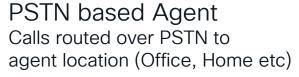
The Contact Centre can instruct the Media processing layer to add Agents and Supervisors to an interaction



Deliver calls to agents

The Contact Centre can instruct the Media processing service to add Agents and Supervisors to an interaction







On Premise Telephony Calls routed via SIP trunk to your data center (could be Cisco Communication Manager)



Webex Telephony Calls routed to Webex Calling registered phones or app



WebRTC Web browser-based audio







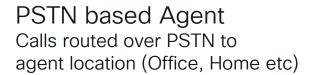
Deliver calls to agents

The Contact Centre can instruct the Media processing service to add Agents and supervisors to an interaction









On Premise Telephony Calls routed via SIP trunk to your data center (could be Cisco Communication Manager)

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Deliver calls to agents

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On Premise Telephony
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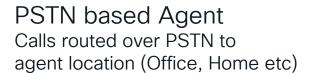
Deliver calls to agents

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On Premise Telephony
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Deliver calls to agents

The Contact Centre can instruct the Media processing service to add Agents and supervisors to an interaction









On Premise Telephony
Calls routed via SIP trunk to your
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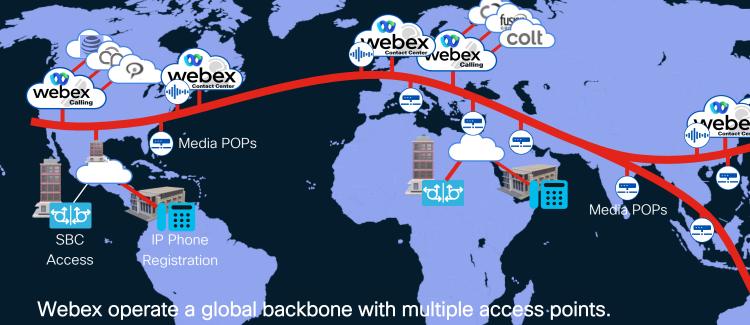


Webex Global Media Network



NOTE: Example Locations only

Key Concepts
use dark
template



- Provides access to Webex services such as Calling and Contact Center
- Provides access to peered service providers for PSTN services
- Provides media access for endpoints, apps and customer gateways....



webex

Media POPs

webex



Webex Contact Center Voice processing layers...

- **Application Laver** (Webex Contact Center)
- Business Logic, Routing, Queuing, Flows and Agents management
- Media Processing Layer
- Voice termination, Media playout, capture input, agent connection and recording
- Voice Edge Layer
 - Customer/SP Voice connections
 - SIP Trunk / Webex Calling







United States

Business logic and flow control European webex webex Union United Kingdom



Application Data Centres around the globe (chosen during tenant provisioning)



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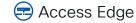


Media Services and Edge services (Media POPs)









Canada

webe

contact Center

United States















Global Media Expansion



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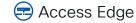
South Africa



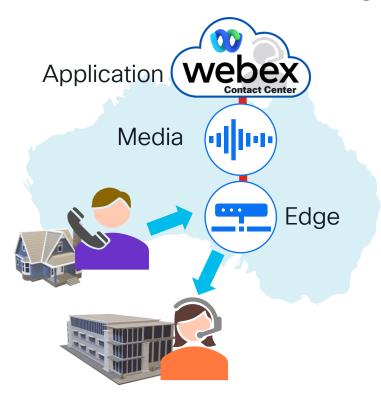








Deployment to a single region



- A contact Centre service can be deployed to a region.
 - Calls delivered via edge layer
 - Processed in media layer
 - Managed by Application layer
- Solution deployed to be highly resilient and scalable
 - High availability application services
 - Highly availability/scalable Media services
 - Deployed across multiple DCs



Global deployment with Regional Media



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Voice Channel Integration Options





Classic Webex Contact Center PSTN Connectivity Options....

- VPOP (Legacy Mode)
 - Provides SIP Trunk Integration
 - Support Customer/SP connection
 - Must bring your own PSTN
- Cisco Contact Center PSTN Plan
 - PSTN Plan for US/Canada only
 - VPOP only today (WxC planned)
- Webex Calling
 - Required WxC subscription
 - Provides access to Cloud PSTN and local gateway (SIP Trunk)

















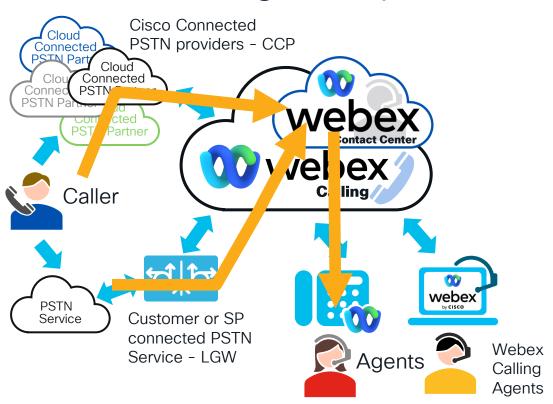
VPOP Customer SBC (on-premise)



Webex

Calling

Webex Calling Example



- Webex Contact Center with Webex Calling
- Previously required Webex Calling subscription
- Multiple PSTN options
 - Cloud connected PSTN
 - Local Gateway connected PSTN
- Flexible agent options
 - Webex registered endpoint
 - Webex App
 - On-premise endpoint





Classic Webex Contact Center Connection Options....

- VPOP (Legacy Mode)
 - Provide SIP Trunk Integration
 - Support Customer/SP connection
 - No access to Cloud PSTN plans
- Webex Calling
 - Required WxC subscription
 - Provides access to Cloud PSTN and local gateway (SIP Trunk)
- Cisco Contact Center PSTN Plan
 - PSTN Plan for US/Canada only
 - VPOP only today (WxC planned)













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Webex

Calling

Local Gateway



VPOP Customer SBC (on prem)





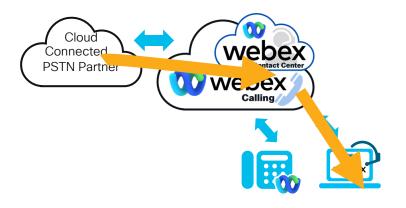
Simplification of Edge services for Webex Contact Center

- Common Edge connection for Webex Calling and Webex Contact Center*
- Faster deployment with self service provisioning in control hub
- Access to Cisco Cloud Connected PSTN providers for Webex contact center
- Local Gateway support for Bring Your Own (BYO) PSTN services
- Deployment with multiple service providers and/or multiple regions.
- Connectivity to On-Premise telephony
- High Availability, Global Coverage, Managed and monitored by Webex global operations team.

(Cisco PSTN later)

^{*} No Webex Calling subscription required.

Webex Common Edge services supports Webex Contact Center with **Webex Calling**...



Webex Contact Center with Cloud PSTN and Webex Calling Endpoints

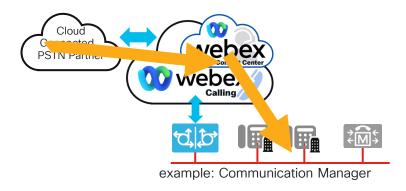


Webex Contact Center with Local Gateway/B.Y.O. PSTN and Webex Calling Endpoints



Webex Common Edge services supports Webex Contact Center with external telephony (Previously VPOP)

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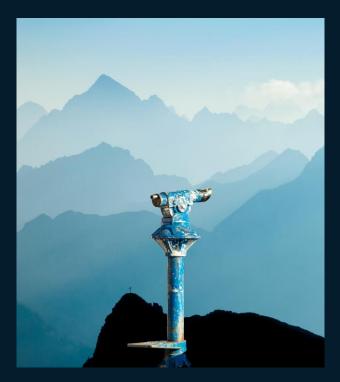
Webex Contact Center with Cloud PSTN and External/3rd party telephony



Webex Contact Center with B.Y.O. PSTN and External/3rd party telephony



So, what is happening to VPOP Deployments



- For new customers we WILL recommend using common edge configuration.
- For existing customers no change in VPOP at this time, we are currently planning migration strategy for VPOP customers.
- New VPOP deployments will be by exception in A2Q process.
- New media regions will only provide common edge support (no new VPOP locations)



Deploying Voice Channels with Webex Common Edge Services

(Webex Calling Common Edge services)



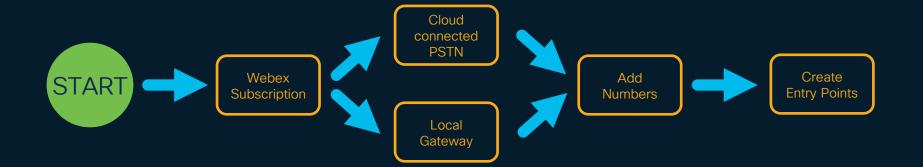


- Cisco is recommending all new Webex Contact Centre deployments use Webex Calling edge services for...
- Webex Calling integrated Contact centres
- SIP Trunk integrated with external telephony environments (On Premise / Other)
- Microsoft Teams based Webex Contact Centre agents verification now complete

Future Roadmap

 Cisco Contact Centre PSTN will be available in 1HCY25 for ANZ as a Cloud Connected PSTN option

Deploying Webex Calling Common Edge services



Activating Webex Calling

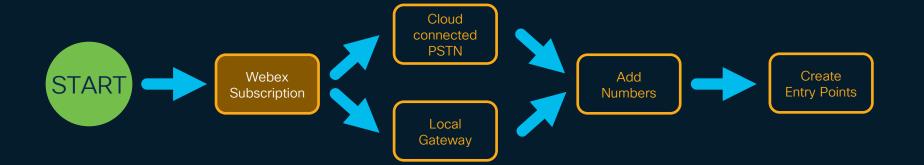
Selecting PSTN option

Adding PSTN phone numbers

Contact Center entry point



Deploying Webex Calling Common Edge services



Activating Webex Calling

Selecting **PSTN** option

Adding **PSTN** phone numbers

Contact Center entry point



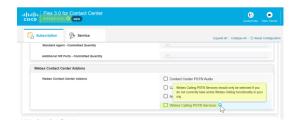
Confirm Subscription or Entitlement

Webex Calling Subscription



Provides full calling service with device registration, routing and PSTN/Local gateway services

Previously Webex Calling PSTN Services – add-in



Provided call routing and access to PSTN (CCP) and Local gateway services (BYO PSTN & On premise)

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NEW! Webex Calling Entitlement



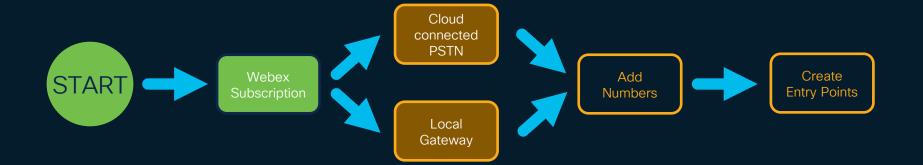
All new A-FLEX-3-CC orders now include a Webex Calling Entitlement.

Provides call routing and access to PSTN (CCP) and Local gateway services (BYO PSTN & On premise)

This provides access to the Webex Calling configuration elements necessary to get voice into Webex Contact Centre.



Deploying Webex Calling Common Edge services



Activating Webex Calling

Selecting PSTN option

Adding PSTN phone numbers

Contact Center entry point



Webex Calling Key Concepts



Location

- Calling and phone number management
- Organise your Webex Calling features
- Support different PSTN options



Trunk

 SIP trunks provide connectivity to a customer-owned PSTN service and to an onpremises IP PBX deployment.



Route Group

 A group of trunks that allows further scale and redundancy with the connection to the premises.



Dial Plan

 Typically, not required but allows custom routing policies



Understanding Webex Calling Locations

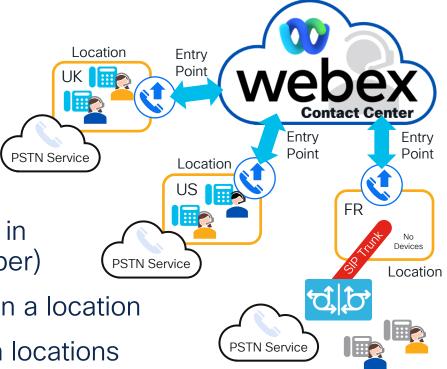
 Webex Calling uses Locations to allow you to organise users, workspaces and services.

Locations will have a PSTN service (CCP or LGW)

 Contact Center Entry Points exist in a location (with a telephone number)

Users/Agents devices may exist in a location

Webex Calling will route between locations



On premise Agent devices

Understanding Webex Calling Locations

 Webex Calling uses Locations to allow you to organise users, workspaces and services.

 Locations will have a PSTN service (CCP or LGW)

 Contact Center Entry Points exist in a location

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Location

UK IIII

PSTN Service

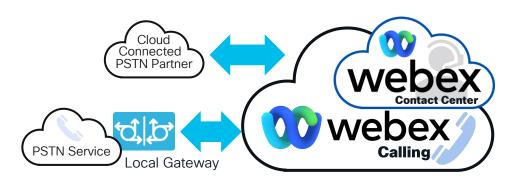
Entry **Point**

Understanding Webex Calling Locations

- Webex Calling uses Locations to allow you to organise users, workspaces and services.
- Locations will have a PSTN service (CCP or LGW)
- Contact Center Entry Points exist in a location
- Users/Agents can exist in a location
- Webex Calling will route between locations



Choose a PSTN option for your location



Connection Type

Choose the connection type for all phone numbers associated with Cisco.





- Locations have a default PSTN connection for routing calls in and out
- Cloud Connected PSTN Access to global network of PSTN partners peered with Webex cloud
- Premises-based PSTN / LGW
- Cisco PSTN Not supported with Webex Contact Center today (Except Trials)

PSTN Services

Cisco Calling Plan / Cisco PSTN

Cisco Calling Plan is currently design for knowledge working calling profiles. Service numbers will be introduced in the future offering support for other number usage.



Service Numbers are local telephone numbers which are considered high-utilisation and/or high-concurrency.

These are only assigned on site services, such as Auto Attendant, Hunt Group, and Group Call Management/Call Queue.



External / On Premise Agents

Future

PSTN Services

Contact Center PSTN plan (Bundled PSTN)

Contact Center PSTN calling plan will be made available in Webex Calling as a cloud PSTN service. (Currently available as standalone offer in Webex Contact Center)





Adding Cloud Connected PSTN service

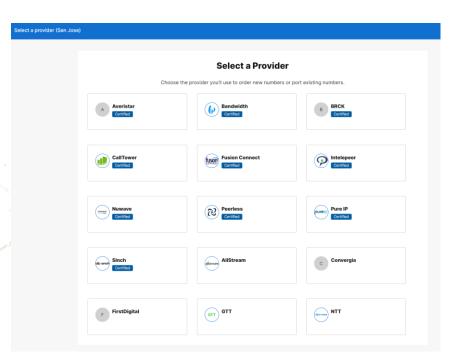


Webex Calling integrates with multiple Cloud Connected PSTN providers across the globe



Calling locations are defined in Webex Calling, The geolocation you define for the location will dictate which service providers are available.

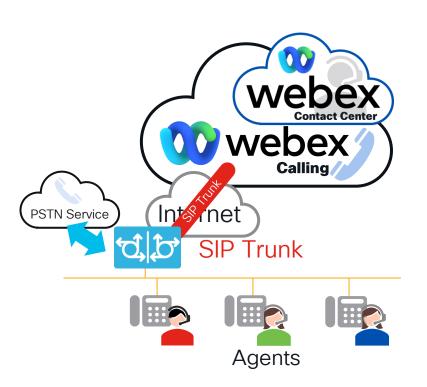
Some service providers are only accessible when they are the partner.



Webex Control Hub



Understanding Webex Calling Local Gateway



- The Local Gateway, which is the customer's Session Border Controller (SBC), registers with Webex Calling.
- The local gateway provides a number of functions
 - Allows customers to provide their own PSTN service (Bring Your Own)
 - Allows connection from On-Premise calling solutions such as UC manager
- All communication to and from the cloud is secured using TLS transport for SIP and SRTP for media.



Local Gateway via a Private Connection

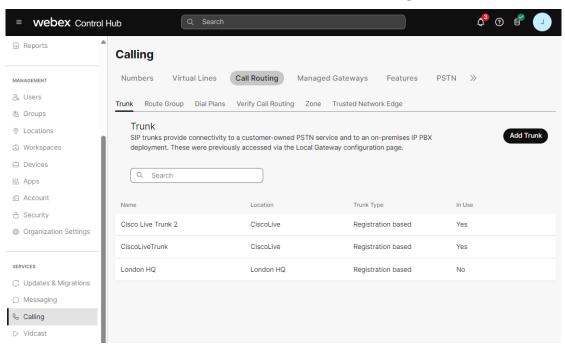


- Webex Contact Center access is also available via Webex Edge Connect
- Webex Edge Connect peering is a private point-to-point link that bypasses the public Internet and connects your network directly to Webex Meetings and Webex Calling Data Centers.
- Note: Media and Signalling traffic is routed via Edge Connect, Other services such as Agent desktop traffic is always via Internet connectivity.

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Webex Calling Local Gateway SIP Trunks

· SIP trunks are created in Calling>Call Routing>Trunk



- Adding a SIP trunk will generate configuration information for trunk including authentication information
- SIP trunks can be associated with multiple locations

SIP Trunk Deployment models

Registration based Trunks



- Supports up to 250 concurrent calls
- Supports Cisco Cube SBCs
- Digest based authentication (Username/password)



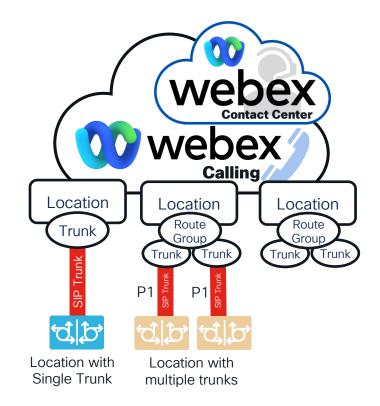
Certificate based Trunks



- Support up to 6500 calls based on deployment model
- Supports CUBE & 3rd party SBCs including Oracle, Audiocodes, Ribbon, anynode
- Must be signed by supported root certificate authority

Understanding Trunks and Routing groups

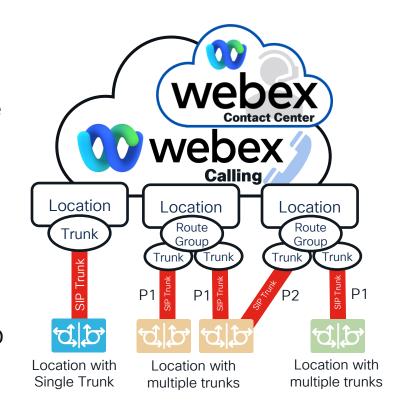
- A Route Group is a group of trunks that allow Webex Calling to distribute calls over multiple trunks or to provide redundancy
- Trunks are given a priority within the group.





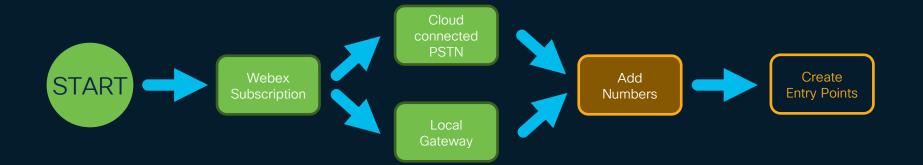
Understanding Trunks and Routing groups

- A Route Group is a group of trunks that allow Webex Calling to distribute calls over multiple trunks or to provide redundancy
- Trunks are given a priority within the group.
- Route Groups can contain trunks from multiple locations
- Cisco recommend using a trunk group for all locations



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Deploying Webex Calling Common Edge services



Activating Webex Calling

Selecting **PSTN** option

Adding **PSTN** phone numbers

Contact Center entry point



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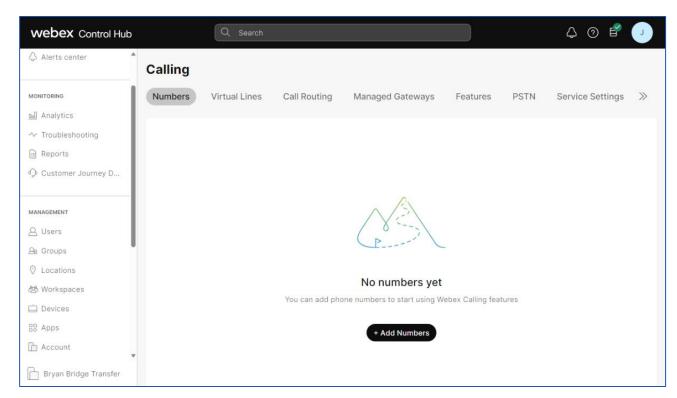
Adding External Telephone Numbers



- External Telephone numbers must be added to Webex Calling that can be mapped to Contact Center flows
- Method used is dependent on PSTN type (Cloud / Local Gateway)
- When entered manually numbers are validated



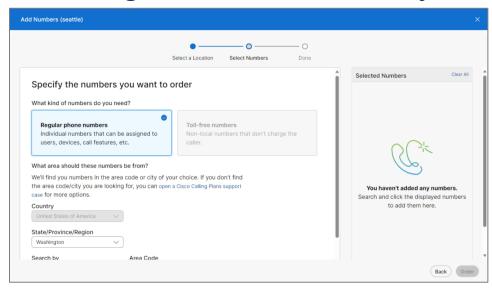
Adding numbers in Webex Calling



The admin experience depends on the PSTN service in use

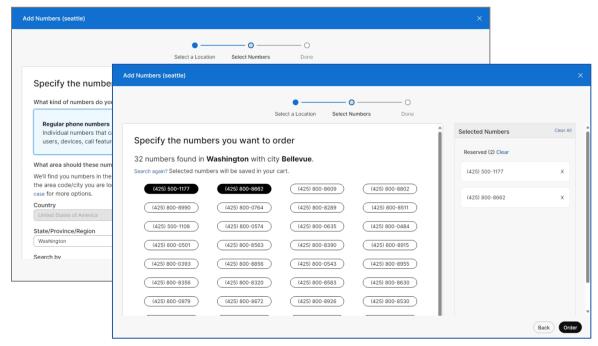


Adding numbers on fully integrated CCP/Plans



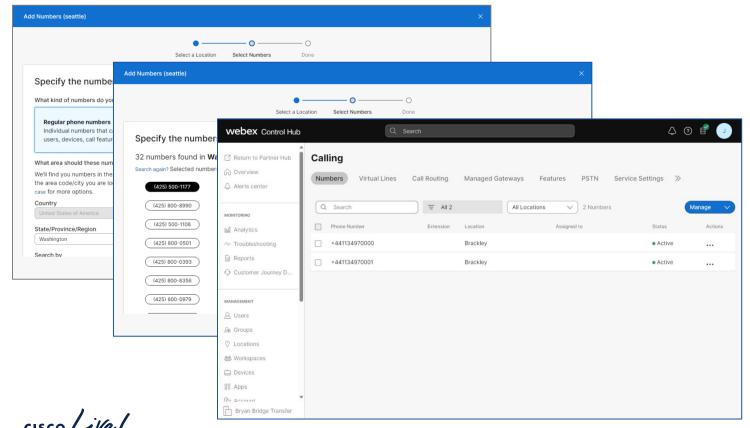


Adding numbers on fully integrated CCP/Plans

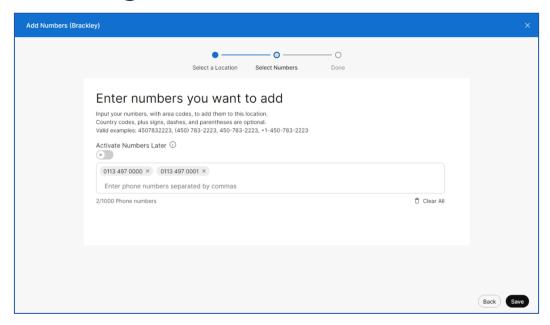




Adding numbers on fully integrated CCP/Plans

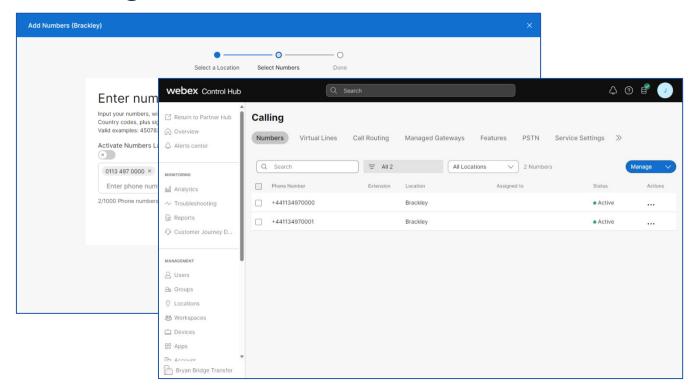


Adding numbers from other CCP/LGW Trunks



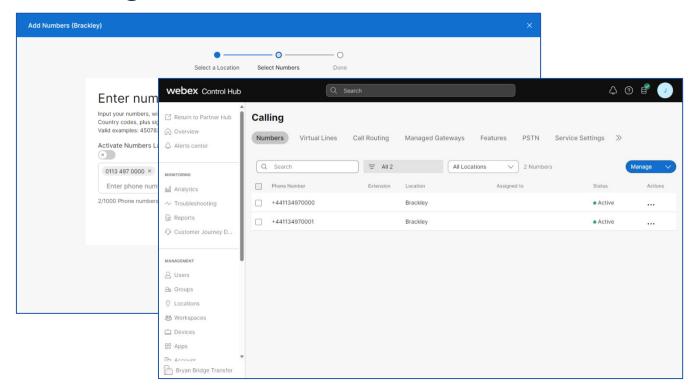


Adding numbers from other CCP/LGW Trunks



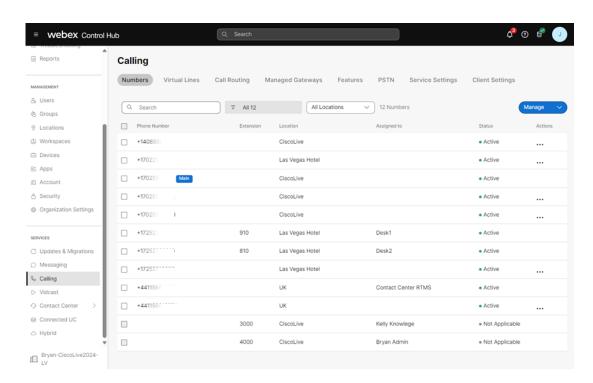


Adding numbers from other CCP/LGW Trunks





Telephone numbers are managed Control Hub

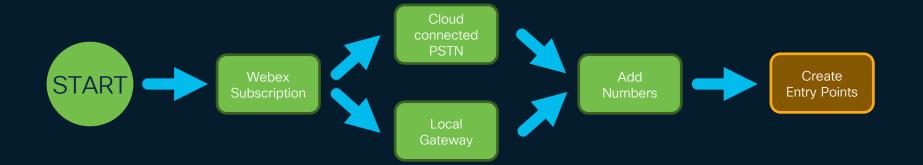


 Numbers are displayed in the Numbers view



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Deploying Webex Calling Common Edge services



Activating Webex Calling

Selecting PSTN option

Adding PSTN phone numbers

Contact Center entry point

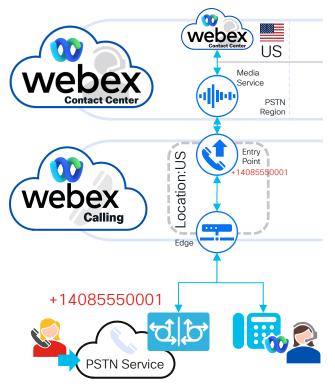


Creating Contact Center Entry Points



 An Entry Point associates an inbound number with a contact center flow





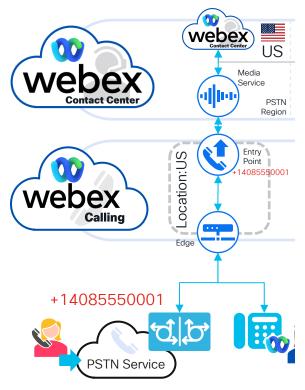
Webex Contact Center administrator will create entry points for each flow in control hub

- Create the entry point
- Select the Webex Calling location containing the inbound number

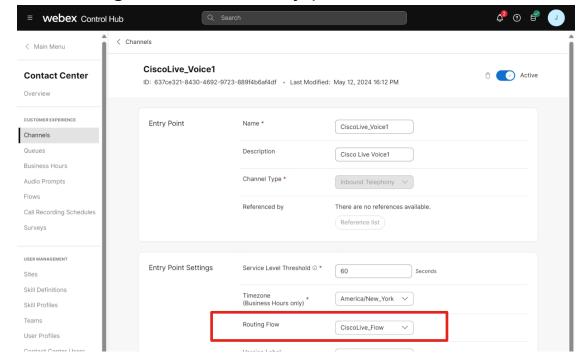
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- Select the number
- Choose a "PSTN Region" for media processing

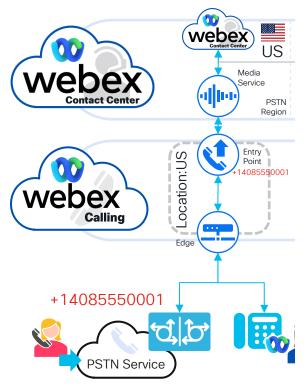




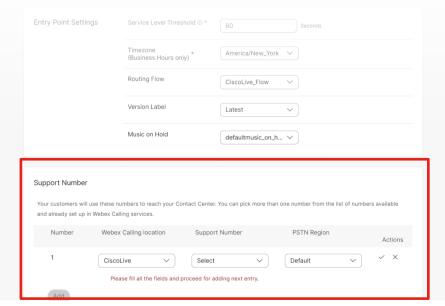
Admin selects the interaction flow that will be assigned to this entry point







Admin selects the interaction flow that will be assigned to this entry point





Contact Center Users

DESKTOP EXPERIENCE

Multimedia Profiles Outdial ANI

Desktop Layouts Dial Plans

Address Books

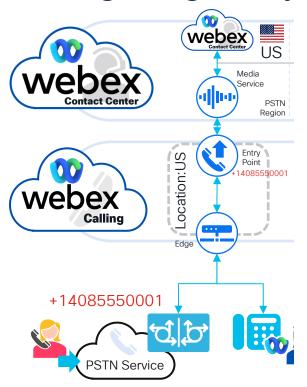
Desktop Profiles

TENANT SETTINGS

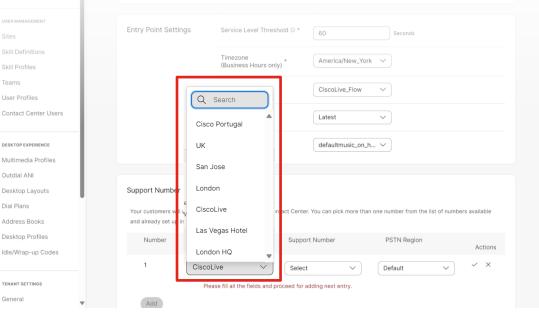
General

Idle/Wrap-up Codes

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Admin selects Webex Calling location that the Entry point will exist in....





Skill Profiles

User Profiles

DESKTOP EXPERIENCE Multimedia Profiles

Desktop Layouts Dial Plans

Address Books

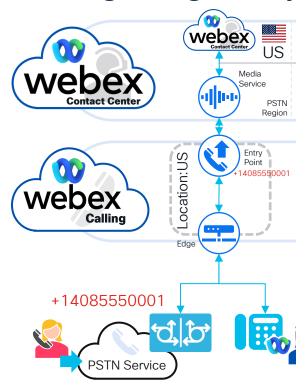
Desktop Profiles

TENANT SETTINGS

General

Idle/Wrap-up Codes

Outdial ANI



Control Hub will show the available numbers in that location (not allocated to phones or Entry points) America/New_York V (Business Hours only) Routing Flow CiscoLive_Flow User Profiles Contact Center Users Version Label Latest Music on Hold DESKTOP EXPERIENCE defaultmusic_on_h... V Multimedia Profiles Support Number **Desktop Layouts** Q Search Dial Plans Your customers will use these numbers to reach your C one number from the list of numbers available +14085556969 Address Books and already set up in Webex Calling services. **Desktop Profiles** +17025552000 Number Webex Calling location **PSTN Region** Idle/Wrap-up Codes

CiscoLive



Actions

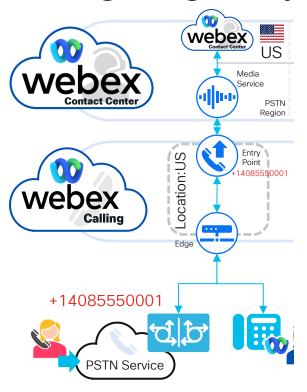
Default

+17025553000

Please fill all the fields and proceed for adding next entry

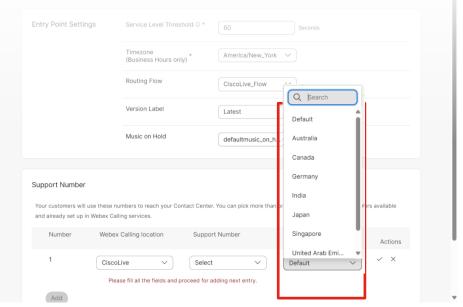
TENANT SETTINGS

General



Admin selects the WxCC PSTN region that this entry point will operate in.

(Default = Home Region)



Global deployment with Regional Media

Cisco's global coverage allows us t deliver global contact center solutions

Media is processed in region delivering great call quality for callers and agents

Application (webex

User Profiles

Contact Center Users

DESKTOP EXPERIENCE

Multimedia Profiles

Desktop Layouts

Address Books

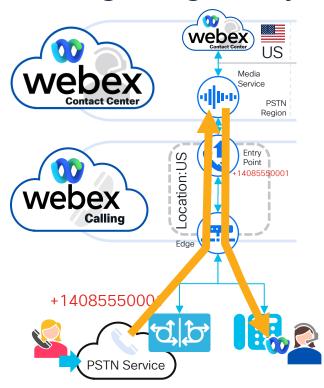
Desktop Profiles

TENANT SETTINGS

General

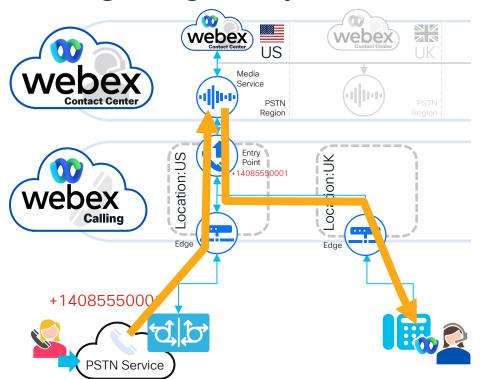
Idle/Wrap-up Codes

Dial Plans



This has built a home region Entry point for our Contact Center



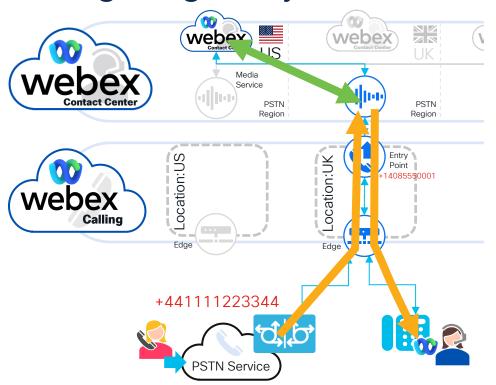


The Webex Contact Center agent doesn't need to be in same location

 The agent just needs to be reachable in the Webex Calling dialplan (this could be an external endpoint)



Configuring Entry Points



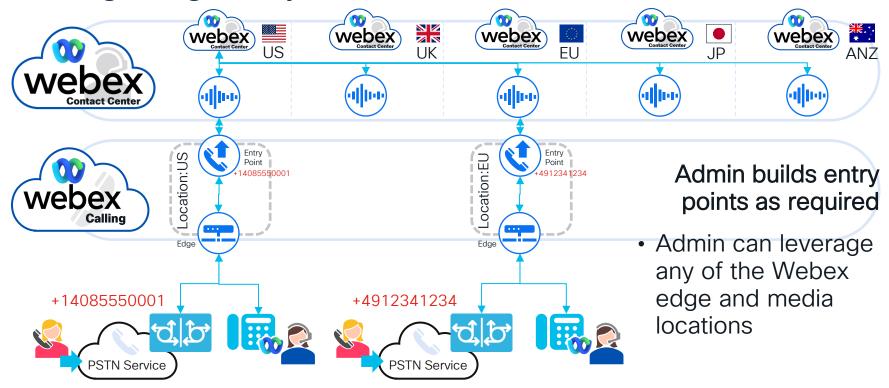


The PSTN region can be selected based on the most logical location

 PSTN region could be in Europe if agents are fielding global calls

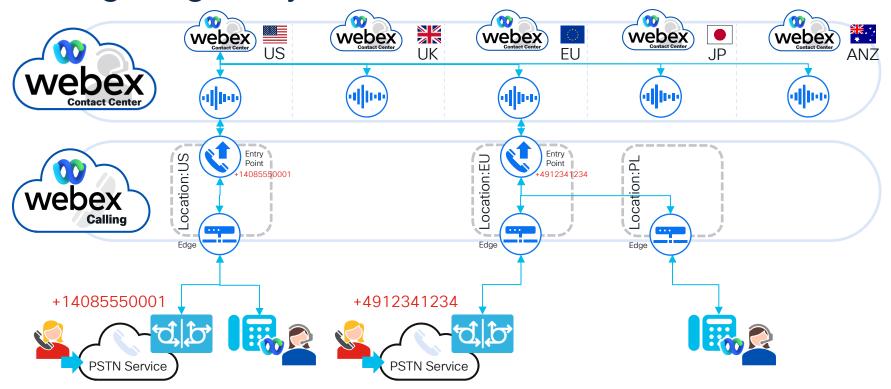


Configuring Entry Points





Configuring Entry Points

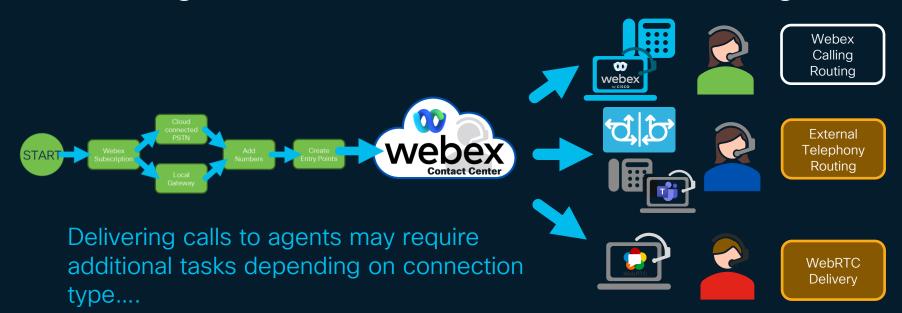




Connecting Contact Center Agents



Delivering a call to Webex Contact Center agent







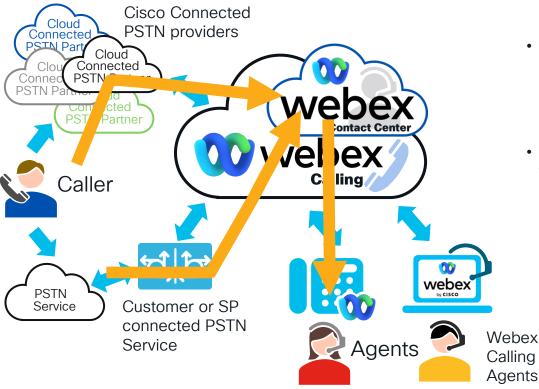
Webex Contact Center will extend agent legs out to calling/WebRTC destinations

- Agent destination is the routable number the agent logged in with...
 - Webex Calling number
 - External telephony number
 - PSTN telephone number

Note: Call operations like transfer take place in the cloud



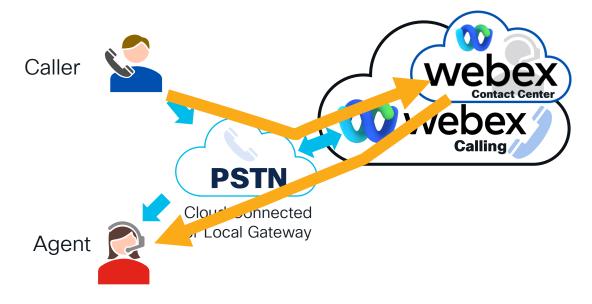
Routing a call to Webex Calling Agent



- Contact Center routes call from Media Service (based on PSTN region)
- Destination resolved in Webex Calling dial-plan and delivered to agent

Routing a call to a PSTN based agent

- Contact Center routes call from Media Service (based on PSTN region)
- Call routed via PSTN connection for Webex Calling location



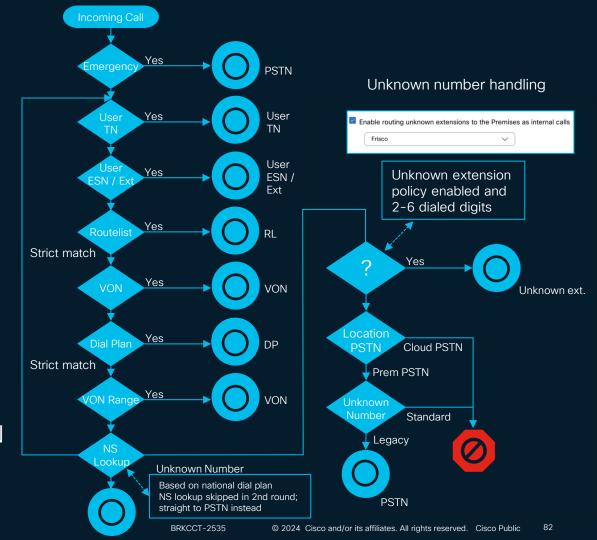


Routing overview



Understanding Webex Calling Routing Strategy will help you deploy PSTN services....





Routing a call to an external or on premise telephony environment

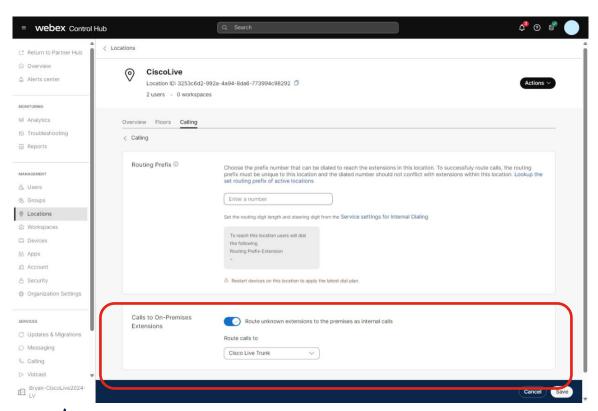


example: Communication Manager

- Contact center routes call from Media Service (based on PSTN region)
- Call routed via local gateway to telephony environment
- Calls can be routed to on-premise location either
 - On-Premise extension routing (short tn)
 - Dial Plan rule (full E.164)



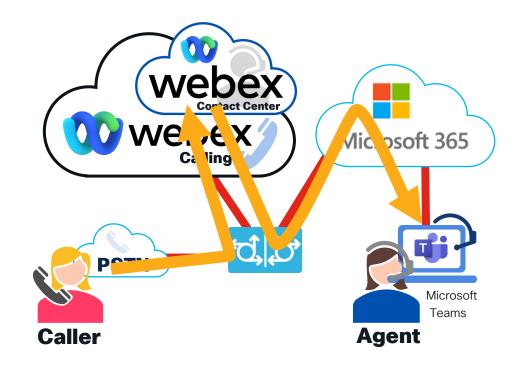
Routing to On-Premise extensions



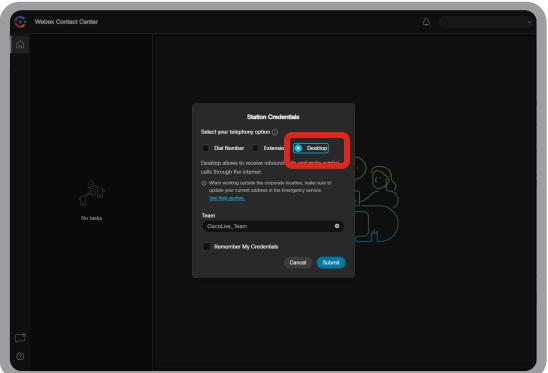
- Calls can be routed using the "Calls to On-Premises option"
- More complex routing can use dial plan entry (Take care with dial plan)

Microsoft Teams

- Webex Contact Centre can be integrated with Microsoft Teams
- Supported in VPOP model
- Recently verified with Webex Calling.

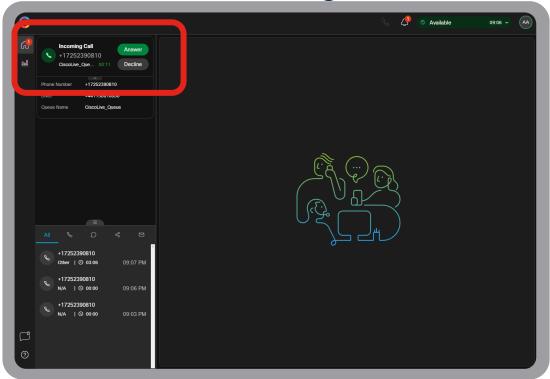


WebRTC based agents



- WebRTC allows you to terminate call media directly in Google Chrome browser
- If enabled agent will have "Desktop" station credentials option.

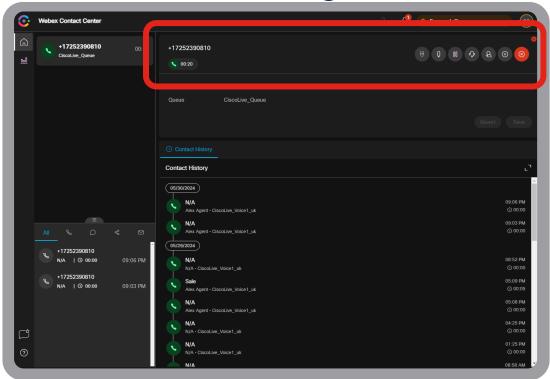
WebRTC based agents



 Agent will get call alerts in the browser (plus notification if enabled)



WebRTC based agents



 WebRTC media controls exposed directly in browser



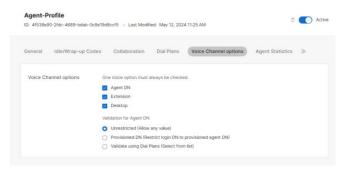
WebRTC Setup



 WebRTC is a direct connection to contact center, no calling license consumed as WebRTC doesn't have a Webex Calling extension



 WebRTC is enabled at a tenant level in tenant settings



- WebRTC is enabled using the "Desktop" option in the desktop profiles for agents.
- Agent license includes E911 license in Webex Calling. If using in the US/Canada you must configured E911 and location and install the E911 tool.



Summary

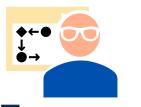




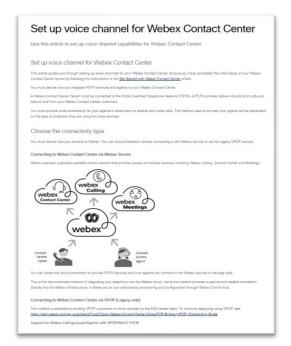
A quick recap......

- Webex Contact Center
- Legacy PSTN Options
- Common Edge Services
- PSTN Options
- Entry points
- Agent Endpoints

Deploy your Webex Contact Center with Webex Common Edge services.....

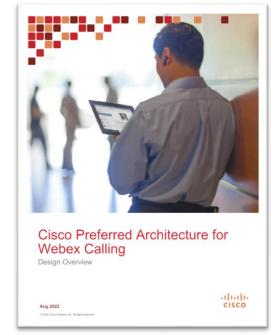


For more information...



- Voice Guide:

 https://help.webex.com/en-us/article/2dputx/Set-up-voice-channel-for-Webex-Contact-Center
- WebRTC E911 info https://help.webex.com/enus/article/nvfbjts



Preferred Architecture
https://www.cisco.com/c/dam/e
n/us/td/docs/solutions/CVD/Co
llaboration/hybrid/AltDesigns/
PA-WbxCall.pdf

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Thank you



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