

Teams Operator Connect Concepts and Deployment Planning



Agenda

Teams Operator Connect Overview and
Integration Concepts

Teams Operator Connect Deployment
Planning

Microsoft Teams Voice Overview



Replace your traditional PBX with Microsoft Teams Voice

Unify your legacy PBX system in Microsoft 365

Provide a complete voice solution in the cloud.* Reduce reliance on-premises hardware and eliminate points of failure.

Simplify IT

Increase agility and consolidate voice management with rapid provisioning, reporting, and diagnostics in the Teams admin center.

Scale globally

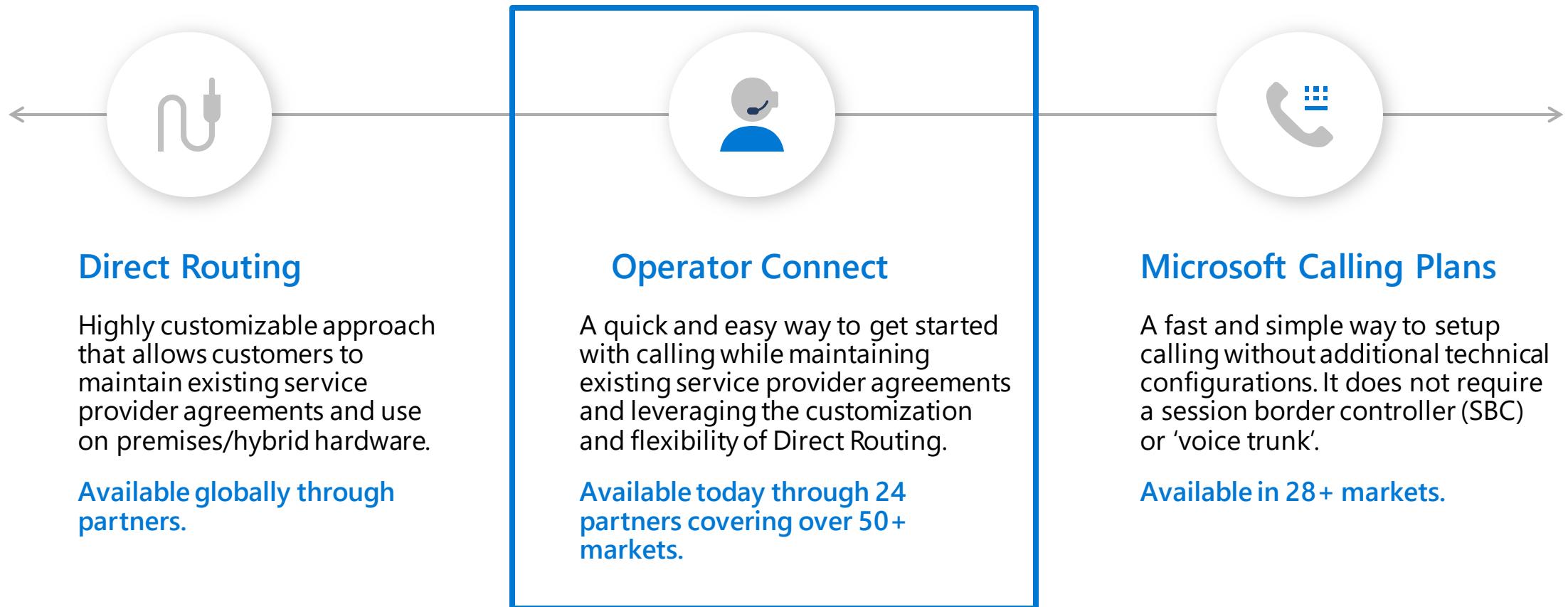
Connect your phone system to the Microsoft worldwide network, and get the power of the Microsoft cloud wherever your business goes.

*A complete voice solution is possible with a combination of Teams Phone, Calling Plans, Operator Connect and/or Direct Routing.



Customer Choice at the Center of Teams Phone Enablement

Microsoft meets your customers' diverse needs with flexible and simple options to bring calling to Teams. There are now three options for enabling Teams Phone.



Teams Operator Connect



Operator Connect for Microsoft Teams

Simply and seamlessly enable calling in Microsoft Teams using your existing telecom operator

Bring your own telecom operator

Maintain your operator contracts and relationships, while providing users a modern calling experience in Teams.

Setup in minutes; simplify provisioning and management

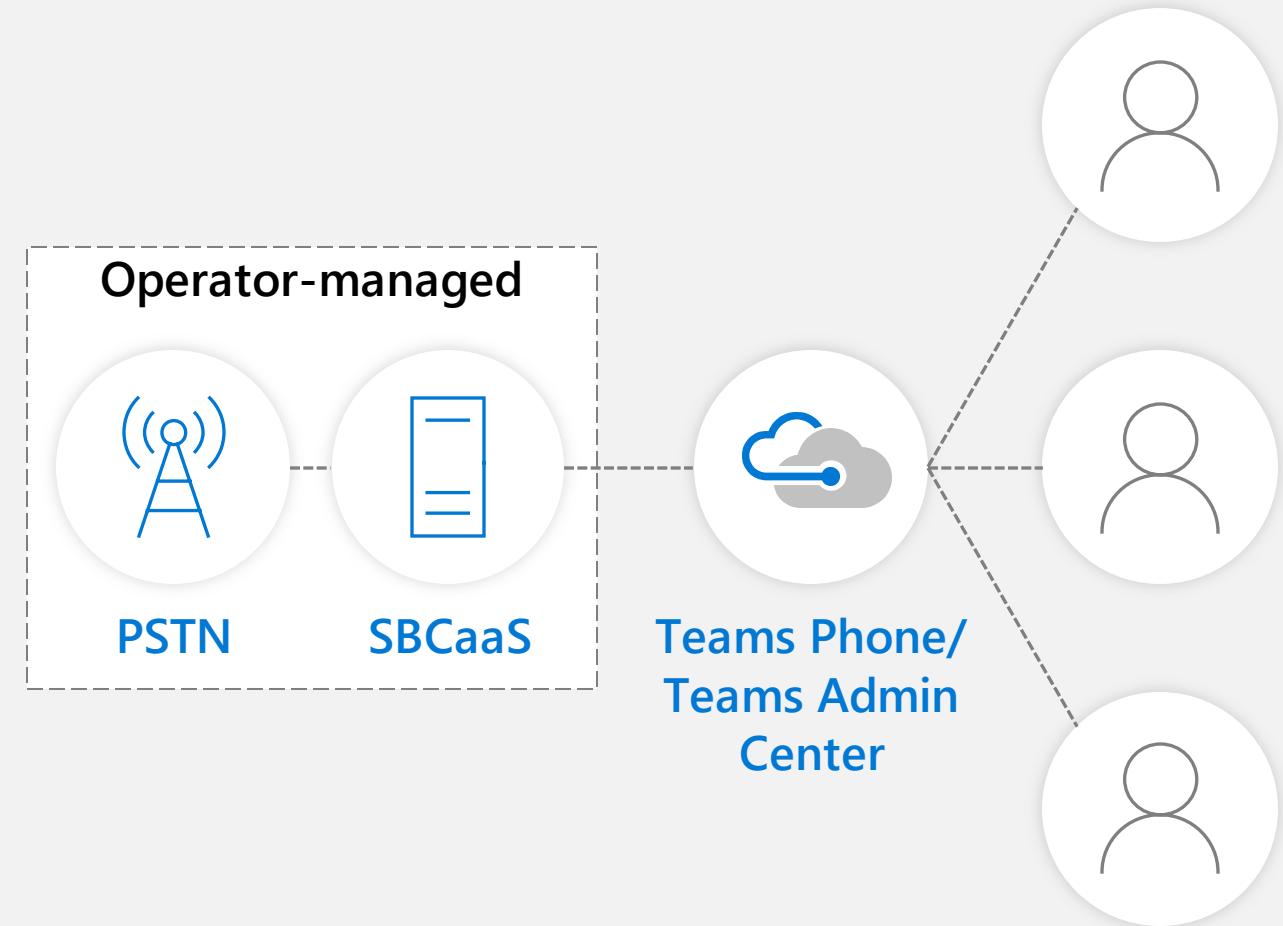
Establish the connection to your operator, provision users, and assign phone numbers from the Teams admin center.

Save on infrastructure purchase and management

Manage call control in the cloud with Teams Phone, eliminating need to purchase and maintain equipment.

Feel confident with enterprise-grade reliability and support

Operators provide technical support and service level agreements, and direct peering powered by Azure creates a 1:1 network connection to enhance resilience.



Operator Connect Conferencing

Add telecom operator dial-in numbers to a Microsoft Audio Conferencing bridge

Bring your own telecom operator

Maintain your preferred telecom operator contracts and relationships as you migrate to the cloud

Variety of telecom operators available at your fingertips

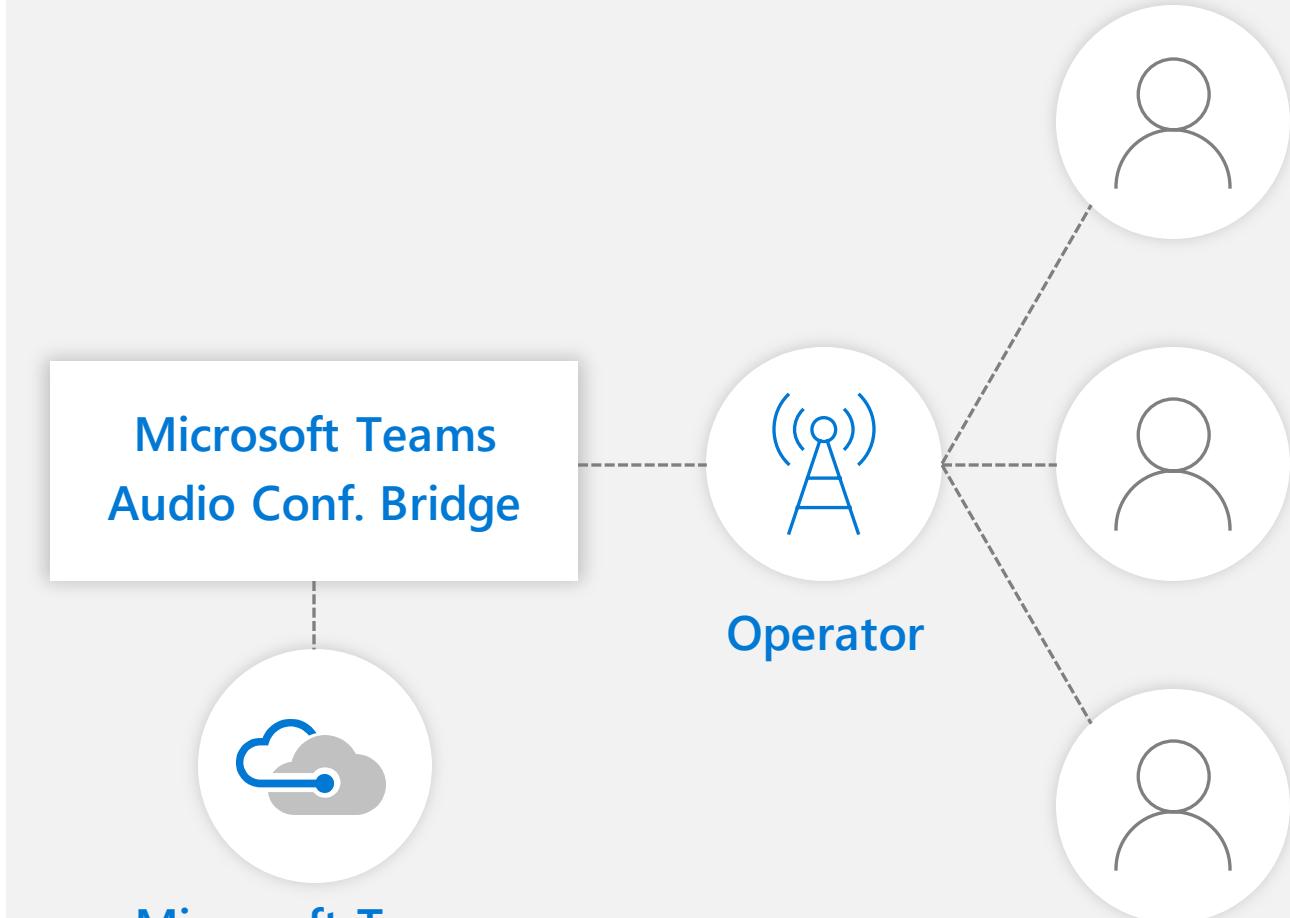
Establish the connection to your operator, provision users, and assign phone numbers from the Teams admin center

Expanded geographic dial-in coverage

Manage call control in the cloud with Phone System, eliminating need to purchase and maintain equipment

Feel confident with enterprise-grade reliability & support

The tight partnership with operator partners provides enhanced technical support and service-level agreements to address reliability



Microsoft Teams
Meetings

Operator

<https://aka.ms/OperatorConnectConferencing>

Operator Connect: Enhancements

Interconnection

- Direct peering through Microsoft Azure Peering Service (MAPS)
 - Provisioning APIs and an operator portal for setting up trunk to Microsoft Teams
-

Number provisioning

- Upload (using API or portal) phone numbers/DID's to the Teams admin center
 - Display and assign phone numbers/DID's to tenants in the Teams admin center
-

Management

- Seamless customer provided access (by geography) to operator for management of voice tenant
 - Operator management portal for customer tenants
-

Reporting

- API's and reporting for sharing CDR, QoE, telephone numbers, and SLA
 - Joint customer admin reporting (CQD / CDR)
-

GTM

- Operator presence in Microsoft Teams admin center, by geography and service
 - Assignment/management experience for operator numbers and plans embedded in the portal
-

Operations & communications

- Regular communications for service interface changes and product updates
 - Regular communications around network SLA and call quality
-

Support

- Joint back-to-back support model, support-to-support, and engineering-to-engineering
 - Proactive diagnostic/alerts for trunk setup and health
-



Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summary

3

My Operators

7

All Operators

[All Operators](#) [My Operators](#)United  Calling, Audio conferencing [Select all 193](#) [Clear](#)

- United Arab Emirates
- United Kingdom
- United States

193 of 193 selected

- Calling,
- Audio conference

Served regions

Albania
USA, Canada, +3 more

[Offer details](#)**TelePacific****ODAA Corp.****Touch Global****ViviTech Comm****ATP****SunTech**

Available products

Available products

Available products

Available products

Available products

Available products

- Calling

- Calling

- Calling
- Audio conference

- Calling
- Audio conference

- Audio conference

- Calling
- Audio conference

Served regions

Served regions

Served regions

Served regions

Served regions

Served regions

Albania

Albania

USA, Canada, + 101 more

Italy, Germany, + 2 more

Albania

Belgium

[Offer details](#)[Offer details](#)[Offer details](#)[Offer details](#)[Offer details](#)[Offer details](#)

Dashboard



Teams



Devices



Locations



Users



Meetings



Messaging policies

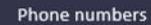


Teams apps



Voice

Operators



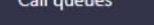
Emergency policies



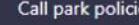
Direct Routing



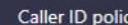
Call queues



Call park policies



Caller ID policies



Analytics & reports



Planning



 Dashboard Teams Devices Locations Users Meetings Messaging policies Teams apps Voice

Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summary

3

My Operators

7

All Operators

[All Operators](#) [My Operators](#)

United States of America ▾ Calling, Audio conferencing ▾

Contoso	Contoso Telecom	TelePacific	ODAA Corp.
<input checked="" type="checkbox"/> Calling	<input type="checkbox"/> Audio conferencing	<input checked="" type="checkbox"/> Calling	<input type="checkbox"/> Audio conferencing
Offer details	Offer details	Offer details	Offer details
Available products ✓ Calling, ✓ Audio conference	Available products ✓ Calling, ✓ Audio conference	Available products ✓ Calling	Available products ✓ Calling
Served regions USA, Canada, +3 more	Served regions USA, Canada, +101 more	Served regions USA, Canada, +101 more	Served regions Italy, Germany, + 2 more



Dashboard

Teams

Devices

Locations

Users

Meetings

Messaging policies

Teams apps

Voice

Operators

Phone Numbers

Emergency policies

Dial plans

Direct Routing

Voice routing policies

Call queues

Auto attendants

Call park policies

Calling policies

Caller ID policies

Policy packages

Analytics & reports

Org-wide settings

Planning

Call quality dashboard

Phone numbers

Manage porting PIN

To set up calling features for users and services in your organization, you can get new numbers or port existing ones from a service provider. You can manage phone numbers including assigning, unassigning and releasing phone numbers for people or for services like audio conferencing, auto attendants or call queues. [Learn more](#)

Numbers

Order history

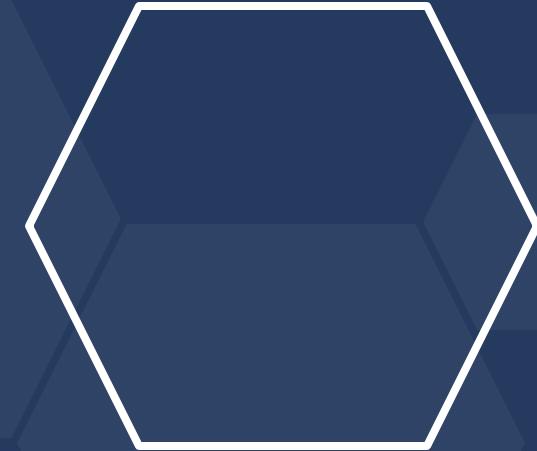
[+ Add](#) [Port](#) [Edit](#)

Search for phone numbers



✓	Phone number	Number Provider	Location	Number type	Status
	+1 425 555 0001	Contoso Telecom	Seattle, United States	Users	Assigned to user
	+1 425 555 0002	Contoso Telecom	Madrid, Spain	Users	Assigned to user
	+1 425 555 0003	Contoso Telecom	Barcelona/Bartzelona, Spain	Users	Assigned to user

Teams Dynamic (911) Emergency Calling



Overview: Dynamic Emergency Calling

Route emergency calls based on the known location of the Teams client



Call Routing Service included for Calling Plan Users



Direct Routing users must obtain additional service [Emergency Routing Service Providers – see <https://aka.ms/dr-sbc>]

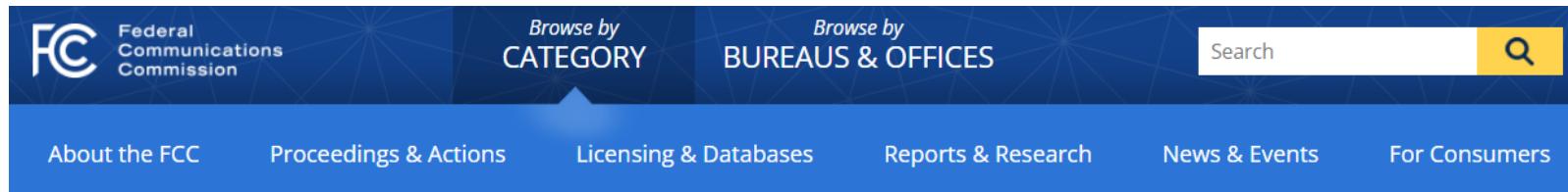


Direct Routing can also leverage Emergency Location Identification Number [ELIN] gateways [upcoming support – see <https://aka.ms/dr-sbc>]



Configure security desk notifications

Legislation: Dynamic Emergency Calling (source FCC)



The image shows the top navigation bar of the Federal Communications Commission (FCC) website. It features the FCC logo and name on the left, followed by two search/filter options: "Browse by CATEGORY" and "Browse by BUREAUS & OFFICES". On the right, there is a search input field with a magnifying glass icon. Below this header is a blue navigation bar with links: "About the FCC", "Proceedings & Actions", "Licensing & Databases", "Reports & Research", "News & Events", and "For Consumers".

[Home](#) / [Public Safety](#) / [Policy and Licensing Division](#) / [911 Services](#) /

Multi-line Telephone Systems – Kari’s Law and RAY BAUM’S Act 911 Direct Dialing, Notification, and Dispatchable Location Requirements

911 Services

[Annual 911 Fee Reports](#)

[911 Strike Force](#)

[911 Master PSAP Registry](#)

[Dispatchable Location](#)

[PSAP Text-to-911 Readiness and Certification Form](#)

[Task Force on Optimal Public Safety Answering Point Architecture \(TFOPA\)](#)

[Indoor Location Accuracy Timeline and Live Call Data Reporting](#)

In August 2019, the Commission adopted rules implementing two federal laws that strengthen emergency calling: Kari’s Law and Section 506 of RAY BAUM’S Act.

Kari’s Law – Direct Dialing and Notification for MLTS

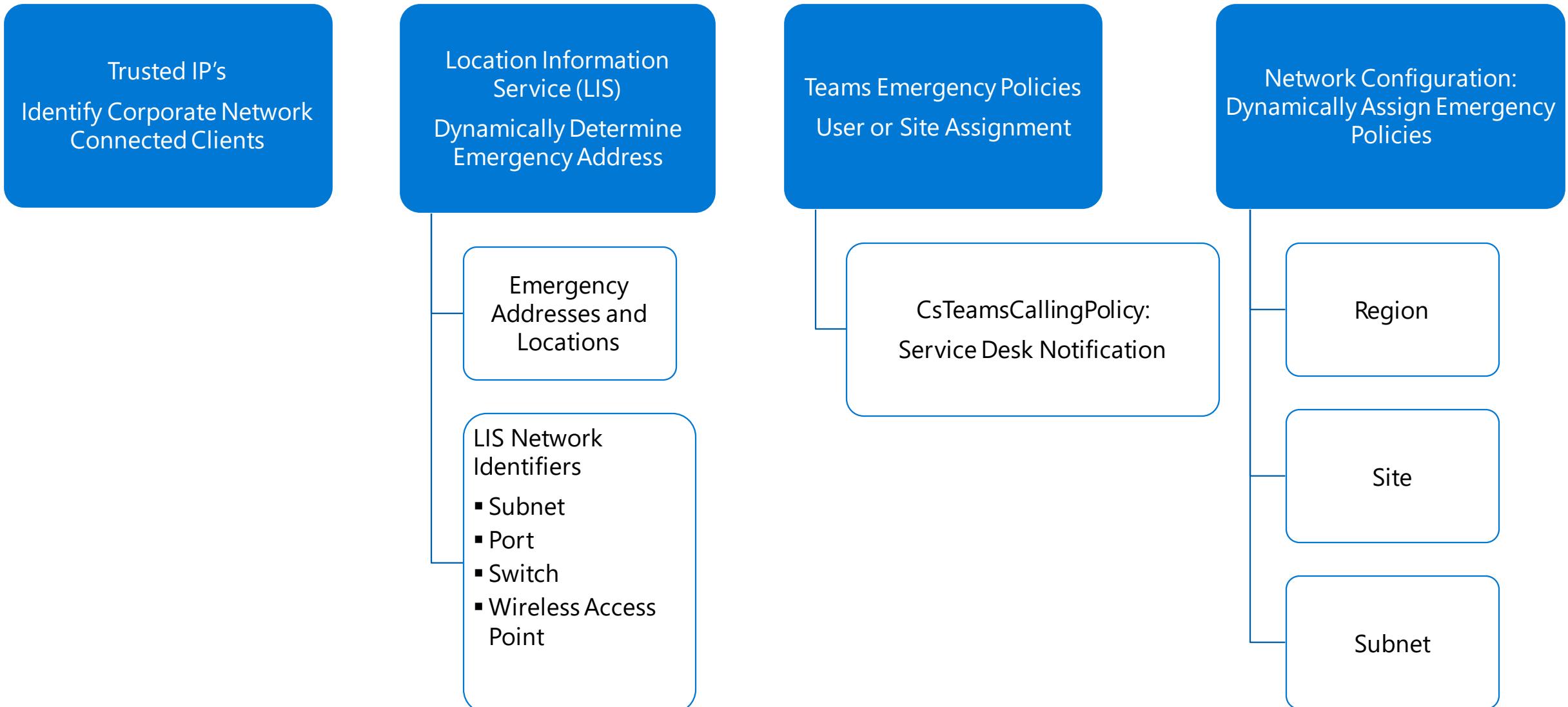
Kari’s Law is named in honor of Kari Hunt, who was killed by her estranged husband in a motel room in Marshall, Texas in 2013. Ms. Hunt’s 9-year-old daughter tried to call 911 for help four times from the motel room phone, but the call never went through because she did not know that the motel’s phone system required dialing “9” for an outbound line before dialing 911.

Congress responded by enacting Kari’s Law in 2018. Kari’s Law requires direct 911 dialing and notification capabilities in multi-line telephone systems (MLTS), which are typically found in enterprises such as office buildings, campuses, and hotels. The statute provides that these requirements take effect on February 16, 2020, two years after the enactment date of Kari’s Law. In addition, Kari’s Law and the federal rules are forward-looking and apply only with respect to MLTS that are manufactured, imported, offered for first sale or lease, first sold or leased, or installed after February 16, 2020.

Under the statute and the Commission’s rules, MLTS manufacturers and vendors must pre-configure these systems to support direct dialing of 911—that is, to enable the user to dial 911 without having to dial any prefix or access code, such as the number 9. In addition, MLTS installers, managers, and operators must ensure that the systems support

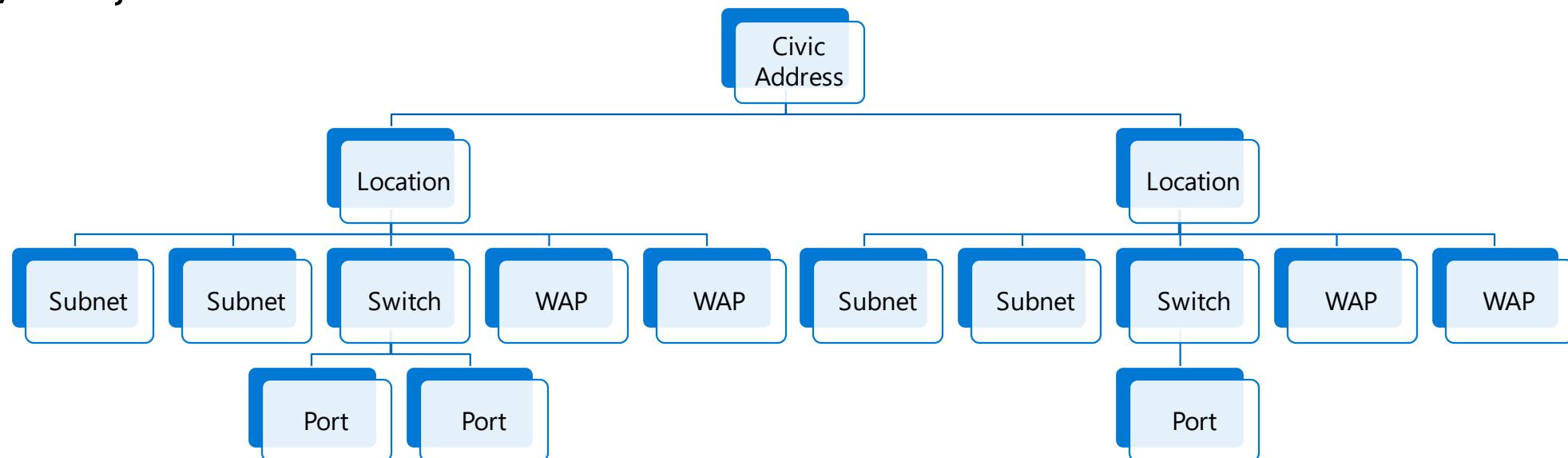
<https://www.fcc.gov/mlts-911-requirements>

Dynamic Emergency Calling Configuration Components

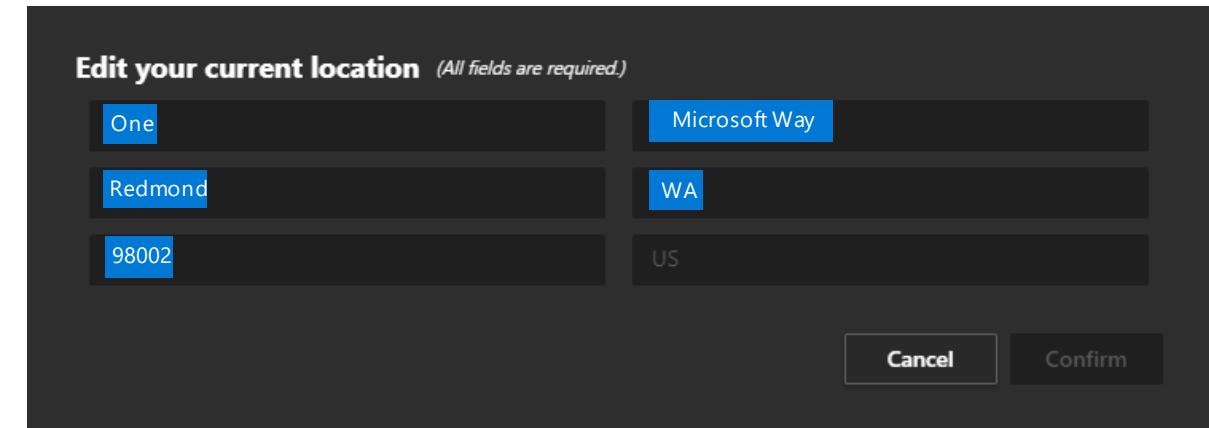
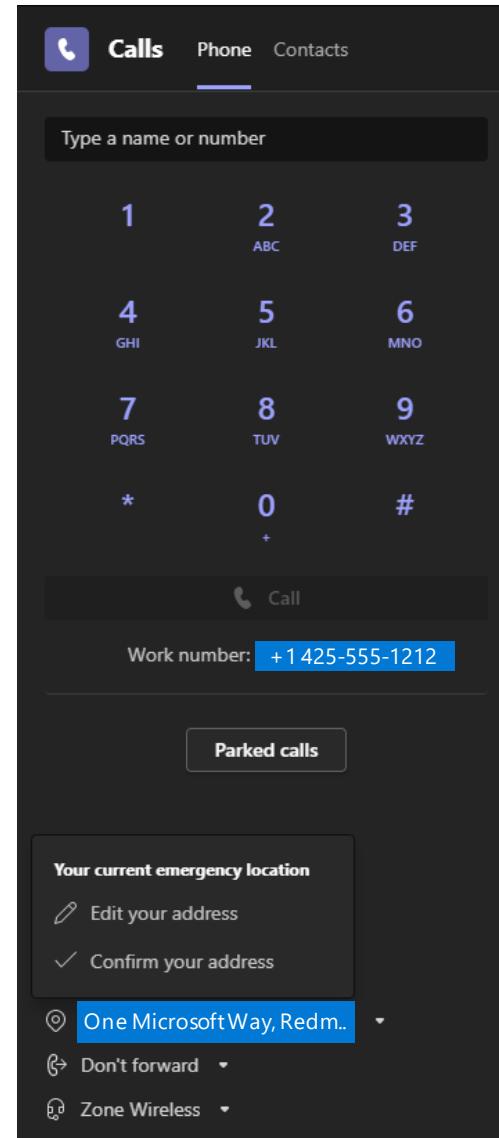
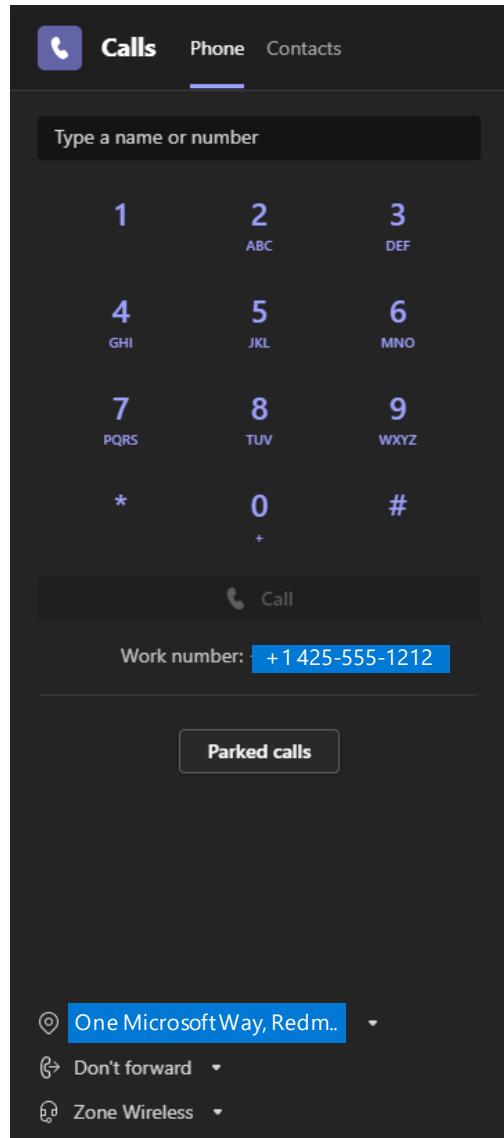


Defining Dynamic Emergency Calling Locations (LIS)

- Hierarchy and information should be detailed enough to allow emergency responders to easily locate a person.
- Civic Address → specific building
- Location (also called Places) → for example, a floor in the building
- In each location → one (or more) network elements {subnet, Wireless Access Point, Switch/Port}



Dynamic Emergency Work From Home Considerations



Dynamic Emergency Calling User Experience

Settings

Ringtones
Choose a ringtone for incoming calls

Calls for you: Default ▾ ▶

Forwarded calls: Default ▾ ▶

Delegated calls: Default ▾ ▶

Accessibility
Turn on TTY to use text to communicate over the phone line. To get this working, be sure to connect a TTY device.

Turn on TTY mode

Block calls
 Block calls with no caller ID

[Manage blocked numbers](#)

Emergency location
Teams keeps your location up to date in case of an emergency. We think you're at the following address based on information from your org and your network connection.

📍 Microsoft CA-Irvine, 3 Park Plaza, Irvine CA 92614, US

Search or type a command

Activity Chat Teams Calendar Calls Files ...

Emergency call in progress

Your number:
(949)

Your location:
Microsoft CA-Irvine, 3 Park Plaza, Irvine CA 92614, US

00:35 +933

Search or type a command

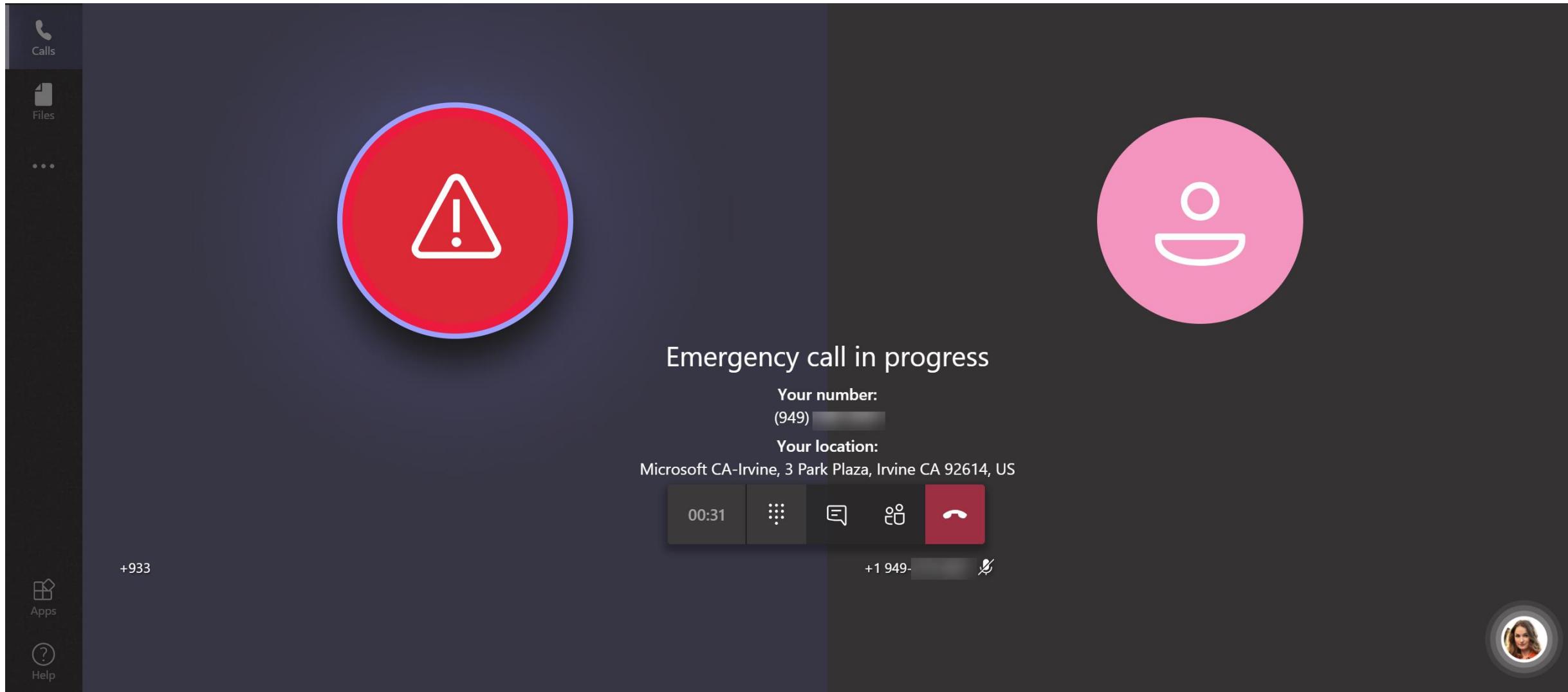
Conversation Files +

Alex, MOD 3 participants

Alex Wilber added MOD Administrator and Adele Vance to the chat.

Alex Wilber 4:11 PM
IMPORTANT!
Alex Wilber placed an emergency call at Microsoft CA-Irvine, 3 Park Plaza, Irvine CA 92614, US

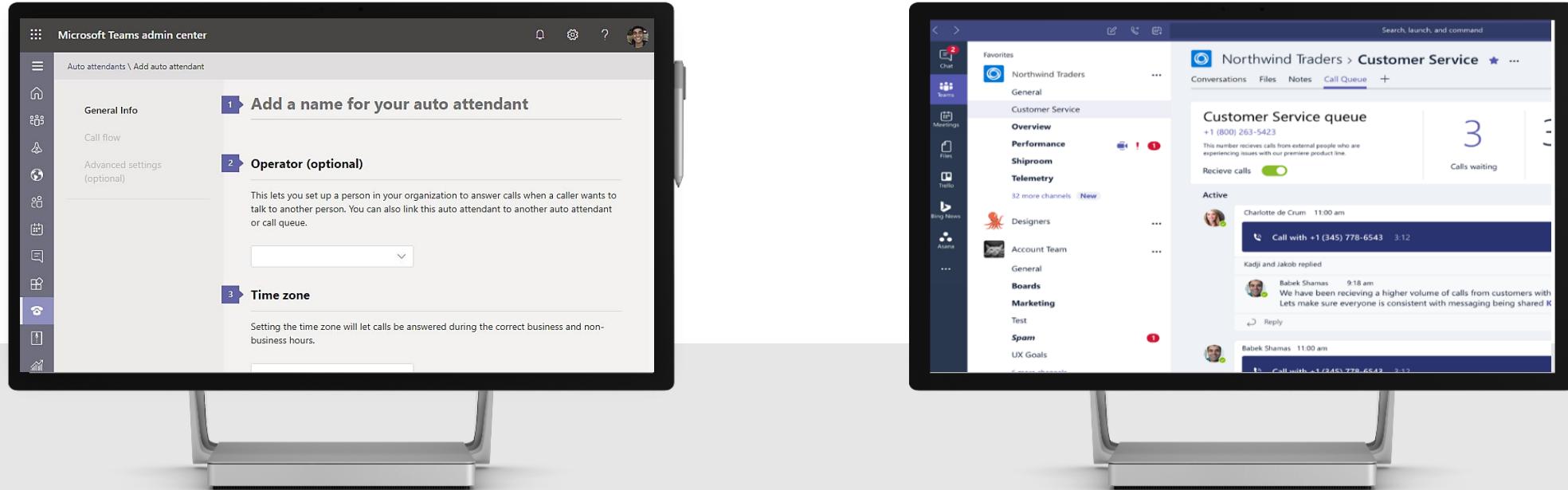
Dynamic Emergency Calling Security Desk Notification (e.g. Conferenced in, but muted)



Teams Auto Attendants and Call Queues



Auto Attendant and Call Queues



Auto attendant

- Toll-free and local service numbers
- Dial-by-name directory search
- Custom greetings and menus
- Operator option
- Speech recognition in 14 languages
- Admin portal UI and PowerShell cmdlets

Call queues

- Coordinate teams of people working together in a channel
- Boost collaboration and efficiency with chat and call queues
- Enjoy role-based for supervisor / agents and agent sign-in/out
- Use supervisor listen, whisper, and barge with integrated chat for cross-agent support and teaming

Call queues and auto attendant prerequisites

To configure auto attendants and call queues, you need the following resources:

[A resource account](#) for each auto attendant and each call queue

[Phone System Virtual User license](#) for each resource account

[At least one Microsoft service number](#), Direct Routing number, or a hybrid number for each resource account that you want to be directly dialable. The service number may be a toll or toll-free number.



Agent prerequisites

Agents who receive calls from the call queues must be Enterprise Voice enabled online or on-premise users

In addition, if the call queues are using Direct Routing numbers, agents who need to conference or transfer calls also require:

1. An online voice routing policy assigned if the call queue uses transfer mode
2. An Audio Conferencing license or online voice routing policy assigned if the call queue uses conference mode

If your agents are using the Microsoft Teams app for call queue calls, they need to be in Teams Only mode





Teams



Help desk

Posts

Files

Wiki

Analytics

Calls



Pinned



Your teams



General

Overview

Reporting

Help desk

Support

Telemetry

Northwind Traiders

32 hidden channels



General

Accounting

Finance

FY 17 Planning

6 hidden channels



Recent

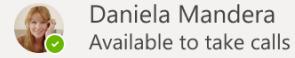
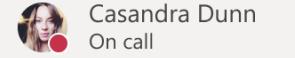
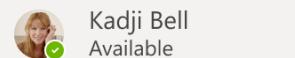
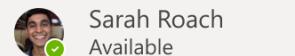
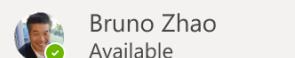
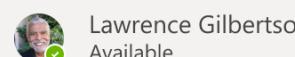
All calls

My calls

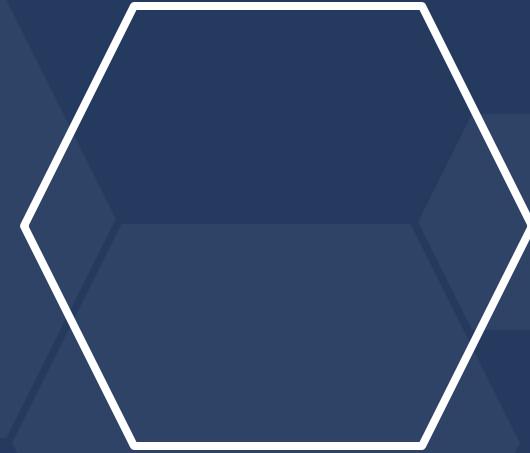
Filters

Dial pad

	Name Mobile		Lore ipsum dolor sit amet, consecte, Son ...	07:52	9:20 PM				
	+1(206) 234-3456 Birmingham, AL		Hillary Reyes	07:52	9:20 PM				
	+1 (509) 670-0594 Leavenworth, WA		Casandra Dunn					07:52	9:20 PM
	Aadi Kapoor Mobile		Lore ipsum dolor sit amet, consecte, Son ...	07:52	9:20 PM				
	+1 (509) 670-0594 Birmingham, AL		Brian Wright	07:52	9:20 PM				
	+1 (509) 670-0594 Leavenworth, WA		Keiko Tanaka					07:52	9:20 PM
	+1 (509) 670-0594 Birmingham, AL		Keiko Tanaka	07:52	9:20 PM				
	+1 (509) 670-0594 Birmingham, AL		Casandra Dunn	07:52	9:20 PM				
	+1 (509) 670-0594 Leavenworth, WA		Daniela Mandera			07:52	9:20 PM		
	+1 (509) 670-0594 Birmingham, AL		Will Little	07:52	9:20 PM				
	Name Mobile		Lore ipsum dolor sit amet, consecte, Son ...	07:52	9:20 PM				

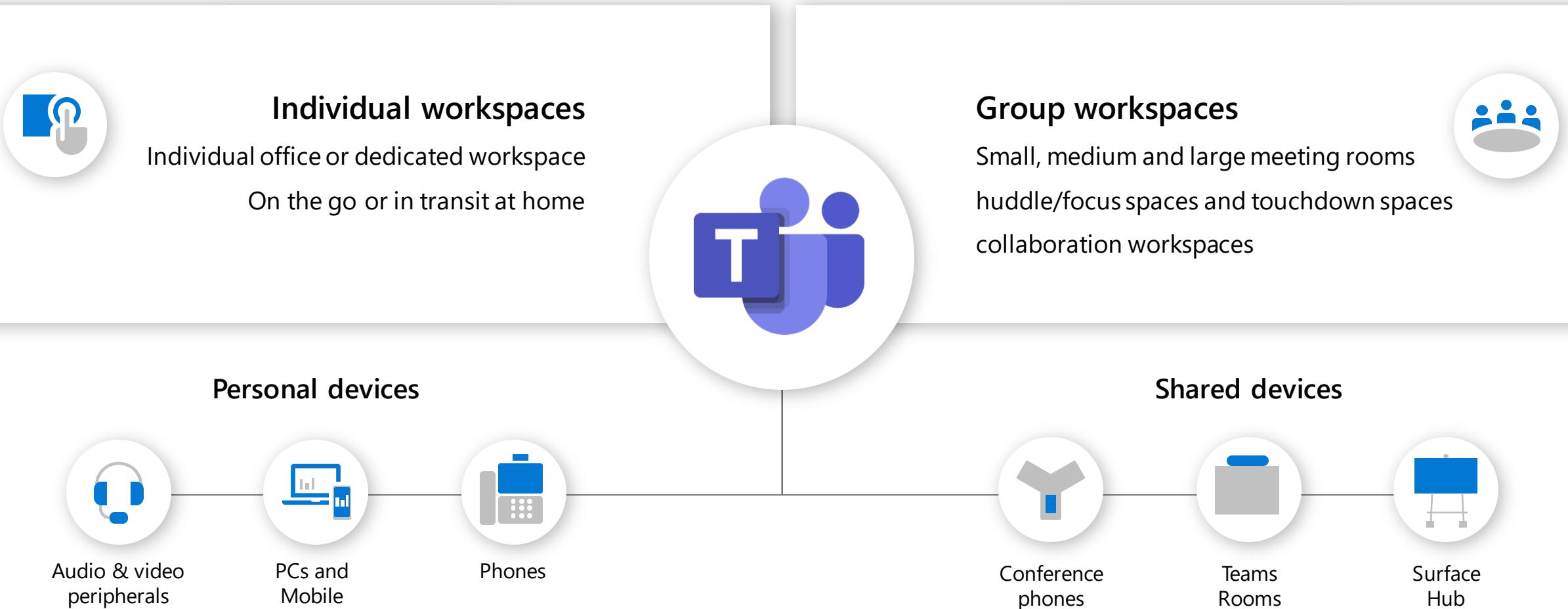
Daniela Mandera
Available to take callsCasandra Dunn
On callKeiko Tanaka
On callKadji Bell
AvailableWill Little
On callSarah Roach
AvailableBryan Wright
AvailableBruno Zhao
AvailableLawrence Gilbertson
Available

Teams Voice Device Considerations



Teamwork across spaces and devices

United by Microsoft Teams



3PIP Gateway (Available today)

EoL: July 31st 2023

Features Supported

Authentication	Meetings	Native Teams Device Features (e.g. Examples)
Sign in with user credentials/Web Sign-in	One-click Join for Pre-Scheduled Teams Meeting	Call forwarding*
Modern Authentication	Meeting Call controls (Mute/unmute, hold/resume, hang up, Add/remove participant)	Setting presence
Phone lock/unlock	Meeting Reminders	DND (calls will still land on 3PIP)
Hot Desking Support	Add Skype for Business participant to ongoing meeting	Anything not listed as supported is unsupported
Calling	Calendar and Presence	
Incoming/Outgoing P2P calls from/to Teams users	Calendar Access and Meeting Details	
In-call controls via UI (Mute/unmute, hold/resume, blind transfer, end call)	Presence Integration	
PSTN calls	Exchange Calendar Integration	
Visual Voicemail	Contact Picture Integration	
Static 911 support (e.g. Dynamic 911 not supported)	Corporate Directory Access	
Device Update and Management	Visual Voicemail	
Device Update		
In-band provisioning		
QoE & Log Upload		
Common Area Phone Support		

For additional information, please refer to : <https://techcommunity.microsoft.com/t5/microsoft-teams-blog/skype-for-business-phones-3pip-support-with-microsoft-teams/ba-p/789351>

SIP Gateway

Leverage your existing SIP phone investments

User authentication

Core calling features

- Inbound / outbound calls to Teams or PSTN (hold/resume with music, mute/unmute, DTMF)
- Call transfer (single step/blind, consulted transfer)
- Dial in/out from a meeting (audio conferencing)
- Device-only “do not disturb”
- Voicemail and message waiting indicator

Integrated into Teams routing policies/regulations

Device inventory management in Teams admin center

Static emergency calling, static emergency location support with security desk notifications

Compatible SIP phones



Cisco IP Phones with MPP firmware
(6821, 6901, 7800 series, 8800 series)



Polycom SIP phones (Vvx series 100, 200, 300, 400, 500, 600 etc.)



Yealink (T20 series, T30 series, T40 series, T50 series)



AudioCodes 400 HD series

For additional information, please refer to: <https://docs.microsoft.com/en-us/microsoftteams/sip-gateway-plan>

Deploying Teams Operator Connect



Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summar

3

7

All Operators My Operators

All regions ▾ Calling, Audio conferencing ▾



- Dashboard
- Teams
- Devices
- Locations
- Users
- Meetings
- Messaging policies
- Teams apps
- Voice
- Operators
- Phone numbers
- Emergency policies
- Dial plans
- Direct Routing
- Voice routing policies
- Call queues
- Auto attendants
- Call park policies
- Calling policies
- Caller ID policies
- Policy packages
- Analytics & reports
- Org-wide settings
- Planning
- Call quality dashboard

Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summary

3

My Operators

7

All Operators

All Operators My Operators

United Calling, Audio conferencing

Select all 193 Clear



TelePacific



ODAA Corp.



Touch Global



Vivitech Comm



ATP



SunTech

Available products

✓ Calling,
✓ Audio conference

Served regions

Albania

Served regions

USA, Canada, +3 more

Available products

✓ Calling

Served regions

France, +2 more

Available products

✓ Calling,
✓ Audio conference

Served regions

USA, Canada, + 101 more

Available products

✓ Calling,
✓ Audio conference

Served regions

Italy, Germany, + 2 more

Available products

✓ Audio conference

Served regions

Albania

Available products

✓ Calling,
✓ Audio conference

Served regions

Belgium

Offer details



Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summary

3

My Operators

7

All Operators

[All Operators](#) [My Operators](#)United  Calling, Audio conferencing [Select all 193](#) [Clear](#) United Arab Emirates United Kingdom United States

193 of 193 selected

 Calling
 Audio conference

Served regions

Albania

Served regions

USA, Canada, +3 more

**TelePacific****ODAA Corp.****Touch Global****ViviTech Comm****ATP****SunTech**

Available products

Available products

Available products

Available products

Available products

Available products

 Calling Calling Calling
 Audio conference Calling
 Audio conference Calling Calling
 Audio conference

Served regions

Served regions

Served regions

Served regions

Served regions

Served regions

Albania

France, +2 more

USA, Canada, + 101 more

Italy, Germany, + 2 more

Albania

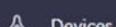
Belgium

[Offer details](#) [Offer details](#) [Offer details](#) [Offer details](#) [Offer details](#) [Offer details](#) [Offer details](#) 

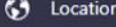
Dashboard



Teams



Devices



Locations



Users



Meetings



Messaging policies



Teams apps



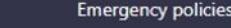
Voice



Operators



Phone numbers



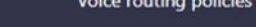
Emergency policies



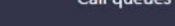
Dial plans



Direct Routing



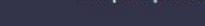
Voice routing policies



Call queues



Auto attendants



Call park policies



Calling policies



Caller ID policies



Policy packages



Analytics & reports



Org-wide settings



Planning



Call quality dashboard



Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summary

3

My Operators

7

All Operators

[All Operators](#) [My Operators](#)

United States of America ▾ Calling, Audio conferencing ▾

Contoso	TelePacific	ODAA Corp.
<input type="checkbox"/> Calling <input type="checkbox"/> Audio conferencing	<input type="checkbox"/> Calling <input type="checkbox"/> Audio conference	<input type="checkbox"/> Calling
Available products ✓ Calling, ✓ Audio conference	Available products ✓ Calling, ✓ Audio conference	Available products ✓ Calling
Served regions USA, Canada, +3 more	Served regions USA, Canada, +101 more	Served regions Italy, Germany, + 2 more

[Offer details](#)[Offer details](#)[Offer details](#)[Caller ID policies](#)[Policy packages](#)[Analytics & reports](#)[Org-wide settings](#)[Planning](#)[Call quality dashboard](#)

 Dashboard Teams Devices Locations Users Meetings Messaging policies Teams apps Voice

Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summary

3

My Operators

7

All Operators

[All Operators](#) [My Operators](#)

United States of America

Calling, Audio conferencing

**Contoso Telecom**

Available products

- ✓ Calling,
- ✓ Audio conference

Served regions

USA, Canada, +3 more

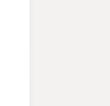
[Offer details](#) Audio conferencing**TelePacific**

Available products

- ✓ Calling,
- ✓ Audio conference

Served regions

USA, Canada, + 101 more

[Offer details](#)**ODAA Corp.**

Available products

- ✓ Calling

Served regions

Italy, Germany, + 2 more

[Offer details](#) Caller ID policies Policy packages Analytics & reports Org-wide settings Planning Call quality dashboard

-  Dashboard
-  Teams
-  Devices
-  Locations
-  Users
-  Meetings
-  Messaging policies
-  Teams apps
-  Voice
-  Operators
- Phone numbers
- Emergency policies
- Dial plans
- Direct Routing
- Voice routing policies
- Call queues
- Auto attendants
- Call park policies
- Calling policies
- Caller ID policies
-  Policy packages
-  Analytics & reports
-  Org-wide settings
-  Planning
-  Call quality dashboard

Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summary

3

My Operators

7

All Operators

All Operators My Operators

United States of America ▾ Calling ▾



CONTOSO

Contoso Telecom

Available products
✓ Calling,
✓ Audio conference

Served regions
USA, Canada, +3 more

[Offer details](#)



Contoso Telecom

Acquired phone numbers

0

Available products

Calling, Audio conference ▾

Operator settings

Select regions for partnering with this operator

- | | |
|---------------------------------|---|
| <input type="checkbox"/> USA | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> Canada | <input type="checkbox"/> Germany |
| <input type="checkbox"/> Mexico | |

 Operator can contact me I accept the [data transfer notice](#).Add as my operatorCancel

Operators

Phone numbers

Emergency policies

Dial plans

Direct Routing

Voice routing policies

Call queues

Auto attendants

Call park policies

Calling policies

Caller ID policies

Policy packages

Analytics & reports

Org-wide settings

Planning

Call quality dashboard

-  Dashboard
-  Teams
-  Devices
-  Locations
-  Users
-  Meetings
-  Messaging policies
-  Teams apps
-  Voice
-  Operators
-  Phone numbers
-  Emergency policies
-  Dial plans
-  Direct Routing
-  Voice routing policies
-  Call queues
-  Auto attendants
-  Call park policies
-  Calling policies
-  Caller ID policies
-  Policy packages
-  Analytics & reports
-  Org-wide settings
- Planning
- Call quality dashboard

Operators \ Contoso Telecom

Contoso Telecom

Acquired phone numbers 0 Available products Calling, Audio conference

Operator settings

Select regions for partnering with this operator

USA United Kingdom
 Canada Germany
 Mexico

Operator can contact me
 I accept the [data transfer notice](#).

[Add as my operator](#) [Cancel](#)

Operators \ Deutsche Telekom



Contoso Telecom

Acquired phone numbers
0

Available products
Calling, Audio conference

Operator settings

Select regions for partnering with this operator

USA United Kingdom
 Canada Germany
 Mexico

Operator can contact me

Full name: Full name Email: email@contoso.com

Phone number (optional): XXX XXXX XXXX

I accept the data transfer notice.

Add as my operator Cancel

Dashboard

Teams

Devices

Locations

Users

Meetings

Messaging policies

Teams apps

Voice

Operators

Phone numbers

Emergency policies

Dial plans

Direct Routing

Voice routing policies

Call queues

Auto attendants

Call park policies

Calling policies

Caller ID policies

Policy packages

Analytics & reports

Org-wide settings

Planning

Call quality dashboard

Operators \ Deutsche Telekom



Contoso Telecom

Acquired phone numbers
0

Available products
Calling, Audio conference

Operator settings

Select regions for partnering with this operator

USA United Kingdom
 Canada Germany
 Mexico

Operator can contact me

Full name: Martin Boam Email: email@contoso.com

Phone number (optional): 5 555 1234

I accept the data transfer notice.

Add as my operator Cancel

Operators \ Deutsche Telekom

Contoso Telecom

Acquired phone numbers 0 Available products Calling, Audio conference ▾

Operator settings

Select regions for partnering with this operator

USA United Kingdom
 Canada Germany
 Mexico

Operator can contact me

Full name: Martin Boam Email: email@contoso.com

Phone number (optional): 852 555 1234

I accept the data transfer notice.

Add as my operator Cancel

- Dashboard
- Teams
- Devices
- Locations
- Users
- Meetings
- Messaging policies
- Teams apps
- Voice
- Operators
- Phone numbers
- Emergency policies
- Dial plans
- Direct Routing
- Voice routing policies
- Call queues
- Auto attendants
- Call park policies
- Calling policies
- Caller ID policies
- Policy packages
- Analytics & reports
- Org-wide settings
- Planning
- Call quality dashboard



Dashboard

Teams

Devices

Locations

Users

Meetings

Messaging policies

Teams apps

Voice

Operators

Phone numbers

Emergency policies

Dial plans

Direct Routing

Voice routing policies

Call queues

Auto attendants

Call park policies

Calling policies

Caller ID policies

Policy packages

Analytics & reports

Org-wide settings

Planning

Call quality dashboard

Operators

Here you can manage partnerships with phone number providers. You can only acquire phone numbers from providers you have established partnership with. [Learn more](#)

Operator summary

4

My Operators

6

All Operators

[All Operators](#) [My Operators](#)

Edit Remove 4 items					
Operator ↓	Served regions	Acquired phone numbers	Latest change	Changed by	Status
ViviTech Comm	Spain	312	FEB 1, 2021	maboam	Active
TouchGlobal	Canada	0	FEB 3, 2021	maboam	Active
Contoso Telecom	USA	0	FEB 7, 2021	maboam	Active
ODAA	Mexico	97	JAN 19, 2021	maboam	Active

 Dashboard Teams Devices Locations Users Meetings Messaging policies Teams apps Voice

Operators

Phone Numbers

Emergency policies

Dial plans

Direct Routing

Voice routing policies

Call queues

Auto attendants

Call park policies

Calling policies

Caller ID policies

 Policy packages Analytics & reports Org-wide settings Planning Call quality dashboard

Phone numbers

 Manage porting PIN

To set up calling features for users and services in your organization, you can get new numbers or port existing ones from a service provider. You can manage phone numbers including assigning, unassigning and releasing phone numbers for people or for services like audio conferencing, auto attendants or call queues. [Learn more](#)

 Numbers

Order history

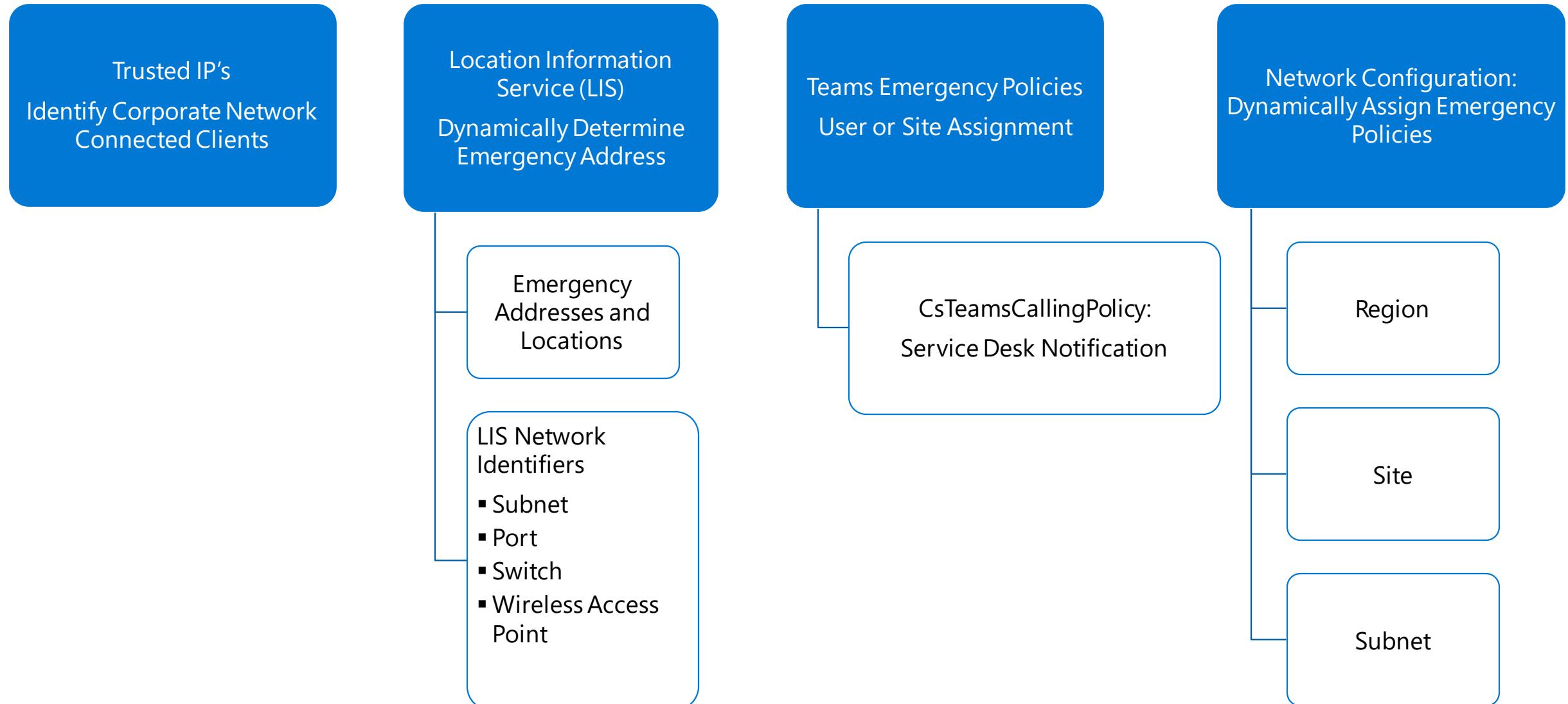
 Add  Port  Edit Search for phone numbers

 Phone number	Number Provider	Location	Number type	Status
+1 425 555 0001	Contoso Telecom	Seattle, United States	Users	Assigned to user
+1 425 555 0002	Contoso Telecom	Madrid, Spain	Users	Assigned to user
+1 425 555 0003	Contoso Telecom	Barcelona/Bartzelona, Spain	Users	Assigned to user

Deploying Teams Dynamic Emergency Calling



ReCAP: Dynamic Emergency Calling Configuration Components



Defining Network Trusted IPs

Contoso Electronics Microsoft Teams admin center

Network topology

You can use network topology to define the network regions, sites, and subnets that are used to determine the emergency call routing and calling policies that are to be used for a given location. [Learn more](#)

NETWORK TOPOLOGY SUMMARY

1	Network site
1	Trusted IP

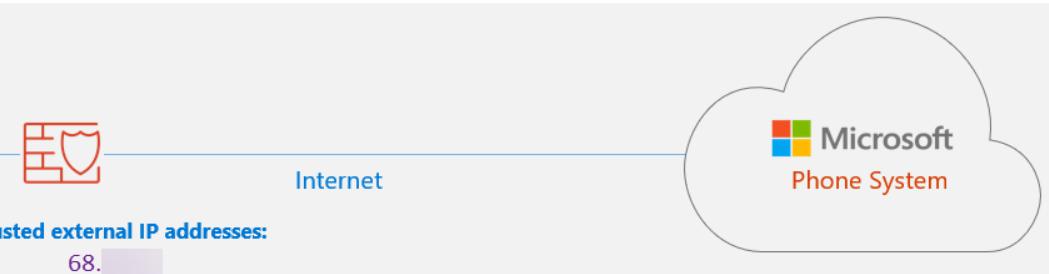
Network sites **Trusted IPs**

+ Add **Edit** **Delete** | 1 Item

Trusted IP ↑	Description	Network range	IP version
68.		32	IPv4

Internal IP Ranges: 10.0.0.0/24

Trusted external IP addresses: 68.



Add trusted IP address

Trusted external IP addresses are the external IP addresses of the enterprise network and are exempt from certain designated security options.

IP version IPv4

IP address 68.

Network range 32

Description Irvine Office

Defining Regions, Sites, and Subnets

Network Region

- Interconnects various parts of a network across multiple geographic areas
- Collection of Network Sites

Network Site

- Represents a location where the organization has a physical location
- Collection of unique IP subnets

Network Subnets

- Internal IPv4/IPv6 subnets assigned to Network Sites; IPv4 takes precedence
- Multiple subnets may be associated with the same network site, but multiple sites may not be associated with a same subnet

Note: Teams has a 2-hour cache; newly created Tenant

Network configuration items won't be available for ~2 hours post creation

Defining Locations with Civic Address and Geo Coordinates [Teams Admin Center]

Contoso Electronics Microsoft Teams admin center

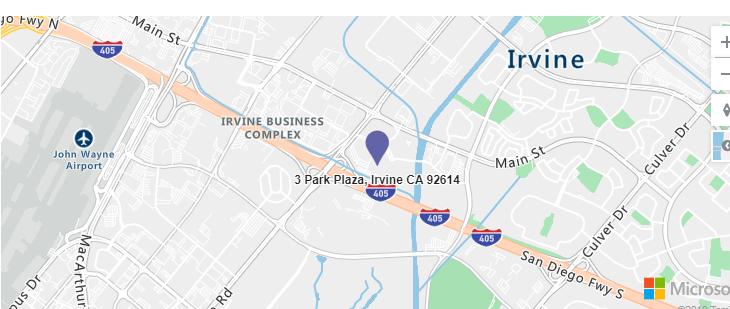
Locations \ Add location

Microsoft CA-Irvine

Corporate office in Irvine, CA

Country or region: United States

Address: 3 Park Plaza, Irvine, CA 92614



Edit the address manually Off

Street number: 3 Street name: Park Plaza

City: Irvine State: California Zip code: 92614

Emergency Location Identification Number (ELIN):

Latitude: 33.67694 Longitude: -117.83925

Save Cancel

Contoso Electronics Microsoft Teams admin center

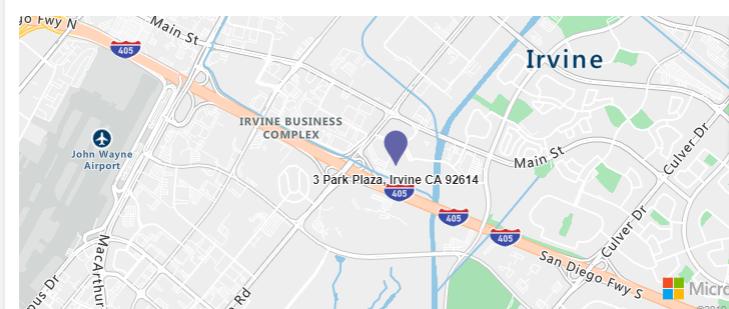
Locations \ Add location

Microsoft CA-Irvine

Corporate office in Irvine, CA

Country or region: United States

Address: 3 Park Plaza, Irvine, CA 92614



Edit the address manually On

Street number: 3 Street name: Park Plaza

City: Irvine State: California Zip code: 92614

Emergency Location Identification Number (ELIN):

Latitude: 33.67694 Longitude: -117.83925

Save Cancel

Defining and Associating Places to Locations [Teams admin center]

The screenshot shows the Microsoft Teams admin center interface. On the left, there is a navigation sidebar for 'Contoso Electronics' with various administrative sections like Dashboard, Teams, Devices, Locations, Reporting labels, Emergency addresses, Network topology, Users, Meetings, Messaging policies, Teams apps, Voice, Phone numbers, and Emergency policies. The 'Emergency addresses' section is currently selected.

The main content area displays the 'Locations \ Microsoft CA-Irvine' page. It features a large green circular icon with a white building outline. The location name 'Microsoft CA-Irvine' is displayed prominently, along with its address '3 Park Plaza, Irvine CA 92614, US' and validation status 'Validated' with ID 'd92b4328-'. To the right, there are summary statistics: 'Places' (1), 'Voice users' (1), and a 'Description' field containing 'Microsoft CA-Irvine'.

At the bottom, there are tabs for 'Places' (selected) and 'Voice users', followed by buttons for '+ Add', 'Edit', and 'Delete'. A table lists one place entry: 'Building 3, Floor 16' associated with '1' voice user.

Assigning a Civic Address/Location

- To assign a phone number, an emergency location is required
- Can re-assign a new Civic Address/Location; not required

The screenshot shows the Microsoft Teams Admin Center interface for managing phone numbers. The left sidebar has a 'Phone numbers' icon selected. The main area is titled 'Phone numbers' and contains a table of phone numbers assigned to users or services. A purple arrow points from the last row of the table to the 'Emergency location' section on the right.

Phone numbers

To set up calling features for users and services in your organization, you can get new numbers or port existing numbers from a service provider. You can manage phone numbers including assigning, unassigning and releasing phone numbers, or for services like audio conferencing, auto attendants or call queues. Learn more

Assigned to

Select a person that you want to assign this phone number to

Phone number	Location	Number type
+1 949	Irvine, United States	Service
+1 949	Irvine, United States	Users
+1 949	Irvine, United States	Users
+1 949	Irvine, United States	Users
+1 949	Irvine, United States	Users
+1 949	Irvine, United States	Service
+1 949	Irvine, United States	Service

Emergency location

Select a location within the country or region where emergency services must arrive when a call comes from this phone number. Add an emergency location if you want to create a one.

Search by city: Irvine

Microsoft	3 Park Plaza, Irvine CA 92614, US
↳	Building 3, Floor 16
Microsoft CA-Irvine	3 Park Plaza, Irvine CA 92614, US
↳	Building 3, Floor 16

Defining Dynamically Assigned Locations

Use LIS network elements to dynamically assign locations

Subnet

- Configure Network Subnet ID
 - Must match client computed root network ID based on client IP/CIDR
- Set-CsOnlineLisSubnet cmdlet (associate to location with LocationID)
- Must be unique within the tenant

Wireless Access Point (WAP) BSSID

- BSSID is entered in the form of a MAC address (##-##-##-##-##-##, or as ##:##:##:##:##:##) – should match what the client sees when connected
- Verify on PC: netsh wlan show interfaces
- Set-CsOnlineLisWirelessAccessPoint cmdlet (associate to location with LocationID)

Network Switch/Port (Support pending)

- Client/Switches must be configured to support LLDP
- Set-CsOnlineLisSwitch cmdlet -> MAC address used for the Chassis ID (##-##-##-##-##-##)
- Set-CsOnlineLisPort cmdlet -> associate to switch using Switch ID (find with Get-CsOnlineLisSwitch)

```
PS C:\Users\bryan> netsh wlan show interfaces

There is 1 interface on the system:

          Name           : Wi-Fi
          Description   : Marvell AVASTAR Wireless-AC Network Controller
          GUID          : 08ee686e-
          Physical address: b4:ae:
          State         : connected
          SSID          :
          BSSID          : a0:04:xx
          Network type  : Infrastructure
          Radio type    : 802.11ac
          Authentication: WPA2-Personal
          Cipher        : CCMP
          Connection mode: Auto Connect
          Channel       : 48
          Receive rate (Mbps): 468
          Transmit rate (Mbps): 468
          Signal         : 90%
          Profile        :

          Hosted network status : Not available
```

Defining Security Desk Notification

CsTeamsEmergencyCallingPolicy cmdlets

- **NotificationMode** – this defines how the notification should be done. The values can be:
 - NotificationOnly – this means that a Teams chat is created with all the members of the NotificationGroup and the chat contains the notification of the ongoing emergency call
 - ConferenceMuted – this means that all members of the NotificationGroup are added to the emergency call in a muted state and that they can't unmute themselves
 - ConferenceUnMuted – this means that all members of the NotificationGroup are added to the emergency call in an unmuted state and they can't mute themselves
- **NotificationGroup** – this is a mail-enabled security group or distribution list that will be notified of the emergency call
- **NotificationDialOutNumber** – this is an E.164 formatted phone number that will be notified of the emergency call

Can be assigned to

- Users with *Grant-CsTeamsEmergencyCallingPolicy* (or use the Global)
- Sites with *Set-CsTenantNetworkSite*

Also available through Teams admin center

Deploying Devices for Teams Voice



Microsoft Teams phone device management features



Inventory management

Single portal for managing all Teams devices



CA policy enforcement

User-based and device-based policy enforcement



Configuration management

Reusable configuration profiles



Zero-touch enrollment

Enrollment without user intervention



Software update framework

Comprehensive pipeline for updating firmware and applications



Health monitoring and management

Heartbeat, ping, restart and factory reset

Managing Teams devices

- Inventory summary of all devices
- Apply configurations and tags
- Update firmware

Devices summary

7 Devices 0 Critical 5 Non-Urgent 1 Offline

All phones User phones Common area phones Conference phones Configuration profiles

Edit Assign configuration Manage tags Update Upgrade Restart Remove | Showing 7 devices Search by device name

Display name	Username	Device name	Health status	Manufacturer	Model	Action	IP address
Zurich Lobby 2 Common A...	CAP-ZRH-Lobby2@teamsr...	audiocodes-c470hd ws131...	⚠ Non-Urgent	AudioCodes	C470HD	1 Update available	192.16...
Bournemouth Lobby 2 Co...	CAP-BOU-Lobby2@teams...	poly-ccx500 64167fe160ea	⚠ Non-Urgent	Poly	CCX500	1 Update available	192.16...
Bournemouth Lobby 1 Co...	CAP-BOU-Lobby1@teams...	yealink-t58a 81585190275...	Offline	Yealink	T58A	1 Update available	192.16...

Remote provisioning

- Remotely provision and sign into a Microsoft Teams device using the Teams admin center
- Add an individual device via MAC address or upload a csv file to add devices in bulk

Add MAC addresses

MAC address	Location
80-5E-0C-14-0F...	Townview

+

[Add more](#)

A	B
1 MAC Id	Location
2 02-00-00-00-00-00	Townview
3 51:C7:DE:61:5C:DC	Townview
4 79:87:7A:7B:7A:70	Avanti
5 BA:E9:02:E9:70:8D	Townview
6 C1:70:64:53:57:15	Avanti
7 4E:FD:C2:26:F7:8D	Avanti
8 CC:1A:A4:5C:F4:FE	Townview

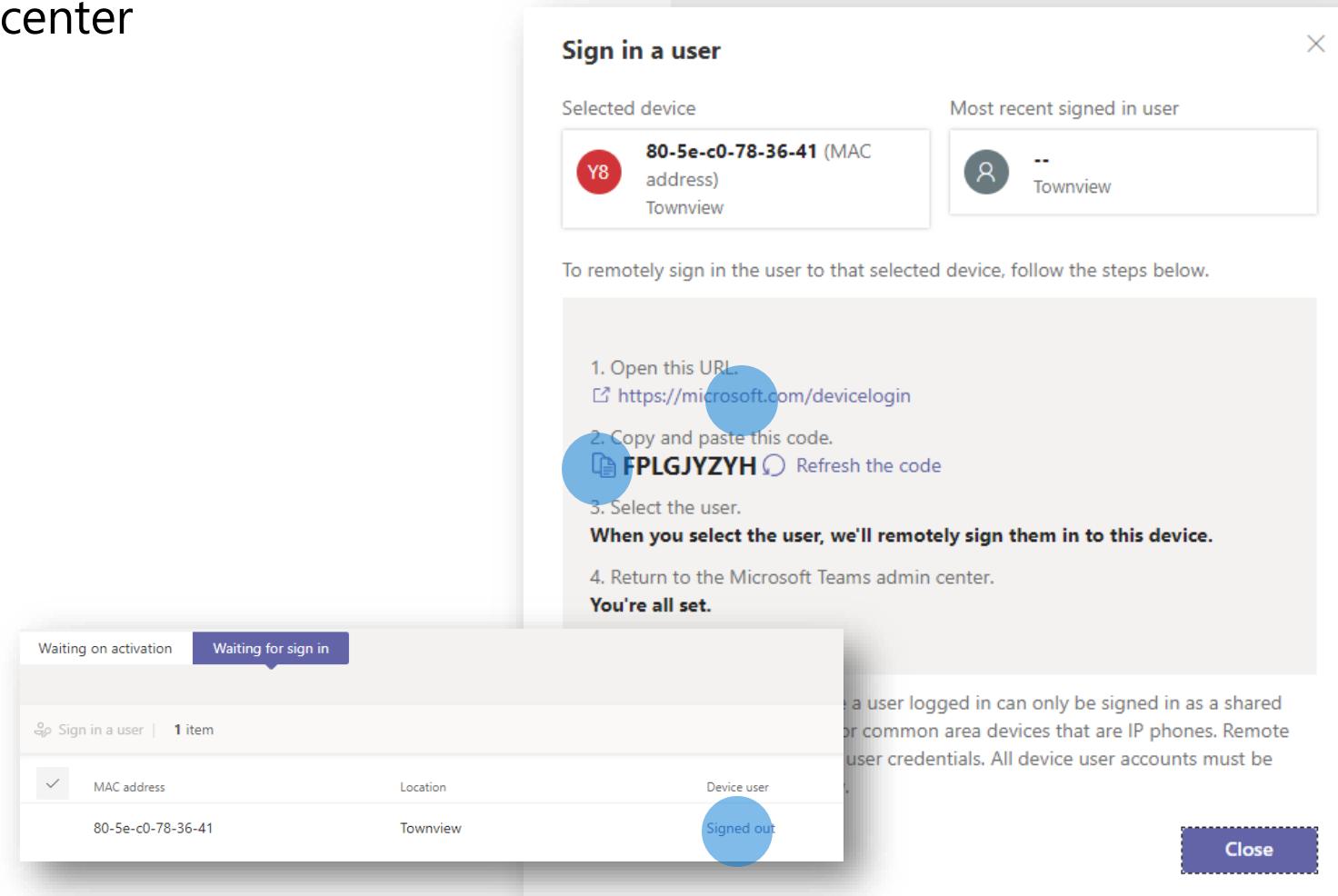
Actions ▾

[+ Provision new devices](#)

[All device tags](#)

Remote sign-in

- Microsoft Teams admin center





Thank you.

