



Voice Scenario and Integration Concepts - Operator Connect

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Principal Program Manager,
Microsoft Teams



Agenda

Teams Phone Overview

Voice Integration Concepts with Operator Connect

Planning for Dynamic 911

Advanced Voice Applications

Operator Connect Device Considerations

Deploying Operator Connect

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

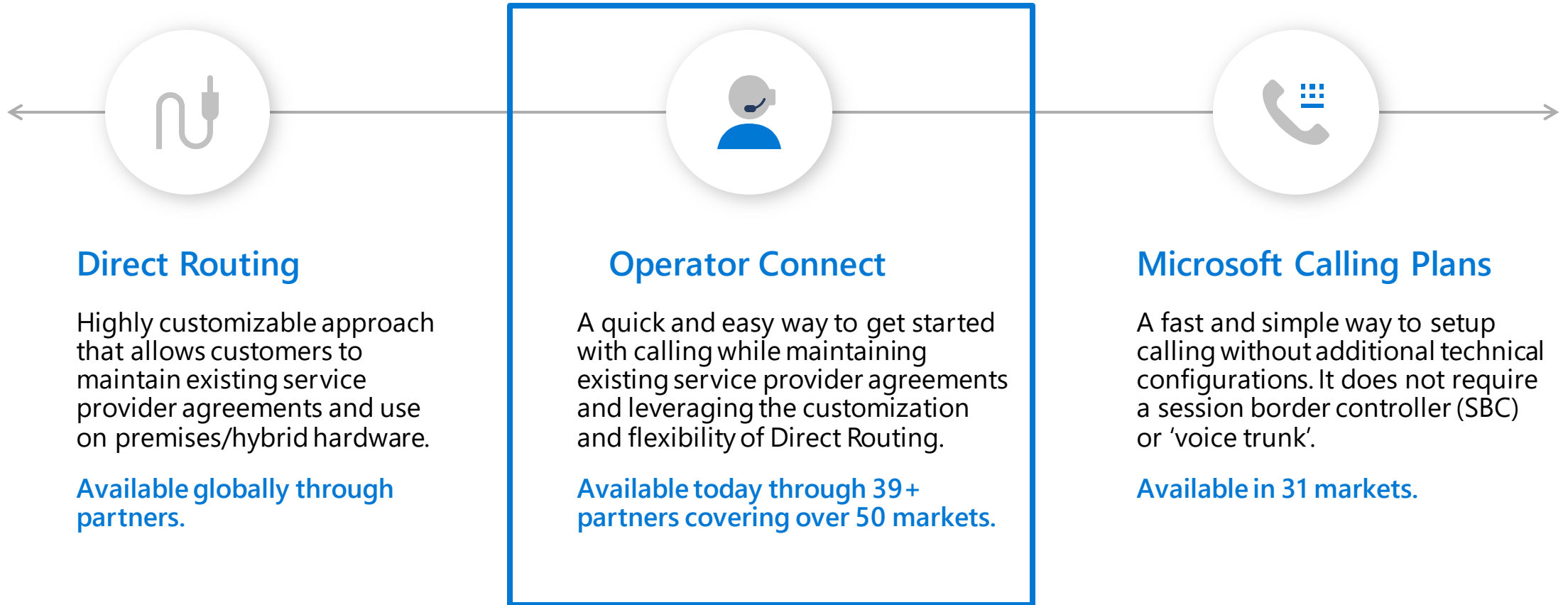
Connect your phone system to the Microsoft worldwide network, and get the power of the Microsoft cloud wherever your business goes.

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

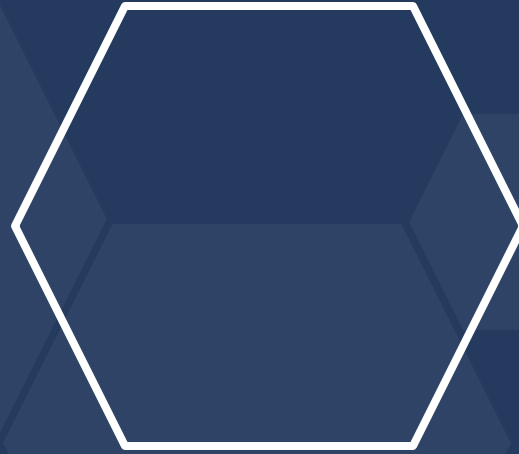


Customer Choice at the Center of Teams Phone Enablement

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

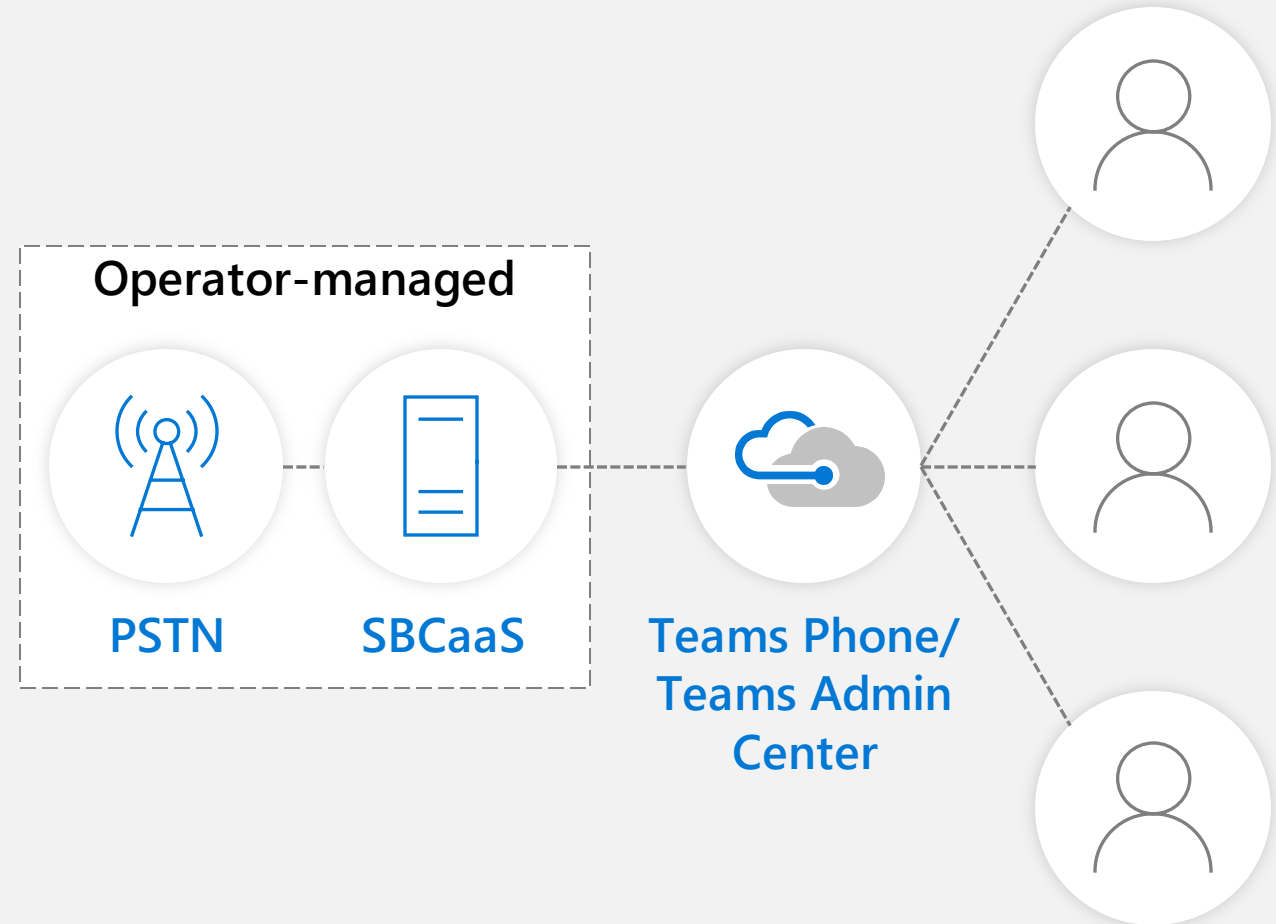
Establish the connection to your operator, provision users, and assign phone numbers from the Teams admin center.

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

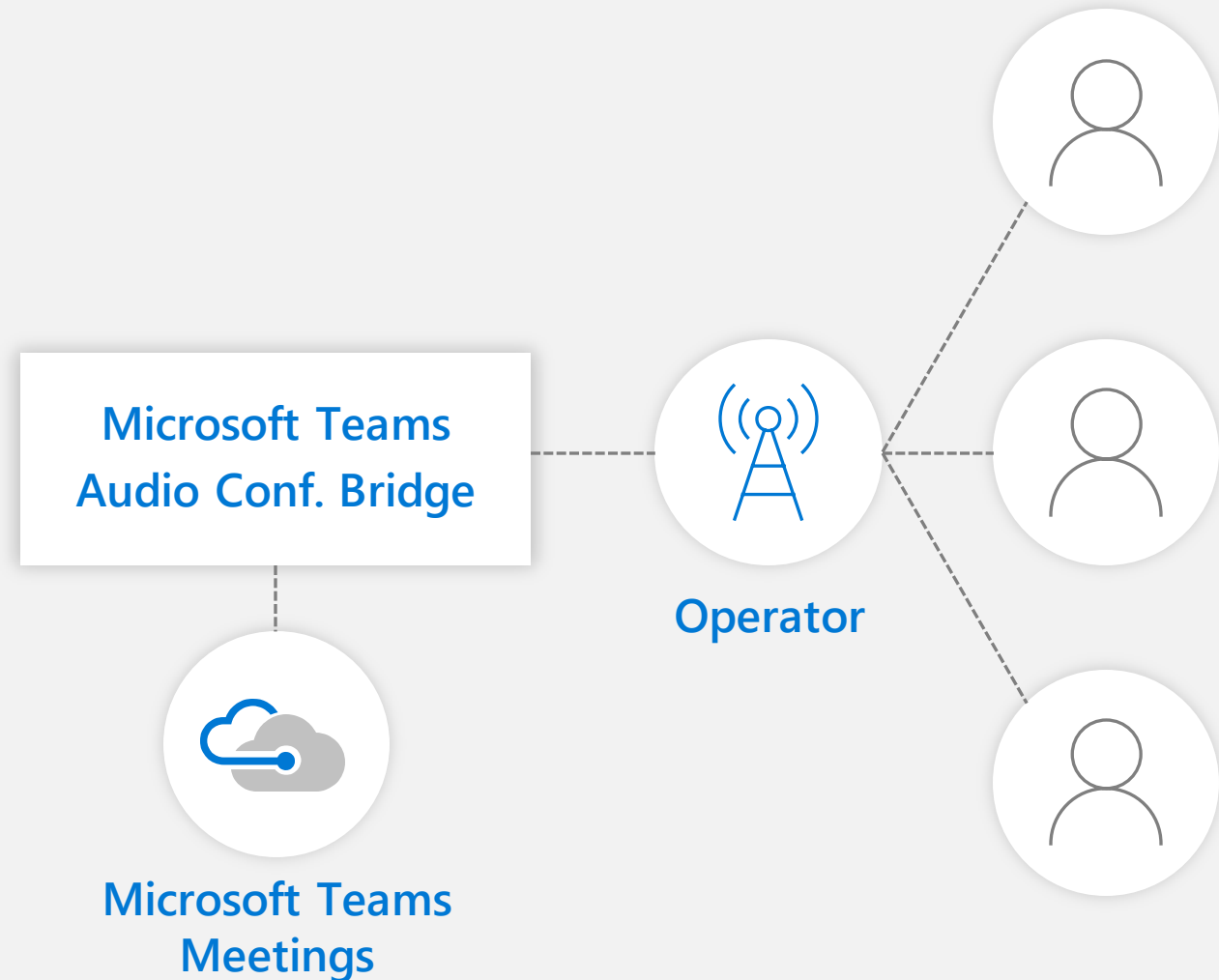
Establish the connection to your operator, provision users, and assign phone numbers from the Teams admin center

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



Teams Phone for Mobile

Simply and Seamlessly Enable SIM-Enabled Unified Calling in Microsoft Teams Using Your Existing Mobile Telecom Operator

Bring Your Own Mobile Operator

Utilize a single SIM-enabled number as your unified number to support all mobile and calling scenarios directly through Teams.

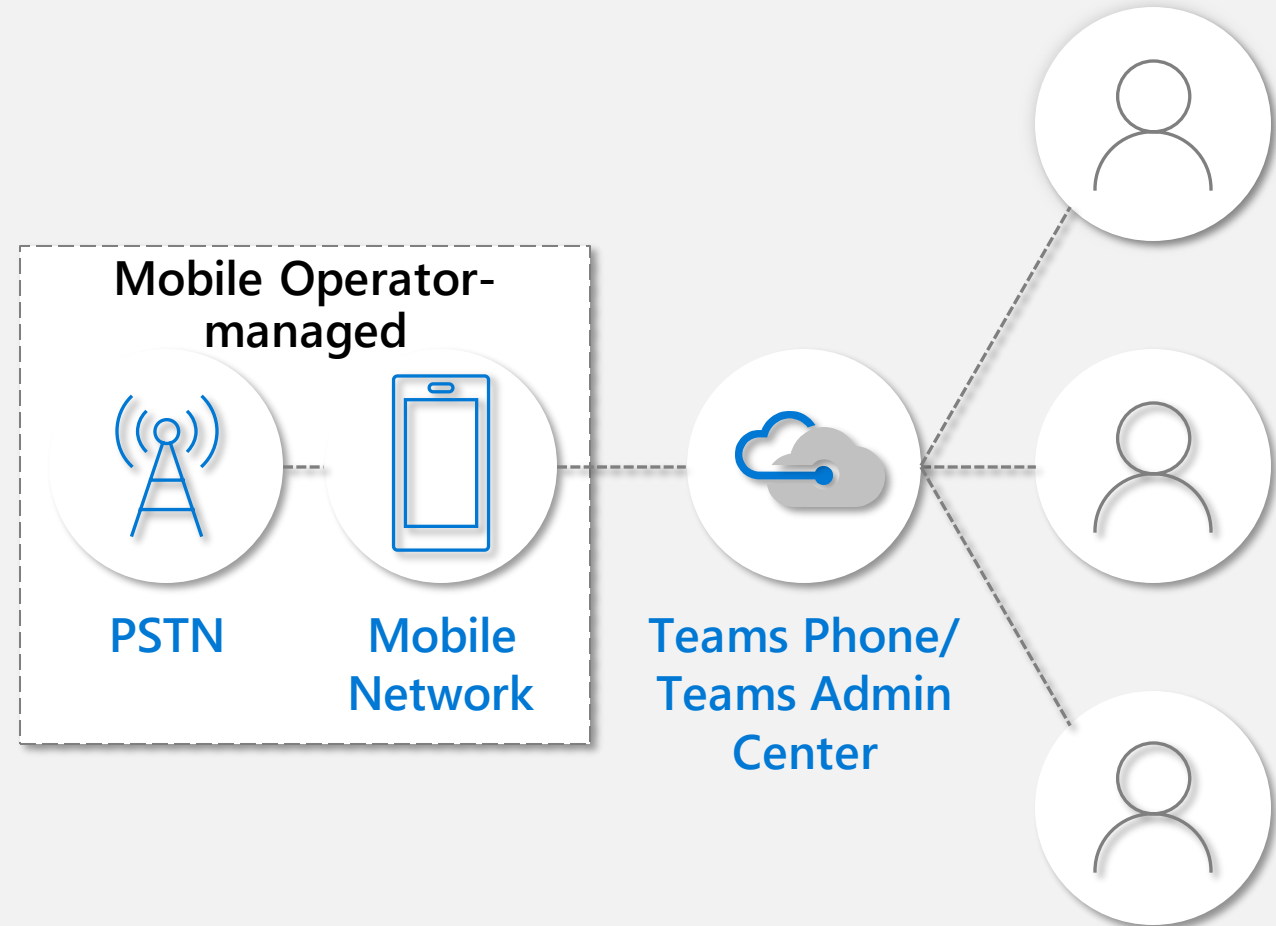
Variety of Mobile Telecom Operators Available at Your Fingertips

Establish connection to your mobile operator via the Teams admin center by leveraging the same familiar Operator Connect experience to provision users and assign phone numbers directly.

Converged Fixed-Mobile Communication Flexibility

Enable flexible communication and collab scenarios through leveraging your mobile phone's native dialer, seamlessly moving calls across networks/devices; enhancing with collaboration (e.g. adding video to an existing call (via VoIP) directly and natively through Teams.

****Coming Soon**



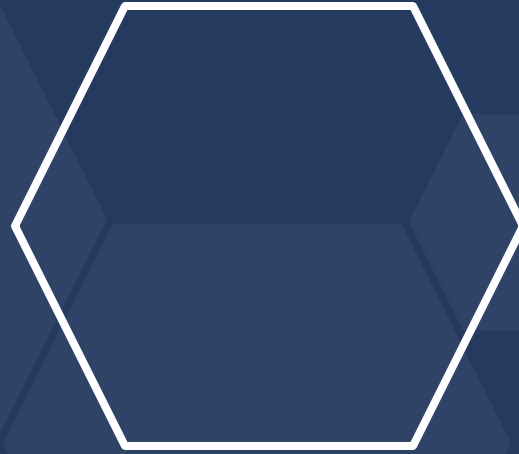
**Initial partners at launch



<https://aka.ms/OperatorConnect>

<https://techcommunity.microsoft.com/t5/microsoft-teams-blog/highlights-from-enterprise-connect-2022-new-microsoft-teams/ba-p/3263176>

Dynamic 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>]

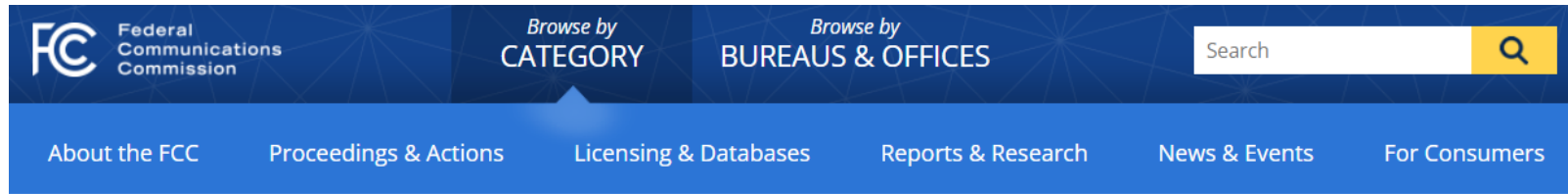


Direct Routing can also leverage Emergency Location Identification Number [ELIN] gateways [upcoming support – see <https://aka.ms/dr-sbc>]



Configure security desk notifications

Legislation: Dynamic Emergency Calling (source FCC)



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

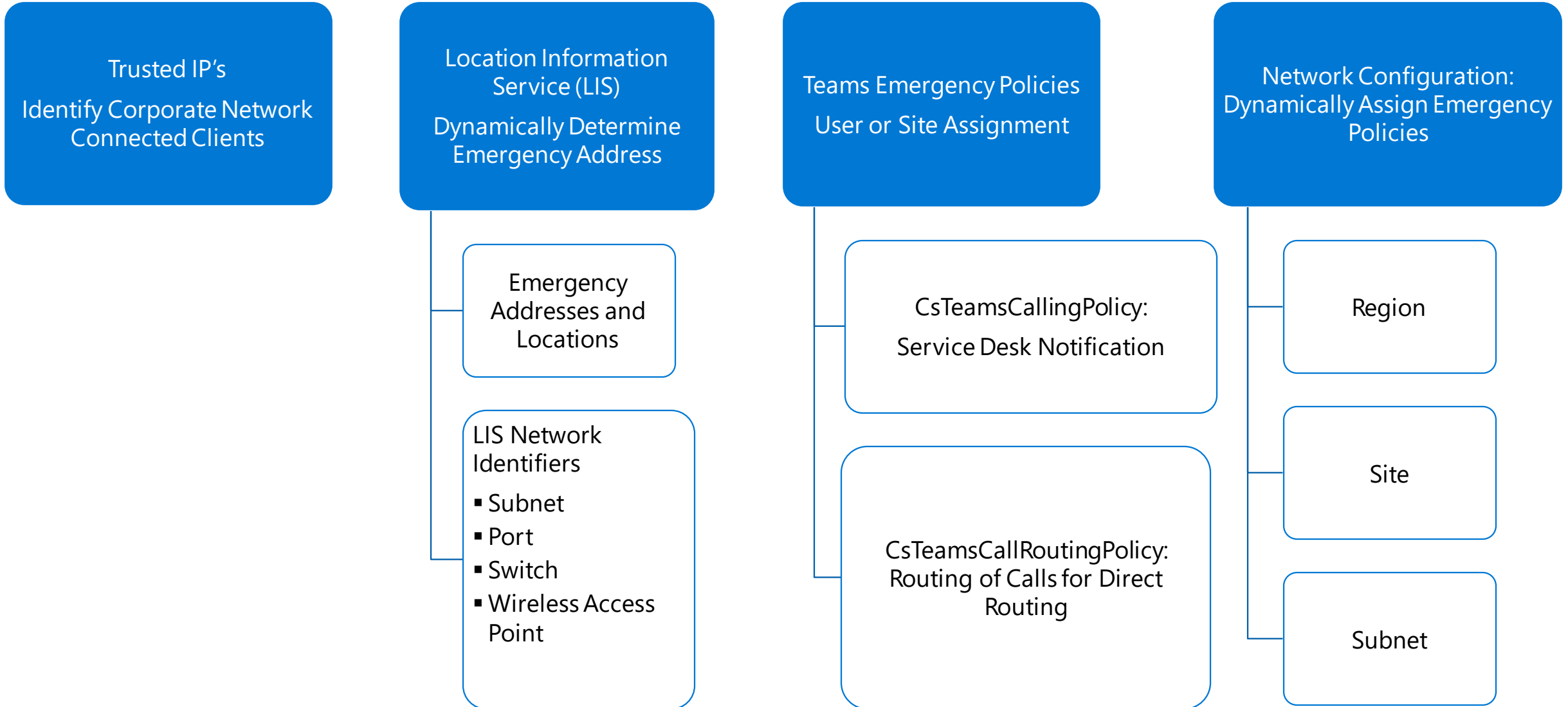
Kari’s Law is named in honor of Kari Hunt, who was killed by her estranged husband in a motel room in Marshall, Texas in 2013. Ms. Hunt’s 9-year-old daughter tried to call 911 for help four times from the motel room phone, but the call never went through because she did not know that the motel’s phone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



Dynamic Emergency Calling Work From Home Considerations

Calls

Phone

Contacts

Type a name or number

1

2

3

4

5

6

7

8

9

*

0

#

Call

Work number: +1 425-555-1212

Parked calls

One Microsoft Way, Redm..

Don't forward

Zone Wireless

Calls

Phone

Contacts

Type a name or number

1

2

3

4

5

6

7

8

9

*

0

#

Call

Work number: +1 425-555-1212

Parked calls

Your current emergency location

Edit your address

Confirm your address

One Microsoft Way, Redm..

Don't forward

Zone Wireless

Edit your current location (All fields are required.)

One

Microsoft Way

Redmond

WA

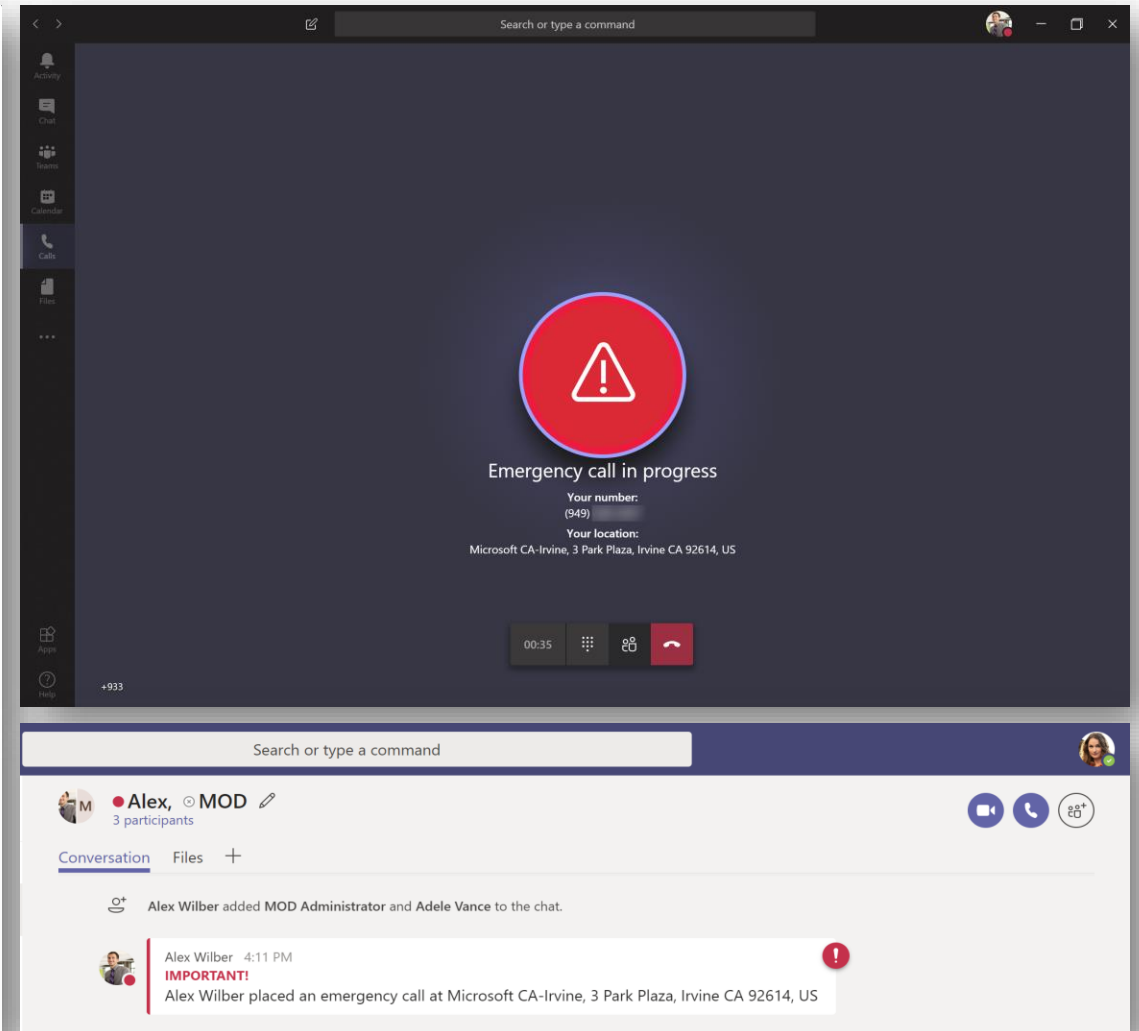
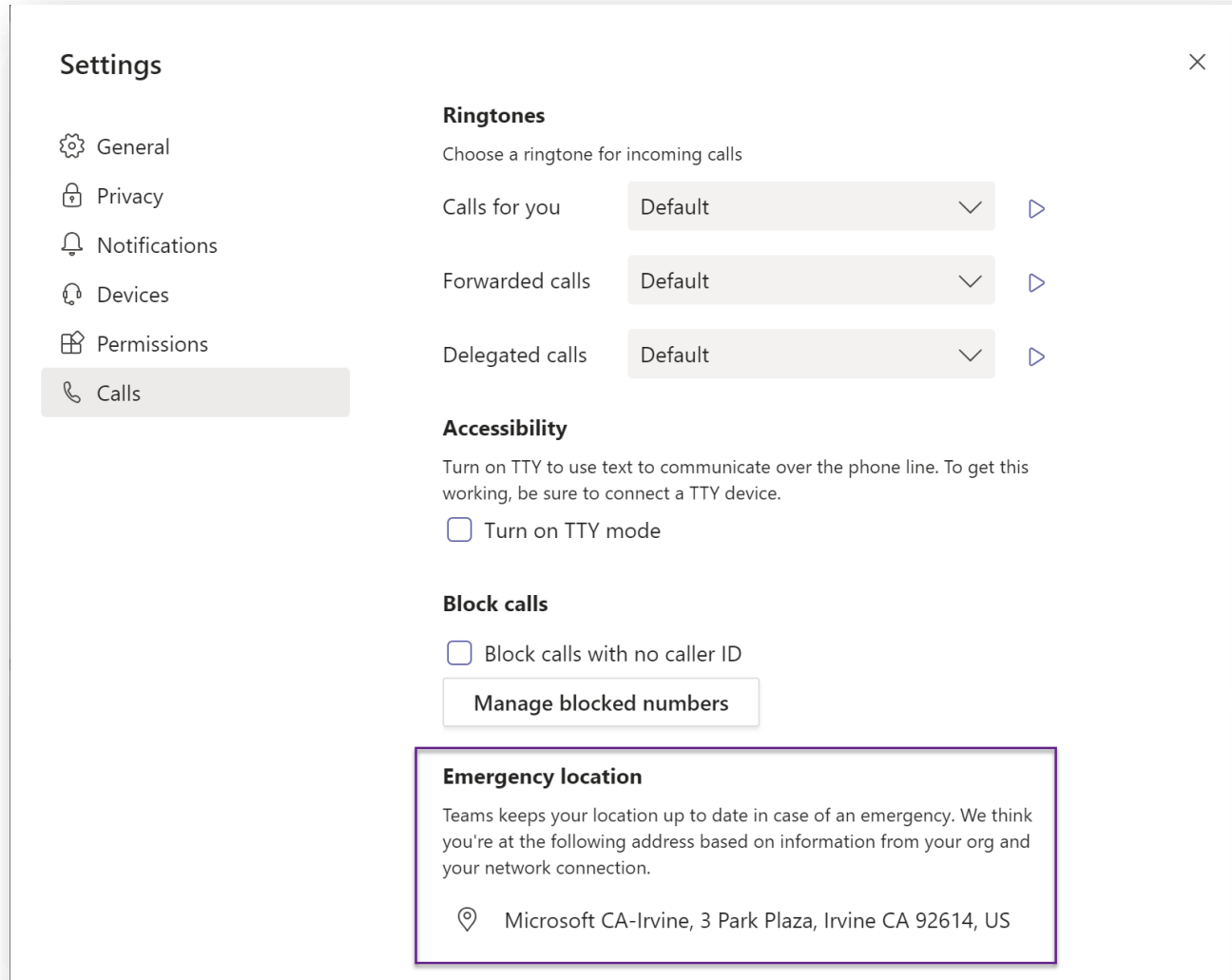
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US

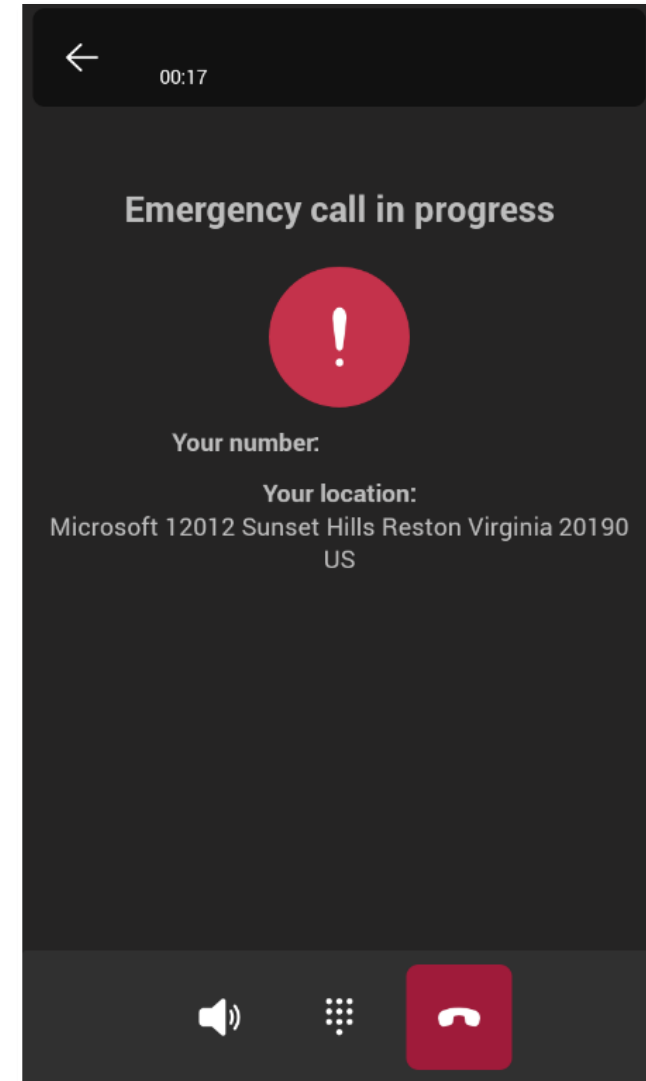
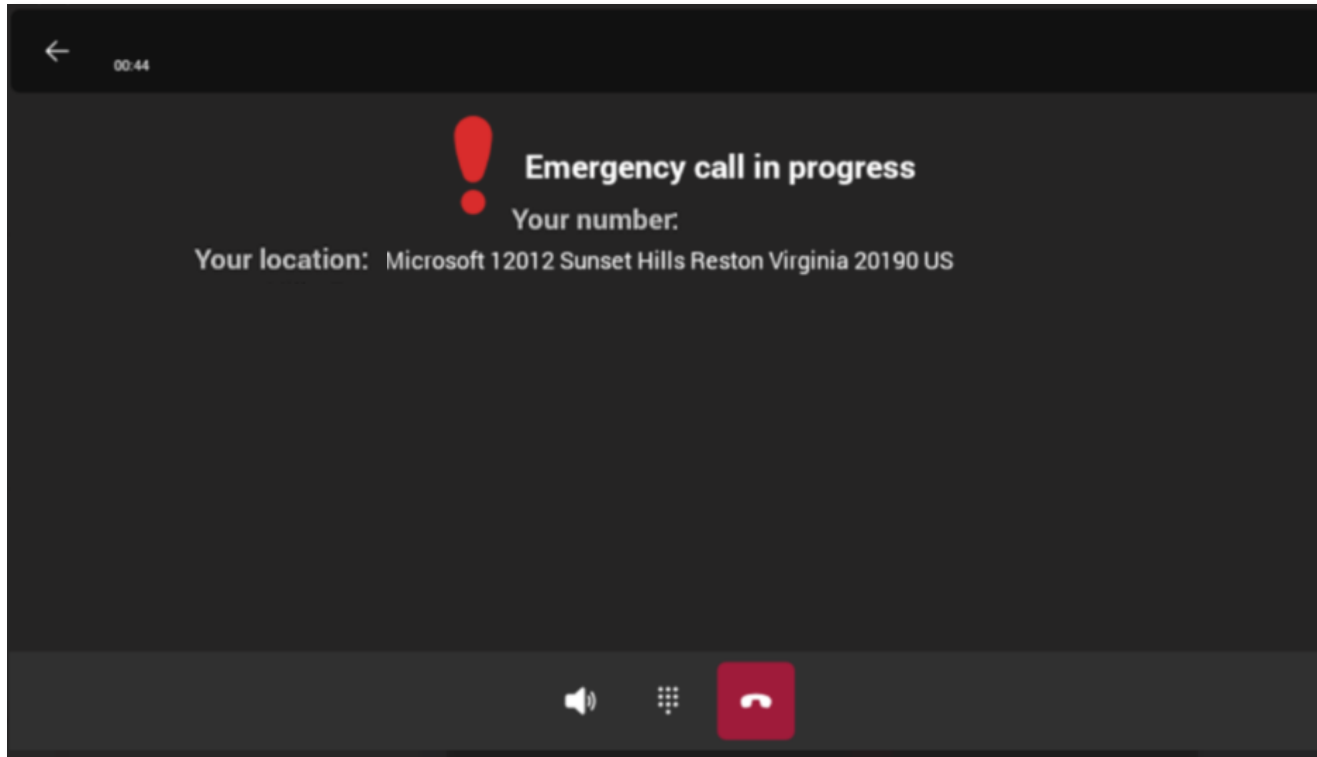
Cancel

Confirm

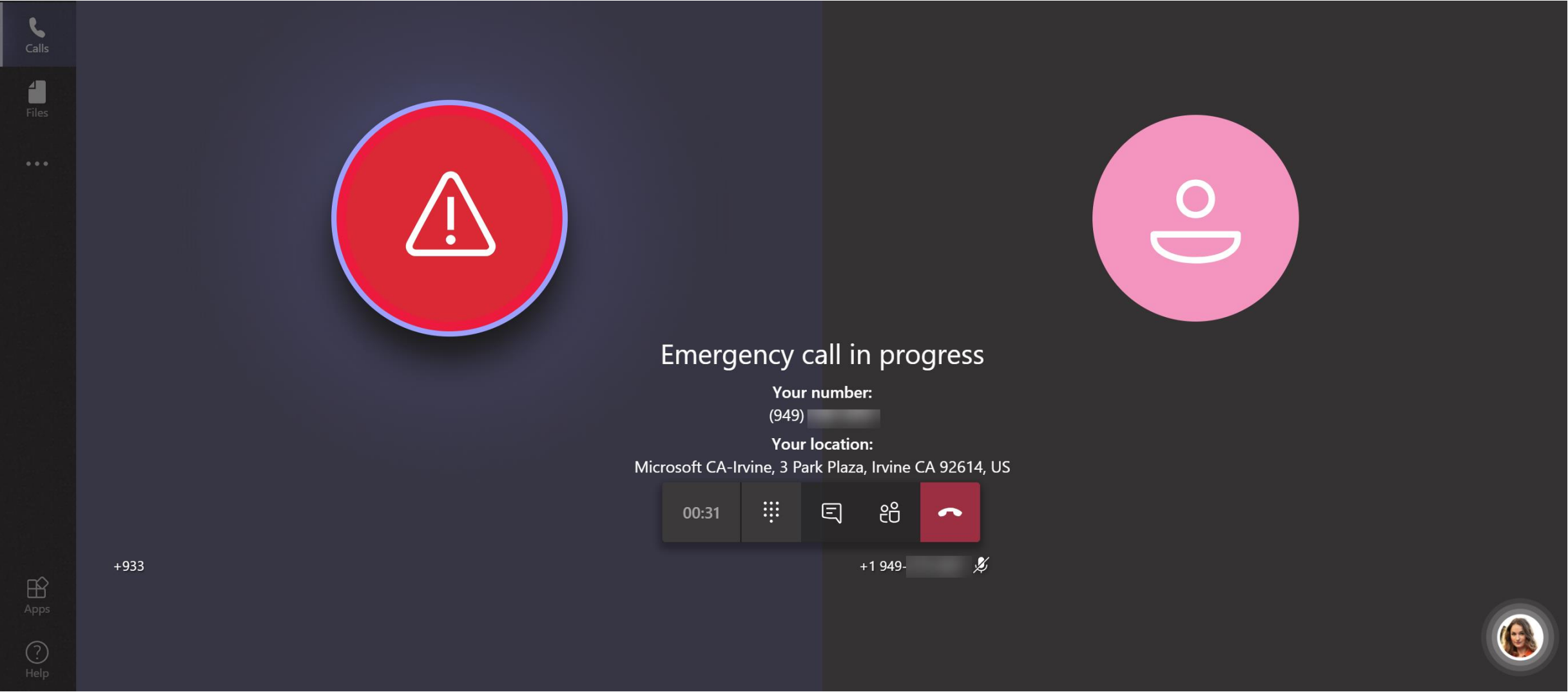
Desktop Client: Dynamic Emergency Calling User Experience



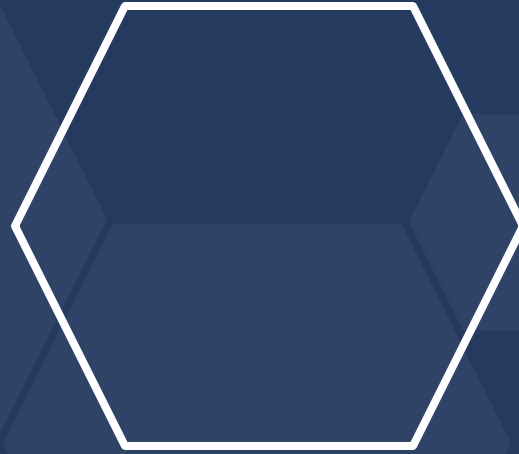
Teams Native Phone: Dynamic Emergency Calling User Experience



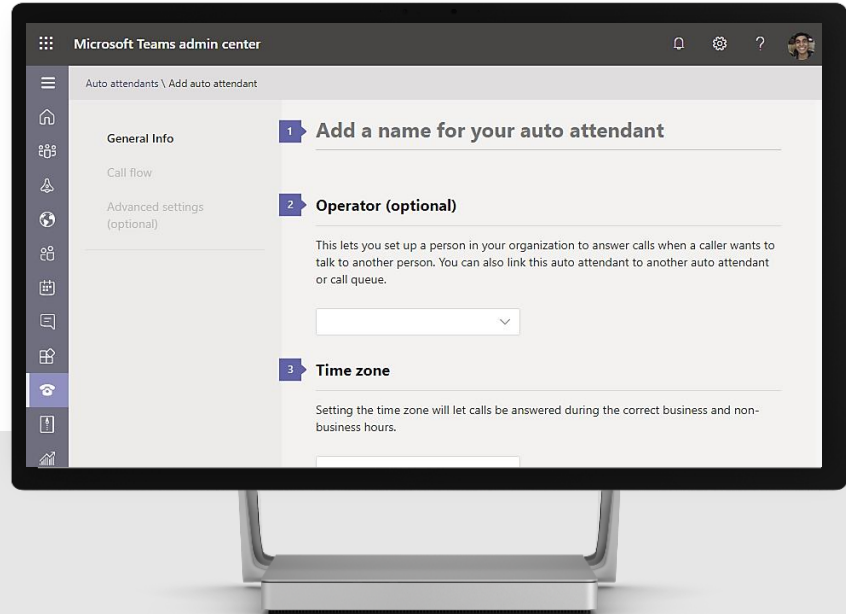
Dynamic Emergency Calling Security Desk Notification (e.g. Conferenced in, but muted)



Auto Attendants and Call Queues

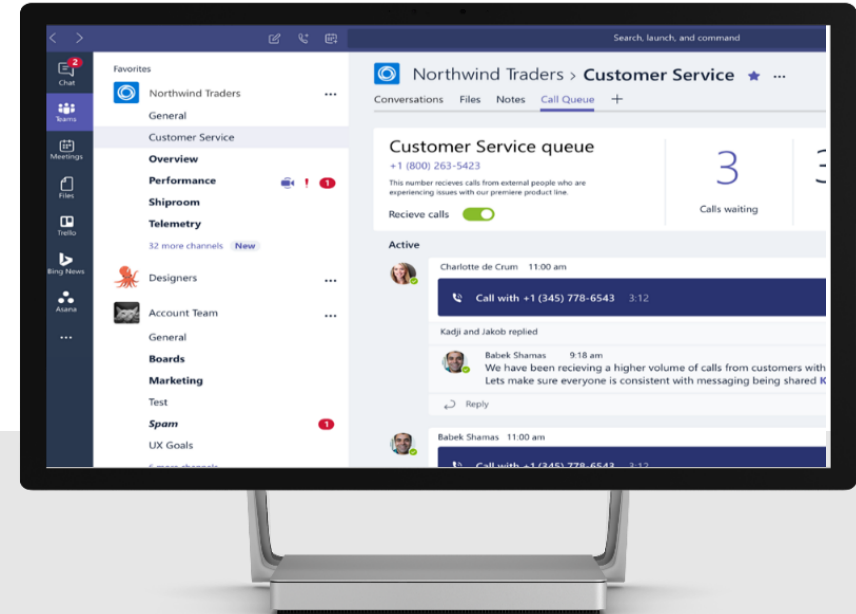


Auto Attendant and Call Queues



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

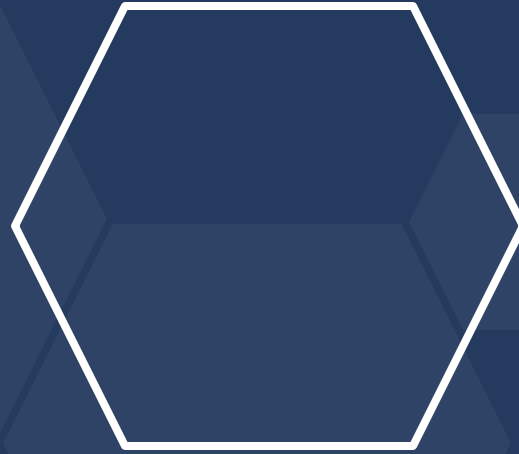
In addition, if the call queues are using Direct Routing numbers, agents who need to conference or transfer calls also require:

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 Voice Devices



Teamwork across spaces and devices

United by Microsoft Teams



Individual workspaces

Individual office or dedicated workspace

On the go or in transit at home



Group workspaces

Small, medium and large meeting rooms

huddle/focus spaces and touchdown spaces

collaboration workspaces



Personal devices



Audio & video
peripherals



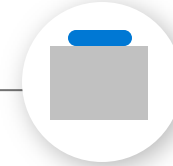
PCs and
Mobile



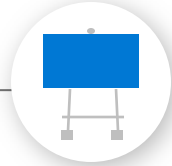
Phones



Conference
phones



Teams
Rooms



Surface
Hub

3PIP Gateway (Available today)

EoL: **July 31st 2023**

Features **Supported**

Authentication
Sign in with user credentials/Web Sign-in
Modern Authentication
Phone lock/unlock
Hot Desking Support
Calling
Incoming/Outgoing P2P calls from/to Teams users
In-call controls via UI (Mute/unmute, hold/resume, blind transfer, end call)
PSTN calls
Visual Voicemail
Static 911 support (e.g. Dynamic 911 not supported)
Device Update and Management
Device Update
In-band provisioning
QoE & Log Upload
Common Area Phone Support

Meetings
One-click Join for Pre-Scheduled Teams Meeting
Meeting Call controls (Mute/unmute, hold/resume, hang up, Add/remove participant)
Meeting Reminders
Add Skype for Business participant to ongoing meeting

Calendar and Presence
Calendar Access and Meeting Details
Presence Integration
Exchange Calendar Integration
Contact Picture Integration
Corporate Directory Access
Visual Voicemail

Features **Not-Supported**

Native Teams Device Features (e.g. Examples)
Call forwarding*
Setting presence
DND (calls will still land on 3PIP)
Anything not listed as supported is unsupported

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
- Local Call Forwarding
- Dynamic 911***

Integration with Teams routing policies/regulations

Device inventory management within Teams admin center

***Dependent upon latest vendor, device certification

Compatible SIP phones



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



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



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



AudioCodes 400 HD series

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

DECT Device Integration with SIP Gateway

To further enhance key calling scenarios for frontline worker scenarios an initial subset of DECT devices are now supported with SIP Gateway, allowing frontline workers to use Teams calling functionality (via DECT devices) to communicate with colleagues while on the go.



Ascom (IP-DECT Access Points IPBSx, Gateway IPBL, Virtual Appliance IPVM, handsets d43/d63/d81/d83/Myco3)



Spectralink (IP-DECT 200/400/6500/Virtual IP-DECT, handsets 72xx/75xx/76xx/77xx/PP8)



Poly (base stations Rove B2/B4, handsets Rove 30/40, repeater Rove R8)

Note: We will be adding additional compatible DECT handset models from Yealink by the end of 2022.

SIP Gateway Analog Telephone Support

Public Preview

Beginning in early 2023, SIP Gateway will support analog telephones, allowing you to use Teams calling functionality on the following compatible analog telephone adaptor (ATA) models from AudioCodes, Cisco, and Poly:

- **AudioCodes:** (MP-112 FXS, MP-114 FXS, MP-114 FXS_FXO, MP-118 FXS, MP-118 FXS_FXO, MP-124 FXS)
- **Cisco:** (ATA 191, ATA 192)
- **Poly:** (OBI 300, OBI 302)

With this improvement to support analog endpoints like elevator phones, Teams Phone will serve a significant number of scenarios that previously required an on-premises PBX. Learn more about planning for and configuring SIP Gateway in your organization.



AudioCodes ATA



Cisco ATA



Polycom ATA

For latest details, please refer to: <https://learn.microsoft.com/en-us/microsoftteams/sip-gateway-plan>

SIP Gateway Overhead Paging Support

Roadmap

SIP Gateway will support overhead paging devices by early 2023, allowing you to use Teams calling functionality on pagers, ringers, and speakers while in noisy environments such as manufacturing plants. We will soon share more details about compatible device models from Algo.



Algo Overhead Paging

For latest details, please refer to: <https://learn.microsoft.com/en-us/microsoftteams/sip-gateway-plan>

Deploying Teams Operator Connect



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

43

All operators

0

My operators

My Operators

Calling, Audio conferencing ▾

Clear

☒ United States

- ✓ Calling,
- ✓ Audio conference,

USA, Canada, +3 more

TelePacific

Albania

ODAA Corp.

✓ Calling

France, +2 more

Touch Global

- ✓ Calling,
- ✓ Audio conference

USA, Canada, + 101 more

ViviTech Comm

- ✓ Calling,
- ✓ Audio conference

Italy, Germany, + 2 more

ATP

✓ Audio conference

Albania

SunTech

- ✓ Calling,
- ✓ Audio conference

Belgium

[Offer details](#)

Operators

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Operator summary

43

All operators

0

My operators

All Operators

My Operators

Unites States of America ▾

Calling, Audio conferencing ▾



Contoso Telecom

Available products

- ✓ Calling,
- ✓ Audio conference

Served regions

USA, Canada, +3 more

[Offer details](#) ☐ Calling☐ 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](#)

- 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

43

All operators

0

My operators

All Operators

My Operators

Unites States of America

Calling, Audio conferencing



Contoso Telecom

Available products

- ✓ Calling,
- ✓ Audio conference

Served regions

USA, Canada, +3 more

[Offer details](#)

- ☒ Calling
- ☐ 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](#)



[Dashboard](#)

Teams

Devices

Locations

Users

Meetings

 Messaging policies

 Teams app

● **My** [Home](#) [My Account](#) [My Cart](#) [My Orders](#) [My Wishes](#)

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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

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Operator summary

43

All operators

0

My operators

All Operators

My Operators

Unites States of America ▾

Calling ▾



Contoso Telecom

Available products

- ✓ Calling,

- ✓ Audio conference

Served regions

USA, Canada, +3 more

[Offer details](#)



Acquired phone numbers
0

Available products

Calling, Audio conference ▾

Select regions for partnering with this operator

☐ USA☐ United Kingdom☐ Canada☐ Germany☐ Mexico☐ Operator can contact me

☐ I accept the [data transfer notice](#).

Cancel


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](#) 



Contoso Telecom

Acquired phone numbers

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](#).

Cancel



Acquired phone numbers
0

Available products

Calling, Audio conference ▾

Select regions for partnering with this operator

☒ USA☐ Canada☐ Mexico☐ United Kingdom☐ Germany

☒ Operator can contact me

Full name

Email

Full name

email@contoso.com

Phone number (optional)

XXX XXX XXXX

☐ I accept the [data transfer notice](#).

Add as my operator


Cancel

Policy packages

Analytics & reports

Org-wide settings


Planning

[Call quality dashboard](#) 



Acquired phone numbers
0

Available products

Calling, Audio conference 

Select regions for partnering with this operator

- ☒ USA

☐ Canada

☐ Mexico

☐ United Kingdom

☐ Germany

- ☒ 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](#)

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






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
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- Org-wide settings
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- 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

Thank you.

