Adding Cloud Telephony to Microsoft Teams

A Guide

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Overview

Collaboration technologies – with features like instant messaging, file-sharing and video calling – are key to supporting new flexible work practices and remote working. Their adoption accelerated during the Covid-19 pandemic as organisations raced to implement remote working, with solutions like Microsoft Teams appearing on many devices. This new way of working has highlighted opportunities to improve productivity, business performance and work-life balance, and work routines are likely to remain less office-centric in future.

Most people feel we will never go back to the old ways. Collaboration tools have proven their worth in 2020 and are here to stay.

This change coincides with the growth of cloud telephony. This is a longer-term trend - cloud telephony brings a number of benefits to businesses and employees. IT teams can deliver a consistent experience to all users globally, which improves control, security and reliability. Cloud telephony eliminates the need to provision and maintain on-premises telephony equipment, simplifying IT environments and reducing cost. And users have a secure means to communicate with customers and colleagues from any suitable internet-enabled device, allowing more flexible ways of working.

The logical next step for IT leaders is to unify their collaboration tools with business telephony, and move all of their calling to the cloud.

With a cloud-based telecommunications system, users can make and receive calls on their business number from all their internet-enabled devices – including PCs, desk phones, mobile phones and tablets. And Microsoft's cloud telephony solution brings together internal collaboration and external telephony through the Microsoft Teams interface.

Will organisations choose this route? This paper answers questions for organisations that are considering the next step forward.

What is cloud telephony?

Cloud telephony is the concept of replacing a physical PBX, or a number of them, with a software-based phone system which is hosted in the cloud. It is convenient for single-site organisations, as they can gain the benefits of working in the cloud, and eliminate the need to maintain their PBX hardware. However, for larger businesses with multiple locations, particularly multinational businesses, there is much more to gain in terms of consistency across sites, easier management and reduced costs.

Cloud telephony can be a component of Unified Communications, (UC), which may include voice communications, video conferencing, presence, fixed-mobile convergence and instant messaging (IM). These are used together to create one integrated communications experience that works across enterprise networks. UC is often provided as a service and hosted in the cloud.

With cloud telephony, individuals can make and receive calls from any location, with any compatible device that is connected to the internet. This can be a desk phone, a soft phone (a software-based phone on a PC) or a mobile phone.

Combining a collaboration tool such as Microsoft Teams, which includes video calling, with cloud telephony brings business communications right up to date and delivers a number of strong business benefits.

How does Microsoft Teams provide cloud telephony?

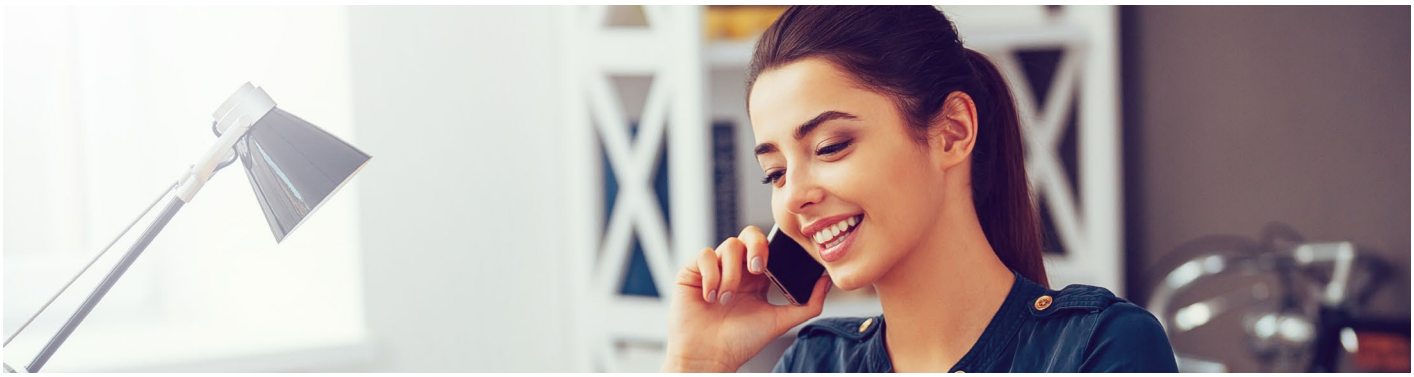
Most businesses deploy Microsoft Teams internally to use chat, internal voice and video calls and conferencing across their organisation. Now, it is increasingly being used to make calls outside the organisation. This requires a way to connect external phone calls.

Microsoft offers their own PBX in the cloud, called Phone System, for this purpose. Phone System adds cloud voice telephony to Teams. However, it needs to connect to the global PSTN network to enable phone calls. Microsoft offers two ways to achieve this, Microsoft Calling Plans or Direct Routing using a third-party carrier or managed service provider.

Microsoft's Calling Plans are available for users in just 16 countries. With Calling Plans, users can port their existing phone number or create a new one. Calling Plans include a bundle of minutes for making external calls. They suit smaller businesses operating within one country, but they are less suitable for larger enterprises with offices in many locations, for several reasons.

A multi-national business would require a number of plans to cover each country, but the limited number of countries is not adequate for an organisation with global reach. If all of your office locations and employees are located within the countries where Calling Plans are available, there is no problem. However, if you have offices and people in locations that are not on the list, there is no Calling Plan for them.

Calling Plans provide fixed bundles of calls, which do not offer any flexibility to match the needs of a business. And they are expensive - Calling Plans that include international calls start from £24 per user per month. By contrast, a Direct Routing solution from a managed service provider is generally more flexible and cost-effective.



There is also the issue that where an organisation needs a larger more complex solution, Microsoft provides little or no assistance for those scenarios. However, a managed service provider brings technical support and expertise as well as PSTN connectivity via Direct Routing, so the organisation can be sure of a smooth transition and a successful implementation for their complex cloud calling solution.

Organisations need local DID numbers to receive calls. This means they will need to work with a managed service provider that offers these for the countries they require.

For these reasons, organisations with more than 100 people typically choose a managed service provider to connect their calls and use the Direct Routing option.

A managed service provider will usually port the organisation's existing phone numbers to enable the move to the cloud voice solution (except for a few countries where this is not permitted). The whole cloud telephony system will be managed centrally, call charges for the whole organisation will be included in one agreement (for economies of scale), and billing can be broken down by country or business unit as required to align with the internal accounting.

Adding Microsoft's Phone System licence turns Microsoft Teams into a full enterprise telephony solution. It links to the Microsoft 365 software suite and allows users to make and receive calls directly from MS Teams, on any device. Adding a Calling Plan or a managed service provider partner to gain a PSTN connection adds the capability to make and receive external calls to and from any destination across the globe.

How does adding cloud telephony to Teams help users?

Cloud telephony is popular with users who need to work and keep in touch wherever they are located. It brings improved, easier communication.

It provides access to the full set of business telephony features from any location with an internet connection. Employees use these to make and receive calls on their business line, access voicemail, call forwarding, and features such as hunt groups.

In the past, an individual might have forwarded calls from their office phone to their mobile when they were out of the office, but this only works for inbound calls and it generates call forwarding costs. It does not allow people to use outbound calling or the other PBX features from their mobile devices.

With cloud telephony you can use your preferred internet-connected device running Microsoft Teams. You can also switch between computers, softphones, mobile phones, tablets and meeting rooms.

Additionally, using Teams for telephony means that all collaboration and communication – both internal and external – will use the same familiar interface across all devices, making it easier and more convenient to use.

Remote working becomes easier and more efficient because employees can be contacted on their business number even when they are out of the office. This makes it easier to stay in touch with customers who may not have their mobile phone number. When employees use their mobile phone for business telephony, calls are made and received with a data connection, rather than per-minute mobile charges. Consequently, the costs can be lower, particularly for users travelling overseas.

Teams with cloud telephony enables easier, more efficient communication which helps to get business done and brings better business outcomes.

Why would a business add cloud telephony to Teams?

Moving telephony to the cloud allows businesses provide a modern working environment that is standardised across their offices, based on the Microsoft 365 platform.

Cloud telephony is an important factor in creating a viable business model where employees can move around and work from home when they need to. It provides a structure for hot-desking, mobile working and working from home, and location no longer matters.

It provides a consistent user experience across the organisation as everyone uses the same telephony platform. All business communications are on a platform that is controlled centrally by the organisation. The network is monitored and any issues with reliability or audio quality can be proactively addressed. Employees don't need to use their domestic phones and personal mobile plans.

User training and support can be centralised as everyone is using the same solution.

The easiest option is to work with a managed services provider that operates worldwide and provides personal support to each site in their local language.

Cloud telephony brings better uptime, performance and scalability.

With Microsoft, it is easy to add users, update the system and roll out changes. Users can be added, removed and managed centrally, which is flexible and secure and allows overall global data on usage and costs to be managed and measured.

Having a cloud telephony system that is tied to Microsoft's security and access solutions reduces complexity and improves control, security and awareness.

Because the telephony is hosted in the cloud, any local network issue can be bypassed by routing calls another way. Or, should there be a surge in calls – say to a call centre - it is easier to manage capacity.

There are also significant cost savings. There is no need to own and maintain a PBX for each office location. This is a significant saving because organisations generally have a PBX at each building, and the proprietary PBX hardware can be complicated to maintain and manage. For organisations that regularly open new offices and close down others, a cloud telephony solution offers far more flexibility than on-premises solutions. And in a world where an increasing number of employees work remotely, or move between offices, it doesn't make sense to tether their business number to a physical location.

If the organisation chooses to use a global managed service provider, they will no longer need a regional carrier for each country. Rationalising the supplier base can reduce complexity and generate economies of scale. The global managed service provider can work with multiple carriers in each region, allowing them to optimise the routing of calls to maximise audio quality, provide network resilience and minimise call termination costs.

Using a global voice network from one provider can bring savings on overseas call charges, and internal calls between offices in different regions and forwarded calls will be free of charge, as they are not routed via the PSTN.

For a large enterprise, using one managed service provider for voice calls across the globe brings clear economies of scale, and the decision to move telephony to the cloud will bring savings in operational costs year after year.

How do you implement cloud telephony for Microsoft Teams?

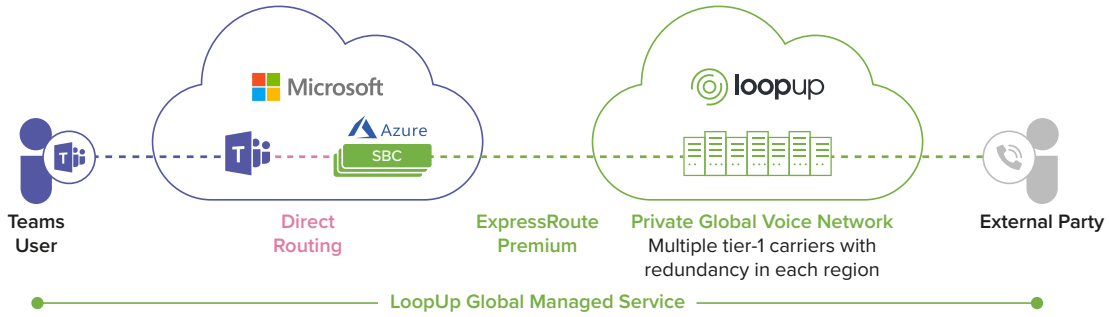
Adding full voice calling to Microsoft Teams requires licences for Microsoft's cloud-based Phone System, which will need to be configured, and a connection to the PSTN network.

At present, each user will need a base licence such as, Microsoft or Office 365 E1, F3, or E3 and can apply the Phone System licence add-on. Microsoft or Office 365 E5 already includes the Phone System add-on as part of the licence.

Larger organisations can choose a managed service provider to provide the connection to PSTN and Direct Routing to connect their calls. This adds global voice calling capabilities to Microsoft Teams with Microsoft Phone System.

Direct Routing is provided by an interface called a Session Border Controller (SBC) which is hosted globally across LoopUp's Azure tenant. SBCs are also commonly referred to as 'PSTN Gateways'. Telephone numbers and DDI extensions can be ported to the new system in all countries where this is possible, so that users can retain their existing phone numbers.

Then, the users just need to have the Teams application on each of their devices, which might be Windows, iOS or Android. If they are already using Microsoft 365 for email and office work, this is not a difficult transition.



Many larger organisations are already using a form of Unified Communications, for example Skype for Business. In this case moving their telephony to Teams is not such a major change. The old and new systems can operate together in the short term, and users will gradually be migrated to the cloud system.

The final step in the migration is user training. The desktop calling application will offer more functions than the older phone handsets had, so it is important that everyone understands the change and is ready to embrace UC.

Users can now connect to Microsoft's cloud-based Phone System instead of the on-premises PBX. Each user's DDI number is ported to the service provider so that they can use their Teams-enabled devices to receive incoming calls, and their caller ID will be shown for outbound calls.

This architecture allows individuals to use Microsoft Teams from their PC, desk phone or mobile device. However, as more people work remotely and hot-desk, demand for desk phones is decreasing.

They can use Microsoft Teams to make and receive calls inside and outside their own organisation, with full voice capabilities, including call transfer, forwarding and voicemail, as well as video calls, meetings, chat and collaboration.

The managed service is secure, global and tailored to the organisation's needs. The business can decide how it wishes to use phone numbers, voicemail, calling ID, call flows, advanced call routing, IVR, security and compliance.

With a fully managed service, everything is included: system design, systems integration, migration, training and support.

Glossary

Calling Plan – a fixed price subscription to a telephone carrier for making calls.

Cloud Telephony – a software-based phone system hosted in the cloud, which replaces a traditional PBX or switchboard. Its calls are carried over the PSTN network.

Direct Routing – the interface that routes Microsoft Teams to the global telecoms network.

PBX – Private Branch Exchange, the telephone exchange or switchboard that connects internal calls within a site and links the internal extensions to the external telecoms network.

PSTN – Public Switched Telephone Network, the lines used for voice calls. The telephone networks are operated by national or regional telecoms carriers.

SIP - Session Initiation Protocol, is an open standard used to set up and manage phone calls.

Teams – Microsoft's UC-as-a-Service solution, part of Microsoft 365. Teams provides enterprise telephony, personal and team messaging, and meeting capabilities.

UC, Unified Communications – a communications concept that combines telephony, presence, meeting and messaging into one experience.

Read more:

The case for Microsoft Teams cloud telephony is compelling, but the journey can be complex.

Visit loopup.com for more whitepapers on this topic including:

- **Adding Cloud Telephony to Microsoft Teams**
- **Direct Routing or Calling Plans – which approach is right for your business?**
- **Preparing your Corporate Network for Microsoft Teams**
- **Moving to Teams telephony – how to run a successful proof of concept**
- **The Microsoft Teams telephony user experience**
- **Skype for Business Online is retiring. Here's what you need to know**
- **Devices and hardware for Microsoft Teams cloud telephony**
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About LoopUp

LoopUp provides a global solution for secure, reliable cloud communications using Cloud voice with Microsoft Teams and Direct Routing.

We include an integrated best-in-class remote meeting solution for premium remote meetings.

Our fully managed voice network was built for the high demands of professional services. It uses 13 carefully chosen Tier 1 carriers, and features auto-failover, PESQ scoring on all routings and real time carrier redundancy. We choose the optimal carrier to connect each call. This improves audio quality and resilience, and reduces costs.

We are Microsoft Certified Gold Partners and have been a Microsoft voice partner since 2010.

Our expertise is in the modern workplace, including security and compliance. We provide consultancy services and support from our modern workplace advisory consultants.

We offer bespoke solutions for contact centre and call recording.

We combine all this with consultancy for Microsoft-based Unified Communications, Collaboration, and Telephony using Teams. Our services include network analysis and performance, transition design and management, enablement, training, adoption and support.

We are the trusted partner to more than 5,000 enterprises, including 20 of the world's top law firms.

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