



**EVALUATING ENTERPRISE TELEPHONY FOR
MICROSOFT TEAMS**

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4th September 2020
(updated February 2021)

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Introduction to telephony in Microsoft Teams

Since November 2019, the number of daily Microsoft Teams users grew from just 20 million to a staggering 115 million as of November 2020—a result of the COVID-19 pandemic and the acceleration of work from home.

The fact that Teams is Microsoft's fastest-growing business application of all time is no surprise. Today, nearly 260 million people around the world use Office 365, and Teams is included for free. This bundling allows businesses to easily adopt Teams and implement it into their workflows.

TELEPHONY NOT INCLUDED

While Teams includes several collaboration essentials, telephony isn't one of them. Tools like team messaging and video conferencing are readily available, but Teams requires a separate solution to enable workers to make calls in the platform.

This presents some critical issues. Calling is still one of the most popular communication tools used by businesses globally, and its omission as a standard feature in Teams leaves enterprises without a key asset.

ADDING TELEPHONY TO TEAMS

Extra licenses and solutions are required to add telephony functionality into Teams. To enable telephony in Teams, each user needs a Microsoft Phone System license, which is available as an add-on license or is bundled into certain Microsoft 365 packages.

Secondly, each user needs connectivity to the public switched telephone network (PSTN), which provides phone lines and minutes.

There are two ways to do this in Microsoft Teams:

MICROSOFT CALLING PLANS

Organizations can use Microsoft as their telephony carrier. Microsoft provides a user with a Calling Plan that includes a user's phone number and a bundle of domestic or international minutes. Calling Plans

offer a simple route to add telephony functions into Microsoft Teams, with Microsoft providing the entire service end to end. There are a number of restrictions associated with the use of Calling Plans including geographic coverage and limited PBX functionality and feature capability.

DIRECT ROUTING

Organizations can connect Teams to a third-party telephony carrier, providing users with a phone number and minutes. The connection is enabled by using a Microsoft-certified Session Border Controller (SBC). Direct Routing allows enterprises to bring their existing carrier relationships and services into Teams, this means being able to take advantage of cheaper call rates, greater flexibility, and better support compared to working directly with Microsoft. A Direct Routing set up can be costly with SBC management costs, and Direct Routing services may add additional OPEX costs on top of Microsoft licensing.

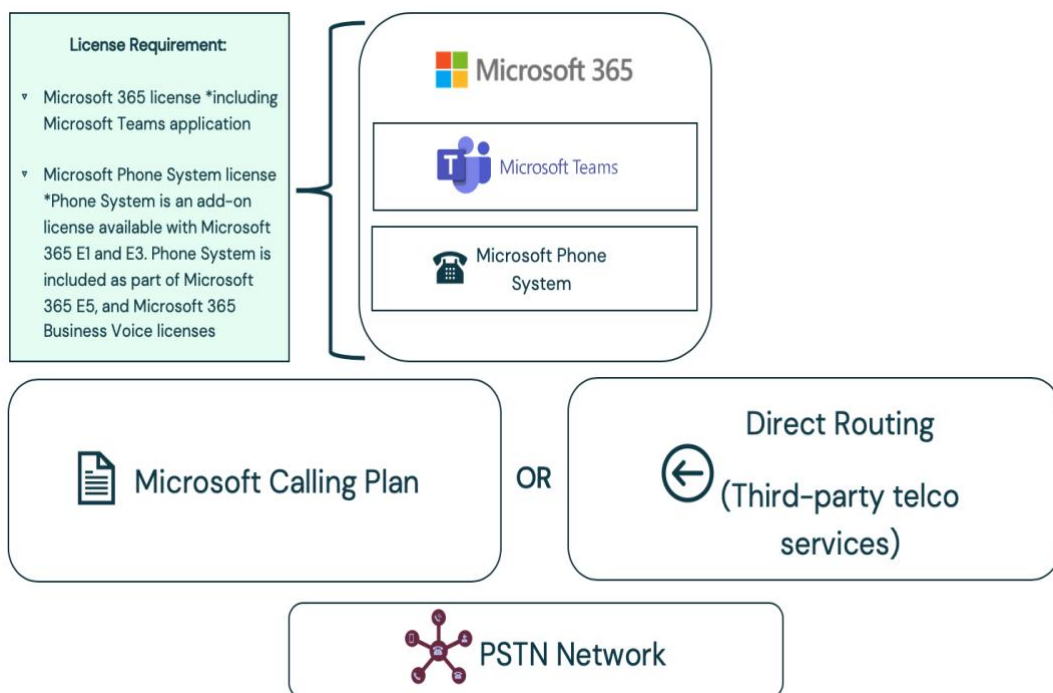
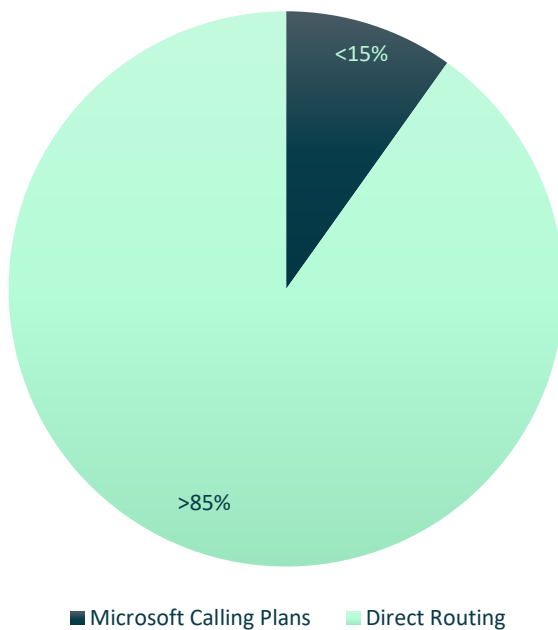


Figure 2. Systems, licenses, and services required to enable telephony in Microsoft Teams

Teams Telephony/Calling Enablement Method



Cavell Group conducted global research on this topic and found that Direct Routing is, by far, the most popular method used to enable telephony within Microsoft Teams.

More than 85% of global Microsoft Teams users have Direct Routing through third-party telephony partners rather than Microsoft’s own Calling Plans. The popularity of Direct Routing, in comparison to Microsoft Calling Plans, can be attributed to a number of key factors including global availability, cost, integration, and feature capabilities.

The challenges of Microsoft’s communication stack

Many enterprise organizations need telephony integrated natively into their Microsoft Teams environments. Telephony integration natively allows users to access PBX features, such as call control and management, without having to move into other applications or systems—reducing downtime and application overload and simplifying training and management. Here are some key features and functions that are included within the Microsoft Teams communications stack.

MICROSOFT PHONE SYSTEM

Phone System is Microsoft’s add-on license which enables call control and PBX functionality in Microsoft Teams. Users within Microsoft Teams with Phone System licenses can then natively use the Teams application to place, receive, and transfer calls.

Calls between users in the same organization or tenancy—regardless of geographic location—are handled internally by Phone System and never go out to the PSTN. For a Teams user to make external calls, Phone System must be connected to the PSTN—either via a Microsoft Calling Plan or by integration through Direct Routing.

Phone System offers a set of basic features and functions that you’d expect to be included within any business suitable PBX system. A full list of the available Phone System features can be found [here](#).

Common enterprise telephony requirements	
Feature/function	Microsoft Phone System
Call, transfer, hold	✓
Call pickup groups	✓
Call blocking, park, and retrieve	✓
Cloud voicemail	✓
Auto attendant	✓
Internal caller ID	✓
Native call recording	✗
Call reporting	✗
External caller ID	✗
Advanced routing rules	✗

Figure 4. Common enterprise telephony requirements in Microsoft Phone System

Microsoft recently released another add-on license, Advanced Communications, which is priced at \$12 per user, per month. The new license enables new features for organizations including call recording and contact center APIs alongside more advanced live event features able to manage up to 20,000 participants. Microsoft is planning to add extra customizations and tools to the license over the coming months.

While the development of Phone System and Microsoft’s communications license options are ongoing, the existing feature list might not meet the requirements of businesses with more complex telephony requirements.

Another key consideration is that some of Microsoft Phone System’s features are delivered in the context of Microsoft Teams and Microsoft 365. The features work in very different ways to traditional

PBX systems, and users may require additional training and support to effectively use everything in a Teams environment.

EVALUATING MICROSOFT CALLING PLANS FOR ENTERPRISE REQUIREMENTS

Calling Plans allow organizations to utilise Microsoft as their PSTN carrier and offer a bundle of domestic or international minutes and phone numbers for Teams users. The entire service is provided directly by Microsoft with no additional PSTN carrier contract required.

The geographic availability of Calling Plans is limited, with Microsoft only offering full carrier capability in 26 countries globally.

- Austria
- Belgium
- Canada
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Hungary
- Ireland
- Italy
- Luxembourg
- Netherlands
- New Zealand
- Norway
- Poland
- Portugal
- Puerto Rico
- Romania
- Singapore
- Slovakia
- Spain
- Sweden
- Switzerland
- United Kingdom (U.K.)
- United States (U.S.)

As well as global coverage limitations, Calling Plans are also limited in terms of regional numbering, restricting enterprises in their selection of phone numbers.

Microsoft does not have a native background in the communications industry and has looked to add to its capability through acquisitions.

2011	2015	2020	2020
Skype	Talko Inc.	Affirmed Networks	Metaswitch Networks
Telecommunications	Mobile Communications	5G Networking & Communications	5G Networking & Communications

Figure 5. Key Microsoft acquisitions in the communications space

The expertise required in communications has required Microsoft to expand and integrate external capabilities to manage customer requirements that fall outside of its traditional business units. For example, number porting, provisioning, and management are relatively new additions to Microsoft’s support offering.

Cost and value are also key considerations. Businesses familiar with per-user pricing are likely to find Microsoft Calling Plan bundles less competitive in terms of pricing than those generally available from other telecommunications providers. In the micro small and medium-sized enterprises space, Calling Plans may be more suitable. For any business with more than 10 users, the overall call cost becomes less viable.

For example, the cost of a Calling Plan bundle exceeds the average price for a comparable number of minutes:



Figure 6. Cavell Group Cloud Comms Market Report 2019

DIRECT ROUTING—AN ALTERNATIVE TO MICROSOFT CALLING PLANS

Direct Routing allows an organization to connect external phone lines and third-party PBX systems with Microsoft Teams. Microsoft requires organizations implementing Direct Routing to use one of a selection of SBC devices to connect to Teams and manage the connection of SIP Trunks to the outside world.

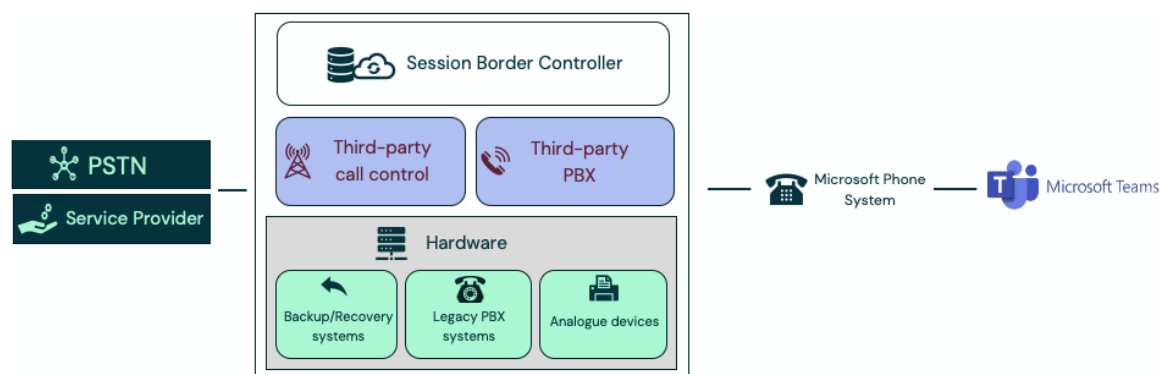


Figure 7. Direct Routing infrastructure

Enterprise organizations exploring this approach would have a number of considerations to ensure viability. Firstly, the technical and financial capability to manage such a deployment like this could be considerable. In addition, enterprises would also require PowerShell knowledge. PowerShell is Microsoft's task automation and configuration management framework that allows technicians to control and configure Microsoft Teams by automating processes and functions.

Many enterprises won't want to configure and maintain their own SBCs and won't have the in-house technical capability, in PowerShell or otherwise, to manage this form of network configuration. In this case, they'll need to explore working with a third-party to enable telephony in Microsoft Teams.

THIRD-PARTY DIRECT ROUTING OPTIONS

Due to Microsoft Teams' growing popularity, a wide range of providers offer Direct Routing solutions as a managed service. These solutions cover a range of different options catering to specific enterprise requirements. The solutions range from providing basic access to more comprehensive services that include additional functionality and features as an overlay.

BASIC ACCESS

Many providers now offer basic access for Microsoft Teams by providing SIP Trunks. SIP Trunks are generally priced on a cost per-channel, per-month basis. Basic SIP Trunk provision would allow an enterprise to connect their own, or a third-party managed, SBC device to the PSTN to provide connectivity into Microsoft Teams.

Enterprises taking basic access services may need to factor in additional costs as calling minutes and phone number charges also need to be accounted for. In certain regions, additional services may also be required to comply with regulations around geolocation reporting for emergency services—something that is not fully configurable within Microsoft’s platform.

DIRECT ROUTING-AS-A-SERVICE

This option is designed to allow organizations to enable telephony services within Microsoft Teams whilst removing the need for an enterprise to manage on-premises infrastructure or possess in-house technical expertise. Generally, Direct Routing-as-a-service products include the SIP connectivity, managed SBC resources, and options covering carrier services such as phone numbers and minutes.

ENHANCED MICROSOFT TEAMS TELEPHONY SERVICE

Offering all the features of Direct Routing-as-a-service, an enhanced Microsoft Teams telephony solution includes further benefits. Vendors and providers will overlay additional advanced PBX functionality, allowing enterprises to overcome any potential shortcomings in Microsoft Phone System. These enhanced offers also include improved integration capabilities, enhanced support provision, and more detailed analytics and reporting.

Enterprise organizations should explore these options based on their own internal requirements, capability, and infrastructure.

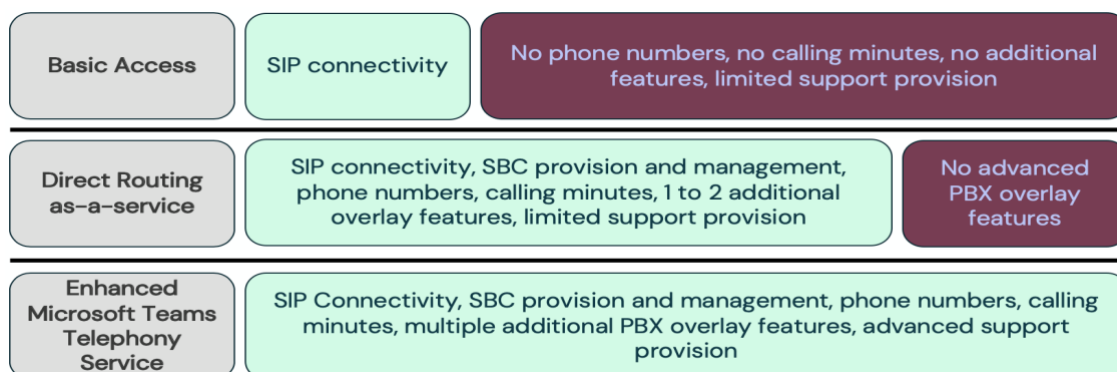


Figure 8. Third-party Direct Routing Microsoft Teams telephony service options

What to look for in a Teams telephony partner

For enterprises looking to augment their Microsoft Teams telephony with third-party solutions—evaluating and selecting the correct product, platform, and vendor is vital. Here are several key considerations when exploring Microsoft Teams telephony partners:

THE RIGHT FEATURES

The functionality currently enabled in Microsoft Phone System—in areas such as caller identification, compliance, and routing—may not meet an enterprise’s specific requirements. Enterprises should evaluate third-party telephony services based on their current and future communication strategy.

Benefits

End-User:

Native inclusion of advanced PBX features in Microsoft Teams—such as caller ID management and call recording—allows users to complete more communication functions seamlessly within the application. This reduces time wasted switching to secondary applications and improving the user experience.

Admin/Management:

By offering advanced PBX features natively within the Teams application, managers and administrators can eliminate training and reduce costs associated with managing multiple stacked communication applications.



69% of workers waste up to 60 minutes a day navigating between different apps

68% toggle between apps up to 10 times an hour

Figure 1. CITE Research 2018—Online survey of 2,000 knowledge workers in the U.S, U.K., and Australia

VENDOR CAPABILITY

There's a huge selection of potential products and services now available in the market. Enterprises need to factor in the experience of the vendor—are they a well-established communications firm with expertise specifically in this area?

Additionally, explore vendors that are more globally available. Many products are provided by vendors in specific countries or regions. Multinational enterprises should look for products provided by vendors with global presence, capability, and the scale to manage the solution in all required locations.

Benefits

End-User:

Using a specialised, class-leading telephony solution will offer end users simplified communication with colleagues, customers, and partners, improving workflow efficiency and productivity.

Admin/Management:

Communications vendor specialists make the process of administering and managing Teams' third-party telephony systems simpler, reducing the internal time used and costs associated with maintenance and change management. In addition, a vendor who can provide telephony services in multiple geographies can reduce the time and resource required to add new sites, incorporate new team members, and take advantage of new markets.

THIRD-PARTY INTEGRATIONS

The number of enterprises looking to integrate communication tools into key line-of-business applications is rising, as Cavell research shows.

“33% of large enterprises—with 250 seats or above— have integrated communication tools into their CRM system” —Cavell Group Enterprise Insight Report 2019

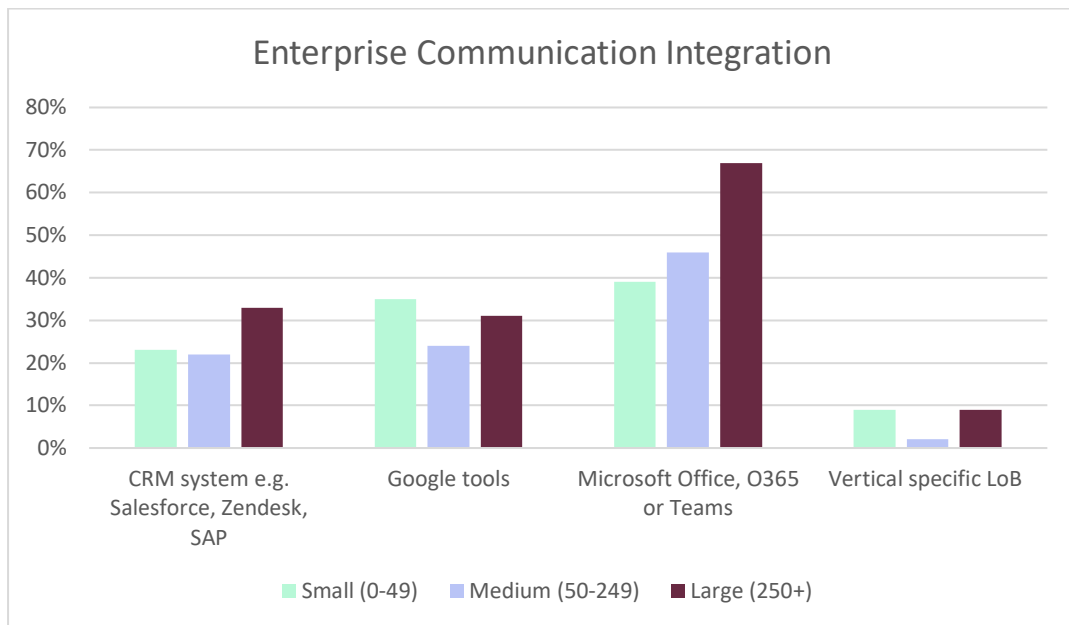


Figure 9. Cavell Group Enterprise Insight Report 2019

Enterprises need a Teams telephony product that will allow them to integrate services into almost any third-party application or workflow.

Benefits

End-User:

Inefficient and disjointed technology systems can slow end-user workflows down. Tasks such as manually inputting data across different systems can increase errors and prevent end users from focusing on their core duties.

The integration of communication capabilities into key business applications improves business efficiency—and the end-user experience—by reducing application overload, simplifying process management and increasing productivity. From a user's perspective using one single interface offers familiarity and eliminates the need to switch between multiple applications and systems, offering a consolidated, simpler workflow.

Admin/Management:

Maintaining siloed applications and systems can waste time, money, and energy. Integrated software applications can mitigate this and allow technical staff to concentrate on strategic improvements. Finding products and vendors that offer key integrations through APIs or SDKs should be considered.

SECURITY

According to Cavell research, enterprises highlighted security improvements as the number one priority for communication and collaboration platforms.

“On average over 29% of enterprises wanted to be more confident in the security of their communication and collaboration applications” —Cavell Group Enterprise Insight Report 2019

Current global circumstances have also heightened the focus on security as enterprises look to ensure their remote communications are as secure as possible. With data breaches on the rise, the costs of malicious attacks can be vast, especially for business in data-sensitive verticals such as healthcare or finance.

“The average total cost of a data breach is \$3.86 million” —IBM Security, Cost of a Data Breach Report 2020

Ensuring that any telephony platform has security at the forefront of its design is vital. Enterprises should look for solutions that offer accreditations and certifications such as:

- FINRA
- HIPAA
- SOC2
- SOC3
- HITRUST

Benefits

Admin/Management:

Security breaches can be incredibly damaging to businesses, and technology administrators are responsible for ensuring the risk is as low as possible. By deploying a secure Teams telephony solution, admins can ensure that their companies meet industry or government regulations and reduce the financial impact of a breach if it.

RELIABILITY AND SUPPORT

Often neglected yet critical aspects of a third-party Teams telephony products are the support and service levels. Microsoft Teams offers a 99.9% uptime SLA across its core service areas. In a continuously functioning system, this equates to nearly nine hours of downtime per user every year.

Enterprises should look for third-party telephony products that meet or exceed this level of SLA. Any degradation of SLA will multiply risk factors—such as the loss of revenue or reputation caused by downtime—associated with the combined services. Enterprises need to minimise risk exposure by only selecting the most reliable products and vendor partners.

Poor internal communication systems cost businesses an average of \$63.4 million per year, according to the Society for Human Resource Management.¹ Inadequate external communication with end customers can be even more costly. As a critical business system, it's prudent for enterprises to explore third-party products that include better support offerings. Products dedicated to telephony issues will ensure better levels of service, end-user satisfaction, and productivity.

Benefits

Admin/Management:

Tech admins often have a wide range of internal systems and applications to support. Telephony might not be an area of expertise, so being able to leverage the knowledge and experience of specialist third-party technicians could be vital to preventing, or quickly resolving, issues to ensure systems stay up and running.

Enterprise organizations should conduct a full evaluation of any prospective Teams telephony product or partner. This process should involve a thorough assessment based on an enterprise's specific requirements, strategic objectives, market environment, and end-user needs. An accurate, unbiased evaluation—exploring some of the criteria detailed in this white paper—will lead enterprises to a Teams telephony solution that's right for them and that meets their business requirements.

¹ Society for Human Resource Management – The Cost of Poor Communications Survey 2019

About RingCentral Cloud PBX for Teams

RingCentral Cloud PBX™ for Microsoft Teams allows customers to combine Teams collaboration tools with a market-leading cloud PBX. This Direct Routing integration offers a native, feature-rich PBX experience, elevating workplace collaboration for everyone.

ADVANCED PBX CAPABILITIES

RingCentral Cloud PBX for Microsoft Teams extends far beyond simple calling. The enterprise-grade PBX platform offers users a rich unified communications experience with features such as IVR, call handling, QoS analytics and call reports, and much more.

Organizations can gain valuable insights into their Microsoft Teams' calls using analytics to identify key trends across individuals, teams, and the larger organization. This helps make impactful changes using real-time data to drive business decisions.

ENTERPRISE-GRADE

RingCentral offers a full cloud PBX service in over 40 countries with emergency services, regional calling minutes, regional data centers for QoS, and more. With enterprise-grade security and geo-redundant data centers all over the world, RingCentral's industry-leading 99.999% uptime SLA offers unparalleled, reliable HD audio, ensuring teams are always connected no matter what.

RingCentral's leading security certifications such as SOC 3 and HITRUST, as well as compliance with industry requirements such as HIPAA and FINRA, ensure that users always operate securely and in accordance with industry standards.

In addition, RingCentral's native integrations with hundreds of commonly used business apps—Salesforce, Zendesk, ServiceNow, and others—enable users to spend less time switching between apps and more time getting things done.

ENHANCING YOUR CALLING SOLUTION, TOGETHER

With RingCentral Cloud PBX for Microsoft Teams, all communication and collaboration essentials live in the Teams platform. This saves enterprises time and money, enables an industry-leading enterprise PBX with an expansive global footprint, and simplifies the user experience for teams everywhere. Users can get more done with an industry-leading cloud PBX while keeping Teams at the center of the collaboration experience.

To learn more about RingCentral Cloud PBX for Microsoft Teams visit
RingCentral.com/Microsoft-Teams.