



**APPLICATION NOTE**

# Make UCaaS Outages History with AudioCodes

Ensuring High Availability and Resiliency for Uninterrupted Voice Calling Whatever Happens

 **audiocodes**

# The Importance of Resiliency in UCaaS Environments

Unified Communications as a Service (UCaaS) has become an indispensable part of modern business operations. As a result, resiliency in UCaaS environments is of critical importance for businesses to safeguard against potential service disruptions. Whether due to planned maintenance or unexpected outages, any downtime can lead to significant operational and financial impacts. This is especially true for organizations that utilize Microsoft Teams Phone as a primary means of communication within their workforce. Ensuring that communications channels remain available and reliable is paramount for sustaining business operations and providing a seamless user experience.

Looking ahead, UCaaS resiliency will become even more vital for businesses as they face the challenges and opportunities of digital transformation. With remote and hybrid work models becoming the norm, organizations will need to ensure that their employees can communicate and collaborate effectively from anywhere, using any device. Moreover, as businesses expand their global reach and customer base, they will need to provide consistent and high-quality communications services across different regions and time zones. In this context, such resiliency will be a key differentiator and a competitive advantage for businesses that want to thrive in the digital economy.

Even though Microsoft recently announced a 99.999% uptime guarantee for Microsoft Teams Phone,<sup>1</sup> businesses can still lose their connection to Teams due to things like local power outages or damage to communication cables. For this reason, businesses need to consider various potential issues, such as network redundancy, backup power, failover mechanisms, disaster recovery and security to ensure uninterrupted UCaaS services at their branch offices. They will also need to monitor and optimize the performance and availability of their UCaaS platforms, using advanced tools and analytics. Therefore, UCaaS resiliency is a complex and ever-evolving challenge that demands constant attention and innovation.



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# AudioCodes' Solutions for Microsoft Teams Phone Resiliency and High Availability

AudioCodes is a leading Microsoft partner that offers a comprehensive suite of products and solutions for Microsoft Teams, including on-premises solutions designed to enhance the resiliency and high availability of Microsoft Teams Phone. These solutions are meticulously crafted to ensure that businesses can maintain continuous communications capabilities, even in the face of network failures or disruptions. They can also deliver voice resiliency for contact center applications running on Microsoft Teams Phone infrastructure.

AudioCodes' site resiliency solutions for Microsoft Teams Phone are built on a foundation of robust, enterprise-grade hardware and software components that are certified for Microsoft Teams, including:

- **Session Border Controllers (SBCs):** AudioCodes' [award-winning Mediant SBCs](#) are designed to ensure secure and uninterrupted voice connectivity. They play a pivotal role in facilitating seamless failover and load balancing, thereby enhancing the overall resilience of the communications system.



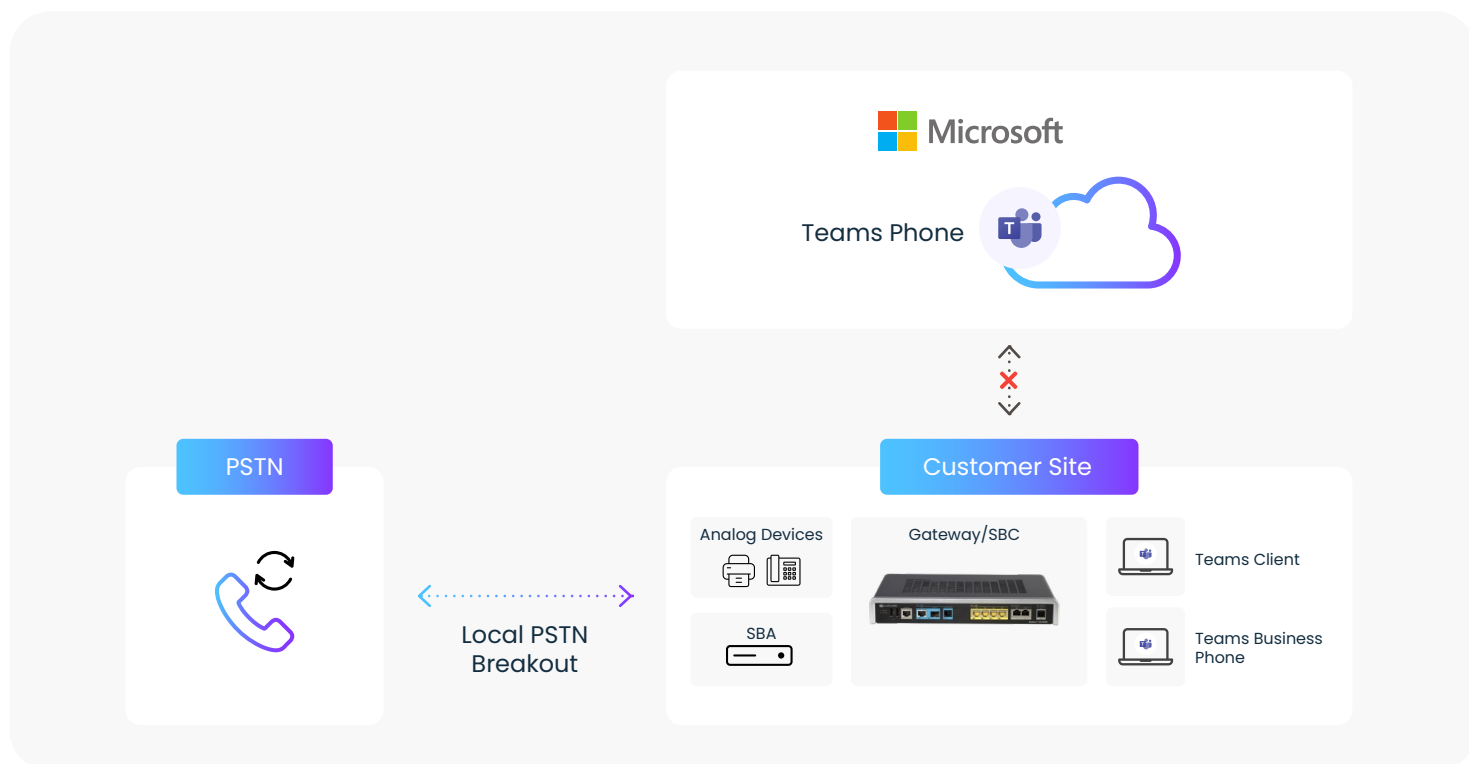
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- **Survivable Branch Appliances (SBAs):** For organizations with multiple branches or remote sites, SBAs provide an essential layer of redundancy. These appliances ensure that, in the event of a disconnect with the central service, local branches can continue to operate independently, maintaining voice service continuity.

The AudioCodes' [Direct Routing Survivable Branch Appliance \(SBA\) family](#) is a set of enterprise class, integrated hardware and virtual appliances designed to ensure continuous access to voice services for Microsoft Teams. AudioCodes' SBAs offer scalable TDM and SBC-based voice resiliency with local voice breakout.

AudioCodes also offers cloud-based solutions that augment the resilience of Microsoft Teams Phone. By leveraging cloud infrastructure, businesses can achieve greater flexibility and scalability, ensuring that their communication systems can adapt to changing needs and withstand various challenges.

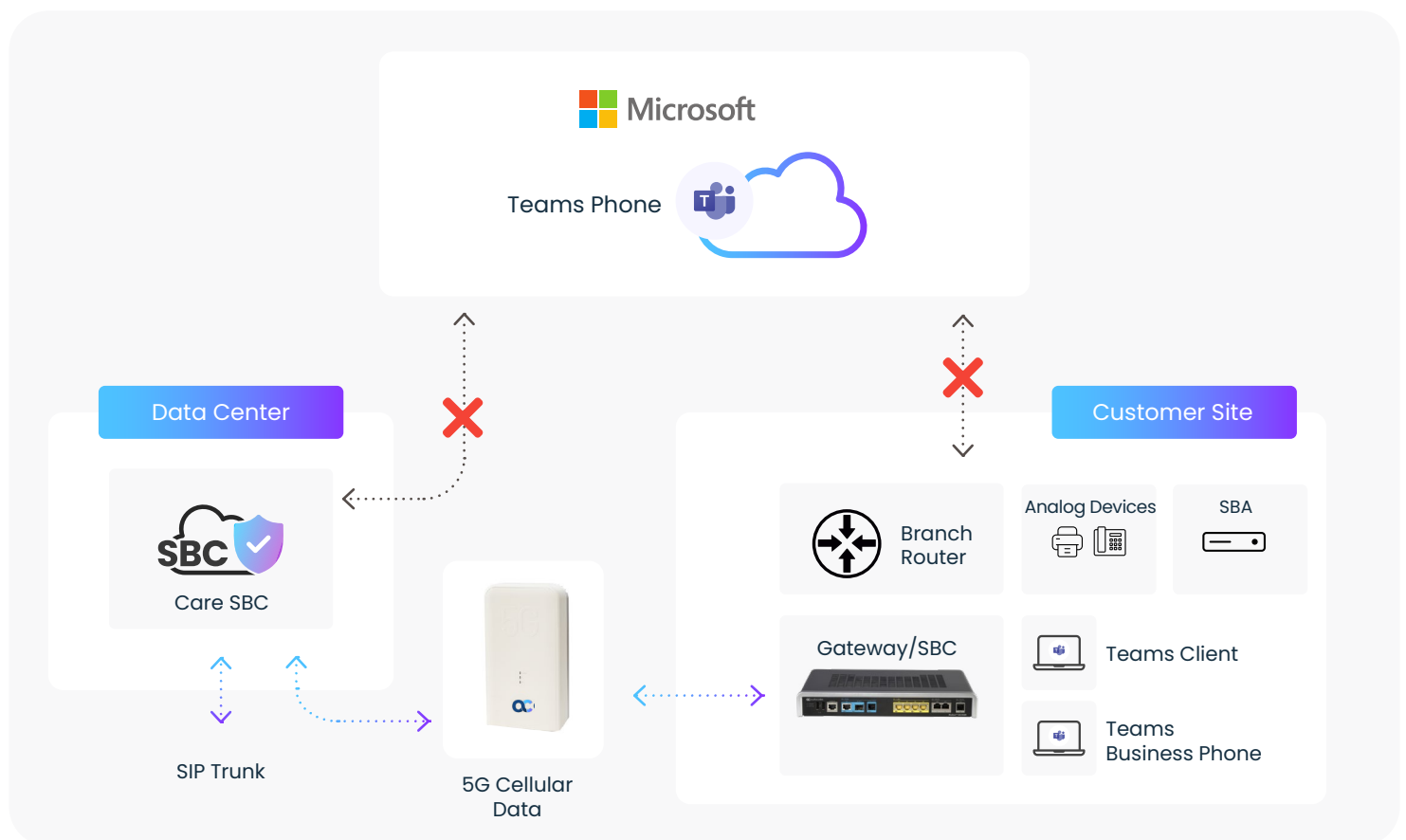
AudioCodes SBAs support high availability configurations to offer enhanced PSTN calling resiliency at larger branches. In such cases, the SBA can be configured to work in conjunction with AudioCodes Direct Routing SBCs (or media gateways) in high availability mode. In addition, an organization can deploy two SBAs in tandem at a site to provide extra resiliency. In normal operation, the SBAs can work in parallel to share the load between users. If one of the SBAs becomes unavailable, the second one can take over and handle all the branch's voice traffic.



# 5G Backup for Centralized SBC SIP Trunks

A different approach to branch resiliency may be required for distributed enterprises employing a centralized Microsoft Teams Direct Routing SBC for PSTN breakout. In such a scenario, loss of Teams connectivity at a branch can leave users without a connection to the core SBC and the PSTN connectivity it provides. To resolve this situation, AudioCodes multi-service business routers (MSBRs) running SBA software can be deployed with 5G cellular data backup.

In the event of a WAN outage or loss of connectivity with the Teams service, the Teams endpoints will register to the local SBA. A SIP peering connection is automatically activated over 5G between the branch SBA and the organization's core SBC, enabling uninterrupted inbound and outbound calling.



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## Resiliency for Small Sites

The [AudioCodes Mediant 500Li MSBR](#) enables organizations to establish multiple WAN connections with 5G backup. This ensures uninterrupted backup for POTS replacement services through its FXS interfaces or facilitates Teams Direct Routing connectivity by leveraging the Mediant 500Li's built-in Direct Routing SBC functionality.

## Resiliency for Larger or Multiple Sites

The utilization of [AudioCodes Mediant 800 MSBR](#) alongside Microsoft SBA and 5G backup offers a unique advantage for large enterprises employing centralized SBCs for Microsoft Teams Direct routing. Unlike typical SBA setups where WAN failure or Teams Cloud unavailability might be limited to internal branch calling, the Mediant 800 MSBR has the option to select a built-in SBA to ensure continuity in both inbound and outbound calls to and from the PSTN. This is made possible by the 5G backup, enabling SIP connectivity to the core SBC even during such scenarios. Alternatively, large organizations can use their datacenter SBA for resiliency and add an AudioCodes MSBR alongside it.

### How It Works

For on-premises SBAs, outbound calls travel via the Mediant 800 MSBR towards the Teams cloud. When receiving inbound calls from the PSTN, the SBC sends the call to the Mediant 800 MSBR. If the WAN is available, the Mediant 800 MSBR rejects the call and the core SBC sends the call via the Teams Cloud.

If there is a branch WAN or Teams Cloud outage, the SBA identifies the unavailability of the connection to the Teams Cloud and reroutes outbound calls via the 5G backup connection to the hosted/cloud SBC. Inbound calls are initially directed through the 5G backup connection to the SBA. Recognizing the absence of a connection to the Teams cloud, the SBA then transfers the call accordingly.

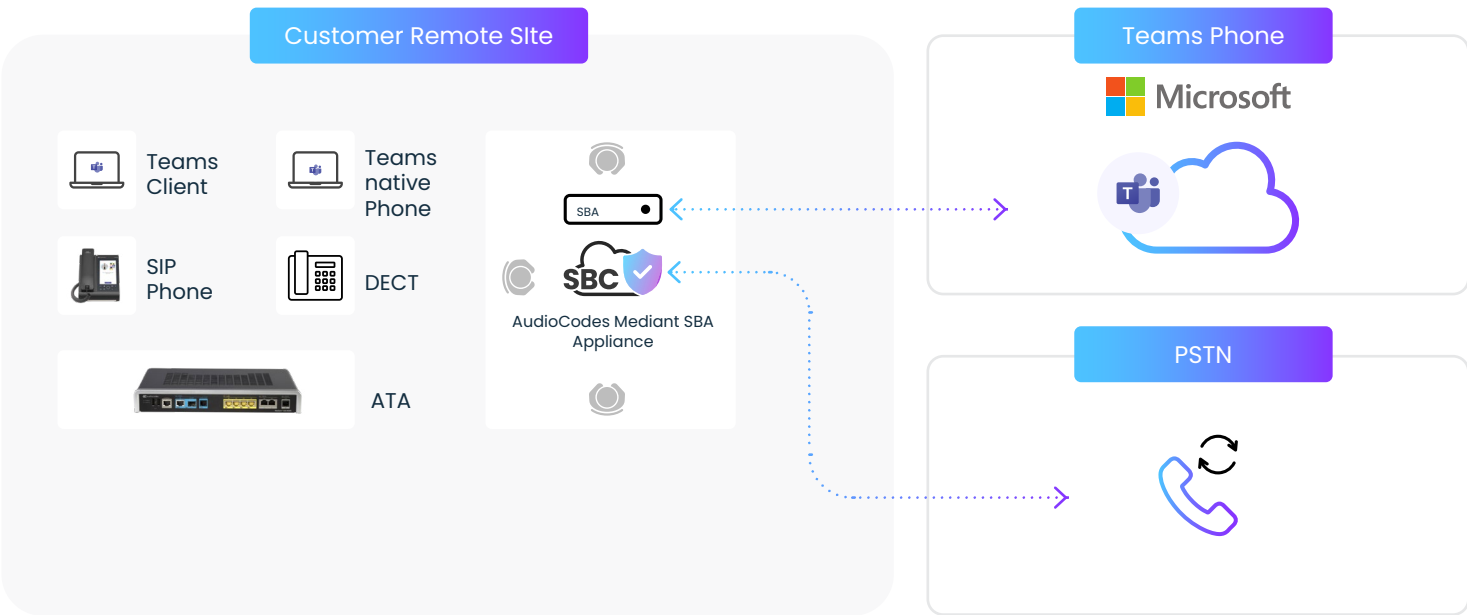
For larger organizations, the SBA architecture can also be hosted in a datacenter, using the site's 5G infrastructure to ensure branch availability.

# Resilience for Teams SIP Gateway Compatible Devices

Microsoft Teams enables organizations to use compatible SIP devices (certified SIP phones, DECT phones and analog gateways) to make and receive calls via Microsoft Teams using the Teams SIP Gateway. The AudioCodes Edge Proxy appliance is a device that acts as a proxy between the Teams SIP Gateway and SIP devices located in the branch, as well as supporting local breakout to the PSTN. It is designed to optimize the media path for voice calls by enabling local media breakout and bypassing the Microsoft Teams media relay. The Edge Proxy appliance also delivers full resiliency for registered SIP devices when the site loses connectivity with Teams services. The appliance is based on the [AudioCodes Mediant 800B](#) platform running AudioCodes' session border controller (SBC), along with the Teams SBA software.

With the Edge Proxy appliance deployed on the AudioCodes SBC, in the event of a loss of connectivity with the central Teams servers at the branch office, the SBA software kicks in. This enables registered SIP devices to continue making and receiving calls, both internal (with other SIP devices, Teams clients or Teams phones) and external (via local PSTN breakout), without having to reregister using a second identity.

## The AudioCodes Edge Proxy appliance is designed to optimize the media path for voice calls by enabling local media breakout and bypassing the Microsoft Teams media relay.



# 5 Reasons to Choose AudioCodes Resiliency for IT Peace Of Mind

With over three decades of experience in the UC and contact center arena, you can be confident that AudioCodes' field-proven cloud service platform, along with our dedicated support services and innovative solutions and products, will enable your Microsoft Teams solution to operate at the peak of its capabilities. With only 'one throat to choke', you can rest assured that our team of experts around the world will be available to help you, no matter where you are, whenever you need us.

By choosing and implementing AudioCodes' solutions for Microsoft Teams Phone resiliency and high availability, you will enjoy:

- **Enhanced Business Continuity:** By minimizing the risk of downtime, companies can ensure that critical communication functions remain operational, thereby supporting continuous business processes.
- **Improved User Experience:** Consistent and reliable communication capabilities lead to a better overall experience for both employees and customers, fostering greater satisfaction and loyalty.
- **Scalability and Flexibility:** AudioCodes' solutions are designed to grow with your business, providing scalable options that can be tailored to meet the evolving demands of your organization.
- **Reduced Operational Risks:** By mitigating the impact of potential disruptions, businesses can protect themselves against operational and financial losses.
- **Centralized Management Tools:** Manage your voice network elements through a single pane of glass using lifecycle management and analytics tools to simplify SBA configuration and everyday tasks and troubleshooting.



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# What Are You Waiting For?

In the dynamic and ever-evolving landscape of UCaaS, ensuring the resiliency and high availability of communication platforms like Microsoft Teams Phone is crucial for maintaining business continuity and achieving operational excellence.

AudioCodes' comprehensive suite of solutions offers businesses the tools they need to safeguard against disruptions, ensuring that their communication infrastructure remains robust and reliable.

By partnering with AudioCodes, organizations can navigate the challenges of today's digital workplace with confidence, knowing that their communication systems are built on a foundation of unparalleled resilience and availability.



To find out more about AudioCodes' solutions for resiliency and high availability, [contact us](#).

<https://techcommunity.microsoft.com/t5/microsoft-teams-blog/what-s-new-in-microsoft-teams-enterprise-connect-2024-edition/ba-p/4090711>

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