



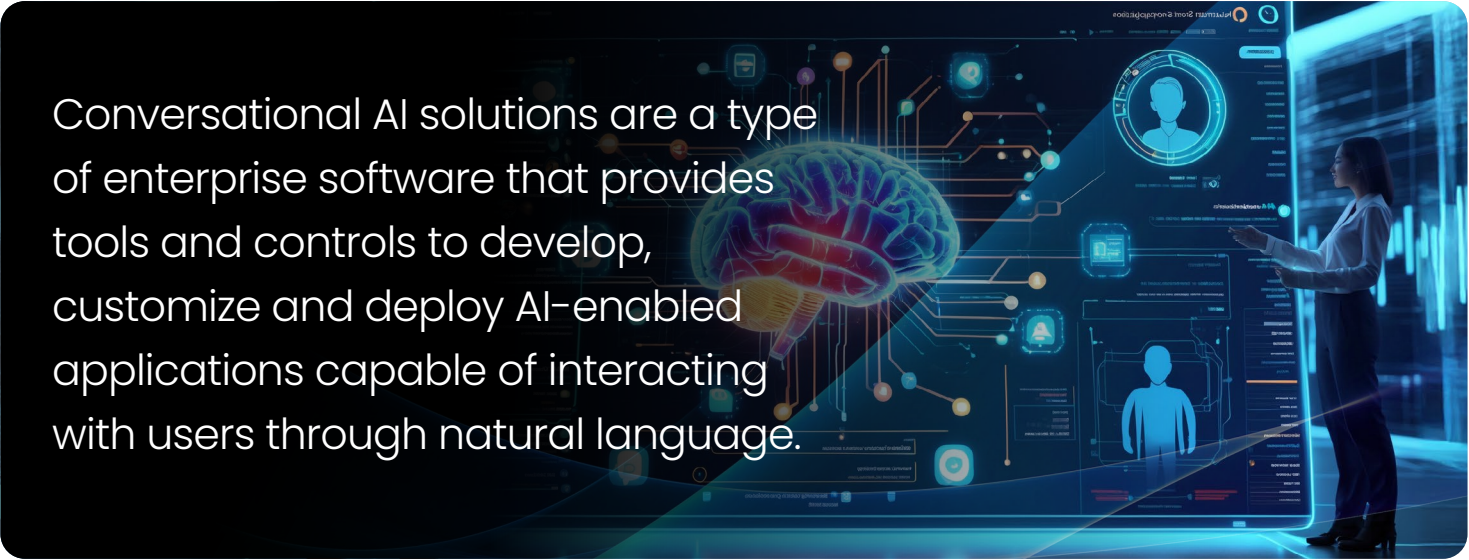
APPLICATION NOTE

Bridging Voice Communications and Conversational AI



In the past year or so, the AI revolution has been further fueled by the development of technology and the appearance of generative AI tools like ChatGPT. Conversational AI, which uses AI technologies including generative AI, is one of the most promising solution areas for business voice communications.

Conversational AI solutions are a type of enterprise software that provides tools and controls to develop, customize and deploy AI-enabled applications capable of interacting with users through natural language. These solutions support various use cases, both employee and customer-facing, to improve business outcomes around employee productivity and customer satisfaction.



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Conversational AI in Everyday Business Voice Communications Scenarios

Of all the different methods of communication – text, voice and video – voice will always be the most intuitive and generally preferred way for people to interact with each other. Thus, an important part of the various conversational AI applications is the processing of the human voice using AI engines and generating new tools and insights for enterprise users. Among the most common conversational AI applications employed by enterprises in the field today are:

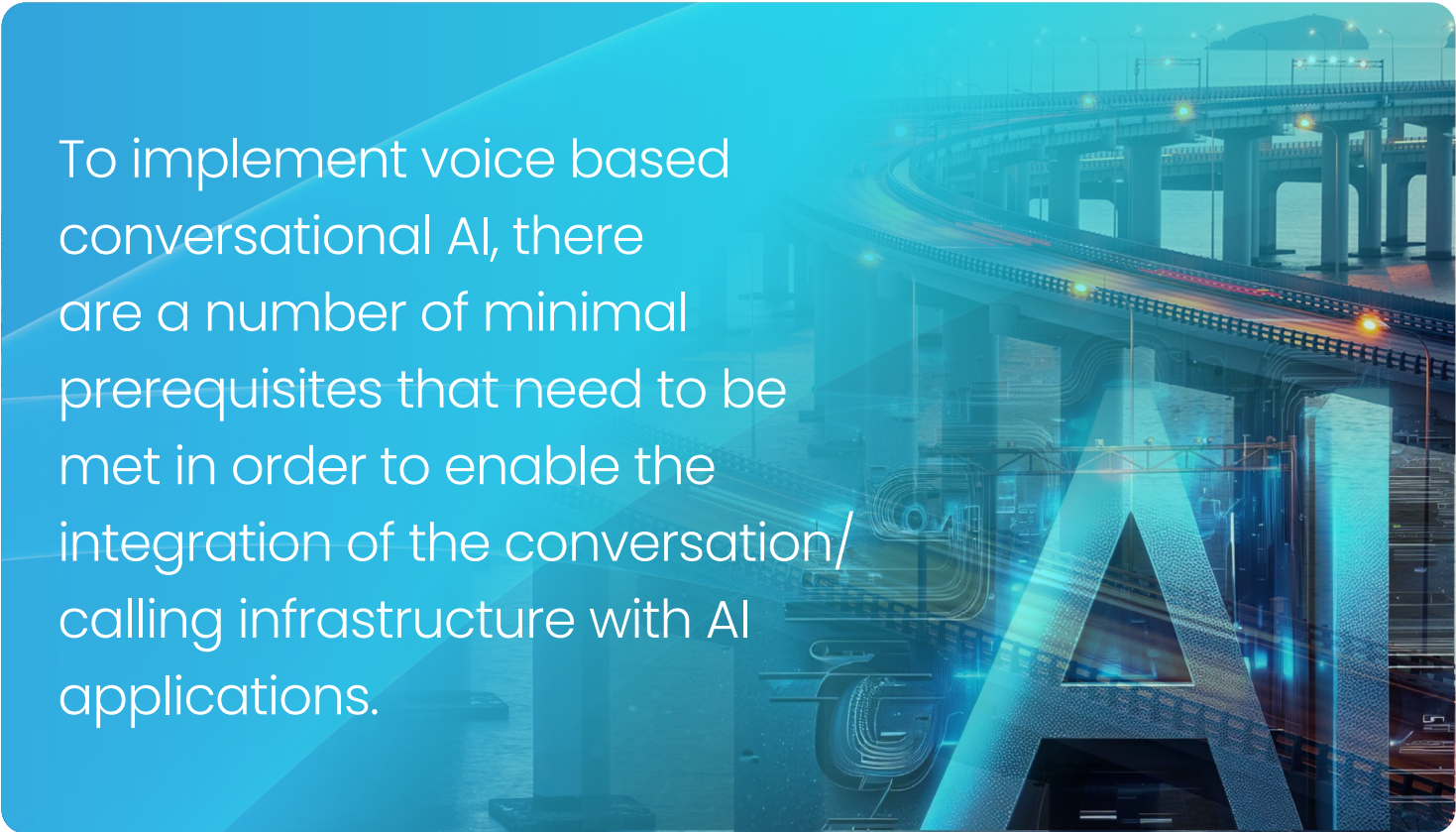
- **Agent Assist:** Monitors conversations and sends real-time insights to agents or their supervisors.
- **Virtual Agent:** Offloads simple and repetitive tasks from live agents to voice bots.
- **Conversational IVR:** Enables the replacement of hierarchical IVR menus with a free speech experience.
- **Voice Biometrics:** Uses a person's voice as a distinctive, natural characteristic to verify their identification.
- **Real-Time Translation:** Performs real-time multilingual translations during live conversations.
- **Meeting Transcriptions and Summaries:** Automatically records, transcribes and gets AI-powered insights for meetings.

Challenges in Bridging Voice Communications and Conversational AI

To implement voice-based conversational AI, there are a number of minimal prerequisites that need to be met in order to enable the integration of the conversation/calling infrastructure with AI applications. According to Gartner,¹ these required capabilities include:

- **Back-End Integration Readiness and Customization:** The ability to set up or personalize communication with critical back-end systems, such as cloud services, AI frameworks, data sources (CRM, customer data platforms) or applications (such as contact center as a service, unified communications and business intelligence).
- **Crucial Core Operations:** These include the ability to easily manage the solution's privacy, enterprise compliance and security aspects, and the ability to collect, monitor and analyze application performance data to get meaningful and actionable insights for reporting, supervision and optimization purposes.
- **Voice Quality:** Voice quality is a crucial component for ensuring effective voice-based conversational AI applications. High-quality voice communications are essential for accurately understanding and processing the content of calls via AI software tools.

One key real-life example of these prerequisites is the need to connect the enterprise's voice communications with the conversational AI software or, in other words, to connect the voice channel to the organization's back-end systems. However, many organizations still use legacy PBXs to manage their voice communications, making the voice channel a separate silo, which greatly limits the ability to adopt conversational AI.



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The Transformative Power of Unified Communications as a Service

Unified Communications as a Service (UCaaS) solutions solve the requirement for connecting the enterprise's voice communications with conversational AI. UCaaS platforms include text messaging, voice and video calling, as well as many other productivity-boosting services. Generally, they provide a complete voice communications and collaboration infrastructure for the business, while generally enabling fairly simple integration with software solutions – whether these are business back-office systems or new applications in the network.

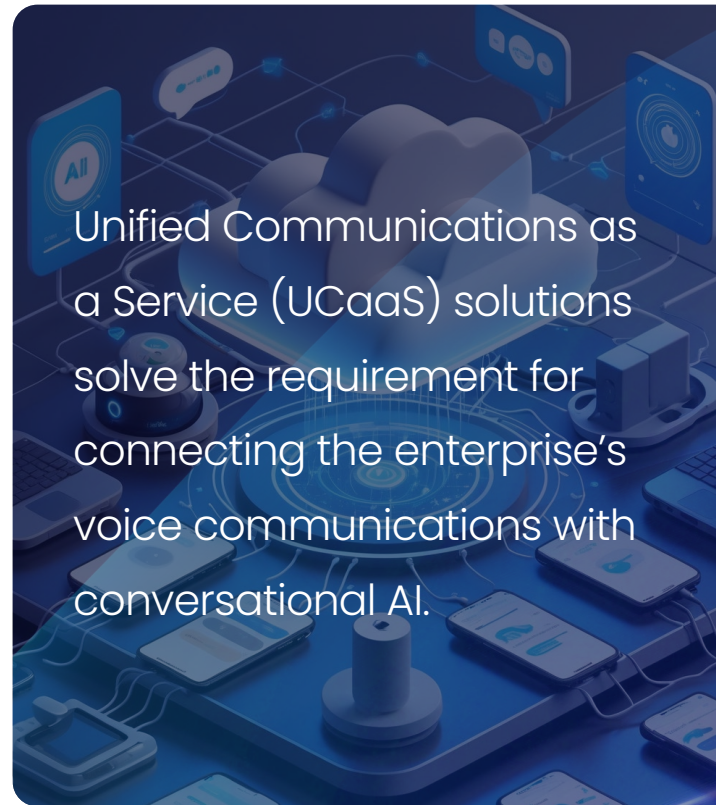
Many leading UCaaS solutions – such as Microsoft Teams, Webex Calling or Zoom Phone – offer embedded AI tools that confer additional benefits for organizations that want to tap into the incredible power of this transformative technology.

Furthermore, all the leading UCaaS solutions can easily be connected to the PSTN, thus enabling conversational AI capabilities to include calls with employees, customers and partners outside of the organization as well.

UCaaS has other advantages too. Most importantly, the integration of the organization's back-end systems is relatively straightforward with the UCaaS solutions' robust API layer. Privacy, security and compliance are enforced by the strict policies of the UCaaS providers themselves.

Conducting your voice communications based on an advanced unified communications solution addresses all the above mentioned prerequisites, and is a key milestone in preparing your organization to adopt voice-based conversational AI applications.

[AudioCodes Live](#) can help you achieve this milestone.



AudioCodes Live: Enabling UCaaS and Conversational AI

If you're aiming to deploy voice conversational AI applications in your organization and also need to adopt UCaaS solutions to enable voice-based conversational AI, AudioCodes Live is your go-to solution. The AudioCodes Live offering is based on the AudioCodes Live Platform SaaS solution, which delivers seamless PSTN connectivity for Microsoft Teams, Zoom and Cisco Webex while also enabling voice conversational AI solutions and other essential UC and contact center services.

In the following sections, we'll explain further how AudioCodes Live solves the most common challenges that occur during the implementation of voice-based conversational AI.

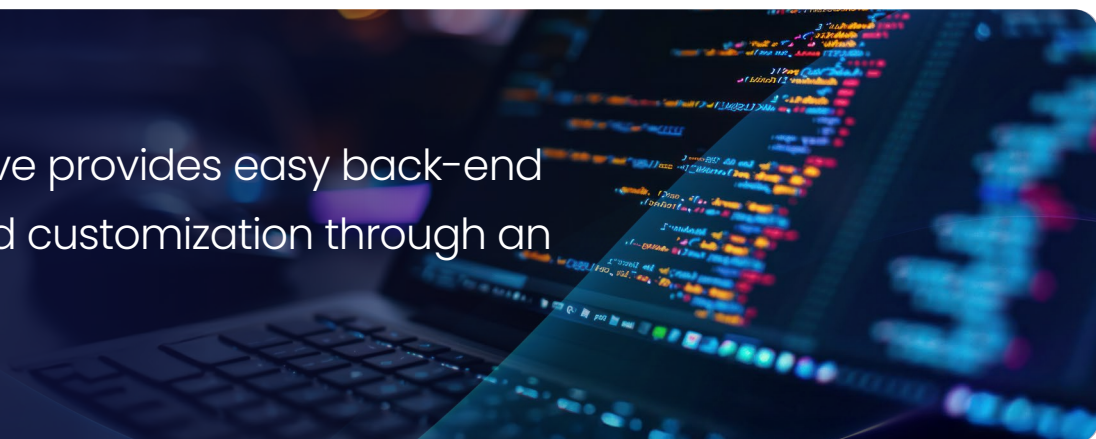
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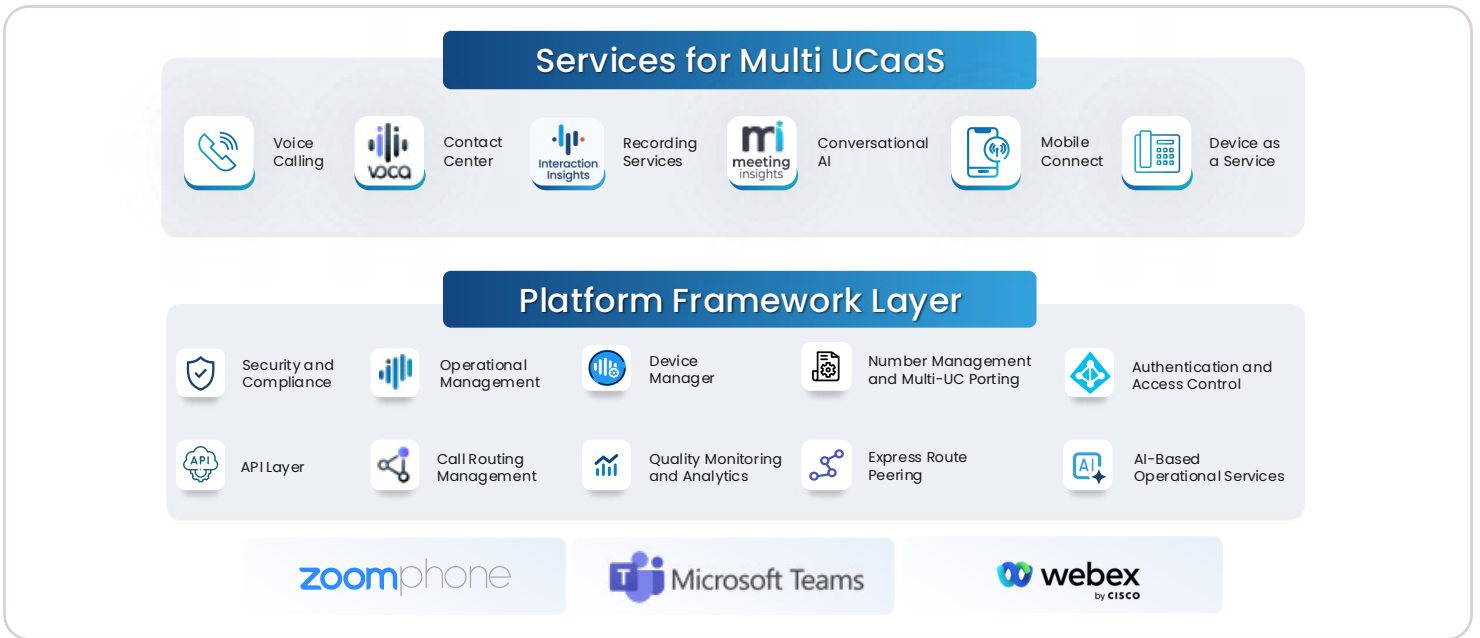


Back-End Integration Readiness and Easy Customization

AudioCodes Live provides easy back-end integration and customization enabled through an open API layer for integration and customization of third-party applications, such as CRM, and analytics tools. This API layer is also a framework for integrating conversational AI solutions and enabling them in the organization's voice network.

AudioCodes Live provides easy back-end integration and customization through an open API layer.





Privacy, Security and Compliance

The collection, monitoring and analysis of conversational AI application data from your organization is very sensitive and must meet stringent compliance regulations. When it comes to personal data collection and standards like GDPR, HIPAA, MiFID II and PCI DSS, organizations must ensure robust security.

Although security and privacy are enforced by the UCaaS providers, external VoIP communication via the PSTN goes beyond the UCaaS boundaries and comes with security risks that can compromise the privacy, reliability and integrity of voice communications. These include Denial of Service (DoS) and Distributed Denial of Service (DDoS) attacks, call flooding, eavesdropping and man-in-the-middle attacks.

AudioCodes Live can help you to proactively address these risks and protect the communications outside of your organization.



Reliability and Resiliency

While using UCaaS, businesses can still lose their UC communications due to unforeseen events like local power cuts or WAN outages. They should therefore seek to build a resilient UCaaS platform that can provide consistent and reliable voice communications services to users, including conversational AI, regardless of the location, device or time zone.


AudioCodes offers a [range of solutions](#), such as geo-redundancy, Survivable Branch Appliances, 4G/5G fallback and Edge Proxy Appliances, that can enhance the resiliency and high availability of Microsoft Teams Phone, Cisco Webex and Zoom Phone both on-premises and in the cloud.

Management and Voice Quality Monitoring

AudioCodes Live offers an integrated, comprehensive management and monitoring solution that covers all aspects of the customer and user onboarding, management of the voice connectivity processes and end-to-end monitoring and analytics.

On top of these UC capabilities, AudioCodes Live leverages the power of AI to significantly enhance proactive management capabilities through sophisticated data analysis and anomaly detection. By continuously monitoring network traffic and usage patterns, the AI algorithms can identify deviations from the norm, enabling the system to predict potential issues before they escalate. This predictive capability allows for timely interventions, ensuring service reliability and minimizing downtime.

AudioCodes Live includes monitoring tools to help maintain high voice quality under challenging network conditions, such as bandwidth limitations, congestion, latency, jitter and packet loss. These are critical for voice-based conversational AI, since the applications must be able to properly understand all the content exchanged in spoken voice during the call.



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Add Even More Value with Our Conversational AI Voice Services

On top of enabling UCaaS calling across the enterprise, AudioCodes Live offers advanced AI-based services that leverage conversational AI to deliver additional value to your organization's voice communications. These include the [Meeting Insights](#) application for recording and summarizing your meetings, an intelligent enterprise [compliance recording solution](#), as well as a seamless, self-service [connectivity solution](#) for any bot framework and speech service.

For customer-facing interactions, AudioCodes Live includes the [Voca Conversational Interaction Center](#), a certified Microsoft Teams contact center built in Azure with ready-to-use conversational AI. It can easily scale to every Teams user across the company, whether it's the main service desk or departments beyond the contact center. For those using third-party contact centers such as Genesys, Cisco, Microsoft Dynamics 365 and others, AudioCodes Live can integrate with them effortlessly, whether they are deployed on-premises or in the cloud.

AudioCodes Live offers advanced AI-based services that leverage conversational AI to deliver additional value to your organization's voice communications.

Drive Your Digital Transformation with Conversational AI

The time to implement conversational AI in your organization is now, but it requires good integration with your voice network. If you're not yet using UCaaS, we highly recommend not trying to modernize your legacy telephony system, but rather migrating to a UCaaS platform to radically simplify your move to conversational AI. And if you're ready to embrace this transformation, reach out to AudioCodes. We've got more than three decades of field-proven voice experience that will help you succeed.

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To get started, please

[CONTACT US](#)

¹Gartner - Market Guide for Conversational AI Solutions, 3 April 2024

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