

IraVoice On AWS

# Unlocking VoiceAI on WhatsApp

## The VoiceAI Gap

Amazon Web Services empowers enterprises, startups, and developers to deploy AI-driven business applications through its cutting-edge data centres across India. Yet, a critical gap remains in enabling **VoiceAI applications** such as VoiceBots, real-time Agent Assist, transcription services, and WhatsApp calling technologies that are rapidly transforming customer engagement.

Regulatory restrictions currently prevent SIP trunks from terminating directly within AWS data centres, creating a bottleneck for enterprises looking to leverage AWS for voice-based AI solutions.

## The Challenge

Over the past three years, working with AI startups and large enterprises - especially in BFSI - we have observed a growing demand for hosting AI applications on cloud platforms like AWS, Azure, and WebWerks. These providers meet stringent security and reliability requirements and offer a rich ecosystem of IT solutions. While they excel for data-centric applications, **voice services remain a challenge**.

When businesses need to process voice traffic from telecom providers like Airtel, Tata, Vodafone, or Jio, they must rely on cloud telephony providers such as Exotel, GupShup (Knowlarity), or Plivo.

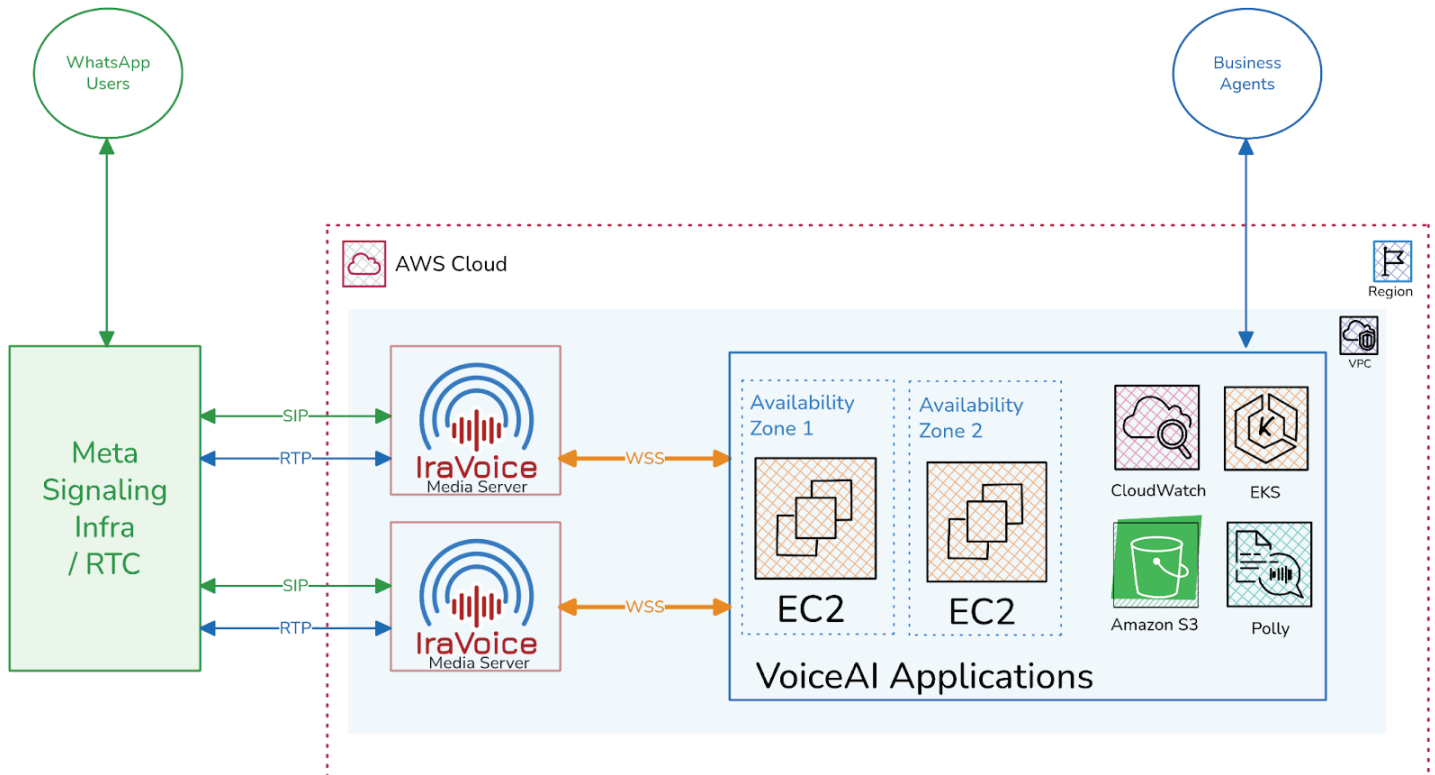
For medium and large enterprises, especially in BFSI, shared cloud telephony resources often fail to meet the **scalability, reliability, and quality standards** required for mission-critical operations.

## Highlights

- Enterprise-grade Performance on AWS
- High Availability and On-demand Scaling.
- Seamless Inbound/Outbound Communication on WhatsApp
- Supports Load Balancing for large scale call volume.
- Secure system with Distributed Architecture.

# The Solution

Epicode's **IraVoice** provides a seamless bridge for enterprises, enabling full VoiceAI deployment on AWS while ensuring regulatory compliance and enterprise-grade performance. IraVoice can be hosted directly within AWS or across multiple datacenters and offers **WhatsApp integration** for **greater outreach**.



WhatsApp calls are routed over the Internet via WhatsApp's SIP signaling infrastructure to IraVoice voip system hosted in AWS, where **VoiceAI vendors** deploy their voicebots. This enables VoiceBots and AI applications on AWS to handle WhatsApp interactions seamlessly.

The WhatsApp Business Calling API enables you to initiate and receive calls with users on WhatsApp using Voice over Internet Protocol (VoIP). This allows the Businesses to add WhatsApp as one of the channels for both **inbound and outbound** calls and enable seamless voice communication over **WhatsApp**.

After a call is established, **IraVoice** receives the **RTP media** stream from the WhatsApp infrastructure and securely sends it to the VoiceBot through **WebSocket connection**, ensuring low-latency, real-time audio exchange.

Unlike shared telephony solutions, IraVoice provides **dedicated VOIP resources** including CPS, bandwidth, and DID numbers, ensuring scalability, reliability, and enterprise-grade quality of service.

# VoiceAI Applications

## 01 Conversational VoiceBots

Leverage IraTap to capture the media streams in real time for conversational voicebots

## 02 Real-Time Agent Assist

AI analyzes live customer-agent conversations and provides intelligent suggestions

## 03 Voice Biometrics & Authentication

Enable Voice based Authentication, as the conversations happen

## 04 Transcription & Analytics

AI-powered speech-to-text for compliance, training, and analytics

## Key Use Cases

- Telephonic customer support
- Outbound debt collection campaigns
- Telemarketing and outreach
- Agent training and compliance workflows
- Voice-based biometric authentication

## About Us

Epicode is a telephony middleware products company established in the year 2020. We work with ISV's to develop real-time voice applications in the AI driven customer experience domain. Our business model is tailored to the below mentioned attributes.

- Develop API based backend software products with a primary focus on system engineering.
- Expertise in developing real time voice applications with distributed architecture.
- The "Go to Market Strategy" would be "OEM partnerships" with a B2B approach, selling only to systems integrators, technology partners, and business application developers.
- Adopt proven and field-tested best-of-breed open source platforms as part of our product stack.

As a consciously chosen design strategy, our OEM products are designed based on the partner's business requirements or use cases. The Epicode solution architects make sure that the products are optimised for specific deployment environments as prescribed by our business application partners, be it on-premise or pure cloud environments like AWS, Google or Azure cloud.



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