Cloud Native Voice Security on AWS

Powered by Containers, Microservices & Ribbon's Proven Voice Expertise

Ribbon's cloud native voice security offering on AWS delivers session border control, policy routing, and service assurance functionality. It is a fully automated, containerized solution based on Ribbon's field-proven technology and deployed on the world's most comprehensive and broadly adopted cloud. Ribbon and AWS have a Strategic Collaboration Agreement (SCA) to ensure ongoing joint-development, solution optimization and seamless integration.

Organizations are moving real-time communications services to the cloud to reduce cost and complexity, improve agility, and ease the burden of maintaining legacy infrastructure.

Cloud-based voice solutions help enterprises and communications service providers (CSPs) simplify operations, overcome skills gaps, and avoid capital equipment outlays. They help organizations reduce administrative expenses and free up staff and budget for more strategic work.

Why Run Voice Services on the Public Cloud

- Integrate with modern CI/CD tools and DevOps practices
- Avoid manual installations and upgrades
- Eliminate maintenance windows and the need for special expertise
- Scale dynamically, optimize resource utilization, and enable geo-redundancy
- Unify observability and avoid swivel-chair management
- Eliminate the burden of managing & deploying your own datacenter
- Consolidate network architectures and eliminate inefficiencies

Automated and Resilient Solution for Real-Time Communications

Ribbon's voice security solution on AWS combines built-in automation with a cloud native architecture conceived for full deployment on AWS. The offering provides essential security, session control, interoperability, and service assurance functions for voice, video, and collaboration. It includes a session border controller (SBC), policy and routing engine (Ribbon PSX), and a centralized management system (Ribbon Application Management Platform).

Ribbon's cloud native voice solution is based on a modern containerized microservices architecture, orchestrated and managed by Amazon Elastic Kubernetes Services (EKS).

At-a-Glance

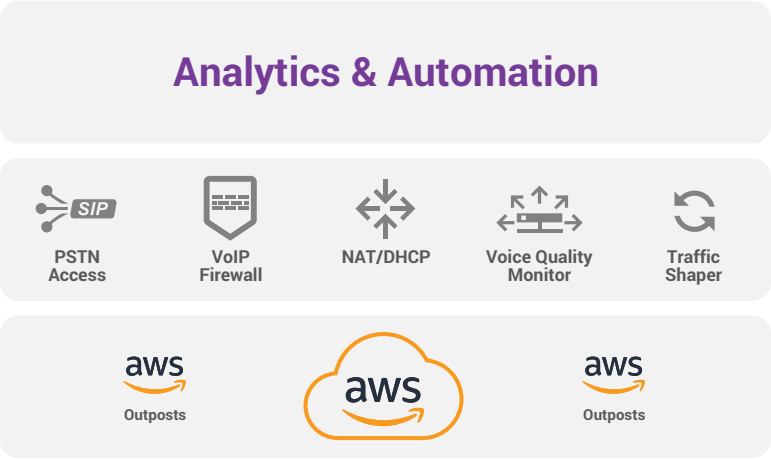
Key Features

- **End-to-End Automation.** GitOps-based deployment, CI/CD integration, and declarative lifecycle management
- **Cloud Native Architecture.** Containerized microservices with elastic scaling and geo-resiliency
- **Integrated Observability.** Unified monitoring with AWS CloudWatch, Prometheus, and Grafana

Key Benefits

- Eliminate hardware/VM inefficiencies, avoid over provisioning, and reduce costs
- Accelerate upgrades, security patches, and feature rollouts, and increase agility
- Ensure continuous availability and boost resiliency

Virtual network elements, like SBCs and policy servers, are deconstructed into discrete functional components that can be spun up and down to meet fluctuating traffic demands. Functions can be distributed across AWS data centers, Availability Zones (AZs), and Regions to balance performance and ensure continuous availability. Customers can use AWS Direct Connect to establish secure, high-bandwidth links between their private enterprise networks and AWS for component delivery, initiation, and communications.



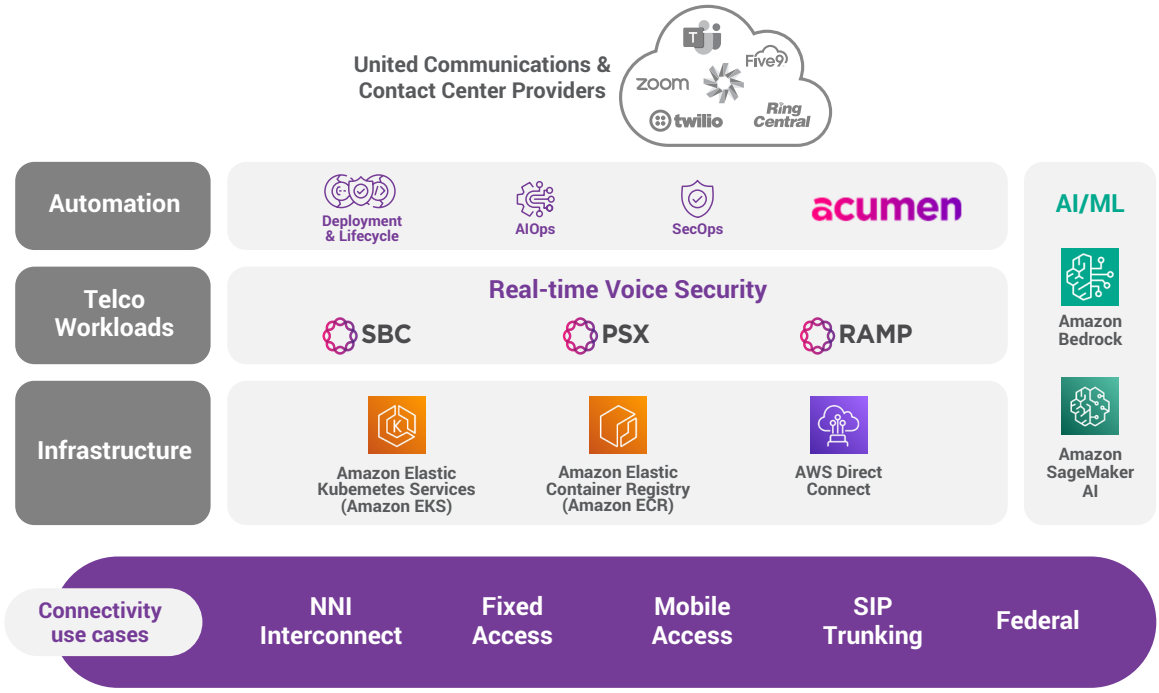
Ribbon's Cloud Native Voice Services on AWS

Built in accordance with Cloud Native Computing Foundation (CNCF) design principles, the solution supports GitOps-based automation, elastic scaling, and geo-resiliency for exceptional efficiency and reliability. Operations teams, even those without specialized voice expertise, can deploy, manage, and evolve services using the same cloud automation frameworks and continuous delivery practices that govern their broader IT environments. The solution eliminates manual processes, improves service agility, and minimizes operational expenses.

Versatile Solution for both Service Providers and Enterprises

For Communication Service Providers	
Enhanced Service Delivery & Security Upgrades	Accelerate time-to-revenue, eliminate manual upgrades, and avoid disruptions. Test and roll back functions safely using canary and staged rollouts.
Multitenant SIP Trunking	Host hundreds of customers on a single SBC cluster with built-in multi-tenancy. Simplify management, optimize resource utilization, and boost margins.
Minimize Latency Between Voice Endpoints	Scale signaling, transcoding, routing, and media services independently. Consolidate CPU/GPU resources to minimize licensing and operating costs.
Accelerate 5G Voice Deployment	Speed up deployment of new services for 5G, VoNR, and VoLTE with end-to-end automation.

For Enterprises	
Cloud Migration & Modernization	Migrate users to modern UCaaS and contact center platforms (Teams, Zoom, Webex, RingCentral, Genesys, etc.).
SIP Trunking Integration	Add SIP trunks to on-prem PBXs, contact centers, and UC platforms (Avaya, Cisco, Mitel, Asterisk, etc.).
Microsoft Teams Direct Routing	Securely connect Teams users to the PSTN. Reduce telephony expenses and protect against malicious attacks.
Dynamic Call Recording	Scale SIPREC streams and bandwidth dynamically to support fluctuating traffic without over-provisioning capacity. Satisfy diverse call-recording application requirements (quality assurance, regulatory compliance, analytics, etc.).



Why Ribbon's Cloud Native Voice Services on AWS are Different

Ribbon is in a Strategic Collaboration Agreement with AWS to ensure accelerated product development and optimized TCO. It allows organizations to leverage existing AWS relationship. Ribbon brings over 50 years of experience transforming and securing communications networks for CSPs and enterprises, earning the trust of more than a thousand customers worldwide, including enterprises in the financial, government, education and healthcare sectors. Our solutions are supported by a global services team with extensive experience in design, deployment, and maintenance of some of the world's largest communications networks.

Ribbon's cloud native voice security solution on AWS unleashes operational efficiency.

End-to-End Automation	• Declarative configuration ensures consistent, repeatable deployments. • GitOps-based lifecycle management enables continuous updates. • Seamless integration with Amazon CloudWatch, Prometheus, and Grafana provides unified observability.
Digital Twinning and Automated Testing	• Create digital twins—virtual replicas of production environments—to test updates safely. • Run automated regression tests to validate performance, security, and compatibility.
Automated Lifecycle Management	• Continuous deployment pipelines accelerate updates and patches while reducing manual overhead.
Dynamic Scaling and Resiliency	• Multi-zone orchestration ensures high availability. • AI/ML-driven analytics predict scaling needs, detect anomalies, and trigger automated remediation.

Key Takeaways

Ribbon's cloud native voice security solution on AWS delivers meaningful benefits for enterprises and CSPs alike.

- Lower costs and streamlined operations. Modernize real-time communications with automated, cloud-native workflows that reduce infrastructure overhead and simplify management.
- Stronger performance and resiliency. Leverage independently scaling microservices to optimize resources, improve reliability, and support fluctuating business demands.
- A future-proof foundation. Build on familiar AWS tools and practices to support digital transformation initiatives and ensure your communications environment evolves with your broader IT strategy.

To learn how Ribbon's cloud native voice security solution on AWS can help accelerate your cloud journey schedule a demo.

Contact Us Contact us to learn more about Ribbon solutions.