



Ribbon Cloud-Native IMS



Accelerating Network
Transformation

The ABCs of IMS

The IP Multimedia Subsystem (IMS) simplifies networks for Mobile Network Operators (MNOs), merging circuit and packet-switched architectures to deliver enhanced voice and multimedia services for a richer communications experience. As networks evolve for 5G devices and services, the need for IMS becomes even more critical. IMS enables Voice over LTE (VoLTE) and Voice over New Radio (VoNR), solving the challenge of unsupported voice when 4G / 5G roaming, removing the need for Circuit Switched Fall Back (CSFB). It bridges the gap between generations of voice to deliver seamless communications - even as legacy 2G/3G networks phase out.

Why do MNOs need a cloud-native IMS?

Traditional IMS rollouts demand significant upfront costs, specialized hardware, and complex integrations. A cloud-native IMS enables cost savings from network automation, footprint and energy reduction, and optimized resources. It elevates networks and services with autoscaling and network slicing in 5G. With cloud-native IMS, MNOs are no longer bound with time-consuming, manual operations that govern the pace of service deployment. Meeting the demands of 5G, a cloud-native IMS aligns with the evolutionary need for network agility, scalability, and efficiency. Cloud-based automation in wireless also enables lightning-fast recovery responses for outages or natural disasters, bolstering network resiliency and minimizing downtime. Lastly, a cloud-native IMS enables rapid innovation and microservice-based services not available MNOs in traditional network architectures.

Why choose Ribbon's IMS solution?

1000+ MNOs worldwide have chosen Ribbon's secure, service-driven solutions that elevate agility, reduce complexity, and transform networks. Ribbon continues this trend by empowering MNOs with its innovative, multi-generation IMS solution for reliable voice and multimedia services using a single IMS core. Ribbon Cloud-Native IMS supports 4G VoLTE, 5G VoNR, Voice over WiFi (VoWiFi), and Voice over Broadband (VoBB). Its flexible framework gives MNOs the ability to invest in future architectures, enabling the choice to deploy as Virtual Native Functions (VNFs) today and Cloud Native Functions (CNFs) tomorrow. It helps networks run faster, more efficient, minimizing downtime while reducing total cost of ownership. With microservices-based architecture and dynamic autoscaling, it paves the way for both 5G Standalone Architecture (SA) and fully automated cloud environments.

Ribbon Cloud-Native IMS

Fully-compliant with 3GPP standards, Ribbon's infrastructure-agnostic IMS core was designed to easily drop into MNO networks, seamlessly connecting into existing infrastructure. Its robust interoperability and feature-rich capabilities support multiple generations of voice and was designed with a modern, cloud-based architecture. Ribbon Cloud-Native IMS enhances voice services with carrier grade reliability and performance.

A Business Imperative for 5G Transformation

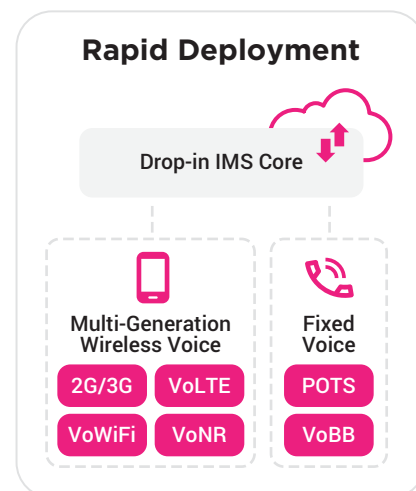
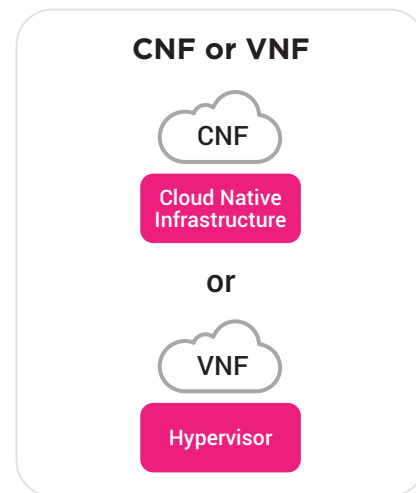
For a smooth 5G transition, investing in a cloud-native IMS core is critical. Ribbon's drop-in IMS core easily integrates with legacy network infrastructure. It optimizes spectrum usage by combining data and voice networks. It delivers a consistent user experience by supporting 4G VoLTE and 5G VoNR, removing the need for Circuit Switched Fall Back (CSFB), while also supporting VoWiFi and VoBB deployments. Ribbon Cloud-Native IMS also provides reliable access to life-saving services by ensuring seamless connectivity for critical 911 and 112 emergency calls.

CNF and VNF Deployment Options

Ribbon designed its IMS voice core to empower MNOs at any stage in their network evolution. MNOs can deploy as CNFs in containers using Kubernetes in any cloud environment - private, public, and hybrid. For MNOs needing a first step in transitioning to a cloud-native model, Ribbon's voice core also supports a VM-based VNF deployment.

Collaboration with AWS

MNOs have the flexibility to deploy Ribbon's IMS core on Amazon Web Services (AWS). Architected with security in mind, AWS enables MNOs to build, migrate, and manage applications in the cloud with confidence. MNOs can reduce upfront capital expenses and benefit from AWS' global infrastructure, dynamic network management, and service features.



Transforming Networks for 5G



Enhanced Voice
supports VoLTE and 5G NR, VoBB, and VoWiFi



Network Automation
for load balancing, scaling, and testing

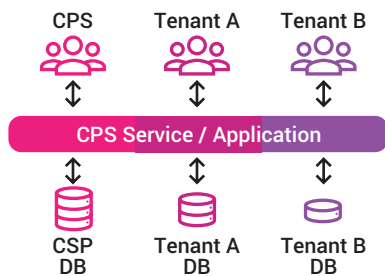


Service Innovation
for supporting new apps and services



Rapid Deployment
via VNFs or CNFs in Kubernetes

Solution Features and Benefits

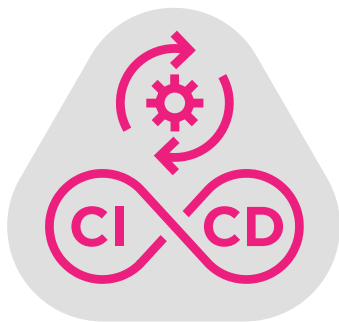
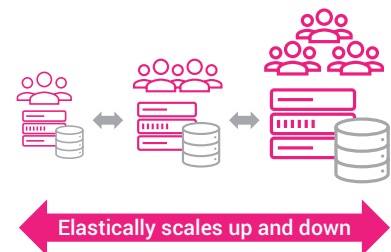


Microservices for Rapid Service Deployment

True to its cloud-native design, Ribbon's IMS voice core enables microservices for rapid service innovation, giving MNOs the agility to quickly respond to changing market demands. Deployed as stateless microservices, it empowers MNOs with the scalability and redundancy needed to efficiently handle network traffic and ensure uninterrupted services. This microservices-based architecture also supports multitenant environments for sharing resources with varying performance, security, and compliance requirements – all using a centralized IMS core.

Dynamic Autoscaling for Operational Efficiency

With Ribbon Cloud-Native IMS, MNOs can harness unparalleled agility while enjoying the freedom to effortlessly scale resources up and down - without compromising performance. Traditional, static provisioning often results in idle capacity and costly, inefficient operations. The Ribbon voice core optimizes resources, avoiding costly overprovisioning and ensuring network capacity matches demand. This results in less time spent in day-to-day resource management and more time focusing on strategic network initiatives. It also means significant cost savings when paying for compute resources in a public cloud environment.

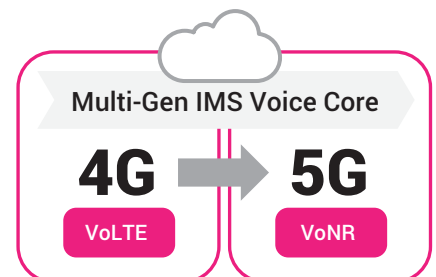


Automation and CI/CD with Observability

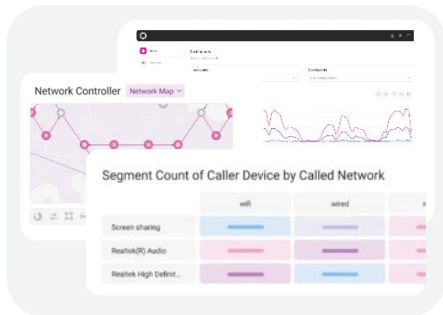
Automation, Continuous Integration / Continuous Deployment (CI/CD), and observability are crucial for enabling efficient, reliable, and agile networks. Ribbon Cloud-Native IMS paves the way forward with powerful automations that help MNOs run faster, more efficient networks, with streamlined operations that result in a lower Total Cost of Ownership (TCO). Ribbon Cloud-Native IMS enables observability, integrating with CI/CD pipelines to deploy applications faster and with confidence, using Prometheus monitoring, alerts, and metrics to quickly identify unexpected system behaviors or network degradation for rapid intervention.

Multi-Generation IMS Voice Core

With a single IMS core, Ribbon Cloud-Native IMS reduces network footprints and streamlines operations, resulting in a lower TCO. It easily integrates with existing legacy equipment to support multiple generations of voice, including 4G VoLTE, 5G VoNR, as well as VoWiFi and VoBB. With Ribbon Cloud-Native IMS, MNOs boost network performance, enhance voice services, and gain operational efficiency while future proofing networks for 5G – all with a multi-generational investment that provides a migration path for cloud-based, containerized, fully-automated networks.



Empowering MNOs Throughout the Network Lifecycle



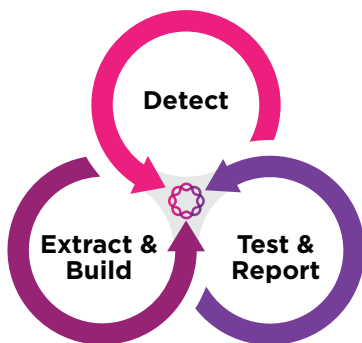
Analytics and Real-Time Monitoring

With Ribbon Analytics, MNOs get incredible insights and real-time visibility into network health and performance. Deployed with observability and deep insights to ensure optimal network performance, Ribbon Analytics is trusted by the world's best networks, including one of the largest MNOs globally, with 400M+ subscribers and 34B messages analyzed per day. Designed with Machine Learning (ML) and Artificial Intelligence (AI) frameworks, Ribbon Analytics supports the next wave and growth of 5G, IoT, and cloud services, and provides network service assurance by delivering voice and broadband analytics spanning the RAN, Packet Core, and IMS.

Exceptional Implementation and Support Services

Whether you need a little help or a lot, onsite or remote, you can count on Ribbon. From feature planning and design consulting, to configuration, testing, and 24/7 product support, Ribbon's exceptional support services stands out with an **impressive rating of 9.5/10** by our customers.

- Implementation Services, featuring planning, configuration and testing
- Supplemental Services, including design consulting, technical support, and project management



Faster Upgrades with LEAP Test Automation

Ribbon LEAP streamlines the shift to automated networks, accelerating and simplifying complex software upgrades. LEAP eliminates manual testing processes and enables 9.5x faster deployments with 51% more test coverage. It detects network call flows, devices and connections. It reduces the time to get critical software upgrades deployed by mirroring production networks and automating the generation and execution of test scripts. LEAP automates testing, regression testing, and reduces the potential for manual error. Through LEAP's proactive detection of network issues, MNOs experience fewer disruptions while safeguarding data and networks against potential security vulnerabilities.

Trusted Technology Partners Across the Globe

Ribbon's expansive network includes development centers and sales offices, backed by a dedicated team of over 3000 employees in 80 offices across the globe. Our global presence and dedicated teams support more than 1000 MNOs worldwide. Complementing our reach, Ribbon's extensive network of certified business and technology partners are fully-equipped to extend our services across the globe. Ribbon, together with our strategic partners, propels networks forward by innovating solutions tailored to meet the unique needs of MNOs and by accelerating the network transformations they need to stay competitive.

Contact Us

Contact us to learn more about Ribbon solutions.

About Ribbon

Ribbon Communications (Nasdaq: RBBN) delivers communications software, IP and optical networking solutions to service providers, enterprises and critical infrastructure sectors globally. We engage deeply with our customers, helping them modernize their networks for improved competitive positioning and business outcomes in today's smart, always-on and data-hungry world. Our innovative, end-to-end solutions portfolio delivers unparalleled scale, performance, and agility, including core to edge software-centric solutions, cloud-native offers, leading-edge security and analytics tools, along with IP and optical networking solutions for 5G. We maintain a keen focus on our commitments to Environmental, Social and Governance (ESG) matters, offering an annual Sustainability Report to our stakeholders. To learn more about Ribbon visit [ribbon.com](https://www.ribbon.com).