Business Communications – Connect to the Cloud with Ribbon Intelligent Edge

Unleash the Full Potential of Cloud Communications and SIP Trunking while Ensuring High Security, Availability and Service Quality

Executive Overview

Enterprises are introducing cloud-based communications services to simplify employee collaboration and operations, contain costs and accelerate the pace of business. SIP trunking services and on-demand communications and collaboration solutions like Microsoft Teams, Zoom, and many others can help companies drive efficiencies, improve agility and better align expenses with business demands.

Delivering business-critical communications services via the cloud and over the public internet poses challenges for network planners. IT organizations must deliver high-quality user experiences over best-effort internet connections, protect enterprise networks from denial-of-service attacks and data breaches, and ensure continuous service availability in the event of internet connectivity failures or ISP outages.

Ribbon's Intelligent Edge solution portfolio is specifically designed to provide high security, availability and service quality for today's cloud-first communications services. The wide-ranging product portfolio combines Intelligent Edge devices with centralized analytics, call control, routing and management functionality to help enterprises deliver high-quality business-critical communications services over public and private networks. The solution portfolio protects and extends previous IT investments, helping businesses gradually transition to the cloud with minimal disruption.
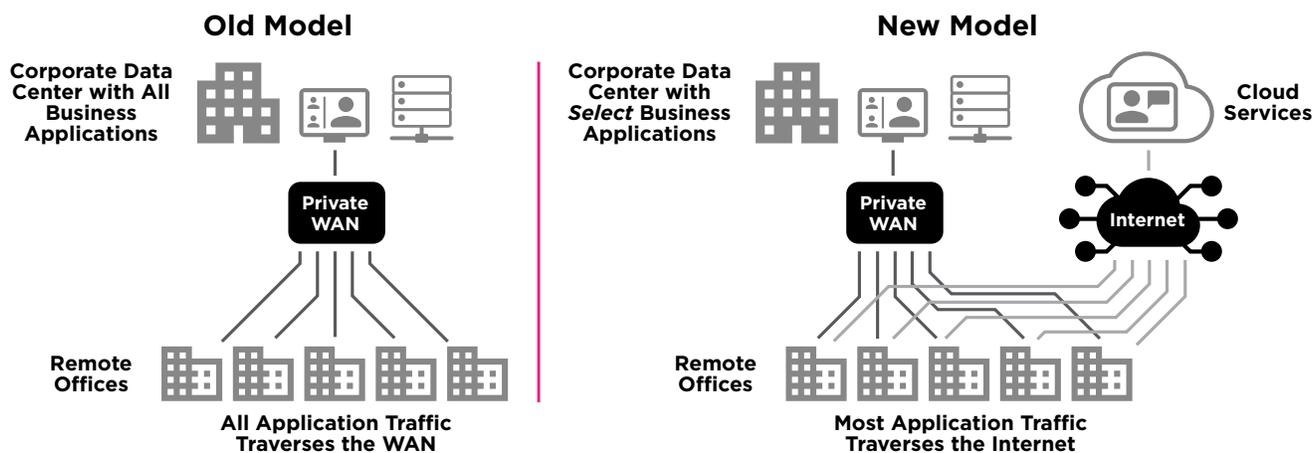
This white paper reviews cloud communications trends, opportunities and challenges, and explains how Ribbon's Intelligent Edge solutions help businesses connect to the cloud with confidence.

Cloud-Based Communications Services Fundamentally Reshape Enterprise Traffic Flows

Enterprises around the world are implementing cloud communications services to contain costs and improve collaboration. Companies are deploying SIP trunks and software-defined wide-area-networks (SD-WANs) to reduce operating expenses and eliminate inefficiencies. And they are implementing Unified Communications as a Service (UCaaS) platforms, Contact Center as a Service (CCaaS) solutions, with cloud-based collaboration and meeting services. Benefits include avoidance of infrastructure cost and complexity, improving service agility, and freeing up technical staff to work on more strategic initiatives.

The cloud fundamentally transforms the way traffic flows across the distributed enterprise. In the old model, employees worked in offices and leveraged communications services hosted locally (e.g., a branch office PBX) or in a corporate data center (e.g. a centralized conferencing server). Traffic was largely confined within the enterprise; businesses backhauled remote office/branch office traffic to a central data center across a private WAN over which the enterprise had deep visibility and tight control.

In the new model, distributed and hybrid workforces leverage communications services hosted on a public cloud (or in a corporate data center or private cloud). Ever-increasing volumes of remote office and branch office traffic flow over the public internet, over which the enterprise has little visibility and control.

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Old Model

Corporate Data
Center with All
Business
Applications

Private WAN

Remote
Offices

**All Application Traffic
Traverses the WAN**

New Model

Corporate Data
Center with
Select Business
Applications

Private WAN

Internet

Cloud
Services

Remote
Offices

**Most Application Traffic
Traverses the Internet**

Cloud-Based Communications Services Reshape Enterprise Traffic Flows

Cloud communications services pose a variety of technical challenges for network planners:

- **Security** — planners must ensure privacy for communications flowing over the public internet. And they must protect enterprise IT systems and communications infrastructure against internet-originated denial-of-service (DoS) attacks and fraud.

- **Service quality** — planners must ensure high service quality for communications flowing over the public internet to maximize user satisfaction and ease the adoption of new technology.

- **Availability** — planners must ensure business continuity for remote offices and branch offices in the event of internet connectivity failures or ISP outages.

- **Interoperability** — planners must ensure seamless integration with legacy on-premises IP-PBXs and other VoIP systems to enable a graceful transition to cloud-based services.

- **Compatibility** — planners must maintain support for legacy analog gear (fax lines, elevator phones, etc.) to minimize business process disruption and avoid having to replace or upgrade related equipment.

Ribbon Intelligent Edge Solutions Accelerate Cloud Success

Ribbon's Intelligent Edge solution portfolio was specifically conceived to enable high security, availability and service quality for cloud-based IP communications. Perfect for geographically distributed enterprises with remote sites, the portfolio combines Intelligent Edge devices with centralized analytics, call control, policy, edge routing and management functionality for ultimate economics, efficiency and serviceability.

The Ribbon solution portfolio is ideal for decentralized environments where distributed workforces access on-demand communications services directly over the internet. The portfolio includes a wide range of Enterprise Session Border Controllers (eSBCs) and Multi-service Business Gateways (MSBGs), either appliances or software-based (virtualized), to satisfy diverse performance and capacity requirements. Optional LTE, WAN, FXO and PRI failover capabilities enable continued operation in the event of internet connectivity failures. And support for FXS interfaces (analog phones) and legacy PBXs enables a graceful migration to cloud-based services. The Ribbon Application Management Platform (RAMP) saves enterprises a considerable amount of money through remote monitoring and management. This includes quality of service thresholds that trigger alerts, allowing organizations to proactively troubleshoot and address issues without having local expertise at branch offices.

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The solution portfolio is also certified and/or tightly integrated with Microsoft Teams Phone, Zoom BYOC and other popular cloud-based services.


Ribbon's Intelligent Edge Portfolio
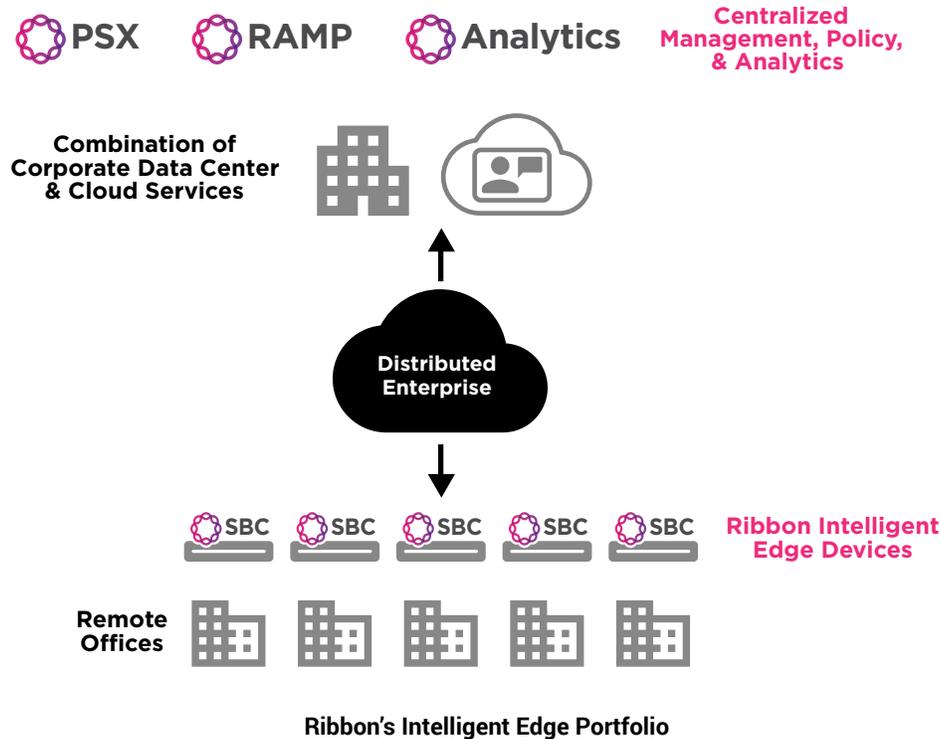
The Intelligent Edge portfolio leverages Ribbon's vast knowledge and expertise delivering field-proven, carrier-grade communications solutions. Ribbon has decades of experience supporting some of the world's largest service providers and enterprises in key industry verticals in over 140 countries.

Ribbon SBCs Enable PSTN Calling for Microsoft Teams and Similiar Cloud Services

Enterprises have adopted Microsoft Teams and simliar cloud services to improve collaboration and unleash productivity. Businesses are extending that value by adding telecom services to Teams for voice calling and cloud PBX functionality. With Teams Phone, users can place and receive phone calls to customers and business partners, directly from Teams.

Microsoft's Direct Routing enables Phone connectivity for Teams via a certified SBC and telecom provider. Ribbon offers the broadest portfolio of SBCs certified for Microsoft Direct Routing, SBCs that include e911 support. With Ribbon SBCs and Direct Routing, enterprises can rapidly select a telecommunications provider and easily migrate from a legacy phone system/PBX to Teams. They can reuse existing phone numbers or select new ones.
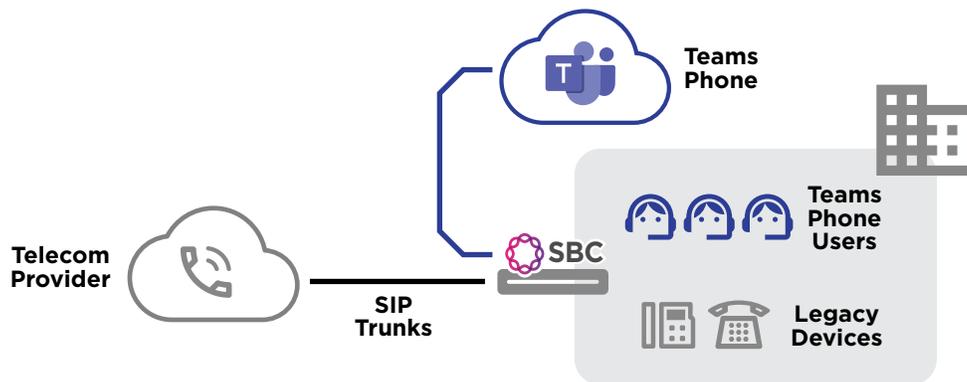
**Ribbon Intelligent Edge Devices Secure Telecom and Teams PSTN Connectivity
They enable integration between Teams and legacy PBXs / analog devices**

Microsoft Direct Routing Option with Ribbon SBC

Connect to the Cloud with Ribbon Intelligent Edge

Ribbon's Intelligent Edge solution portfolio eliminates disruptive rip-and-replace technology upgrades by allowing customers to keep existing equipment, as needed, so they can gradually introduce cloud-based services. Comprehensive remote management services allow centralized IT staff to efficiently provision, administer and troubleshoot problems across a distributed enterprise network.

Key features and capabilities of the Ribbon product family include:

Deployment options
- **Hardware or software**– Ribbon offers fully virtualized software that can run on popular hypervisors and the public cloud. Additionally, if an organization needs to retain legacy interfaces like analog lines or stations, hardware maybe still be the right choice.

## Extensive edge security, availability and service quality assurance
- **Strong security** – Ribbon edge devices provide comprehensive security capabilities, including topology hiding, encryption and Distributed DoS (DDoS) protection to safeguard enterprise infrastructure and protect privacy.

- **Resiliency and business continuity** – optional LTE, WAN, FXO and PRI failover capabilities enable continuous availability if a primary internet uplink fails. PBX survivability functionality enables continuous service if the internet is unreachable.

- **Service quality assurance** – innovative SD-WAN type functionality prioritizes traffic, reducing latency for delay-sensitive applications, and improving end-user experiences.

Investment protection, interoperability and migration
- **Analog lines** – optional FXS interfaces support legacy fax machines, elevator phones, door phones, etc.

- **On premises PBX and UC systems** – field-proven interoperability with a wide range of on-premises PBXs and UC platforms enables phased migration strategies.

- **Cloud communications services** – demonstrated interoperability with a variety of telecommunications service providers, UCaaS, and CCaaS platforms streamlines transition to the cloud, removing risk and uncertainty.

Manageability and serviceability

- **Zero-touch setup** – plug-and-play SBC and MSBG installation dramatically simplifies deployment at remote offices without on-site IT staff.

- **Embedded instrumentation** – rich call quality monitoring and packet capture capabilities built into Intelligent Edge devices lay the foundation for remote troubleshooting and support.

- **Centralized device and network management** – Ribbon's RAMP lets central administrators monitor, configure and control edge devices; view call quality metrics (mean opinion scores); and diagnose and remediate problems remotely.
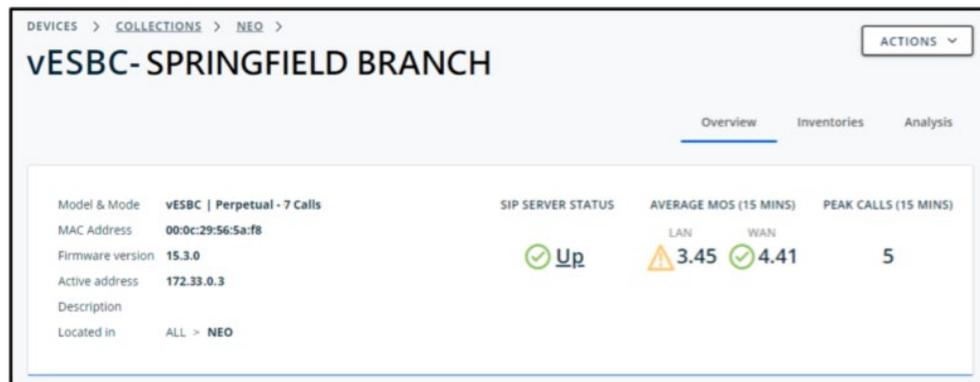
RAMP - Centralized Real-Time Status and Device Management

Central analysis and orchestration

- **Advanced data analytics** – Ribbon Analytics transforms raw data gathered from edge devices into actionable insights, helping IT organizations detect and mitigate toll fraud, robocalling and security threats.

- **Policy and routing** – Ribbon's intelligent call control capabilities let enterprises centrally orchestrate communications sessions (manage routing paths, admission controls, application priorities, etc.) based on administratively defined policies to optimize performance, availability and service quality across the network.

Summary

Enterprises are migrating communications services to the cloud to improve collaboration and productivity, increase business agility and save money. Ribbon's Intelligent Edge solutions let organizations take full advantage of all the benefits of cloud communications, while delivering the high reliability and service levels users have come to expect from their business communications system.

Ribbon's edge solution portfolio provides high security, availability and service quality for today's on-demand communications and collaboration solutions, helping businesses mitigate risks, remove adoption barriers and accelerate the introduction of cloud-based services.

Contact Us   Contact us to learn more about Ribbon solutions.

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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 rbbn.com.