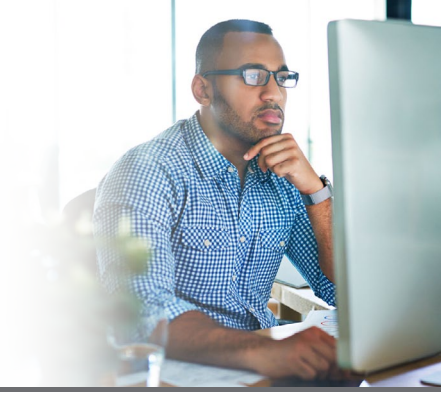
SBC 1000 & SBC 2000

Intelligent Edge™ – Enterprise Session Border Controllers



SBC 1000

SBC 2000

Organizations are rapidly adopting cloud communications whether it be Unified Communications as a Service (UCaaS), Microsoft Teams or SIP Trunks to connect premises PBX equipment. Ribbon's SBC 1000 and SBC 2000 Session Border Controllers provide market leading security and interoperability elements to simplify access to secure cloud-based services. The SBC 1000 and SBC 2000 include multiple options to integrate traditional telecom devices via analog, BRI and T1/E1 ports. They also include impactful capabilities to maintain communications access if a WAN link is lost or a cloud service is unavailable.

Beyond their industry renowned security services, the SBC 1000 and SBC 2000 are independently verified for performance and designed to eliminate interoperability issues between different VoIP products and networks. Ribbon has been working closely with Microsoft for more than a decade so it should come as no surprise that both products are Microsoft certified for Microsoft Direct Routing.

Microsoft Certified for Direct Routing

The SBC 1000 and SBC 2000 are also certified with Zoom™, BroadSoft™, Yealink®, Poly® and tested with other popular services and products. A built-in deployment wizard is pre-populated with popular PBXs, cloud UC services and service provider configurations so deployment can be as simple as point and click. Most importantly, the SBC 1000 and SBC 2000 have been successfully deployed tens of thousands of times to secure communications for organizations of all sizes, across the globe.

Certified for Zoom Phone

Key Capabilities

- Secure signaling, media and management
- Robust media transcoding including SILK and OPUS
- Prevention of Denial-of-Service (DoS) and Distributed DoS (DDoS) attacks
- 3 step easy configuration wizard to simplify deployment
- Centralized management via Ribbon Application Management Platform (RAMP)
- PSTN fallback in case of WAN or cloud provider disruptions
- Rapid Ethernet port fail-over, to maintain in-progress calls
- Site survivability for Microsoft Teams clients and industry-standard SIP clients
- Support for redundant SIP trunking providers
- 911 call preemption
- Microsoft 365® Phone System E911 support; SIP PIDF-LO pass through and ELIN Gateway

Platform Choices

Capabilities	SBC 1000	SBC 2000
Maximum Concurrent Calls	192	600
Maximum Transcoded Calls	192	600
T1/E1 CAS/PRI Ports	Up to 4	Up to 16
FXO ports	Up to 24	-
FXS ports	Up to 24	Up to 48
BRI Ports	Up to 12	-
Microsoft Teams E911 Support	√	√
Teams Survivable Branch Appliance	√	√

Note: Ribbon's SBC SWe Edge software is also available. It can be deployed on virtual machines and in public cloud environments (Azure and AWS)

Note: Not all physical interface port capacities are available simultaneously

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Part of an Industry Leading Portfolio of Real-time Security Solutions - from Ribbon Communications

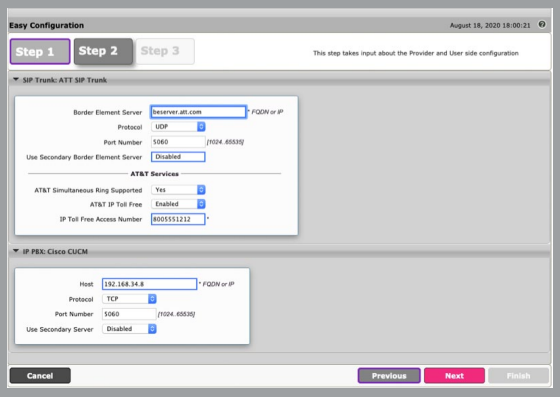
The SBC 1000 and SBC 2000 represent one element of Ribbon's security portfolio. Organizations that prefer software only solutions can deploy the same capabilities using Ribbon's Software Edition Edge (SBC SWe Edge) and Cloud Native Edition (SBC CNe Edge), in their own datacenter or in a public cloud such as Azure or AWS. In addition, Ribbon offers a robust portfolio of analytics tools to proactively look for security issues.

Ribbon also provides massively scalable SBCs for large enterprises and over 1,000 of the world's leading communications service providers. In fact, there is a good chance that your communications service provider is already a Ribbon customer.

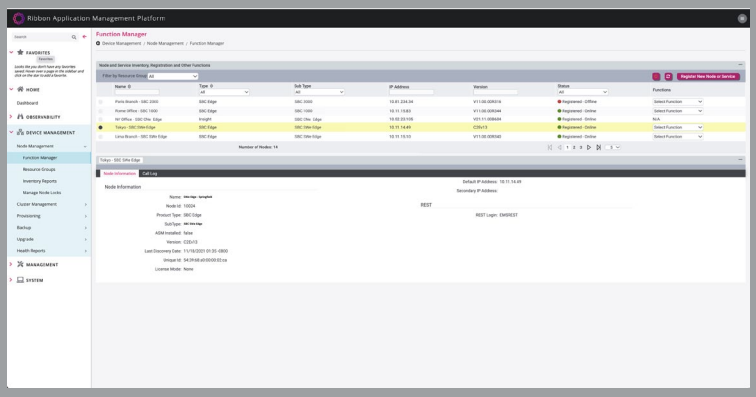
Centrally Managed from Ribbon Application Management Platform

Ribbon SBC 1000 and SBC 2000 are centrally managed via the Ribbon Application Management Platform (RAMP). RAMP provides streamlined access to SBC 1000 and SBC 2000 management interfaces as well as simplified access to cross location centralized reporting. The EdgeView platform can manage heterogenous deployments of ESBC 1000 & SBC 2000 elements, SBC SWe Edge instances (in data centers or public cloud) and SBC CNe Edge instances. Customers can rationalize far-flung networks, monitor performance and quickly remediate issues, leading to improved experiences and reduced costs.

RAMP



Easy to use configuration wizard



Easily spot issues across thousands of instances

PSTN Access | Analog & TDM Gateway | VoIP Firewall | NAT/DHCP | WAN Resiliency | Back-up Call Server | Voice Quality Monitor | Traffic Shaper

Ribbon SBC 1000 and SBC 2000 provide a comprehensive solution to secure communications and assure interoperability with existing equipment or services

SBC 1000 and SBC 2000

Features and Capabilities	Specifications
Security	• TLS (Transaction Layer Security) for signaling encryption - TLS 1.2 (RFC 5246) • Secure Real-time Transport Protocol (SRTP) & Control Protocol (SRTCP) for media and media control encryption (RFC 3711) • Multiple unique X.509 public key certificates/PKCS #12 files (up to 11) • Wildcard certificate support • Topology hiding; user privacy • Prevention of Denial-of-Service (DoS) and Distributed DoS (DDoS) attacks • Traffic separation (VLAN interface separation) • Malformed packet protection • Access Control Lists (ACLs) • IPsec VPN tunnel • NAT/NAPT and port forwarding; NAT traversal • 2 GB on-board eUSB memory for secure, encrypted Active Directory replication
Protocol Support	• SIP (RFC 3261) over UDP, TCP, TLS • RTP/RTCP/RTCP-XR (RFC 3550, 3551, 3611) • RTP/RTCP multiplexing over single UDP port (RFC 5761) • IPv4, IPv6, and IPv4/IPv6 interworking • DHCP server & client (RFC 2131) • Network Address Translation – NAT (RFC 2663) • SNMPv2c, SNMPv3 • HTTPS • RIPv2, OSPF as dynamic IP routing protocols • TDM Signaling (ISDN): AT&T 4ESS/5ESS, Nortel DMS-100, Euro ISDN (ETSI 300-102), QSIG, NTT InsNet (Japan), ANSI National ISDN-2 (NI-2) • TDM Signaling (CAS): T1 CAS (E&M, Loop start); E1 CAS (R2)
Media Services	• Support & transcoding of G.711, G.722, G.722.2 (AMR-WB), G.723.1, G.726 (32 kbps), G.729A/B (8 kbps), T.38, SILK-NB/WB • Video interworking • DTMF/RFC4733; Inband DTMF; SIP INFO/RFC-2833 • Voice Activity Detection (VAD) • G.168 Echo cancellation with standard 128 ms tail length • Comfort noise generation and packet loss concealment • Music on hold • RTP inactivity monitoring (dead call detection)
Quality of Service (QoS)	• Bandwidth management • Call Admission Control (CAC) (deny excessive calls based on static configuration for bandwidth management) • P-time mediation for rate limiting • Per-call statistics • Diffserv/DSCP marking
Routing/Policy	• Interactive Connectivity Establishment (ICE), full and lite support (RFC 8445) • Azure® and on-premises Active Directory®/LDAP-based call routing • Least cost, time of day and quality-based routing • On-board call forking (up to eight end points) • Supplementary services: call hold, call transfer (blind & assisted) and call forward • SIP routing based on source and destination IP address or Fully Qualified Domain Name (FQDN) • One number fax support (single DID for voice and fax) • ITSP E911 support; 911 call preemption
Management Capabilities	• Single, secure, web-based GUI with real-time port monitoring • 3 step Easy Configuration Wizard, for quick provisioning between: • SIP trunks, SIP phones, ISDN-based PBXs, and SIP-based PBXs (e.g. Avaya® Aura® or Cisco® Unified Communications Manager) - Microsoft Teams Direct Routing • Centralized management from EdgeView Service Control Center • REST-based programmatic interface to remotely manage multiple SBCs • SNMP v2c/v3 for comprehensive network management using third-party management systems • Configuration backup and restore; upload from one site to another • CDR reporting and local logging for troubleshooting • Free Ribbon LX syslog server and log parser tool available • Authentication: local user (user name/password), Active Directory®, RADIUS
Certified SBC for Microsoft Phone System & Direct Routing (Teams)	• SILK-NB, SILK-WB codec support for improved Microsoft Teams user experience • Enhanced 911 (E911) and Emergency Location Identification Number (ELIN) Gateway Support • Analog FXS device/Analog Telephony Adapter (ATA) support • Microsoft Teams Media Bypass and Local Media Optimization support • Simplified migration from on-premises Skype for Business Server to Microsoft Teams • Support for multiple tenant-related Direct Routing deployments with Microsoft partners/PSTN carriers • Local site survivability enabled by Teams Survivable Branch Appliance (SBA)

SBC 1000 and SBC 2000

Features and Capabilities	Specifications	
Site Survivability	• IP route redundancy to UC provider, in case of ISP or router failure • PSTN fallback in case of WAN failure - Detect proxy failure and route to alternate paths - Re-route on failure based on full Cause Code re-routing on T1/E1 trunks • Built-in SIP registrar for site survivability for SIP clients including Yealink® Teams and Poly® UC phones and conference bridges • Rapid Ethernet Port failover, to maintain in-progress calls in the event of an Ethernet port or switch problem • Multiple Spanning Tree Protocol, to prevent routing loops • Bypass relays (FXS to FXO) in case of commercial power loss (SBC 1000 only)	
Optional SBC Server Module	• Intel® Pentium® Processor: D-1508 CPU, dual core, 4 threads, 2.20 GHz • 8 GB of DDR4 with ECC (Error-Correcting Code) CPU • 256 GB SSD for storage • 2 Microsoft Hyper-V® enabled VOSEs (Virtual Operating System Environments) to support hosting of 3rd party applications • Required for deployment of Teams Survivable Branch Appliance	
SBC System Capabilities	**SBC 1000** Sessions - Maximum total concurrent calls: 192 - Maximum SIP to SIP calls: 192 - Maximum TDM to SIP calls: 144 - Maximum transcoded sessions: 192 - Maximum number of concurrent calls associated with Survivable Branch Appliance (SBA): 240 Call Set-Up - Maximum call set-up rate: 4 cps Registrations - Maximum registered users: 600 Encryption - Maximum TLS sessions: 192 - Maximum SRTP sessions: 192 WAN and LAN Interfaces - 3 x 10/100/1000 BASE-T Ethernet ports with VLAN support - Administration Port: 1 x 10/100/1000 BASE-T Ethernet port PSTN Interfaces - Up to 4 T1/E1 CAS/PRI digital ports - Up to 12 BRI digital ports - Up to 24 FXS (Foreign eXchange Station) analog ports - Up to 12 globally compliant FXO (Foreign eXchange Office) analog ports, 24 under special arrangement Chassis - 1U, rack mount (17.5 in wide x 1.75 high x 12 deep / 44.4 cm wide x 4.4 high x 30.5 deep) - 2 GB on-board eUSB - Input Voltage: 100-240 VAC nominal, auto-switching, 47-63 Hz - Maximum Input Current: 1.25A at 115 VAC; 0.63A at 230 VAC - Weight Maximum: 12.5 lbs. (5.67 kg) - Operating Environment: 5 to 40˚ C with 5 to 85% non-condensing operating humidity	**SBC 2000** Sessions - Maximum total concurrent calls: 600 - Maximum SIP to SIP calls: 600 - Maximum TDM to SIP calls: 480 - Maximum transcoded sessions: 600 - Maximum number of concurrent calls associated with Survivable Branch Appliance (SBA): 240 Call Set-Up - Maximum call set-up rate: 4 cps Registrations - Maximum registered users: 1,000 Encryption - Maximum TLS sessions: 600 - Maximum SRTP sessions: 600 WAN and LAN Interfaces - 4 x 10/100/1000 BASE-T Ethernet ports with VLAN support - Administration Port: 1 x 10/100/1000 BASE-T Ethernet port PSTN Interfaces - Up to 16 T1/E1 – 2 x from one to eight T1/E1 spans per digital module - Up to 48 FXS ports – 2 x 24 ports Chassis - 1U, rack mount (17.5 in wide x 1.75 high x 21 deep / 44.4 cm wide x 4.4 high x 53.4 deep) - Input Voltage: 100-240 VAC nominal, auto-switching, 47-63 Hz - Maximum Input Current: 3.0A at 115 VAC; 1.6A at 230 VAC - Weight Maximum: 23 lbs. (10.43 kg) - Operating Environment: 5 to 40˚ C with 5 to 85% non-condensing operating humidity - Optional redundant power supply

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