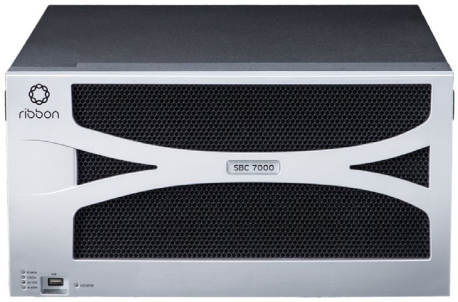
SBC 7000™

Service providers and large enterprises are facing a torrent of demand for multimedia communications applications across global markets. The Ribbon SBC 7000 is a purpose-built session border controller with industry-leading performance and scale that deliver increased operational efficiency and uncompromised quality of service to help securely and efficiently handle and monetize the massive amount of audio, video and collaboration traffic crossing their networks. The SBC 7000 not only provides the critical features service providers and large enterprises equate with Ribbon Session Border Controllers (robust security, sophisticated routing and policy management, overload controls and SIP normalization), it also delivers IPv4-IPv6 interworking, high density media transcoding, and sophisticated policy at high performance levels to meet the increasing demands of multimedia communications. To further simplify deployment, the SBC 7000 implements a fully modular chassis design, enabling service providers and large enterprises to rapidly scale today's networks while preparing for future growth.

System Capabilities



Sessions

- 150,000 simultaneous sessions
- Up to 130,000 transcoded sessions
- Up to 32,000 H.323 sessions
- RTCP sessions scale 1:1 with RTP sessions
- Up to 64,000 recording sessions
- 40,000 Trunk groups per system
- 4096 VLANs

Call Set-Up

- Call setup maximum rate: 1350 cps
- Call latency= 30ms (@ 1350 cps, 90% fall into this category)

Registrations

- Maximum new registrations/sec: 2500
- Maximum refreshes/sec: 20,000
- Total registered end point support: 2,000,000
- Maximum surrogate registrations: 256,000

Encryption

- Maximum number of TLS sessions: 765,500
- TLS setup rate: 2000/sec
- Maximum # IPSec tunnels; 4096
- Maximum # SRTP call legs: 150,000
- Maximum # registered subscribers on IPSec - IMS AKA: 1,000,000

Media Services

- Transcoding G.711, G.726, G.729A/B, G.723, iLBC, G.722, G.722.1, AMR-NB, AMR-WB, EVRC/EVRC0, EVRCB/EVRCB0, Opus, SILK, EVS, Linear PCM (16 bits)
- Codec pass through
- T.38 version 0/3 compliant fax relay or fall back to G.711
- VAD, silence suppression, dynamic jitter buffer, fax/modem detection, DTMF/tone relay/RFC2833/RFC4733 interworking
- Message Session Relay Protocol (MSRP) - MSRP B2BA, MSRP over TLS, and MSRP-CEMA
- NAT/NAPT on media DTMF trigger detection and notification
- Generic audio codec relay
- Tones & announcements
- Local Ring Back Tone (LRBT) support with centralized PSX Policy Server
- RTP inactivity monitoring
- Supported video codecs: H.264 AVC, H.264 SVC, H.263+, H.263, H.261, VP8
- Support up to 4 simultaneous SIPREC recordings per session
- T.140 Text over Internet Protocol (ToIP) to/from Baudot inter-working for TTY/TDD (Telecommunications Device for the Deaf) equipment support

Redundancy

- 1:1 redundant systems for service availability
- 1:1 redundant management/control ports
- 1:1 redundant media ports

Management Capabilities
- Graphical based wizards for ease of configuration
- Secure embedded web-based management GUI
- Ribbon CLI, SSH
- Representational State Transfer (REST) API
- Centralized support by Ribbon Insight EMS
- SNMP V2/V3 status and statistics
- Local logging of events, alarms, traps, and call traces
- Ribbon DSI Level 0 support for storing CDRs, RADIUS accounting records
- Live software update (LSWU)
- Real time streaming of RTCP statistics for Ribbon Analytics
- APIs for call notification event and call termination

Signaling
- Back to back user agent (B2BUA)
- SIP, SIP-I/SIP-T, SIP/H.323, Ribbon gateway to gateway protocol
- SIP protocol normalization/protocol repair, SIP message manipulation (SMM)
- NAT/NAPT on signaling
- Binary floor control protocol (BFCP)
- Far-end camera control (FECC)
- SIP over WebSocket

Protocol Support
- IPv4, IPv6, IPv4/IPv6 interworking
- SSH, SRTP
- SNMP, NETCONF, RESTCONF
- HTTP/HTTPS
- RTP/RTCP
- UDP, TCP
- DNS, ENUM
- DTLS - SRTP
- ICE - STUN

Routing/Policy
- Embedded policy/routing engine
- Centralized support with Ribbon PSX using DIAMETER+
- Screening, blocking, routing, presentation, call type filters
- Route prioritization
- Leading digit routing, international routing, URI based routing
- Digit/parameter manipulation
- E911 support, priority call handling
- Survivable service for SIP clients when primary SIP Registrar is unavailable
- Routing based on Active Directory lookup
- Call forking

Security
- Session aware firewall, topology hiding
- Line rate DoS/DDoS and rogue RTP protection
- Line rate malformed packet protection
- TLS, (IKE v1/v2, ESP tunnel/transport mode) for signaling encryption
- Secure RTP/RTCP, IPSec for media encryption
- Support for STIR/SHAKEN Caller ID Authentication and Verification

Certifications
- Microsoft Teams Direct Routing including media bypass and Local Media Optimization (LMO)
- BroadSoft BroadWorks Platform
- Joint Interoperability Test Command (JITC)
- Federal Information Processing Standard (FIPS) 140-2

Quality of Service (QoS)
- Bandwidth management
- Call admission control (CAC) per trunk group, per zone
- Per call statistics
- TOS/COS packet marking

Packet Network Time Source
- Network Time Protocol (NTP) per RFC-1708

Hardware Specifications
Front Panel
- Status Indicators Front Panel LEDs:
  - Status
  - Alarm
  - Active
  - Locator
  - Power
- Single USB V2.0 interface

Rear Panel
- Management Ports: Two GigE Ethernet ports (RJ-45, SFP-LC-MM, SFP-LC-SM)
- Media Ports: Four 10 Gbps Ethernet fiber (SFP-LC-MM, SFP-LC-SM)
- High Availability Ports: Two 10 Gbps Ethernet fiber via SFP
- Single Field Service port with RJ45 connector
- Locator LED
- Alarm port with DB15 connector
- Single serial craft DB9 port

DSP Expansion
- Modular DSP slots

Chassis
- 5U rack mount
- Inches: 17" wide x 8.75" high x 23" deep
- Centimeters: 43.2cm wide x 22.2cm high x 58.4cm deep
- Replaceable filter

Chassis Mounting Options
- 19" or 23" adjustable brackets

AC Power Option
- Maximum Current: 15.0 A
- RMS input voltage
- Minimum 180 VAC
- Nominal 200-240 VAC
- Maximum 264 VAC
- Input frequency
- Minimum 47 Hz
- Nominal 50/60 Hz
- Maximum 63 Hz

DC Power Option
- Maximum Current: 62 A
- DC Input Range
  - Maximum 60 VDC
  - Nominal 48 VDC
  - Minimum 40 VDC

Operating Altitude
- 6,000 feet
- 1,800 meters

Heat Dissipation
- Fully-populated maximum: 2900 Watts

Weight Maximum Fully Populated
- 98 lbs. (44.4kg)

Environmental
- 5 to 40º C operating
- -5 to 55º C short term
- 5 to 90% non-condensing operating humidity

Regulatory Compliance

Central Office Standards
- DC Systems – SR-3580 NEBS Level 3
- GR-1089-CORE
- GR-63-CORE
- AC Systems – SR-3580 NEBS Level 3
- GR-1089-CORE
- GR-63-CORE

	AC Low Line (W)		DC Input (W)	
	Minimum: 180 Vrms Nominal: 200 - 240 Vrms Maximum: 264 Vrms		Minimum: 40 Vdc Nominal: 48 Vdc Maximum: 60 Vdc	
Configuration	**Amps**	**Watts**	**Amps**	**Watts**
SBC7000 - No DSP Cards	7	1217	23	938
SBC7000 + 1 x DSP	9	1571	33	1326
SBC7000 + 2 x DSP	11	1940	42	1679
SBC7000 + 3 x DSP	13	2326	51	2059
SBC7000 + 4 x DSP	15	2724	62	2473

Table 1.Estimated Power Consumption

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, please visit rbbn.com.

Contact Us Contact us to learn more about Ribbon solutions.

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