The Sonus SBC 7000™ Session Border Controller

Service providers are facing a torrent of demand for multimedia communications applications across global markets. The Sonus SBC 7000 Session Border Controller is purpose-built with industry-leading performance and scale that deliver increased operational efficiency and uncompromised quality of service to help service providers 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 equate with Sonus 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 to rapidly scale today's networks while preparing for future growth.

System Capabilities

- Sessions
  - 150,000 simultaneous sessions
  - Up to 130,000 transcoded sessions based on codec
  - Up to 32,000 H.323 call legs
  - RTCP sessions scale 1:1 with RTP sessions
  - 40,000 Trunk Groups per system
  - 4096 VLANs
- Call Set-Up
  - 1350 cps
- Registrations
  - Total registered end point support: 1,200,000
- Encryption
  - Maximum number of TLS sessions: 765,000
  - TLS set-up rate: 2000/sec
  - Maximum # of IPsec tunnels: 4096
  - Maximum # SRTP sessions: 150,000

Media Services

- Transcoding G.711, G.726, G.729A/B, G.723, iLBC, G.722, G.722.1, AMR-NB, AMR-WB, EVRCB0, EVRC0
- Wireline, wireless, wideband and clear channel codec pass through
- T.38 compliant fax relay or fall back to G.711
- VAD, silence suppression, dynamic jitter buffer, fax/modem detection, DTMF/tone relay/RFC2833/RFC4733 interworking
- 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

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
- Sonus CLI, SSH
- Centralized support by Sonus EMS
- SNMP V2/V3 status and statistics
- Local logging of events, alarms, and traps; call trace
- Sonus DSI Level 0 support for storing CDRs; RADIUS accounting records
- Live software update (LSWU)

Signaling

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

Protocol Support

- IPV4, IPV6, IPV4/IPV6 interworking
- SSH; sFTP
- SNMP; NTP
- HTTP/HTTPS
- RTP/RTCP
- UDP, TCP
- DNS, ENUM

Routing/Policy

- Embedded policy/routing engine
- Centralized support by Sonus PSX Policy/Route Server 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

Security

- Session aware firewall; topology hiding
- Line rate DoS/DDoS, and Rogue RTP protection
- Line rate malformed packet protection
- TLS, IPSec (IKEV1) for signaling encryption
- Secure RTP/RTCP for media encryption

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: 17.5" wide x 8.78" high x 23" deep
- Centimeters: 44.5 wide x 22.3 high x 58.4 deep
- Optional mounting brackets for 19" or 23" rack

Chassis Mounting Options
- 19" or 23" adjustable brackets

AC Power Option
- RMS input voltage
  - Minimum 180 VAC
  - Nominal 200-240 VAC
  - Maximum 264 VAC
- RMS current
  - 15.9 VAC
- Input frequency
  - Minimum 47 Hz
  - Nominal 50/60 Hz
  - Maximum 63 Hz

DC Power Option
- Peak consumption: 72.5 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
- Replaceable filter

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

Table 1. Estimated Power Consumption

Configuration	AC Input High Line (W) Minimum: 180 VAC Nominal: 200 - 240 VAC Maximum: 264 VAC		DC Input (W) Minimum: 40 VDC Nominal: 48 VDC Maximum: 60 VDC	
	Amps	Watts	Amps	Watts
SBC7000 - No DSP Cards	6.7	1200	30.0	1200
SBC7000 + 1 x DSP	9.0	1625	40.6	1625
SBC7000 + 2 x DSP	11.4	2050	51.3	2050
SBC7000 + 3 x DSP	13.8	2475	61.9	2475
SBC7000 + 4 x DSP	16.1	2900	72.5	2900

Sonus EMEA Headquarters

PulseSupply
pulsesupply.com

Microsoft Partner
Gold Communications

Voice
Unified Communications
Business Productivity Solutions
Midmarket Solution Provider