The Sonus SBC 7000™ Session Border Controller

Service providers and large enterprises 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 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 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 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 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 Maximum call setup rate: 1350 cps
- Call latency = 30ms (@ 1350 cps)
- Registrations
  - Maximum new registrations/sec: 2,500
  - Maximum refreshes/sec: 20,000
  - Total registered end point support: 2,000,000
- Encryption
  - Maximum number of TLS sessions: 765,000
  - TLS set-up rate: 2000/sec
  - Maximum # of IPsec tunnels: 4096
  - Maximum # SRTP call legs: 300,000
  - Maximum # of 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, EVRCB0, EVRC0, Opus
- 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
- Message Session Relay Protocol (MSRP)
- 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
- SIPREC

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
- Representational State Transfer (REST) API
- Centralized support by Sonus Insight 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" 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

Table 1. Estimated Power Consumption

	AC High 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

About Sonus Networks

Sonus enables and secures real-time communications so the world's leading service providers and enterprises can embrace the next generation of SIP and 4G/LTE solutions including, VoIP, video, instant messaging, and online collaboration. With customers in more than 50 countries and nearly two decades of experience, Sonus offers a complete portfolio of hardware-based and virtualized Session Border Controllers (SBCs), Diameter Signaling Controllers (DSCs), Cloud Exchange Networking Platform, policy/routing servers, and media and signaling gateways. For more information, visit www.sonus.net or call 1-855-GO-SONUS. Sonus is a registered trademark of Sonus Networks, Inc. All other company and product names may be trademarks of the respective companies with which they are associated.

Sonus Networks North American Headquarters

4 Technology Park Drive
Westford, MA 01886
U.S.A.
Tel: +1-855-GO-SONUS

Sonus Networks APAC Headquarters

1 Fullerton Road #02-01
One Fullerton
Singapore 049213
Singapore
Tel: +65-68325589

Sonus Networks EMEA Headquarters

Edison House
Edison Road
Dorcan, Swindon
Wiltshire
SN3 5JX
Tel: +44-14-0378-8114

Sonus Networks CALA Headquarters

Homero No. 1933-902
Col. Los Morales, C.P. 11510
Mexico City, Mexico
Distrito Federal
Mexico Tel: +52-55-1950-3036
Int'l Tel: +1-978-614-8741

To learn more, call Sonus at 855-GO-SONUS
or visit us online at www.sonus.net

Microsoft Partner
Gold Communications

Voice
Unified Communications
Business Productivity Solutions
Midmarket Solution Provider

The content in this document is for informational purposes only and is subject to change by Sonus Networks without notice. While reasonable efforts have been made in the preparation of this publication to assure its accuracy, Sonus Networks assumes no liability resulting from technical or editorial errors or omissions, or for any damages resulting from the use of this information. Unless specifically included in a written agreement with Sonus Networks, Sonus Networks has no obligation to develop or deliver any future release or upgrade, or any feature, enhancement, or function.

Copyright © 2016 Sonus Networks, Inc. All rights reserved. Sonus is a registered trademark of Sonus Networks, Inc. All other trademarks, service marks, registered trademarks, or registered service marks may be the property of their respective owners.

Sonus™
Cloud communications made smarter

DS-1601 5/2