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The Sonus SBC 1000™ Session Border Controller

Sonus session border controllers (SBCs) help the world's leading enterprises reduce communications costs, enable Unified Communications and protect their networks against IP-based attacks. Now small businesses and branch offices can enjoy the same industry-leading SBC technology in a right-sized appliance designed specifically for their networks. The SBC 1000 (formerly NET UX 1000) is an advanced SBC built for smaller enterprise networks (from 5 to 500 employees) that delivers robust security, high availability and proven interoperability with leading business solutions like Microsoft Lync Server. The Sonus SBC 1000 also features built-in Survivable Branch Appliance functionality, so calls go through even if your wide area network goes down.

The Sonus SBC 1000

System Capabilities

- Sessions
  - Maximum number of SIP-to-SIP calls: 100
  - Maximum number of TDM-to-SIP calls: 84
  - Maximum number of total concurrent calls: 100
  - Maximum number of transcoded sessions (based upon codec type): 100
  - RTCP sessions scale 1:1 with RTP sessions

- Call Set-Up
  - Maximum call setup rate: 4 cps

- Registrations
  - Maximum number of registered users: 600

- Encryption
  - Maximum number of TLS sessions: 100
  - Maximum number of SRTP sessions: 100

- Business Continuity
  - Bypass relays (PRI-PRI, FXS-FXO) for emergency calls (e.g., 911)
  - PSTN fallback when WAN is down
  - Survivable Branch Appliance (SBA) for Lync
  - Multiple SIP trunking service provider support for redundancy
  - Site survivability through built-in SIP registrar

Management Capabilities

- Operations, Administration & Management
  - Single, secure web-based GUI
  - REST-based programmatic interface to remotely manage multiple SBC1000s
  - SNMP v2/v2c for comprehensive network management using third-party management systems
  - Configuration backup and restore; Configuration upload from one site to another; Partial configuration streaming through REST

- CDR Reporting
- Microsoft SCOM support
- Syslogs for troubleshooting, with support for free Sonus LX syslog server and log parser tool

- Authentication
  - Local user (User name/password)
  - Active Directory
  - RADIUS

Media Services

- Transcoding up to 96 concurrent calls: G.711 (64 kbps–A-law, Mu-law), G.723.1 (5.3 kbps, 6.3 kbps), G.726, G.729A/B (8 kbps)

- T.38 with CNG tone detection

- DTMF/RFC2833; Inband DTMF

- Voice Activity Detection (VAD)

- G.168 Echo Cancellation with standard 128 ms tail length

- Private-side NAT traversal

- Comfort Noise Generation (RFC 3389)

- Automatic call type detection – voice, fax or modem

- Music on Hold

- Generate call progress tones – ringback, busy, re-order

- RTP inactivity monitoring (dead call detection)

Signaling

- Maximum number of signaling groups: 100

- 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)

- Back-to-Back User Agent (B2BUA)
- SIP (UDP/TCP/TLS) to/from SIP (UDP/TCP/TLS)
- SIP (UDP/TCP/TLS) to/from CAS/PRI/BRI/FXS/FXO
- CAS/PRI/BRI/FXS/FXO to/from CAS/PRI/BRI/FXS/FXO
- SIP header manipulation
- Private-side NAT traversal

Protocol Support

- SNMP
- NTP
- Https
- RIP, OSPF as dyamic IP routing protocols
- RTP/RTCP, SRTP/SRTCP
- UDP, TCP, TLS
- DNS
- DHCP server

Routing/Policy

- Maximum number of call route entries: 1,000
- Active Directory/LDAP-based call routing
- Routing based on quality metrics
- Least cost routing
  - Event-based action set
- On-board call forking (up to eight end points)
- Supplementary services
  - Call hold
  - Call transfer (blind & assisted)
  - Call forward
- Embedded policy/routing engine
- Optional centralized policy/routing via Sonus Centralized Policy Server (PSX Server) using SIP
- Screening, blocking, routing, presentation, call type filters
- Route prioritization
- Leading digit routing; International routing; URI-based routing
- Digit manipulation (name/number manipulation using regular expression and Active Directory lookup)
- SIP routing
  - Based on source and destination IP address
  - Fully Qualified Domain Name (FQDN)
- Detects proxy failure and route to alternate paths
- Re-route on failure based on full Cause Code rerouting on T1/E1 trunks
- Lync E911 support; SIP/PIDF-LO passthrough and ELIN Gateway

Security

- TLS for signaling encryption
- Secure RTP (sRTP) for media encryption
- Built-in VoIP firewall
- Topology hiding; User privacy
- Prevention of Denial-of-Service (DoS) and Distributed DoS (DDoS) attacks
- Dialed Number Indentification Service (DNIS), Calling Line Identification (CLID), call type pre-authentication
- Traffic separation (VLAN interface separation)
- Line rate malformed packet protection
- Access Control Lists (ACLs)

Quality of Service (QoS)

- Voice quality monitoring
  - Jitter
  - Delay
  - Packet Loss
- 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

Packet Network Time Source

- Network Time Protocol (NTP) per RFC1708

Server Module

Memory

- 2 GB of DDR3 with non-ECC (Error-Correcting Code) for <25 users
- 4 GB of DDR3 with ECC (Error-Correcting Code) for >25 users

CPU

- Intel® Atom™ D525 processor for <25 users
- Intel Celeron™ P4505 1.8 GHz processor for >25 users

Storage

- 160 GB Serial ATA (SATA) HDD server

Capabilities

- Maximum number of concurrent calls deployed as Microsoft Lync 2010 Surivable Branch Appliance with Intel® Atom™ D525 processor: 40
- Maximum number of concurrent calls deployed as Microsoft Lync 2010 Surivable Branch Appliance with Intel Celeron™ P4505 1.8 GHz processor: 100

Additional Hardware Specifications

Front Panel

- Status Indicators Front Panel LEDs
  - Reset
  - Power
  - Alarm
  - Peer Node
  - Ready
- Dual USB 2.0 interface for main UX board
- Additional dual USB 2.0 ports for ASM (optional)
- WAN and LAN Interfaces
  - 2 x 10/100/1000 BASE-T Ethernet ports with VLAN support
  - Auto-MDIX

Rear Panel

- Physical PSTN Interfaces
  - Up to two T1/E1 CAS/PRI digital ports
  - Up to twelve BRI digital ports
  - Up to 24 FXS (Foreign eXchange Station) analog ports
  - Up to 24 globally compliant FXO (Foreign eXchange Office) analog ports

Chassis

- 1U, rack mount
- Inches: 17.5″ Wide x 1.75″ High x 12″ Deep
- Centimeters: 44.4 Wide x 4.4 High x 30.5 Deep

Chassis Mounting Options

- EIA-standard 19-inch equipment rack with 2 or 4 posts

AC Power Option

- Input Voltage: 100-240 VAC nominal, auto-switching, 47-63 Hz
- AC Maximum Input Current: 1.25A at 115 VAC; 0.63A at 230 VAC
- AC Input Voltage Range (Nominal): 100-127 VAC and 200-240 VAC
- Output: +12V/10A
- Max Power Consumption: 144W

Operating Altitude

- 6,000 ft. (1,800 m.)

Cooling System

- Internal forced convection

Weight Maximum Fully Populated

- 12.5 lbs. (5.67 kg)

Environmental

- 5 to 40˚ C Operating
- -40 to 70˚ C Storage
- 5 to 85% Non-Condensing Operating Humidity