The Sonus SBC 2000™ Session Border Controller

Communications devices are growing smaller and smarter, so we made a session border controller (SBC) that was smaller and smarter, too. The Sonus SBC 2000 is an advanced SBC designed to help medium-sized enterprise networks safely and cost-effectively embrace the new world of SIP-based communications, such as Voice over IP (VoIP). The SBC 2000 delivers all of the features you would expect from the Sonus family of SBCs, including robust security, high availability and proven interoperability with leading business solutions like Microsoft Lync Server. The Sonus SBC 2000 also does something you wouldn't expect: It allows calls to go through even when your WAN goes down, through its unique Survivable Branch Appliance functionality.

The Sonus SBC 2000

System Capabilities

- Sessions
  - Maximum number of total concurrent calls: 600
  - Maximum number of TDM-to-SIP calls: 480
  - Maximum number of SIP-to-SIP calls: 600
  - Maximum number of transcoded sessions (based upon codec type): 600
- Call Set-Up
  - Maximum call set-up rate: 4 cps
- Registrations
  - Maximum number of registered users: 1,000
- Encryption
  - Maximum number of TLS sessions: 600
  - Maximum number of SRTP sessions: 600
- Business Continuity
  - PSTN fallback when WAN is down
  - Survivable Branch Appliance (SBA) for Lync
  - Resilient Branch Appliance for Lync survivability over 3G/4G or secondary IP connection such as DSL
  - Multiple SIP trunking service provider support for redundancy
  - Site survivability through built-in SIP registrar
  - ITSP E911 Support

Management Capabilities

- Operations, Administration and Management
  - Single, secure, web-based GUI
  - REST-based programmatic interface to remotely manage multiple SBC 2000s
  - SNMP v2/v2c for comprehensive network management using third-partymanagement systems
  - Configuration backup and restore; Configuration upload from one site to another; Partial configuration import/export through REST
  - CDR Reporting
  - Microsoft SCOM support
  - Syslogs and local logging for troubleshooting, with support for free Sonus LX syslog server and log parser tool
  - Historical Stats and TCAs
- Authentication
  - Local user (User name/password)
  - Active Directory
  - RADIUS

Media Services

- Transcoding up to 600 concurrent calls: G.711 (64 kbps – A-law, Mu-law), G.723.1 (5.3 kbps, 6.3 kbps), G.726 (32 kbps), G.729A/B (8 kbps)
- G.711 to T.38 transcoding for SIP trunks
- T.38 with CNG tone detection
- DTMF/RFC4733; Inband DTMF
- Voice Activity Detection (VAD)
- G.168 Echo Cancellation with standard 128 ms tail length
- Private-side NAT traversal
- Comfort Noise Generation and packet loss concealment
- 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)
- RTP Proxy
- RTCP/RTCP-XR
- Caller ID Support

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/FXS
- CAS/PRI/FXS to/from CAS/PRI/FXS
- SIP Message Manipulation (SMM)
- Private-side NAT traversal

Protocol Support

- SNMP
- NTP
- Https
- RIP, OSPF as dynamic IP routing protocols
- RTP/RTCP, SRTP/SRTCP
- UDP, TCP, TLS
- DNS
- DHCP server
- DHCP client
- Asynchronous DNS for SIP
- NAT
- Support for Reason Header

Routing/Policy

- Maximum number of call route entries: 15,000
- 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)
- Detect proxy failure and route to alternate paths
- Re-route on failure based on full Cause Code re-routing 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
- Windows Firewall for Application Solution Module to secure SBA function of Lync
- Topology hiding; User privacy
- Prevention of Denial-of-Service (DoS) and Distributed DoS (DDoS) attacks
- Dialed Number Identification Service (DNIS), Calling Line Identification (CLID), Call type pre-authentication
- Traffic separation (VLAN interface separation)
- Line rate malformed packet protection
- Access Control Lists (ACLs)
- IPsec VPN tunnel

Quality of Service (QoS)

- Microsoft Lync quality of experience (QoE)monitoring
  - Round Trip Delay
  - Jitter (max, mean)
  - Packet Loss (max, mean)
  - Packet Loss Rate (max, mean)
  - Burst (density, gap density)
  - MOS-LQ, MOS-CQ
  - Signal/Noise Level
- 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

- 4 GB of DDR3 with ECC (Error-Correcting Code)

CPU

- Intel® Core™ i7 2.53 GHz processor

Storage

- Serial ATA (SATA) HDD server

Capabilities

- Certified as a Microsoft Lync 2010 and Lync 2013 Survivable Branch Appliance
- Certified as Microsoft Lync EGW, Microsoft Lync SBC, Microsoft Exchange UM
- Maximum number of concurrent calls deployed as Microsoft Lync 2010 and Lync 2013 Survivable Branch Appliance: 240

Redundancy

- Redundant power supply

Additional Hardware Specifications

Front Panel

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

Rear Panel

- Physical PSTN Interfaces
  - Up to 16 T1/E1 – 2 x Two, Four or Eight T1/E1 spans per digital module
  - Up to 48 FXS ports – 2 x 24 ports

Chassis

- 1U, rack mount
- Inches: 17.5" Wide x 1.75" High x 21" Deep
- Centimeters: 44.4 Wide x 4.4 High x 53.4 Deep

Chassis Mounting Options

- EIA-standard 19" equipment rack with 2 or 4 posts (for 4-post racks: mounting equipment is provided with a depth of 24" or 30")

AC Power Option

- Input Voltage: 100-240 VAC nominal, auto-switching, 47-63 Hz
- AC Maximum Input Current: 3.0A at 115 VAC; 1.6A at 230 VAC
- AC Input Voltage Range (Nominal): 100-127 VAC and 200-240 VAC
- Max Power Consumption: 360 W

Cooling System

- Internal forced convection

Weight Maximum Fully Populated

- 23 lbs. (10.43 kg)

Environmental

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

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