

The STL Neox NSBC1K Session Border Controller (SBC) is a cutting-edge solution designed to facilitate seamless SIP-based communication services with advanced capabilities tailored for small-to-medium telecommunication operators. This robust system provides secure network access, efficient session management, interoperability across diverse systems, and flexible routing policies. With integrated Quality of Service (QoS), media transcoding, and processing functionalities, NSBC1K ensures an optimal communication experience.

Built on a distributed multi-core processor architecture and powered by an embedded Linux operating system, NSBC1K delivers high performance with minimal power consumption. Its rear-panel design supports non-blocking gigabit data switching, enabling superior network throughput and reliability. Neox NSBC1K is a versatile and powerful SBC solution, enabling telecom operators to enhance their network efficiency and deliver high-quality communication services securely and reliably.

Key Features

- **Concurrent Session Handling:** Capable of managing up to 500 SIP sessions simultaneously with support for 200 concurrent media transcoding calls.
- **Advanced Protocol Support:** Enables encrypted communication using TLS, DTLS, RSA, AES-128, AES-256 and SRTP, ensuring secure and reliable connectivity.
- **Comprehensive Codec Compatibility:** Supports a range of codecs including G.729, G.723, G.711, G.726, iLBC, AMR, and OPUS for enhanced interoperability.
- **WebRTC Integration:** Facilitates seamless communication via WebRTC, allowing browsers to connect transparently with SIP services through WebSocket.
- **SIP Trunking & Routing:** Offers flexible SIP trunking with customizable routing rules, enabling smooth integration with IMS platforms. Can terminate SIP Trunks for PSTN Calling from Service Providers.
- **Enhanced Security Features:** Provides embedded VoIP firewall capabilities to mitigate DoS and DDoS attacks, ARP spoofing, DHCP Intrusion, along with dynamic white/blacklisting and bandwidth control.
- **Network Optimization:** Includes static routing, Interface to DNS/ENUM, NAT traversal, and QoS functionalities for superior call quality and reliability.
- **Simplified Management:** Features a user-friendly web interface with multiple management options, supporting remote upgrades and configuration import/export.

Physical Interfaces

- **Ethernet Ports:**
 - 4 × 10/100/1000 Mbps Base-T Ethernet ports
 - 1 × 10/100 Mbps Base-T (Administration)
- **USB Interface:**
 - 1 × USB 2.0
- **Console Port:**
 - 1 × RS232 Serial Console, RJ45, 115200 bps

Security Features

- Prevention of DoS/DDoS attacks with embedded VoIP firewall
- Access control through policy-based anti-attack mechanisms
- Encrypted communication with TLS, DTLS, AES-128 and AES-256
- SIP Digest Authentication
- Bandwidth Throttling support
- Inbuilt VoIP Firewall with RTP Security, blocking, allow list, traffic limitation, etc.
- Dynamic white/blacklist and rule-based access management
- Topology Hiding



Media and Codec Support

- **Voice and FAX Capabilities:**

- o Comprehensive codec support: G.729, G.723, G.711, iLBC, G.726, OPUS
- o RTP transcoding and pass-through for fax services
- o RTP/RTCP with SRTP encryption
- o Features such as one-way audio detection, RTCP statistics, DTMF handling (RFC2833, SIP Info, Inband), silence suppression, comfort noise generation, and voice activity detection
- o Enhanced audio clarity through echo cancellation and adaptive dynamic buffering

Environmental Specifications

- **Power Supply:**

- o Dual power inputs (1+1), 100-240 VAC, 50-60 Hz

- **Power Consumption:**

- o 15W

- **Temperature Range:**

- o Operating: 0°C ~ 45°C
- o Storage: -20°C ~ 80°C

- **Humidity:**

- o 10% ~ 90% non-condensing

- **Physical Dimensions and Weight:**

- o Dimensions: 437 × 300 × 44 mm
- o Weight: 4.5 kg

Performance and Capacity

- **Session and Call Handling:**

- o Supports up to 500 concurrent SIP sessions
- o Up to 200 concurrent transcoding calls
- o Maximum call setup rate: 25 CPS (Calls Per Second)
- o Rate Limit

- **Registrations:**

- o Handles up to 5,000 SIP registrations
- o Registration rate: 25 CPS

- **SIP Trunking:**

- o Unlimited SIP trunk support

Call Control and Routing

- **Advanced Routing Engine:**

- o Routing based on prefixes, caller/called number patterns, time profiles, SIP URIs, methods, and endpoints

- **Manipulation Capabilities:**

- o Flexible caller and called number adjustments

- **Load Balancing:**

- o Dynamic call distribution for optimal performance



SIP Compliance and Features

- Fully compliant with SIP 2.0 (UDP, TCP, TLS)
- Back-to-Back User Agent (B2BUA) support
- Protection against SIP scan attacks and malformed packets
- Customizable SIP header and parameter manipulation

Quality of Service (QoS)

- Support for ToS and DSCP marking
- Advanced NAT traversal for seamless network integration
- Anti-flooding

Maintenance and Management

- **User Interfaces:**
 - Web-based GUI for configuration.
 - Multi-language support
 - HTTPS & SSH Support
- **System Maintenance:**
 - Configuration restore/backup
 - HTTP-based firmware upgrades
 - Detailed CDR reporting and export
 - System diagnostics with ping, syslog, debug, traceroute, and network capture
- **Monitoring and Logging:**
 - Centralized management system with remote web and Telnet access. SNMP Compatibility
 - Comprehensive system log and statistical reporting

Why STL-Neox?

Trusted Globally: CCaaS/UCaaS solution with 500+ customers worldwide

Certified Excellence: Make in India, Gartner-reviewed, ISO 27001/14001, CMMi Level 5, DOT-TRAI tested

All-in-One Platform: Unifies all communication needs on a single platform

Open SIP Protocol: Avoids vendor lock-in

In-House Development & Customization: Tailored to meet specific client needs

24x7 Professional Support: Strong post-sales service for seamless operations

Value for Govt. Helplines, Telcos, Data Centers, and Enterprises

Multi-Vendor Compatibility: Interoperable with various systems

Compliance-Ready: Meets data privacy and security standards

About Sterlite Technologies Ltd. (STL)

STL is a leading global optical and digital solutions company providing advanced offerings to build 5G, Rural, FTTx, Enterprise, and Data Centre networks. The company, driven by its purpose of 'Transforming Billions of Lives by Connecting the World', designs and manufactures in 4 continents with customers in more than 100 countries. Telecom operators, cloud companies, citizen networks, and large enterprises recognize and rely on STL for advanced capabilities in Optical Connectivity, Global Services, and Digital and Technology solutions to build ubiquitous and future-ready digital networks. STL's business goals are driven by customer-centricity, R&D and sustainability. Championing sustainable manufacturing, the company has committed to achieving Net Zero emissions by 2030.

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