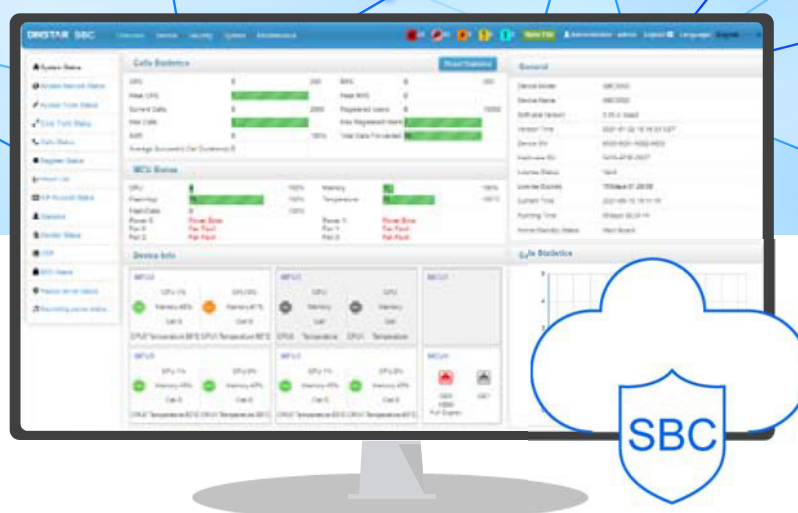**STL neox**

Making every conversation count

Neox NSBC8K Session Border Controller

The **NSBC8K** supports deployment on X86 and ARM architectures, as well as various cloud platforms, delivering flexibility and scalability for diverse SIP setups with advanced software-based SBC that provides a comprehensive suite of features for medium to large-scale enterprise SIP networks. It bridges the gap between incompatible signaling protocols or media streams from endpoint devices and SIP-based services, ensuring seamless interoperability.

The SBC enables peer-to-peer and access connections via SIP/IMS trunks and offers vital functions such as protocol adaptation, NAT traversal, SIP/IMS network integration, remote registration for SIP devices, media flow management, adaptable call routing, codec conversion, billing capabilities, and Quality of Service (QoS) optimization. It also incorporates robust security measures, policy-driven call routing, carrier-grade high availability (HA), and powerful diagnostic tools, making it an optimal choice for telecom operators and service providers. The Neox NSBC8K can be implemented on virtual machines (VM), cloud-based infrastructures, or on-site hardware, utilizing the benefits of virtualization and cloud technologies.

 A **Session Border Controller (SBC)** is an essential component within SIP/IP network architectures, tailored for next-generation networks (NGN).

Key Features

- Handles up to 10,000 concurrent voice sessions, 5,000 media conversions, and 100,000 SIP registrations.
- Ensures cross-network functionality, NAT bypass, and enterprise-grade redundancy (HA).
- Secures communication with SIP over TLS and SRTP for encrypted signaling and media streams.
- Deployable on physical hardware, virtual machines, or public cloud environments.
- Offers compatibility with various codecs, including G.711A/U, G.723.1, G.729A/B, iLBC, AMR, and OPUS.
- Features advanced bandwidth optimization and dynamic blacklist mechanisms.
- Incorporates robust VoIP security with anti-intrusion measures and protection for core networks.
- Supports customizable call routing to meet diverse communication requirements.
- Seamlessly integrates with IMS infrastructure.
- Includes call recording functionality for monitoring and archiving.

Implementation Platforms

Hardware Architecture: X86/ARM

Virtualization Platforms: VMware, Fusionsphere, FusionComputer, KVM

Cloud Hosting: Alibaba Cloud, Amazon Web Services, Baidu Cloud, Huawei Cloud, Telecom Cloud, etc.

Call Control Capabilities

- Intelligent Load Distribution and Call Forwarding
- Adaptable Routing Engine
- Routing Based on Caller/Receiver Prefixes with Regular Expressions
- Time-Based Call Routing
- Routing Based on SIP URI
- Routing Based on SIP Request Type

Media Capabilities

Codecs Supported: G.711a/μ-law, G.723, G.729A/B, iLBC, AMR, OPUS

Enhancements:

Silence Suppression and Comfort Noise Generation.

Voice Activity Detection (VAD).

Echo Cancellation (G.168) with adaptive support up to 128ms.

Dynamic Buffer and Adjustable and Automatic Gain Control.

Voice Interrupt Protection

FAX (T.38 and Pass-through) support.

RTP/RTCP

DTMF Modes: RFC2833, Signal, In-band

VoIP Protocols and Features

SIP v2.0 (UDP, TCP, TLS)

SIP Trunk Operation Modes: (Peer-to-Peer / Access)

SIP Server Enrollment: Supports up to 3000 SIP accounts

B2BUA (Back-to-Back User Agent) functionality

NAT: Dynamic Network Address Translation

QoS (Quality of Service): Supports ToS and DSCP marking

SIP Request Rate Limiting: Control and manage SIP request traffic

SIP Registration Rate Limiting: Regulate the frequency of SIP account enrollments

SIP Call Scan Attack Detection: Detect and mitigate scan-based attack attempts

SIP Registration Scan Attack Protection: Safeguard against malicious account enrollment attempts

SIP Header Alteration Prevention: Prevent unauthorized changes to SIP headers

SIP Packet Integrity: Protection against malformed packet issues

Multiple Softswitch Compatibility: Supports integration with various softswitch systems

Security Features

Integrated VoIP Security Firewall

Access Control Management

Protection against DoS and DDoS Attacks

Policy-driven Attack Mitigation

Message Format Identification and Handling

TCP Flood Attack Prevention

UDP Flood Attack Prevention

Call Encryption with TLS/SRTP

Allowlist & Blocklist

Access Control Lists (ACLs)

Performance Capabilities

Simultaneous Calls: Supports up to 10,000 SIP connections

Transcoding: Capable of handling 5,000 concurrent transcoded calls

Call Processing Rate (CPS): Maximum of 800 calls per second

Registration Capacity: Supports up to 100,000 SIP registrations

Registration Processing Rate (CPS): Maximum of 800 registrations per second

Maintenance and Management

Configuration Interfaces: Web GUI

Diagnostics:

Comprehensive Call statistics and reports

Firmware upgrades via HTTP for seamless upgrades

Network capture and Syslog

SNMP

Event Management NTP synchronization

CDR: Generate Reports and Export for detailed tracking

Ping and Tracert for connectivity and testing

Backup and Restore: Data backup/restore functionality.

Supports variety of Languages

TR069

Manage via Web or Telnet for remote configurations

Why STL-Neox?

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

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.