

## Hybrid E-SBC and Media Gateway

## UNIVERGE BX1000



### Benefits

- Fully integrated device for secured SIP trunking and PSTN access
- Hybrid SBC and Media Gateway platform lowers CAPEX and reduces space and power footprints
- Scalable “pay-as-you-grow” modular architecture
- Extensive interoperability and partnerships that extend across multiple vendor devices and protocol implementations
- Offers comprehensive security, interoperability and reliability
- Delivers high service performance and voice quality
- Branch of ce survivability in the event of a WAN Outage

### Key features

- Rich and powerful SIP normalization and routing mechanisms for seamless interoperability
- Hybrid SBC enables seamless migration and PSTN fallback
- Modular support for analog and digital TDM interfaces
- Perimeter defense against denial of service, fraud and eavesdropping
- VoIP quality monitoring and enforcement
- Media Processing for Transcoding, Gain Control, DTMF/Fax, etc.
- Optional Open Solution Network (OSN) server module for hosting value-added applications

The NEC UNIVERGE BX1000 Enterprise Session Border Controller (E-SBC) and Media Gateway offers a complete connectivity solution for small-to-medium sized enterprises.

The BX1000 connects IP-PBXs to any SIP trunking service provider, scaling up to 150 concurrent SBC sessions. It offers superior performance in connecting any SIP to SIP environment, legacy TDM-based PBX systems to IP networks, and IP-PBXs to the PSTN, supporting up to 192 voice channels in a modular 1U platform.

### Vast mediation capabilities and proven interoperability

The BX1000 supports a wide range of voice coders and is capable of transcoding between narrowband and wideband voice coders, providing SIP normalization, fax handling, gain control and numerous additional media processing features. It offers certified interoperability with leading unified communications solutions and SIP trunking providers.

### Security

The BX1000 provides robust protection for IP communications infrastructure, preventing Denial of Service, fraud and service theft and guarding against cyber-attacks and other service-impacting events.

### Reliability

The BX1000 maintains high voice quality to deliver reliable enterprise VoIP communications. Advanced call routing mechanisms, network voice quality monitoring and branch survivability capabilities (including PSTN fallback with E911) result in minimum communications downtime.

### Applications

- SIP trunking
- Hosted PBX & UC as a Service
- Remote and mobile worker support
- SIP mediation between UC and IP-PBX systems

## Specifications

Capacities			
Max. Signaling/Media Sessions	150	Max. SRTP/RTP Sessions	120
Max. Transcoding Sessions	96	Max. Registered Users	600
Telephony Interfaces			
Modularity and Capacity	6 slots for hosting voice processing and PSTN termination modules (up to 192 channels)		
Digital Module	Up to 6 E1 or 8 T1/J1 spans provided on trunk modules. Each module supports 1 or 2 E1/T1/J1 spans, with an option of PSTN Fallback		
Digital PSTN Protocols	Supporting various ISDN PRI protocols such as EuroISDN, North American NI-2, Lucent™ 4/5ESS, Nortel™ DMS-100 and others. It also supports different variants of CAS protocols, including MFC R2, E&M immediate start, E&M delay dial / start and others.		
BRI Module	Up to 20 BRI ports provided on BRI modules. Each module supports 4 BRI ports, with PSTN Fallback. Providing S/T interfaces; NT or TE termination; 2W per port (power supplied)		
Analog Module	Up to 24 FXS/FXO interfaces, provided on 4 ports FXO / FXS modules, ground / loop start		
Media Processing Module	Up to 4 Media Processing modules (MPM), providing additional DSP resources		
Network Interfaces			
Ethernet	Up to 6 GE interfaces configured in 1+1 redundancy or as individual port		
Security			
Access Control	DoS/DDoS line rate protection, bandwidth throttling, dynamic blacklisting		
VoIP Firewall	RTP pinhole management, rogue RTP detection and prevention, SIP message policy, advanced RTP latching		
Encryption/Authentication	TLS, SRTP, HTTPS, SSH, client/server SIP Digest authentication, RADIUS Digest		
Privacy	Topology hiding, user privacy		
Traffic Separation	VLAN/physical interface separation for multiple media, control and OAMP interfaces		
Intrusion Detection System	Detection and prevention of VoIP attacks, theft of service and unauthorized access		
Interoperability			
SIP B2BUA	Full SIP transparency, mature and broadly deployed SIP stack, stateful proxy mode		
SIP Interworking	3xx redirect, REFER, PRACK, session timer, early media, call hold, delayed offer		
Registration and Authentication	User registration restriction control, registration and authentication on behalf of users, SIP authentication server for SBC users		
Transport Mediation	SIP over UDP/TCP/TLS, IPv4 / IPv6, RTP / SRTP (SDES)		
Message Manipulation	Ability to add/modify/delete SIP headers and message body using advanced regular expressions (regex)		
URI and Number Manipulations	URI user and host name manipulations, ingress and egress digit manipulation		
Transcoding and Vocoders	Coder normalization including transcoding, coder enforcement and re-prioritization, extensive vocoder support: G.711, G.723.1, G.726, G.729, GSM-FR, AMR-NB/WB, SILK-NB/WB, iLBC, QCELP, GSM EFR		
Signal Conversion	DTMF/RFC 2833/SIP, T.38 fax, V.34, packet-time conversion		
NAT	Local and far-end NAT traversal for support of remote workers		
Voice Quality and SLA			
Call Admission Control	Based on bandwidth, session establishment rate, number of connections/registrations		
Packet marking	802.1p/Q VLAN tagging, DiffServ, TOS		
Standalone Survivability	Maintains local calls in the event of WAN failure. Outbound calls can use PSTN fallback for external connectivity (including E911)		
Impairment Mitigation	Packet Loss Concealment, Dynamic Programmable Jitter Buffer, Silence Suppression/Comfort Noise Generation, RTP redundancy, broken connection detection		
Voice Enhancement	Transrating, RTCP-XR, Acoustic echo cancellation, replacing voice profile due to impairment detection, Fixed & dynamic voice gain control		
Direct Media (No Media Anchoring)	Hair-pinning of local calls to avoid unnecessary media delays and bandwidth consumption		
Voice Quality Monitoring	RTCP-XR		
Quality of Experience	Access control and media quality enhancements based on QoE and bandwidth utilization		
Test agent	Ability to remotely verify connectivity, voice quality and SIP message flow between SIP UAs		
SIP Routing			
Routing Methods	IETF standard SIP recording interface		
Advanced Routing Criteria	Request URL, IP address, FQDN, ENUM, advanced LDAP, third-party routing control through REST API		
Redundancy	QoE, bandwidth, SIP message (SIP request, coder type, etc.), Layer-3 parameters		
Routing Features	Detection of proxy failures and subsequent routing to alternative proxies		
SIPRec	Least-cost routing, call forking, load balancing, E911 gateway support, emergency call detection and prioritization		
Management			
OAM&P	Browser-based GUI, CLI, SNMP, INI Configuration file, REST API, E		
OSN Server Platform (Optional)			
Single Chassis Integration	Embedded, open Network Solution Platform for third-party services		
Memory	Up to 8 GB RAM		
Storage	HDD or SSD		
Physical / Environmental			
Dimensions	1U x 320 mm x 345 mm (HxWxD)	Weight	Approx. 9.7lb (4.4kg)
Mounting	Desktop or 19" rack mount	Power	Single power supply 100-240V, 50-60 Hz, 1.5A max. optional redundant power supply
Environmental	Operational: 0 to 40° C (32 to 104°F); Storage: -20 to 70°C (-4 to 158°F) Relative Humidity: 10 to 85% non-condensing		

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