

GX-3K



- Low to mid-density VoIP gateway offering scaling from 480 to 2016 channels
- Supports high availability configuration with reliable 1+1 redundancy
- Compact footprint (2U), ideal for small locations
- Allows easy capacity upgrades via a software key
- Provides multi-control protocol support: SIP, H.248, MGCP and TGCP
- Offers broad range of PSTN interfaces including E1, T1, T3, OC3 and STM-1
- Enables flexible interworking between IP - TDM and IP - IP
- Supplies a wide range of vocoders which include Low Bit Rate (LBR), wireline, cellular and wideband vocoders
- No capacity hit on most of the LBR vocoders (e.g., G.729, G.723 and AMR)
- Functions as an IMS Media Gateway and I-BGF network elements

The **GX-3K** is a feature-rich, highly available VoIP gateway supporting low to medium channel densities. The GX-3K compact footprint (2U) meets both the needs of service providers with geographically dispersed networks, as well as those of large enterprises, where reliable and dense VoIP gateways are necessary for business-critical communications.

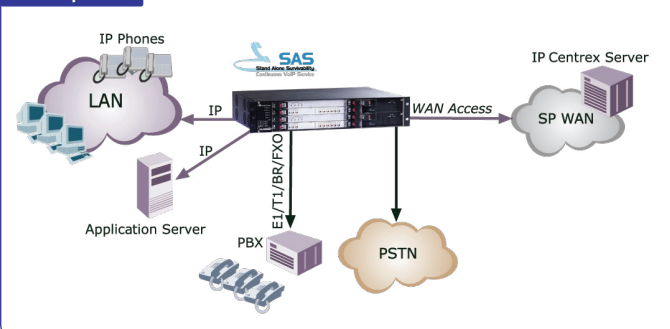
GX-3K in Service Provider Networks

Service Providers are currently migrating from centralized legacy TDM networks to decentralized IP networks. The GX-3K is aligned with these developments, offering exceptional channel scalability of up to 2016 DSOs in a compact 19"-2U chassis, allowing it to be placed in small POPs, close to local telephone networks. Additionally, the GX-3K delivers the same carrier-grade availability that service providers are accustomed to on their legacy equipment. A wide range of trunking and access protocols to suit any application are provided, such as PRI, V5.2 and CAS access protocols and SS7/M2UA/M3UA trunking protocols. The GX-3K fits the needs of wireline, cable, cellular and mixed service providers.

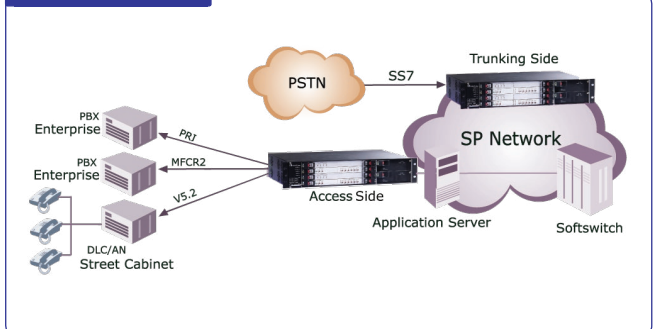
GX-3K in Large Enterprises

The migration to VoIP in the enterprise is driven by cost considerations and the need for a richer, integrated telephony service. This transition leads to heterogeneous enterprise telephony networks that deploy multiple PBXs from various vendors, some of which are legacy and some of which are IP-based. An enterprise might choose to connect to a PSTN Service Provider or to an Internet Telephony Service Provider (ITSP) or both. The GX-3K has comprehensive PSTN access capabilities as well as SIP to SIP interworking features that enable the interconnection between all these elements. Large enterprises typically deploy business critical contact centers where the high availability of the GX-3K is a key factor. In addition to E1/T1 interfaces, the GX-3K supports high-density PSTN interfaces, such as T3, STM-1 and OC3 to provide the enterprise with lower PSTN lease costs. The proven interoperability of the GX-3K with different PBXs and PSTN switches facilitates smooth deployment.

Enterprise



Service Provider



GX-3K

Specifications

Media Processing	
Capacity	Up to 2,016 channels in simplex or redundant configuration
Voice Coders	High Definition Voice Codecs ¹ : G.722, G.722.2 (Wideband AMR), G.729.1 (Wideband G.729) Wireline: G.711, G.722 ¹ , G.723.1, G.726/7, G.729A/B, EG.711, MS GSM, iLBC ¹ GSM/UMTS: GSM-FR, GSM EFR, AMR, AMR-WB ¹ CDMA: EVRC ¹ , EVRC-B ¹ Independent dynamic vocoder selection per channel (within each group) Not all coders can be used simultaneously
Echo Cancellation	G.165 and G.168-2002 compliant, with 32, 64 or 128 ms tail length
Fax and Modem Transport	Fax/Modem Detection Control, T.38 (IP) compliant Group 3 & SG3 fallback to T.30, fax and modem bypass (automatic fallback to G.711) support
DTMF/MF	IP-side or PSTN-side detection and generation, RFC 2833 compliant DTMF relay Detection and Generation of Call Progress tones
Quality Enhancement	VAD, CNG, dynamic programmable jitter buffer, 802.1p/Q VLAN tagging, DiffServ
Signaling	
PSTN Access	E1 ISDN: EuroISDN, QSIG, Australia, Hong Kong (HKT), Korea, New Zealand, INS-1500 (Japan), VN3, VN4, VN6 (France); T1 ISDN: NI2, 4ESS, 5ESS, DMS100;E1 CAS: MFC-R2 (multiple variants), MELCAS; T1 CAS: E&M, GroundStart, LoopStart; V5.2; IUA
PSTN Trunking	SS7/Sigtran: M3UA, M2UA, Redundancy (1+1), SS7 Tunneling
IP Transport	IETF RFC 3550, RFC 3551 RTP/IP Transport, TCP, UDP, RFC3267, RFC 3558 RTP/UDP/IP, Nb-IP (TS 29.415)
Control Protocols	MGCP (RFC 3435), TGCP (PacketCable), MEGACO (H.248, RFC 3015), SIP (RFC 3261) IMS Mn - TS 29.332, IMS Mc (TS 29.232)
Security	IPSEC, SIP/TLS, HTTPS, SRTP ¹ and AES ¹ Separation of OAM, Control and Media traffic is possible by using either different IP interfaces (available only on T1/E1 configuration) or VLANs
SIP IP - IP Mediation ³	SIP - SIP Normalization, Network Topology Hiding, Transcoding and Conversion, Signaling Translation, Multiple Service Provider Connectivity and Load Balancing, Redundancy between Servers/Softswitch, Survivability (SAS) ²
Maintenance	
Management	Element Management System, SNMPv2, SNMPv3, CLI, WEB ³
Maintainability	All shelf modules are hot swappable, including boards, power supplies, fans, and power entry modules
Redundancy Scheme	Power supply, fans: N+1 load shared Media gateway blades (including PSTN interfaces): 1+1 Optical interfaces (PSTN): 1+1, APS protected
Hardware Specifications	
Interfaces	PSTN: 1 OC-3 or STM-1 APS optical links, 1 to 3 T3 (DS3) electrical links, up to 63/84 E1/T1 links IP: Dual Redundant 100/1000 Base-T Ethernet ports and additional two Dual Redundant 100 Base-T Ethernet ports for OEM and Control (Available on the E1/T1 configuration only) Clock Synchronization: BITS/SETS (GR-1244 Stratum-3 and G.813 compliant), line synchronization (via STM-1/OC-3 link or DS1 trunk)
Enclosure	4-slot, 2U cPCI chassis
Dimensions (HxWxD)	88 mm x 482.6 mm x 296.8 mm
Weight	Approx. 35.27 lb (16 kg), fully loaded
Mounting	Per EIA Standard RS-310-C in 19-inch rack specification
Power	48 V DC Dual Feed, with up to 2 DC Power modules, 100–240 V AC redundant Dual Feed ²
Cooling	Replaceable fan tray & filter
Regulatory Compliance	
Telecommunication Standards	FCC part 68, TBR4 and TBR13
Safety and EMC Standards	<ul style="list-style-type: none">UL60950FCC part 15 Class ACE Mark (EN55022 Class A, EN60950, EN55024, EN300 386)
Environmental	NEBS Level 3: GR-63-Core, GR-1089-Core, Type 1 & 3, ETS300 019

¹ Reduced channel capacity

² Future Release

³ Available on non High Availability configuration

About Nuera Communications

Nuera Communications, designs, manufactures & sells packet voice gateways to communication service providers worldwide. These products work over any medium (cable, wireless, copper and fiber). Nuera's ORCA (Open Reliable Communications Architecture) product portfolio of VoIP gateways, softswitches, and management systems provide telephony solutions for cable and DSL networks, international long distance networks and enterprise networks. Nuera is a leader in the broadband telephony market.

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