

GX-1K



- Employs VoIPerfect™ technology for outstanding voice quality
- Scalable “pay-as-you-grow” modular architecture
- Rich offering of digital (E1/T1/J1) and analog (FXS/FXO) interfaces
- Cost-efficient for low density gateways
- Life-line fallback to PSTN in case of power failure or network degradation
- PSTN fallback for assured connectivity
- Internal OSN Server for hosting 3rd party application
- Internal DSP – based Conference Module

The **GX-1K** is Nuera's cost-effective, converged wireline and wireless VoIP media gateway utilizing cutting edge technology. Intelligently packaged in a stackable 1U chassis, it is designed to interface between TDM & IP networks in enterprises or small-scale carrier locations. Incorporating the innovative Voice over Packet technology, the GX-1K enables rapid time-to-market and reliable cost-effective deployment of next-generation networks.

The GX-1K is based on the VoIPerfect™, underlying, best-of-breed, media gateway core technology for all of its products. The GX-1K provides superior voice-technology for connecting legacy telephone and PBX systems to IP networks, as well as seamless connection of the IP-PBX to the PSTN. In addition to operating as a pure media gateway, the GX-1K can also host partner applications and serve as an IP-PBX platform. The GX-1K is fully interoperable with multiple vendor gateways, softswitches, gatekeepers, proxy servers, IP phones, Session Border Controllers and firewalls.

Scale Up As Your Business Grows

The GX-1K matches the density requirements for smaller locations while meeting Service Providers' demands for scalability. The compact GX-1K Modular Gateway is extremely scalable and supports multiples of 1, 2, or 4 E1/T1/J1 spans, or 1 to 24 analog ports in various FXO/FXS configurations. The GX-1K also supports mixed digital/analog configurations.

The GX-1K can support a variety of telephony interfaces. It contains up to 4 digital or up to 6 analog interface modules with 4 ports. The digital module can be configured as regular E1/T1/J1 interfaces, with up to 1 or 2 paired spans acting as life-line interfaces for switching to the PSTN in case of power failure or network problems. The analog module is available as regular FXS or FXO interfaces, where 1 FXS line can be used as a life-line interface for switching to the PSTN.

- Digital – connecting the PSTN or PBX to the IP-network
- Analog FXS – connecting analog phones and fax machines to the IP-network
- Analog FXO – connecting analog lines from the Central Office (CO) or PBX to the IP network

Seamless Interface with Legacy Enterprise Networks

The GX-1K has enhanced hardware and software capabilities to ease its installation and to help maintain voice quality. If the measured voice quality falls beneath a pre-configured value, or the path to the destination is disconnected, the GX-1K can assure voice connectivity by falling back to the PSTN. In the event of network problems, calls can be routed back to the PSTN without requiring routing modifications in the PBX. Further reliability is provided by dual Ethernet ports and optional dual AC power supply.

3rd Party Application Platform

The GX-1K extends the flexibility of the Media Gateway family with additional deployment options. The open platform on the GX-1K offers partners the option to host their own applications (e.g., IP-PBX, call center, conferencing and messaging applications) using the OSN (Open Solutions Network) Server platform, including a powerful processor and hard disks to provide a complete solution within the GX-1K chassis.

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Specifications

Interfaces

Modularity and Capacity	6 slots for analog or 4 slots for digital modules Up to maximum of 24 analog ports or 4 digital spans
Digital Modules	1,2 or 4 E1/T1/J1 spans using RJ-48c connectors per module Up to 4 digital modules (maximum 4 spans per gateway) Optional 1+1 or 2+2 fallback spans
Analog FXO and FXS Modules	2 or 4 ports using RJ-11 connectors per module; up to 6 modules per gateway, Ground start and Loop start One life-line port per FXS module (in case of power failure or network problems)
Conference Module	Conference Module for Conference application
I/O	MOH (Music On Hold), NB (Night Bell)
Ethernet	Dual Redundant 10/100 Base-TX Ethernet ports via 2 RJ-45 connectors
RS-232	Debugging

Media Processing

Voice Coders	G.711, G.726, G.723.1, G.729A, GSM-FR Independent dynamic vocoder selection per channel
Echo Cancellation	G.165 and G.168-2002, with 32, 64 or 128 ¹ tail length
Quality Enhancement	Dynamic programmable jitter buffer, VAD, CNG, 802.1p/Q VLAN tagging, DiffServ, voice quality monitoring, G.729B
DTMF/MF Transport	Packet side or PSTN side detection and generation, RFC 2833 compliant DTMF relay Call Progress tones Detection and Generation
IP Transport	VoIP (RTP/RTCP) per IETF RFC 3550 and 3551
Fax and Modem Transport	T.38 compliant (real time fax), Automatic bypass to PCM or ADPCM

OSN Server Platform

Single Chassis Integration	Embedded, Partner Application Platform for third party services
CPU	Intel™ Celeron™ 600 Mhz
Memory	One SODIMM slot 512M or 1G RAM
Storage	Single/Dual hard disk drives
Interfaces	10/100 Base-TX, USB, RS-232, NB relay, MOH

Signaling

Digital –PSTN Protocols	CAS: MF-R1: T1 CAS (E&M, Loop, Start, Feature Group-D, E911CAMA), E1 CAS (R2 MFC) numerous protocol and country variants ISDN PRI: ETSI/EURO ISDN, ANSI NI2 and other variants (DMS100, 5ESS) QSIG (basic call), IUA (SIGTRAN), VN3, VN4, VN6
Analog Signaling	FXS; Caller ID; polarity reversal; metering tones, distinctive ringing, visual message waiting indication

Control & Management

Control Protocols	SIP, H.323 (MEGACO – for digital trunks only) ²
Operations & Management	Element Management System Embedded HTTP Web Server, Telnet Remote configuration and software download via TFTP, HTTP, HTTPS, DHCP and BootP, RADIUS, Syslog (for events, alarms and CDRs)

Security

IPSEC, HTTPS, TLS (SIPS), SSL, Web access list, RADIUS login, SRTP³

Hardware Specifications

Power Supply	Single universal 90-260 V AC, redundant power supply
Physical	1U high, 19-inch wide

Regulatory Compliance

Telecommunication Standards	TIA/EIA-IS-968, TBR-4, TBR-13, and TBR-21
Safety and EMC Standards	UL60950-1; FCC 47 CFR part 15 Class B, CE Mark (EN55022 Class B, EN60950-1, EN55024, EN300 386, EN61000-3-2/3-3)
Environmental Specifications	ETS 300019-2-1 Storage T1.2, ETS 300019-2-2 Transportation T2.3, ETS 300019-2-3 Operating T3.2

¹ 128 msec may reduce capacity

² Some PSTN variants may not be supported with all control protocols

³ May reduce density

* Contact your Nuera sales rep or distributor for availability of mixed analog and digital trunks

Applications

- PBX Networking
- IP-Centrex/Hosted IP-PBX
- Partner Applications (e.g., IP-PBX, Call Center, Conferencing Messaging)
- Remote Office Applications

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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Ref. # LTRM-04001 05/07 V. 3



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