

G9™ Converged Gateway

GENBAND's G9 Converged Gateway is a high-density, carrier class trunking, access, and signaling gateway that is purpose-built for use in mobile, fixed line, and converged operators' packet and circuit-switched networks. A multipurpose media and IP gateway, the G9 has field-proven five 9's (99.999%) reliability, supports up to 96,000 TDM DS0s, and uses a field-hardened feature set with over 30 million ports deployed worldwide.

Cost-Saving Integrated Feature Sets - The G9's flexible 28-slot chassis features low power requirements and an efficient card design that is simple to maintain and operate, allowing operators to easily add ports and IP session capacity as well as add incremental features to existing gateways. Its many integrated features and functions helps to reduce service provider costs by limiting the number of elements in a network.

Integrated features include echo cancellation, legal intercept, and media server with audio bridging, conferencing, tones, and announcements. The G9 also integrates a high capacity signaling gateway that enables operators to centralize network signaling to reduce total cost of ownership (TCO). With its powerful IP-to-IP processing capabilities, the G9 can be deployed as a cost-effective session border controller as well as an MPLS local edge router or in OSPF networks, with fast route convergence, multiple path selection, and fast re-route capabilities.

The G9 has a massively scalable backplane and is built from the latest generation of multipurpose DSP, computing, and media processing components. It has both IP and TDM switch fabrics for seamless interworking at the borders of networks including TDM to TDM, TDM to packet, and packet to packet. The G9 is extremely versatile, supporting advanced architectures as defined by 3GPP, 3GPP2, and TISPAN NGN, among others -- and it supports a variety of solutions in GSM, UMTS, CDMA, Fixed Mobile Convergence (FMC)/femtocell, and fixed line networks. A state-of-the-art migration platform, the G9 gateway has an open Mc interface allowing operators to transition to IP multimedia subsystem (IMS) networks and the all-packet future, providing continuous long-term value, cost reduction, and revenue generation for service providers.

Mobile, Fixed Line, and Converged Network Solutions - The G9 platform supports a wide range of interfaces for managing network borders and providing media processing in TDM, ATM, and IP networks, including high density trunking, access, and packet interfaces. Its support for mobile and fixed codecs, protocols, and interfaces allow it to be the key network element in many service provider solutions including Distributed MSC Gateway, IP Trunking, Inter-MSC Trunking, Gateway MSC, Transcoding and Media Adaptation, PSTN Gateway, and FMC.

Carrier-Grade Reliability and Management- As a carrier class gateway, the G9 provides complete system redundancy on all critical system components, and it supports non-service affecting software upgrades. The G9 is also managed by a comprehensive element manager -- GenView-NetScan -- for fully centralized OAM&P control of multiple G9 platforms.



Features

- Runs on field-hardened software, widely deployed since 2001, with over 30 million ports shipped
- High-capacity media gateway supports mobile, fixed, converged, and IMS network operators
- Compliant with ANSI and ETSI standards; multiple national variants
- Access, trunking and wireless capabilities are software-configurable by port and by slot
- Integrated high-capacity signaling gateway supports up to 200 SS7 linksets with TDM, ATM, and M3UA interfaces
- MGC interface supports H.248 and open Mc for 3GPP distributed softswitches & IMS controllers
- Mobile: Supports GSM, UMTS, CDMA, UMA, and VoIP networks with AMR, WB AMR, CSD, and EVRC codecs; luCS and Nb interfaces; and TFO and TrFO transcoding for demonstrably higher voice quality
- Fixed Line: Supports a complete set of transit and subscriber features. An extensive suite of interfaces enables classless network deployment with a single media gateway: R2, MFCR2, V5.2, GR-303, PRI, T1 and E1, SONET and SDH DS3, OC3, OC3c, OC12c, and gigabit Ethernet. IP access and trunking interfaces include SIP, MGCP, H.323, H.248, MPLS-TE, with G.711, G.723, G.729 and T.38 codecs
- TDM, ATM, and IP switching on a single media gateway with a 104,000 port switching matrix and 20 Gbps provisionable IP switch
- The G9 supports multiple softswitches & IMS controllers
- Small system footprint and power consumption in a 19-inch rack-mount enclosure
- Integrated conference bridging and hybrid echo cancellation via platform DSPs
- Integrated Voice Quality Enhancements/VQE for both VoIP and TDM with features including ALC, ANR, AEC, VAD, SID, CNG, PLC, and adaptive jitter buffer
- Integrated Hybrid Echo Cancellation supports ITU-T G.165, G.167 and G.168 with maximum 128ms echo tail
- Integrated announcement server and conference bridging
- Integrated Lawful Intercept, including CALEA and other national variants
- Integrated session border controller with NAT traversal, DOS and firewall filtering

Chassis Port Capacity

- T1: 15,840 DS0s
- OC3: 96,768 DS0s
- E1: 19,800 DS0s
- STM1: 96,768 DS0s
- DS3: 40,320 DS0s
- IP: 3:1 gigabit Ethernet (loadshare)
- ATM: 2+2 OC3c/STM1c

Signaling Gateway Capacity

- TDM: 256 LSL links, 20 HSL links
- ATM: 100 SAAL-NNI links
- SS7: 200 linksets
- M3UA: 15,000 MSU/second

Physical Chassis Dimensions

- Height: 24.5 in.
- Width: 17.4 in.
- Depth: 18 in.

Electrical Characteristics

- Input Voltage: -40 to -75VDC
- Input Current: 65A
- Power Consumption: 3,000 watts

Other Compliance

- NEBS Level 3 certified per GR-63-CORE, physical protection
- NEBS Level 3 certified per GR-1089-CORE, EMC, and electrical safety
- UL and Canadian Standards Association (CSA), safety of IT equipment
- FCC Part 15 Class A, emissions
- CE Mark (Europe) EMC standards
- Restriction of Hazardous Substances (RoHS)

GenView-Netscan EMS

- Supports G9, 8000, and C3
- OSMINE Certified with full FCAPS functionality
- User-friendly GUI and CLI
- Multi-node management
- Northbound interface: SNMP, CLI, TCP/IP, Telnet, FTP,
- Supports any configuration - (IPDR, SDR)
- Highly Scalable - up to 100 clients
- Client is platform-agnostic
- No standalone server platform required