

UNIVERSAL GATEWAY

The **GENBAND G6™ Universal Gateway** is a carrier-class, multipurpose gateway that simultaneously supports multiple VoIP service architectures. Purpose-built for highly reliable VoIP, the G6 uses the latest generation of advanced platform architecture and all-in-one DSPs for high quality VoIP and fax/modem handling, in an environmentally-friendly low power and small footprint chassis. NEBS Level 3 certified, the G6 is fully redundant, produced in a TL9000 quality system and deployed worldwide in ILEC, PTT, RLEC, CLEC, and cable MSO networks. The G6 is scaled for small to mid-sized gateway applications, supporting 240 to 16,128 ports (DSOs) in a single chassis.

The best-of-breed G6 provides connectivity at the borders of IP and TDM/circuit-switched networks, with extensive on-board protocol and media interworking. A highly versatile platform, the G6 is long-lived in NGN and IMS networks due to its flexible support for multiple solutions, including:

- **Voice over FTTx:** The G6 enables circuit-based local exchange switches to provide voice services in GPON, IP DSLAM, and other IP-based access networks by interworking V5.2, GR-303, and TR-08 with H.248 and MGCP IP protocols; E1/T1/PRI over FTTx is also supported via PseudoWire Emulation over IP
- **C.O. Modernization:** The G6 provides a Packet Line Gateway feature (AGCF/A-MGF) that allows NGN softswitches and IMS cores to control phone lines on circuit-based access platforms like Digital Loop Carriers (DLCs), Access Nodes (ANs) and proprietary local exchange line frames and remotes
- **Cable VoIP:** A PacketCable qualified media gateway, the G6 provides a full range of cable trunking, access, and commercial services
- **PBX Trunking:** Working with GENBAND's S-Series SBCs, the G6 interworks SIP with PRI and CAS protocols to allow TDM PBX and IP PBX platforms to connect to IP networks and the PSTN. The G6 can also perform PRI backhauling to an H.248 softswitch
- **IP Trunking:** The G6 enables scalable voice trunking between TDM/PSTN and IP networks via MGCP, H.248, and SIP call control in small to mid-sized trunking applications



- **Network Survivability:** With its Emergency Stand Alone (ESA) feature, the G6 provides call control to IP or TDM phones if softswitch or IMS connections are temporarily disrupted
- **Interoperability and Management:** The G6 is compatible with IMS, TISpan NGN, MSF, and PacketCable networks, and has proven interoperability with the world's leading softswitches, SIP application servers, and IP and TDM access equipment and CPE. The GUI-based element manager for the G6 is the GenView EMS that provides complete FCAPS support, and the G6 also has a fully-featured Command Line Manager.

FEATURES

- Access gateway feature connecting Local Exchange switches/Class 5's to GPON, IP DSLAM and other FTTx or broadband access networks
- Packet Line Gateway connecting NGN /IMS call control to TDM access (DLC, AN, DCO, EWSD)
- PSTN trunking for NGN softswitches, IMS cores, and SIP application servers via MGCP, SIP, H.248, TGCP
- On-board Emergency Stand Alone (ESA) for IP and TDM phones
- NEBS Level 3 and ETSI/ITU compliant

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PSTN

- Simultaneous Calls: 240 to 16,128 non-blocked
- Interconnection Modes: IMT, MF, CAS, PRI, V5.x, GR-303, TR-08, PWE3
- Up to 50 V5.2, 100 GR-303 and 175 TR-08 Interface Groups
- PSTN Interfaces: E1, T1, STS-1/chDS3
- Echo Cancellation: G.165, G.168, 0-128ms
- Codec Support: G.711 PCM, G.726 ADPCM, G.729, G.729A, Mu/A-law
- Silence Suppression
- Idle Channel Suppression
- Transparent Fax/Modem Detection, Upspeed, and Codec Negotiation, T.38; RFC 2833

PACKET

- IP Interfaces: Dual-Port Gigabit Ethernet; ATM: OC3/STM-1
- GbE redundancy to ensure stateful switchover from facilities failures on VoIP and PWE flows
- VoIP Signaling: H.248, MGCP, TGCP, SIP, NCS, SIGTRAN IUA
- PseudoWire Emulation: SAToP, CESoPSN
- Cablelabs PacketCable qualified
- IP QoS: Priority Queuing, ToS, DiffServ
- 802.1q (VLANs) with 802.1p prioritization

MANAGEMENT

- GenView EMS, SNMP, CLI, Telnet, XML

EMERGENCY STAND ALONE (ESA)

- ESA for H.248 VoIP endpoints/phones
- ESA for phones served by legacy DLCs, ANs, line frames, Broadband Loop Carriers
- Supports up to 32,000 subscribers

CLOCK SPECIFICATIONS

- Sources: Dual BITS inputs, Dual Composite Clock inputs, PSTN E1/T1 Interfaces, Internal Stratum 3 clocking (with holdover)

REDUNDANCY AND AVAILABILITY

- 99.999% Availability per Telcordia
- System Control: 1+1
- GbE/IP: 1+1, LACP Messaging

- TDM: T1/E1 1:N; STS-1/DS3 6:1
- Power: 1+1
- Management Interface/Facility: 1+1
- System Clock: Primary, Secondary, Tertiary
- Fan Subsystem: N+1
- Hot-swappable Components
- Non-Service Affecting (Hitless) Upgrades
- Emergency Stand Alone (ESA)

CHASSIS, POWER, AND OPERATING SPECS

- 18 slot, 19" or 23" rack mount, front or mid-mount, or 450mm and 500mm ETSI
- 22.75"/577.85mm H (13 RU) x 11.02"/280mm D
- Chassis per 7' Rack: 3
- Active cooling with replaceable filter
- Power: Ultra-low power at 425W loaded; Dual A&B rails, -40V to -60V DC, 9.0A max
- Temperature: Operating: +5C to 40C; Short-Term Operating: -5C to 50C; Storage: -40C to 70C; Humidity: 5% to 90% non-condensing

NON-OPERATING TEMPERATURE

- 40°C to +70°C

COMPLIANCES

- Safety: UL 60950-1 (USA), CSA C22.2 No. 950 (Canada), IEC 60950-1 (Europe), EN 60 825 (Europe), ACA TSO01 (Aus), AS/NZS 3260 (NZ)
- Electromagnetic Compliance (Emissions): FCC Class A (USA), ICES-003 Class A (Canada), EN 55 022 Class B (Europe), VCCI Class B (Japan) AS/NZS 3548 Class B (NZ)
- NEBS Level 3 Certified per Telcordia SR-3580: Telcordia GR-63-CORE, Telcordia GR-1089-CORE, CE Mark
- Certification of Terminal Equipment: FCC Part 68 (US), CS-03 (Canada); EU RoHS compliant

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