



# Universal Gateway



About 40,000 TDM switches, serving over 800 million lines globally, are still in operation despite the fact that many are beyond their designed lives. These aging systems pose serious customer, outage, and financial risk to operators, and they are not capable of providing new, advanced IP services to customers nor are they tied to mobile and broadband services. Ribbon Communications' G6 Universal Gateway resolves the problems associated with aging TDM switches and enables revenue growth by linking TDM customers to mobile, broadband, and SIP-based services.

While operators would like to see customers quickly move to their IP-based offerings, the reality is that many customers are slow to migrate to IP for a variety of reasons. This slow migration, coupled with significant risk of TDM switch failure and loss of knowledge base, puts operators' revenue in serious jeopardy and mandates switch replacement.

Part of Ribbon's Media Gateway product line, the G6 is custom-designed to replace TDM switches. While Ribbon's G5 Line Access Gateway connects directly to copper pair line interfaces, the G6 provides a full array of trunk interfaces. The G6 supercharges transformation of networks and advances aging TDM switch replacement by connecting to access based trunks such as PBX-centric PRI and T1/E1, as well as lines served by Digital Loop Carrier/Access Nodes and DMS, EWSD, and DCO TDM switch line frames. The G6 also supports intermachine trunks, enabling graceful central office migration, switch by switch.

## Smart Choice for Access Replacement

The G6 provides direct interfaces to Ribbon's C20 Call Session Controller or other IP-based call control. When used with the G5 for switch line frame replacement, a TDM switch can be shut down and scrapped, garnering significant operational, floor-space, and other savings. New services can also be delivered to subscribers. TDM access is no longer a dead-end technology, but it is simply another means of accessing the SIP services cloud and mobility, mitigating customer line loss and providing new revenue growth.



## Features

The Ribbon G6™ Universal Gateway is a carrier-class, multipurpose access and trunking gateway that simultaneously supports multiple VoIP service architectures such as IMS/VoIP/TDM core. Purpose-built for highly reliable VoIP, the G6 uses the latest generation of advanced platform architecture 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 supports 240 to 16,128 ports (DSOs) in a single chassis.

## 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/CH DS-3, OC-3/STM-1
- Echo Cancellation: G.165, G.168, 0-128ms
- Codec Support: G.711 PCM, Mu/A-law, G.726 ADPCM, G.729, G.729A (codecs are application dependent)
- Silence Suppression
- Idle Channel Suppression
  - Transparent Fax/Modem Detection, Upspeed, and Codec Negotiation, T.38; RFC 2833

## Packet

- IP Interfaces: Dual-Port Gigabit Ethernet
- GbE redundancy to ensure stateful switchover from facilities failures on VoIP and PWE flows
- VoIP Signaling: H.248, MGCP, SIP, SIGTRAN IUA
- IP QoS: Priority Queuing, ToS, DiffServ
- 802.1q (VLANs) with 802.1p prioritization

## 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/DS-3 6:1, OC-3/STM-1 1:1
- 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)
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## Management

- Ribbon EMS, SNMPv2/v3, CLI, Telnet, XML

## Non-Operating Temperature

- -40°C to +70°C

## Emergency Stand Alone (ESA)

- ESA for H.248 VoIP endpoints/phones
- ESA for phones served by legacy DLCs, ANs, line frames,
- Broadband Loop Carriers, DMS-100 peripherals
- Supports up to 32,000 subscribers with Packet Line Gateway, up to 89,000 with DMS ABI solution

## Clock Specifications

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

## 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 -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 TS001 (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:

**Contact Us**



We are here to help. Let us know if you are interested in a quote or if you have any questions.