



INTERACTIVE CommTech DEVELOPMENT S.A.

INNOVATIVE NETWORKING SOLUTIONS

Integrated Media and Signaling Gateway IMG 1010

IMG 1010 is an integrated media and signaling gateway. The facilities and advantages that it offers make it the strategic platform of choice for service providers.

Features and Facilities:

- Integrated SS7 & IP Transcoding
- High-Density, Scalable Architecture
- Simplified Implementation
- Carrier-Grade Design
- Programmable Protocol Language (PPL)
- simultaneously supports PRI si SS7 signaling
- SIP and H.323
- GUI based element management system
- The IMG 1010 supports AMR, EVRC, iLBC, G.711, G723, G.729 simultaneously for

the ultimate voice compatibility

Features and Benefits

Integrated SS7 & IP Transcoding

Unlike separate trunking gateways and signaling servers, the IMG 1010 enables VoIPbased services without requiring customers to buy, integrate or manage expensive third party softswitches and signaling gateways. The IMG1010 supports direct SS7 termination across multiple gateways and full, simultaneous interoperability with SS7, SIP and H.323 networks. With signaling, call routing/translations and transcoding supported in a single platform, customers reduce complexity and overhead.

Wireless and Wireline Codec Support

The IMG 1010 supports AMR, EVRC, iLBC, G.711, G.723, G.729 simultaneously for the ultimate voice compatibility.

High-Density, Scalable Architecture

With its high-density architecture supporting up to 1024 channels in a 1U footprint, the IMG 1010 can significantly reduce co-location costs compared to more complex multi-box alternatives. In addition, the IMG's scalable architecture allows customers to start with as few as 96 channels and scale up to 1024 in the same 1U form factor with software licensing, as well as combine and manage up to 16 IMG 1010s with the GateControl Element Management System (GC EMS). The IMG and the GC EMS are designed to work together to minimize operational costs and make it easier to manage VoIP gateways. Cantata's GC EMS enables customers to easily manage a network of IMGs from a central location — configuring equipment, adding capacity, building routing and translation tables and managing SS7 connectivity. By combining the IMG1010 with the GC EMS, customers can upgrade their networks gracefully and cost-effectively while ensuring interoperability with a wide range of networks.

Simplified Implementation

Because the IMG 1010 integrates signaling and media capabilities, it simplifies new service implementation significantly, eliminates call hand-offs and re-direction from box to box, speeds integration of enhanced services and improves call setup time. As networks migrate to an all-IP infrastructure, the IMG 1010, with its simultaneous support of both TDM-IP and IP-IP calls, reduces the number of gateways required. The IMG 1010 is cost-effective for both entry-level and large network configurations. Through software licensing, it supports rapid in-service growth. System architecture and a unified

OA&M platform enable cost-effective rack and stack deployments that are managed as a single large gateway, with redundant SS7 connectivity and small failure groups, providing a solution that approaches 99.999% uptime.

The IMG 1010 offers simplicity and flexibility in a reliable future-proof platform that can grow as requirements grow. With its compact design, the IMG 1010 allows customers to benefit from lower training, sparring, OAM&P, service agreements and other costs that are incurred each time a new platform is deployed.

Carrier-Grade Design

The IMG 1010 is a NEBS 3 carrier-grade design that employs independent network interfaces to separate transport, signaling and OAM&P to provide high reliability and service availability. In addition, the IMG 1010 allows service providers to make "in- service" capacity upgrades, as well as cost-effectively scale the system to hundreds of T1/E1 spans while maintaining a simple management interface.

Programmable Protocol Language

Programmable Protocol Language (PPL) enables customers to implement SS7 and SIP changes themselves, quickly and efficiently.

Specifications:

Routing Features:

Call routing and translation based on ANI, DNIS, and Nature Of Address, Time of Day, Day of Week/Year

Pre- and post-routing digit translations

Multiple routing algorithms per trunk group or groups of trunks interworking between IP to IP, TDM to IP, and IP to TDM supporting both a-law and μ -law conversions

OAM&P:

Centralized Element Management System

GUI-based system allows monitoring and provisioning of up to 16 gateways

Centralized routing engine simultaneously configures all gateways in the network

Radius (billing and authentication)

Power Requirements:

-48V DC with voltage range (-40V to -60V)

100-240V AC 50/60 Hz with voltage range (90V to 260V)

Power consumption: 90 Watts

Physical Specifications:

1.72" h (43.7 mm) x 17.25" w (438.2mm) x 19.00" d (482.6mm)

wt: 18 lbs (8.1kg)

Resiliency:

SS7 Signaling: 1+1 Active/Standby redundancy

Capacity:

96 - 768 TDM channels per 1U shelf (scalable from 3 E1/ 4 T1 to 24 E1 / 32 T1)

96 - 768 VoIP channels per 1U shelf

I/O Interfaces:

Telephony: T1 and E1, or DS3

IP: 4 - Fast Ethernet for control and signaling 2 - Gigabit Ethernet for VoIP payload

T1/E1s for timing (BITS clock) and signaling

Loop timing via any telephony port

TDM Signaling Protocols:

ISDN PRI (FAS and NFAS) - NI2, Euro ISDN, DMS 250, 5ESS, JATE/Japan INS-NET1500

SS7/C7 ISUP - ITU and ANSI variants supported through Cantata's Programmable Protocol Language (PPL)

64 SS7 links (A-links and F-Links supported)

IP Signaling Protocols:

H.323 v2

RFC 3261 SIP: Session Initiation Protocol

RFC 3204 MIME media types for ISUP Objects

RFC 3264 SDP Offer/Answer Model

RFC 2327 Session Description Protocol (SDP)

RFC 3581 An Extension for Symmetric Response Routing

RFC 3372 Session Initiation Protocol for Telephones (SIP-T)

RFC 3398 ISUP/SIP Mapping

RFC 3578 Mapping of ISUP overlap signaling to SIP

RFC 3666 Session Initiation Protocol PSTN Call Flows

IP Bearer Features:

Codec Support — AMR, EVRC, iLBC, G.711, G.723.1, G.729 A /B

Echo Cancellation - G.168 128ms tail length

Voice Activity Detection (VAD)

Comfort Noise Generation (CNG)

T.38 Real Time Fax

Fax / Modem Bypass

Digit transmission via RFC 2833 (SIP and H.323) or H.245 UII (H.323)

Symmetric NAT Traversal

QoS:

Adaptive Jitter Buffer

Packet Loss Compensation

Configurable ToS (Type of Service) fields for packet prioritization and routing.
