

Dialogic® IMG 1010 Integrated Media Gateway is a carrier-ready VoIP gateway that supports both media and signaling in a single chassis. It allows service providers to add new telephony services quickly, and gives them a clear migration path to an all-IP network.

The IMG 1010 provides any-to-any voice network connectivity and can deliver SIP services into legacy SS7, PRI, and CAS networks, as well as IP-to-IP transcoding and multimedia border element functions, such as SIP mediation for network edge applications. Its compact 1U high-density design, integrated SS7 termination across multiple gateways, GUI-based management, and software licensing for in-service capacity expansion make the IMG 1010 an excellent option for VoIP.

The IMG 1010 also features the Dialogic® Programmable Protocol Language (PPL), which allows rapid implementation of SS7 ISUP variants and other signaling changes.



## Features

## Benefits

**Simultaneous support for PRI, CAS, and SS7 signaling, along with SIP and H.323**

Provides a flexible, cost-effective platform that can evolve from TDM-IP to all IP

**SS7 signaling, call routing, call translation, and IP transcoding supported in a single chassis**

Can reduce complexity and administrative overhead for VoIP services, and allows on-the-fly voice coder conversion

**Supports multimedia border element capabilities, including SIP mediation, topology hiding, and media transcoding**

Facilitates efficient operations between incompatible network elements in a service provider infrastructure.

**Supports up to 1024 channels in a 1U chassis**

Allows easy scalability from 96 to 1024 channels in a small footprint

**Wireline and wireless support, including ENUM and DNS**

Enables fast connection time and lower phone charges because callers can connect to each other directly without using the PSTN

**NEBS 3 carrier-grade design uses independent network interfaces to separate transport, signaling, and OAM&P**

Provides high reliability and service availability

**Works with load balancers**

Optimizes distribution of SIP traffic and improves scalability and fault tolerance

## Technical Specifications

### Routing Features

Call routing and translation based on ANI, DNIS, Generic Number (call routing only supported), and Nature of Address (NOA), Time of Day, Day of Week/Year

Algorithms include percentage-based routing and disposition by Cause Code

Pre- and post-routing digit translations with wildcard support

Multiple routing algorithms per trunk group or groups of trunks for IP-to-TDM and IP-to-IP, both A-law and  $\mu$ -law conversions

Pre-call announcement (branding)

### IP Bearer Features

Coder support: AMR, iLBC, G.711, G.723.1, G.729 A/B, G.729 E/G, GSM-FR, G.726, RFC 4040 clear channel

Echo cancellation: G.168 128ms tail length

Voice activity detection

Comfort noise generation

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

Secure RTP media (for SIP)

### OAM&P

Centralized Element Management System

GUI-based system allows monitoring and provisioning of up to 32 gateways

Node wizard for simplified configuration

Centralized routing engine simultaneously configures gateways in the network

Radius (billing, authentication, prepaid)

Local time zone support and Network Time Protocol (NTP)

SNMP

MIBs: MIB-2, Interface, Alarms, DS0, DS1, and DS3

Cacti reporting

### Power Requirements

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

120 - 240 VAC 50/60 Hz with voltage range (90 V to 240 V)

Power consumption: 90 W (can vary from 80 W to 100 W based on load)

## Technical Specifications *(continued)*

### Physical Specifications

Dimensions: 1.72 in. high (43.7 mm) x 17.25 in. wide (438.2 mm) x 19.00 in. deep (482.6 mm)

Weight: 18 lb (8.1 kg)

### Resiliency

SS7 Signaling: 1+1 active/standby redundancy

DS3 N + 1 active/standby redundancy

Redundant Element Management System servers

IP Probing (Ethernet links)

Graceful software upgrade over multiple IMG 1010s

Graceful busy out per trunk group

Virtual IP addresses for SIP load balancing (via third party server)

Local termination of ISUP links and IP backhaul to IMG 1010 signaling node

Call Release due to media inactivity timeouts

Optional dual DC power

### Capacity

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

96 - 1024 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

T1/E1 CAS (FGB, FGD and MFR2)

Q.699 ISDN to SS7 mapping

ISDN UUI mapping to SIP and H.323

SS7/C7 ISUP: ITU and ANSI variants supported through the Dialogic® Programmable Protocol Language (PPL)

SS7 TCAP for message-waiting-indication and Caller Name (CNAM) service

64 SS7 links in standalone configuration and 128 SS7 links in redundant configuration (A-links and F-Links supported)

E1 to DS3 mapping (for third-party STM-1 multiplexor compatibility)

ISDN call transfer and bridging via Explicit Call Transfer, Two B Channel Transfer, and Release Link Trunking (initiated via SIP REFER)

Delayed ANM for ISUP (triggered by third-party SIP call transfers)

## Technical Specifications *(continued)*

### IP Protocols

*H.323*

H.323 v2

H.323 Keep Alive

### *SIP and Related Specifications*

RFC 2246 Transport Layer Security (TLS) for SIP

RFC 2327 Session Description Protocol (SDP)

RFC 2976 SIP Info for digit transmission (#,\*) and interworking DTMF

RFC 3204 MIME Media Types for ISUP and QSIG (ISUP only supported)

RFC 3261 SIP Basic

RFC 3262 SIP PRACK

RFC 3263 Locating SIP servers for DNS lookup SRV and A records

RFC 3264 SDP Offer/Answer Model

RFC 3265 SIP Subscribe/Notify

RFC 3311 SIP Update

RFC 3323 Privacy Header Field (partial support)

RFC 3325 Asserted Identity

RFC 3326 SIP Reason Header

RFC 3372 SIP for Telephones (SIP-T)

RFC 3398 ISUP/SIP Mapping

RFC 3515 SIP REFER

RFC 3578 ISUP Overlap Signaling to SIP

RFC 3581 Symmetric Response Routing

RFC 3666 SIP to PSTN Call Flows

RFC 3711 SRTP (for SIP)

RFC 3725 Third Party Call Control for SIP

RFC 3764 ENUM for SIP Address of Record

RFC 3891 SIP Replaces Header

RFC 3892 SIP Referred-By Mechanism

RFC 4028 SIP Session Timer

RFC 4244 SIP History info (for call diversion)

RFC 4412 Communications Resource Priority for SIP (partial support)

RFC 4568 SDP Security Descriptions for Media Streams

RFC 4904 SIP tgrp (trunk group) parameter

## Technical Specifications *(continued)*

### *SIP and Related Specifications (continued)*

SIP 3xx Gateway Responses and 302 Initiate

SIP Diversion Header

SIP Trunk Group IDs (OTG, DTG)

SIP Coder Negotiation

SIP Busy Out

SIP P-Charge-Info Header

ITU-T Q.1912.5 – SIP and ISUP Interworking (includes SIP-I) and Overlap signaling (SIP to SIP ISUP)

SIP Mediation (SIP to SIP)

SIP to SIP-I/SIP-T

### *SIGTRAN*

RFC 3332 — M3UA Adaption Layer

M3UA Application Server

M3UA Signaling Gateway for TCAP/SCCP

### **QoS**

Adaptive jitter buffer

Packet loss compensation

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

### **Approvals and Compliance**

For information about RoHS compliance and global approvals, contact your Dialogic sales representative.

### *EMC/EMI*

USA/Canada: FCC Part 15, ICES-003

European Union: EN55022: 1998/A1:2000/A2:2003, EN55024: 1998/A1:2000/A2:2003, EN300386: 2001 Ver. 1.3.3

Australia/New Zealand: AS/NZS CISPR 22:2002

Japan: VCCI

### *Safety*

USA/Canada: CSA-C22.2 No. 60950-1-03

European Union: EN60950-1

Australia/New Zealand: AS/NZS 60950.1:2003

## Technical Specifications *(continued)*

### *CB Scheme*

International CB Scheme IEC 60950-1

### *Telecom Approvals*

USA/Canada: FCC Part 68/IC CS03

European Union: TBR 4, 12, 13

Australia/New Zealand: AS/ACIF S-016 and S-038/TNZ Telepermit

Japan: JATE Green Book

### **Reliability/Warranty**

Warranty information at <http://www.dialogic.com/warranties>

Estimated MTBF per Telcordia Method 1:

AC power: 61,367 hours

DC power: 71,666 hours

[www.dialogic.com](http://www.dialogic.com)

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