

Dialogic® IMG 1004 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 1004 brings the value proposition of an integrated media gateway into the low-density (1-4 span) gateway market.

The IMG 1004 provides any-to-any voice network connectivity and can work in tandem with the IMG 1010 to 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 design, integrated SS7 links termination and CICs, GUI-based management, and software licensing for in-service capacity expansion make the IMG 1004 an excellent option for VoIP.

The IMG 1004 also features the Dialogic® Programmable Protocol Language (PPL), which allows rapid implementation of ISDN PRI variants and other signaling changes.



Features

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

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

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

Supports up to 128 channels in a 1U chassis

Wireline and wireless support, including ENUM and DNS

Carrier-grade design uses dual Ethernet network interfaces

Works with load balancers

Benefits

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

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

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

Allows easy scalability to 128 channels in a small footprint

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

Provides high reliability and service availability

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 μ -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.168 128 ms 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

Cacti reporting

Power Requirements

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

Power consumption: 30 W

Physical Specifications

Dimensions: 1.72 in. high (43.7 mm) x 17.25 in. wide (438.2 mm) x 11.00 in. deep (279.0 mm)

Weight: 9.1 lb (4.12 kg)

Technical Specifications *(continued)*

Resiliency

- Local termination of ISUP links and IP backhaul to IMG 1010 signaling node
- Redundant Element Management System servers
- Graceful software upgrade over multiple IMG 1004s
- Graceful busy out per trunk group
- Virtual IP addresses for SIP load balancing (via third party server)
- Call Release due to media inactivity timeouts

Capacity

- 32 - 128 TDM channels per 1U shelf (scalable from 1 E1/ 1 T1 to 4 E1 / 4 T1)
- 32 - 128 VoIP channels per 1U shelf

I/O Interfaces

- Telephony: T1 and E1
- IP: 2 - Fast Ethernet for control, signaling, and media
- 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
- 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 ISUP CICs and Links Termination (connects to SS7 stack on IMG 1010)
- Up to 8 SS7 links and 128 CICs per IMG 1004
- 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)

IP Protocols

- H.323
- H.323 v2
- H.323 Keep Alive

Technical Specifications *(continued)*

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
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

Technical Specifications *(continued)*

QoS

Adaptive jitter buffer

Packet loss compensation

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

Approvals and Compliance

For information about global approvals, visit <http://www.dialogic.com/declarations/> or contact your Dialogic sales representative.

For information about RoHS compliance visit <http://www.dialogic.com/rohs/> or contact your Dialogic sales representative.

EMC/EMI

USA/Canada: FCC 47 CFR Part 15, ICES-003

European Union: EN55022: 2006/A1:2007, EN55024: 1998/A1:2001/A2:2003, EN 300 386 V1.4.1 (2008)

Australia/New Zealand: AS/NZS CISPR 22:2006

Japan: VCCI

Safety

USA/Canada: UL/CSA 60950-1 – 2nd Edition (2007)

European Union: EN60950-1:2006

Australia/New Zealand: AS/NZS 60950.1:2003

CB Scheme

International CB Scheme IEC 60950-1 2nd Edition

Telecom Approvals

USA/Canada: FCC Part 68 (TIA-968-A)/IC CS-03

European Union: TBRs 4, 12, 13

Australia: AS/ACIF S-016 and AS/ACIF S-038

Japan: JATE Green Book

Reliability/Warranty

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

Estimated MTBF per Telecordia Method 1:

AC power: 344,824 hours



www.dialogic.com

Dialogic Inc.
1504 McCarthy Boulevard
Milpitas, California 95035-7405
USA

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