Dialogic® 4000 Media Gateway Series

Supports Survivable Branch Appliance Function of
Microsoft® Lync™ Server 2010

The Dialogic® 4000 Media Gateways (DMG4000 Gateways) are integrated systems that can provide both local PSTN and voice endpoint connectivity at a branch office premise as well as base-level voice service continuity in the event that the corporate WAN becomes unavailable.

The DMG4000 Gateways are standard rack-mount servers running the Windows Server® 2008 R2 operating system. They support the Survivable Branch Appliance function that is part of the Microsoft® Lync™ Server 2010 for unified communications. The Survivable Branch Appliance function allows branch offices to work effectively even if the WAN connection to the central site is lost. The ability to make voice calls, use email, and hold audio conferences continues to be available.

Features	Benefits
Supports the Survivable Branch Appliance function of the Lync Server	Provides branch office resiliency by maintaining branch user functionality and productivity during WAN outages
Available as a 1U rack mount integrated system supporting configurations from 8 channels (Analog or BRI) up to 96/120 channels (T1/E1)	Offers a range of product densities and interfaces for businesses of various sizes
Redundant power supply, RAID 1 hard disk subsystem, and a failover and load balancing Ethernet network connection	Delivered with features that enable high availability
Enhanced gateway functionality	Allows for a common architecture, platform, and management interface for central site and branch deployments
Supports T.30 Fax Group 3 up to 33.6 kbps using T.38 real-time FoIP	Offers a range of fax configurations to satisfy requirements for different fax channel densities and fax transmission speeds

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Field-Proven Technology in a Robust System Configuration

The DMG4000 Gateways contain field-proven Dialogic® Diva® Media Boards and Dialogic® Diva® SIPcontrol™ Software in addition to the Lync Server with its Survivable Branch Appliance function. These elements are integrated in a rugged 1U rack-mount server featuring a high-performance 64-bit Intel Xeon processor.

The DMG4000 Gateways also offer dual Gigabit Ethernet interfaces for IP network connection, as well as a variety options for interfacing to the PSTN or PBXs, including Analog, ISDN BRI, and E1/T1. In addition, the DMG4000 Gateways can be configured to support up to 120 channels of unified communications traffic.

Survivable Branch Appliance Functionality

The Survivable Branch Appliance function in the Lync Server included in DMG 4000 Gateways has the following components:

- SIP Registrar and Proxy for normal and failover routing
- Mediation Server for communication between Registrar and IP-PSTN Gateway
- IP-PSTN Gateways for routing calls to the PSTN as an alternate transport in case of WAN outages or anomalies

The Survivable Branch Appliance function can support up to 1000 users. If a branch office's WAN connection to a central site becomes unavailable, the Survivable Branch Appliance enables branch users to continue to handle outside and inter-site calls via the PSTN, make intra-site calls, use voice mail, and connect with audio conferences via the PSTN.

Enhanced Gateway Functionality

DMG4000 Gateways can perform as enhanced gateways deployed in central locations along with the full Microsoft® Lync™ Server suite, which includes front end servers and mediation server functions.

Enhanced gateway functionality allows the DMG4000 Gateways to perform as a common gateway platform across an enterprise, providing the same architecture and management interfaces in central and branch locations.

Fax Functionality and Third-Party Application Hosting

In addition to the role of Survivable Branch Appliance for the Lync Server, DMG4000 Gateways can be used as high-density Fax over IP (FoIP) gateways, providing up to 120 channels of fax at V.34 (33.6 kbps) speed, depending on the license purchased.

A DMG4000 Gateway can also host third-party applications written for Windows Server 2008, including fax server and IP-PBX software. A runtime version of the ESTOS Call Control Gateway (ECCG) is pre-loaded on each DMG4000 Gateway with five complimentary seat licenses for trial purposes. When hosted on a DMG4000 Gateway, this third-party application can provide remote call control functionality for existing PBX infrastructure (classic, hybrid, or pure VoIP).

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Technical Specifications

Ports per unit	Dialogic® DMG4008LSW Media Gateway: 8-port Analog FXO (8 channels) Dialogic® DMG4008BRI Media Gateway: 4-port ISDN BRI (8 channels) Dialogic® DMG4030DTI Media Gateway: 1-port T1/E1 (24/30 channels) Dialogic® DMG4060DTI Media Gateway: 2-port T1/E1 (48/60 channels) Dialogic® DMG4120DTI Media Gateway: 4-port T1/E1 (96/120 channels)
Server Type	Dell R310
Processor	Intel Xeon 3430 (quad core processor running at 2.4 GHz)
Memory	8 GB Dual Ranked UDIMM (1333 MHz)
Hard disk subsystem	2 x 160 GB SATA in RAID 1
Network interface	2 x 10/100/1000 Base-T Ethernet LAN ports
Protocol support	Analog: Loopstart ISDN BRI: DSS1 (Euro-ISDN), NI-1, 5ESS, 1TR6, INS Net 64, VN3, CT1, QSIG E1 ISDN: ETSI-DSS1 (EuroISDN), INS-1500 (Japan), QSIG E1 CAS: MFR2 T1 ISDN: NI-1, 4ESS, 5ESS, DMS100, QSIG T1 CAS: RBS
VoIP services	SIP methods: ACK, BYE, INVITE, NOTIFY, REFER, CANCEL, OPTIONS, REGISTER Configurable IP transport layer UDP or TCP Number normalization and manipulation of Called, Calling, and Redirected Number Call Routing based on Called/Calling/Redirected Number, PSTN Interface, and/or SIP Peer Call Hold/Retrieve (for example, Re-Invite mapping towards ISDN) PSTN-side Call Transfer (that is, REFER points to PSTN) Call Diversion Message Waiting Activation/Deactivation Call Redirection via 302 Moved Temporarily Simplified Number Normalization based on PSTN connection parameters Number Manipulation using Regular Expressions Configurable Cause Code Mapping Clear Channel Fax Clear Channel Modem
FoIP (T.38) services	T.30 Fax Group 3 up to 33.6 kbps using T.38 real-time FoIP Fax compression MH, MR, MMR Error Correction Mode (ECM)
Additional SIP features	Registering SIPcontrol at a Registrar server Digest Authentication of SIP Requests from SIPcontrol according to RFC2617

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Technical Specifications *(continued)*

Security	TLS and SSL authentication
	SRTP (secure Real-time Transport Protocol)
	SIPS (Secure SIP)
	Supported ciphers: DH, ADH, AES (128-256 bits), 3DES (64 bits), DES (64 bits), RC4 (64 bytes), RC4 (256 bytes), MD5, SHA1
Reliability	Load balancing and failover on PSTN side
	Load balancing and failover on SIP side (optionally uses OPTIONS for keep-alive check)
	Alive check for active calls on SIP side via SIP session timer (RFC4028)
Media processing	DTMF generation and recognition (in-band)
	DTMF relay, RFC2833
	Echo Cancellation as per G.168 standard with up to 256 ms echo tail (depending on Media Gateway interface)
	Voice Activity Detection and Comfort Noise Generation
IP Media CODEC	IP Real-time Transport Protocol (RTP)
	RTP profile name RTP/AVP
	RTP event (RFC2833) for DTMF, Fax and modem tones
	G.711 CODEC, 64 kbps (64 kbps, A-law, μ-law)
	G.726 (16, 24, 32, and 40 kbps)
	G.729 CODEC (requires additional license)
	GSM full rate CODEC
	iLBC CODEC (not available on DMG4008LSW and DMG4008BRI)
	Comfort Noise (RFC3389)
	Configurable packetization time between 20 ms and 200 ms (iLBC only 20 ms and 30 ms)
Physical dimensions	1U 19-inch rack mount server
Power supply	400 W
	Two (2) redundant power supplies included

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Ordering Information

Model	Type	Order Code	Description	
			Channel Density	
	Type	Order Code	VoIP	FoIP (default)
DMG4008LS-R2	Basic Hybrid Media Gateway with T.38 fax	306-443	8	8
DMG4008BRI-R2	Basic Hybrid Media Gateway with T.38 fax	306-444	8	8
DMG4030DTI-R2	Basic Hybrid Media Gateway with T.38 fax	306-445	30	30
DMG4060DTI-R2	Basic Hybrid Media Gateway with T.38 fax	306-446	60	12
DMG4060DTIV34-R2	Basic Hybrid Media Gateway with T.38 fax	306-447	60	60
DMG4120DTI-R2	Basic Hybrid Media Gateway with T.38 fax	306-448	120	12
DMG4120DTIV34-R2	Basic Hybrid Media Gateway with T.38 fax	306-449	120	120
DMG4008LSSBA	Survivable Branch Appliance	306-435	8	8 (G.711 only)
DMG4008BRISBA	Survivable Branch Appliance	306-436	8	8 (G.711 only)
DMG4030DTISBA	Survivable Branch Appliance	306-437	30	12 (G.711 only)
DMG4060DTISBA	Survivable Branch Appliance	306-438	60	12 (G.711 only)
DMG4120DTISBA	Survivable Branch Appliance	306-440	120	12 (G.711 only)
DMG4000SU4UPGRADE SBA	Upgrade with OS License	306-429	N/A	N/A
DMG40000SU4UPGRADENOLICENSE SBA	Upgrade without OS License	306-430	N/A	N/A

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