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Datasheet

BorderNet™ Diameter Services Helix

Dialogic's BorderNet™ Diameter Services Helix is a high performance, highly scalable and versatile next generation Diameter Signaling Controller, enabling seamless management and delivery of services across 3G, 4G mobile and fixed networks.

The BorderNet Helix seamlessly combines multiprotocol Interworking Functionality (IWF), Diameter Edge Agent (DEA) and Diameter Routing Agent (DRA) features in an integrated, easy-to-use platform for rapid service innovation and orchestration. Helix can reduce the time to bring new services to market via the innovative web GUI; this gives exceptional flexibility for the rapid creation and validation of services across multi-vendor environments, independent of network technologies or protocols (3G, 4G/LTE, IMS/VoLTE, Fixed and Wi-Fi networks).

Features	Benefits
Integrated Solution for Diameter Routing Agent, Diameter Edge Agent and Diameter Interworking Function capabilities	Provides centralized management, security, load balancing and multi-protocol, multi-domain interworking and orchestration for faster network and service deployment.
Protocol interworking and service design via integrated Web 2.0 GUI	Provides the ability to apply advanced logic to protocol message flows. Diameter and non-Diameter applications can be intelligently routed based on protocol, message parameter, or message context, resulting in rapid development of new services for fast time to market.
Multi-protocol support with extensibility to add additional Diameter applications, protocols and variants	Removes the need for expensive and time consuming development projects to support new protocol variants or complex interworking use cases.
Dashboard and extensive reporting capabilities	Enables detailed recording of protocol events, configuration auditing, logging and tracing.

Powerful Service Creation

Helix gives users access to a rich set of functions such as intelligent routing, load balancing, interworking, protocol conversion and mediation. These functions can be combined and applied to both Diameter and non-Diameter applications and provide for easy extensibility to other protocols and protocol variants through user modifiable, template driven configuration capabilities.

Versatility for Service Enabling Applications

Service Providers can deploy Helix, due to its versatility, to handle a variety of mission critical network functions including; highly granular and dynamic Diameter routing, AVP mediation and manipulation between diverse Diameter based nodes, admission and congestion control, network topology hiding, load balancing and PCRF binding.

The flexible Interworking Function capabilities of Helix facilitate key use cases such as;

- Diameter-to-MAP interworking to support 3G – 4G roaming as per specification 3GPP TS 29.305.
- Diameter-to-RADIUS interworking to facilitate seamless Wi-Fi offload for mobile subscribers.
- Diameter-to-IT protocol (such as LDAP, HTTP or SOAP) interworking to support tasks such as subscriber database queries during dynamic service flows.

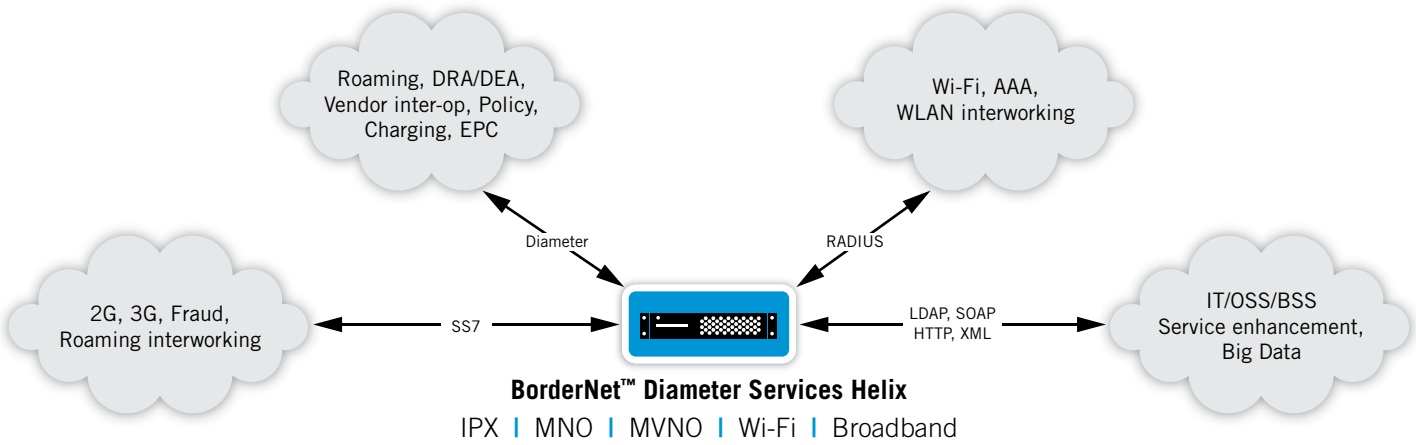

Figure 1. BorderNet™ Diameter Services Helix: Single platform for interworking, routing, security and service enhancement

Technical Specifications

Networking	IPv4, IPv6
Transport Protocol	TCP, UDP, SCTP, SIGTRAN, TLS/TCP
Diameter base conformance	RFC6733, RFC 3588
IETF Diameter agent support	Relay, proxy, translation
3GPP Diameter agent support	DRA, IWF
GSMA Diameter agent support	DEA
Protocol Support	Diameter, RADIUS, SS7, HTTP, SOAP, REST, XML, LDAP
Diameter Reference Interfaces	Template-based support enables user implementation of Diameter interfaces including proprietary AVPs
Preconfigured templates	Diameter: Cx, Dx, Gx, Gy, Gz, Ro, Rx, S13/S13', S6a/S6d, S9, Sh, Sy, Wx SS7: Gr, Gf
Management	CLI, GUI, SNMP, XML, CSV, Dashboard
On-board Functions	Interworking, any-to-any protocol conversion, mediation, aggregation, intelligent routing, enrichment, shaping, configurable service logic
Form factor	1U Rack Mount Server
SS7 T1/E1 interface boards	Up to two (2) boards per unit; either one or two Dialogic® DSI SS7LDH4 Network Interface Boards or one or two Dialogic® DSI SS7MDL4 Network Interface Boards can be used

	SS7LD	SS7MD
T1/E1 ports per board	4 T1 or 4 E1	4 individually selectable T1/E1
SS7 Low Speed Links per board	Up to 16	Up to 124
SS7 High Speed Links (Q.703 Annex A) per board.	N/A	Up to 4
ATM High Speed Links per board.	N/A	Up to 4

Maximum SS7 links per unit	248
Maximum SS7 link sets per unit	120
Maximum M2PA links per unit	256
Maximum number of SS7 routes	4,096
Number of separate network contexts	4
Maximum number of SIGTRAN associations	256
10/100/1000Mbit/sec Ethernet interfaces	8
Power	AC or DC
MTBF (Using Telcordia method at 40°C)	86,000 hours AC version with 8 Ethernet ports, and 87,000 hours with DC version with 8 Ethernet ports (assumes dual PSU configuration)

T1/E1 Interfaces

Pulse mask	T1: ANSI T1.403 E1: ITU-T G.703
Data rate	T1: 1544 kbps ± 50 ppm E1: 2048 kbps ± 50 ppm
Frame format	T1: D4, ESF, and ESF-CRC6 E1: E1 and E1-CRC4
Line codes	HDB3, AMI, B8ZS
Connector type	RJ-48C

Power

DC-powered products		
	Supply voltage (range nominal)	–40 VDC to –60 VDC
	Input power (fully equipped)	200 W
AC-powered products		
	Input voltage	100 VAC to 240 VAC
	Input power (fully equipped)	200 W
	Frequency range	50 Hz - 60 Hz

Physical Dimensions

Height	1.74 in. (4.4 cm)
Width	16.93 in. (43.0 cm)
Depth	20.4 in. (51.9 cm)
Weight – fully equipped	26.8 lbs (12.16 kg)

Environmental

Operating temperature	+50°F (+10°C) to +104°F (+40°C)
Storage temperature	–40°F (–40°C) to +158°F (+70°C)
Hazardous substances	RoHS compliance information at http://www.dialogic.com/rohs
Country-specific approval information	Refer to global product approvals database at http://www.dialogic.com/declarations
Warranty	Warranty information at http://www.dialogic.com/warranties
Service plans	See Dialogic® Pro™ Services information at http://www.dialogic.com/products/services

For More Information

For more information about the product discussed in this datasheet, contact your local Dialogic representative. Worldwide contact information can be found online at www.dialogic.com/contact.

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