Dialogic®

Datasheet

Dialogic® BorderNet™ Virtualized Session Border Controller

BorderNet™ Session Border Controllers supercharge connections between networks, services and subscribers with ease and scale

The Dialogic® BorderNet™ Virtualized Session Border Controller (SBC) brings carrier class SBC functionality to the cloud and enables service providers and enterprises take advantage of flexibility and cost savings opportunities from virtualization. The BorderNet Virtualized SBC can interconnect IP networks securely and seamlessly, with unmatched ease of use and low total cost of ownership (TCO) to help secure mission critical infrastructure and reduce the cost of delivering services.

The BorderNet Virtualized SBC is designed to operate in virtualized public and private cloud environments to address complex service delivery challenges (including security, device interoperability, media handling, reliability and service assurance) encountered in today's demanding service provider and enterprise networks.

The BorderNet Virtualized SBC is part of the BorderNet™ family of session border controllers from Dialogic that help service providers and enterprises energize their networks and services with a better way to interconnect and deliver services through ease-of-use and low TCO.

Features	Benefits
Carrier Class in the Cloud SBC features	• High performance full featured software SBC with VMware hypervisor support • Virtualized High Availability (HA) mode • SBC security includes DoS protection, encryption, overload protection, and threat mitigation to protect mission critical infrastructure and services
Software-based transcoding and media handling	• Software transcoding based on PowerMedia™ technology with rich selection of codecs to cost effectively interwork media • No separate investment in hardware required
Rapid deployment and low TCO	• Modern Web 2.0 UI with real time dashboard, alarming and analytics for fast and intuitive configuration and system management • Operational consistency with the BorderNet™ 4000 SBC and interoperable with the Dialogic® ControlSwitch™ System to help reduce OPEX • Flexible licensing options for cost effective scalability • Open Virtualization Format (OVF) compliant for fast deployment and implementation

Examples of Applications

The BorderNet Virtualized SBC leverages virtualized computing environments to help make networks easier to connect. Example applications for the BorderNet Virtualized SBC include:

- Interconnecting IP Multimedia Subsystem (IMS), Voice over LTE (VoLTE), and IPX networks
- Interconnecting diverse SIP and H.323 mobile and fixed networks
- Applications requiring media transcoding
- Detecting and reducing fraud
- IPv4 to IPv6 migration initiatives
- Data center provider Infrastructure as a Service (IaaS) opportunities

Carrier Class in the Cloud Features

Feature Rich, High Performance Software SBC Solution

The BorderNet Virtualized SBC brings carrier class functionality to virtualized environments and can be deployed in a standalone or redundant (High Availability) configuration. Each instance of the BorderNet Virtualized SBC can support up to 1,000 simultaneous sessions at a rate of 30 sessions per second. The BorderNet Virtualized SBC leverages the innovative software based media processing capabilities of Dialogic's PowerMedia™ technology, along with patent pending technology in the Dialogic® BorderNet™ 4000 appliance-based SBC. This powerful combination of innovative technology, comprehensive SBC features, and ease-of-use provides a solution unparalleled in the industry for unified communications, SIP Trunking and IMS applications.

Advanced Security Features

SBCs provide a first line of defense against fraud and malicious attacks in service provider networks. The BorderNet Virtualized SBC helps protect network integrity and service quality from being compromised by providing a set of layered security capabilities that include the following:

- Customizable signaling and media topology hiding
- Built-in firewall capabilities
- Dynamic access control lists
- Message flood protection
- Dynamic Black Listing
- Adaptive overload controls for the delivery of high priority and emergency traffic
- Real-time inspection of message syntax and semantics
- Protection against malformed messages
- Encryption including TLS, IPsec, SRTP and HTTPS
- Media-related security including pin-hole management, rogue RTP detection and bandwidth control

Real-time Dashboard, User Management and Reporting Capabilities

The BorderNet Virtualized SBC features WebUI technology that is also available with the BorderNet 4000 SBC. This WebUI provides a real-time view into the activities on the BorderNet Virtualized SBC in the form of an operator dashboard to monitor key aspects of the SBC. The configuration and provisioning tasks related to the Virtualized SBC are performed through the highly intuitive WebUI.

In addition to typical OAM&P functions, the WebUI also provides feature-rich analytics and reporting. The analytics available from the WebUI include traffic statistics, usage summary, and a comprehensive set of performance and traffic reports to help manage network and service activity. The BorderNet Virtualized SBC's WebUI includes a role-based user administration function to secure and control access to various system views involving configuration and provisioning of the SBC. Additional tools are included in the WebUI to make license management, data archiving, historical reporting, regulatory compliance and network troubleshooting easy and streamlined.

Powerful and Easy-to-Use Management, Interworking and Configuration Tools for Low TCO

Service providers need to securely connect their networks with other operators to deliver business and consumer services to their customers; however, not all SIP implementations are the same. Dialogic has developed the SIP Profiler for the BorderNet family of SBCs - including the Virtualized SBC - to help reduce the complexity of this process. The SIP Profiler is a powerful configuration tool that can help reduce the time and effort to implement interconnection in multi-vendor, multi-application environments across networks and enterprise end points with different SIP behaviors.

The SIP Profiler can be used to define behavior at the ingress and egress ports of the BorderNet Virtualized SBC and enable customized routing to help optimize and control SIP message flows. The SIP Profiler is accessed through the Virtualized SBC's WebUI, or through the use of XML scripts. Types of operations that can be performed using the SIP Profiler include:

- Add, modify or delete SIP headers, SIP bodies and SDP parameters and adaptively impact message sequence and flows
- Store information from header fields for later access
- Inspect SIP messages for specific content
- Use customized response codes when, for example, rejecting messages

A Media Profiler extends the core features of the powerful SIP Profiler framework to the SDP, media attributes, and the codecs used in the bearer plane. The Media Profiler provides the ability to:

- Control and reorder the offered codec list
- Control media attributes
- Manage and manipulate contents of ISUP, QSIG and other non-SDP message bodies

The BorderNet Virtualized SBC's WebUI can simplify operational tasks associated with configuring and maintaining the integrity of a peering and access environment. The profile-based provisioning capabilities through the BorderNet Virtualized SBC WebUI allow users to define common sets of service, security, VoIP parameter, and media attributes that describe the behavior of a connected endpoint through the use of templates. The template-based provisioning approach can significantly reduce the time needed to turn up service and also the system knowledge required to do so. These powerful configuration features can also help lessen TCO and accelerate service delivery by reducing the complexity traditionally involved in establishing interworking and access connectivity.

The BorderNet Virtualized SBC includes both IP level and session level tracing, media capture and recording. It also includes SOAP/XML and bulk loading of interface configurations along with a northbound API for integration with existing BSS/OSS applications. System software upgrades can be easily accomplished through the WebUI, with the ability to roll back to an earlier software release version if needed.

Technical Specifications

Protocol Interworking

Signaling:	SIP, SIP-I, SIP-T, H.323
Other:	VLAN, IPv4, IPv6, UDP, TCP, RTP, RTCP
Network:	IPv4, IPv6, overlapped IP networks
3GPP:	Mw, Mx, Gm, Ic Interfaces

Security Features

Access Control List
Signaled pinhole media firewall
Network topology hiding for both signaling and media
Encryption support: TLS, IPsec, HTTPS, SSH, SRTP pass-through
NAT traversal
DoS and overload protection
Rate limiting
Dynamic black listing

Media Security Features

Media profiling
Rogue RTP detection
Packet rate monitoring, and limiting
Bandwidth determination and enforcement

IMS, IPX and VoLTE

Inteconnect Border Control Function (I-BCF)
Integrated Border Function (I-SBC)
Interworking Function (IWF)
SIP and SIP-I/SIP-T Interworking

Session Admission Control

License control
Inbound, outbound and aggregate call control
Session rate limit on per Peer and Interface level

Routing

Signaling:	Static Routing: Interface-Interface and Peer/Interface
	SIP Invite/3xx SIP redirect server routing
	Integration with other routing engines through SOAP and bulk routing
	Policy-based routing
	SIP Message-based routing
	Local DNS for URI to IP Address and Port mapping
	Routing resolution through external DNS (SRV, A, NAPTR)
	Load-balancing and priority-based routing
	RFC 4904 Trunk Group Routing support
	Emergency services call routing and call prioritization
	SIP URN routing
	Dynamic SIP REFER processing
Media:	Optional Media Termination
	Separation of signaling and media over VLANs
	Media NAT traversal
	Media tromboning

QoS

QoS metrics:	Packets lost, jitter inter-arrival, and latency
Policy enforcement:	DSCP and ToS marking
Traffic statistics:	Total packets and octets transferred

Media Support

Audio:	G.711, G.722,G.723.1, G.726, G.729a, G.729b, AMR-NB, AMR-WB, iLBC
Video:	H.263, H.264, MPEG4
Fax:	G.711 fax, T.38
Tones:	G.711 tones, SIP INFO, RFC 2833
Transcoding and tone interworking support:	G.711, G.722,G.723.1, G.726, G.729a, G.729b, AMR-NB, AMR-WB, G.711 tones, SIP INFO, RFC 2833

NOTE: BorderNet Virtualized SBC implements integrated software-based transcoding without needing additional DSP resources.

Scalability

Base Configuration – per instance

Maximum Session Attempts Capacity:	30 sessions per second (signaling and media)
Maximum Sessions:	1,000 sessions
Transcoding:	Up to 100 transcoding sessions
Access:	Up to 5,000 subscribers
VLANs:	128
IP Addresses:	128 (signaling and media)
SIP Interfaces:	64

High Capacity Configuration – per instance

Maximum Session Attempts Capacity :	200 sessions per second (signaling and media)
Maximum sessions:	8,000 sessions
Transcoding:	Up to 250 transcoding sessions
Access:	Up to 64,000 subscribers

Management

Integrated web-based management (https) dashboard and analytics

Business and engineering reports including report filtering and multi-format data export

SNMP traps

Historical and real time statistics and reports

Session Detail Records

Role based User Management

Integrated Wireshark packet and session tracing

Northbound API interface based on web technology (SOAP/XML)

Bulk provisioning

Dialogic® ControlSwitch™ System integration

- Integrated configuration and provisioning
- Integrated alarms and reporting
- Unified Call Detail Record (CDR)
- End-to-end session tracing
- EMS platform manages both BorderNet Virtualized SBC and ControlSwitch System

Interfaces (Virtual)

Signaling and Media:	Two(2) 1 Gigabit Ethernet Interfaces
Management:	One (1) Gigabit Ethernet
High Availability:	One (1) Gigabit Ethernet

Hypervisor

VMWare vSphere 5.0 or higher

Minimum Hardware Specification for Virtual Machines

Base Configuration

Server CPU: 2.4 GHz x86 64-bit Processor, 300 GB storage

Per instance – up to 2 instances

- Cores: 2
- 4GB RAM
- 80GB Storage
- Four (4) 1 Gigabit Ethernet Interfaces

High Capacity Configuration

Server CPU: 3.0 GHz Ivybridge x86 64-bit processor, 300 GB storage

Per instance – up to 2 instances

- Cores: 6
- 4GB RAM
- 80GB Storage
- Four (4) 1 Gigabit Ethernet Interfaces

For More Information

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

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For a list of Dialogic locations and offices, please visit: https://www.dialogic.com/contact.aspx

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