

Dialogic® Diva® SIPcontrol™ Software converts DSP-equipped Dialogic® Diva® Media Boards into SIP-enabled PSTN-IP gateways. The boards support a variety of TDM protocols and interfaces, ranging from analog over ISDN and QSIG with BRI and PRI interfaces to E1/T1 digital variants.

The resulting SIP gateway can be used to add rich IP communication, presence, instant messaging, and multimedia with video to traditional voice-only applications sets. The gateway creates a bridge between the SIP applications and the switch or PBX required for connection to the PSTN, allowing voice calls to be sent to and received from TDM phones.

Diva SIPcontrol translates call control information from the Diva® Media Board into SIP messages while voice channels are converted into IP packets and streamed via the RTP protocol. When Diva SIPcontrol and Diva Media Boards are combined in a Windows®- or Linux-based server, the result is a functional PSTN-IP gateway appliance with the benefits of using industry-standard hardware and operating systems and the proven reliability of dedicated telephony boards.

Diva SIPcontrol can also be used as a gateway software for Microsoft® e-phone and allows a smooth transition from there to Microsoft® Office Communications Server 2007.

Features	Benefits
Designed in accordance with Microsoft® SIP specifications and supports SIP according to RFC3261 over TCP as well as over UDP	Works with Microsoft® SIP-based applications, including Microsoft® Exchange Server 2007 with Unified Messaging and Microsoft® Office Communications Server 2007
Scales downward to support 2-, 4-, and 8-port configurations and upward to as many as 240 channels	Provides flexible deployment and can be used with analog or ISDN BRI interfaces in small-to-medium enterprises or with multiple digital E1/T1 spans in medium-to-large enterprises
Used with Dialogic® Diva® Media Boards that support major ISDN protocols, QSIG, and vendor implementations of supplementary services	Supports direct PSTN and PBX connectivity
Works with DSPs on Diva Media Boards to support voice activity detection, silence suppression, echo cancellation with up to 256 ms tail length, and anti-jitter buffering	Enables high-performance media processing
Supports DTMF fax collection/generation according to RFC2833 and fax detection, and converts to Fax over IP (FoIP) (on fax-enabled Diva Media Boards only) according to the T.38 standard (up to 33.6 kbps)	Converts DTMF fax to FoIP (and vice versa) as required
Diva Media Boards used with Diva SIPcontrol conform to plug-and-play standards and use web-based GUI for simple and straightforward configuration	Easy to install and configure
Supports SSL, TLS, MTLs, SRTP, and SIPS	State-of-the-art security functionality
Works in conjunction with Microsoft® e-phone software	Allows replacement of existing e-phone gateways, offers upgrade path towards OCS for e-phone installations

Technical Specifications

Quick Reference

Functionality	VoIP call control (SIP) Supplementary services (call hold/retrieve, message waiting, and others) FoIP (T.38 up to 33.6 kbps) (on fax-enabled Dialogic® Diva® Media Boards only) Tone processing (DTMF) Media streaming (RTP) Interface to Dialogic® HMP Software
Protocols	SIP: RFC3261, RFC4566, RFC3265, RFC3515, RFC2833, RFC4028, and others (see Supported Standards below); Fax (T.30 Group 3) and FoIP (T.38) (on fax-enabled Diva Media Boards only); Microsoft® UC specifications
Licensing	Delivered with 2 channels; licenses required for additional channels or G.729 CODEC support
Network interface	Any IPv4 Interface supported by Windows®- or Linux-based servers Diva Media Board dependent: ISDN BRI, ISDN PRI, E1, T1, analog loop start
Density	Up to four supported Diva Media Boards per system Up to 240 TDM channels per system
Operating systems	Microsoft® Windows®, Linux. Details at http://www.dialogic.com/systemreleases

Features

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

Technical Specifications *(continued)*

Features *(continued)*

- FoIP (T.38) services (on fax-enabled Diva Media Boards only)
 - T.30 Fax Group 3 up to 33.6 kbps using T.38 real-time fax over IP
 - 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 RFC 2617
- 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 features
 - 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 Diva Media Board used)
 - Voice Activity Detection and Comfort Noise Generation
- IP Media CODEC features
 - 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 on Dialogic® Diva® V-2PRI/T1-48 Media Board, Dialogic® Diva® V-2PRI/E1-60 Media Board, Dialogic® Diva® V-4PRI/T1-96 Media Board, Dialogic® Diva® V-4PRI/E1-120 Media Board
 - Comfort Noise (RFC3389)
 - Configurable packetization time between 20 ms and 200 ms (iLBC only 20 ms and 30 ms)
- Network interfaces
 - IP Version 4
 - ISDN BRI, ISDN PRI, E1, T1, analog loop start with Diva® board

Technical Specifications *(continued)*

Features *(continued)*

Supported Dialogic® Diva® Media Boards

Note: Only the listed versions of the boards are supported.

- Dialogic® Diva® BRI Media Boards
 - Diva BRI-2 PCI v2, Diva V-BRI-2 PCI v2, Diva UM-BRI-2 PCI v2
 - Diva BRI-2 PCIe v2, Diva V-BRI-2 PCIe v2, Diva UM-BRI-2 PCIe v2
 - Diva 4BRI-8 PCI v2, Diva V-4BRI-8 PCI v2, Diva UM-4BRI-8 PCI v2
 - Diva 4BRI-8 PCIe v2, Diva V-4BRI-8 PCIe v2, Diva UM-4BRI-8 PCIe v2
- Dialogic® Diva® PRI Media Boards
 - Diva PRI/T1-24 PCI v3, Diva UM-PRI/T1-24 PCI v3, Diva V-PRI/T1-24 PCI v3
 - Diva PRI/T1-24 PCIe v3, Diva UM-PRI/T1-24 PCIe v3, Diva V-PRI/T1-24 PCIe v3
 - Diva PRI/E1-30 PCI v3, Diva UM-PRI/E1-30 PCI v3, Diva V-PRI/E1-30 PCI v3
 - Diva PRI/E1-30 PCIe v3, Diva UM-PRI/E1-30 PCIe v3, Diva V-PRI/E1-30 PCIe v3
 - Diva V-2PRI/T1-48 PCI v1, Diva V-2PRI/E1-60 PCI v1
 - Diva V-4PRI/T1-96 PCI v1
 - Diva V-4PRI/E1-120 PCI v1
- Dialogic® Diva® Analog Media Boards
 - Diva Analog-2 PCI v1, Diva V-Analog-4 PCI v1, Diva UM-Analog-4 PCI v1
 - Diva Analog-2 PCIe v1, Diva V-Analog-4 PCIe v1, Diva UM-Analog-4 PCIe v1
 - Diva Analog-4 PCI v1, Diva V-Analog-8 PCI v1, Diva UM-Analog-8 PCI v1
 - Diva Analog-4 PCIe v1, Diva V-Analog-8 PCIe v1, Diva UM-Analog-8 PCIe v1
 - Diva Analog-8 PCI v1
 - Diva Analog-8 PCIe v1
- Channel density
 - Up to four Diva telephony boards per system
 - Up to 240 TDM channels per system
- Operating system requirements
 - Windows®; Linux. Details at <http://www.dialogic.com/systemreleases>
- Compatibility with
 - Standard SIP applications
 - Microsoft® Exchange Server 2007 Unified Messaging
 - Microsoft® Office Communications Server 2007
 - Dialogic® Host Media Processing Software Release 3.0 for Windows® and Dialogic® Host Media Processing Software Release 3.1LIN
 - Dialogic® Diva® System Release 8.5WIN, v8.5.4 or higher
 - Dialogic® Diva® System Release 8.5LIN, v8.5.4 or higher
 - Asterisk
 - Dialogic® Diva® softIP for SIP v2.x
 - Dialogic® Brooktrout® SR140 Fax Software
 - Microsoft® e-phone

Technical Specifications *(continued)***Features** *(continued)*

- Supported Standards
 - RFC2617 - HTTP Digest Authentication
 - RFC2833 - RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals
 - RFC3261 - Session Initiation Protocol
 - RFC3262 - Reliability of Provisional Responses in Session Initiation Protocol (SIP)
 - RFC3264 - An Offer/Answer Model with Session Description Protocol
 - RFC3265 - SIP-specific Event Notification
 - RFC3326 - The Reason Header Field for the Session Initiation Protocol (SIP)
 - RFC3389 - RTP Payload for Comfort Noise
 - RFC3398 - ISDN to SIP mapping
 - RFC3420 - Internet Media Type message/sipfrag
 - RFC3515 - REFER method
 - RFC3550 - Real-time Transport Protocol (RTP)
 - RFC3551 - RTP/AVP profile
 - RFC3711 - Secure Real-time Transport Protocol (SRTP)
 - RFC3842 - Message Waiting Indication for SIP
 - RFC3891 - SIP “Replaces” header
 - RFC3892 - SIP Referred - By Mechanism
 - RFC3951 - Internet Low Bit Rate Codec (iLBC)
 - RFC3952 - Real-time Transport Protocol (RTP) Payload Format for internet Low Bit Rate Codec (iLBC) Speech
 - RFC4028 - Session Timers in SIP
 - RFC4497 - Interworking between SIP and QSIG
 - RFC4566 - Session Description Protocol (SDP)
 - RFC4568 - SDP Security for Media Streams
 - Draft: Diversion Indication in SIP (draft-levy-sip-diversion-08)

Order Information

Dialogic® Diva® Software	Order Code
Diva SIPcontrol 8 CH SW license	M03-060
Diva SIPcontrol 24 CH SW license	M04-060
Diva SIPcontrol 30 CH SW license	M05-060
Diva SIPcontrol 48 CH SW license	M06-060
Diva SIPcontrol 60 CH SW license	M07-060
Diva SIPcontrol 96 CH SW license	M08-060
Diva SIPcontrol 120 CH SW license	M09-060

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