

BOSÂNOVA IP Telephony LAN/WAN Gateways

IP Telephony Solutions for Integrating Distributed Telephony Systems and Data Networks



Overview

The BOSÂNOVA™ IP Telephony LAN/WAN Gateways seamlessly integrate telephone/fax systems with your IP network in a single, superior quality solution. The result: decreased communication costs as toll-free long-distance calls are placed over your TCP/IP network, and dramatic reduction of telephony equipment costs by creation of an optimal communication environment that supports all functionality provided by the existing PBX, such as IVR, call forwarding, conferencing, and customizable recorded messages. The BOSÂNOVA Gateways are available as FXO and FXS analog gateways as well as E1/T1 PRI digital gateways. They feature browser-based installation and management software, call security, and a flexible infrastructure to enable customers to add modules and channels as the enterprise grows.

Advantages

- 1 Guarantees high voice quality based on patent-pending QoS algorithms, even over public WANS such as the Internet
- 2 Enables 5-minute gateway installation aided by an intuitive installation wizard, and includes self-learning techniques for streamlined equipment expansion
- 3 Features centralized, browser-based management and simple-to-use configuration menus for single-point administration of calling parameters, user lists, and security definitions
- 4 Provides optimized interoperability based on the standard H.323 V.3 protocol to work with other H.323 compatible terminals, gateways, and gatekeepers, such as Microsoft NetMeeting, Cisco, AudioCodes, RADVision via IP Enhanced Communication Server, and others
- 5 Offers a flexible codec licensing scheme enabling “mix-and-match” of supported codecs (G.723.1, G.729A, G.711 A-law / μ -law and NetCoder®) to satisfy specific customer requirements and scaled pricing
- 6 Supports a wide range of applications enabled by the convergence of the voice and data networks, including call encryption, recording, monitoring, and statistics

Create an Optimal Communication Environment

A BOSÂNOVA Gateway is installed at each location (e. g. branch office), providing PBX functionality and high quality phone-to-phone, PC-to-phone, PC-to-PC and fax communications for a smarter, more efficient network. Each BOSÂNOVA Gateway can handle multiple calls simultaneously and can be configured to route calls dynamically according to traffic loads and the most cost-efficient path. For example, a worker at a branch office dials to an outside party or to an extension at your company's main office. The branch office gateway transports the call over a router to the BOSÂNOVA Gateway at your main office. The second gateway routes the call to the local PBX, thus avoiding long distance telephone charges.

Ease of Installation

For those that are familiar with IP Telephony gateways, the BOSÂNOVA LAN/WAN Series provides a refreshing and dramatic change from the current offering. Simple and secure access, provided via a standard Web browser, enables installation within minutes. The Disconnect Signal Analyzer Wizard allows the most complex configuration parameters to be set (such as identification of on-hook signals in FXO gateway installations) using a sequence of tab-through screens wherein a single parameter is required: the numbers of two extensions that are connected to the gateway.

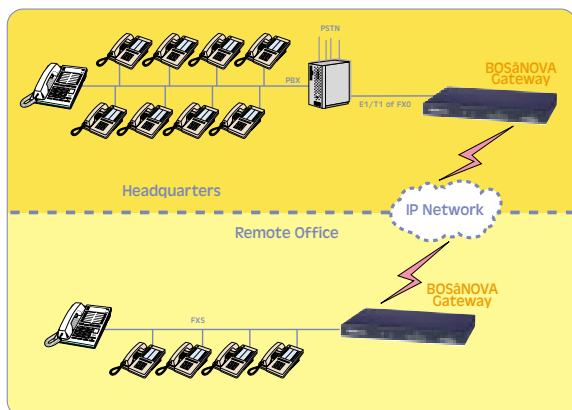
To simplify the installation and avoid errors, a unique algorithm broadcasts information about the newly installed gateway to all the other BOSÂNOVA IP Telephony family members on the network.

Optimized Interoperability Based on Standard Protocols

The BOSÂNOVA Gateways support the H.323 protocol and the following codecs: G.723.1, G.729A, G.711 A-law / μ -law and NetCoder®. This wide variety allows matching of the codec to the available bandwidth, as well as interoperability with equipment from other manufacturers – even if they support only one codec.

Fax support is provided by the implementation of the T.38 protocol. Quick establishment of calls is afforded by the implementation of the fast connection protocol in H.323.

BOSÂNOVA IP Telephony solutions integrate your distributed telephony networks to create a unified system



Browser-based configuration and monitoring tools simplify and centralize administrative activities

Unique Algorithms Guarantee Call Quality, Even Over Public WANs

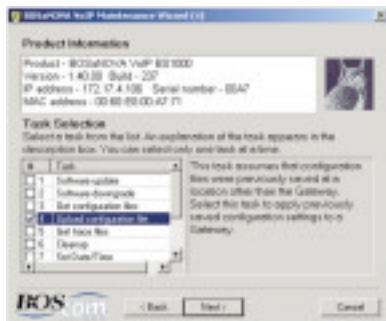
Call quality is preserved even over public WANs (such as the Internet) using unique patent-pending algorithms. The Company's proprietary technology provides built-in redundancies whereby packets are sent via multiple routes to ensure delivery and to improve QoS—even when QoS level degrades or the network malfunctions.

Built-in Gatekeeper Reduces Total Cost of Ownership (TCO)

BOSÂNOVA Gateways are interoperable with external H.323 gatekeepers, although for most gatekeeper applications the built-in gatekeeper in the BOSÂNOVA Gateways supplies sufficient functionality. This attribute eliminates the need for an external gatekeeper, dramatically reduces the network maintenance requirements, and improves network robustness by eliminating a single point of failure.

Remote Monitoring and Control for Efficient Installation and Maintenance

The remote monitoring and control system simplifies both the installation and maintenance of the gateways, since it allows problems to be localized and identified. The system's design allows it to be monitored remotely yet securely, enabling remote upload of new versions, version maintenance, traces, and collection and analysis of statistics regarding gateway operation and calls/network quality. The administrator can choose to store gateway configuration files on the network from a remote workstation, and then download them to a local PC. Gateway configurations can be exchanged or duplicated by simply copying and transferring the required configuration file over the network to the new gateway.



The Maintenance Wizard enables upload of new versions, version maintenance, traces, and other administrative tasks to be performed remotely yet securely.

Secure and Information-Rich Communication Environment

BOSâNOVA Gateways are protected against hackers and other non-authorized personnel due to the implementation of SSH (Secure Shell). The BOSâNOVA Gateways maintain a log of errors and activities, and produce a detailed CDR message at the end of every conversation. This message includes (in addition to the standard data, such as who called whom, length of conversation, etc.) statistical information about the call quality.

Technical Specifications

Operating Environment

Physical layer (Gateway): Ethernet/Fast Ethernet (10/100Base-T)

Operating System: HardHat Linux

Digital Trunk Specifications

	E1 PRI	T1 PRI
Number of PRI interfaces	1 or 2	1 or 2
Maximum voice channels	60	46 (CCS)
Network clock rate	2048 kbps + 50 ppm	1544 kbps + 50 ppm
Line impedance	CEPT 75/120 ohm	100 ohm
En-block and overlap phone number sending support	Yes	Yes
Signalling Supported	European-wide ISDN signalling: <ul style="list-style-type: none"> • EuroISDN • VN6 • 1TR6 • QSIG 	USA carriers ISDN signalling: <ul style="list-style-type: none"> • Nortel DMS-100 • National ISDN-2 • NTT • KDD • QSIG • Hong Kong Tel. • AT&T 5ESS • AT&T 4ESS

Analog Trunk Specifications

	FXS	FXO
Maximum voice channels	4, 10, 15, 30	4, 8
Line impedance	600 ohm	600 ohm; 900 ohm; complex

IP Telephony Specifications

Compliant with: ITU H.323 Version 3

Voice codec support (including silence suppression): NetCoder®, G.711 A-law/ μ -law, G.723.1, G.729

Fax support: T.38

Echo cancellation: ITU G.165

Bandwidth (dependent upon Codec):

Codec Name	Bandwidth (kbit/sec)	Quality (MOS)	Latency (msec)
G.711	6.4	Excellent (4.5)	20
G.723.1	6.3	Good (3.8)	30
G.729	8	Good (4.2)	10
NetCoder	6.4	Good (4.2)	20

Configuration and Management

Initial Configuration: RS-232 connection or using external keyboard and PC display for IP address configuring

Main Configuration and Monitoring: Browser-based (Java-driven), configuration and monitoring application

Diagnostic and Maintenance: Win32-based Maintenance Wizard application

Ports

1	LAN (Ethernet 10/100): RJ-45
2	E1/T1 line: RJ-45
3	RS-232 line: 9-pin COM
4	External Keyboard: standard PC/2 keyboard connector
5	External Monitor: 15-pin VGA

LED Indicators: Power; Gateway activity; Diagnostic; Channels; LAN activity 10/100 MHz (back panel)

General Specifications

Power Requirements: 1W–14W, typical 11W

Operating Temperature: 0°C–40°C (32°F–104°F)

Storage Temperature: -40°C–75°C (-40°F–167°F)

Operating Humidity: 10% – 90% non-condensing

Dimensions: 17.2" / 43.7 cm (W); 1.64" / 4.16 cm "1U" (H); 10" / 25.4 cm (D) [13" / 33 cm]*

Weight: 4 lbs / 1.8 kg [6 lbs / 2.7 kg]*

Ordering Information

Part No.	Description
BV1004	BOSÂNOVA FXS 4-port Gateway
BV1010	BOSÂNOVA FXS 10-port Gateway
BV1015	BOSÂNOVA FXS 15-port Gateway
BV1030	BOSÂNOVA FXS 30-port Gateway
BV1104	BOSÂNOVA FXO 4-port Gateway
BV1108	BOSÂNOVA FXO 8-port Gateway
BV2001	BOSÂNOVA E1 PRI Gateway
BV2002	BOSÂNOVA 2xE1 PRI Gateway
BV2101	BOSÂNOVA T1 PRI Gateway
BV2102	BOSÂNOVA 2xT1 PRI Gateway

Warranty

Hardware: 1 year

Software/Firmware updates: 90 days

Telephone Support: 90 days, for installation and configuration

* FXS 10, 15, 30 elongated

European Headquarters

BOS House Meridian East
Meridian Business Park
Leicestershire LE19 1WZ
United Kingdom
Tel: +44 116 282 0600
Fax: +44 116 282 0601
sales@boseurope.com

France

Le Central 1
Batiment 440
La Courtine Mont d'Est
93194 Noisy le Grand Cedex
Tel: +33 1 43 05 51 03
Fax: +33 1 43 05 08 56
bosfrance@boseurope.com

US Distributor

Pacific Information Systems, Inc.
10230 SW Hall Blvd
Portland, Oregon
97223
Tel: (503) 290-2113
Fax: (503) 244-5300
sales@boscom.com

Corporate Headquarters

Rabin House
Teradion Industrial Park
D.N. Misgav 20179
ISRAEL
Tel: +972 4 9907555
Fax: +972 4 9990334
sales@boscom.com

www.boscom.com

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