

# RVS IPVgate-20B

## BRI VoIP Gateway Router



Integrating digital telephony, fax and data over broadband Internet, with standard SIP support



- 4/8 ISDN lines (2/4 BRI) over any broadband Internet connection, using SIP
- Built-in PSTN backup line (lifeline)
- Multilayered Quality-of-Service (QoS) to ensure business quality telephone calls
- Built-in VPN (IPSec) server to create enterprise virtual networks
- Fully interoperable with leading vendors' SIP-based equipment
- Integrated WiFi (802.11g, 802.11b)

IPVgate-20B is a cost-effective, cutting-edge, standalone ISDN VoIP gateway, fully interoperable with leading soft switches and SIP servers.

IPVgate-20B is part of RAD VoIP System (RVS) that includes class-5 softswitch, CPEs and media gateways (IPVgate family), sophisticated management system (IPVsuite-200) and prepaid/postpaid billing solutions (IPVsuite-Billing).

The device employs superior voice technology for connecting legacy telephones, fax machines and PBX systems to IP-based telephony networks, as well as for integrating into new IP-based PBX architecture.



# IPVgate-20B

## BRI VoIP Gateway Router

As an intelligent communications center IPVgate-20B is designed to handle all office or home connectivity needs. With its superior QoS mechanism, IPVgate-20B presents a business class solution for today's emerging broadband access services.

IPVgate-20B handles telephony, Internet, security networking (internal network LAN and WAN), communications, and access to both telephony and data services using an integrated ADSL2+ modem.

The device allows fast and reliable transition of the customer's Telecom lines into next generation VoIP-based solutions.

### VOIP SIP SUPPORT

IPVgate-20B connects to any other SIP device by just dialing its number.

Fax machines connected to the unit benefit from high quality T.38 support for effective and reliable fax transmissions.

Generating call quality information for the IPvsuite integrated management system IPVgate-20B tracks and analyzes quality of the service.

### VPN

Branch offices can be easily and securely connected to the HQ using the built-in VPN IPSec server/client. Utilizing a 3DES encryption algorithm and up to 10 tunnels per device, IPVgate-20B transparently connects enterprise LANs to a single virtual WAN.

### ISDN TELEPHONY

Compliant with most ISDN PBXs, IPVgate-20B generates Q.931 signaling and provides supplementary services such as Time, DDI/DID (Direct Dial-In/Direct Inward Dialing), MSN (Multiple Subscriber Numbering), CLIR (Caller-ID Restriction) and CLIP (Caller-ID Presentation).

A dual-purpose synchronization/backup BRI interface allows cascading of units and clock synchronization, which is essential for high-standard PBX operation.

### ADDITIONAL ANALOG FXS PORT

IPVgate-20B is supplied with one regular analog FXS port that enables the user to bypass the PBX trunk by connecting a fax machine directly to the IPVgate-20B.

### WIFI INTERFACE

The optional WiFi interface uses an internal WiFi adapter with dual antennas. The WiFi adapter provides wireless Ethernet access at rates of up to 54 Mbps, compatible with IEEE 802.11g, or up to 11 Mbps compatible with IEEE 802.11b.

To achieve maximum reliability, throughput and connectivity, the IEEE 802.11g data rate is automatically and dynamically scalable to 48, 36, 24, 18, 12, 9 and 6 Mbps.

The encryption mode is user-selectable: in addition to no encryption which can be used to build a public access point, IPVgate-20B also provides various wireless data encryption options.

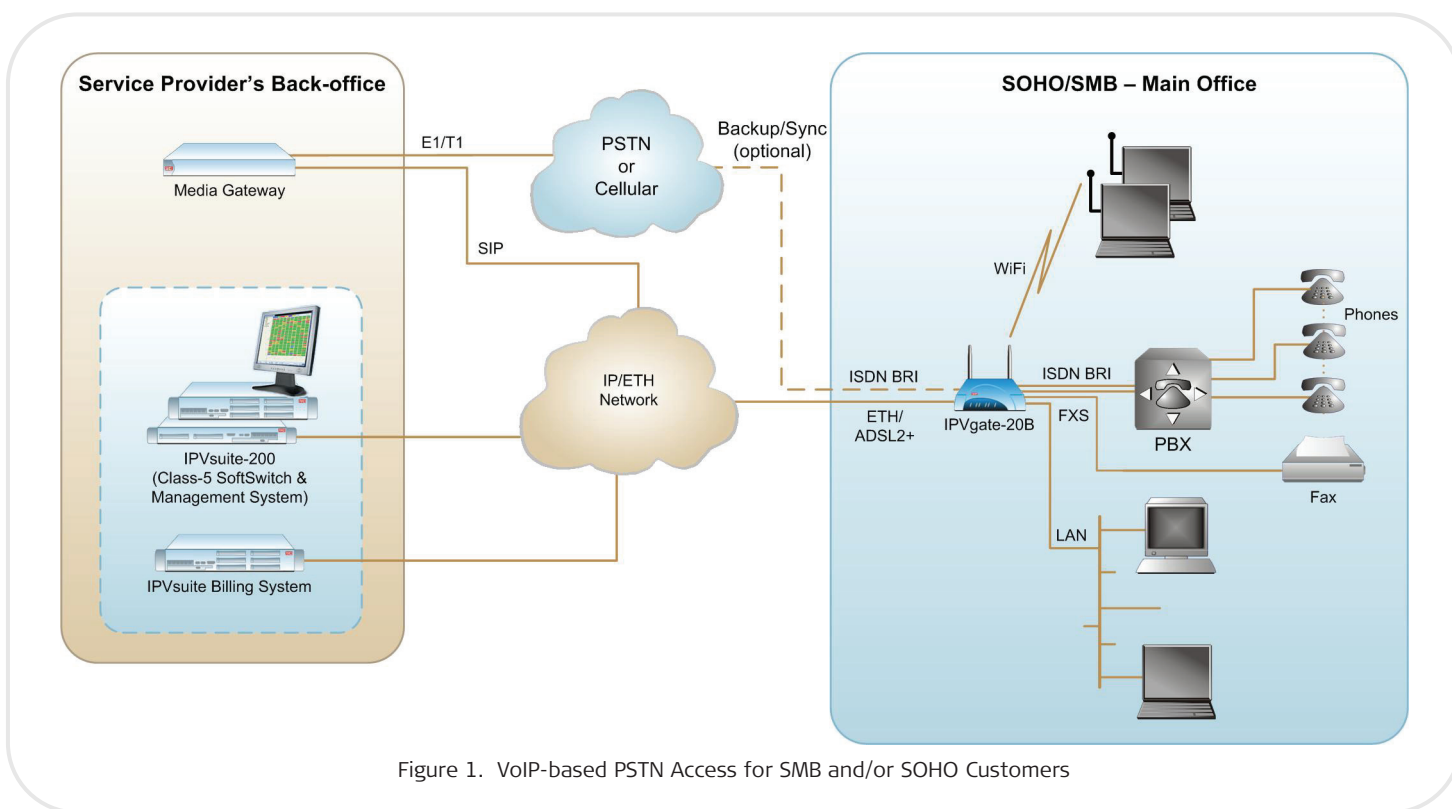


Figure 1. VoIP-based PSTN Access for SMB and/or SOHO Customers

## Specifications

### NETWORK INTERFACE

#### WAN

Ethernet 10/100BaseTX  
ADSL2+ Annex A (ADSL over analog)  
ADSL2+ Annex B (ADSL over ISDN)

#### LAN

4 Ethernet ports 10/100BaseTX  
auto-sensing auto-crossover switch

#### Connectors

Ethernet: RJ-45  
ADSL: RJ-11

#### ADSL2+ Modem

Supports Multimode Standard  
ADSL2 ITU G.992.3 Annex A/B (G.dmt.bis),  
ITU G.992.4 Annex A/B (G.lite.bis)  
ADSL2+ ITU G.992.5 Annex A/B  
Up to 8 PVCs  
F4/F5 OAM  
Supports VC-based and LLC-based  
multiplexing

### DATA TRANSFER PROTOCOLS

IPv4  
Router with NAT/NAPT  
Static Route  
RIP II  
DHCP Client/Server  
RDATE (SNTP via IPv6 suite-200)  
PPPoE  
PPPoA, IPoATM (ADSL version)

### SECURITY

#### VPN

IPSec server/client with tunnel IP-filtering

#### Firewall

Stateful Packet Inspection (SPI)

### TELEPHONY

#### Number of Lines

4 or 8 digital lines (2/4 BRI, 4-wire S0  
interface) each terminated in RJ-45  
connector  
1 analog line (FXS) terminated in RJ-11  
connector

#### BRI Protocols

Layer 1: I.430  
Layer 2: Q.921, LAP-D (I.441)  
Layer 3: Q.931 (I.451)  
Country Variance:  
North America: National ISDN-2  
Euro ISDN: ETSI NET 3  
France: VN2, VN3  
Germany: ITR6  
Austria: TSO13.1

#### Features

BRI synchronization line for cascading  
BRI backup line to PSTN  
Call progress tones per country  
(dial-tone, busy tone, ringing tone)  
ISDN supplementary services:

- DDI/DID (Direct Dial-In/Direct Inward  
Dialing)
- Digit stripping
- MSN (Multiple Subscriber Numbering)
- Caller-ID, Time display
- CLIR and CLIP support

#### VOICE OVER IP

SIPV2 based (RFC 3261)  
SDP (RFC 3264)  
UDP/RTP packets (RFC 1889)  
Silence suppression  
Echo cancellation G.168  
Voice Activity Detection (VAD)  
Comfort Noise Generation (CNG)  
Dynamic jitter buffer

#### Fax/Modem

T.38 compliant Group-3 fax relay  
Fax bypass  
Modem pass-through

#### Compression

G.711  
G.723.1  
G.729A

#### QoS

ToS  
Diffserv  
Upstream priority  
ATM QoS UBR/CBR/VBR  
Multiple PVCs

### WIFI INTERFACE

#### Compliance

IEEE 802.11g  
IEEE 802.11b

#### Operating Band

2.4 GHz, channels 1 to 11

#### Antennas

Two 5 dBi antennas, polarity adjustable in  
±90 degree range around vertical axis

#### Transmission Rate

Up to 54 Mbps, with automatic dynamic  
scaling to 48, 36, 24, 18, 12, 9 or  
6 Mbps (IEEE 802.11g)  
Up to 11 Mbps (IEEE 802.11b)

#### Security

Wired Equivalent Privacy (WEP)  
WiFi Protected Access (WPA)  
WiFi Protected Access 2 (WPA2)  
WPA + WPA2 modes

### MANAGEMENT

Quick-install Web page  
Remote ADSL line quality monitoring  
Fully managed by IPv6 suite-200 integrated  
management and provisioning system  
SSH CLI Management  
SFTP server  
SYSLOG  
Remote update/upgrade

### GENERAL

#### External Power

100-240 VAC, 50/60 Hz

#### Physical

Height: 4.85 cm (1.9 in)  
Width: 21.8 cm (8.6 in)  
Depth: 19.1 cm (7.5 in)  
Weight: 0.875 kg (1.9 lb)

#### Environment

Operating Temperature: 5° to 40°C  
(41° to 104°F)  
Storage Temperature: -25° to 70°C  
(-77° to 158°F)  
Humidity: Up to 90%, non-condensing

# IPVgate-20B

## BRI VoIP Gateway Router

### Ordering

IPVgate-20B/\*/\$/#

*Legend*

- \* Number of voice ports:  
**2ISDN** 2 BRI ports (4 voice channels)  
**4ISDN** 4 BRI ports (8 voice channels)
  
- \$ Uplink:  
**ADSL** ADSL2+ Annex A  
**ADSLB** ADSL2+ Annex B  
**ETH** Ethernet
  
- # WLAN Interface (Default=No WLAN interface):  
**WiFi** WiFi interface






### SUPPLIED ACCESSORIES

- External wall mounted +5 VDC power supply
- Two RJ-45 straight cables (for connecting ISDN phones or PBX)

### OPTIONAL ACCESSORIES

- IPVgate-20B-48V**  
Additional wall-mounted 48 VDC power supply for ISDN phones (Phantom Feed)
- CBL-ISDN/CROSS**  
Standard ISDN crossover cable for backup, synchronization and unit cascading applications

Table 1. IPVgate Family Comparison Table

					
Uplink Ports	ADSL2+ or ETH	ADSL2+, ETH or SFP	ADSL2+ or ETH	ADSL2+, ETH or SFP	ADSL and ETH
User Ports	2 FXS	2/4 FXS	2/4 BRI, 1 FXS (Fax)	8/20 SIP Clients, 2 FXS	1 PRI E1/T1
LAN Ports	4 (ETH Switch)	4 (ETH Switch)	4 (ETH Switch)	4 (ETH Switch)	1
Simultaneous Calls	2	2/4	4/8	2/4 External calls	30/23
PSTN Backup Line	-	-	+	-	+
PBX Sync Ports	N/A	N/A	+	N/A	+
WiFi Option	+	+	+	+	-
PSTN Termination GW	-	-	-	-	+
VPN (IPsec/3DES)	-	+	+	+	+
VLAN Tagging	+	+	+	+	-
PBX Features	-	Basic (4-FXS model only)	-	Advanced (IP-PBX)	-

**International Headquarters**  
 24 Raoul Wallenberg Street  
 Tel Aviv 69719, Israel  
 Tel. 972-3-6458181  
 Fax 972-3-6498250, 6474436  
 E-mail market@rad.com



12 avenue des prés  
 78059 St Quentin en Yvelines  
 Tel: 33 (0)1 77 55 03 00  
 Fax: 33 (0)1 30 44 11 95  
 E-mail: sales@cbnetworks.fr



**data communications**  
 The Access Company