

RVS

IPVgate-20A

SMB Analog VoIP Gateway Router



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



- Two or four FXS ports over any broadband Internet connection, using SIP
- G.729A or G.723.1 voice compression algorithms
- Dynamic bandwidth allocation using voice activity detection and silence suppression
- Multilayered Quality-of-Service (QoS) for business quality telephone calls
- Built-in VPN (IPSec) server for enterprise virtual networks
- Fully interoperable with leading vendors' SIP-based equipment

IPVgate-20A is a cost-effective, cutting-edge, standalone analog VoIP gateway, fully interoperable with leading softswitches and SIP servers.

IPVgate-20A is part of RAD VoIP System (RVS), that includes class-5 softswitch, CPEs and media gateways (IPVgate family), a 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.



data communications

The Access Company

IPVgate-20A

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

IPVgate-20A handles telephony, Internet, security networking (internal network LAN and WAN), communications and access to both telephony and data services using an integrated ADSL2+ modem, Ethernet WAN port or fiber optic interface (SFP interface).

IPVgate-20A provides full telephone line replacement to allow fast and reliable transition of the customer's Telecom lines into the next generation VoIP-based solutions.

VOIP SIP SUPPORT

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

Fax machines connected to IPVgate-20A benefit from high quality T.38 support, which assures effective and reliable fax transmissions.

IPVgate-20A generates call quality information to the IPvsuite management station to track and analyze the QoS.

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-20A creates transparent connectivity of enterprise LANs into a single virtual LAN.

Note: IPVgate-20A devices with 2 FXS ports support 2 tunnels.

LAN INTERFACE

The LAN ports have Ethernet 10/100Base-Tx interfaces. Port operating rate and mode are determined by autonegotiation. An internal Ethernet switch provides local bridging between the LAN ports to support the local users, and also provides IP routing services.

FAILSAFE SUPPORT

IPVgate-20A performs SIP fail backup by DNS number resolving.

When a central SIP server fails to respond, IPVgate-20A accesses the operator or enterprise DNS server to resolve the IP address of the VoIP trunking gateway or of another end-point device.

IPVgate-20A is also available with an ADSL2+ modem, to provide ADSL line monitoring and re-routing all traffic information to a backup router (e.g., ISDN router) upon connectivity failure.

TELEPHONY

IPVgate-20A has two or four analog voice/fax channels with FXS interfaces for POTS service, for connecting the user's legacy telephones, fax machines and PBX systems directly to the IPVgate-20A device. Each FXS interface provides feed current, on-hook/off-hook detection and ringing to the user equipment. The FXS ports also provide near-end echo canceling per ITU-T Rec. G.168.

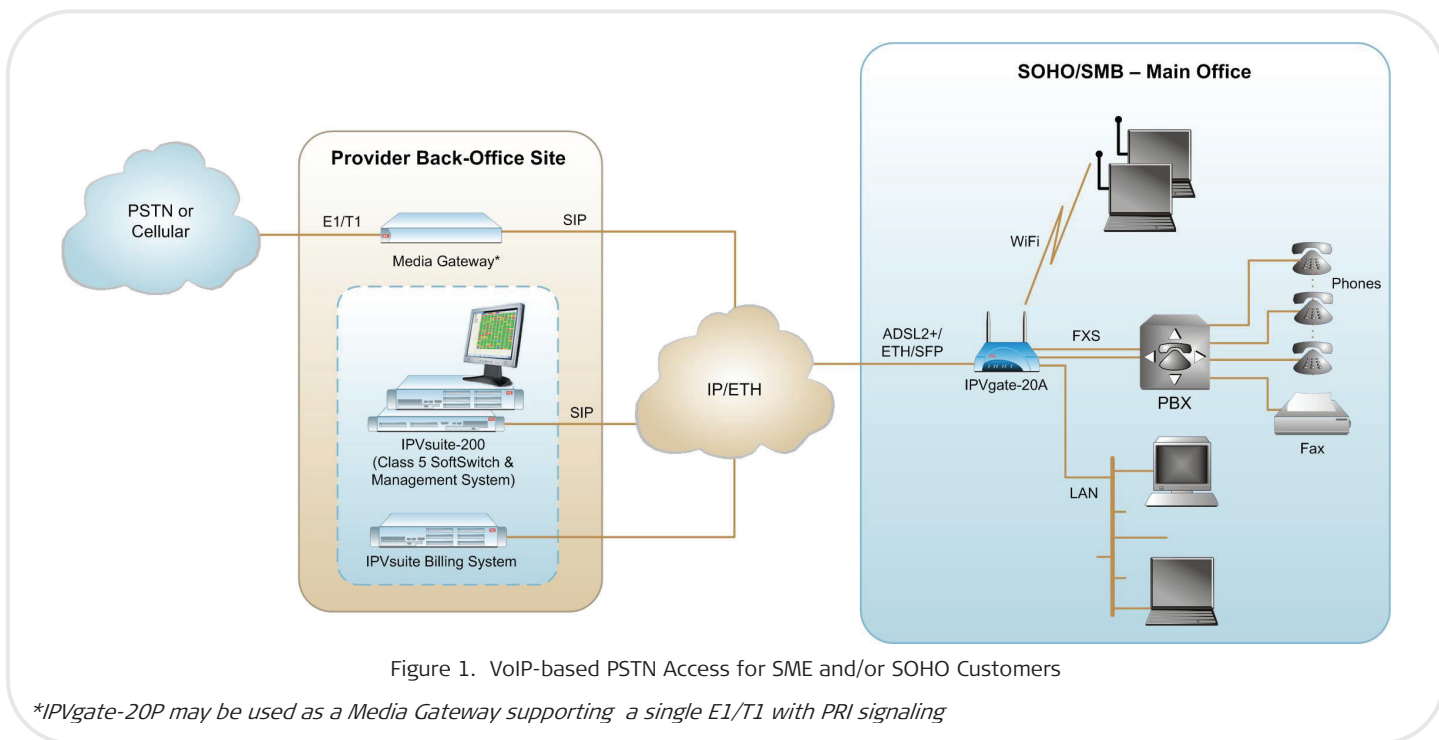


Figure 1. VoIP-based PSTN Access for SME and/or SOHO Customers

*IPVgate-20P may be used as a Media Gateway supporting a single E1/T1 with PRI signaling

IPVgate-20A employs advanced technology to provide a full range of telephony services over IP-based telephony networks as well as to integrate into new IP-based PBX architecture. IPVgate-20A features advanced service capabilities such as CLIR (caller ID restriction), CLIP (caller ID presentation) and hotline number. The IPVgate-20A basic PBX functionality includes conference call, hold and transfer, simultaneous ringing and call pickup features.

WiFi INTERFACE

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

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-20A also provides various wireless data encryption options.

Specifications

NETWORK INTERFACE

WAN

Ethernet 10/100BaseTX
ADSL2+ Annex A (ADSL over analog)
ADSL2+ Annex B (ADSL over ISDN)
SFP slot for fiber interfaces (up to 100 Mbps)

Note: For detailed information on SFP modules, refer to the SFP Transceivers datasheet.

LAN

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

WiFi (optional)

IEEE 802.11g
IEEE 802.11b

Connectors

Ethernet: RJ-45
ADSL: RJ-45/RJ-11

ADSL2+ Modem

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
VC-based and LLC-based multiplexing

DATA TRANSFER PROTOCOLS

IPv4
Router with NAT/NAPT
Static Route
RIP II
DHCP client/server
RDATE (or SNTP via IPVsuite-200)
PPPoE
PPPoA, IPoATM (ADSL version)

SECURITY

VPN

IPSec server/client with tunnel IP-filtering
Number of tunnels:
4 FXS – up to 10 tunnels
2 FXS – up to 2 tunnels

Firewall

Stateful Packet Inspection (SPI)

TELEPHONY






Number of Lines

2 or 4 analog FXS

Connectors

RJ-11

Table 1. IPVgate Family Comparison Table

	 IPVgate-20L	 IPVgate-20A	 IPVgate-20B	 IPVgate-30	 IPVgate-20P
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)	-

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Features

- Call waiting
- Call progress tones per country
- DTMF detection
- Extension-to-extension call
- Extension-to-VoIP call
- Call hold
- Call transfer
- 3-way conference
- Call pickup
- Hotline number
- Music on hold

Ring Voltage

65-90 VAC

Caller ID

- Type II
- CLIR
- CLIP

Basic PBX Functionalities

- Extension-to-extension call
- Extension-to-VoIP call

VOICE OVER IP

- SIPv2 based (RFC 3261)
- SDP (RFC 3264)
- UDP protocol/RTP packets (RFC 1889)
- Silence suppression
- Echo cancellation G.168
- Voice Activity Detection (VAD)
- Comfort Noise Generation (CNG)
- Dynamic jitter buffer
- DTMF detection and generation
- Modem and fax tone detection
- Multiple SIP number support
- Multiple channel support

Fax/Modem

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

Compression

- G.711
- G.723.1
- G.729A

QoS

- Diffserv
- ToS
- 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 IPVsuite-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

Ordering

IPVgate-20A/*/\$/#

Legend

- * Number of voice ports:
 - 2FXS 2 voice ports
 - 4FXS 4 voice ports
- \$ Uplink:
 - ADSL ADSL2+ Annex A
 - ADSLB ADSL2+ Annex B
 - ETH Ethernet
 - SFP SFP (empty slot, up to 100 Mbps)
- # WLAN interface (Default=No WLAN interface):
 - WiFi WiFi interface

SUPPLIED ACCESSORIES

- External wall mounted +5 VDC power supply
- Analog RJ-11 telephony cables

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



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