Advanced Layer 3 and 2 features

Extensive IP routing and Ethernet functionalities with advanced QoS mechanisms

Data protection with IPSEC encryption and firewall security
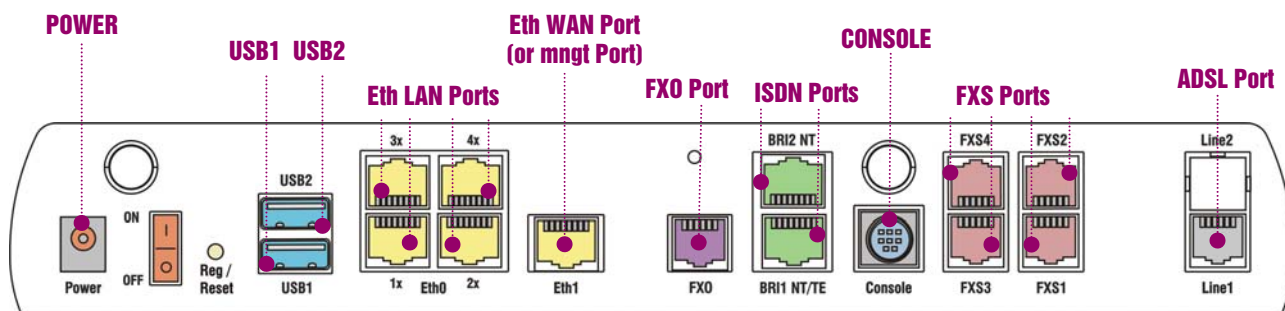
Next Generation Networks Introduction

Ideal solution for integrating high-quality voice and data services over IP networks

Up to 4 simultaneous voice calls FXS & ISDN BRI mix

All-in-One solution

ADSL2+ , Ethernet IAD and IP-PBX functionalities into a single and integrated device

Cutting edge devices with state-of-the-art technology

High performance and Feature-rich IAD

Based on next generation single-chip solution, the BG1242 provides best-in-class quality voice and high routing performances to perfectly match the requirements of business applications. Feature-rich in terms of available interfaces and functionalities, the IAD is able to manage several concurrent applications assuring steady and reliable sessions thank to its powerful processing capacity.

Emergency Backup & Fast Provisioning

The USB 2.0 high power ports allows emergency backup and/or fast provisioning using a 3G dongle. Moreover, the USB ports can be used to share throughout the LAN USB devices as printers and media storage.

High-speed Wireless Connectivity

The optional WiFi-AP module compliant to 802.11b/g/n standards offers the convenience and mobility of wireless connectivity. Wireless security protocols include Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA1 and WPA2), WPS and IEEE 802.1x authentication.

Powerful Configuration and Management

Configuration, firmware upgrades and troubleshooting of BG1242 can be performed locally and remotely thus providing Network Administrators with the maximum flexibility to connect remote branch offices and teleworkers to the corporate networks at the minimal costs of supervision & operation.

LED Indicators

- Power /Ready
- FXS (1-4)
- ISDN (1-2)
- USB (1-2)
- Eth0 (1-4)
- Eth1
- Wi-Fi
- Line/Internet

Physical Interfaces

- 4-port FXS with RJ-11connectors
- 2-port ISDN-BRI with RJ-45 connectors
- 1-port FXO (factory option)
- 4-port 10/100bT Ethernet switch with RJ-45 connectors (Eth0)
- 1-port 10/100bT Ethernet with RJ-45 connectors (Eth1)
- 1 port ADSL line with RJ-11connectors
- 1-port console with MiniDIN 8P connector
- 2-port USB 2.0 host (high-power)

ADSL Network Interface

- ADSL2/2+ interface
  - ITU-T G.992.1 (ADSL1)
  - ITU-T G.992.3 (ADSL2)
  - ITU-T G.992.5 (ADSL2+)
  - T1.413 Issue 2
  - Downstream line rate: up to 24 Mbps
  - Upstream line rate: up to 1 Mbps, up to 3.5 Mbps with Annex M
  - ITU-T G.997.1

WiFi Interface (Factory option)

- IEEE 802.11b/g
- WEP encryption (64/128-bit)
- WPA1 and WPA2
- WPS
- IEEE 802.1x authentication
- MAC filtering

Voice Interfaces

- FXS
  - Compliant to Q.552 requirements
  - Port impedance: real 600ø or complex Euro values
  - Low distortion ringing voltages
  - Diagnostic features

Voice Processing

- Voice Codes
  - ITU-T G.711 (A-law, µ-law)
  - ITU-T G.729a
  - Transparent pass-through
- ITU-T G.165/G.168 echo cancelation
- Voice Activity Detection and Comfort Noise Generation
- RTP/RTCP (RFC 1889)
- 4 Voice Channels VoIP

Signalling

- Euro ISDN EDSS-1 / ETSI BRI/NET3
- ETS 300 125 (ITU-T Q.921)
- ETS 300 102-1 (ITU-T Q.931)

- SIP 2.0 according to RFC 3261 (TCP or UDP transport)
- En-block and Overlap sending
- ISDN speech, audio and data (Fax Gr 4, UDI 64, RDI 64)
- DTMF detection and carrying (RFC2833), DTMF info
- Local Generation of
  - Dial tone
  - Ring back tone (180 Ringing reply)
  - Call Waiting tone- Busy tone
  - Fast Busy tone

Fax and Modem Support

- T.38 fax relay
- Automatic G.711 Fax and Modem Pass-Through

Supplementary Services[1]

- Locally managed[2] or Softswitch-based
  - Call hold
  - Consultation call
  - Call waiting
  - Call forwarding
  - Caller Identity Presentation (CLIP), DTMF and FSK based
  - Identity restriction
  - Call transfer
  - 3party conference (FXS only)

IP Functions

- IP Routing
  - RIP v1/v1c/ v2, BGP, OSPF
  - Enhanced Network Address and Port
  - Translation (NAPT) engine, with multiple
  - ALGs (including SIP, TFTP and H.323)
  - DHCP Server/Client/Relay, DHCP Learning
  - Multicast IGMP v1/v2/v3, PIM-SM, Static
- Routing Filtering Redistribution
- Firewalling
  - Extended Access Lists
  - Stateful Packet Inspection including Denial of Service attacks
- IP Services
  - DNS proxy
  - DDNS client
  - VPN (GRE, IP, PPTP server/client)
  - IPSec with DES, 3DES and AES
  - ICMP, IGMP snooping, Telnet, TFTP
  - Layer 3 QoS according to DiffServ model (RFC2474, RFC2475)
  - Priority based queuing (Absolute Priority, WFQ, RED)
  - Extensive monitoring, tracing and troubleshooting facilities

Ethernet Services

- Self Learning Bridge with up to 1k MAC addresses and automatic ageing
- Full-Duplex IEEE 802.3x
- Half-Duplex back pressure flow control
- Automatic MDI/MDI-X crossover
- Broadcast/Multicast storm protection
- VLANs (802.1Q and 802.1p) port based management
  - Tag/Re-Tag/Untag
  - Trunking (VLAN multiplexing)
  - Priority based queuing

ATM

- Services
  - Up to 8 VCCs
  - Class of Services (CBR, VRB-rt, VBR-nrt, UBR+, UBR)
  - Voice and Data packets over different VCCs (VC bundling)
  - Selective CLP marking
  - F4/F5 OAM cells, AIS and RDI
- Access protocols
  - IP over AAL-5, Ethernet over AAL-5 (RFC2684)
  - PPP over AAL-5 (RFC2364)
  - PPP over Ethernet (RFC2516)
  - LLC/SNAP and VC encapsulation

Authentication

- PAP/CHAP/MS-CHAPv1 and v2 authentication
- Basic and Digest schemes (RFC2617)

Management & Configuration

- Password Protected Access
  - 2 login levels + configurable privilege access right
  - AAA and local authentication & TACACS+
- Local Management
  - Console port
  - Extensive CLI
- Remote Management
  - CLI (internal Telnet Server)
  - HTTP (embedded WEB Server)
  - HTTPS (embedded Secure HTTP WEB Server)
  - SNMP Agent (v1, v2c, v3)
  - SSH
  - Syslog
  - Network Performance Monitor
  - Ping MIB
  - TR-069*
- Firmware upgrades: Local and Remote (TFTP & FTP client embedded)

Environment

- Operating Temperature: -5° ÷ 45°C (23° ÷ 113°F)
- Non-Operating Temperature: -40° ÷ 70°C (-40° ÷ 158°F)
- Operating Humidity: 10 ÷ 93% (noncondensing)

Compliance & Approvals

- Storage: ETSI EN 300 019-2-1 T 1.3
- Transportation: ETSI EN 300 019-2-2 T 2.3
- Operating Conditions: ETSI EN 300 019-2-3 T 3.2
- EMC: EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3
- Protection: ITU-T K.21
- Safety: EN 60950-1

Power

- External AC/DC main adapter
- Input voltage from 100 to 240 Vac

Notes

1 Supplementary Services management is not yet fully standardised by international bodies and their implementation could be subject to revisions

2 Depending on the specific service, a common implementation between the IAD and the Softswitch needs to be agreed

*TR-069 available under license