

# Enter the Era of Converged Networks



**Transform Your Network**

# One Platform, Versatile

## Ubigate™ Intelligent Business Gateway Series



Leadcom Integrated Solutions Ltd. is an international leader in the provision, implementation and management of telecommunication network deployment services and solutions for global telecom vendors, operators and major enterprises.

Traded on the AIM in London, Leadcom employs over 1,800 professionals and operates in nearly 50 countries, with regional headquarters in the Americas, Europe, Asia and Africa. Leadcom is a truly global system integrator and a value added reseller of telecommunication solutions and equipment.

Leadcom's multi-vendor discipline is bundled with our various expertise and independent development abilities. These capabilities, combined with our strong relations with the world's leading vendors, enable our customers to enjoy a perfect solution in the highest of standards. Global footprint and local presence are immediately conveyed via available help-desk and support, carrying the experience and know-how accumulated world wide. Leadcom's presence and familiarity with local markets ensures the smooth integration and ongoing support of any project performed, to the highest level.

Leadcom is a partner to Samsung Enterprise Division, delivering the Ubigate™ iBG Series, as part of our innovative solutions for medium and large enterprises. With full routing capabilities, enterprise-class switching capacity, VoIP and best-in-class integrated security, the Samsung Ubigate iBG Series Convergence Platform replaces a multitude of special-purpose network devices and delivers an agile and efficient network infrastructure. The Ubigate iBG Series enables true enterprise voice and data convergence through a wide range of QoS features and support for both analog/digital and IP phones.

With wide range of features and network interfaces supported in the Ubigate iBG Series, enterprise customers can meet today's business needs and be confident that they can meet tomorrow's without the need to replace current equipment. The platform's integrated security provides industry's best perimeter for all types of traffic, including voice, by inspecting all incoming and outbound traffic and blocking intruders. Whether your organization requires support for VoIP, new mission-critical applications or just additional bandwidth, we can meet the challenge and give you a competitive advantage with higher productivity and more rapid growth.

### WAN



The Ubigate iBG Series offers a wide range of WAN interfaces such as Serial, ISDN, T1/E1, T3, Metro Ethernet, etc, and one of the industry's highest WAN port densities. In addition, the platform's MPLS support lets you utilize this technology to improve network processing speed and efficiency.

### LAN



The Ubigate iBG Series' flexibility means that enterprise customers can replace separate workgroup switches at branch offices or distribution switches at large offices. The Ubigate iBG Series offers a 44-port triple-speed L2/L3 Ethernet module as well as a 10-port triple-speed L2/L3 option module. Ubigate's architecture simplifies network implementation without limiting flexibility.

### Security



The Ubigate iBG Series' Integrated Security Module (ISM) delivers maximum security for enterprises. When ISM's security functions - IPS/IDS coupled with Desktop agent, Gateway Anti-Virus, Anti-Spam, URL Filtering and Secure connectivity through VPN module, Ubigate iBG Series offers best-in-class and most comprehensive security protection.

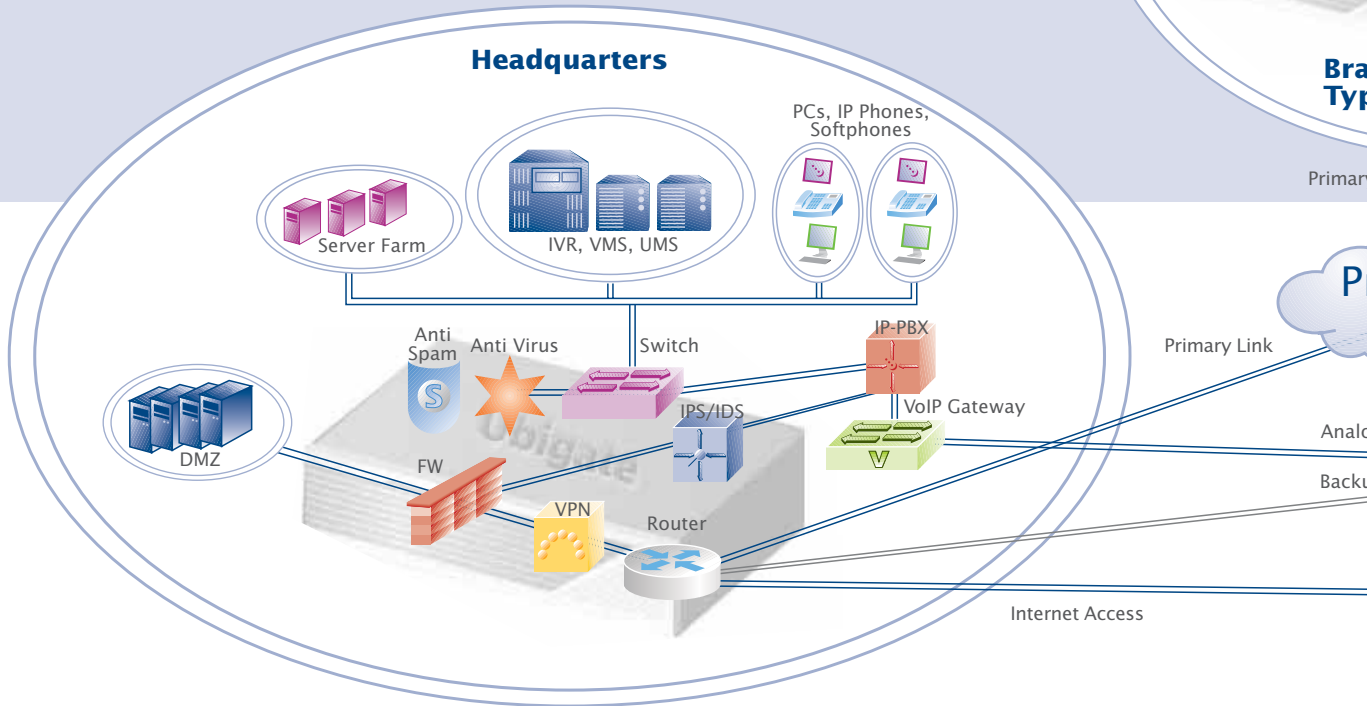
### VoIP



A wide range of QoS functions and voice interfaces for FXS, FXO, and E&M deliver the optimal configuration for VoIP deployment. For customers transitioning from traditional analog voice to IP telephony, Ubigate also provides an interim solution that eases the transition.

The optimal choice for converged networking

# Solutions



**Delivering more than one way to offer high performance, capacity and resiliency at a competitive price**

**Ubigate iBG Series Convergence Platform will change the way you do business and deliver significant value in higher customer satisfaction, easy collaboration and increased productivity.**

#### **Ubigate iBG3026** | for Large Offices, Regional Offices and Headquarters

The highest performance member of the Ubigate iBG Series, the Ubigate iBG3026 meets the needs of the large branch and regional offices or headquarters operations. It can support WAN connections of up to two T3 and six T1/E1 links, or up to 14 T1/E1 links at line rate. To ensure highest availability, the Ubigate iBG3026 has an optional slot for a second, redundant internal power supply. When coupled with the Integrated Security Module (ISM), Ubigate iBG3026 provides the most comprehensive security features in its class.

#### **Ubigate iBG2016** | for Medium Branch Offices and Mid-Range Enterprises

The Ubigate iBG2016 is designed for medium-to-large branch offices and mid-sized companies. With an available Network Module slot, it offers the most comprehensive security in its class through the Integrated Security Module (ISM). The Ubigate iBG2016 features WAN port capacity of up to six T1/E1 and one T3 interface at line rate.

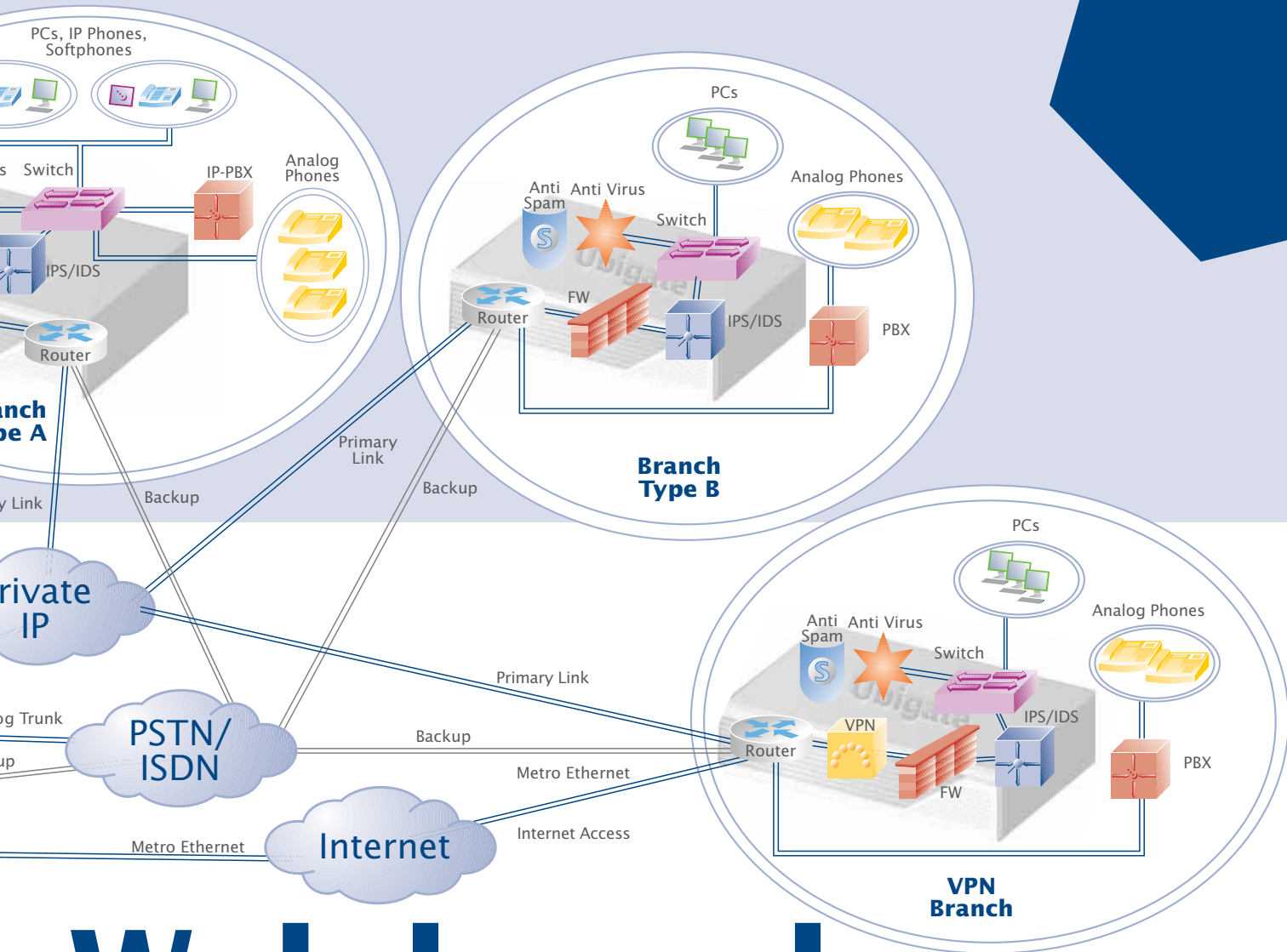
#### **Ubigate iBG2006** | for Small Branch Offices and Small Enterprises

The Ubigate iBG2006 is designed to easily accommodate the networking needs of branch and business offices. An entry-level, low-cost convergence platform with powerful performance and a comprehensive feature set, the Ubigate iBG2006 addresses the WAN, VoIP and security needs of small offices or branch offices of large enterprises. Ubigate iBG2006 supports line-rate performance for WAN port capacity of up to six T1/E1 WAN Ports.

#### **ISM (Integrated Security Module)**

The Ubigate iBG Series' comprehensive security services - delivered through the Integrated Security Module (ISM) - set the iBG Series apart from other products. With its own processing power and memory - an exclusive feature - the ISM inspects all incoming and outbound traffic, providing best-in-class perimeter security protection without performance degradation at the router level.





# Web-based Device Manager

**One Application Meets All Your Management Needs**

**A Web-based Management Application Built on Industry Standards**

The Web-based Device Manager provides complete functionality for managing the Ubigate iBG Series equipment in your network. The application includes:

- Configuration management
- Fault management
- Performance management
- Security management

**It's Never Been Easier to Configure Network Equipment**

Too often, configuring services like VoIP and network security is so complex that only highly expert administrators can carry out the steps needed to optimize network operations. The Web-based Device Manager replaces CLIs with a graphical user interface that takes the complexity out of system configuration. To further simplify configuration, the Web-based Device Manager offers an extensive selection of 'wizards' that lead administrators step-by-step through complex configurations.

**Easy Monitoring & Fast Troubleshooting**

As important as configuration is, network monitoring and problem troubleshooting are both essential for uninterrupted services. The Web-based Device Manager supports real-time status monitoring as well as graphical, chart-based performance monitoring. It also receives event alerts from managed equipment. With the visibility the Web-based Device Manager supplies, administrators can respond immediately to alarms and performance degradation. In addition, the Web-based Device Manager opens up visibility of changes in data or voice call traffic to help administrators adapt configurations for maximum performance. The Web-based Device Manager also comes with a comprehensive help function that answers most questions on the spot.



# Key Advantages

## **Simplified and Cost-Effective Installation, Operation and Maintenance**

Integration of switching, routing, VoIP, and security into one platform simplifies network maintenance and management by minimizing the number of hardware units from different vendors in the network. What brings it all together is the intuitive Web-based Device Manager for the Ubigate iBG Series. By providing central management for all Ubigate iBG Series services - including routing, switching, VoIP, and security - it lowers administrative burden and effectively reduces total network cost of ownership. And it does all this while increasing your ROI.

## **Best-in-class, Comprehensive Security**

Through the Integrated Security Module (ISM), the Ubigate iBG Series delivers comprehensive security that protects users and local area networks from both external and internal threats. The ISM inspects all incoming and outbound traffic at the router level - which is the gate to an enterprise network and the Desktop Agents blocks any internal end-points that are behaving abnormally. Moreover, unlike other network products, the ISM harnesses separate processing power and memory so that you do not have to trade security for network performance.

## **IP Telephony Made Easy**

With interfaces for analog and digital phones, and Ethernet modules with PoE for IP phones, the Ubigate iBG Series delivers flexible, business-class voice services. In addition, the Ubigate iBG Series ensures the priority of voice traffic with a wide range of QoS functionality.

## **High Availability**

Best-in-class high availability hardware and software features mean that the Ubigate iBG Series accelerates business productivity. The Ubigate iBG Series secures network availability and reduces downtime with hot-swappable modules, power supplies and fans for all models - the only product in its class to do so.

## **Price and Performance**

The Ubigate iBG Series sets industry-leading price/performance benchmarks for enterprise networking. The platform's switching, routing, VoIP and security functions deliver a significant price/performance advantage over competitive products.

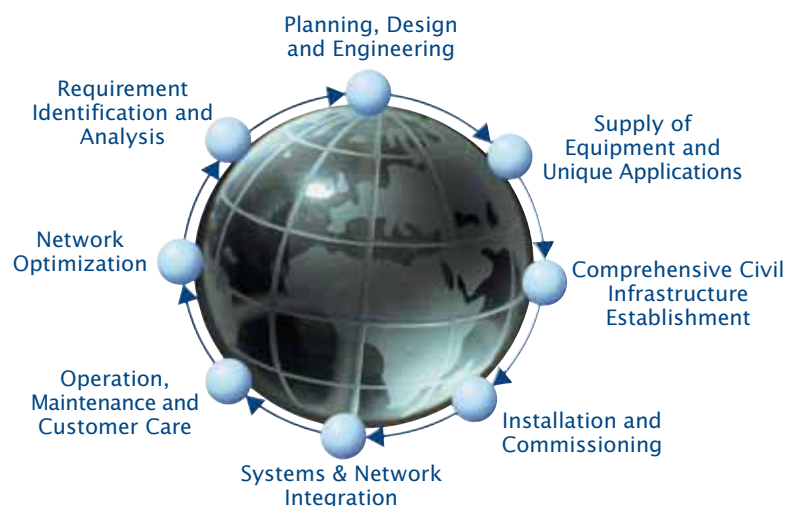
## **Investment Protection**

Featuring an architecture with performance to spare, modular design, and support for advanced features like IPv6, Metro Ethernet, and MPLS, the Ubigate iBG Series protects your investment from obsolescence and the need for short-term upgrades.

## **A Broad Product Offering**

Leadcom's commitment to match technological know-how with outstanding quality is well acknowledged in numerous awards and certificates. A multi-vendor, multi-technology company, Leadcom's success and accelerated growth in recent years is widely recognized.

Leadcom quality management and assurance system is based on ISO 9001:2000, ISO 14001, OHSAS 18001, TL 9000 and BICSI. Senior professionals make sure that all operations are in accordance with the guidelines and regulations, covering all company activities: project planning and implementation, maintenance and customer care, optimization, marketing, purchasing, logistics, human resources and quality management.



# Specifications

## Samsung Ubigate™ iBG Series Convergence Platform

### Software

#### Switch/Router Features

- L2/L3 LAN Switching
- L2/L3 Switching
  - IPv4/IPv6\* Switching
  - Line-Rate at FE
- Layer 2 Protocols
- VLAN (802, 1q, Port, Protocol, Subnet, Policy Based), GARP/GVRP
  - Multiple STP (Support Backward Compatibility with STP & RSTP)
  - Port Mirroring
  - 802.1x Authentication
  - IGMP Snooping
  - LACP\*, GMRP\*

- WAN Protocols
- ISDN BRI/PRI, HDLC
  - FR/MLFR, PPP/MLPPP, PPP/MCPPP over ISDN
  - FR Congestion Management and Traffic Policing DDR (Dial-on Demand Routing)
  - PPP over Ethernet\*
  - PPP Payload Compression and Encryption\*
  - Routing Protocols and Transparent Bridging over ISDN\*
  - FR over ISDN\*
  - ISDN Supplementary Services\*
  - IP Header Compression over FR\*
  - LQM, BAP/BACP (RFC2125)\*
  - LCP Internationalization Option\*

- Routing Protocols
- Static Routing, OSPF v1/v2, RIP v1/v2, BGP4, IGMP v1/v2
  - PIM-SM/DM\*, DVMRP, IGMP v3\*, PIM-SSM\*
  - VRRP
  - Policy-Based Forwarding/Routing

- MPLS\*
- Signaling: LDP, RSVP-TE
  - MPLS Fast Reroute (One-to-one Backup)
  - L2 VPN (Martini), L2 VPN (VPLS)
  - L3 VPN (BGP/MPLS)
  - MPLS QoS (E-LSP)
  - MPLS-TE
    - RFC2702, RSVP-TE, Strict/Loose ER-LSP, OSPF-TE, CSPF
  - Traffic Engineering
    - MPLS DS-TE, MPLS-TE (IS-IS), Fast Reroute, IPv6 over MPLS
  - MPLS Load Balancing
    - Load Balancing in Tunnels

- Quality of Service
- DiffServ
    - Classification (MF, Flow Label)
    - Marker/Meter (sr TCM/trTCM)
    - Policing/Shaping
    - Queuing (CBQ/PQ)
    - Scheduling (Deficit RR)
    - Congestion Avoidance (WRED)
  - Bandwidth Guarantee, SLA, Hierarchical QoS, Auto QoS\*
  - LF&I
  - Mapping of IPQoS to Frame Relay
  - QoS for FR PVC and MPLS LSPs\*
  - LLQ for IPsec Encryption Engine
  - Diffserv MIB/QoS Configuration via SNMP\*
  - Deep Packet Inspection for Classification\*
  - Bandwidth Guarantee in MPLS DS-TE Tunnel\*

- Load Balancing
- Per Flow (ECMP, LACP\*)
  - Per Packet\*

- IPv6\*
- H/W Forwarding in LAN Switching
  - Dual Stack
  - Configured Tunnel
  - 6t04, NAT-PT (ALG)

- IPv6\*
- Routing (RIPng, OSPFv3, BGP4+)
  - PIMv6-SM, PIMv6-SSM
  - MLD

- Management
- SNMP v1/v2/v3, RMON (1, 2, 3, 9), CLI, Telnet
  - SNTP, TFTP, Bootp, DHCP, SCP
  - SSHv2, SSH over IPv6\*
  - Web-based Device Manager, MIBs
  - Logging & Reporting, Diagnostic
  - System Image Rollback, Hot-Swap Handling\*

- AAA Client
- 802.1x
  - RADIUS
  - TACACS+

#### Voice Gateway Features

- System Interface and Signaling
- Analog FXS, E&M, FXO
  - Analog DID (Direct Inward Dial)
  - BRI Q.931
  - T1-CAS E&M, FXO, FXS
  - E1-CAS R2 MFC/DTMF
  - T1/E1 ISDN PRI Q.931, T1/E1 Q.SIG
  - T1 R1
  - CAMA Trunk

- System Features
- PSTN Fallback, Survivable Telephony
  - Call Admission Control (CAC)
  - FAX over IP
  - Distinctive Dial Tone, Distinctive Ring
  - Number Analysis and Routing
  - Local Voice Busy Out (LVBO)
  - DTMF Signaling over IP
  - Early Media Handling
  - Private Line Automated Ringdown (PLAR)
  - Audible/Visible MWI for Analog Phone

- Supplementary Services
- Caller ID/Name, Call forwarding, Call Hold/Retrieve, Call Pickup, Call Transfer, Call Waiting, Incoming Call Blocking

- Protocols
- SIP, H.323, RTP/RTCP, cRTP, S/MIME, sRTP
  - VoIP over IPv6 (SIP, H.323, RTP)\*
  - HTTP Digest Authentication

- DSP Features
- Codec: G.711, G.723.1, G.726, G.729 A/B
  - Echo Cancellation (G.168-2002)
  - Comfort Noise Generation (CNG)
  - Voice Activity Detection (VAD)
  - Tone - MF/DTMF
  - Tone - Dial, Ringback, Busy, Congestion, Wait, Hold, Progressing, Howling, Programmable, etc.

#### Security Features

- Firewall
- Stateful Packet Inspection
  - SIP ALG
  - NAT (Static, Dynamic, PAT)
  - Application Content Filtering
    - Block Java Based on Extension
    - Block URLs Based on File Extensions
    - Blk ActiveX Based on Extensions
    - FTP's Protocol Command Filtering
    - SMTP's Protocol Command Filtering
    - RPC Program Number Filtering
  - Attack Defense (Protection for 60+ Attacks)
    - DoS/DDoS Protection
    - Fragment Attack
    - IP Spoiling

- Firewall
- Multiple Security Zone (DMZ)
  - Rate Limiting
    - Maximum Connections per Policy Basis
    - Connection Creation Rate per Policy Basis
    - Bandwidth per Policy Basis

- VPN
- IPsec for Site to Site
  - IPsec for Remote Access
  - IPsec
    - Protocols: ESP, AH, AH over ESP
    - Encryption: DES-CBC, 3DES-CBC, AES-CBC (128, 192, 256)
    - Hashing: HMAC-SHA1, HMAC-MD5
  - IKE
    - Authentication: Pre-shared, RSA/DSA Signatures, Xauth
    - Modes: Main, Aggressive, Quick
    - Offse-Hellman Group; Group 1 (MODP 768) Group 2 (MODP 1024), Group 5 (MODP 1536)
    - Encryption: DES, 3DES, AES (128, 192, 256)
    - Hosting: SHA1, MD5
  - L2TP, GRE, NAT Traversal
  - PKI Support (SCEP, Manual, CRL, OCSP)
  - SSL VPN\*

- Internal Security AAA, 802.1x, ACL, MAC Address Filtering

- ISM
- IPS/IDS
    - Signature Based Detection and Prevention
    - Behavior Based Detection and Prevention
    - Number of Signatures: 2,000+
    - DoS/DDoS Attack Defense
    - Automatic Signature Update
    - Traffic & Number of Connections Limitation
  - Gateway Anti-Virus
    - Protocol Protected: FTP, SMTP, POP3
    - Inbound/Outbound Inspection
    - Inspect Compressed Files (ZIP, ARJ, JAR, CAB, RAR, LZH, LHA, TAR, GZ, TGZ, ACE)
    - Automatic Virus Databased Update
  - Anti Spam
    - DoS/DDoS Attack Defense
    - Relay, Black List, Bomb Mail Protection
    - Content Based Filtering
    - Signature (MIME, Header Filter), Keyword Filtering (Linear/regular Expression Search), Attached File Virus SCAN, Domain/ID Protection
  - URL Filtering
    - User Definable
    - ICEC (Information Communication Ethics Committee), URL List
  - Various Traffic & Intrusion Logs and Reports
  - High Availability
    - Module Bypass (Health Check)

- Management
- Web-based Device Manager
  - SNMP, Reporting, Logging (Syslog)

- Certification\*\*
- |          |                      |
|----------|----------------------|
| Firewall | ICSA, CC             |
| VPN      | ICSA, FIPS 140-2, CC |
| IPS      | CC                   |

Specifications are subject to change without prior notice

\* Future released \*\* in progress

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