

# Key Features

Ubigate™ iBG Series Convergence Platform



Integration of L2/L3 switching, advanced routing, including IPv6, voice and security in one platform

Modular design and highest performance in its class

Complete security functions for protection from both internal and external threats

- Firewall, VPN, IPS

Full support for voice

- Switching Modules with Optional PoE for IP Phones or WLAN Access Points
- Voice Interfaces (FXS, FXO, E&M) for Analog Voice
- SIP ALG

High-availability features

- Hot-swappable Modules, Fan, and Power Supply
- Internal Redundant Power Supply
- VRRP
- Integrated Security Module Bypass
- Dial-on-demand Routing

## 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 Samsung's 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. Moreover, unlike other network products, the ISM harnesses separate processing power and memory so that you don't have to trade security for network performance.

## IP Telephony Made Easy

With interfaces for analog 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 - 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 and Metro Ethernet, the Ubigate™ iBG Series protects your investment from obsolescence and the need for short-term upgrades.

Hardware Specification		 iBG2006	 iBG2016	 iBG3026
Platform	DRAM (Default / Max)	512M/1G	512M/1G	512M/1G
	Flash (Default / Max)	256M/512M	256M/512M	256M/512M
	Number of Console Ports	1	1	1
	Number of Aux Ports	1	1	1
	Number of USB (v1.1) Ports	1	1	1
	Number of Ethernet Management Ports	-	-	1
	Number of Fixed 10/100/1000Mbps UTP / GE SFP Ports	-	-	2/2
	Number of Fixed 10/100Mbps UTP / FE SFP Ports	4/1	4/1	-
	Number of Mini Module Slots	4	4	3
	Number of Network Module Slots	-	1	2
	Number of Compact Flash Slots	1	1	1
	Number of Internal Slots	2	2	2
	Form Factor	1 RU	1 RU	2 RU
Number of Power Supply Slots	1	1	2	
Physical	Weight	5.46Kg(MPU+PSU)	6.42Kg (MPU+PSU) 7.76Kg : (MPU+PSU+LMG-20+Mini Module4)	10.72Kg (MPU+PSU) 12.72Kg : (MPU+PSU+[LMG-20x2]+Mini Module3)
	Height	1.75inch (4.45cm)	1.75inch (4.45cm)	3.5inch (8.89 cm)
	Width	17.38inch [Rack-Mounting Brackets included : 17.561inch (44.6cm)]	17.38inch [Rack-Mounting Brackets included : 17.561inch (44.6cm)]	17.38inch [Rack-Mounting Brackets included : 17.561inch (44.6cm)]
	Depth	13.8 inch(35.05cm)	16.5inch (41.91 cm)	16.5inch (41.91 cm)
	Rack-Mounting	Yes : 19- and 23-inch options	Yes : 19- and 23-inch options	Yes : 19- and 23-inch options

## Software Specification

### Switch/Router Features

		iBG2006	iBG2016	iBG3026
<b>LAN Switching</b>	L2 Switching	•	•	•
	L3 Switching	X	•	•
	IPv4 Switching	•	•	•
	IPv6 Switching	future	•	•
<b>Layer 2 Protocols</b>	VLAN(802.1q, Port, Subnet)	•(Subnetx)	•	•
	Multiple STP (Support Backward Compatibility with STP & RSTP)	•	•	•
	Port Mirroring	•	•	•
	802.1x Authentication	•	•	•
<b>WAN Protocols</b>	IGMP Snooping	•	•	•
	LACP	X	•	•
	ISDN BRI/PRI	•	•	•
	HDLC FR/MLFR, PPP/MLPPP, PPP/MLPPP over ISDN	•	•	•
	FR Congestion Management and Traffic Policing	•	•	•
	DDR (Dial-on Demand Routing)	•	•	•
<b>Routing Protocols</b>	PPP over Ethernet	•	•	•
	PPP over FR	future	future	future
	MLPPP over FR	future	future	future
	Static, OSPF v1/v2, RIP v1/v2, BGP4	•(BGP(future))	•	•
<b>Quality of Service</b>	IGMP v1/v2/v3	•	•	•
	PIM-SM, PIM-SSM	•	•	•
	VRRP	•	•	•
	Policy-Based Forwarding / Routing	•	•	•
	DiffServ			
	- Classification (MF, Flow Label)			
	- Marker / Meter (srTCM / trTCM)			
	- Policing / Shaping	•	•	•
	- Queuing (CBQ, PQ)			
	- Scheduling (Deficit RR)			
- Congestion Avoidance (WRED)				
<b>Load Balancing</b>	Bandwidth Guarantee, Auto QoS	•	•	•
	LF&I	•	•	•
	Mapping of IPQoS to Frame Relay	•	•	•
	Queueing for IPsec Encryption Engine	•	•	•
<b>IPv6</b>	Per Flow (ECMP, LACP)	•(LACP x)	•	•
	Per Packet	•	•	•
	H/W Forwarding in LAN Switching	X	•	•
	Dual Stack	future	•	•
<b>Management</b>	Configured Tunnel	future	•	•
	6to4, NAT-PT(ALG)	future	future	future
	Routing (RIPng, OSPFv3, BGP4+)	future	•	•
	PIMv6-SM, PIMv6-SSM	future	•	•
	MLD (Multicast Listener Discovery Protocol)	future	•	•
	SNMP v1/v2/v3, RMON (1, 2, 3, 9), CLI, Telnet	•	•	•
<b>AAA</b>	SNTp, TFTP, Bootp, DHCP, SCP	•	•	•
	SSHv2, SSH over IPv6	•(IPv6(future))	•	•
	Web-based Device Manager, MIBs	•	•	•
	Logging, Diagnostic System Image Rollback	•	•	•
<b>Hot-swap Handling</b>	Hot-swap Handling	future	•	•
	802.1x	•	•	•
	RADIUS	•	•	•
	TACACS+	•	•	•

### Security Features

		iBG2006	iBG2016	iBG3026
<b>Firewall</b>	Stateful Packet Inspection	•	•	•
	SIP ALG	•	•	•
	NAT (Static, Dynamic, PAT)	•	•	•
	Application Content filtering			
	- Block Java based on extension			
	- Block URLs based on file extensions			
	- Block ActiveX based on file extensions	•	•	•
	- FTP's protocol command Filtering			
	- SMTP's protocol command Filtering			
	- RPC program number Filtering			
<b>VPN</b>	Attack Defense (Protection for 60+ attacks)			
	- DoS/DDoS Protection	•	•	•
	- Fragment Attack			
	- IP Spoofing			
<b>Internal Security</b>	Multiple Security Zhone (DMZ)	•	•	•
	Traffic Scheduling	•	•	•
	Rate Limiting			
	- Maximum connections per policy basis	•	•	•
<b>ISM</b>	- Connection creation rate per policy basis			
	- Bandwidth per policy basis			
	IPSec for Site to Site	•	•	•
	IPSec for Remote Access	•	•	•
<b>Certification</b>	IPSec			
	- Protocols : ESP, AH, AH over ESP			
	- Encryption : DES-CBC, 3DES-CBC, AES-CBC (128, 192, 256)	•	•	•
	- Hashing : HMAC-SHA1, HMAC-MD5			
	- Modes : Tunnel, Transport, Config Mode			
	IKE			
	- Authentication : Preshared, RSA/DSA Signatures, Xauth			
	- Modes : Main, Aggressive, Quick			
	- Diffie-Hellman Group : Group 1 (MODP 768), 2 (MODP 1024), 5 (MODP 1536)	•	•	•
	- Encryption : DES, 3DES, AES (128, 192, 256)			
- Hash : SHA1, MD5				
<b>Supplementary Services</b>	L2TP, GRE	•	•	•
	PKI Support (SCEP, Manual, CRL, OCSP)	•	•	•
	IPSec NAT Traversal	•	•	•
	AAA, 802.1x, ACL	•	•	•
<b>DSP Features</b>	MAC Address Filtering			
	IDS/IPS			
	- Signature based Detection & Prevention			
	- Behavior Based Detection & Prevention			
<b>Protocols</b>	- Number of signatures : 2,000+	X	•	•
	- DoS/DDoS Attack Defense			
	- Online Signature Update			
	- Traffic & Number of connections limitation			
<b>Real Time Monitoring</b>	Real Time Monitoring	X	•	•
	Various Traffic & Intrusion Logs and Reports	X	•	•
	High Availability - Module Bypass (Health Check)	X	•	•
	Firewall - ICSA, CC	future	In progress	In progress
<b>Certification</b>	VPN - ICSA, FIPS 140-2, CC	future	In progress	In progress
	IPS - CC	X	In progress	In progress

### Voice Gateway Features

		iBG2006	iBG2016	iBG3026	
<b>System Interface and Signaling</b>	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	•	•	•	
	<b>Systems Features</b>	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 MMI for Analog Phone		•	•	•	

		iBG2006	iBG2016	iBG3026
<b>Supplementary Services</b>	Caller ID/Name	•	•	•
	Call Forwarding	•	•	•
	Call Hold / Retrieve	•	•	•
	Call Pickup	•	•	•
<b>Protocols</b>	Call Transfer	•	•	•
	Call Waiting	•	•	•
	Incoming Call Blocking	•	•	•
	SIP, RTP/RTCP, cRTP, S/MIME, TLS, sRTP	•	•	•
<b>DSP Features</b>	VoIP over IPv6 (SIP, H.323, RTP)	future	•	•
	HTTP Digest Authentication	•	•	•
	Codec : G.711, G723.1, G.726, G.729 A/B	•	•	•
	Echo Cancellation (G.168-2002)	•	•	•
<b>Real Time Monitoring</b>	Comfort Noise Generation (CNG)	•	•	•
	Voice Activity Detection (VAD)	•	•	•
	Tone - MF/DTMF	•	•	•
	Tone - Dial, Ringback, Busy			
<b>Protocols</b>	Congestion, Wait, Hold	•	•	•
	Progressing, Howling			
<b>Real Time Monitoring</b>	Programmable, etc.			



Experience   
the Power of Ubigate™  
Transform Your Network



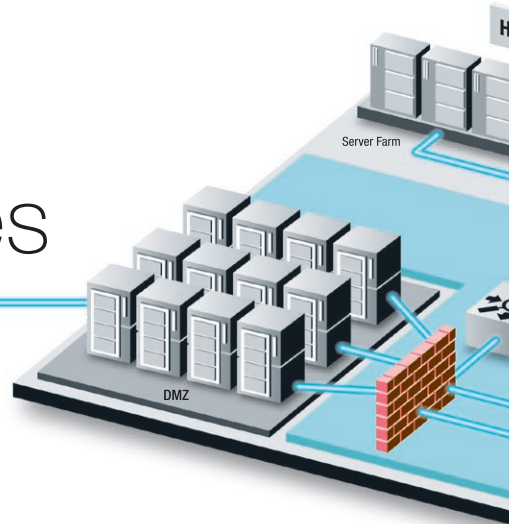
# One Platform,

Versatile Solutions  
Ubigate™ Intelligent Business Gateway (iBG) Series



The right choice for unified networking -

# Ubigate™ iBG Series



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 supports both analog and IP phones.

With a 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 'forklift' replacement of current equipment. The platform's integrated security provides industry's best perimeter and end-point protection 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, Ubigate™ iBG Series 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, and Metro Ethernet, etc. and one of the industry's highest WAN port densities.

## 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. Samsung's architecture simplifies network implementation without sacrificing flexibility.

## Security

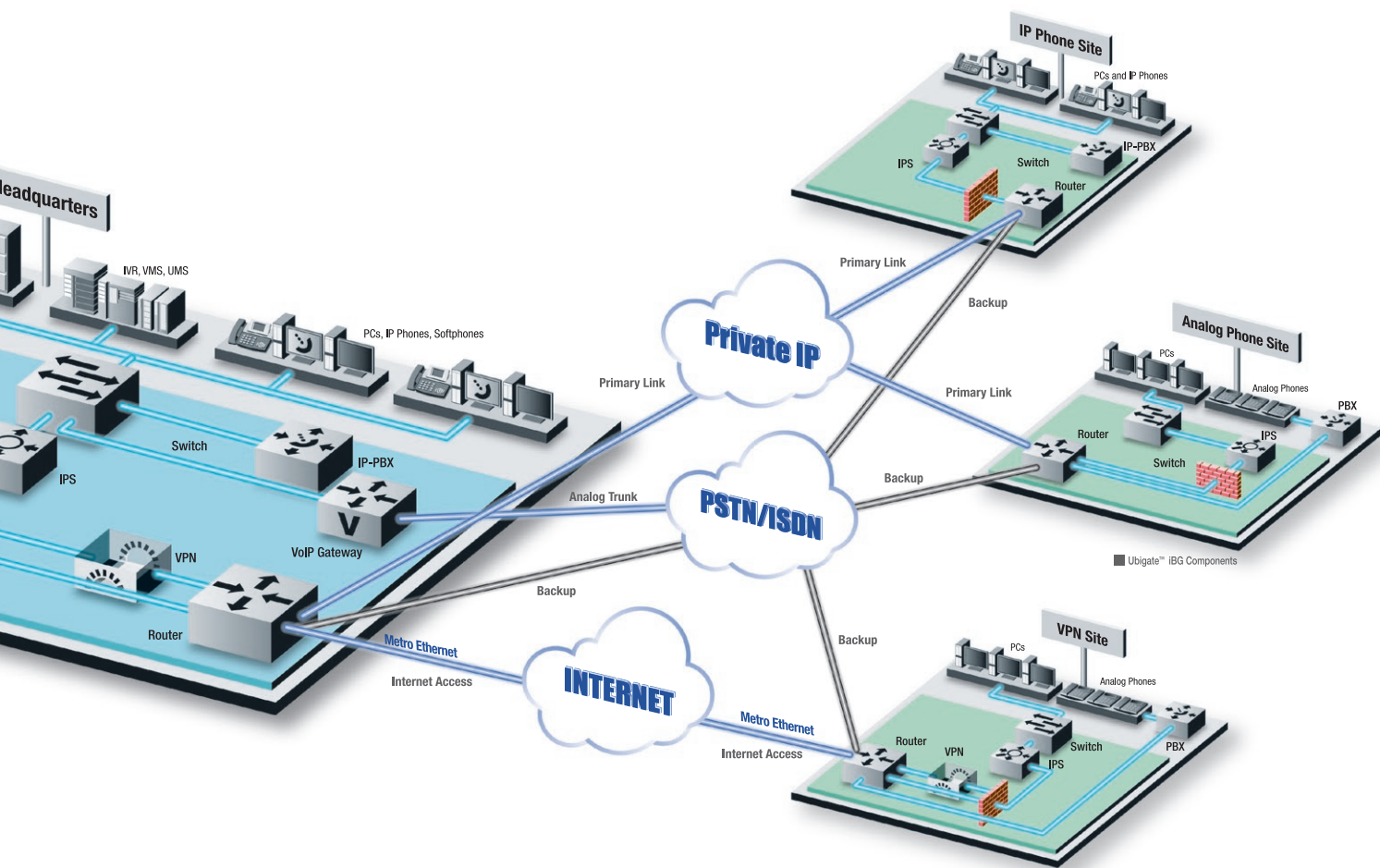


The Ubigate™ iBG Series' Integrated Security Module (ISM) delivers maximum security for enterprises. When ISM's security function - High-performance IPS - is coupled with the onboard Firewall and VPN, Ubigate™ iBG Series offers best-in-class, the most comprehensive security protection.

## 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™ iBG Series also provides an interim solution that eases the transition.



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 Samsung 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 ten T1/E1 links 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 four T1/E1 WAN Ports.

