

Networking Communication Product Portfolio

Reliable M2M and ISP/Telcos Solutions Explore New Revenue Generating Opportunities and Deliver the World to You





"Award-winning routers for SoHo, SMB and Enterprise

Since 1992, our Communication Division has been dedicated to the innovations in R&D, manufacturing and brand marketing to develop the next generation of network equipment and Internet access devices. Targeting the SoHo, telecom operators, and SMB users, we provide a comprehensive portfolio of customizable, cellular CPE devices to multi-national customers across five continents and over 50 countries worldwide. Ranging from xDSL, GPON, fiber routers, 802.11n/ac wireless routers, fixed 3G/4G LTE routers to outdoor LTE ODU, our complete line of networking products not only turns quality, stability, flexibility and attentive service into reality, but also consistently offers these important values to our customers.













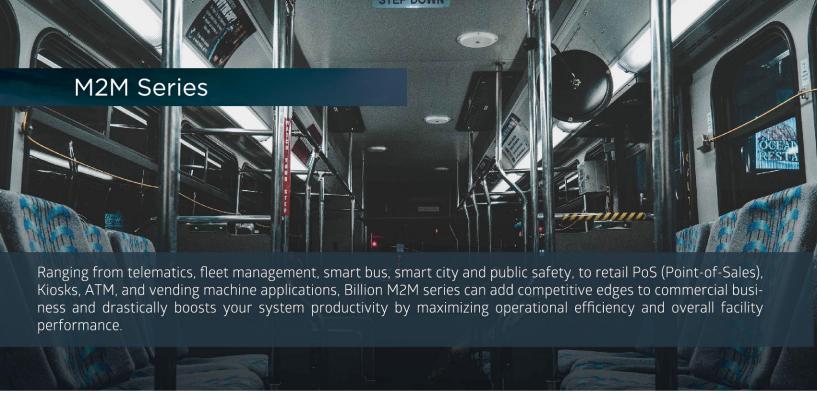


▲ Billion's award-winning routers are available through the channel

Content

• 4400CR(L)-Q2

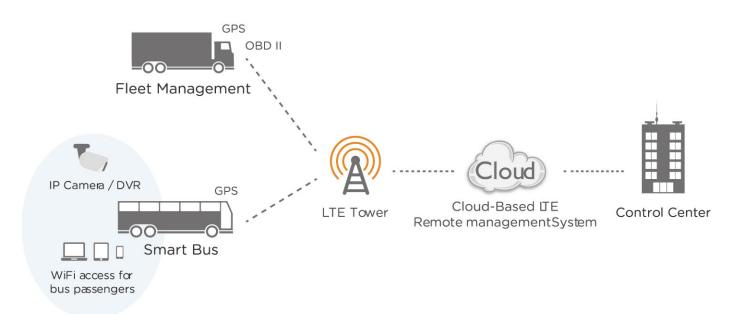
M2M Series **DSL** Series 4 11 14 • M600 • 7800X • 7800VDOX • M500 • 8900X R3 • 7800VDPX M100 / M150 • 8200VAXL-1200 • M50U • 8700VNXL • M100-NB • 8700VAXL-1600 M120N • 7800NZ • 7820NZ 12 **DSL+ Wireless AP** • 8920NZ • 8200AZ • 7700N R4 16 • 7800NX • 7800DX • 9800NX 8 LTE Series • 7800DXL • 9800VNX • 8200NXL • 9800VNX-PD • 4700A • 8200AXL-1200 • 9900VA-2100 • 4700AZ • 8700NEXL R2 • 4700ZU • 8700NEXL R3 • 4700ZUL • 8700AXL-1600 • 4500NZ(L) R2 • 8900AX-1600 R2 4500VNO(P)Z R2 • 8900AX-2400 • 4520NZ(L) R2 • 8920AX-1600 4520VNO(P)Z R2 • 8920AXL-1600 • 4520AZ • 4520VAOZ



In-Vehicle Solutions

Intelligent In-Vehicle WiFi Hotspot Solution for Smart Bus System

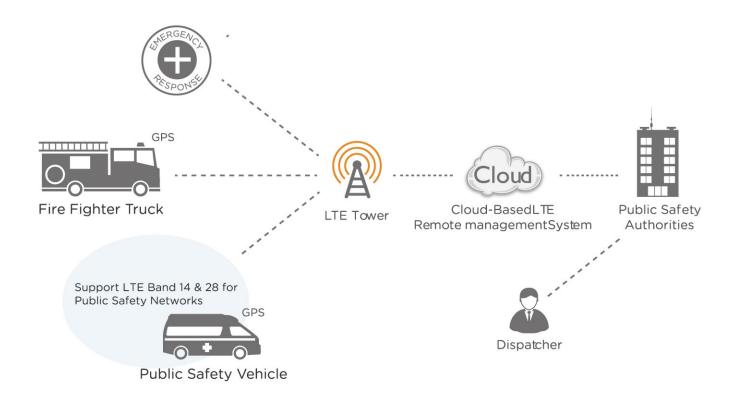
Bus companies look for reliable Smart Bus solutions that can provide free or pay-for-use WiFi Hotspot service in the vehicles as well as the delivery of vehicle status back to the centralized dispatch center for real-time management. Billion M500/M600 provides an excellent in-vehicle networking CPE equipped with dual radios, assisting system integrators in designing an always-on wireless architecture with the advancement of and Hotspot captive portal. Supporting 10-56V DC power input designed with ignition sensing and GPS/GLONASS for location tracking, Billion M500/M600 is an industrial-grade, in-vehicle router that as passed the European E-Mark (E1) certification.





Fleet Management Tracking Solution Maximizes Dispatching Efficiency

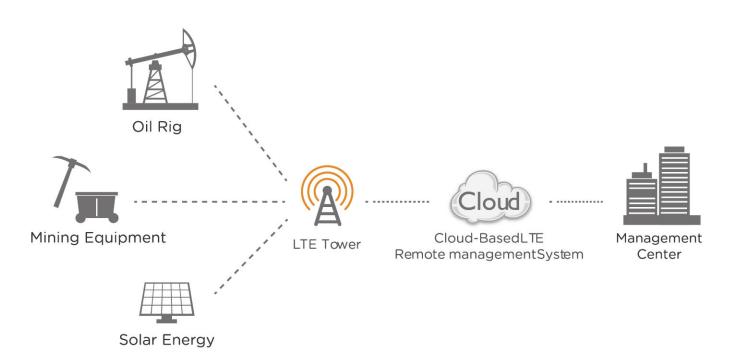
Billion M500/M600 provides dual LTE modules, enable in-vehicle WiFi, real-time multimedia streaming, and medical data transferring with auto failover capability. Ambulance staff is allowed to examine patient media records, plan driving routes, and communicate with emergency department and fleet dispatchers to allocate the available vehicle resource to resolve emergency scenarios. The dual-radio supports multi-channel video streaming with always-on, extensive broadband feasibility. Thus, Billion M500/M600 can transmit the images of a patient's injuries from the ambulance to the emergency department for treatment advice and minimize the gaps of medical care upon arrival at hospitals.





Reliable Energy: Oil and Gas Networking Solutions

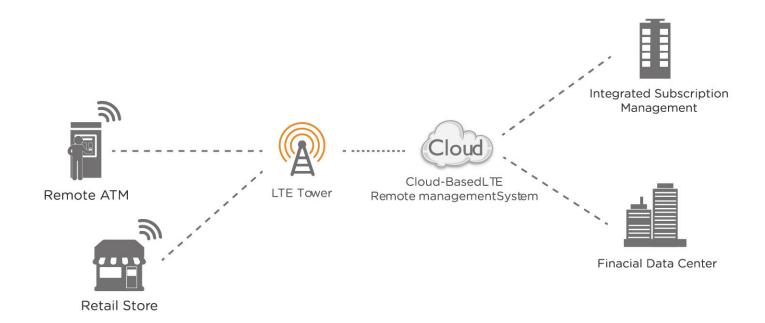
Billion M100 is dedicated to providing the broadband networks ensuring access to high-speed data anytime and anywhere. Such benefits provide tremendous opportunities for this industry to improve business productivity. Billion M100 supports boardband data rates that can easily support the transmission of high-quality real-time media. Real-time video streaming and surveillance are helpful tools to reduce travel time and costs that substantially improve collaboration and shortens the decision-making process.





Finance and Retail PoS, ATM, Kiosk Solutions with Enhanced Data Security

Billion M100 not only allows for fast electronic transactions, but also enables new business models such as targeted marketing, location-based offers, interactive services and an overall improved customer experience. Billion M100 is helping retailers meet consumer expectations and become more competitive by providing wireless technology solutions that quickly integrate with PoS (Point-of-Sale) Systems, ATM (Automated Teller Machines), Multi-purpose Kiosks and Vending Machines.









M100/M150

4G/LTE Industrial/ In-Vehicle Multi-Carrier Router

4G/LTE Industrial/ In-Vehicle Multi-Carrier Router

Advanced Industrial 4G/LTE Router

WAN Interface			
3G/4G LTE	●(x2)	• (x2)	•
Hardware Interface			
SIM slot	2 (x2)	2	1
Gigabit Ethernet	4	4	2
USB	2(USB 2.0)	2 (USB 2.0)	-
802.11n (2.4 GHz)	300Mbps	300Mbps	=
802.11ac (5 GHz)	867Mbps	-	-
GPS	● (Optional)	•	(Optional)
mini USB	-	• (x2)	-
Serial port (RS-232)	-	=	RS-232/RS-485(*2)
Features			
VPN	•	•	•
IPv4 / IPv6	•	•	•
Failover / Fallback	•	•	•
Load balance	•	•	•
Dual APNs	•(*1)	• (*1)	• (*1)
Dual firmware images	•	•	•
Metal casing	•	•	•
Operating temperature	-40°C ~ 60 °C	-40°C ~ 60 °C	-20°C ~ 60 °C









4G/LTE Dongle

Industrial LTE eMTC/NB-IoT Router

Advanced Industrial 4G/LTE Router

		eMTC/NB-IOT Router	4G/LTE Router
WAN Interface			
3G/4G LTE	•	• (*3)	•
Hardware Interface			
SIM slot	2	1	2
Gigabit Ethernet	=	2	4
USB	1 (USB 3.0)	-	-
802.11n (2.4 GHz)	-	-	300Mbps
802.11ac (5 GHz)	-	-	-
GPS	● (Optional)	● (Optional)	● (Optional)
mini USB	-	-	-
Serial port (RS-232)	=	RS-232	RS-232
Features			
VPN	-	•	•
IPv4 / IPv6	•	•	
Failover / Fallback	5	•	•
Load balance	2	•	•
Dual APNs	• (*1)	• (*1)	• (*1)
Dual firmware images	2	•	<u>=</u>
Metal casing	•	•	•
Operating temperature	-40°C ~ 60 °C	-20°C ~ 60 °C	-20°C ~ 60 °C

^{*1} Dual APNs is depended on module.
*2 M100 supports RS-232 only. / M150 supports either RS-232 or RS-485.
*3 eMTC/NB-loT (Cat.M1/Cat.NB1)





7800NZ



7820NZ

3G/4G LTE Embedded ADSL2+ Wireless-N VPN Firewall Router

3G/4G LTE Embedded with Dual-SIM Slots ADSL2+ Wireless-N VPN Firewall Router

WAN Interface		
ADSL only	•	•
V/ADSL	4	4
EWAN	•	•
3G/4G LTE	•	•
Hardware Interface		
SIM slot	1	2
Fast Ethernet	4	4
Gigabit Ethernet	-	-
USB 2.0	1	1
802.11n(2.4GHz)	300Mbps	300Mbps
Features		
VPN	•	•
IPv4 / IPv6	•	•
VLAN_MUX	•	•
Failover / Fallback	•	•

M2M Routers



3G/4G LTE Embedded with Dual-SIM Slots VDSL2/ADSL2+ Wireless-N VPN Firewall Router



8200AZ

3G/4G LTE Embedded VDSL2/ADSL2+ Wireless-N VPN Firewall Router

	VPN Firewall Router	
WAN Interface		
ADSL only	-	•
V/ADSL	•	•
EWAN	•	•
3G/4G LTE	•	•
Hardware Interface		
SIM slot	2	1
Fast Ethernet	2	
Gigabit Ethernet	5	5
USB 2.0	1	1
802.11n(2.4GHz)	300Mbps	300Mbps
802.11ac(5 GHz)	-	867Mbps(2x2)
Features		
VPN	•	•
IPv4 / IPv6	•	•
VLAN_MUX	•	•
Failover / Fallback	•	•

LTE Series



4G/LTE represents the latest generation of wireless broadband technology, providing outstanding transmission efficiency, cost effective management tool, substantial bandwidth capacity and broadband service coverage. Billion Electric provides a variety of LTE products, creating superior solutions for in-house or challenging outdoor environments, maintaining strong network connectivity in served or underserved area and enabling service providers and system integrators in niche market to build comprehensive system applications and long-term winning business model to further explore potential business opportunities and generate revenue.



Features and Benefits



Advanced Antenna technology



High Performance Platform and Multiple LTE bands support



High Availability and Network Redundancy



Integrate VoIP and Advanced Telephony Features



High Performance VPN security



IPv6, the path to the future



Carrier Grade Wireless LAN



WiFi Hotspot



Billion Central Management System (Billion CMS) support

Applications and Solutions



Instant POS setup for credit card access in remote area



4G LTE / Wired WANs Failover/Failback



SCADA over VPN tunnel with 4G LTE backup solution



4G LTE outdoor in challenging rugged environment



VPN redundancy solution



Instant outdoor WiFi Hotspot setup with 4G LTE



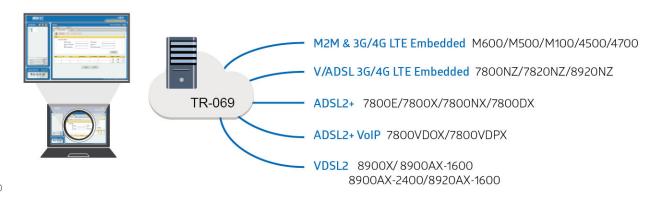
Billion Central Management System (Billion CMS) to remote monitoring and management



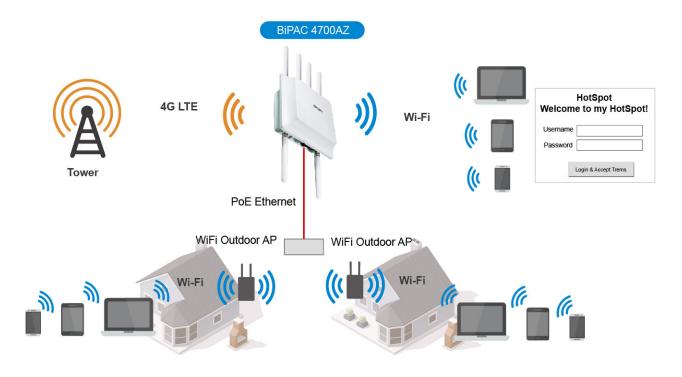
IPSEC + GRE solution Ethernet + GRE solution

CMS (Central Management System)

CMS is designed to remotely control and manage Billion 4G LTE and VDSL/ADSL business routers. It can perform remote firmware update, device reboot, load default setting, CPE configuration backup and restore based on schedule and generate alarm to inform any abnormal event, enabling users to minimize deployment, lower supporting service expenses and maximize operational efficiency.



■ Instant Outdoor Wi-Fi setup with 4G LTE as Back-Haul



	4700A	4700AZ	4700ZU	4700ZUL
Outdoor LTE	The second second		mes	Mana
	Outdoor VPN Router with Carrier-Grade Dual-Band Wi-Fi Hotspot	4G LTE Outdoor VPN Router with Carrier-Grade Dual-Band Wi-Fi Hotspot	4G LTE Outdoor VPN Router	4G LTE Outdoor Router
WAN Interface				
EWAN	GbE	GbE	-	-
3G/4G LTE	12	•	•	•
Hardware Interface				
SIM solt	i e	1	1	1
Gigabit Ethernet	2	2	1	1
USB 2.0	s=	e	=	=
802.11n(2.4GHz)	300Mbps	300Mbps	=	=
802.11n(5 GHz)	1700Mbps	1700Mbps	-	-
PoE-PD	•	•	•	•
Features				
VPN	•	•	•	•
IPv4 / IPv6	•	•	•	•
802.1q VLAN ID	• (EWAN)	• (EWAN)	Si Si	2
Failover / Fallback		•	ē.	=
Load balance	12	•	=0	¥
Dual APNs	Ō	• (*)	• (*)	• (*)
IP65	l e	-	-	-
IP67	•	•	•	

^{*:} Dual APNs is depended on module.







4520NZ(L) R2

4520VNO(P)Z R2







4G LTE Wireless-N(VPN) Failover Firewall Router

4G LTE VoIP Wireless-N(VPN) Failover Firewall Router

4G LTE Dual-SIM Wireless-N (VPN) Failover Firewall Router

4G LTE Dual-SIM VoIP Wireless-N (VPN) Failover Firewall Router

14/4 N. I. I				
WAN Interface				
EWAN	GbE	GbE	GbE	GbE
2G/3G	• (*1)	• (*1)	•(*1)	• (*1)
4G/LTE	•	•	•	•
Hardware Interface				
SIM slot	1	1	2	2
Fast Ethernet	=		ž.	20
Gigabit Ethernet	(1 EWAN Configurable)	4 (1 EWAN Configurable)	(1 EWAN Configurable)	4 (1 EWAN Configurable
USB 2.0	1	1	1	1
FXS	2	2	Ψ.	2
FXO	=	48	μ.	
802.11n(2.4 GHz)	300Mbps	300Mbps	300Mbps	300Mbps
802.11ac(5 GHz)	=	46	2	<u> </u>
Features				
VPN	(4500NZ <i>R2</i> only)	(4500VNOZ <i>R2</i> only)	(4520NZ <i>R2</i> only)	(4520VNOZ <i>R2</i> only
IPv4 / IPv6	•	•	•	•
802.1q VLAN ID	(EWAN)	(EWAN)	(EWAN)	(EWAN)
Failover / Fallback	•	•	•	•
Load balance	-	-	•	•
Dual APNs	• (*2)	•(*2)	•(*2)	• (*2)

Indoor LTE



4520VAOZ







4G LTE Dual-SIM Slot VoIP Dual-Band Wireless-AC VPN Failover Firewall Router

CPE Router



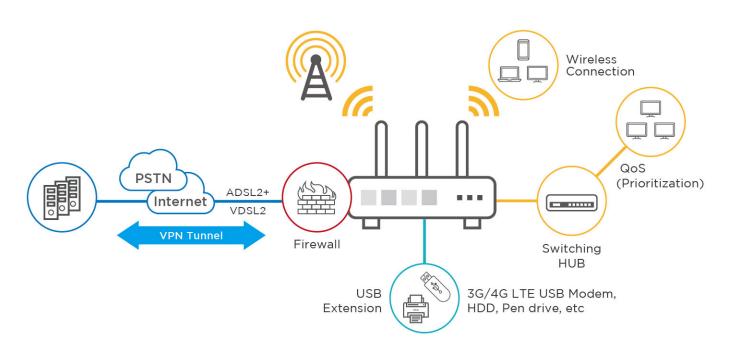
4G LTE Wireless-N VPN CPE Router

	Firewall Router	Fallover Firewall Router		
WAN Interface			WAN Interface	
EWAN	GbE	GbE	EWAN	•
2G/3G	• (*1)	• (*1)	2G/3G	•
4G/LTE	•	•	4G/LTE	•
Hardware Interface			Hardware Interface	
SIM slot	2	2	SIM solt	1
Fast Ethernet	-	=:	Fast Ethernet	4
Gigabit Ethernet	4 (1 EWAN Configurable)	4 (1 EWAN Configurable)	Gigabit Ethernet	-
USB 2.0	1	1	USB 2.0	=
FXS		2	FXS	=
FXO	4	24	FXO	2
802.11n(2.4 GHz)	300Mbps	300Mbps	802.11n(2.4 GHz)	300Mbps
802.11ac(5 GHz)	867Mbps	867Mbps	802.11ac(5 GHz)	2
Features			Features	
VPN	•	•	VPN	•
IPv4 / IPv6	•	•	IPv4 / IPv6	•
VLAN_MUX	(EWAN)	(EWAN)	VLAN_MUX	-
Failover / Fallback	•	•	Failover / Fallback	•
Load balance	•	•	Load balance	-
Dual APNs	• (*2)	• (*2)	Dual APNs	•

^{*1 2}G/3G is depended on module

^{*2} Dual APNs is depended on module.













3G/4G LTE VPN ADSL2+/Fibre Broadband Router

3G/4G LTE VDSL2/ADSL2+ VPN Firewall Router

WAN Interface		
ADSL only	•	E-
V/ADSL	-	•
EWAN	GbE	GbE
3G/4G LTE	via USB	via USB
Hardware Interface		
SIM slot	-	e.
Fast Ethernet	-	-
Gigabit Ethernet	4	5
USB 2.0	1	1
Features		
VPN	•	•
IPv4 / IPv6	•	•
VLAN_MUX	•	•
Failover / Fallback	•	•





Wireless-N ADSL2+ Firewall Router





Dual-band Wireless-N 3G/4G LTE VPN ADSL2+ Router 3G/4G LTE Wireless-N ADSL2+/Fiber Broadband Router





Dual-band Wirekess-N 3G/4G LTE ADSL2+ Router

		Broadband Router	VPN ADSL2+ Router	
WAN Interface				
ADSL only	•	•	•	•
EWAN	•	GbE	GbE	GbE
3G/4G LTE	-	via USB	via USB	via USB
Hardware Interface				
SIM slot	9	12	-	20
Fast Ethernet	4	SE:	E:	20
Gigabit Ethernet	-	4	4	4
USB 2.0	2	1	1	1
FXS	2/	3 <u>4</u> 9	-	9
FXO	-	-	20	2
802.11n(2.4 GHz)	300Mbps	300Mbps	=	¥
dual band 802.11n (2.4 GHz and 5 GHz)	-		600Mbps	600Mbps
802.11ac(5 GHz)	-	-		=
Features				
VPN	-	•	•	9
IPv4 / IPv6	•	•	•	•
VLAN_MUX	•	•	•	•
Failover / Fallback	-	•	•	•





Wireless-N VDSL2/ADSL2+ Firewall Router



Triple-WAN Wireless-AC 1200Mbps 3G/4G LTE VDSL2/ADSL2+ Firewall Router



Wireless-N 3G/4G LTE VDSL2/ADSL2+ Router



Wireless-N 3G/4G LTE VDSL2/ADSL2+

	Firewall Router	Firewall Router	Router	Router
WAN Interface				
V/ADSL	•	•	-	6-5
EWAN	=	GbE	GbE	GbE
3G/4G LTE	-	via USB	via USB	via USB
Hardware Interface				
SIM slot	2	_	2	
Fast Ethernet	4	.52	4	4
Gigabit Ethernet	-	5	1 (for EWAN LAN5)	1 (for EWAN LAN5)
USB 2.0	1	1 * USB2.0+1 * USB3.0	=	12
FXS	-	-1	-	12
FXO	-	-1	÷	-
802.11n(2.4 GHz)	300Mbps	300Mbps	300Mbps	300Mbps
802.11ac(5 GHz)	-	867Mbps(2x2)	÷	18
Features				
VPN	-	-1	.	5 T.
IPv4 / IPv6	•	•	•	•
VLAN_MUX	•	•	•	•
Failover / Fallback	•	•	•	•

DSL Routers



Wireless-AC 1600Mbps 3G/4G LTE VDSL2/ADSL2+ VPN Firewall Router



Wireless-AC1600Mbps 3G/4G LTE VDSL2/ADSL2+



Wireless-AC2400Mbps 3G/4G LTE VDSL2/ADSL2+ VPN Firewall Router

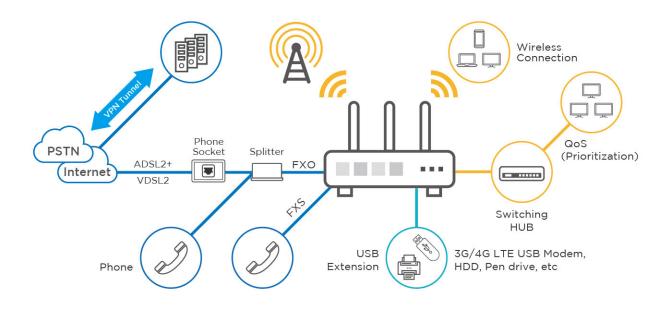


Dual-lines VDSL2/ADSL2+ Wireless-AC 3G/4G LTE VPN Firewall Router

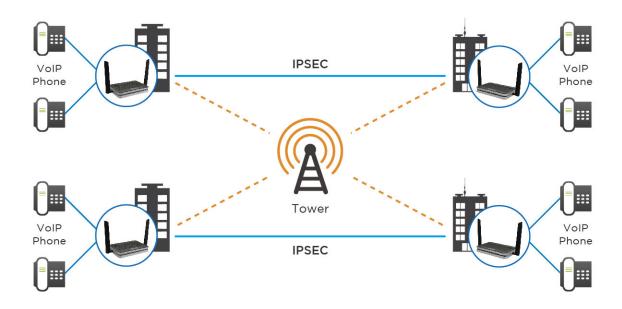
	VPN Firewall Router	VPN Firewall Router	VPN Firewall Router	VPN Firewall Router
WAN Interface				
V/ADSL	•	•	•	●(dual lines)
EWAN	GbE	GbE	GbE	GbE
3G/4G LTE	via USB	via USB	via USB	via USB
Hardware Interface				
SIM slot	-	-	-	-
Fast Ethernet	-	->	-	-
Gigabit Ethernet	5	5	5	5
USB 2.0	1	1	1	1
FXS	-	(-)(-	c =
FXO	-	ie/	=	1 5
802.11n(2.4 GHz)	300Mbps	300Mbps	600Mbps(3x3,high power)	300Mbps
802.11ac(5 GHz)	1300Mbps(3x3)	1300Mbps(3x3,high power)	1750Mbps(4x4,high power)	1300Mbps(3x3,high power)
Features				
VPN	-	•	•	•
IPv4 / IPv6	•	•	•	•
VLAN_MUX	•	•	•	•
Failover / Fallback	•	•	•	•

DSL+Wireless AP+VoIP

VoIP (Voice-over-Internet-Protocols), bringing voice over broadband internet connections instead of regular phone lines, benefits service providers and subscribers by offering cost-effective internet dealings to local, long distance, mobile, and international numbers. However, since VoIP data is encountered a soaring risk of being intercepted by hackers, most VoIP users are in need of a reliable network protection that can build encrypted Internet protocols and data transmission. To solve the threatening security issues, we offer both IPsec and VPN (Virtual-Private-Network) technology to strengthen voice data encryption and to secure transmission privacy between headquarters and branch offices.



With the 4G LTE failover and failback capability, voice providers can provide a secure, highspeed internet to backup the connection in case of any network failure. We support common voice settings like call forwarding, call waiting, conference call, anonymous call, block anonymous call, speed dial, return call, and redial, ..etc, as well as help local SIP port setting to resolve any blocking problems. Customizable features and interfaces can be modified, enabling voice providers to offer high-quality, user-friendly network solutions to their customers.









Dual-band Wirekess-N 3G/4G LTE VoIP VPN ADSL2+ Router

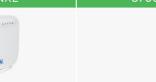
Dual-band Wirekess-N 3G/4G LTE VoIP ADSL2+ Router

WAN Interface		
ADSL only	•	•
EWAN	GbE	GbE
3G/4G LTE	via USB	via USB
Hardware Interface		
SIM slot	-	-
Fast Ethernet	-	
Gigabit Ethernet	4	4
USB 2.0	1	1
FXS	2	2
FXO	1	1
802.11n(2.4 GHz)	1	1
dual band 801.11n (2.4 GHz and 5GHz)	600Mbps	600Mbps
802.11ac (5 GHz)	=	-
Features		
VPN	•	-
IPv4 / IPv6	•	•
VLAN_MUX	•	•
Failover / Fallback	•	•









Triple-WAN Wireless-AC 1200Mbps 3G/4G LTE VDSL2/ADSL2+ Firewall VoIP Router

Triple-WAN Wireless-N 3G/4G LTE VoIP VDSL2/ ADSL2+ Fireawll Router

Wireless-AC 1600Mbps VDSL2/ADSL2+ 3G/4G LTE VoIP Router

WAN Interface			
V/ADSL	•	•	•
EWAN	GbE	GbE	GbE
3G/4G LTE	via USB	via USB	via USB
Hardware Interface			
SIM slot	-	1-1	-0
Fast Ethernet		4	
Gigabit Ethernet	5	1 (fpr EWAN LAN5)	5
USB 2.0	1 * USB2.0+1 * USB3.0	1	1
FXS	2	2	2
FXO	2		
802.11n(2.4 GHz)	300Mbps	300Mbps	300Mbps
dual band 801.11n (2.4 GHz and 5GHz)	1-	-	1300Mbps(3x3)
802.11ac (5 GHz)	867Mbps(2x2)	φ.	<u>e</u> :
Features			
VPN	10	-	÷
IPv4 / IPv6	•	•	•
VLAN_MUX	•	•	•
Failover / Fallback	•	•	•



■ Complete Active Ethernet FTTH Last-Mile Access Solutions

Active Ethernet FTTH Solutions Last-Mile Access Solutions for Telco/ISP

We provide fibre router series products for Telco/ISP to deploy Giga wired-speed Active Ethernet FTTH last-mile access applications for residential and commercial areas.

Unique Features



A Giga wired-speed connection from CO site to home user



Establishes secure VPN connection from branch offices to headquarters

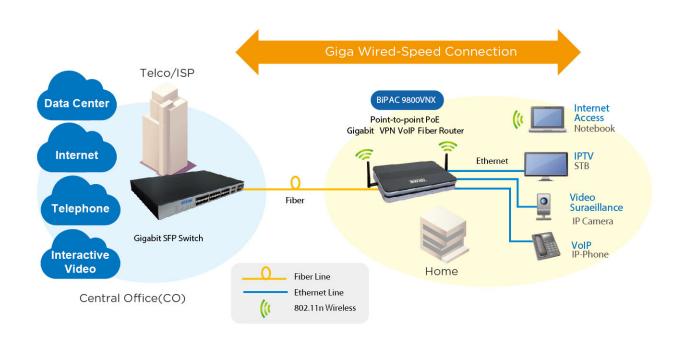


Easy deployment with PoE-PD feature

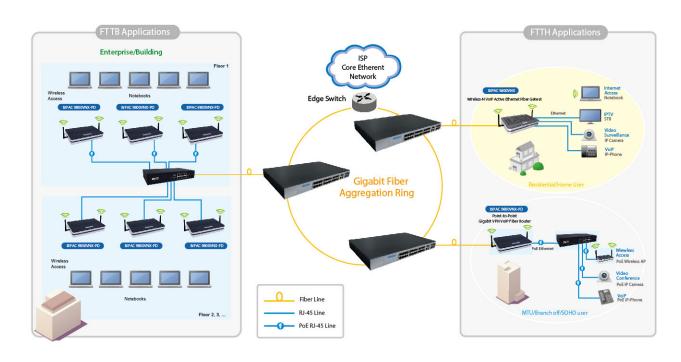
■ AE FTTH Solution for Home Users

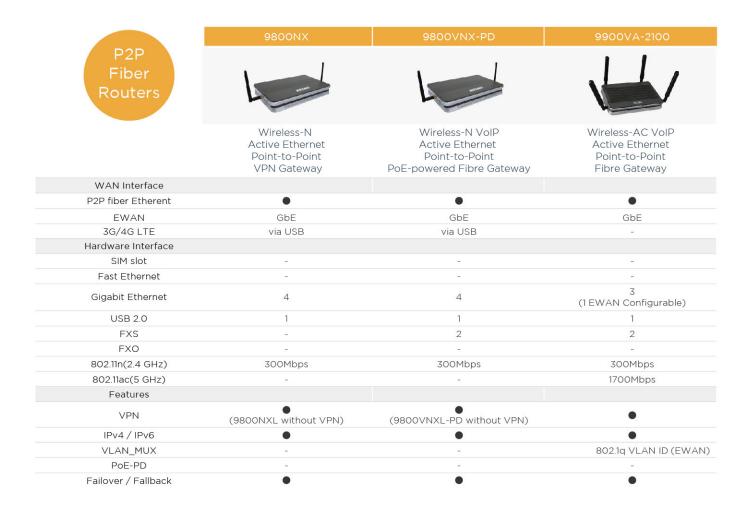
A Complete AE (Active Ethernet) FTTH Solution for ISP/Telco to Provide Giga Wired-Speed FTTH Applications to Home Users

Through its Giga fibre connection ports, end users can connect with Billion Giga fibre router - BiPAC 9800VNXL, enjoying more cost-effective, faster and safer Giga wired-speed FTTH applications.



■ Application of High Density Communities





About BILLION

www.billion.com

Billion Electric Co., Ltd. (www.billion.com, Taiex: 3027, trading as Billion) is the leading global information and communication technology (ICT) solutions provider. We enhance life and communication efficiency through a better-connected world, acting as a responsible corporate citizen, an innovative enabler for the information society, and a collaborative contributor to the industry. Billion's over 700 employees worldwide are committed to creating the optimal value for telecom operators and determined to pursue the position of industry vanguard by providing our current and future customers the highest quality of technology outputs.

