

EN-4000™

Diverse 4G LTE/HSPA+ Transport Using Dual Carriers

Dual Carriers with Advanced Traffic Management

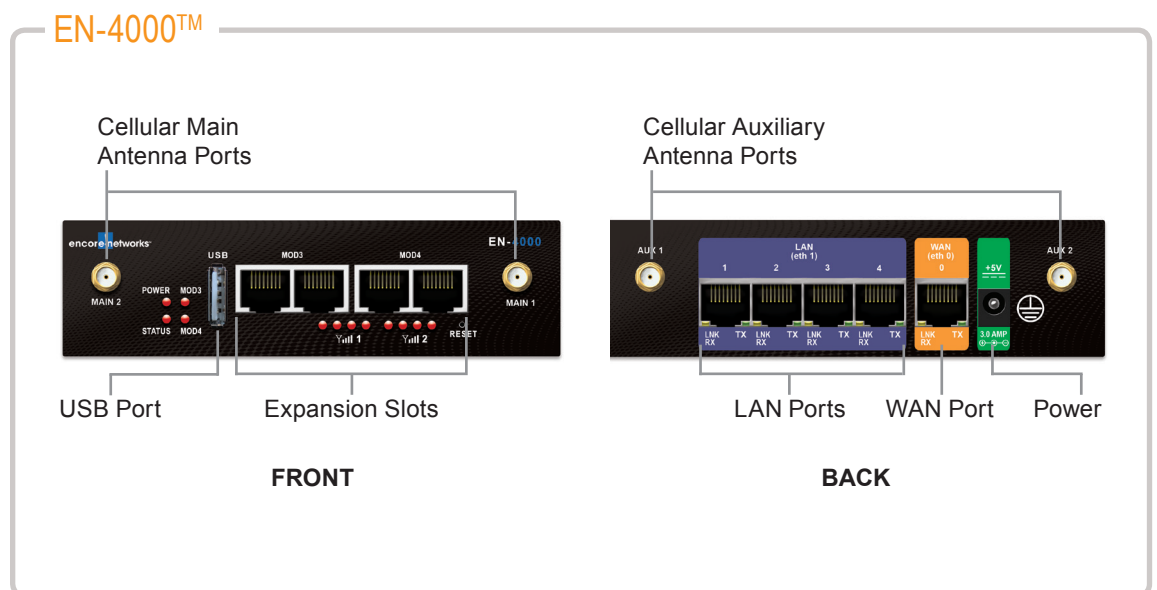
Encore Networks' EN-4000™ 4G LTE/HSPA+ Broadband Routers can be configured with flexible WAN connection options including; dual carrier 4G/3G Cellular radios, Ethernet based WAN connected services for MPLS, Fiber, Microwave and Satellite. Supporting any or all of these WAN connections simultaneously while utilizing Quality of Service/Class of Service (QoS/CoS.) and advanced routing with load balancing and traffic shaping management.

New Site Design Solution

Designing with the EN-4000™ for large enterprises and SMBs for optimal communications using two 4G LTE/HSPA+ WAN VPN links from two different carriers to create carrier and network infrastructure diversification, with traffic load balancing an automatic fail-over and fail-back. Since the VPN connections are maintained within the EN-4000™, any data that would be lost over the failed link is re-transmitted over the backup link, providing minimized loss of data.

Existing Site Design Solution

Since the EN-4000™ is standards IP based, it can be easily integrated into operations with any standards based third party router to provide a 4G LTE/HSPA+ WAN connections using dual carriers for optimal infrastructure diversification at a minimal cost. Designing with the EN-4000™ with a 4G LTE/HSPA+ WAN connections and a third party router that already has an existing terrestrial WAN connection requires the implementation of Virtual Router Redundancy Protocol (VRRP) RFC 5798 standard. Invoking VRRP increases reliability at the site by creating a "virtual" router with the third party router and EN-4000™. These routers now act as a master and backup routers residing on the same subnet. Only the "master" router is actively transmitting data across its hosted WAN VPN links. If the master VPN connection fails, an automatic switchover occurs between the third party router and the EN-4000™ with all traffic being routed across the backup VPN connections without any human intervention. Once the primary route is restored, all data is routed back through the primary WAN VPN connection.



- 4G LTE/HSPA+ Broadband Router
- Standards IP Based
- Designed for Large Enterprises and SMBs
- Optimal Infrastructure Diversification
- Dual Wireless Carrier Support for 4G LTE and HSPA+



ENCORE NETWORKS

Physical Features Standard	EN-4000 Front Panel	4 LEDs for module, system status, and power indication	
		One USB host port	
		Two antenna connectors for internal wireless modules	
		2 groups of 4 LEDs for wireless signal strength indication for two cellular modules	
		Reset switch	
	EN-4000 Back Panel	Two antenna connectors for factory-installed internal radios	Cellular: 3G, EVDO, 4G LTE HSPA+
			802.11b,g,n,ac
			Bluetooth
		One 10/100 Mbit/s Ethernet RJ-45 (WAN); draws PoE with optional PSU	
		Four 10/100 Mbit/s switched Ethernet RJ-45 (LAN)	
5 V DC input (from AC line-power adapter)			
Additional power connector for optional factory-installed PSU, settable to other DC voltages			
Optional Modules	Dual Optical Ethernet (Small Form-factor Pluggable, SFP) interface for fiber, 100 Mbit/s)		
	Single Optical Ethernet (SFP) interface for fiber, 1 Gig/s		
	Single T-1/E-1 CSU; channelized/unchannelized/fractional		
	10/100/1000 Mbit/s Switched Ethernet over copper		
	4-Wire E&M (Types 1, 5)		
	Dual high-speed serial ports (RS-232, RS-485, RS-422)		
	Single V.35 serial port		
	V.90/92 modem, FXS port, PPP support (PAP/CHAP)		
	One each of FXS and FXO analog ports		
	Dual FXS Port		
	Digital Signal Processor (DSP)		
	Cellular (3G or 4G LTE); CDMA (1xRTT), EVDO, GSM, GPRS, EDGE, UMTS, HSPA+		
	Wi-Fi		
	Commercial miniPCI modules such as the latest Wi-Fi		
	Hardware Encryption (over 1000 sessions, for central site VPN terminations)		
Four alarm voltage sensor inputs plus three contact closure outputs			
Management	SNMP v3		
	Craft Interface		
	GUI Web Management		
	Telnet		
	SSH (secure shell)		
	Syslog		
Power Supply Options	Redundancy between AC input and any DC or PoE source		
	DC: 12, 24, 48, or 130 V DC; 13 Watts maximum		
	AC: 100-240 V AC Auto ranging adapter, 50-60 Hz		
	Power over Ethernet (Class 3 PoE)		
Environmental (Temperature)	Operating: -40 C to +85 C (Industrial Hardened) -20 C to +65 C (Extended Temperature Commercial)		
	Storage: -40 C to +85 C		
	Humidity: 5% to 95%, non-condensing		
Mechanical	Height: 1.6 inches/40 mm		
	Width: 5.7 inches/145 mm		
	Depth: 4 inches/100 mm		
	Weight: 1 lb. (0.45 kg)		
Standards Compliance	RoHS Compliant		
	Firewall (Layer 4)		
	EMC	FCC Part 15	
		EN 55011/CISPR II	
		IEC 61850-3	
		IEEE 1613	
Product Safety	UL/CSA 60950-1		
	CAN/CSA-C22.2 No. 60950-1-03		
Part Number	EN 60950-1		

Consult your area sales representative for available features and optional modules.

