

RC959-4FE16E1(Rev.B)

EoPDH Aggregation Gateway

RC959-4FE16E1(-BL) is an EoPDH gateway that compliant with standard Ethernet over NG-PDH protocols, including GFP,VCAT and LCAS. The device acts as an EoPDH aggregator that can aggregate FE traffic up to 16 E1 lines and transport EPL/ EVPL services with flexible mapping of user traffic into Ethernet flows. The device provides redundant power supply for working stably as well as 4FE plus 1 GE combo ports meeting different customers' needs. In addition, fully compliant with IEEE 802.3ah, IEEE 802.1ag and ITU-TY.1731, network administrators are provided with tools to keep the service channel effective.RC959-4FE16E1(-BL) supports a large variety of applications, including transparent inter-LAN connectivity, direct internet access and Ethernet private lines, as well as IP DSLAM and WiMAX base station backhaul.RC959-4FE16E1(-BL) can be deployed in either point-to-point topology or point-to-multipoint topology. It can be managed via local CLI, Telnet/SSH, or in a centralized way on GUI based Raisecom NView NNM system.



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Highlights

- Topology Flexibility** Flexibly fits in both point-to-point and point-to-multipoint
- Device compatibility** Capable of working against EoPDH devices of third-party vendors when adopting standard GFP encapsulation
- Rapid Fault Locating** Advanced Ethernet diagnostics tools standard OAM and CFM available on the device
- Easy Management** Management via local CLI, Telnet/SSH, and GUI-based NView NNM system

Typical Application

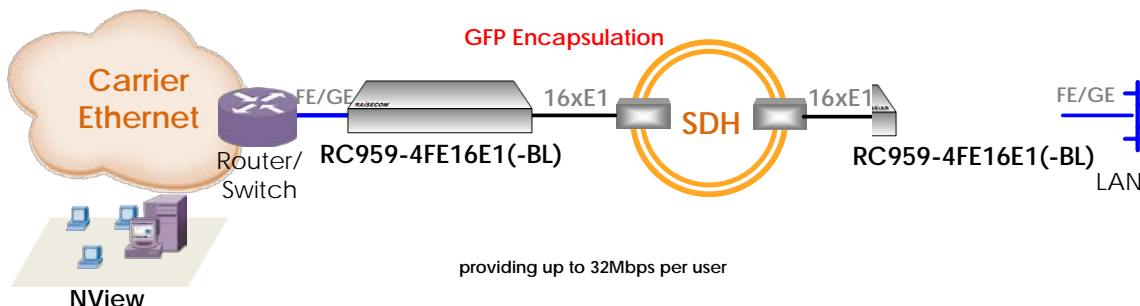


Figure.1 Point-to-Point Topology

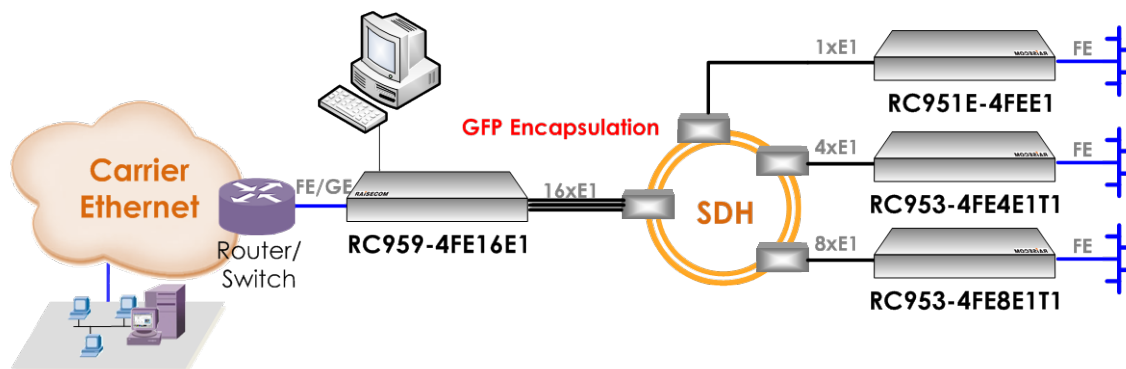


Figure.2 Point-to-Multipoint Topology (as aggregator)

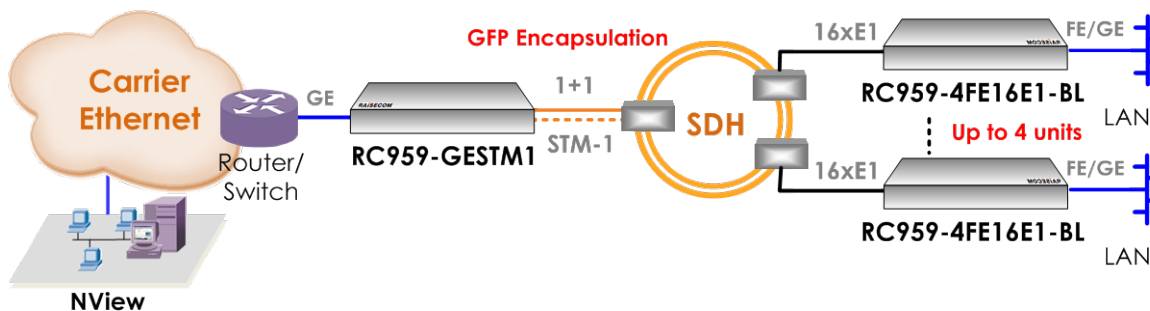


Figure.3 Point-to-Multipoint Topology (as remote gateway)

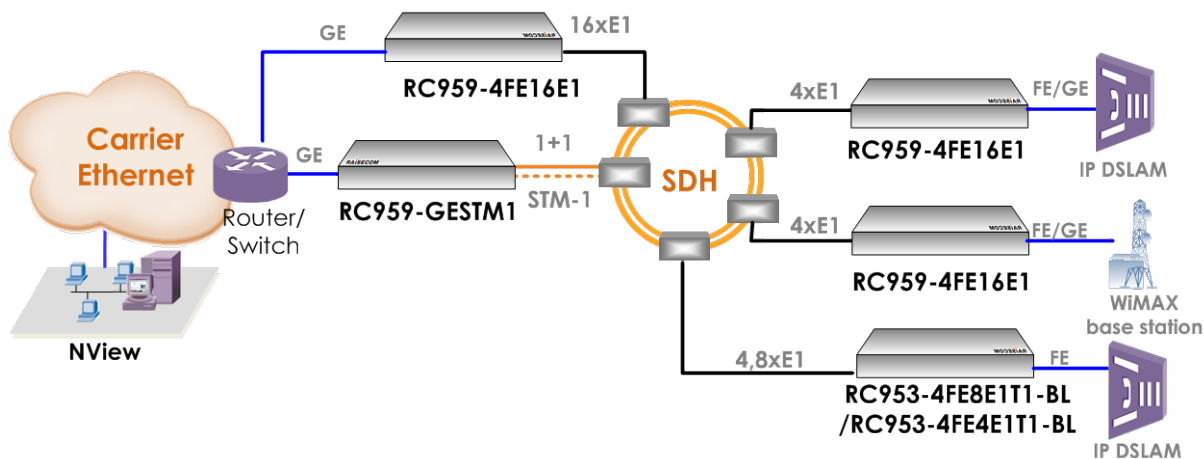


Figure.4 IP DSLAM and WiMAX base station traffic over n x E1 circuits

Features

EoPDH	4 FE over up to 16E1 Standard GFP encapsulation GFP: 16 VCG, 1-16 E1 members mapped in one VCG Standard VCAT, LCAS
E1 port	Framed, PCM31, FAS+CRC4, CRC-auto configurable E1 loopback test and BERT testing Local/remote E1 external loopback Local and remote E1 LOS, LOF, AIS, CRC report
Ethernet port	FE: 10/100Mbps auto-negotiation, speed and duplex mode configurable GE Combo: Electrical 10/100/1000Mbps auto-negotiation, speed and duplex mode configurable Optical SFP-based: 100/1000Mbps auto-sensing ALS and performance statistics MTU: 9000 Bytes Flow Control: IEEE 802.3x in full duplex mode Back pressure in half duplex mode
MAC Address Table	8K MAC address Add/remove/search MAC address table entries View MAC address table statistics MAC address aging time configurable: 10-1000000s MAC address learning threshold per port Optional MAC address table limit per port: 1-255
VLAN	4K active VLAN Q-in-Q Switch port protect
QoS	8 queue per port CoS/DSCP-based Global queue scheduling : SP/WRR
Rate Limit	Per port (ingress/egress/both) with increments 1Kbps
Storm Control	Broadcast/Multicast/DLF storm control with increment 1Kbps
Port Mirroring	Mirroring of egress/ingress/bidirectional traffic of ports
Link Aggregation	6 groups, up to 8 ports in each group
Loopback Detection	Support
Packet Relay	Optional STP/DOT1X/LACP relay, threshold configurable CoS transparent Destination MAC transparent
Multicast	IGMP filter/querier/snooping



	MVR querier/proxy
Cable Diagnostics	Cable status report, including position information
OAM	IEEE 802.3ah OAM (discovery, link performance monitor, remote loopback testing, remote failure indication) Extended OAM
CFM	IEEE 802.1ag ITU-T Y.1731
SLA	Layer-2/Layer-3 SLA
DHCP	Client DHCP Snooping
ACL	IP-based/MAC-based ACL
Keep-Alive	Report device information regularly
RMON	Group 1, 2
Syslog	Support
Routing Protocol	Static routing & default gateway
Auto-Configuration	Automatic configuration loading
Scheduling	Execute command script periodically
Security	User classification and password protection RADIUS TACAS+ PPPoE+ Agent
Hardware Environment Monitoring	Monitor temperature and voltage
Management	CLI-based management through local CONSOLE or remote Telnet/SSH GUI-based SNMP management on Raisecom NView NNM system
Cluster Management	Raisecom Neighbor Discovery Protocol (RNDP)

Specifications

Capacity	64MB SDRAM 16MB Flash
LAN interface	4*10/100Base-TX RJ-45 connector 1*GE Combo 1*10/100/1000Base-T RJ-45 connector 1*fiber SFP slot
WAN interface	16*E1 ports 120Ω balanced, RJ-45 connector

Compliances

Standards & protocols	IEEE802.3-2002 IEEE802.3 10BaseT IEEE802.3u 100BaseTX IEEE802.3x Flow Control IEEE802.1Q VLAN IEEE802.1ad QinQ IEEE802.3ad Link Aggregation IEEE802.1p CoS Prioritization IEEE802.3ah OAM IEEE802.1ag CFM
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CONSOLE port	75Ω unbalanced, BNC connector Bit Rate: 2048Kbps±50ppm Code: HDB3 RS232 Baud Rate: 9600	ITU-T Y.1731 Service OAM Static Routing RMON I and II standards SNMP v1/v2c/v3 ITU-T G.703, G.704, G.823, G.824 ITU-T G.7041, G.7042, G.7043, G.8040
SNMP port	RJ-45 connector 10/100Base-TX RJ-45 connector	
Indicator	PWR for power supply PWR1 for power supply 1 PWR2 for power supply 2 SYS for system operation LNK/ACT and 100M for each FE port and SNMP port LNK/ACT and 1000M for GE port LOS for each E1 port	
Dimension	44(H)x440(W)x266(D)mm	
Weight	≤ 3.55kg	
Power supply	AC: 100-240V DC: -48V WP: wide-range	
Power consumption	≤ 15W	
Working environment	Temp: -5~55 Celsius RH: ≤ 90% (35 Celsius)	
Storage environment	Temp : -25~60 Celsius RH : 5~90% non-condensing	

Ordering Information

RC959-4FE16E1-BL-AC	Intelligent EoPDH aggregation gateway, 4 FE ports and 1 GE Combo port on LAN side, 16 E1 (120Ω balanced, RJ-45) ports on WAN side, double AC power supply
RC959-4FE16E1-BL-DC	Intelligent EoPDH aggregation gateway, 4 FE ports and 1 GE Combo port on LAN side, 16 E1 (120Ω balanced, RJ-45) ports on WAN side, double DC power supply
RC959-4FE16E1-BL-AC_DC	Intelligent EoPDH aggregation gateway, 4 FE ports and 1 GE Combo port on LAN side, 16 E1 (120Ω balanced, RJ-45) ports on WAN side, one AC and one DC power supply
RC959-4FE16E1-AC	Intelligent EoPDH aggregation gateway, 4 FE ports and 1 GE Combo port on LAN side, 16 E1 (75Ω unbalanced, BNC) ports on WAN side, double AC power supply



RC959-4FE16E1-DC	Intelligent EoPDH aggregation gateway, 4 FE ports and 1 GE Combo port on LAN side, 16 E1 (75Ω unbalanced, BNC) ports on WAN side, double DC power supply
RC959-4FE16E1-AC_DC	Intelligent EoPDH aggregation gateway, 4 FE ports and 1 GE Combo port on WAN side, 16 E1 (75Ω unbalanced, BNC) ports on LAN side, one AC and one DC power supply