

ES 500 Carrier Class Edge Access Solution

KEY APPLICATIONS

- Compact, service-rich Customer Premise Equipment (CPE) for high-density residential and office buildings or business campuses
- On-demand bandwidth provisioning using hardware-based rate limiting for scalable Ethernet access services
- Support for VLANs, routing, and Layer 2 filters to provide secure VPN and Transparent LAN services to the customer premise

PRODUCT OVERVIEW

The ES 500 is designed specifically as a service provider edge-access solution for Metropolitan Area Networks. It allows service providers to deliver value-added, Ethernet-based services efficiently and cost effectively. The ES 500 provides high performance IP services in a 1-rack unit (RU) form factor with 24 10/100 Ethernet ports, 2 Gigabit Ethernet uplink ports, and dual redundant power supplies.

The ES 500 is the ideal cost-effective platform to deliver profitable Metro Area Network services to the customer premise. It provides a rich set of Layer 2 and Layer 3 services including wire speed rate limiting, VLANs, routing, and Access Control Lists (ACLs).

SERVICE PROVIDER CHALLENGES & ES 500 SOLUTIONS

Challenge	Solution
Establish profitable tiered services without compromising performance	Implementing hardware-based traffic classification including rate limiting and advanced Quality of Service
Deliver value-added VPN or Transparent LAN services with security	Hardware-based VLANs with wire-speed security filters to segregate customer traffic
Offer value-added content delivery services to the customer premise	Comprehensive multicast services that enable advanced video and data streaming services
Deliver high port density at a reasonable price point	1-RU form factor allows 1,008 10/100 Ethernet ports and 84 Gigabit Ethernet ports in a standard 84-inch Telco rack





Ordering Information

Part No.	Product Description
E50-B	ES 500 base unit with two AC power supplies, 24 10/100 Ethernet and two Gigabit Ethernet uplink modules
E50-B-FE	ES 500 base unit with two AC power supplies, 24 10/100 Ethernet
E50-GBC-01	ES 500 Gigabit Ethernet uplink module for spares or replacement
GIC-11	1-port 1000 Base-SX GBIC module, SC connectors
GIC-19	1-port 1000 Base-LX Intermediate Reach (IR) GBIC module, SC connectors
GIC-18	1-port 1000 Base-LX Long Reach (LR) GBIC module, SC connectors

For complete ordering information, including specific modules, contact your Riverstone representative at **(408) 878-6500**. You may also visit our Website at **www.riverstonenet.com**.

Platform Features

Highly Fault Tolerant

- Redundant power supplies

Extensive Management

- RS-232 (out-of-band management)
- Command Line Interface (CLI)
- RMON III (4 groups)
- SNMP v 1, v2c

Interfaces

10/100 Base-TX
1000 Base-LH
1000 Base-LX
1000 Base-SX

Specifications

Capacity

Up to 256 VLANs
Up to 1,024 Routes
Up to 256 security/access control filters
Up to 8,000 Layer 2 MAC addresses

Performance

Up to 8.8 Gbps
Up to 6.6 Mpps routing throughput
MTBF > 625,000 hours

Physical

Dimensions: 1.75" H x 17.3" W x 16.25" D
(4.4 cm x 44 cm x 41.3 cm)
Weight: 11.52 lbs (5.63 kg)

Environmental

Operating Temp: +0° to +40°C (32° to 104°F)
Non-operating Temp: -40° to +70°C (-40° to 158°F)
Operating Relative Humidity: 10% to 90% (non-condensing)
Non-operating Relative Humidity: 5% to 95% maximum (non-condensing)
Altitude, Operating and Non-operating: 10,000 ft (3,000 m) maximum

Shock and Vibration: IEC 68-2-29, IEC 68-2-36, IEC 68-2-6

Power Requirements

Nominal input: 110-230 VAC
voltages:
Input frequency: 50 to 60 Hz
Maximum input current:
1.2A @ 115V
6A @ 230V

Power Dissipation:

70W maximum

Agency Standards and Specifications

Safety: Certified UL1950, CSA C22.2 No. 950, EN60950, IEC950, and 72/73/EEC
Electromagnetic compatibility: Compliant with the requirements of FCC Part 15, CSA C108.8, EN55022, VCCI, EN50082-1, and 89/336/EEC

Standards Supported

IETF Standards Support

RFC No.	Title
RFC 768	UDP
RFC 783	TFTP
RFC 791	IP
RFC 792	ICMP
RFC 793	TCP
RFC 826	ARP
RFC 854	Telnet
RFC 1058	RIP v1
RFC 1157	SNMPv1
RFC 1256	ICMP Router Discover Message
RFC 1293	Inverse ARP
RFC 1349	Type of Service in the Internet Protocol Suite
RFC 1519	CIDR
RFC 1583	OSPF v2
RFC 1723	RIP v2
RFC 1812	Router Requirements
RFC 2131	DHCP
RFC 2178	OSPF

Enterprise MIBS

RSTONE-PRODUCTS-MIB
RSTONE-SMI-MIB
RSTONE-STP-MIB
RSTONE-TRAP-MIB
RSTONE-RL-MIB
SSR-CONFIG-MIB
SSR-CAPACITY-MIB
RSTONE-IMAGE-MIB

IETF Standards MIB Support

RFC No.	Title
RFC 1493	BRIDGE-MIB
RFC 1724	RIPv2
RFC 1757	RMON-MIB (4 Groups)
RFC 1850	OSPF MIB1
RFC 1907	SNMPv2
RFC 2011	IP-MIB
RFC 2012	UDP-MIB
RFC 2013	TCP-MIB
RFC 2096	IP-FORWARD-MIB
RFC 2233	IF-MIB
RFC 2571	SNMP-FRAMEWORK-MIB
RFC 2572	SNMP-MPD-MIB
RFC 2573	SNMP-TARGET-MIBSNMP-NOTIFICATION-MIB
RFC 2574	SNMP-USER-BASED-SM-MIB
RFC 2575	SNMP-VIEW-BASED-ACM-MIB
RFC 2576	SNMP-COMMUNITY-MIB
RFC 2665	ETHERLIKE-MIB
RFC 2668	MAU-MIB
RFC 2674	p/Q BRIDGE-MIB
RFC 2737	ENTITY-MIB

Standards and Protocols

IP routing: RIP I/II, OSPF v2
Multicast: IGMP snooping
support:
QoS: Ingress rate limiting

IEEE 802.1D
IEEE 802.1p
IEEE 802.1Q
PVST 802.1s (2 minimum)



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