



X-Pedition™ 8600 Enterprise Backbone Switch Router

- Provides dual 64 Gbps switch fabrics for redundant configuration supporting 128 Gbps non-blocking switching capacity; 48 Mpps routing throughput
- Delivers wire-speed performance, even when all features are enabled
- Offers pinpoint application control to ensure delivery of critical applications
- Supports QoS with a non-blocking backplane, large buffering capacity, traffic classification and prioritization, and Layer 4 flow switching

- **Multilayer switch router for backbone**

- Full-function IP/IPX routing
- Dual 64 Gbps switch fabrics for redundant configuration supporting 128 Gbps non-blocking switching capacity; 48 Mpps switching and routing throughput
- Up to 28 Gigabit Ethernet ports; up to 112 10/100 ports

- **Full application support from the desktop to the WAN**

- Wire-speed Layer 4 application flow switching
- Maintains wire-speed performance with all other features enabled

- **Pinpoint control to prioritize applications**

- Wire-speed, application-level QoS
- Application load balancing and content verification
- Supports Weighted Fair Queuing and Rate Limiting

- **Security without degradation**

- ACLs can be applied at Layer 2, 3 or 4 without compromising performance

- **Standards-based, intuitive management for fast, easy troubleshooting**

- Full support for RMON and RMON 2
- Comprehensive Java-based management software via NetSight™

High-Capacity, Wire-Speed Switch Routing for the Enterprise Backbone

Built for the enterprise backbone, the chassis-based, high-capacity, 16-slot X-Pedition 8600 switch router combines wire-speed routing at gigabit rates, pinpoint control of application flows, and superior routing capacity to meet the evolving needs of today's networks.

The X-Pedition 8600 delivers full-function, wire-speed IP/IPX routing—both unicast (IP:RIP, OSPF, BGP, IPX:RIP) and multicast (IGMP, DVMRP). Dual 64 Gbps switch fabrics provide a redundant configuration supporting a total of 128 Gbps non-blocking switch capacity and delivering 48 Mpps switching and routing throughput. The X-Pedition 8600 switch router's throughput exceeds 48 million packets per second and can be configured with up to 240 10/100 ports or 60 Gigabit Ethernet ports.

Enterprise backbone requirements are met through massive table capacity and redundancy. WAN interfaces extend the benefits of the X-Pedition switch router to remote locations, providing network application-level control from the desktop to the WAN edge, all at wire speed.

The unique X-Pedition architecture enables you to route or switch packets based on the information in Layer 4 or on the traditional source-destination information in Layer 3. This application-level control allows the X-Pedition to guarantee security and end-to-end Quality of Service (QoS) while maintaining wire-speed throughput. QoS policies may encompass all the applications in the network, groups of users, or relate specifically to a single host-to-host application flow.

The X-Pedition 8600 is easily configured and managed through comprehensive, Java-based network management software, which includes intuitive wizards and drag-and-drop operation.

Unmatched Performance with Wire-Speed Routing and Switching

The X-Pedition 8600's custom ASICs switch or route traffic at wire speed based on Layer 2, Layer 3 and Layer 4 information. These ASICs also store QoS policies and security filters, providing wire-speed performance even when QoS and security filters are enabled. As a result, network managers no longer need to make compromises when it comes to performance and functionality; the X-Pedition delivers both.

Application-Level QoS and Access Control—at Wire Speed

Based on Layer 2, Layer 3 and Layer 4 information, the X-Pedition allows network managers to identify traffic and set QoS policies, without compromising wire-speed performance.

The X-Pedition can guarantee bandwidth on an application-by-application basis, thereby accommodating high-priority traffic even during peak periods of usage. QoS policies can be broad enough to encompass all the applications in the network, or relate specifically to a single host-to-host application flow.

Unlike conventional routers, the X-Pedition's performance does not degrade when security filters are implemented. Wire-speed security, obtained through 20,000 filters, enables network managers to benefit from both performance and security. Filters can be set based on Layer 2, Layer 3 or Layer 4 information, enabling network managers to control access based not only on IP addresses, but also on host-to-host application flows.

Wire-Speed Multicast to Support Convergence Applications

The X-Pedition's switching fabric is capable of replicating packets in hardware, eliminating performance bottlenecks caused by conventional software-based routers. By providing the necessary infrastructure, the X-Pedition turns the network into an efficient multicast medium, supporting Protocol Independent Multicasting-Sparse Mode (PIM-SM), DVMRP and per-port IGMP.

Industry-Leading Capacity

Large networks require large table capacities for storing routes, application flows, QoS rules, VLAN information and security filters. The X-Pedition 8600 provides table capacities that are greater than most other solutions available today, supporting up to 250,000 routes, 4,000,000 application flows and 800,000 Layer 2 MAC addresses.

Full-function wire-speed IP/IPX routing enables the X-Pedition to scale seamlessly as the network evolves. The chassis-based X-Pedition can be configured with up to 112 10/100 ports or up to 28 Gigabit Ethernet ports.

More than 4,000 VLANs, 20,000 security filters and large per-port buffers provide the capacity to handle peak traffic across even the largest enterprise backbones.

Comprehensive Management for Easy Deployment and Troubleshooting

VLAN Management—The X-Pedition can be configured to support VLANs based on ports and protocols. Network managers can use Layer 2 VLANs with 802.1p prioritization and 802.1Q tagging, and can configure VLANs via NetSight.

Extensive Performance Monitoring—The X-Pedition paves the way for proactive planning of bandwidth growth and efficient network troubleshooting by providing complete RMON/RMON 2 capabilities and industry-accepted flow accounting solutions.

Easy-to-Use, Java-Based Management—The X-Pedition's rich functionality is made easy to use through NetSight Atlas management applications, which provide extensive configuration and monitoring tools. NetSight Atlas is Java-based, allowing network managers to use most any client station to remotely manage the X-Pedition 8600.

NetSight can run on Solaris, Windows NT and Windows 95/98/2000 environments.

Specifications

Technical Specifications

Performance

Wire-speed IP/IPX unicast and multicast routing
Dual, redundant, non-blocking switching fabric providing
64 Gbps capacity
48 million packets per second routing and Layer 4
switching throughput

Capacity

240 Ethernet/Fast Ethernet ports
(10/100Base-TX or 100Base-FX)
68 Gigabit Ethernet ports
(1000Base-LX or 1000Base-FX)
Up to 4,000,000 Layer 4 application flows
Up to 800,000 Layer 2 MAC addresses
Up to 250,000 Layer 3 routes
Up to 20,000 security/access control filters
3 MB buffering per Gigabit port
1 MB buffering per 10/100 port
4,096 VLANs

Power System

120V-240V, 6A max

Physical Specifications

Dimensions

48.9 cm (19.25") x 43.82 cm (17.25") x 31.12cm (12.25")

Weight

28 kg (61.75 lbs)

Environmental Specifications

Operating Temperature

0° C to 40° C (32° F to 104° F)

Relative Humidity

5% to 95% noncondensing

Agency And Standards Specifications

Safety

UL 60950, CSA 60950, EN 60950, EN 60825 and IEC
60950

Electromagnetic Compatibility

47 CFR Parts 2 and 15, CSA C108.8, EN 555022, EN
55024, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR
22, and VCCI V-3

IP Routing

RIPv1/v2, OSPF, BGP-4

IPX Routing

RIP, SAP

Multicast Support

IGMP, DVMRP, PIM-SM

QoS

Application level, RSVP

RFCs/MIBs

IEEE 802.1p
IEEE 802.1Q
IEEE 802.1d Spanning Tree
IEEE 802.3
IEEE 802.3u
IEEE 802.3x
IEEE 802.3z
RFC 1213 – MIB-2
RFC 1493 – Bridge MIB
RFC 1573 – Interfaces MIB
RFC 1643 – Ethernet-Like Interface MIB
RFC 1163 – A Border Gateway Protocol (BGP)
RFC 1267 – BGP-3
RFC 1771 – BGP-4
RFC 1657 – BGP-4 MIB
RFC 1058 – RIP v1
RFC 1723 – RIP v2 Carrying Additional Information
RFC 1724 – RIP v2 MIB
RFC 1757 – RMON
RFC 1583 – OSPF Version 2
RFC 1253 – OSPF v2 MIB
RFC 2096 – IP Forwarding MIB
RFC 1812 – Router Requirements
RFC 1519 – CIDR
RFC 1157 – SNMP
RFC 2021 – RMON2
RFC 2068 – HTTP
RFC 1717 – The PPP Multilink Protocol
RFC 1661 – PPP (Point-to-Point Protocol)
RFC 1634 – IPXWAN
RFC 1662 – PPP in HDLC Framing
RFC 1490 – Multiprotocol Interconnect over Frame Relay

Ordering Information

SSR-16

X-Pedition 8600 switch fabric module (SSR-SF-16). Requires CM2 control module

SSR-PS-16

Power supply for the X-Pedition 8600 switch router SSR-PS-16-DC DC power supply module for the X-Pedition 8600

SSR-SF-16

Switch fabric module for the X-Pedition 8600 (One module ships with the base system)

SSR-MEM-128

X-Pedition 2400/8000/8600/ER16 128 MB memory expansion kit

XP-PCMCIA-32AT

32 MB ATA memory for the X-Pedition

SSR-CM2-64

X-Pedition 8000/8600 switch router control module with 64 MB memory

SSR-CM4-256

X-Pedition 8000/ 8600 switch router control module with 256 MB memory

XP-SYS-FW-32

X-Pedition system firmware on a 32 MB ATA PCMCIA card

Modules

SSR-HSSI-02-AA

Dual-port HSSI module for X-Pedition 8000 and 8600

SSR-HTX12-08-AA

8-port 10/100BaseTX module with Cat 5 RJ45 ports and 4 MB of memory (supporting up to 500,000 flows per SSR system) for the X-Pedition 8000 and 8600

SSR-HTX22-08-AA

8-port 10/100BaseTX module with Cat 5 RJ45 ports and 16 MB of memory (supporting up to 2,000,000 flows per SSR system) for the X-Pedition 8000 and 8600

SSR-HFX21-08-AA

8-port 100BaseFX module for with MMF SC ports and 16 MB of memory (supporting up to 2,000,000 flows per SSR system) for the X-Pedition 8000 and 8600

SSR-GSX21-02-AA

2-port 1000BaseSX module with SCSX (for MMF ports only) ports and 16 MB of memory (supporting up to 2,000,000 flows per SSR system) for the X-Pedition 8000 and 8600

SSR-GLX29-02-AA

2-port 1000BaseLX module for with SCLX ports (for MMF or SMF) and 16 MB of memory (supporting up to 2,000,000 flows per SSR system) for the X-Pedition 8000 and 8600

Ordering Information

SSR-SERC-04-AA

Quad-port Serial module with compression for the X-Pedition 8000 and 8600

SSR-SERCE-04-AA

Quad-port Serial module with compression and encryption for the X-Pedition 8000 and 8600
(US and Canada only)

SSR-HFX29-08-AA

8-port 100 FX module via SMF with 16 MB memory (supporting up to 2,000,000 flows per system) Build to order

SSR-GTX32-02

2-port 1000 Base-T module for the X-Pedition 8000 and 8600

SSR-GSX31-04

4-port 1000Base-SX module for the X-Pedition 8000 and 8600

SSR-GLX39-04

4-port 1000Base-LX module for the X-Pedition 8000 and 8600

Service and Support

Enterasys understands that superior service and support is a critical component of *Networks that Know*.™ The Enterasys **SupportNet Portfolio**—a suite of innovative and flexible service and support offerings—completes the Enterasys solution. SupportNet offers all the post-implementation support services you need—online, onsite or over the phone—to maintain your network availability and performance.

Additional Information

For additional information on the X-Pedition, visit enterasys.com/products/routing

Contact Information

Contact Enterasys Sales at **877-801-7082** or enterasys.com/products/routing/XSR

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