X-PEDITION SSR-2-B128 APPLICATION-AWARE DESKTOP SWITCH ROUTER

- **Multilayer solution for workgroup and server farm environments**
    — Full-function IP/IPX routing for unicast and multicast traffic
    — 8 Gbps non-blocking switching fabric; 6 Mpps routing throughput
    — Up to 16 10/100/1000 ports operable in full-duplex or half-duplex mode

- **Full application support right to the desktop**
    — Wire-speed Layer 4 application flow switching
    — Maintains wire-speed performance with all other features enabled
    — Ready now for multicast voice and video applications

- **Pinpoint control to prioritize applications, improve e-business operation**
    — Wire-speed, application-level QoS for end-to-end reliability
    — Application load balancing and content verification
    — Supports Weighted Fair Queuing and Rate Limiting (CAR)

- **Superior fault tolerance to ensure 24x7 network availability**
    — Redundant power supplies and CPUs to protect from failures
    — Load sharing to enhance performance through redundant links

- **Advanced security features for greater peace of mind**
    — Secure Harbour architecture protects against internal and external abuse
    — Wire-speed Layer 2/3/4 security filters
    — Supports LFAP interface to precisely monitor and measure network usage

- **Standards-based, intuitive management for fast, easy troubleshooting**
    — Full support for RMON and RMON 2
    — Comprehensive Java-based management software

Ensuring Timely, Efficient Application Delivery Right to the Desktop

The SSR-2-B128 provides the flexible configuration options and wire-speed throughput to support any mission-critical enterprise environment.

Along with several industry awards to its credit, the XPedition has been the #1 selling* modular Layer 3 switch for nearly two straight years.

Extending Industry-Leading Performance and Control to the Desktop

Enterasys Networks™ award-winning X-Pedition family represents a new generation of switch routing solutions that delivers true end-to-end performance to today's mission-critical enterprises. Providing a key link from the backbone to the desktop, the X-Pedition SSR-2-B128 is the premier application-aware desktop enterprise switch targeted at workgroups. The X-Pedition SSR-2-B128 extends full Layer 2, 3 and 4 switching functionality to the desktop. Designed for the workgroup, the X-Pedition SSR-2-B128 provides high-density, wire speed 10/100/1000 Mbps switching and routing with throughput in excess of 6.0 Mpps.

In addition to performance, the X-Pedition SSR-2-B128 provides pinpoint application control and superior routing capacity. The X-Pedition SSR-2-B128 is standards-based and provides seamless interoperability with previous generations of networking equipment. Finally, the X-Pedition SSR-2-B128 features full Layer 2 switching, full-function routing, and Layer 4 application switching. Layer 4 application switching provides pinpoint control of network traffic through extensive security, port-level accounting and comprehensive quality of service (QoS)—all at the application level, and all without sacrificing wire-speed performance.

Powered by custom ASICs, the SSR-2-B128 routes packets at wire speed based on conventional source/destination data and application-level information. This provides network managers with the performance they need, while extending their control to the application level.

The SSR-2-B128 is easily configured and managed through comprehensive, Java-based network management software, which includes intuitive wizards and drag-and-drop operation. The X-Pedition switch router is fully standards-based and completely interoperable with existing networking equipment.

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How the X-Pedition Supports QoS

- **Wire-Speed Routing on Every Port**—Removes routing as the bottleneck and avoids "switch when you can, route when you must" schemes which are often complicated and proprietary

- **Massive Non-Blocking Backplane**—Prevents overloaded output wires from clogging the switching hardware and isolates points of network congestion so that other traffic flows are unaffected

- **Large Buffering Capacity**—Avoids packet loss during transient bursts that exceed output wire capacity

- **Traffic Classification and Prioritization**—Enables policy-based QoS which guarantees throughput and minimizes latency for important traffic during times of congestion

- **Layer 4 Flow Switching**—Provides application-level manageability, enabling the implementation of true end-to-end QoS (e.g. RSVP)

- **Intuitive QoS Management Interface**—Allows powerful QoS policies to be implemented and maintained quickly and easily

- **Detailed Network Instrumentation**—Facilitates network baselining and trou-bleshooting, delivering insight into the behavior of network traffic

Unmatched Performance with Wire-Speed Routing and Switching

The X-Pedition SSR-2-B128 minimizes network congestion by switching and routing more than 6 million packets per second (pps). The switching fabric in the X-Pedition delivers full-function unicast and multicast IP/IPX routing at gigabit speeds on all ports.

The SSR-2's custom ASICs switch or route traffic based on Layer 2, Layer 3 and Layer 4 information at wire speed. 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 switch router 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. All QoS policies can be easily administered using the CoreWatch Network Management Software.

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 DVMRP and per-port IGMP. In the future, the X-Pedition will support PIM-DM and PIM-SM.

Large Capacity in a Small Router

Workgroup environments require sufficient capacity to handle routing, VLAN information and security filters. The X-Pedition SSR-2-B128 provides table capacities that are greater than any Layer 3 switching solutions available today, supporting up to 16,000 routes, 128,000 application flows and 180,000 Layer 2 MAC addresses.

Full-function IP/IPX routing enables the X-Pedition SSR-2-B128 to satisfy even the most traffic intensive workgroup environments. The base 16 10/100 Base-TX X-Pedition SSR-2-B128 can be expanded with Gigabit and 100Base-FX uplinks. More than 4,000 VLANs, 2,000 security filters and large per-port buffers provide the capacity to handle peak traffic for any workgroup.

Comprehensive Management for Easy Deployment, Changes 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 guided wizards within CoreWatch Network Management Software.

Extensive Performance Monitoring —The X-Pedition paves the way for proactive planning of bandwidth growth and efficient network troubleshooting by providing RMON and RMON 2 capabilities per port.

Easy-to-Use, Java-Based Management—The X-Pedition's rich functionality is made easy to use through CoreWatch, a Java-based tool that provides extensive configuration and monitoring. CoreWatch allows network managers to use any Java-enabled client station across the enterprise to remotely manage any SSR-2-B128. CoreWatch can run on Solaris, Windows NT, and Windows 95 environments.

Why the X-Pedition is a Better Desktop Switch Router

- Best-Selling Modular Layer 3 Switch
- Wire-Speed Performance with All Features Enabled
- First to Support WAN Interfaces
- Part of an Integrated End-to-End Solution
- Pinpoint Application Control from the Desktop to the WAN
- Multilayer Security Filters Don't Sacrifice Performance
- Award-Winning, Time-Tested Solution
- Highly Manageable, Easily Configurable

Challenge	Solution
Guarantee availability of critical applications such as Enterprise Resource Planning, e-commerce and multicast video	• Wire-speed Layer 4 application flow switching • Application content verification
Prioritize applications based on business needs (e-commerce traffic supercedes e-mail, which supercedes web surfing, etc)	• Application load balancing, rate limiting, prioritization and redirection • Wire-speed application level QoS
Robust throughput to handle heaviest traffic demands	• 8 Gbps non-blocking switching fabric • 9.2 Mpps routing throughput
Scalable to support new users and applications	• Up to 16 10/100/1000 ports • Supports 10/100 Base-TX, 100Base-FX, 1000Base-SX, 1000Base-LX
Maintain critical network security internally and externally	• Secure Harbour architecture includes wire-speed Layer 2/3/4 security filters
Ensure interoperability and protect investments moving forward	• Complete portfolio of standards-based routing protocols supported (RIP, OSPF BGP) and multicast support (IGMPDVMRPand PIM-SM/DM futures) • Built-in support for 10 Gigabit Ethernet, optical networks and other emerging technologies
Ensure round-the-clock network availability, reliability	• Redundant power supplies and CPUs to protect from failures • Load sharing to enhance performance through redundant links • Standards-based virtual router redundancy protocol (VRRP) and self-healing route paths (OSPF multipath, MLPPP and port trunking)
Quickly pinpoint and troubleshoot problem areas	• Full support for RMON and RMON 2 • Comprehensive Java-based management software
Measure network usage to plan accordingly for future needs	• Supports LFAP interface for detailed tracking of network usage

TECHNICAL SPECIFICATIONS

Performance
Wire-speed IP/IPX unicast and multicast routing
8 Gbps non-blocking switching fabric
9.2 million packets per second routing and Layer 4 switching
throughput

Capacity
8 Gigabit Ethernet ports (1000Base-SX)
Up 256,000 Layer 4 application flows
Up to 180,000 Layer 2 MAC addresses
Up to 50,000 Layer 3 routes
Up to 20,000 security/access control filters
3 MB buffering per Gigabit port
4,096 VLANs

Power System
120VAC, 6A Max
Redundant CPU and power supply
Hot-swappable media modules
CoreWatch Java-Based management software
SNMP manageable, and Command Line Interface (CLI)

PHYSICAL SPECIFICATIONS

Dimensions
7.1cm (2.8") H x 43.2cm (17") W x 47cm (18.5") D

Weight
9 kg (20 lb)

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature
5°C to 40°C (41°F to 104°F)

Relative Humidity
15% to 90% noncondensing

PROTOCOLS AND STANDARDS

IP Routing
RIPv1/v2, OSPF, BGP-4

IPX Routing
RIP, SAP

Multicast Support
IGMP, DVMRP, PIM-DM, PIM-SM

QoS
Application level, RSVP
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-2-B128
X-Pedition SSR-2-B128 fixed configuration with 16 10/100
TX ports. Includes redundant power supplies, X-Pedition
Router Services software and CoreWatch device management
software

SSR-2-PKG128
24-port 10/100Base-TX with a 2-port 1000Base-SX expansion
module

SSR-2-LX-AA
2-port 1000Base-LX expansion module

SSR-2-SX-AA
2-port 1000Base-SX expansion module

SSR-2-FX-AA
8-port 100Base-FX expansion module with MT-RJ connectors

SSR-2-TX-AA
8-port 10/100Base-TX expansion module

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