MATRIX E5 HIGH-SPEED, LOW-COST WIRING CLOSET SWITCH Data Sheet

- **High-density solution to keep up with growing environments**
  - Up to 240 10/100 Mbps ports
  - Up to 30 Gigabit Ethernet ports
  - Modular uplinks to high-speed servers and backbones
- **Performance and scalability to support bandwidth-intensive applications**
  - System bandwidth: 30 Gbps switching bandwidth
  - System performance: >44 million packets per second throughput
  - Convergence-ready, able to support emerging multimedia applications
- **Superior fault tolerance to maximize network availability**
  - Redundant, load-sharing AC power supplies
  - Distributed switching architecture eliminates single point of failure
- **Advanced Routing Module provides multilayer services**
  - Award-winning, wire-speed Layer 3/4 switching and routing
  - Security and bandwidth control through industry-leading application awareness
  - DHCP server and NAT for localized dynamic allocation of network addresses and IP management
- **Standards-based management for rapid deployment and troubleshooting**
  - Four groups of RMON integrated at no additional cost
  - WebView, HTTP-based configuration and monitoring

The Best of Both Worlds for Enterprise Networks

The new Matrix E5 provides ample throughput and capacity at a very attractive price point.

Big-Time Switching at a Streamlined Price

The newest member of the Matrix family, the Matrix E5 is a cost-effective, high-performance switching system developed specifically for the enterprise wiring closet. The introduction of the Matrix E5 demonstrates Enterasys' continued commitment to enterprise customers by offering a switch that meets growing bandwidth and application requirements yet still fits in today's budget-conscious IT environments.

The flexible Matrix E5 can be configured as a low-cost Layer 2 switch or, with the optional Advanced Router Module (ARM) installed, the E5 can provide wire-speed Layer 3/4 switching and routing to support more business-critical applications. In either case, the Matrix E5 delivers the fault-tolerant features enterprise network managers demand including a distributed switching architecture that eliminates any single point of failure. Hot swappable fan tray and load-sharing power supplies also help ensure maximum network uptime. Supporting all important switching, routing and network management industry standards, the Matrix E5 is easily configured and managed remotely using Enterasys' NetSight Management solutions as well as any web browser.

The Matrix E5 is ideal for customers who are transitioning from stackable or standalone switching devices and looking for a scalable, economical solution to support a growing user base, as well as network-intensive applications or high-volume multimedia applications. With its impressive combination of performance, low cost and advanced features, the Matrix E5 provides another key building block for next-generation IT infrastructures.

ENTERASYS NETWORKS™

Features to Look for in a Wiring Closet Switch

- Wire-Speed Layer 3/4 Switching and Routing
- IEEE 802.1d MAC Bridge Compliant
- IEEE 802.1Q VLAN Support
- IEEE 802.1D (p) Priority Queuing
- Internet Group Multicast Protocol (IGMP) Snooping
- Broadcast Thresholding
- IP Multicast Control
- Port Mirroring
- Link Aggregation
- TFTP Firmware Downloads

Flexibility and Performance for the Wiring Closet

Because today's enterprises experience constant change—from increased end users to the addition of more critical, bandwidth-intensive networked applications—the wiring closet has become a key focal point. IT staffs require a flexible, cost-effective solution that can keep up with growing demands and still deliver the important features and functionality to properly manage the infrastructure. The Matrix E5 comes through on all accounts, providing high-performance, modular LAN switching specifically for cost-sensitive wiring closet deployments.

Distributed Switching for Dependability and Cost Savings

Similar to the Matrix E7 and SmartSwitch 6000, the Matrix E5 employs Enterasys Networks' innovative distributed switching architecture for greater reliability and investment protection. In a distributed architecture, there is no centralized switch processor—each module switches its own data. Not only does this eliminate any single point of failure and save a slot in the chassis, but it allows network managers to add switching capacity gradually, per module as their needs dictate.

A Wide Range of Configuration Options

The major components of the Matrix E5 system include:

- 5-slot modular chassis with high-speed Frame Transfer Matrix (FTM)
- Hot-swappable fan tray
- 510 watt auto-ranging AC power supplies

The available switching modules include:

- 48-port 10/100 Mbps Ethernet switch module (with RJ45 or RJ21 connectors)
- 6-port 1000Base-T switch module
- 6-port Gigabit Ethernet switch module with four fixed 1000Base-SX and two industry–standard modular GBIC slots [GBIC options via Enterasys GPIMs include 1000Base-SX, 1000Base-LX and 1000Base-ELX (70-100Km)]
- Advanced Router Module (ARM) with two expansion slots. Expansion slots can be configured with:
  - —8-port 10/100 Mbps module
  - —8-port 100Base-FX module
  - —2-port 1000Base-SX or 1000Base-LX module
  - —1-port 1000Base-ELX (70-100Km) module
  - —2-port Serial WAN module
  - —4-port Serial WAN module (with or without compression)

For Starters: A High-Density, High-Performance Layer 2 Switch

In the simplest configuration, the 48-port 10/100 modules provide end-user connectivity. The 6-port Gigabit Ethernet modules provide high-speed uplink capability and can accommodate power users or small server farms. This configuration provides the key requirements for basic wiring closet deployments, including standards-based 802.1D switching and priority and 802.1Q VLANs. Other important features include port mirroring, link aggregation, IGMP snooping, as well as key management and troubleshooting features such as RMON and port mirroring.

Add Multilayer Services and Functionality as Needed

If Layer 3/4 functionality such as IP and IPX routing, NAT, DHCP, or IP multicast routing is a requirement, the Matrix E5 quickly adapts with the Advanced Router Module (ARM).

The ARM delivers IP and IPX routing at wire speeds between modules or VLANs within the Matrix E5 chassis, while Access Control Lists can be applied at Layer 2, 3 or 4 without performance degradation. Layer 4 application awareness allows network managers to prioritize applications or resources based on changing business needs. Network Address Translation (NAT) support provides for ease of IP allocation and administration. In addition, the ability to route between VLANs alleviates any security and management concerns. Other features of the ARM include support for RMON II, Dynamic Host Control Protocol (DHCP) and enhanced IP multicast control. Finally (and maybe most importantly), the ARM seamlessly integrates into the Matrix E5 chassis at a much lower cost than any competitive solution.

Integrated Management from the Workstation to the Web

To help ensure the network remains operating at peak performance, the Matrix E5 provides integrated network management options including the ability to monitor and provision the switch from any SNMP-based management station. In circumstances where IT budget constraints don't permit a dedicated management station, the embedded HTTP management agent permits the management and administration of the modules via any web browser.

In addition, the Matrix E5 is fully compatible with Enterasys Networks' NetSight Management solutions—highly graphical, easy-to-use network management applications that provide comprehensive configuration and remote management support for intelligent network management devices, as well as any SNMP MIB I or MIB II manageable devices.

Why the Matrix E5 is a Better Wiring Closet Switch

- High Density, High Throughput
- Low Cost Per Port
- Exclusive Distributed Switching Architecture
- Advanced Router Module for Multilayer Support
- Superior Fault Tolerance
- Enhanced Management Capabilities
- True Investment Protection

Challenge	Solution
Ensure scalability for new users and applications	• *Up to 240 10/100 Mbps ports* • *Up to 30 Gigabit Ethernet ports*
Seamlessly migrate connectivity	• *Industry-leading uplink options including Gigabit Ethernet 1000Base-SX/LX/ELX (70 km)*
Keep costs down without compromising performance	• *Low price per port on high-speed switching solution*
Support multilayer switching and routing for greater application control	• *Advanced Router Module for wire-speed IP/IPX routing*
Ensure maximum uptime and network availability	• *Distributed switching for no single point of failure* • *Hot-swappable, load-sharing power supplies*
Effectively deploy, measure and troubleshoot network infrastructure	• *Intuitive, GUI-based NetSight management applications* • *Supports industry-standard management including RMON I and II, and 802.1Q IETF MIB*

TECHNICAL SPECIFICATIONS

Chassis

Fault Tolerance

Switch fabric: Fully independent, hot-swappable modules
FTM backplane: Passive bus
Power supplies: 1:1 redundant, hot swappable
Fan tray: Hot-swappable

Power System

DC Output: 510 Watt
AC Input (auto-sensing): 100V to 125V, 6.2 Amps
200V to 250V, 3.1 Amps
Heat Dissipation: 2572 BTU/hr (redundant configuration)
AC VA Rating: 750 AC VA

Backplane Capacity

Frame Transfer Matrix: 21 Gbps fully-interconnected matrix

System MTBF

Predicted: > 200,000 hrs.

Modules

Processor: Motorola PowerPC XPC850
Main Memory: 8 MB
Buffer Memory: 1 MB for 10/100Base port; 2 MB for 1000Base port
Flash Memory: 2 MB
Address Table Size: 12,000 entries

Module Performance

Throughput Capacity: 8.93 Mpps per switch (Measured in 64 byte packets)
Switching Bandwidth Capacity: 6.0 Gbps per switch module

MTBF

Predicted: 225,115 hrs

PHYSICAL SPECIFICATIONS

Interface Options

5H102-48: 48 10Base-T/100Base-TX via RJ45 connectors
5H103-48: 48 10Base-T/100Base-TX via RJ21 connectors
5G106-06: 6 1000Base-SX 2 via GBIC connectors
5G102-06: 6 1000Base-T via RJ45 connectors
5SSRM-02: (See Ordering Information for a list of available options.)

Dimensions

Chassis

58.8 cm (24.5") H x 41.61 cm (17.3") W x 33.6 cm (14") D

Modules

43.87 cm (18.28") H x 5.71 cm (2.38") W x 27.88 cm (11.62") D

Weight

Chassis: 10.23 kg. (22.5 lbs)
AC Power Supply: 2.72 kg. (6 lbs)
Fan Tray: 1.59 kg. (3.5 lbs)

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature

0 to 50° C

Operating Humidity

10% to 90% (Non-Condensing)

AGENCY AND STANDARDS SPECIFICATIONS

Safety

UL 1950, CSA C22.2 No. 950, 73/23/EEC, EN 60950, IEC 950

Electromagnetic Compatibility (EMC)

FCC Part 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 50082-1, AS/NZS 3548, VCCI V-3

ORDERING INFORMATION

5C105

5-slot Matrix E5 chassis, fan tray included

5C205-3

510 watt AC power supply

5C405

Spare fan tray

5H102-48

48-port 10/100 Base-TX RJ45 switching module

5H103-48

48-port 10/100 Base-TX RJ21 switching module

5G106-06

6-port Gigabit Ethernet (4 1000Base-SX and 2 GBIC via GPIMs) switching module

5G102-06

6-port 1000Base-TX RJ45 switching module

5SSRM-02

Matrix E5 blade with two expansion slots (Includes router services software):

- 6SSRLC-TX-AA 8- port 10/100 Base-TX expansion module
- 6SSRLC-FX-AA 8-port 100Base-FX expansion module
- 6SSRLC-SX-AA 2-port 1000 Base-SX expansion module
- 6SSRLC-LX-AA 2-port 1000 Base-LX expansion module
- 6SSRLC-LX70-AA 1-port 1000 Base-LX 70km expansion module
- 6SSRLC-SER-AA 2-port Serial WAN expansion module
- 6SSRLC-SERC-AA 4-port Serial WAN expansion module with compression
- 6SSRLC-SERCE-AA 4-port Serial WAN expansion module with compression and encryption

GPIM-01

Gigabit Ethernet Port Interface Module, 1000Base-SX

GPIM-08

Gigabit Ethernet Port Interface Module, 1000Base-LX, Enhanced Long Haul (70Km)

GPIM-09

Gigabit Ethernet Port Interface Module, 1000Base-LX

Network Management Applications

NETSIGHT-EM

NetSight Element Manager

NETSIGHT-SM-TM

NetSight Switch and Topology Manager

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