



- **Comprehensive traffic control**
  - Guarantee delivery of critical applications such as VoIP and multicast video
  - Advanced security filtering based on Layer 2-4 information
  - Per-port bandwidth provisioning and queue management
- **Low cost of ownership**
  - Built-in traffic control without the additional expense of external routers
  - Next-generation nTera™ backplane allows complete compatibility with existing SmartSwitch 6000 modules
- **High-density, scalable switching**
  - Up to 336 10/100 ports, scalable to over 500
  - Up to 42 Gigabit ports, scalable to over 80
  - Future-ready to support 10 Gigabit Ethernet, DWDM, Jumbo Frames
- **Superior fault tolerance**
  - Distributed switching architecture for maximum uptime
  - No single point of failure
- **High-availability features**
  - Link Aggregation (IEEE802.3ad), Per-VLAN Spanning Tree (IEEE 802.1s), and Quick Convergence Spanning Tree (IEEE 802.1w)
- **Industry-leading management for rapid deployment and troubleshooting**
  - SMON, RMON1, 802.1Q IETF MIB, and NetSight management

### Better Switching for Enterprise Networks

*Enterasys' new Matrix E7 delivers superior connectivity with guaranteed reliability and scalability.*

### Next-Generation Intelligent Access Platform

The Matrix E7 is the newest member of Enterasys Networks'™ award-winning line of enterprise switching solutions. A complement to the SmartSwitch family of products, the Matrix E7 enhances the proven performance of the SmartSwitch 6000, providing a path for emerging technologies such as 10 Gigabit Ethernet, Dense Wave Division Multiplexing (DWDM) optical uplinks and Jumbo Frame Support.

The SmartSwitch 6000 is a workhorse in the wiring closet, and the Matrix E7 builds upon those capabilities with the increased speed and functionality that's required in high-performance wiring closets or data centers. This high-powered performance is available thanks to the Matrix E7's 42-Gigabit backplane which is scalable to 420 Gigabit. With business becoming more dependent on the network, the traffic control capabilities inherent in the Matrix E7 allow users to better control business-critical applications such as Voice over IP and multicast video—making it truly an Intelligent Access Platform. Through the use of embedded directory-enabled services and system management tools, Enterasys delivers ease of use as well as total network visibility. And as the network infrastructure continues to shoulder more and more of the business, the Matrix E7 provides the intelligent tools that allow administrators to align the network closer to the goals of the overall organization. Unmatched built-in features power network automation—while business demands grow, administrative tasks won't. With the Matrix E7 and Enterasys networking architecture, one “click” equals a thousand actions.

## Why the Matrix E7 Offers Better Switching

- Unique rate limiting/ bandwidth provisioning
- Advanced Layer 2 to 4 services
- Guaranteed reliability and scalability
- Superior connectivity
- True investment protection

## Multilayer Frame Classification

The industry's only Layer 2 switch with built-in multilayer frame classification, the Matrix E7 offers Layer 3 and 4 traffic control, security filtering and Rate Limiting without the complexity and cost associated with a routed solution. Put simply, only Enterasys can deliver this powerful multilayer functionality in a low-cost, easy-to-use platform.

## Built-In Firmware Feature Set

The Matrix E7 provides a very broad, yet standards-based firmware feature set based on mature SmartSwitch 6000 technology. And unlike competitive products, the Enterasys Matrix E7 includes advanced multilayer switching services, 9 groups of RMON management per port, and feature-rich configuration capabilities at no additional charge.

## True Investment Protection

Protecting customers' investments is a top priority, so the Matrix E7 is completely compatible with all existing SmartSwitch 6000 modules. That's just the start, though, because the Matrix E7 shares common firmware feature sets with existing SmartSwitches—like standards-based 802.1Q VLAN and SecureFast support.

## Quality of Service (QoS)

Essential to the successful support and delivery of business-critical applications, the Matrix E7 allows network administrators to apply quality of service using multiple processes including:

- Assigning 802.1p traffic classes to receive frames based on parameters such as end-station address, IP TOS or Layer 4 (TCP/UDP) socket number
- Bandwidth provisioning inbound traffic to insure that SLA can be met
- Bandwidth provisioning outbound traffic to ensure that the high-speed uplinks are not over subscribed
- Mapping traffic classes to prioritized queues
- Strict and Weighted Fair Queuing (WFQ)

Challenge	Solution
<i>Guarantee availability of critical applications in areas such as Enterprise Resource Planning and Voice over IP</i>	<ul style="list-style-type: none"><li>• Comprehensive application-based Quality of Service</li></ul>
<i>Enable service level agreements (SLAs)</i>	<ul style="list-style-type: none"><li>• Per-port bandwidth provisioning and queue management</li></ul>
<i>Improve security at network access points</i>	<ul style="list-style-type: none"><li>• Packet filtering based on Layer 2-4 information</li><li>• Secure management with access control lists</li></ul>
<i>Control network costs</i>	<ul style="list-style-type: none"><li>• Advanced traffic control without the additional expense of external routers</li><li>• New nTERA™ backplane allows compatibility with all previous, current and future-generation switch modules</li></ul>
<i>Ensure scalability for new users and applications</i>	<ul style="list-style-type: none"><li>• Up to 336 10/100 ports, scalable to over 500</li><li>• Up to 42 Gigabit ports, scalable to over 80</li><li>• Support for emerging technologies: 10 Gigabit Ethernet, Optical uplinks such as DWDM, Jumbo frames</li></ul>
<i>Seamlessly migrate connectivity</i>	<ul style="list-style-type: none"><li>• Industry-leading uplink options including:<ul style="list-style-type: none"><li>— Gigabit Ethernet 1000Base-SX/LX/ELX (70km) and 1000Base-T</li><li>— ATM OC-3 and OC-12, FDDI, WAN</li></ul></li><li>• Advanced Router Module for wire-speed IP/IPX routing</li></ul>
<i>Effectively deploy, measure and troubleshoot network infrastructure</i>	<ul style="list-style-type: none"><li>• Intuitive, GUI-based NetSight management applications</li><li>• Supports industry-standard management including: RMON 1 and SMON, 802.1Q IETF MIB</li></ul>

## Advanced Router Module

The Matrix E7 can deliver wire-speed Layer 3 switching and routing between the chassis, modules and VLANs with the Advanced Router Module (6SSRM-02). The Advanced Router Module provides Layer 4 application awareness, Access Control Lists, Dynamic Host Control Protocol Support, Network Address Translation Support and enhanced multicast support—at a much lower cost than that of any competitive solution.

## Sample Configurations

### Deployment 1

#### High-Performance Wiring Closets

High port density, superior throughput, support for multiple technologies and advanced Layer 2-4 traffic control make the Enterasys Matrix E7 ideal for aggregating traffic from shared hubs, MicroLAN switches and individual desktop users.

### Deployment 2

#### Server Farm Data Centers

Distributed switching architecture with redundant processors and power supplies and hot-swappable components make the Matrix E7 extremely reliable—with no single point of failure. nTERA™ backplane preserves infrastructure investment by retaining full compatibility with previous, current and future technologies. Advanced ASICs with embedded Layer 2-4 services deliver comprehensive quality of service, security and traffic management to the network edge.

### Deployment 3

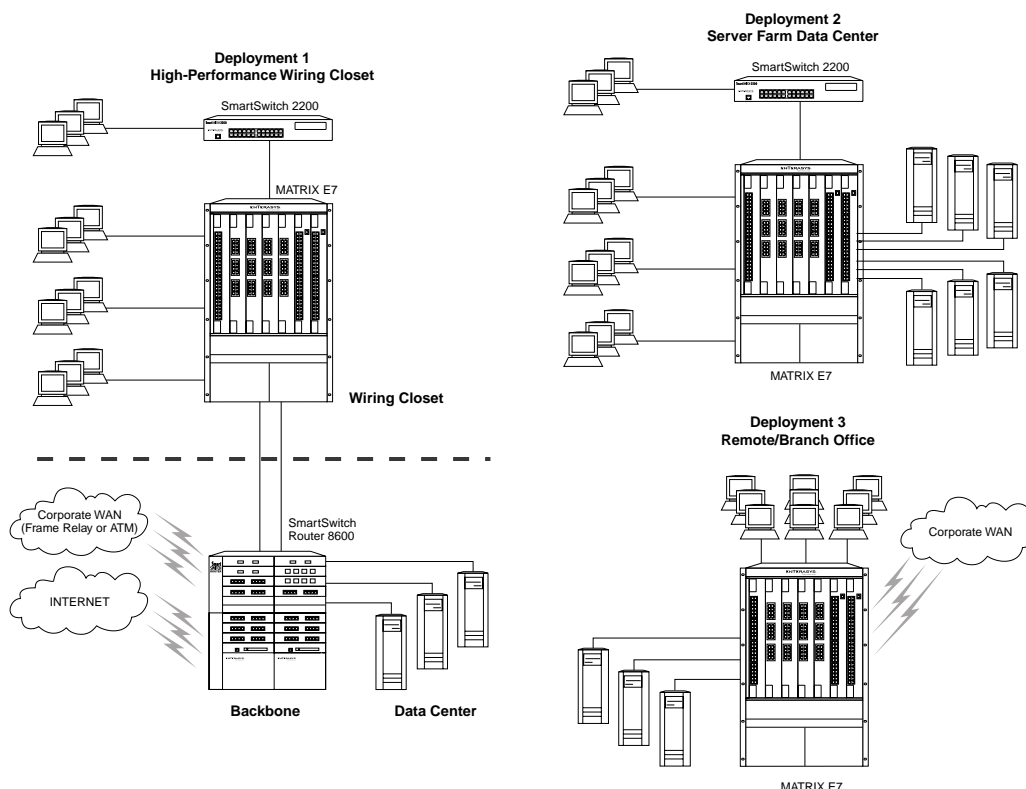
#### Remote/Branch Offices

With the 6SSRM-02 advanced router module, the Matrix E7 can be used as a one-box solution for a remote or branch office. In this scenario the Matrix E7 not only provides both desktop and server connectivity but also offers services such as Rate Limiting, web caching, web hosting, server load balancing, DHCP and WAN—all in one box.

## Comprehensive Security

*The Matrix E7's robust and easily applied security features keep intruders out of your network and provide for different levels of access within your organization:*

- Innovative security filtering
- IP access control lists
- Radius authentication
- SNMP management VLANs
- User-based security and authentication
- Port-based MAC address locking
- Dynamic egress feature prevents passive analyzers from snooping
- Supports emerging 802.1X authentication for edge control against denial of service attacks and other management control policy requirements



## TECHNICAL SPECIFICATIONS

### Fault Tolerance

Switch Fabric: Independent, hot-swappable modules  
nTERA Backplane: Passive matrix  
Power Supplies: 1:1 redundant, hot-swappable  
Fan Tray: Hot-swappable

### Power System

AC Input Power (auto-sensing)  
100V to 125V, 16 Amps  
200V to 250V, 8 Amps  
Output Power: 1200 Watts  
Heat Dissipation: 6200 BTU/hr max.  
AC VA Rating: 1810 AC VA max

### Backplane Capacity

nTERA: 420 Gbps

### System LED Indicators

#### Power Supplies LEDs:

Green—Power supply outputs are within regulation;  
power redundancy is available  
Yellow—Power supply outputs are within regulation,  
but power redundancy is not available  
Red—One or more of the power supply outputs are  
out of regulation

#### Fan Tray LEDs:

Green—Fans operating normally  
Red—Fan failure

### System MTBF

Predicted: >200,000 hrs.

### Standards Support

IEEE 802.1Q, 802.1D, 802.1p  
Ethernet: IEEE 802.3, 10Base-T, 10Base-FL  
Fast Ethernet: IEEE 802.3u, 100Base-TX, 100Base-FX  
Gigabit Ethernet: IEEE 802.3z, 1000Base-T  
FDDI: ANSI SMT X3.229 (Rev 7.3), ANSI MAC X3.139-  
1987, ANSI PHYX3.148-1988, ANSI PMD X3.166, ANSI TP-  
PMD T12/94, ANSI SMF-PMD X3.184, ANSI LCF-PMD  
X3.237  
ATM: DS-3, OC-3c, OC-12c, LANE 1.0/2.0, UNI 3.0/3.1/4.0

### Media Type Supported

Copper: RJ45, RJ21  
Fiber: SC, MT-RJ

### Standard MIB support

Path MTU Discovery (RFC 1190)  
SNMP MIB II (RFC 1213)  
FIB (RFC 1354)  
Bridge MIB (RFC 1493)  
MIB II interfaces (RFC 1573)  
SONET MIB (RFC 1595)  
AToM MIB (RFC 2515)  
RMON MIB (RFC 1757)

### Management Access

SNMP, WebView, Telnet  
Serial RS232 COM port

Matrix E7, nTERA, SmartSwitch and SmartSwitch Router are trademarks or registered trademarks of Enterasys Networks. All other products or services mentioned are identified by the trademarks or service marks of their respective companies or organizations. Enterasys Networks is a Cabletron Systems Company. NOTE: Enterasys Networks reserves the right to change specifications without notice. Please contact your representative to confirm current specifications.

Lit. #9011977-1 7/00

## PHYSICAL SPECIFICATIONS

### Chassis Dimensions

77.47 cm (30.5") H x (44.04 cm) 17.34" W x  
36.83 cm (14.5") D

### Power Supply Dimensions

12.7 cm (5.0") H x 21.0 cm (8.27") W x 27.94 cm (11.0") D

### Module Dimensions

46.4 cm (18.28") H x 6.5 cm (2.38") W x 11.62" D

### Weight

Empty chassis w/fan tray: 23.6 kg (52 lbs.)  
Power supply: 9.1 kg (20 lbs.)  
Average module: 2.0 kg (4.5 lbs.)

### Rack Unit Height

18 U

## ENVIRONMENTAL SPECIFICATIONS

### Operating Temperature

5° to +40°C (41° to 104°F)

### Non-Operating Temperature

0° to +70°C (32° to 158°F)

### Operating Humidity

5 to 90% RH, non-condensing

## AGENCY AND STANDARDS SPECIFICATIONS

### Safety

UL1950  
CSA C22.2 No. 950  
EN60950  
IEC950  
72/73/EEC

### Electromagnetic Compatibility

FCC Part 15  
CSA C108.8  
EN555022  
VCCI V-3/93.01  
EN50082-1  
89/336/EEC

## ORDERING INFORMATION

### 6C107

Matrix E7 Chassis, 7 slots, with fan tray

### 6C207-1

Matrix E7 Power Supply, 1200-watt  
(order two for redundancy)

### 6C407

Matrix E7 Fan Tray, spare

**ENTERASYS**  
NETWORKS™