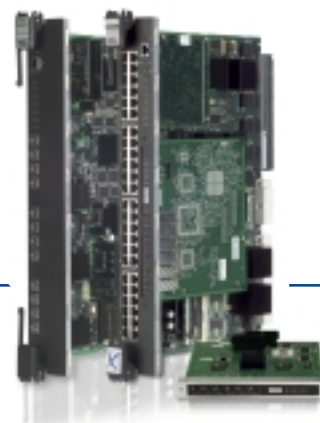


- **Designed for existing Matrix E7 and new Matrix N3/N7 chassis**
- **Integrated Services Design lowers entry and maintenance costs**
- **Superior performance and capacity for longer lifespan and lower lifetime cost**
- **Optimized for high-availability services for maximum network uptime**



Enterasys Distributed Forwarding Engines for the Matrix E-Series and Matrix N-Series

Next-Generation Matrix Switch Modules

The Distributed Forwarding Engine (DFE) is Enterasys' next generation of enterprise modules for the Matrix E7 and Matrix N-Series switches.

Within either the Matrix E7 or Matrix N-Series, the DFEs are ideal for high-density network edge, collapsed backbone, distribution, and server aggregation applications.

Designed to leverage Enterasys' nTERA™ ASICs, the DFEs deliver high performance and flexibility to ensure comprehensive switching, routing, Quality of Service, security and traffic containment unmatched by competitive solutions.

Enterasys' Integrated Services Design

The industry's first Integrated Services Design enables every DFE to deliver:

- **Switching/VLAN Services**
- **IP Routing**
- **Advanced Multilayer Packet Classification (including Port-Based and User-Based)**
- **Security (User, Host, Network)**
- **Management, Control and Analysis**

The Integrated Services Design eliminates the need to purchase separate management modules or supervisor engines for a lower entry cost. All DFE modules provide a high port density, which reduces maintenance costs because fewer types of spares are required.

Module Configurations

The DFEs provide flexibility with a variety of port density and technology options:

Edge Deployment

- 48 10/100Base-TX RJ45 ports with one expansion slot
 - 6 1000Base-X Mini-GBIC ports Network Expansion Module
- 48 10/100Base-TX RJ-21 (Telco) ports with one expansion slot
 - 6 1000Base-X Mini-GBIC ports Network Expansion Module
- 72 10/100Base-TX RJ21 (Telco) ports
- 48 100Base-FX MT-RJ ports with one expansion slot

Distribution Deployment

- 12 1000Base-X Mini-GBIC ports
- 2 10GE (Xenpak) 10GBase Optics slot

Server Aggregation Deployment

- 30 10/100/1000Base-TX RJ45 ports

The DFEs can be installed in any slot in the Matrix E7, Matrix N3 and Matrix N7. In the Matrix E7, the DFEs can coexist with existing first-, second- and third-generation modules. The Matrix N-Series extends Enterasys commitment to providing maximum investment protection through the seamless migration of existing and new technologies—like 10-Gigabit Ethernet—without the need to replace any modules in the current chassis. In the Matrix N3 and N7, the DFE serves as a next-generation enterprise switch also scaling to 10-Gigabit Ethernet.

• **Superior performance, capacity**

- Supports more high-bandwidth and latency-sensitive applications
- For longer lifespan; lower lifetime cost

• **Integrated Services Design**

- Reduces the number/type of modules required; simplifies network design
- Lowers entry cost; lowers maintenance and sparring costs

• **Port- and User-Based Multilayer Packet Classification**

- Enables business-critical applications transport, security and user personalization
- Tunes the network to business drivers; makes the network more efficient

• **Optimized high-availability services**

- Services and management stateful failover; modules self-learn configurations
- Increases reliability and fault tolerance; reduces configuration time; maximizes uptime

• **Network-wide configuration, change, and inventory management**

- Easier to install, troubleshoot, maintain; wizard-based upgrades
- Reduces support and maintenance costs, configuration time

EMBEDDED SERVICES

Multilayer Packet Processing

Multi-stage Packet Classification

IP TOS Re-write

VLAN/Priority Tag Re-Write

Switching/VLAN Services

Generic VLAN Registration Protocol (GVRP)

802.1Q VLANs

802.1D MAC Bridges

802.1w Rapid-reconvergence of Spanning Tree

802.3ad Link Aggregation

Broadcast Suppression

802.3x Flow Control

SMON Port Redirect

SMON VLAN Redirect

IDS Redirect

IP Multicast (IGMP support v1, v2, querier)

Jumbo Packet with MTU Discovery Support for Gigabit Ethernet ports

IP Routing

Basic IP Routing Package: Part of Enterasys Operating System (EOS) and included in all base DFEs.

Static Routes

RIPv1/v2

IGMPv1/IGMPv2

ICMP

Virtual Router Redundancy Protocol (VRRP)

ACL Basic

DHCP Relay

Extended IP Routing Package: A software upgrade (N-EOS-L3) sold on a per-chassis basis.

OSPF with Multipath Support

DVMRP

Extended ACLs

PIM-SM

PIM-DM

Only one license is required per Matrix N3 or Matrix N7 chassis

Security (User, Network and Host)

Telnet (Inbound/Outbound)

Secured Shell (SSHv2) (switch interface only)

Syslog

802.1X Port-Based Network Access Control (Single User)

Management, Control and Analysis

SNMP v1/v2c/v3

Web Support

CLI Support

Single IP

Multi-image Support

Multiconfiguration File Support

Editable Configuration File

Configuration Upload/Download

DHCP Client

FTP Client

RADIUS Client Support

Entity MIB

COM Port Boot Prom Download via ZMODEM

RMON (rfc2819) Stats, History, Alarms, Events

High-Capacity RMON (64-bit counters)

SMON (rfc2613) VLAN and Priority Stats

Simple Network Time Protocol (SNTP)

Trace Route

Dynamic Egress

Inbound Rate Policing

Outbound Rate Shaping

NetSight Atlas Policy Manager Support

Node and Alias Table

Cabletron Discovery Protocol (CDP)

Port-Based MAC Locking

Access Control Lists

Network Management

NetSight Atlas Console

NetSight Atlas Policy Manager

NetSight Atlas Inventory Manager

NetSight Atlas ACL Manager

PERFORMANCE/CAPACITY

Address Table Size

64k MAC Addresses

Throughput Capacity

13.5 Mpps (measured in 64-byte packets)

Switching Fabric Bandwidth Capacity

18.0 Gbps

Layer 2 and Layer 3 Throughput

13.5 Mpps (measured in 64-byte packets)

VLANs Supported

4,094

10/100 Priority Queues

4

GbE Priority Queues

8

Classification Rules

64k

SPECIFICATIONS

PHYSICAL SPECIFICATIONS

Dimensions

46.43 cm (18.28") H x 6.05 cm (2.38") W x 29.51 cm (11.62") D

Weight

5.54 kg (12 lbs), gross shipping; 4.10 kg (9 lbs), net

Memory

Main Memory: 128 Mb expandable to 256 Mb

Buffer Memory: varies per board

Flash Memory: 32 Mb expandable to 64 Mb

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature

+5° C to +40° C (41° F to 104° F)

Non-Operating Temperature

-30° C to +73° C (-22° F to 164° F)

Operating Humidity

5% to 90% RH, non-condensing

Power Consumption

100 to 125 VAC or 200 to 250 VAC; 50 to 60 Hz

AGENCY AND STANDARDS SPECIFICATIONS

Safety

UL1950

CSA C22.2 No. 950

EN 60825

EN 60950

IEC 950

Electromagnetic Compatibility

47 CFR Parts 2 and 15

CSA C108.8

EN 55022

EN 61000-3-2

EN 61000-3-3

EN 55024

AS/NZS 3548

VCCI V-3

ORDERING INFORMATION

DISTRIBUTED FORWARDING ENGINES

7H4382-49	Distributed Forwarding Engine with 48 10/100Base-TX ports via RJ45 connectors with 1 NEM Slot
7G4270-12	Distributed Forwarding Engine with 12 1000Base-X mini-GBIC slots
7G4202-30	Distributed Forwarding Engine with 30 10/100/1000Base-TX ports via RJ45 connectors
7H4203-72	Distributed Forwarding Engine with 72 10/100Base-TX ports via RJ21 (Telco) connectors
7K4290-02	Distributed Forwarding Engine with 2 10-Gigabit Ethernet (1 active) 10GBase optics slot
7H4284-49	Distributed Forwarding Engine with 48 100Base-FX ports via MTRJ connectors
7H4383-49	Distributed Forwarding Engine with 48 10/100Base Base-TX ports via RJ21 connectors with 1 NEM Slot

NETWORK EXPANSION MODULE (NEM)

7G-6MGBIC	Network Expansion Module (NEM) with 6 1000Base-X ports via mini-GBIC connectors
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MINI-GBIC MODULES

MGBIC-LC01	Mini-GBIC with 1000Base-SX port via LC connectors
MGBIC-LC09	Mini-GBIC with 1000Base-LX port via LC connectors
MGBIC-MT01	Mini-GBIC with 1000Base-SX port via MTRJ connectors

All DFEs ship with Enterasys' Operating System (EOS), which includes the features described in this data sheet. The only exception is the advanced routing features that are provided through a software license (N-EOS-L3).

Notes:

1. Distributed Forwarding Engines (DFEs) can be installed in any slot in the Matrix N7, N3 or E7 chassis.
2. The Matrix N7 and E7 can support up to seven DFE modules with the 1600W AC power supply (part number 6C207-3).
3. The Matrix N3 can support up to three DFE modules with the 863W AC Power Supply (part number 7C203-1).
4. DFE part number 7H4382-49 can be used either to bridge the FTM1 and FTM2 backplanes in the Matrix E7 chassis or to support the DFE Network Expansion Module (NEM).
5. DFE part number 7H4382-49 supports only the DFE NEM. It does not support Enterasys VHSIM or HSIM.

WARRANTY

As a customer-centric company, Enterasys is committed to providing the best possible workmanship and design in our product set. In the event that one of our products fails due to a defect in one of these factors, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired as soon as possible.

SERVICE AND SUPPORT

Enterasys Networks understands that superior service and support is a critical component for your Business-Driven Network. The Enterasys **SupportNet** Portfolio—a suite of innovative and flexible service and support offerings—completes the Enterasys Business-Driven Network 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 Matrix N-Series, please refer to the following documents:

- Matrix N-Series Product Overview <http://www.enterasys.com/products/switching/n/>
- Matrix N-Series Application Overview <http://www.enterasys.com/products/switching/n/app-overview.html>
- Matrix N-Series Data Sheet <http://www.enterasys.com/products/switching/7C10x/>
- Matrix N-Series FAQ <http://www.enterasys.com/products/switching/n/faq.html>

CONTACT INFORMATION

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