Enterasys® D2

Secure Gigabit Ethernet Workgroup L2 Switch with Optional Policy Support

12-port small form factor 10/100/1000 switch quiet enough for conference rooms and classrooms

Optional support for Secure Networks policy architecture

Advanced Quality of Service for voice and video applications

Power over Ethernet and redundant power options available

17.86 Mpps and 24 Gbps capacity

Benefits

Minimal Operator Intervention

- Patented Secure Networks visibility and control functions enable you to apply business-oriented user and application policies to create a self-managed, secure and high-performance network

- Unlike traditional technology-oriented port and VLAN ACL-based methods, you don't need to configure policies on a box-by-box basis using complex CLI commands. An intuitive GUI enables you to define the policies once, and regardless of the number of moves, adds or changes, have those user and application policies enforced automatically across the entire network

Edge Security & Access Control

- "What you need is what you get" policies allow you to proactively prevent security incidents and assure service level requirements by either rate limiting, prioritizing, denying, or quarantining traffic based on user privileges, application priority, or required protocols.

Predictable Quality of Service

- Extensive controls for managing QoS by L2/L3/L4 traffic discovery, classification and prioritization

Enterprise Functionality for Workgroups

- Gigabit speed, advanced QoS, PoE and redundant power options

Product Overview

Available with optional Secure Networks™ policy management capabilities, the Enterasys D2 provides 12 ports of Gigabit Ethernet (GbE) connectivity in 10/100/1000 Mbps RJ45 with integrated Power over Ethernet (PoE) options, support for redundant power and 2 Small Form Factor Pluggable fiber-optic transceivers (SFP) for uplink connectivity. The extremely quiet design makes this switch ideal for placement in classrooms, conference rooms and other small workgroup areas. LEDs on the front, back and top of the switch provide very flexible mounting options. An optional lock box for secure mounting inside a room is available.

Cooling fans are incorporated into the D2 switch, but will only activate when the ambient temperature exceeds 104° F / 40° C (non PoE model). The non-PoE switch is designed to operate within higher temperature ranges (up to 140° F / 60° C) than standard switches in the marketplace – allowing it to be placed in warm locations that may lack adequate cooling or ventilation.

The D2 comes ready to support the QoS priority and security needs of converged voice, video and data networks. All this while ensuring only the right users have access to the right information from the right place at the right time for compliance purposes.

Bandwidth, QoS and security policy control can be applied based on L2/L3/L4 traffic visibility. In addition to L2 switching, the D2 inspects and classifies incoming traffic; discovers attached users, applications and devices; authenticates them using 802.1x, Web and/or MAC multi-user authentication; then enforces priority and security policies by making the filtering, forwarding or rate limiting decision.

The D2 is integrated with the Enterasys Secure Networks architecture to offer granular control by user and application over priority and security parameters, while enabling full user mobility. The privileges for a user or device are enforced dynamically based on authentication results regardless of wired or wireless connectivity. The end result is an easier way to manage the networked infrastructure as an integrated system. This holistic approach leveraging Enterasys NetSight® centralized visibility and control management software avoids the need to manually reconfigure on a device-by-device basis every time there is a move, add or change. Define the policies once, and Enterasys keeps up with all the mobility, expansion and modification automatically.

There is nothing more important than our customers.

Features

Security

- Business-oriented policy-based security* by user, application, protocol, port or VLAN

- Technology-oriented ACL-based security by port or VLAN

- Multiple User Authentication via IEEE 802.1X, Web portal* and/or MAC address

- Multiple User Quarantine via RFC 3580 for up to 3 users/devices per port.

- Full support, via optional policy license, for port-based policies* (PC+Phone)

- Acceptable Use Policy enforcement* when deployed with NetSight

- Rapid detection, isolation and remediation of threats* when deployed with NetSight and Dragon

- Proactive Protection Services
  – MAC address lockdown / lockout
  – Worm & virus quarantine via optional policy license
  – Source port pairing
  – ARP broadcast protection
  – BPDU port protection
  – DHCP service protection

Performance

- Aggregate capacity: D2 performs at wire speed per port and provides switching capacity up to 17.86 Mpps throughput and 24 Gbps bandwidth.

- Address table size: Up to 16,000 addresses are supported

- Hardware queues: Eight hardware queues per port are supported

Management

- Secure Management: Authenticated and encrypted SNMPv3 support in addition to SSHv2 and SSL

- Policy support: The D2 supports the creation of 100 unique policy rules per port. The use of 10 masks are possible per user role or per port.

- Port mirroring: Mirrors ingress/egress traffic from switch port(s) to a local or remote device for further traffic analysis or compliance purposes

- RMON: provide advanced monitoring and reporting capabilities for statistics, history, alarms, and events

- IEEE 802.1AB Link Layer Discovery Protocol (LLDP): automated device discovery protocol for easy mapping by network management applications

- Alias/Node Table: Dynamically updated local directory of attached users and devices used to locate and resolve IP addresses to MAC addresses throughout the network

Convergence

- LLDP-MED (Media Endpoint Discovery): a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones

- IP multicast snooping (data-driven IGMP): automatically prevents flooding of IP multicast traffic

Connectivity

- IEEE 802.3af Power over Ethernet: 100 watts of PoE power is available for distribution across all 12 10/100/1000 ports; a maximum of 15.4 W (Class 3) can be delivered to IEEE 802.3af compliant PoE powered devices such as IP phones, wireless access points, and security cameras

- PoE power management: prioritize which ports receive power and detect powered and non-powered end devices attached to switch.

- Jumbo frames: on Gigabit ports enables high-performance remote backup and disaster-recovery services

High Availability

- IEEE 802.1s Multiple Spanning Tree Protocol: provides link high availability in multiple VLAN environments by allowing multiple spanning trees; encompasses IEEE 802.1D Spanning Tree Protocol and IEEE 802.1w Rapid Spanning Tree Protocol

- IEEE 802.3ad Link Aggregation Control Protocol (LACP): support up to 6 trunks, each with up to 8 ports per trunk

- Optional External Redundant Power Supply

Layer 2 switching

- IEEE 802.1q VLAN support and tagging: supports up to 1,024 VLANs simultaneously

- IEEE 802.1v protocol VLANs: isolate select non-IPv4 protocols automatically into their own VLANs

- GARP VLAN Registration Protocol: allows automatic learning and dynamic assignment of VLANs

Quality of Service (QoS)

- Traffic classification at layer 2,3,4: enables packet classification and tagging at the network edge based on any of the following attributes: MAC address, physical port, IP address, IP protocol, IP ToS/DSCP, TCP/UDP port and IP subnet.

- Traffic prioritization: allows real-time traffic classification into 8 priority levels mapped to eight hardware queues. Weighted round robin (WRR) and strict priority (SP) queuing are supported which keeps low priority traffic from being completely starved of bandwidth. Support for IP Differentiated Services Code Point (DSCP) enables the D2 to enforce requested service levels.

optional policy license required

Standards and Protocols

RFC & MIB Support

- RFC 2819 - RMON-MIB
- RFC 1213, RFC12123-MIB/MIB II
- RFC 1493 - BRIDGE-MIB
- RFC 2674 -802.1p/Q-BRIDGE-MIB
- IEEE 802.1X MIB - PORT ACCESS
- RFC2620 - RADIUS ACCOUNTING CLIENT MIB
- RFC 2618 AUTHENTICATION CLIENT MIB
- RFC 3289 -DIFFSERV-MIB
- RFC 2933-IGMP MIB
- ENTERASYS ENTITY MIB
- ENTERASYS POLICY MIB
- LLDP/LLDP-MED

Security

- IEEE 802.1x Authentication
- MAC Address authentication
- Port Web Authentication with Policy License
- RADIUS client

- Password protection (encryption)
- Secured Shell (SSHv2)
- Secured Socket Layer (SSL)
- Syslog
- Dynamic VLAN Assignment (RFC3580)
- Multiuser RFC3580 Authentication

Switching services protocols

- IEEE 802.1d (MAC Bridges)
- IEEE 802.1t (802.1d Maintenance)
- IEEE 802.3ad (link Aggregation)
- IEEE 802.1w (Rapid Reconvergence)
- IEEE 802.3x (Flow Control)
- IGMP Snooping v1, v2
- Jumbo Frame support (9,216 bytes)
- IP Helper Address

VLAN Support

- IEEE 802.1Q VLAN
- Tagged-based VLAN
- Port-based VLAN

- Protocol-based VLAN with Policy License
- GVRP protocol
- GARP

Quality of Service

- IP DSCP
- IP Precedence
- Protocol
- Source IP
- Destination IP
- Source MAC
- Destination MAC

Additional IEEE Standards

- IEEE 802.3 Ethernet
- IEEE 802.3u Fast Ethernet
- IEEE 802.3ab Gigabit Ethernet, copper
- IEEE 802.1x Network Access Control
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.1s Multiple Spanning Trees

Specifications

	D2G124-12	D2G124-12P
Description	12 port 10/100/1000 switch with two SFP combo ports and power brick	12 port 10/100/1000 PoE switch with two SFP combo ports and 130 watt power brick
Port	12 fixed RJ-45 10/100/1000 ports (Type 10Base-T, Type 100Base-TX, Type 1000Base-T)	12 fixed PoE RJ-45 10/100/1000 ports (Type 10Base-T, Type 100Base-TX, Type 1000Base-T)
	2 combo SFP GBIC ports (a total of 12 of the 14 front panel ports can be active at one time)	2 combo SFP GBIC ports (a total of 12 of the 14 front panel ports can be active at one time)
Power supplies	The switch supports redundant power feeds so two power "bricks" can be used in cases where redundancy is required. See Accessories for additional power bricks.	The switch supports redundant power feeds so two power "bricks" can be used in cases where redundancy is required. See Accessories for additional power bricks.
Form Factor	Fixed standalone. Two D2s side by side can be mounted in a 19inch rack	Fixed standalone. Two D2s side by side can be mounted in a 19inch rack
Memory and processor	256MB RAM 32MB flash memory	256MB RAM 32MB flash memory
Performance		
Throughput	17.86 Mpps	17.86 Mpps
Switching capacity	24.0 Gbps	24.0 Gbps
Electrical		
PoE power per port (watts)	NA	At 40°C or less, an average of 8.3W per port. Up to 15.4 W for Class 3 support on any port up to a system maximum of 100 watts. Total system PoE power decreases 2.16W per °C increase over 40°C
IEEE 802.3af Compliant	NA	Yes
Management	Netsight Policy Manager, Automated Security Manager (additional license); command line interface; web browser	Netsight Policy Manager, Automated Security Manager (additional license); command line interface; web browser

Specifications

	D2G124-12	D2G124-12P
Physical Specs		
Dimensions (HxWxD)	1.60x8.25x8.50in / 40.60x209.50x215.90mm	1.60x8.25x8.50in / 40.60x209.50x215.90mm
Net Weight (g/lb)	3.65lb / 1.66kg	4.02lb / 1.82kg
MTBF (Hrs) <without power adapter>	196,559	144,035
Thermal Output (Volt-Amps)	110V - 0.3A	110V - 2.16A
Thermal Output (BTUs/Hr)	102.39 (BTUs/Hr)	443.69 (BTUs/Hr)
Environmental Specifications		
Power requirements		
Input Voltage	100-240V AC	100-240V AC
Input Frequency	50-60Hz	50-60Hz
Input Current	2.0A	3.2A
Power Consumption (watts)	30W	130W
Temperature		
Operating Temperature (C/F)	0-60°C / 32-140°F	0-50°C / 32-122°F
Non-Operating/Storage Temperature (C/F)	-40-70°C / -40-158°F	-40-70°C / -40-158°F
Humidity		
Operating Humidity	5%-95%	5%-95%
Agency & Standards Specifications		
Standard Safety (UL)	UL/CB/LVD	UL/CB/LVD
Eletromagnetic compatibility		
Standard EMC	CE / FCC Class A / VCCI / C-Tick /BSMI	CE / FCC Class A / VCCI / C-Tick /BSMI
Vibration		
Operational Shock	ISTA 2A	ISTA 2A
Drop	ASTM D5276	ASTM D5276

Ordering Information

Part Number	Description
D2	
D2G124-12	12 port 10/100/1000 switch with two SFP combo ports and power brick
D2G124-12P	12 port 10/100/1000 PoE switch with two SFP combo ports and PoE power brick
Software License	
D2POL-LIC	Secure Networks policy license for 1 D2 switch
D2POL-LIC25	Secure Networks policy license for 25 D2 switches
D2POL-LIC50	Secure Networks policy license for 50 D2 switches

Ordering Information

Part Number	Description
Accessories	
D2-PWR	External redundant Power Brick for non-POE switch
D2-PWR-POE	External redundant Power Brick for POE switch (130 Watt)
Mounting	
D2-LOCKBOX	Metal Lockbox for D2
D2-RMT	Rack mount kit for D2
D2-TBL-MNT	Under Table Mount Kit for D2
D2-WALL-MNT	Wall mount kit for D2
MGBIC Modules	
MGBIC-LC01	Mini-GBIC with 1000Base-SX via LC connector
MGBIC-LC03	Mini-GBIC with 1000Base-LX/LH (2 Km Long Haul) MMF via LC connector
MGBIC-08	Mini-GBIC with 1000Base-LX/LH (70 Km Long Haul) SMF via LC connector
MGBIC-LC09	Mini-GBIC with 1000Base-LX via LC connector
MGBIC-02	Mini-GBIC with 1000Base-T via RJ45 connector
MGBIC-MT01	Mini-GBIC with 1000Base-SX via MTRJ connector
MGBIC-LC04	Mini-GBIC with 100Base-FX (2 Km Long Haul) via LC connector
MGBIC-LC05	Mini-GBIC with 100Base-FX (10 Km Long Haul) via LC connector

Warranty

The Enterasys D2 comes with an advance replacement limited lifetime warranty that continues for 5 years after the date of product discontinuation. There is also a full software and firmware warranty to cover patches, bug fixes, and feature upgrades with 8 x 5 telephone support. For full warranty terms and conditions please go to http://www.enterasys.com/support/warranty.aspx

Service and Support

Enterasys Networks provides comprehensive service offerings that range from Professional Services to design, deploy and optimize customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Enterasys account executive for more information about Enterasys Service and Support.

Contact Us

For more information, call Enterasys Networks toll free at 1-877-801-7082, or +1-978-684-1000 and visit us on the Web at enterasys.com

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