

B-Series B3

Gigabit Ethernet Stackable L2/L3/L4 Edge Switch with Optional Policy Support



High-availability design assures reliable network operations

Granular QoS capabilities support converged multimedia networks

Aligns network resource utilization with business goals and priorities

PoE and IPv4 routing support a variety of networks and devices

Investment protection via limited lifetime warranty

1.15 Tbps capacity and 571.2 Mpps

Product Overview

The Enterasys B3 is a high-performance, Gigabit Ethernet edge switch that provides scalable, wire-rate performance in support of the bandwidth-intensive and delay-sensitive requirements of today's demanding applications. With support for 16,000 MAC addresses, the B3 is an excellent choice for environments that require complete multi-layer switching capabilities and support for high density 10/100/1000 Ethernet ports and static routing capabilities. The B3 is well-suited for Gigabit Ethernet networks as well as 100 Mbps networks that may migrate to a predominantly Gigabit Ethernet network. In addition to its complete multi-layer switching capabilities, the B3 also provides basic routing features, including RIP, static IPv4 routing, and IPv6 management support. Along with a switch capacity of 144 Gbps, the B3 provides up to 48 10/100/1000 Ethernet ports as well as 4 Gigabit Ethernet uplink combo ports. Leveraging the B3's wire-rate stacking capability, as many as 8 B3s (both 24-port and 48-port combinations) can be interconnected in a single stack to create a virtual switch that provides 1.15 Tbps of capacity and up to 384 10/100/1000 Ethernet ports as well as 32 Gigabit Ethernet uplink combo ports.

Robust Quality of Service (QoS) features enable strong support for integrated multimedia networks, including Voice over IP (VoIP) and video, as well as all types of data-intensive applications. The B3's optional policy license enables its highly customizable Layer 2/3/4 packet classification capabilities to work together with the 8 hardware-based priority queues associated with each Ethernet port to support a suite of differentiated services with as many as 8 distinct priority levels. In conjunction with its non-blocking L2 switching and L3 routing architecture, the B3's intelligent queuing mechanisms ensure that mission-critical applications receive prioritized access to network resources.

The B3 provides a secure network by utilizing its authentication and security features, which can be applied at the port level or at the user level. Making use of the NMS Policy Manager or a standard CLI, the Enterasys role-based architecture enables a network administrator to define distinct roles or profiles that represent operational groups within a business (e.g., employee, executive, guest, etc). Multiple users/devices per port can be authenticated via IEEE 802.1X, MAC address, or web authentication, and then assigned a pre-defined operational role. Network operations can be easily tailored to meet business-oriented requirements by providing each role with individualized access to network services and applications (e.g., a guest should have different network access privileges than an employee).

Benefits

Business Alignment

- Granular QoS capabilities support converged multimedia networks
- Aligns network resource utilization with business goals and priorities
- Reliable network operation for mission-critical applications

Operational Efficiency

- Scalable architecture supports continued growth of network capacity
- Consolidated management capabilities reduce network operational expenses
- Security capabilities without the high overhead

Security

- Network resources securely allocated according to user roles
- Network security maintained concurrently with user mobility
- Architecture designed with integral network security

Support and Service

- Industry-leading customer satisfaction and first call resolution rates
- Personalized services, including site surveys, network design, installation, and training
- Limited lifetime warranty

**There is nothing more important
than our customers.**

The B-Series product line provides high port density in a 1U footprint and is environmentally friendly by design. By maximizing port density within a given amount of rack space, the B3 minimizes its cooling requirements. The B3's overall electrical requirement is further reduced by a low current draw and an extreme tolerance for high environmental temperatures. A highly-scalable architecture and a limited lifetime warranty ensures that a B3 network investment will sustain a secure, feature-rich, and cost-effective network well into the future.

Reliability and Availability

The B3 design incorporates redundancy and failure protection mechanisms complete with automatic failover and recovery capabilities to provide a reliable network. An integral power supply is the primary source of power for the B3 and complete power redundancy is provided by an optional external power supply. In addition to the standard version of the B3, there is also a redundant Power over Ethernet (PoE) version of the B3 which supports network devices that require external power such as wireless access points, VoIP phones, and network cameras. A virtual switch can be created by interconnecting as many as 8 B3s in a single stack, which can be managed via a single IP address with redundant management connections. The B3's closed-loop stacking (CLS) capability utilizes bi-directional switch interconnects to maintain connectivity within the virtual switch despite any physical switch-level failure. Up to 8 Ethernet ports can be grouped together to create a multi-link aggregation group (LAG). A LAG's Ethernet ports can be collocated on a single B3 or they can be distributed across multiple B3s within a stack to prevent a switch-level failure from disrupting data communications.

Advanced Quality of Service

Robust QoS features enable strong support for integrated multimedia networks, including VoIP and video, as well as all types of data-intensive applications. With an optional policy license, the B3 provides highly customizable Layer 2/3/4 packet classification capabilities, which can be based upon physical port ID, MAC address, IP subnet, IP address, IP protocol type, IP Type of Service (ToS), differentiated services code point (DSCP), and TCP/UDP port. The B3 provides 8 hardware-based priority queues per Ethernet port, which work together with its packet classification capabilities to support a suite of differentiated services with as many as 8 distinct priority levels. The strict and weighted round robin queuing algorithms ensure that mission-critical applications receive prioritized access to network resources.

Security

The B3 provides a secure network by utilizing its authentication and security features, which can be applied at the port level or at the user level. Making use of the NMS Policy Manager or a standard CLI, the Enterasys role-based architecture enables a network administrator to define distinct roles or profiles that represent operational groups within a business (e.g., employee, executive, guest, etc). Multiple users/devices per port can be authenticated via IEEE 802.1X, MAC address, or web authentication, and then assigned a pre-defined operational role. Administrators can easily transition from RFC 3580 and complex ACL deployments to the Enterasys role-based policy framework in a seamless fashion, without the need to make changes to their RADIUS infrastructure (e.g., adding filter-ID). In addition, the B3 also supports DiffServ and access control lists (ACLs) for supplementary network security. Network operations can be easily tailored to meet business-oriented requirements by providing each role with individualized access to network services and applications (e.g., a guest should have different network access privileges than an employee).

Investment Protection

The B3 is a cost-effective, feature-rich, stackable switch that provides a broad set of features today and will continue to deliver benefits well into the future. Customers can grow and/or enhance their networks while protecting their investment by adding B3s into existing B-Series networks and/or stacks. When multiple B3s are stacked together, each switch in the stack assumes the feature set that is common to all switches in the stack to ensure operational compatibility. All B-Series products include a limited lifetime warranty that continues for 5 years after the date of product discontinuation. For more information regarding warranty terms and conditions please go to <http://www.enterasys.com/support/warranty.aspx>.

Performance & Scalability

The B3 provides scalable, wire-rate performance in support of the bandwidth-intensive and delay-sensitive requirements of today's demanding applications. Along with a switch capacity of 144 Gbps, the B3 provides up to 48 10/100/1000 Ethernet ports as well as 4 Gigabit Ethernet uplink combo ports. Leveraging the B3's wire-rate stacking capability, as many as 8 B3s (both 24-port and 48-port combinations) can be interconnected in a single stack to create a virtual switch that provides 1.15 Tbps of capacity and up to 384 10/100/1000 Ethernet ports as well as 32 Gigabit Ethernet uplink combo ports. The B3 supports hundreds of distinct policies (rules) that enable granular definition of network access capabilities for each role, thus aligning network resource utilization with business goals and priorities.

Standards and Protocols

MAC Address Table Size

16,000

VLANs

4,096 VLAN IDs

1,024 VLAN Entries per Stack

Embedded Services

Ingress Rate Limiting

IP TOS Rewrite

Layer 2/3/4 Classification

Multi-layer Packet Processing

Switching Services

IEEE 802.1AB – LLDP

ANSI/TIA-1057 – LLDP-MED

IEEE 802.1D – MAC Bridges

IEEE 802.1s – Multiple Spanning Trees

IEEE 802.1t – 802.1D Maintenance

IEEE 802.1w – Rapid Spanning Tree

Reconvergence

IEEE 802.3 – Ethernet

IEEE 802.3ab – GE over Twisted Pair

IEEE 802.3ad – Link Aggregation

IEEE 802.3af – PoE

IEEE 802.3i – 10Base-T

IEEE 802.3u – 100Base-T, 100Base-FX

IEEE 802.3z – GE over Fiber

Full/half duplex auto-sense support on all ports

IGMP Snooping v1/v2/v3

Jumbo Frame support (9,216 bytes)

Loop Protection

One-to-One and Many-to-One Port Mirroring

Port Description

Protected Ports

Per-port Broadcast/Multicast/Unknown

Unicast Suppression

Spanning Tree Backup Root

STP Pass Thru

VLAN Support

Generic Attribute Registration Protocol (GARP)

Generic VLAN Registration Protocol (GVRP)

IEEE 802.1p – Traffic classification

IEEE 802.1q – VLAN Tagging

Protocol-based VLANs with Enterasys Policy

IEEE 802.3ac – VLAN Tagging Extensions

Port-based VLAN (private port/private VLAN)

Tagged-based VLAN

VLAN Marking of Mirror Traffic

Quality of Service

8 Priority Queues per Port

802.3x Flow Control

IP DSCP – Differentiated Services Code Point

IP Precedence

IP Protocol

Queuing Control – Strict and Weighted

Round Robin

Source/Destination IP Address

Source/Destination MAC Address

Security

ARP Spoof Protection

DHCP Spoof Protection

Dynamic and Static MAC Locking

EAP Pass Thru

IEEE 802.1X Port Authentication

MAC-based Port Authentication

RADIUS Accounting for MAC Authentication

RADIUS Client

RFC 3580 – IEEE 802.1X RADIUS Usage

Guidelines

Multi-user Authentication per Gigabit Port

Password Protection (encryption)

Secure Networks Policy License

Secured Shell (SSHv2)

Secured Socket Layer (SSL)

User and IP Phone Authentication

Web-based Port Authentication

IPv4 Routing & Multicast

Access Control List (ACLs)

ARP & ARP Redirect

Extended ACLs

IP Helper Address

RFC 826 – Ethernet ARP

RFC 1058 – RIP v1

RFC 1256 – ICMP Router Discovery Messages

RFC 1724 – RIPv2 MIB Extension

RFC 2236 – IGMPv2

RFC 2453 – RIP v2

RFC 3046 – DHCP/BootP Relay

Static Routes

VLAN-based ACLs

MIB Support

Enterasys Entity MIB

Enterasys Policy MIB

Enterasys VLAN Authorization MIB

ANSI/TIA-1057 – LLDP-MED MIB

IEEE 802.1AB – LLDP MIB

IEEE 802.1X MIB – Port Access

IEEE 802.3ad MIB – LAG MIB

RFC 826 – ARP and ARP Redirect

RFC 951, RFC 1542 – DHCP/BOOTP Relay

RFC 1213 – MIB/MIB II

RFC 1493 – BRIDGE-MIB

RFC 1643 – Ethernet-like MIB

RFC 2096 – IP Forwarding Table MIB

RFC 2131, RFC 3046 – DHCP Client/Relay

RFC 2233 – IF-MIB

RFC 2271 – SNMP Framework MIB

RFC 2618 – RADIUS Authentication Client

MIBRFC 2620 – RADIUS Accounting Client

MIB

RFC 2668 – Managed Object Definitions for

802.3 MAUs

RFC 2674 – P-BRIDGE-MIB

RFC 2674 – QBRIDGE-MIB VLAN Bridge MIB

RFC 2737 – Entity MIB (physical branch only)

RFC 2819 – RMON-MIB

RFC 2933 – IGMP MIB

RFC 3289 – DiffServ MIB

RFC 3413 – SNMP v3 Applications MIB

RFC 3414 – SNMP v3 User-based Security

Module (USM) MIB

RFC 3415 – View-based Access Control Model

for SNMP

RFC 3584 – SNMP Community MIB

RFC 3621 – Power over Ethernet MIB

Management

Alias Port Naming

Command Line Interface (CLI)

Configuration Upload/Download

Editable Text-based Configuration File

TFTP Client

Multi-configuration File Support

NMS Automated Security Manager

NMS Console

NMS Inventory Manager

NMS Policy Manager

Node/Alias Table

RFC 768 – UDP

RFC 783 – TFTP

RFC 791 – IP

RFC 792 – ICMP

RFC 793 – TCP

RFC 826 – ARP

RFC 854 – Telnet

RFC 951 – BootP

RFC 1157 – SNMP

RFC 1901 – Community-based SNMPv2

RFC 2271 – SNMP Framework MIB

RFC 2933 – IGMP MIB

RFC 3176 – sFlow

RFC 3413 – SNMP Applications MIB

RFC 3414 – SNMP User-based Security

Module (USM) MIB

RFC 3415 – View-based Access Control Model

for SNMP

RFC 3826 – Advanced Encryption System

(AES) for SNMP

RMON (Stats, History, Alarms, Events, Filters,

Packet Capture)

Secure Copy (SCP)

Secure FTP (SFTP)

Simple Network Management Protocol (SNMP)

v1/v2c/v3

Simple Network Time Protocol (SNTP)

SSHv2

RFC 3164 – The BSD Syslog Protocol

TACACS+ for Management Authentication,

Authorization and Auditing

Web-based Management

Webview via SSL Interface

Switch Model Specifications

	B3G124-24	B3G124-24P	B3G124-48	B3G124-48P
Performance				
Throughput Capacity wire-speed Mpps (switch / stack)	35.7 Mpps / 285.7 Mpps	35.7 Mpps / 285.7 Mpps	71.4 Mpps / 571.2 Mpps	71.4 Mpps / 571.2 Mpps
Switching Capacity (switch / stack)	48 Gbps / 384 Gbps	48 Gbps / 384 Gbps	96 Gbps / 768 Gbps	96 Gbps / 768 Gbps
Stacking Capacity (switch / stack)	48 Gbps / 384 Gbps	48 Gbps / 384 Gbps	48 Gbps / 384 Gbps	48 Gbps / 384 Gbps
Aggregate Throughput Capacity (switch / stack)	96 Gbps / 768 Gbps	96 Gbps / 768 Gbps	144 Gbps / 1.15 Tbps	144 Gbps / 1.15 Tbps
PoE Specifications				
802.3af Compliance	N/A	Yes	N/A	Yes
System Power	N/A	375 watts per switch with up to 15.4 watts per port Per-port switch power monitor: • Enable/disable • Priority safety • Overload & short circuit protection	N/A	375 watts per switch with up to 15.4 watts per port Per-port switch power monitor: • Enable/disable • Priority safety • Overload & short circuit protection
Physical Specifications				
Dimensions (H x W x D)	H: 4.4 cm (1.73") W: 44.1 cm (17.36") D: 36.85 cm (14.51")	H: 4.4 cm (1.73") W: 44.1 cm (17.36") D: 36.85 cm (14.51")	H: 4.4 cm (1.73") W: 44.1 cm (17.36") D: 36.85 cm (14.51")	H: 4.4 cm (1.73") W: 44.1 cm (17.36") D: 36.85 cm (14.51")
Net Weight	5.05 kg (11.11 lb)	6.25 kg (13.75 lb)	5.35 kg (11.77 lb)	6.55 kg (14.41 lb)
MTBF	162,308 hours	115,324 hours	110,509 hours	81,176 hours
Physical Ports	<ul style="list-style-type: none"> • (24) 10/100/1000 auto-sensing, auto-negotiating, MDI/MDI-X RJ45 ports • (4) mini-GBIC combo ports • (2) dedicated stacking ports • (1) DB9 console port • (1) RPS port 	<ul style="list-style-type: none"> • (24) 10/100/1000 PoE auto-sensing, auto-negotiating, MDI/MDI-X RJ45 ports • (4) mini-GBIC combo ports • (2) dedicated stacking ports • (1) DB9 console port • (1) RPS port 	<ul style="list-style-type: none"> • (48) 10/100/1000 auto-sensing, auto-negotiating, MDI/MDI-X RJ45 ports • (4) mini-GBIC combo ports • (2) dedicated stacking ports • (1) DB9 console port • (1) RPS port 	<ul style="list-style-type: none"> • (48) 10/100/1000 PoE auto-sensing, auto-negotiating, MDI/MDI-X RJ45 ports • (4) mini-GBIC combo ports • (2) dedicated stacking ports • (1) DB9 console port • (1) RPS port
Power Requirements				
Nominal Input Voltage	100 – 240 VAC	100 – 240 VAC	100 – 240 VAC	100 – 240 VAC
Input Frequency	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz	50 – 60 Hz
Input Current	0.8 A Max	7.5 A Max	1.4 A Max	7.5 A Max
Power Consumption	63.5 watts	481 watts	116.6 watts	559.9 watts
Temperature				
IEC 6-2-1 Standard Operating Temperature	0° to 50° C (32° to 122° F)	0° to 50° C (32° to 122° F)	0° to 50° C (32° to 122° F)	0° to 50° C (32° to 122° F)
IEC 6-2-14 Non-Operating Temperature	-40° to 70° C (-40° to 158° F)	-40° to 70° C (-40° to 158° F)	-40° to 70° C (-40° to 158° F)	-40° to 70° C (-40° to 158° F)
Heat Dissipation	294 BTUs/Hr	1,451 BTUs/Hr	441 BTUs/Hr	1,670 BTUs/Hr
Humidity				
Operating Humidity	5% - 95% non-condensing	5% - 95% non-condensing	5% - 95% non-condensing	5% - 95% non-condensing
Vibration				
	IEC 68-2-6, IEC68-2-36	IEC 68-2-6, IEC68-2-36	IEC 68-2-6, IEC68-2-36	IEC 68-2-6, IEC68-2-36
Shock				
	IEC 68-2-29	IEC 68-2-29	IEC 68-2-29	IEC 68-2-29
Drop				
	IEC 68-2-32	IEC 68-2-32	IEC 68-2-32	IEC 68-2-32

Switch Model Specifications (cont.)

	B3G124-24	B3G124-24P	B3G124-48	B3G124-48P
Agency and Regulatory Standard Specifications				
Safety	UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1	UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1	UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1	UL 60950-1, CSA 22.1 60950, EN 60950-1, and IEC 60950-1
EMC	FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3	FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3	FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3	FCC Part 15 (Class A), ICES-003 (Class A), BSMI, VCCI V-3, AS/NZS CISPR 22 (Class A), EN 55022 (Class A), EN 55024, EN 61000-3-2, and EN 61000-3-3

Redundant Power Supply Equipment Specifications

C2RPS-CHAS2 Power Shelf

Power Supply Slots

2

Dimensions (H x W x D)*

48.2 cm (19.0") x 5.5 cm (2.2") x 18.0 cm (7.0")

Weight

0.95 kg (2.09 lbs)

Note: dimensions include integrated rack mount ears

Operating Relative Humidity

10% to 90%

AC Input Frequency Range

50-60 Hz

AC Input Voltage Range

100 - 240 VAC

Maximum Output Power

156 W continuous

C2RPS-CHAS8 Power Shelf

Power Supply Slots

8

Dimensions (H x W x D)*

44.0 cm (117.3") x 22.26 cm (8.77") x 26.4 cm (10.4")

Weight

5.27 kg (11.6 lbs)

C2RPS-POE Power Supply

Dimensions (H x W x D)*

4.45 cm (1.75") x 44.5 cm (17.5") x 16.5 cm (6.5")

Net Weight (Unit Only)

3.47 kg (7.63 lbs)

Gross Weight (Packaged Unit)

4.95 kg (10.89 lbs)

MTBF

589,644 hours at 25° C (77° F)

Operating Temperature

5° C to 40° C (41° F to 104° F)

Storage Temperature

-30° C to 73° C (-22° F to 164° F)

Operating Relative Humidity

10% to 90%

AC Input Frequency Range

50-60 Hz

AC Input Voltage Range

100 - 240 VAC

Maximum Output Power

500 W continuous

C2RPS-PSM Power Supply

Dimensions (H x W x D)

19.6 cm (7.7") x 5.2 cm (2.04") x 25.7 cm (10.1")

Net Weight (Unit Only)

1.75 kg (3.85 lbs)

Gross Weight (Packaged Unit)

3.20 kg (7.04 lbs)

MTBF

300,000 hours

Operating Temperature

5° C to 40° C (41° F to 104° F)

Storage Temperature

-30° C to 73° C (-22° F to 164° F)

Ordering Information

B3 Switches	
Part Number	Description
B3G124-24	B3 with (24) 10/100/1000 RJ45 ports, (4) mini-GBIC combo ports, and (2) dedicated stacking ports. Total active ports per switch: (24) Gigabit ports.
B3G124-24P	B3 with (24) 10/100/1000 PoE RJ45 ports, (4) mini-GBIC combo ports, and (2) dedicated stacking ports. Total active ports per switch: (24) Gigabit ports.
B3G124-48	B3 with (48) 10/100/1000 RJ45 ports, (4) mini-GBIC combo ports, and (2) dedicated stacking ports. Total active ports per switch: (48) Gigabit ports.
B3G124-48P	B3 with (48) 10/100/1000 PoE RJ45 ports, (4) mini-GBIC combo ports, and (2) dedicated stacking ports. Total active ports per switch: (48) Gigabit ports.
Optional Software Licenses	
B3POL-LIC	B3 policy license (per switch)
B3POL-LIC25	B3 policy licenses – Qty of 25
B3POL-LIC50	B3 policy licenses – Qty of 50
Cables	
C2CAB-SHORT	Stacking cable for connecting adjacent switches (30 cm)
C2CAB-LONG	Stacking cable for connecting top switch to bottom switch (1 m)
C2CAB-2M	Stacking cable for all B3/C3 models (2 m)
C2CAB-5M	Stacking cable for 48-port B2/C2 models and all B3/C3 models (5 m)
SSCON-CAB	Console Cable (for use on all A2, B2, B3, C2, and C3 switches)
Redundant Power Supply Equipment	
C2RPS-CHAS2	2-slot RPS chassis (supports up to 2 C2RPS-PSMs)
C2RPS-CHAS8	8-slot RPS chassis (supports up to 8 C2RPS-PSMs)
C2RPS-PSM	150-watt redundant Non-PoE power supply with one DC cable
C2RPS-SYS	8-slot RPS chassis plus 1 C2RPS-PSM (chassis supports up to 8 C2RPS-PSMs)
C2RPS-POE	500-watt redundant PoE power supply with one DC cable

Transceivers

Enterasys transceivers provide connectivity options for Ethernet over twisted pair copper and fiber optic cables with transmission speeds from 100 Megabits per second to 10 Gigabits per second. All Enterasys transceivers meet the highest quality for extended life cycle and the best possible return on investment. For detailed specifications, compatibility and ordering information please go to <http://www.enterasys.com/products/transceivers-ds.pdf>.

Warranty

As a customer-centric company, Enterasys is committed to providing quality products and solutions. In the event that one of our products fails due to a defect, we have developed a comprehensive warranty that protects you and provides a simple way to get your products repaired or media replaced as soon as possible.

B-Series switches come with a limited lifetime warranty against manufacturing defects. 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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