

SecureStack B2 Switch Family

- High-density, high-availability stackable 10/100 or 10/100/1000 switching
- Option to deliver Secure Networks to the stackable edge
- Extensive QoS support for VoIP and real-time broadcast/multicast
- Power over Ethernet available
- Complete stack management via NetSight®, web or CLI

High performance, high density

- 160 Gbps of stacking bandwidth; 160 Gbps switch fabric with 40 Gbps per switch dedicated to stacking
- Up to 360 gigabit ports or 384 10/100 ports with 32 gigabit uplinks in a single stack
- High-availability services
 - IEEE 802.3ad Link Aggregation
 - Closed Loop Stacking
 - Optional redundant power
 - Redundant stack management
- Advanced Quality of Service
 - Extensive traffic classification capabilities
 - Ingress rate limiting
 - Weighted Round Robin Queuing
 - Extensive VLAN support
- Sophisticated Security
 - IEEE 802.1x
 Authentication
 - SSH and RADIUS
 - Optional policy license upgrade available for full Secure Networks support

Advanced Layer 2+ Switching in a High-Density Stackable

The SecureStack B2 switch family delivers advanced Layer 2+ switching in a single stack with up to 360 gigabit ports or 384 10/100 ports with 32 gigabit uplinks. Reliability and availability is assured with support for Closed Loop Stacking, redundant uplink connections, redundant power options and redundant stack management. An optional policy license will be made available approximately six months after initial shipments that will allow SecureStack B2 switches to enforce security at the network edge.

High-Performance and High-Availability Stacking

SecureStack B2 switches incorporate integrated stacking ports that support up to 20 Gbps of bi-directional bandwidth between any two adjacent switches for a total of 160 Gbps of stacking bandwidth. No additional stack module is required to stack the switches. Each switch has a 160 Gbps switch fabric with 40 Gbps per switch dedicated to stacking. In an eight switch stack, 320 Gbps of switching bandwidth is dedicated to stacking. A single stack can be comprised of any combination of SecureStack B2 switches allowing a mixture of high-density 10/100, 10/100/1000 and/or Power-over-Ethernet ports to be linked to the network core via copper, multimode fiber and/or single-mode fiber Gigabit. Closed Loop Stacking can be implemented, which assures that a single switch or cable

connection failure in the stack will not impact the overall stack operation. Stack switch units can be added to or removed from the stack with minimal packet interruption. Up to eight SecureStack B2 switches can be supported in a stack with a single IP address for complete stack management. Redundant stack management is supported by assigning a primary and secondary stack manager.

Switching Services

All SecureStack B2 switches support standards-based switching. The IEEE s t a ndards for switching (IEEE 802.1D MAC Bridges) and IEEE 802.1t (802.1D Maintenance), as well as Multiple Spanning Trees (IEEE 802.1s) and Rapid Reconvergence (IEEE 802.1w), are fully supported. All switches support up to 8,000 addresses and have eight hardware queues per port. Ethernet Flow Control (IEEE 802.3x) as well as standards-based Link Aggregation (IEEE 802.3ad) are fully supported in every switch model. In addition, all switches support Jumbo Frames (frames up to 9,216 bytes) and IGMP Snooping v1 and v2.

Extensive Traffic Classification

SecureStack B2 switches comprise the ideal family of switches for delivering any converged network solution. A major component for supporting converged networks is traffic classification. All SecureStack B2 switches deliver extensive Layer 2/3/4 packet classification and marking at the edge based on any of the following:



- MAC address
- Physical port
- IP address
- IP Protocol
- IP ToS/DSCP marking
- TCP/UDP port
- IP subnet

With the optional Secure Networks Policy License, these classifications can then be used to deny or permit access, or prioritize traffic.

Advanced Quality of Service

Broad support for Quality of Service makes SecureStack B2 switches an ideal choice for all types of networks, including Voice over IP, real-time and non-real-time video, and data-intensive applications. Extensive classification capabilities combined with eight priority queues per port allow the SecureStack B2 to rate limit traffic flows granularly. Weighted Round Robin Queuing is supported. Support for the IP Differentiated Services Code Point (DSCP) enables the switches to enforce requested service levels.

VLAN Support

All SecureStack B2 switches have VLAN support, with 4,096 VLAN IDs supported and up to 1,024 VLANs active simultaneously in a single stack. Receive port identification may be used to assign a user to a s p e c i f i c VLAN. All switches support IEEE 802.1Q tagged and port-based VLANs with full support for the GARP and GVRP protocols.

Extensive Security

Security is vital to all networks today and with SecureStack B2 switches the network is protected at the first point of entry (user access). All SecureStack B2 switches support user-access authentication IEEE 802.1x and MAC address. The SecureStack B2 also supports per-port multi-user authentication with its implementation of PC + Phone (user and IP phone). With PC + Phone the SecureStack B2 can support MAC authentication on an IP phone along with simultaneous user authentication via 802.1x or MAC address per port. In addition, all SecureStack B2 switches support VLANs and RADIUS. Strong authentication and encryption for the switch is provided via Secured Shell (SSH) and RADIUS.

Dynamic VLAN Assignment Support

Support for RFC3580 Dynamic VLAN Assignment is included in the basic SecureStack B2 firmware, which enables an end user to automatically be mapped to the appropriate VLAN upon being authenticated via IEEE 802.1x. This feature is enabled in Firmware Release 1.1, which is now available as a free downloadable upgrade to all SecureStack B2 customers.

Optional Secure Networks Support

Secure Networks is Enterasys' unique approach to enterprise networking that integrates advanced security and management features to centralize and automate granular control of the entire network infrastructure. All SecureStack B2 switches can become full members of a Secure Networks solution with an optional policy license. The policy license upgrade software will have full support for static or port-based policies, and dynamic policies specific to a user (per port based on IEEE 802.1x authentication or MAC address). Secure Networks features enable SecureStack B2 switches to fully participate in Secure Networks Acceptable Use Policy (AUP), Dynamic Intrusion Response (DIR) and Trusted End-System (TES) solutions.

Robust Switch and Stack Management

All SecureStack B2 switches are fully manageable using an industry-standard command line interface, embedded web interface, Telnet with SSH, and SNMP management applications such as NetSight Console or NetSight Inventory Manager. Every SecureStack B2 switch supports four groups of RMON (History, Statistics, Alarms, Events) and SNMP v1/2 and v3. Configuration files can be edited with any ASCII editor and can be uploaded and downloaded from a switch. A SecureStack B2 stack can be managed as a single network entity and only a single IP address is required to manage the complete stack. There is no need to download software images to individual stack units; only one software upgrade needs to be performed per stack. The image will be distributed to the individual stack members automatically. Port-mirroring (one-to-one and many-to-one) is supported on individual switches as well as stack-wide, enabling network managers to easily monitor and troubleshoot any port in the stack.

Reliability and Availability

The SecureStack B2 offers a variety of standards-based features to ensure network availability. These features include 802.1D Spanning Tree, 802.1w Rapid Spanning Tree, 802.1s Multiple Spanning Trees, and 802.3ad Link Aggregation. All of these standards allow for redundant network connections, automatic failover and recovery capabilities. The SecureStack B2 switches support additional reliability features such as Distributed Link Aggregation Groups (6 groups of 8 ports)-a capability that supports link aggregation across multiple stack units thereby ensuring that a failure in a single unit does not disconnect the stack from the uplink to the core switch.

Redundant stack management is supported where there is a primary and one backup for managing the stack entity. All SecureStack B2 switches support Closed Loop Stacking, which enables the stack to continue working even if an individual switch member or cable connection fails. Power redundancy is available as an option for both the Power-over-Ethernet and standard Ethernet SecureStack B2 switches. The redundant power options are the same as those used by the SecureStack C2 and allow a switch to operate from its own internal AC power supply or, if there is a failure, seamlessly failover to the external redundant power system.

Power-over-Ethernet (PoE IEEE 802.3af) Support

Two switch models in the SecureStack B2 switch family provide a centralized IEEE 802.3af-compliant power source for VoIP phones, wireless access points (e.g., RoamAbout AP4102), and remote security scanners and cameras, eliminating the need for individual power sources for these devices. Both switches provide 48 volts of power over the normally used pairs of each Category 5 Ethernet cable with a total of 360 watts of power per switch. If all ports require Power over Ethernet, then the maximum amount of power required by a Class 2 device (7.5 watts) can be delivered to all ports. Any individual port can provide up to the maximum 15.4 watts specified in the IEEE standard. The network manager has the ability to prioritize which ports receive power if the power demand exceeds the switch total of 360 watts. Special powershedding support is included in both switches to enforce the network managerspecified priorities if the power demand exceeds the maximum wattage. Additionally, the SecureStack B2 PoE switches support a device-detection feature that enables them to work with powered as well as non-powered end devices. This feature prevents any damage from occurring when a port on either SecureStack B2 PoE switch is connected to any compliant RI45 device that is already powered by its own power source. This feature also allows any mixture of Powerover-Ethernet devices and standard Ethernet devices to be connected to a single switch. These SecureStack B2 PoE switches significantly simplify the installation and capital costs of access points, VoIP phones and security devices by allowing them to be installed in out-of-the-way locations that are without AC power, thereby enabling maximum coverage.

Outstanding Configuration Flexibility

With the SecureStack B2 switch family, mixing and matching 10/100 and 10/100/1000 switches in a single stack is easy. A small stack can be started with dual 10/100 switches with redundant Gigabit Ethernet uplinks to the core. If Power over Ethernet is needed for remote access points or a trial test of VoIP phones, a 10/100 PoE switch can simply be added to the stack. As higher desktop speeds are required, 10/100/1000 switches can be added. As the stack grows, the demands on the uplinks to the core will increase. Distributed Link Aggregation can be used to increase bandwidth from a single gigabit up to eight gigabit. All of these various types of switches can be managed as a single entity with a single IP address and all of the switches in the stack run a common software image so there are no incompatibility issues between the switches.

SecureStack B2 Switch Family

B2G124-24

This switch features 24 ports of 10/100/1000 connectivity, four uplink ports supporting SFP (Small Form-factor Pluggable) GBICs and two integrated stacking ports. Ports 21 thru 24 on this model have the flexibility to be mapped as either 10/100/1000 ports or as optical Gigabit Ethernet ports with the installation of a fiber transceiver in the appropriate SFP socket.

B2G124-48

This switch features 48 ports of 10/100/1000 connectivity, four uplink ports supporting SFP (Small Form-factor Pluggable) GBICs and two integrated stacking ports. Ports 45 thru 48 have the flexibility to be mapped as either 10/100/1000 ports or as optical Gigabit Ethernet ports with the installation of a fiber transceiver in the appropriate SFP socket.

B2G124-48P

This switch features 48 ports of 10/100/1000 with Power-over-Ethernet capability, four uplink ports supporting SFP (Small Formfactor Pluggable) GBICs and two integrated stacking ports. Ports 45 thru 48 have the flexibility to be mapped as either 10/100/1000 ports or as optical Gigabit Ethernet ports with the installation of a fiber transceiver in the appropriate SFP socket.

B2H124-48

This switch features 48 ports of 10/100 Base-TX connectivity, four uplink ports supporting SFP (Small Form-factor Pluggable) GBICs and two integrated stacking ports. The SFP ports support various optical Gigabit Ethernet solutions with the installation of a fiber or copper transceiver to increase the total number of ports to 52.

B2H124-48P

This switch features 48 ports of 10/100Base-TX with Power-over-Ethernet capability, four uplink ports supporting SFP (Small Form-factor Pluggable) GBICs and two integrated stacking ports. The SFP ports support various optical Gigabit Ethernet solutions with the installation of a fiber or copper transceiver to increase the total number of ports to 52.

C2RPS-PSM

This 150-watt DC power supply can be used as redundant power for any of the SecureStack C2 or B2 non-Power-over-Ethernet switches (B2G124-24, B2G124-48, and B2H124-48). The 150-watt power supply can be mounted in a SecureStack RPS chassis (C2RPS-SYS, C2RPS-CHAS8 or C2RPS-CHAS2). A single RPS can power a switch that loses AC power.

C2RPS-SYS

This SecureStack RPS bundle includes a chassis (C2RPS-CHAS8) that supports up to eight individual 150-watt redundant power supplies (C2RPS-PSM). The bundle includes the basic chassis, which can be rack mounted, and one 150-watt redundant power supply.

C2RPS-POE

This 500-watt DC power unit can be used as redundant power for any of the SecureStack C2 or B2 Power-over-Ethernet switches (B2G124-48P or B2H124-48P). Since the B2 PoE switches provide up to 360 watts of PoE power, a much larger redundant power supply is required. This RPS is a rack-mountable unit and does not require an additional chassis.

C2RPS-CHAS8

This SecureStack RPS power chassis supports up to eight individual 150-watt redundant power supplies (C2RPS-PSM). RPS units are mounted vertically in the chassis.

C2RPS-CHAS2

This SecureStack RPS power chassis supports up to two individual 150-watt redundant power supplies (C2RPS-PSM). RPS units are mounted horizontally in the chassis.

Stacking Notes

- Stacking cables must be ordered to stack the SecureStack B2.
- The SecureStack B2 uses the same stacking cable as the SecureStack C2 (C2CAB-SHORT or C2CAB-LONG).
- The SecureStack B2 <u>cannot</u> be stacked with a SecureStack C2.

Specifications Common to all Switch Models

Technical Specifications

Address Table Size 8,000

Throughput Capacity 148,810 pps per Fast Ethernet port 1,488,100 pps per Gigabit Ethernet port

VLANs 4,096 VLAN IDs 1,024 VLAN entries per stack

Priority Queues 8 per port

Embedded Services Multilayer Packet Processing Layer 2/3/4 classification Ingress Rate Limiting

Switching Services IEEE 802.1D (MAC Bridges) IEEE 802.1w (Rapid Reconvergence) IEEE 802.1s (Multiple Spanning Trees) IEEE 802.1t (802.1D Maintenance) IEEE 802.3ad (Link Aggregation) IEEE 802.3x (Flow Control) IGMP Snooping v1, 2 Jumbo Frame support (9,216 bytes)

VLAN Support IEEE 802.1Q VLAN Tagged-based VLAN Port-based VLAN GVRP GARP Quality of Service IP DSCP IP precedence Source IP Destination IP Source MAC Destination MAC

Security IEEE 802.1x Port Authentication RADIUS Client Password protection (encryption) Secured Shell (SSHv2) Syslog Dynamic VLAN Assignment (RFC3580)—Release 1.1 Future: Optional Secure Networks Policy License

RFC and MIB Support **RFC 826—ARP and ARP Redirect** RFC 951, RFC 1542—DHCP/BOOTP relay RFC 2131, RFC 3046—DHCP client/relay RFC 2819—RMON-MIB RFC 1213-RFC1213-MIB/MIB II RFC 1493—BRIDGE-MIB RFC 1643-Ethernet-like MIB RFC 2233—IF-MIB RFC 2674—P-BRIDGE-MIB RFC 2674—QBRIDGE-MIB VLAN Bridge MIB IEEE 802.1X MIB-Port Access RFC 2620—RADIUS Accounting Client MIB **RFC 2618—RADIUS Authentication Client MIB** RFC 2933—IGMP MIB RFC 3580 Enterasys VLAN Authorization MIB **Enterasys Entity MIB** Enterasys Policy MIB-Optional License

Specifications Common to all Switch Models

Physical Specifications

Safety UL 60950, CSA 60950, EN 60950, EN 60825 IEC 60950

Electromagnetic Compatibility 47 CFR Parts 2 and 15, CSA C108.8, EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR 22, VCCI V-3

Environmental Specifications

Power Requirements Nominal Input Voltages: 100V to 240V Input Frequency: 47Hz to 63Hz

Temperature IEC 68-2-14 Standard Operating: 0° C to 40° C (32° F to 104° F) Non-Operating: -40° C to 70° C (40° F to 158° F)

Humidity 10% to 90% (Non-condensing)

Vibration IEC 68-2-36, IEC 68-2-6

Shock IEC 68-2-29

Drop IEC 68-2-32

Specifications for Each Switch

B2H124-48 SecureStack B2 Switch

Dimensions 44.1 cm (17.36") x 4.4 cm (1.73") x 36.85 cm (14.51")

Weight 5.27 kg (11.61 lbs)

Physical Ports 48 10/100 auto-sensing, auto-negotiating auto MDI/MDI-X RJ45 ports 4 SFP GBIC ports 2 stacking ports 1 DB9 console port 1 RPS port

Heat Dissipation 205 BTU/HR

MTBF (predicted) 138,741 hours

B2H124-48P SecureStack B2 Switch

Dimensions 44.1 cm (17.36") x 4.4 cm (1.73") x 36.85 cm (14.51")

Weight 6.50 kg (14.32 lbs)

Physical Ports 48 10/100 PoE auto-sensing, auto-negotiating auto MDI/MDI-X RJ45 ports 4 SFP GBIC ports 2 stacking ports 1 DB9 console port 1 RPS port

Heat Dissipation 1,451 BTU/HR

MTBF (predicted) 115,872 hours

Power-over-Ethernet

IEEE 802.3af compliant Total PoE power of 360 W Average of 7.5 watts per port (Class 2) Per-port enable/disable Per-port priority safety Per-port overload and short circuit protection System power monitor

B2G124-24 SecureStack B2 Switch

Dimensions

44.1 cm (17.36") x 4.4 cm (1.73") x 36.85 cm (14.51")

Weight 5.05 kg (11.12 lbs)

Physical Ports 24 10/100/1000 auto-sensing, auto-negotiating auto MDI/MDI-X RJ45 ports 4 SFP GBIC ports 2 stacking ports 1 DB9 console port 1 RPS port

Heat Dissipation 294 BTU/HR

MTBF (predicted) 195,256 hours

B2G124-48 SecureStack B2 Switch

Dimensions 44.1 cm (17.36") x 4.4 cm (1.73") x 36.85 cm (14.51")

Weight 5.71 kg (12.58 lbs)

Physical Ports

48 10/100/1000 auto-sensing, auto-negotiating auto MDI/MDI-X RJ45 ports 4 SFP GBIC ports 2 stacking ports 1 DB9 console port 1 RPS port

Heat Dissipation 441 BTU/HR

MTBF (predicted) 113,646 hours

Specifications for Each Switch

B2G124-48P SecureStack B2 Switch

Dimensions 44.1 cm (17.36") x 4.4 cm (1.73") x 36.85 cm (14.51")

Weight 6.94 kg (15.29 lbs)

Physical Ports 48 10/100/1000 1000 auto-sensing, auto-negotiating auto MDI/MDI-X RJ45 ports 4 SFP GBIC ports 2 stacking ports 1 DB9 console port 1 RPS port

Heat Dissipation 1,670 BTU/HR

MTBF (predicted) 102,777 hours

Power-over-Ethernet

IEEE 802.3af compliant Total PoE power of 360 W Average of 7.5 watts per port (Class 2) Maximum of 15.4 watts per port Per-port enable/disable Per-port priority safety Per-port overload and short circuit protection System power monitor

Redundant Power Supply Specifications

C2RPS-PSM Power Supply

Physical Specifications

Dimensions 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

Environmental Specifications

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%

Electrical Specifications AC Input Frequency Range 47-63 Hz

AC Input Voltage Range 85-264 VAC Hz

Maximum Output Power 102 W or 156 W continuous

C2RPS-POE Power Supply

Physical Specifications

Dimensions 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)

Environmental Specifications

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%

Electrical Specifications

AC Input Frequency Range 47-63 Hz

AC Input Voltage Range 90-264 Vac

Maximum Output Power 500 W

C2RPS-CHAS2 SecureStack Power Shelf

Power Supply Slots 2

Dimensions* 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 rackmount ears.

C2RPS-CHAS8 SecureStack Power Shelf

Power Supply Slots 8

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

Weight 5.27 kg (11.6 lbs)

Ordering Information

SecureStack B2 Switches

B2G124-24

SecureStack B2 with 24 10/100/1000 ports via RJ45 and four Mini-GBIC "combo" ports

B2G124-48

SecureStack B2 with 48 10/100/1000 ports via RJ45 and four Mini-GBIC "combo" ports

B2H124-48

SecureStack B2 with 48 10/100 ports via RJ45 and four Mini-GBIC uplink ports

SecureStack B2 Power-over-Ethernet Switches

B2H124-48P

SecureStack B2 with 48 10/100 Power-over-Ethernet ports via RJ45 and four Mini-GBIC uplink ports

B2G124-48P

SecureStack B2 with 48 10/100/1000 Power-over-Ethernet ports via RJ45 and four Mini-GBIC "combo" ports

SecureStack Optional Redundant Power

C2RPS-PSM

SecureStack 150-watt Redundant Non-PoE Power Supply with one DC cable

C2RPS-CHAS8

SecureStack RPS Chassis supporting up to 8 C2RPS-PSMs

C2RPS-SYS

SecureStack RPS Chassis plus 1 C2RPS-PSM (chassis supports up to 8 C2RPS-PSMs)

C2RPS-POE

SecureStack 500-watt Redundant PoE Power Supply with one DC cable

C2RPS-CHAS2

SecureStack RPS chassis (chassis supports up to 2 C2RPS-PSMs)

Cables

C2CAB-LONG

SecureStack stacking cable for connecting the top switch to the bottom switch (1 m)

C2CAB-SHORT

SecureStack stacking cable for connecting adjacent switches (30 cm)

SSCON-CAB

SecureStack Console Cable (for use on either B2 or C2 switches)

Optional Software Licenses

B2POL-LIC SecureStack B2 Policy License

Note: stacking cables must be ordered if you wish to stack the SecureStack B2.

Ordering Information

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

Warranty

As a customer-centric company, Enterasys is committed to providing the best possible workmanship and design in our product set. Enterasys offers a limited lifetime warranty on the Enterasys SecureStack B2 that covers the complete switch including power supplies and fans. This warranty also includes advance replacement (next business day replacement or shipment depending upon geography) of any failed switch. Please refer to the Enterasys website for full warranty details.

Service and Support

Enterasys understands that superior service and support is a critical component of *Networks that Know*.[™] The Enterasys **SupportNet Portfolio**—a suite of innovative and flexible service and support offerings—completes the Enterasys 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 SecureStack B2 switch family, please visit www.enterasys.com/products/switching/

Contact Information

Contact Enterasys Sales at **877-801-7082** or **enterasys.com/corporate/contact/contact-sales.html**

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Page 12 of 12 • Data Sheet

