

SecureStack C3 Switch Family

Policy-based L2 switching & L3 routing with high-availability stacking



High-density, high-availability,
stackable 10/100/1000
switching

IPv6 capable

Delivers affordable Secure
Networks to the stackable edge

Multilayer switching and full
Layer 3 routing

Power over Ethernet

Stacks with the SecureStack C2
Lifetime warranty

Product Overview

Enterasys Networks introduces the SecureStack C3 stackable switch that continues Enterasys' leadership in stackable switching. While delivering advanced switching and routing features, the SecureStack C3 delivers an industry-leading 384 Gigabit ports in a single stack. Expensive network downtime is reduced with reliability and availability features like Closed Loop Stacking, redundant core connections, redundant power options, and redundant stack management. The SecureStack C3 provides extensive security features and is an important part of extending Enterasys Secure Networks to the network edge, as well as providing a path to IPv6.

High Performance, Extensive Features at an Affordable Price

The SecureStack offers unprecedented port density and performance for a stackable switch, while at the same time providing much more extensive Secure Networks functionality with the expansion of policy masks. The SecureStack C3's extensive Layer 2 and Layer 3 feature set includes optional support for IPv6.

The SecureStack C3 supports Enterasys Secure Networks, the role-based architecture where every user is assigned an easy-to-deploy, yet highly granular role on the network. The SecureStack C3 supports up to 768 policy rules per switch or stack, so that all users—from sales to finance, from the president of the company to a guest user or contractor—are provided the capabilities and rights afforded to their productive role in the enterprise.

The SecureStack C3 enables customers to deploy a low-cost network solution today that will continue to deliver benefits well into the future. A single C3 stack provides over 384 user ports that can be used in a fully converged network with IPv6, PoE, and advanced routing capabilities that rival those found in high-end edge chassis-based systems.

Benefits

Minimal Operator Intervention

- Patented Secure Networks command and control functions enable you to apply up to 768 policy rules to create a self-managed network
- Auto-discovery of network attached devices (LLDP/LLDP-MED) enable you to create new policy, configuration, location and management applications
- NetSight management console makes it easy to deploy policy changes in large networks

Predictable Quality of Service

- Extensive controls for managing QoS by Layer 2,3 and 4 traffic, bandwidth, rate limits, user profile or application
- High availability through Loop Protect, redundant power supplies, automatic link failover and closed loop stacking

Support and Service

- The Enterasys service and support staff is an industry best with a 95% customer satisfaction rating and an average tenure of 10 years

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

Converged Networks Ready

Customers can take advantage of the cost savings of converged networks using the advanced Quality of Service features of the SecureStack C3. Traffic classification features combined with network-wide policies and 8 priority queues provide highly granular traffic prioritization and control of delay-sensitive traffic like VoIP.

IPv6 Support for the Next Generation

For customers who are laying the groundwork for next-generation networks, the SecureStack C3 supports IPv6 routing via an optional software license.

The SecureStack C3 Provides Enhanced Secure Networks Capabilities

Enterasys Secure Networks is recognized as the a true integration of security into the network infrastructure. The SecureStack C3 fully supports Enterasys role-based architecture that enables the administrator to create a role or roles for all users and devices on the network, with each role having specific rights to use on the network. Roles are easily assigned and changed using NetSight™ Policy Manager.

The SecureStack C3 also provides authentication and security that can be managed at the individual port or individual user level. The SecureStack C3 switches support user access authentication via IEEE 802.1X, MAC, and web (PWA) authentication in the switch's firmware.

Expanded Mask and Role Capabilities

The SecureStack C3 expands the capabilities of Secure Networks on the SecureStack product line by significantly expanding the mask capability of the switch. The C3 supports up to 768 different policy rules with a mask for each rule on a single switch or stack. The table below outlines the capabilities of different SecureStack C-Series. Note that in a mixed stack, all switches automatically assume the feature subset common to all switches.

Stack Policy Specifications

Type of Stack	C3 Stack	C3/C2G Mix	C3/C2H Mix
# of Rules/Stack	768	768	100
Stack Masks	768	768	18
# of Rules/Policy	100	100	100
# of Masks/Policy	100	10	10
Layer 2 Rule Support	Yes	Yes	Yes

C3 Stacks with C2s to Preserve Existing Investment in SecureStack

Customers who have invested in C2 switches from Enterasys can take advantage of the SecureStack C3 in their existing network because there is no forklift upgrade; the C3 will stack out of the box in a C2 stack, and automatically assume the capabilities of the existing C2s.

Ensure Network Uptime with Increased Reliability and Availability

Revenue-producing networks are not tolerant of network downtime. The SecureStack C3 provides protection against downtime by providing redundant network connections, automatic failover, and recovery capabilities. Closed Loop Stacking ensures that if a stack cable or switch fails, there is no loss of connectivity for the remainder of the stack. The SecureStack C3 also provides reliability features such as Distributed Link Aggregation Groups, so that a failure of a single unit does not disconnect the stack from the uplink to the core switch. Stack management is also redundant.

Outstanding Configuration Flexibility

With the SecureStack C3 switching family, mixing and matching various types of switches is a snap. A small stack can be started with dual 10/100/1000 switches with redundant Gigabit uplinks to the core. If Power over Ethernet is needed for remote access points or IP phones, a PoE switch can simply be added to the stack. As the stack grows, the demands on the uplinks to the core will increase. To address this, distributed link aggregation provides additional flexibility to increase bandwidth from a single gigabit up to 8 Gigabits. Network administration tasks are lightened because all the switches in the stack can be managed as a single entity with a single IP address and all of the switches run a common software image so there are never any incompatibility issues between switches.

SecureStack Lifetime Warranty

All SecureStack products from Enterasys provide a free lifetime warranty that continues for 5 years after the date of product discontinuation and includes power supply, fans, chassis, redundant power supply, and stacking cables. There is also a full software and firmware warranty to cover patches, bug fixes, and feature upgrades with 8 x 5 telephone support.

Routing and Switching Specifications

Layer 2 Capabilities

- IEEE 802.1D — Spanning Tree
- IEEE 802.1t — 802.1D Maintenance
- IEEE 802.1p — Traffic Management/Mapping to 6 queues
- IEEE 802.1Q — Virtual LANs w/ Port-based VLANs
- IEEE 802.1s — Multiple Spanning Tree
- IEEE 802.1v — Protocol-based VLANs
- IEEE 802.1w — Rapid Spanning Tree Reconvergence
- IEEE 802.1X — Port-based Authentication
- IEEE 802.3 — 10 Base-T
- IEEE 802.3ab — 1000 Base-T
- IEEE 802.3ac — VLAN Tagging
- IEEE 802.3ad — Link Aggregation
- IEEE 802.3u — 100 Base-T
 - GARP — Generic Attribute Registration Protocol: Clause 12, 802.1D-2004
 - GVRP — Dynamic VLAN Registration: Clause 11.2, 802.1Q-2003
- IEEE 802.3x — Flow Control
- Private Port (Private VLAN)
- Jumbo Ethernet Frames (9,216 bytes)
- Many-to-One Port Mirroring, One-to-One-Port Mirroring
- Port Description
- Protected Ports
- Per-Port Broadcast Suppression
- Spanning Tree Backup Route
- STP Pass Thru
- RFC 1213 — MIB II
- RFC 1493 — Bridge MIB
- RFC 1643 — Ethernet-like MIB
- RFC 2233 — Interfaces Group MIB using SMI v2
- RFC 2618 — RADIUS Authentication Client MIB
- RFC 2620 — RADIUS Accounting MIB
- RFC 2674 — VLAN MIB
- RFC 2737 — Entity MIB version 2
- RFC 2819 — RMON Groups 1, 2, 3 & 9
- IEEE 802.1X MIB (IEEE 802.1-PAE-MIB)
- IEEE 802.3ad MIB (IEEE802.3-AD-MIB)
- VLAN Marking of Mirror Traffic

Authentication

- 802.1X
- MAC
- Web
- RFC 3580 — Dynamic VLAN Assignment
- Multiple User RFC3580 Authentication per gigabit port
- RADIUS Client
- RADIUS Accounting for MAC Authentication
- EAP Pass Through
- Dynamic and Static MAC Locking

QoS

- Queuing Control Strict and Weighted Round Robin
- 8 Priority Queues/Port
- 802.3x Flow Control

PoE

- 802.3af — Power over Ethernet

Routing

- RFC 826 — Ethernet ARP
- RFC 1058 — RIPv1
- RFC 1256 — ICMP Router Discovery Messages
- RFC 2131 — DHCP Relay
- RFC 2328 — OSPFv2
- RFC 2453 — RIPv2
- RFC 3046 — DHCP/BootP Relay
- RFC 3768 — VRRP – Virtual Router Redundancy Protocol
- TOS Rewrite
- DHCP Server
- Telnet Support
- RFC 1724 — RIPv2 MIB Extension
- RFC 1850 — OSPF MIB
- RFC 2787 — VRRP MIB
- RFC 2863 — The Interfaces Group MIB

Multicast

- IP Helper Address - Forward up to 6 manual settings
- DVMRP
- RFC 2236 — IGMPv2
- RFC 2362 — PIM-SM
- IGMP Snooping v1, v2
- RFC 2933 — IGMP MIB
- RFC 2934 — PIM MIB for IPv4

IPv6 Routing

- RFC 1981 — Path MTU for IPv6
- RFC 2373 — IPv6 Addressing
- RFC 2460 — IPv6 Protocol Specification
- RFC 2461 — Neighbor Discovery
- RFC 2462 — Stateless Autoconfiguration
- RFC 2463 — ICMPv6
- RFC 2464 — IPv6 over Ethernet
- RFC 2473 — Generic Packet Tunneling in IPv6
- RFC 2711 — IPv6 Router Alert
- RFC 2740 — OSPFv3
- RFC 2893 — Transition Mechanisms for IPv6 Hosts and Routers (6 over 4 configured)
- RFC 3315 — DHCPv6 (stateless + relay)
- RFC 3484 — Default Address Selection for IPv6
- RFC 3493 — Basic Socket Interface for IPv6
- RFC 3513 — Addressing Architecture for IPv6
- RFC 3542 — Advanced Sockets API for IPv6
- RFC 3587 — IPv6 Global Unicast Address Format
- RFC 3736 — Stateless DHCPv6
- Dual IPv4/IPv6 TCP/IP Stack
- RFC 2465 — IPv6 MIB
- RFC 2466 — ICMPv6 MIB

Management

- NetSight Console
- NetSight Policy Manager
- NetSight Inventory Manager
- NetSight Automated Security Manager
- Sentinel
- WebView
- SSL Interface to WebView
- RMON (4 Groups)
- Text-based Configuration Upload/Download
- Simple Network Time Protocol (SNTP)
- Alias Port Naming
- Node/Alias Table
- RFC 854 — Telnet
- RFC 1157 — SNMP
- RFC 1901 — Community-based SNMPv2
- RFC 2271 — SNMP Framework MIB
- RFC 3413 — SNMPv3 Applications
- RFC 3414 — User-based Security Model for SNMPv3
- RFC 3415 — View-based Access Control Model for SNMP

Physical Specifications

Capacity & Performance

Address Table Size: 16k MAC Addresses
RAM: 256 MB
Flash Memory: 512 KByte Boot Flash +32 MB run time flash
4096 VLANs supported; 1024 VLAN entries/stack
8 Priority Queues/Port (6 available for traffic prioritization)
VLAN Spanning Tree (802.1s): 4 Instances Supported
802.3ad Link Aggregation: 8 ports per trunk group, 6 groups supported
Jumbo 9K Frame Supported on Gigabit Links

Throughput Capacity (wire-speed)

35.7 mpps on C3Gxxx 24-port models
71.4 mpps on C3Gxxx 48-port models

Aggregate Throughput Capacity

192.0 gbps maximum per switch
1,536.0 gbps maximum per stack

Switching Capacity Dedicated to Stacking

96.0 gbps per switch dedicated to stacking
768.0 gbps aggregate dedicated to stacking

Physical Specifications

Dimensions (H x W x D)

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

Net Weight

C3G124-48P 6.55 Kg (14.41 lb)
C3G124-48 5.35 Kg (11.77 lb)
C3G124-24P 6.25 Kg (13.75 lb)
C3G124-24 5.05 Kg (11.11 lb)

Heat Dissipation

C3G124-48P 1670 BTU/Hr
C3G124-48 441 BTU/Hr
C3G124-24P 1451 BTU/Hr
C3G124-24 294 BTU/Hr

MTBF

C3G124-48P 79,905 Hours
C3G124-48 106,916 Hours
C3G124-24P 114,280 Hours
C3G124-24 160,505 Hours

PoE

C3G124-48P
— IEEE 802.3af compliant total PoE power of 375W
average of 7.8 watts per port. (Class 2 = 7.5W)

C3G124-24P
— IEEE 802.3af compliant total PoE power of 369.6W
average of 15.4 watts per port (Class 3).

Environmental Specifications

Power Requirements

Nominal Input Voltages: 100 V to 240 V
Input Voltage: 18 and 32 Volt DC and 110/220 Volt DC
Input Frequency: 50-60 Hz

Input Current

C3G124-48P	110V - 5.3A	220V - 2.9A
C3G124-48	110V - 1.3A	220V - .7A
C3G124-24P	110V - 4.9A	220V - 2.5A
C3G124-24	110V - .6A	220V - .4A

Power Consumption

C3G124-48P	583W
C3G124-48	143W
C3G124-24P	539W
C3G124-24	66W

Temperature

Operating Temperature: Standard Operating 0°C to +50 °C (32°F to 122 °F);
Non-Operating: -40°C to 70°C (-40° F to 158° F)

Humidity

Operating Humidity: 10-90% non-condensing

Agency and Standards Specifications

Standard Safety: UL 60950, CSA 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, and VCCI V-3

Warranty

All SecureStack Switches are warranted to be free from defects for the life of the product. Enterasys offers advance replacement with Next Business Day Arrival Shipment options. The SecureStack Warranty continues until 5 years after the date of product discontinuation and includes power supply, fans, and stacking cables. The Software and Firmware Warranty covers patches, and bug fixes, and feature upgrades with 8 x 5 telephone support.

Service and Support

Enterasys Networks provides comprehensive service offerings that range from Professional Services to design and implement 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.

Ordering Information

Part Number	Description
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SecureStack C3 Switches

C3G124-24	SecureStack C3 with 24 10/100/1000 ports via RJ45 and 4 Mini-GBIC Ports (24 Total Active Ports/Switch)
C3G124-24P	SecureStack C3 with 24 10/100/1000 Power-over-Ethernet ports via RJ45 w/ 4 Mini-GBIC ports (24 Total Active Ports/Switch)
C3G124-48	SecureStack C3 with 48 10/100/1000 ports via RJ45 w/ 4 Mini-GBIC Ports (48 Total Active Ports/Switch)
C3G124-48P	SecureStack C3 with 48 10/100/1000 Power-over-Ethernet ports via RJ45 w/ 4 Mini-GBIC ports (48 Total Active Ports/Switch)

MGBIC Modules

MGBIC-LC01	Mini-GBIC with 1000Base-SX via LC Connector
MGBIC-LC03	Mini-GBIC with 1000Base-LX/LH (2KM Long Haul) MMF via LC Connector
MGBIC-08	Mini-GBIC with 1000Base-LX/LH (70KM 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

Software License

C3L3-LIC	SecureStack C3 Advanced IPv4 Routing License (OSPF, PIM, DVMRP, VRRP), Per Switch License
C3IPv6-LIC	SecureStack C3 IPv6 Routing License, Per Switch License

Accessories

C2CAB-SHORT	SecureStack stacking cable for connecting adjacent switches (.3 Meter)
C2CAB-LONG	SecureStack stacking cable for connecting the top switch to the bottom switch (1 Meter)
C2CAB-5M	SecureStack stacking cable for C2 and B2 Series (48-port models only) and all C3 and B3 Models (5 Meter)
SSCON-CAB	SecureStack console cable (for use on all A2, B2, B3, C2, and C3 switches)
C2RPS-SYS	SecureStack RPS chassis plus one C2RPS-PSM (chassis supports up to 8 C2RPS-PSMs)
C2RPS-CHAS8	SecureStack RPS chassis (chassis supports up to 8 C2RPS-PSMs)
C2RPS-PSM	SecureStack 150-watt redundant non-PoE power supply with one DC cable
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)

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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