3Com® SuperStack® 3 Switch 4400 Family

DATA SHEET

- Stackable 10/100 Layer 2/4 switches

- 24 and 48-port models, each with two Gigabit module slots

- Network Login combined with RADA for security with flexibility

- Access control lists

- Private Ports facility

- Advanced traffic control and prioritization

Key Benefits

Performance
Enterprise-class managed Layer 2/4 10/100 switching for workgroups, with a choice of Gigabit downlinks and stacking. The 3Com® SuperStack® 3 Switch 4400 family is available in 24 and 48-port products covering important network interface types including Power over Ethernet, 100BASE-FX, and 100BASE-LX10, with two Gigabit module slots on every unit.

Security
Advanced security for network data and management traffic controlling a network.

User network login with IEEE 802.1X and RADIUS, combined with RADIUS Authenticated Device Access (RADA), provides secure flexible network access control at the edge of the network. Local authentication for up to 50 IEEE 802.1X users and RADA devices offers added flexibility in the absence of a centralized RADIUS server, and supplies a backup solution in case of server failure or connectivity issues.

Authenticated users can be placed automatically into a specific VLAN, restricting access further. The Private Ports feature can isolate edge ports to ensure user privacy. Access Control Lists (ACLs) allow or deny traffic based on specific subnet, or individual IP address. SNMP v3 secure encrypted management, Secure Shell (SSH), management VLAN, and management station "trusted IP address" lists help protect the network from rogue management threats.

Resiliency
Hot-swappable stacking of up to eight units, or 384 10/100 ports, allows continuous operation of the network. Stack-wide link aggregation (LACP) enables high-performance connectivity of up to 4Gbps to the core of the network, with up to four ports from different units aggregated together across the stack to maximize network uptime.

Network Control
Network management is available through an embedded web and command line interface (CLI), or via an SNMP management station. Supported by the range of 3Com management offerings including 3Com Network Supervisor.

Multilayer Traffic Shaping
Advanced Multilayer packet classification enables prioritization of mission critical traffic and real-time applications, while freeing bandwidth by eliminating unwanted protocols and applications from the network. Through network login profiles, classification can be dynamically assigned on a per-user basis. Port based rate-limiting enables the maximum bandwidth on each port to be limited, allowing maximum control of network resources while maintaining the full benefit of the powerful traffic prioritization features.

Ease of Use
The switches automatically select the optimal speed and duplex mode of connected cables to prevent mis-configuration of the network. They also detect and adjust to cross-over or straight-through cable connections—a feature called auto MDI/MDIX—eliminating the need for specific cables.

Warranty
Limited Lifetime Warranty, with Advance Hardware Replacement. See **www.3com.com/warranty** for details.

Service
3Com products are backed by 3Com Global Services and authorized partners with demonstrated expertise in network assessment, implementation, and maintenance. Ask about 3Com's Network Health Check, installation services, and maintenance service packages available in your area.

TOLLY Up to Spec CERTIFIED

Tolly Certified: Layer 2/4 Fast Ethernet Switch Performance Evaluation and Layer 2 Interoperability.

For details, see **www.3com.com/other/pdfs/products/en_US/ss4400_tolly.pdf** and **www.3com.com/other/pdfs/products/en_US/tolly_test_4400.pdf**, respectively.

Tolly Verified

Tolly Verified for Switch Interoperability.
For details, see
www.tolly.com/TVDetail.aspx?ProductID=93

3Com SuperStack 3 Switch 4400 family switches provide wirespeed 10/100 Fast Ethernet switching specifically designed for Enterprise workgroup environments. This award-winning switch family boasts advanced Quality of Service features that can reduce the latency of packets through the network, with specific traffic prioritization improving the delivery of converged data such as voice and high quality video over IP.

The switch family has great deployment flexibility, with dual expansion slots to support a full mix of Fast Ethernet fiber and Gigabit Ethernet downlink modules and stacking support of up to eight stacked units. Stacking reduces network management complexity by allowing up to 384 Fast Ethernet ports to be managed as a single entity. The Switch 4400's hot-swappable stacking, with the ability to implement stack-wide aggregated links, provides advanced resiliency for mission critical networks.

Security is of utmost importance for a network, and the SuperStack 3 Switch 4400 family is a strong contributor to this for workgroups. IEEE 802.1X network login ensures all users are authorized before being granted access to any network resource. User authentication is carried out using any standards-based RADIUS server, avoiding any proprietary authentication mechanisms.

3Com backs these products with more than 25 years of networking experience. They come with a Limited Lifetime product hardware warranty.

The SuperStack 3 Switch 4400 SE 24-Port is an economical alternative if advanced Layer 4 features are not needed initially; a switch that preserves the option of getting these features in the future.

The Switch 4400 SE lacks the traffic classification and prioritization features of the other Switch 4400 family models, while sharing the family's performance, security, stackability (with other Switch 4400 SEs only), and available uplink modules. Enable the advanced features later with the purchase of the SuperStack 3 Switch 4400 SE Enhanced Software Upgrade.

SuperStack 3 Switch 4400s in a 3Com XRN™ Technology-based Network
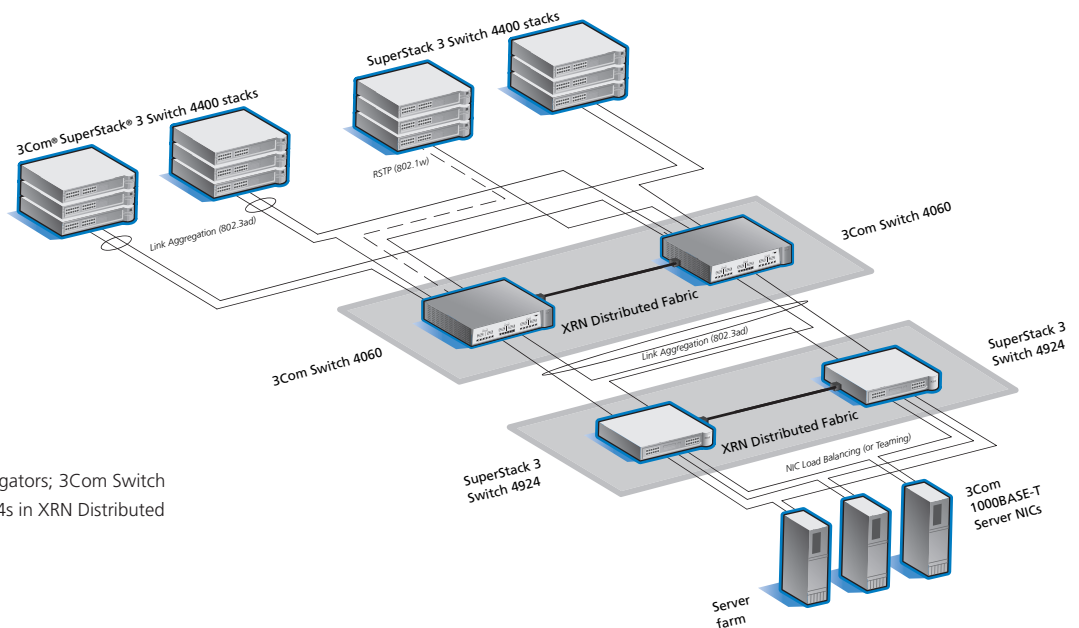
SuperStack 3 Switch 4400s as aggregators; 3Com Switch 40x0s and SuperStack 3 Switch 4924s in XRN Distributed Fabrics.

Features

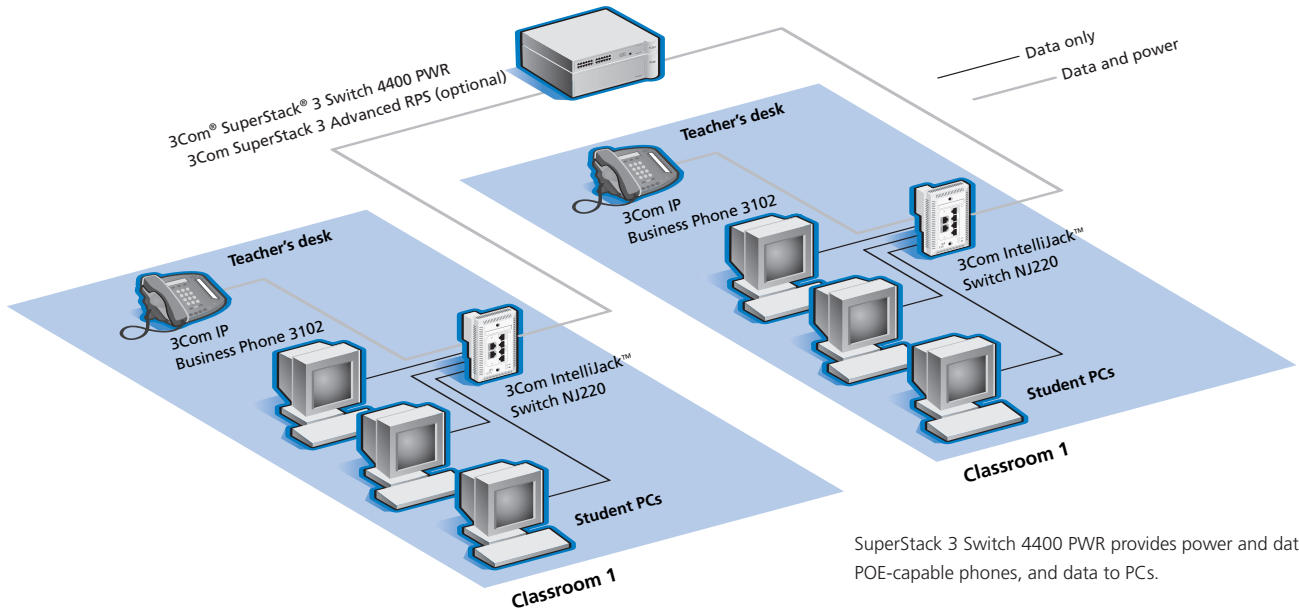| PERFORMANCE	
Switching Capacity Forwarding Rate Store-and-Forward Switching	24-port models, 8.8 Gbps; 48-port models, 13.6 Gbps Forwarding rate: 24-port models, 6.6 Mpps; 48-port models, 10.1 Mpps Latency <2.6 µs
LAYER 2 SWITCHING	
MAC Address	8K MAC addresses Secure MAC addresses (256 addresses)
VLAN	64 VLANs (IEEE 802.1Q)
Link Aggregation	IEEE 802.3ad (LACP) Four trunk groups (up to four ports in each) Link Aggregation across stack
Auto-negotiation	Auto-negotiation of port speed, duplex, and connection (MDI/MDIX)
Traffic Control	IEEE 802.3x full-duplex flow control Back pressure flow control for half-duplex Broadcast Storm Suppression (3,000 pps threshold)
Spanning Tree	IEEE 802.1D Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) • Fast-start mode • Spanning tree enable/disable per port
Multicast Snooping	IGMP v1, v2, and v3 snooping IGMP Querier Filtering for 128 multicast groups
STACKING	
Stacking	Up to 384 ports Single IP address for stack management Resilient loop back Hot-swappable
CONVERGENCE	
Priority Queues	Four hardware queues per port Strict priority queuing Weighted Round Robin queuing
Traffic Prioritization*	CoS Marking / Remarking IEEE 802.1p to DSCP mapping Auto classification of 3Com NBX® telephony traffic Priority based on: • IEEE 802.1p CoS • DSCP (DiffServ Code Point) • TCP/UDP source or destination port number • Default port priority • IP Address / Protocol
Traffic Shaping*	Egress rate limiting, port-based: • 1 Mbps increments (10/100 ports) • 8 Mbps increments (Gigabit ports) Application and protocol blocking
SECURITY	
Network Access and User Security	IEEE 802.1X user authentication • RADIUS authentication • Advanced security by locking a port to the MAC address of the authenticated user • Automatically assign VLANs and QoS profile to a port based on user • Guest VLAN option RADIUS Authenticated Device Access (RADA) • Authenticate devices based on MAC address against a RADIUS server • Authenticate multiple devices per port • Automatically assign VLANs and QoS to a port specific to the devices attached • Operates alongside IEEE 802.1X authentication to ensure user and device are allowed access • Local authentication for up to fifty IEEE 802.1X users and RADA devices in absence of a centralized RADIUS server • RADA "whitelist" support enhances flexibility for IEEE 802.1X/RADA deployment • Option to allow default VLAN access when RADIUS server is unavailable Disconnect Unknown Device (DUD) Access Control Lists (ACLs) allow or deny traffic based on specific subnet or individual IP address Private Ports feature isolates edge ports at layer 2 to ensure user privacy.
Switch Management	Local or RADIUS management of switch passwords Trusted IP Management Addresses Syslog Telnet • SSH v2 (56 bit or 168 bit DES)

* Switch 4400 SE requires 3Com SuperStack 3 Switch 4400 Enhanced Software Upgrade, 3C17207, to perform these functions.

Features *(continued)*

RESILIENCY	
	Support for 3Com Advanced Redundant Power Supply; provides backup power to the switch
	Backup and restore of switch settings

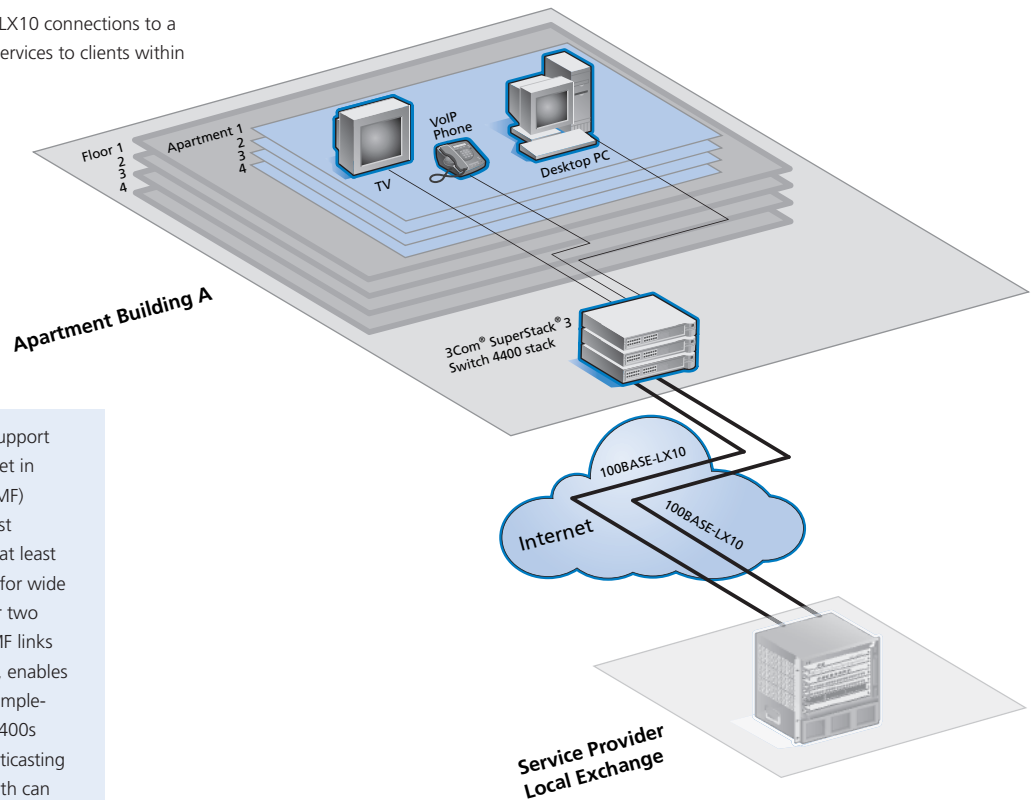| MANAGEMENT	
Remote Management	SNMP v1, SNMP v2, SNMP v3 secure encrypted management
	User-selectable management VLAN
Software	Backup and restore
	TFTP configuration: upload/download
	TFTP agent: upload
Configuration	Command line
	Serial (9-pin, D-type connector)
	Telnet
	Web-based
	SNMP
Mirror Port / RAP (Roving Analysis Port)	One-to-one
RMON (Remote Monitoring)	Four groups: statistics, history, alarm, and events
IP Address Allocation	DHCP
	BootP
	Manual
	Auto IP
Network Time	Simple Network Time Protocol (SNTP) for time stamp of events captured via Syslog
Management Software	3Com Network Supervisor (copy provided with product)
	• Topology discovery
	• Change management reporting
	• Capacity planning
	• Event logging
	• Fault identification and troubleshooting
	• Utilization monitoring

OPTIONAL SERVICE AND SUPPORT	
Network Health Check	An activity-auditing service focused on improving network performance and productivity
	Includes traffic monitoring, utilization analysis, problem identification, and asset deployment recommendations
	Extensive report provides blueprint for action
Network Design	Includes review of business plan, extensive inventory of requirements, and complete design document specifying implementation details
Network Installation	Experts set up and configure equipment and integrate technologies to maximize functionality and minimize business disruption
	Service may include physical site survey and network design and engineering based on evaluation of business objectives
Project Management	Provides extra focus and resources that special projects demand
	3Com engineer(s) manage entire process from initial specifications to post-project review
	Using structured methodology, requirements are identified, projects planned, and progress of implementation activities tracked
3Com Guardian℠ Maintenance Service	Provides comprehensive onsite support, including advance hardware replacement, telephone technical support, and software upgrades:
	• Telephone support backed by powerful call-tracking database and replication laboratory
	• Software upgrades ensure access to pertinent patches
3Com Express℠ Maintenance Service	Benefits customers who prefer to maintain own hardware
	Bolsters in-house resources with convenient and speedy access to 3Com hardware replacements, software upgrades, and telephone support

SuperStack 3 Switch 4400s in an Enterprise 10G Network

SuperStack 3 Switch 4400s as wiring closet aggregators, with 3Com Switch 7700s as building aggregators.

3Com Switch 8800s in the core of an enterprise network, with 10G Ethernet links to satellite buildings.

3Com® SuperStack® 3 Switch 4400 stacks

Floor 1
2
3
4

3Com Switch 7700

Satellite Building A

10G

10G

10G

10G

3Com Switch 8800

10G

SuperStack 3
Switch 4924

XRN Distributed Fabric

3Com
1000BASE-T
Server NICs

Server
farm

Headquarters

10G

3Com Switch 7700

Floor 1
2
3
4

3Com® SuperStack® 3 Switch 4400 stacks

Satellite Building B

SuperStack 3 Switch 4400 PWR and Power over Ethernet

Data only

Data and power

3Com® SuperStack® 3 Switch 4400 PWR
3Com SuperStack 3 Advanced RPS (optional)

Teacher's desk

3Com IP
Business Phone 3102

3Com IntelliJack™
Switch NJ220

Student PCs

Classroom 1

Teacher's desk

3Com IP
Business Phone 3102

3Com IntelliJack™
Switch NJ220

Student PCs

Classroom 1

SuperStack 3 Switch 4400 PWR provides power and data to POE-capable phones, and data to PCs.

SuperStack 3 Switch 4400, with 100BASE-LX10 connections to a local service provider, provides converged services to clients within a 10km radius.

Floor 1
2
3
4

Apartment 1
2
3
4

VoIP
Phone

TV

Desktop PC

Apartment Building A

3Com® SuperStack® 3
Switch 4400 stack

100BASE-LX10

100BASE-LX10

Internet

**Service Provider
Local Exchange**

The SuperStack 3 Switch 4400 adds support for the emerging IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber (EFMF) standard. This enables the reach of Fast Ethernet over fiber to be extended to at least 10km, giving a cost effective solution for wide area Ethernet distribution. Support for two EFMF links per switch, or multiple EFMF links aggregated across a stack of switches, enables a resilient and scalable solution to be implemented. Combined with the Switch 4400s powerful QoS, Traffic Shaping and Multicasting features, the available uplink bandwidth can be intelligently shared between users.

Specifications

Connectors

24[1] or 48 auto-negotiating 10BASE-T/100BASE-TX ports configured as Auto MDI/MDIX

24 auto-negotiating In-Line Power 10BASE-T /100BASE-TX ports configured as Auto MDI/MDIX (24-port PWR only)

24 100BASE-FX ports
(24-port FX only)

2 module slots accommodating media modules or stacking modules

All fiber connectors are MT-RJ (LC connector on SuperStack 3 Switch 4400 100BASE-LX10 Module, 3C17229)

Advanced Redundant Power System Type 2A connector

Advanced Redundant Power System Type 3 connector (24-port PWR only)

RS232 console port

Security

RADIUS (RFC 2865, RFC 2869)

Session accounting (RFC 2866)

SSH v2 (SSH Secure Shell, 'PuTTY', OpenSSH)

IEEE 802.1X network login

Stacking

Up to 384 10/100 front panel ports

Mix and match Switch 4400 24-port (3C17203), 4400 48-port (3C17204), 4400 PWR (3C17205), and 4400 FX (3C17210)

Stack Switch 4400 SE (3C17206) only with other like units[2]

Performance

24-port

8.8 Gbps forwarding bandwidth

6.6 million packets per second

8,000 MAC addresses supported

48-port

13.6 Gbps forwarding bandwidth

10.1 million packets per second

8,000 MAC addresses supported

Reliability

(MTBF @ 40˚C)

24-port: 29 years (254,000 hours)

24-port PWR: 26 years (231,000 hours)

24-port FX: 26 years (228,000 hours)

48-port: 20 years (179,000 hours)

Dimensions

Height: 43.6 mm (1.7 in or 1U)

Width: 440 mm (17.3 in)

Depth:

24-port PWR: 304 mm (12.0 in)

24-port FX: 270 mm (10.6 in)

all others: 274 mm (10.8 in)

Weight:

24-port: 2.8 kg (6.2 lb)

24-port PWR: 4.6 kg (10.1 lb)

24-port FX: 2.7 kg (6.0 lb)

48-port: 3.2 kg (7.1 lb)

Environmental Requirements

Operating temperature:
0° to 40°C (32° to 104°F)

Storage Temperature:
-40° to +70°C (-40° to +158°F)

Operating Humidity:
10% to 90% relative humidity noncondensing

Standards: EN60068 (IEC68)

Industry Standards Supported

IEEE 802.1D (STP)

IEEE 802.1p (CoS)

IEEE 802.1Q (VLANs)

IEEE 802.1w (RSTP)

IEEE 802.1X (Security)

IEEE 802.3ab (1000BASE-T)

IEEE 802.3ad (Link Aggregation)

IEEE 802.3af (Power over Ethernet)

IEEE 802.3ah (Ethernet in First Mile over Point to Point Fiber - EFMF)

IEEE 802.3i (10BASE-T)

IEEE 802.3u (Fast Ethernet)

IEEE 802.3x (Flow Control)

IEEE 802.3z (Gigabit Ethernet)

Safety Agency Certifications

24-port: UL1950, EN60950, CSA22.2 No. 950, IEC 60950

24-port PWR, 24-port FX, and 48-port: UL60950, EN60950, CSA2.2 No. 60950, IEC 60950

Emissions

EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, AS/NZS 3548 Class A, CNS 13438 Class A

CISPR 22 CLASS A, EN61000-3-2, EN61000-3-3 (24-port PWR only)

Immunity: EN55024

Heat Dissipation:
24-port: 100 W maximum (341 BTU/hr maximum)
24-port PWR: 275 W maximum (938 BTU/hr maximum)
24-port FX: 105 W maximum (358 BTU/hr maximum)
48-port: 120 W maximum (410 BTU/hr maximum)

Power Supply

AC Line Frequency 50/60 Hz

Input Voltage 90-240 VAC

Current Rating:

24-port: 2.3A maximum

48-port: 2.8A maximum

SNMP Standards

SNMP Protocol (RFC 1157)

MIB-II (RFC 1213)

Bridge MIB (RFC 1493)

RMON MIB II (RFC 2021)

Remote Monitoring MIB (RFC 1757)

Interface MIB (RFC 2233)

Remote Poll MIB (RFC 2925)

MAU MIB (RFC 2668)

SNTP (RFC 2030)

PoE MIB (RFC 484) (24-port PWR only)

Management

Web interface

Command line interface

SNMP compatibility

Management through 3Com management applications

- 3Com Network Supervisor

- 3Com Network Director

- 3Com Network Administrator

- 3Com Enterprise Management Suite

Warranty

Limited Lifetime Hardware Warranty. Limited Software Warranty for ninety (90) days. See **www.3com.com/warranty** for details.

Other Benefits

Other Service Benefits: Advance hardware replacement with same day shipment for North America and Western Europe. Next day shipment for rest of world. Calls must be received by published cut-off times.

90 days of telephone technical support. Limited software updates.

See www.3com.com/warranty for more detail.

Register products at **http://eSupport.3com.com**.

Service

Americas:
www.3com.com/products/en_US/global_services

International:
http://emea.3com.com/globalservices

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(1) 24-port specifications refer to Switch 4400 24-Port (3C17203), Switch 4400 24-Port PWR (3C17205), Switch 4400 24-Port FX (3C17210), and Switch 4400 SE 24-Port (3C17206), unless otherwise noted.

(2) With installation of optional SuperStack 3 Switch 4400 Enhanced Software Upgrade, 3C17207, the Switch 4400 SE will stack with the Switch 4400 24-port, 4400 48-port, 4400 PWR, and 4400 FX.

Ordering Information

PRODUCT DESCRIPTION	3COM SKU
3Com SuperStack 3 Switch 4400 24-port	3C17203
3Com SuperStack 3 Switch 4400 48-port	3C17204
3Com SuperStack 3 Switch 4400 PWR	3C17205
3Com SuperStack 3 Switch 4400 SE 24-port	3C17206
3Com SuperStack 3 Switch 4400 FX	3C17210
Optional Modules and Accessories	
3Com SuperStack 3 Switch 4400 Enhanced Software Upgrade	3C17207
3Com SuperStack 3 Switch 4400 1000BASE-T Module	3C17220
3Com SuperStack 3 Switch 4400 1000BASE-SX Module	3C17221
3Com SuperStack 3 Switch 4400 100BASE-FX Module	3C17222
3Com SuperStack 3 Switch 4400 1000BASE-LX Module	3C17223
3Com SuperStack 3 Switch 4400 100BASE-LX10 Module*	3C17229
3Com SuperStack 3 Switch 4400 Stacking Kit *(Two stacking modules and cable to stack two Switch 4400s—see stacking specifications above for restrictions)*	3C17227
3Com SuperStack 3 Switch 4400 Stack Extender Kit *(One stacking module, one cascade module and one cable for adding more Switch 4400s to an existing Switch 4400 stack—see stacking specifications above for restrictions)*	3C17228
3Com SuperStack 3 Advanced Redundant Power System	3C16071B
3Com SuperStack 3 Advanced RPS Type 2A module	3C16074A
3Com SuperStack 3 Advanced RPS Type 3 module	3C16075

Express℠ Service Plans†	Americas	EMEA / AP‡
3Com SuperStack 3 Switch 4400 24-port	3CS-EXP-05E	3CS-EXP-X305
3Com SuperStack 3 Switch 4400 48-port	3CS-EXP-08E	3CS-EXP-X309
3Com SuperStack 3 Switch 4400 PWR	3CS-EXP-06E	3CS-EXP-X307
3Com SuperStack 3 Switch 4400 FX	3CS-EXP-09E	3CS-EXP-X310
3Com SuperStack 3 Switch 4400 SE	3CS-EXP-03E	3CS-EXP-X303

* Switch 4400 software version 5.1, minimum, required for operation.
† Includes telephone support, advance hardware replacement, and software upgrades.
‡ Europe, Middle East, Africa and Asia Pacific.