

3Com® Switch 3870 Gigabit Family

DATA SHEET



Enables Secure Converged Networks with:

- Stackable Gigabit to the Desk at pricing similar to 10/100
- End-to-end network security
- Layer 2/3 switching and routing
- Scalable up 384 Gigabit users per stack
- Available 10-Gigabit connectivity

Product Overview

The 3Com® Switch 3870 family of managed stackable 10/100/1000 Ethernet switches provides secure, flexible LAN connectivity for enterprise and branch office networks. The Switch 3870 family offers Layer 2 switching and dynamic Layer 3 routing, as well as robust security, quality of service (QoS), and management features to deliver intelligent Gigabit edge connectivity for essential business applications.

Two switch models – stackable in any combination up to eight units – include:

- 3Com Switch 3870 24-Port:
20-Port 10/100/1000; 4-Port dual-personality 10/100/1000 or Gigabit SFP; dual built-in 10-Gbps stacking ports; expansion slot supporting 10-Gigabit (XENPAK) module
- 3Com Switch 3870 48-Port:
44-Port 10/100/1000; 4-Port dual-personality 10/100/1000 or Gigabit SFP; dual built-in 10-Gbps stacking ports; expansion slot supporting 10-Gigabit (XENPAK) module

Why Gigabit to the Desk?

It is time to consider "Gigabit to the desk" as an alternative to 10/100 switching:

- Give users a 10x improvement in performance when compared to legacy 10/100 edge connections. Reduce network latency. Prepare the network for supporting high quality video and voice communication.
- Pricing for Gigabit is closer and closer to that of 10/100 switching, making it more justifiable to upgrade to the higher speed.
- Gigabit speeds are increasingly being supported by new servers and workstations. Prepare the network to deliver optimum speed.
- Migration is easy, with 10-, 100-, and 1000Mbps operation that automatically adjusts to the maximum available speed. No worries about backward compatibility.

Secures the Network

Essential security features provide user and device authentication, enforce access control for switch management, and enhance overall network security to protect critical resources and information.

The Switch 3870 also functions as an integral part of the 3Com Quarantine* solution, enabling automatic containment of security threats.

Empowers Application Convergence

The Switch 3870 family provides a 10x improvement in performance with reduced network latency. Combined with advanced quality of service (QoS) and traffic management features prepares the network to support high quality video and voice communication.

Increases Flexibility and Scalability

The Switch 3870 family employs a flexible design with user-configurable "dual personality" Gigabit Ethernet interfaces, and the ability to stack up to eight switch units (384 10/100/1000 connectivity ports) that can be managed as a single entity. Each Switch 3870 also has an expansion slot capable of supporting an additional 10Gbps full duplex (20Gbps total) high-speed Ethernet connection.

Enhances Management and Control

Easy to use and manage, the Switch 3870 family is designed to increase business productivity by reliably supporting business applications that drive productivity improvements.

* For details on the 3Com Quarantine solutions, see http://www.3com.com/other/pdfs/products/en_US/3com-400915.pdf

Key Benefits

Scalability

Enhanced 10/100/1000 Layer 2 switching and dynamic Layer 3 routing solution delivers scalable wirespeed Gigabit performance, with integrated stacking up to eight units high, or 384 Gigabit ports. Each Switch comes with integrated dual full duplex 10Gbps stacking ports on the back of the unit, providing a total stacked capacity of 40Gbps, plus an expansion slot capable of supporting an additional 10Gbps full duplex (20Gbps total) high-speed Ethernet connection. This enables the 156Gbps switching capacity to provide wirespeed switching on all ports.

Stack-wide link aggregation enables high-performance connectivity to the core of the network, with up to eight ports from different units aggregated together to improve resiliency and uptime.

Performance

24 or 48 built-in copper Gigabit ports, including four dual-purpose ports supporting copper links or SFP adapters for easy, flexible connection to fiber based Gigabit media. Port-based rate-limiting enables the bandwidth on each port to be restricted, so power users can receive the full bandwidth available while non-key users can be throttled down, preserving network bandwidth and allowing maximum control of network resources. Built-in packet prioritization gives optimal performance to real-time applications such as voice and video.

Future Protection

Gigabit to the desk prepares your network for the future at prices comparable to those of some 10/100 switches. Tri-speed operation at 10-, 100-, and 1000Mbps allows easy migration to Gigabit speeds. Investment protection is further enhanced with switching silicon designed to support multi-layer switching, and a module slot that supports a single-port 10-Gigabit Ethernet module, with CX-4, LR, or ER XENPAK ports that can be used to connect back to the network core.

Ease of Use

Dynamic routing with RIP (Routing Information Protocol) allows automatic updating of Layer 3 network topologies. Speed and duplex mode on all ports are negotiated automatically, preventing the possibility for improper configuration. Switches detect and adjust to cross-over or straight through cable connections via "Auto MDI/MDIX" feature, eliminating the need for different cables to interconnect network devices.

Security

The Switch 3870 family ensures secure access to resources using standard 802.1X network access control combined with RADIUS authentication. Additionally, RADIUS Authenticated Device Access (RADA) enables authentication of attached devices via MAC address for an additional level of endpoint security. Port-based Access Control Lists (ACLs) effectively enable usage policies at each point of access to the network via the switch.

Secure Shell (SSHv2), Secure Sockets Layer (SSL/HTTPS) and SNMPv3 support ensure secure management access to switches via authentication and encryption of management traffic.

Powerful Management

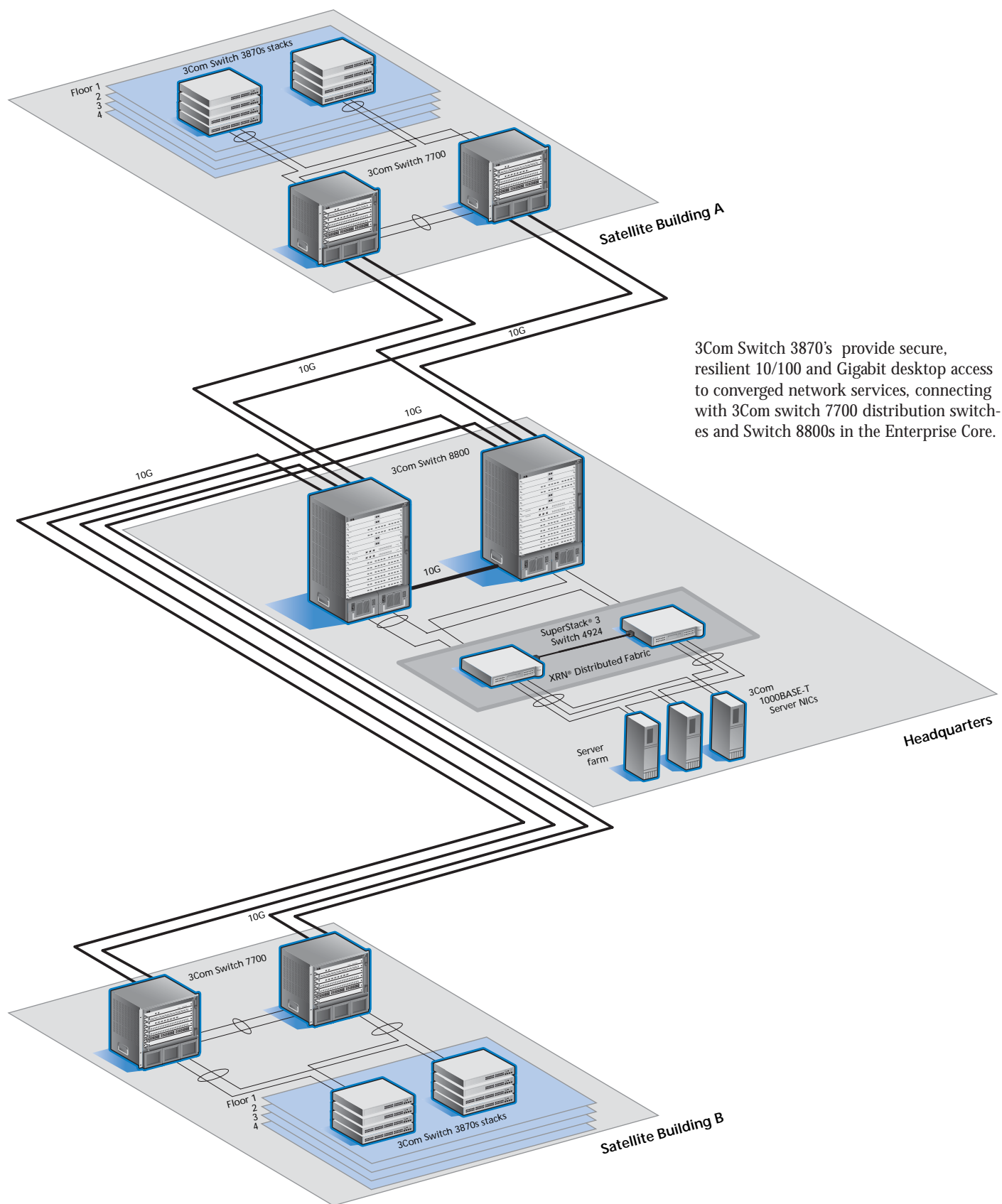
Comprehensive support within the 3Com management application software suite, including the standalone packages 3Com Enterprise Management Suite or 3Com Network Director. 3Com Network Supervisor may also be used in smaller networks.

Service

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

Limited Lifetime Hardware Warranty

Limited Lifetime Hardware Replacement. See www.3com.com/warranty for details.



3Com Switch 3870's provide secure, resilient 10/100 and Gigabit desktop access to converged network services, connecting with 3Com switch 7700 distribution switches and Switch 8800s in the Enterprise Core.

Features

PERFORMANCE	
Switching capacity	SuperStack 3 Switch 3870 24-port, 108 Gbps; Switch 3870 48-port, 156 Gbps
Forwarding rate	24-port, 80 Mpps; 48-port, 115 Mpps Store-and-forward switching
LAYER 2 SWITCHING	
MAC Address	16K MAC addresses 1K Secure MAC addresses 9K Jumbo Frame support
VLAN	255 VLANs (IEEE 802.1Q)
Link Aggregation	IEEE 802.3ad (LACP) 32 trunk groups (up to 8 ports in each), trunking across stacked units
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 Control (500-200,000 pps limit)
Spanning Tree Protocol / Rapid Spanning Tree Protocol	IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) Backward-compatible with Spanning Tree Protocol (STP) IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) Fast-start mode Spanning tree enable/disable per port
Multicast Snooping	Filtering for 64 multicast groups Internet Group Management Protocol (IGMP) v1 and v2 IGMP Querier
LAYER 3 SWITCHING	
Routes	Hardware-based routing Static routes: 10 Dynamic / static ARP (Address Resolution Protocol) entries : 2,000 / 16 IP routing IP interfaces: 32 RIP (Routing Information Protocol), v1 and v2: 2K via default route plus 16 hardware based routes Multicast Routing IGMP v1 and v2 snooping
STACKING	
	Switched 40Gbps on each switch Up to eight units high, with single IP address for stack management Resilient loop back Hot-swap units
CONVERGENCE	
Priority Queues	Eight hardware queues per port Strict priority Weighted Round Robin queuing
Traffic Prioritization	Remarking of packets based on priority: <ul style="list-style-type: none"> • Diffserv Code Point (DSCP) • IEEE 802.1p Class of Service (CoS) • TCP/UDP destination port number • Default port priority • Auto classification of 3Com NBX® telephony traffic
Bandwidth Management	Port-based bandwidth management: <ul style="list-style-type: none"> • 1 Mbps increments (Gigabit ports)
SECURITY	
Network Login	IEEE 802.1X user authentication: <ul style="list-style-type: none"> • RADIUS authentication • Secure Mode (locks MAC address) RADIUS Authenticated Device Access (RADA): <ul style="list-style-type: none"> • Authenticate devices based on MAC address against RADIUS server • Authenticate multiple devices per port • Automatic assignment of VLANs and QoS to a port specific to the devices attached
Packet Filtering	Port-based Access Control Lists (ACLs): <ul style="list-style-type: none"> • Filtered on destination IP address / mask
Switch Protocol Security	MD5 cipher-text authentication and clear-text authentication

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Features, continued

Switch Management	SNMP V1 / V2 / V3 RADIUS management of switch passwords Trusted IP Management Addresses Data Security — Private Port Telnet: SSH v2 (56bit DES); SSL (HTTPS): 40 Bit, 56 Bit DES
RESILIENCY	
	Support for 3Com Advanced Redundant Power Supply; provides backup power to the switch Dual software images Backup and restore of switch settings
MANAGEMENT	
Remote Management	Simple Network Management Protocol (SNMP) v1, v2
Software	Dual software images Backup and restore Trivial File Transfer Protocol (TFTP) configuration: upload/download TFTP agent: upload
Configuration	Command line Serial (RJ-45 supplied) Telnet Web-based SNMP
Time	Simple Network Time Protocol (SNTP)
Mirror port / Roving Analysis Port (RAP)	One-to-one (across stack)
Remote Monitoring (RMON)	Four groups: statistics, history, alarm, and events
IP address allocation	Dynamic Host Configuration Protocol (DHCP) Manual
Switch access levels	5 user accounts
Remote GUI management	3Com Network Supervisor for basic, turn-key network management for small and medium businesses (copy provided with product) <ul style="list-style-type: none"> • Topology discovery • Change management reporting • Capacity planning • Event logging • Fault identification and troubleshooting • Utilization monitoring Other 3Com Management Applications: <ul style="list-style-type: none"> • 3Com Network Director for comprehensive, turn-key network management for the enterprise. • 3Com Enterprise Management Suite for flexible, extensible management in advanced enterprise IT environments
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 SM Maintenance Service	Provides comprehensive onsite support, including advance hardware replacement, telephone technical support, and software upgrades: <ul style="list-style-type: none"> • Telephone support backed by powerful call-tracking database and replication laboratory • Software upgrades ensure access to pertinent patches
3Com Express SM 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

Specifications

All information in this section is relevant to both models of the 3Com SuperStack 3 Switch 3870, unless stated otherwise.

Port Capacities

24-Port:
20 10/100/1000 ports
4 dual-personality 10/100/1000 or SFP Gigabit ports

48-Port:
44 10/100/1000 ports
4 dual-personality 10/100/1000 or SFP Gigabit ports

Dimensions

Height: 45 mm (1.7 in or 1U)
Width: 440 mm (17.3 in)
Depth: 415 mm (16.4 in)
Weight: 5.0 kg (11.0 lbs)

Performance

24-port:
Bandwidth: 108 Gbps
Throughput: 80 Mpps

48-port:
Bandwidth: 156 Gbps
Throughput: 115 Mpps

Power Supply

Input voltage: 100-240 VAC autoranging
Operating frequency: 47-63 Hz
Current Rating: 2A maximum
Heat dissipation: 717 BTU (210W)

CPU

MPC8245 (466Mhz)
32MB Flash memory
128MB Processor memory

Packet Buffer Memory

24-port: 2MB
48-port: 4MB

Environmental Requirements

Operating temperature:
0° to 40°C (32° to 104°F)
Storage temperature:
-40° to 70°C (-40° to 158°F)
Humidity:
10% to 90% non-condensing

MTBF

24-port:
31 years (268,000 hours)

48-port:
21 years (184,000 hours)

Industry Standards Supported

Ethernet Protocols
IEEE 802.1p (CoS)
IEEE 802.1Q (VLANs)
IEEE 802.1s (MSTP)
IEEE 802.1w (RSTP)
IEEE 802.1X (Security)
IEEE 802.3ab (Copper Gigabit)
IEEE 802.3ad (Link Aggregation)
IEEE 802.3ae (10G Ethernet)
IEEE 802.3i (10BASE-T)
IEEE 802.3u (Fast Ethernet)
IEEE 802.3x (Flow Control)
IEEE 802.3z (Fiber Gigabit)

Administration Protocols

RFC 1812 (IPv4)
RFC 783 (TFTP)
RFC 768 (UDP)
RFC 791 (IP)
RFC 793 (TCP)
RFC 2474 (DiffServ)
RFC 2131 (DHCP)
RFC 2138 (Radius Authentication)

Management, including MIBs Supported

RFC 1157 (SNMP v1/v2c)
RFC 1213 (MIB II)
RFC 1398 Ethernet MIB
RFC 1493 (Bridge MIB)
RFC 1573 (Private IF MIB)
RFC 1757 RMON MIB
RFC 2011 IP-MIB
RFC 2012 TCP-MIB
RFC 2013 UDP-MIB
RFC 2037 Entity MIB
RFC 2618 (RADIUS Authentication Client MIB)
RFC 2665 Ethernet-MIB
RFC 2674P P-BRIDGE-MIB
RFC 2674Q Q-BRIDGE-MIB
RFC 2737 Entity MIB
RFC 2819 RMON MIB
RFC 2863 IF-MIB
IEEE8021-PAE-MIB (IEEE) (Network Login)

Emissions / Agency Approvals

CISPR 22: 1995; Class A
FCC Part 15 subpart B, Class A
EN 55022: 1998; Class A
ICES -003 Class A
AS/NZS 3548 Class A
EN 61000-3-2: 2000
EN 61000-3-3: 1995 +A1

Immunity

EN 55024: 1998

Safety Agency Certifications

UL 60950-1
IEC 60950: 2001; all national deviations
EN 60950: 2001; all national deviations
CSA 22.2 # 60950-00

Management

SNMP V1 / V2 / V3, Web, and Telnet support
RMON-1
RMON Groups: Statistics, History, Alarms and Events
GUI management with 3Com Network Supervisor and other 3Com management offerings

Warranty

Limited Lifetime Hardware Warranty. 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:
http://www.3com.com/products/en_US/global_services
International:
<http://emea.3com.com/globalservices>

Ordering Information

PRODUCT DESCRIPTION	3COM SKU
Switches	
3Com Switch 3870, 24-Port	3CR17450-91
3Com Switch 3870, 48-Port	3CR17451-91
Modules	
3Com Switch 3870 1-Port 10GBASE-X Module (<i>XENPAK</i>)	3C17461
Transceivers	
3Com 1000BASE-SX SFP (<i>multimode, LC connector</i>)	3CSFP91
3Com 1000BASE-LX SFP (<i>multimode, LC connector</i>)	3CSFP92
3Com 1000BASE-LH70 (70km) SFP (<i>multimode, LC connector</i>)	3CSFP97
3Com 10GBASE-LR XENPAK (<i>single-mode, SC connectors</i>)	3CXENPAK92
3Com 10GBASE-CX4 XENPAK (<i>Infiniband 4X connector</i>)	3CXENPAK95
3Com 10GBASE-ER XENPAK (<i>single-mode, SC connectors</i>)	3CXENPAK96
Redundant Power	
3Com SuperStack 3 Advanced Redundant Power System	3C16071B
3Com SuperStack 3 Advanced Redundant Power System, 325W Power Module Type 3	3C16075
Cables	
3Com Switch 3870 Stacking Cable	3C17462
3Com Switch 3870 Resilient Stacking Cable	3C17463



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To learn more about 3Com solutions, visit www.3com.com. 3Com is publicly traded on NASDAQ under the symbol COMS.

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