3Com® Switch 4500G 10/100/1000 Family

DATA SHEET

High-Performance, Secure Voice-Ready Gigabit Power over Ethernet Connectivity, Ideal for Medium Businesses and Small Enterprises

OVERVIEW

The 3Com® Switch 4500G delivers flexible quad-speed performance–10/100/1000 and 10-Gigabit–and advanced voice-optimized features such as Power over Ethernet (PoE) and auto-voice VLAN and QoS. This makes the Switch 4500G ideal for medium businesses and small enterprises seeking to build a secure converged network.

KEY BENEFITS

MANAGED LAYER 2 AND LAYER 3 GIGABIT CONNECTIVITY

Wirespeed Layer 2 Gigabit switching with dynamic Layer 3 Gigabit routing make the Switch 4500G ideal for wiring closet, workgroup and small core connectivity requirements. In addition, four of the ports are dual-personality, operating either as 10/100/1000 or SFP-based fiber providing greater flexibility. These switches also accommodate up to four extra optional 10-Gigabit high-speed links, enabling connectivity to a core network or to high-performance servers.

SECURE

Enterprise-class security features include IEEE 802.1X network login, SSH/SSL encrypted device login, and Access Control Lists, protecting mission-critical business applications.

VOICE-READY

Minimize the cost and complexity associated with adding or moving IP telephones: the Switch 4500G detects the presence of IP phones and dynamically assigns switch ports to the voice VLAN, enabling automated configuration and prioritization of Voice over IP (VoIP) traffic. Optional PoE models provide electrical power and data connectivity over a single Ethernet cable—resulting in significant cost savings when deploying these phones.

INVESTMENT PROTECTION

These switches come with a limited lifetime warranty covering the unit, power supply and fan. Also provided is Advanced Hardware Replacement, with next business day shipment available in most regions.



from top: 3Com Switch 4500G 24-Port, Switch 4500G 48-Port, Switch 4500G PWR 24-Port, Switch 4500G PWR 48-Port

KEY BENEFITS (CONTINUED)

VARIETY OF MODELS

The Switch 4500G is available in four models, clusterable in any combination up to thirty-two units:

- 3Com Switch 4500G 24-Port:
  24 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports,
  4 of which are dual-personality 10/100/1000 or SFP Gigabit;
  two 10-Gigabit dual-port slots
- 3Com Switch 4500G 48-Port:
  48 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports,
  4 of which are dual-personality 10/100/1000 or SFP Gigabit;
  two 10-Gigabit dual-port slots
- 3Com Switch 4500G 24-Port PWR:
  24 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports,
  4 of which are dual-personality 10/100/1000 or SFP Gigabit;
  two 10-Gigabit dual-port slots; 10/100/1000 ports are PoE-enabled
- 3Com Switch 4500G 48-Port PWR:
  48 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports,
  4 of which are dual-personality 10/100/1000 or SFP Gigabit;
  two 10-Gigabit dual-port slots; 10/100/1000 ports are PoE-enabled

EMPOWERS APPLICATION CONVERGENCE

The Switch 4500G family combines high-performance Gigabit switching, QoS and traffic management features to help ensure essential applications get the appropriate priority for efficient utilization of network resources.

ENHANCES MANAGEMENT AND CONTROL

Easy to use and manage, the Switch 4500G is designed to increase business productivity by reliably supporting business applications. Cluster together up to 32 devices for easy administration, with single IP management across 3Com switching lines–with mixed clusters of Switch 4200G, 4500G and Switch 5500 and Switch 5500G switches.

DELIVERS HIGH PERFORMANCE

The Switch 4500G family provides wirespeed aggregate switching capacity of up to 176 Gbps and 131 Mpps performance on the 48-port model.

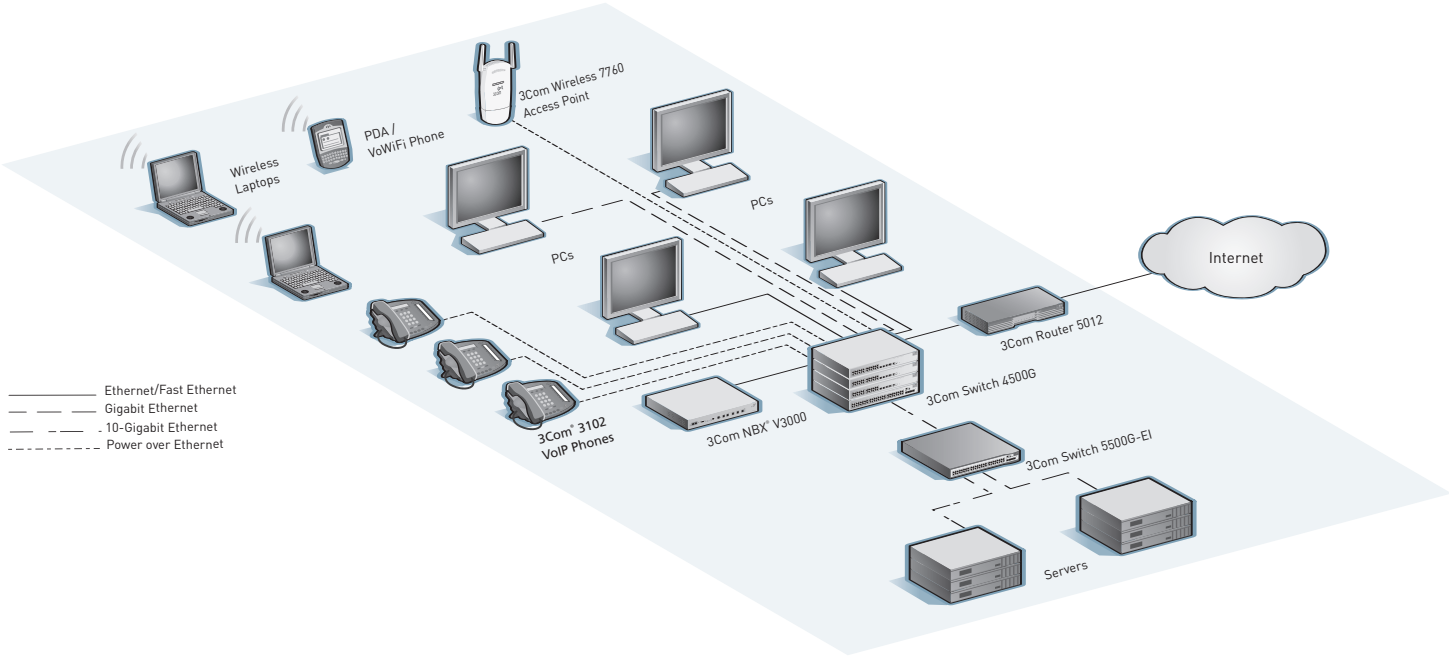
DYNAMIC LAYER 3 ROUTING

Easy-to-administer dynamic Layer 3 routing increases performance and enhances network security.

FEATURE HIGHLIGHTS

Feature	Description
Layer 3 dynamic (RIP) routing	Gives additional flexibility in deployment to boost network performance
Voice-ready networking	Automatic prioritization of voice traffic, secure voice traffic with voice VLAN, and Power over Ethernet models
IEEE 802.1X network access control	Standards-based security combined with RADIUS authentication
RADIUS Authenticated Device Access (RADA)	Authentication of attached devices via MAC address for an additional level of endpoint security
Access Control Lists (ACLs)	Enable usage policies at each point of access to the network via the switch
Bandwidth rate limiting and protocol filtering	Enforce controls on each port for efficient use of network resources and prioritization of delay-sensitive VoIP traffic
"Dual-personality" Gigabit Ethernet interfaces	Choice of copper or fiber media for flexible uplinks
Multicast filtering and Rapid Spanning Tree protocol support	Improve QoS, scalability and network availability
Secure management	Authentication and encryption of management traffic via Secure Shell (SSH v2), SSL/HTTPS, and SNMP v2
3Com Operating System	Proven software featured in 3Com premium enterprise switches such as the Switch 8800, 7700, 5500, 5500G and 4200G families and enterprise routers like the Router 6000, 5000 and 3000 families
Service and Support	Backed by 3Com Global Services and authorized partners with demonstrated expertise in network assessment, implementation and maintenance

MEDIUM LAN CONFIGURATION SUPPORTED BY THE SWITCH 4500G



In the above network, 3Com Switch 4500G and Switch 5500G-EI units are managed as a single cluster.

PRODUCT WARRANTY AND OTHER SERVICES

Warranty	3Com Limited Lifetime Warranty. For as long as the original end user owns the product, or for five years after 3Com discontinues the of sale of the product, whichever occurs first.
Hardware coverage	Covers the complete unit including power supply and fan.
In-warranty hardware replacement*	Advanced Hardware Replacement of hardware for the duration of the warranty. In the US 48 contiguous states this is same-day ship with next business day delivery when call received before noon Pacific time. For Canada, Alaska and Hawaii, this is same-day ship when call received before noon Pacific time. In Western Europe, this is same-day ship when call received before noon Greenwich time. For the rest of the world, it is next-business-day ship. Actual delivery times may vary depending on customer location. Reasonable commercial efforts apply.
Software coverage	90 days for media replacement.
Software updates*	Access to maintenance and bug fix releases for the software version purchased for the duration of the warranty.
Online Knowledgebase support*	Access to online troubleshooting tool for the duration of the warranty.

* These services are not included as part of the Warranty and 3Com reserves the right to modify or cancel this offering at any time, without advance notice. This offering is not available where prohibited by law. Services are effective at warranty start date, and are enabled with product registration. Customers receive a user ID with eSupport registration.

SERVICE AND SUPPORT

3Com Global Services offers the resources and talents of a major corporation plus more than two decades of experience in resolving network challenges and delivering business benefits to enterprises around the world.

Global support with a personalized focus in the local language helps drive productivity and minimize expenses. Because 3Com understands both the technology and the business, we're the partner you need to maintain your competitive edge and remain strong.

Additional Service, Support and Training Offerings

Software Upgrades Service	Provides access to feature enhancement software releases for your purchased switch
3Com Guardian℠ Maintenance Service	This service provides comprehensive on-site support and includes advance hardware replacement, telephone technical support and software upgrades
3Com Express℠ Maintenance Service	This service provides speedy access to 3Com shipment of advance hardware replacements, software upgrades and telephone 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 Installation and Implementation Services	Experts set-up and configure equipment and integrate technologies to maximize functionality and minimize business disruption For large and complex sites, implementation services include personalized configuration, project management, extended testing and coaching on network administration
Project Management	Provides extra focus and resources that special projects demand 3Com engineers 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 University	Self-paced and instructor-led technology and product courses, plus certification programs

SPECIFICATIONS

All information in this section is relevant to all members of the 3Com Switch 4500G, unless otherwise stated.

CONNECTORS

24-port
24 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or SFP Gigabit ports

48-port
48 auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T ports, 4 of which are dual-personality 10/100/1000 or SFP Gigabit ports

PWR models
IEEE 802.3af in-line power on all 10/100/1000 ports

Support for redundant supplemental power supply (-48 VDC) connector

All models
2 rear slots for dual-port 10-Gigabit modules, XFP-based or CX4 local connection

RJ-45 console port

PERFORMANCE

24-port
128.0 Gbps switching capacity

95.2 Mpps forwarding rate

48-port
176.0 Gbps switching capacity

131.0 Mpps forwarding rate

All models
Wirespeed performance across ports

Store-and-forward switching; latency <10 µs

LAYER 2 SWITCHING

8,196 MAC addresses in address table

128 static MAC addresses (in addition to default address)

256 Port-based VLANs (IEEE 802.1Q)

IEEE 802.3ad Link Aggregation Control Protocol (LACP); automated and manual aggregation

Per-switch trunk groups:

- 12 groups (24-port)
- 24 groups (48-port)

Auto-negotiation of port speed and duplex

IEEE 802.1D Spanning Tree Protocol (STP)

IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)

IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)

Bridge Protocol Data Unit (BPDU) protection

Internet Group Management Protocol (IGMP v3) snooping on Layer 2 interfaces

Filtering for 128 multicast groups

IPv6-ready hardware

LAYER 3 SWITCHING

Hardware based routing

64 static routes

Dynamic routing (RIP v2)

DHCP snooping

DHCP querier (Layer 2)

DHCP tracker

CONVERGENCE

Eight hardware queues per port

Weighted Round Robin queuing

Strict Priority queuing

IEEE 802.1p Class of Service/Quality of Service (CoS/QoS) on egress

Ingress and egress rate limiting

Port-based traffic shaping

Application and protocol blocking

Auto VLAN assignment for voice traffic determined by vendor OUI

SECURITY

IEEE 802.1X network login:

- EAP over LAN (EAPoL) transport with EAP-MD5, PAP, CHAP, PEAP, and EAP-TLS authentication
- Multiple users per port
- 1024 max online users

TACACS+ network login

Local and RADIUS server authentication

RADIUS session accounting

Automatic VLAN assignment via RADIUS server

Wirespeed packet filtering in hardware

ACLs filter at Layers 2, 3 and 4:

- Source/destination MAC address
- Ethernet type
- Source/destination IP address
- Source/destination TCP port
- Source/destination UDP port

RADIUS Authenticated Device Access (RADA): authenticate devices based on MAC address against RADIUS server, and assign VLAN ID and ACL

Port-based MAC address Disconnect Unknown Device (DUD)

IEEE 802.1X user authentication of switch management on switch Telnet and console sessions; four access privilege levels

Hierarchical management and password protection for management interface

SNMP v3 encryption

SSH v2 secure CLI access

Secure FTP

SSL / HTTPS secure web access

Denial of Service protection

CLUSTERED STACKING

Single IP address and management interfaces for centralized control

Compatibility with 4200G, 5500 and 5500G clustering

Up to 32 devices per cluster, or 1,536 Gigabit front panel ports

MANAGEMENT

CLI via console or Telnet

Embedded web management interface

System configuration with SNMP v1, 2c and 3

Comprehensive statistics, including ACL/QoS and IP interface

Remote Monitoring (RMON) groups statistics, history, alarm and events

Many-to-1 port mirroring

Detailed alarm and debug information

Syslog log-host

Supports ping, remote ping and traceroute

Configuration file for backup and restore; multiple configuration files available

DHCP Relay and UDP Helper

System file transfer mechanisms: Xmodem, FTP, Trivial FTP (TFTP), Secure FTP (SFTP)

3Com management applications:

- 3Com Enterprise Management Suite for flexible, extensible management in advanced enterprise IT environments
- 3Com Network Director for comprehensive, turn-key network management for the enterprise
- 3Com Network Supervisor for basic, turn-key network management for mid-market businesses
- 3Com Network Access Manager for IEEE 802.1X and RADA integration with IAS/Active Directory
- 3Com Switch Manager for virtual clustering support across 3Com switch families

SPECIFICATIONS (CONTINUED)

DIMENSIONS
Height: 43.6 mm (1.7 in or 1 RU)
Width: 440.0 mm (17.4 in)
Depth:
non-PWR: 300.0 mm (11.8 in)
PWR: 420.0 mm (16.5 in)
Weight:
24-port: 4.0 kg (8.8 lbs)
48-port: 4.5 kg (9.9 lbs)
24-port PWR: 6.0 kg (13.2 lbs)
48-port PWR: 6.5 kg (14.3 lbs)

POWER SUPPLY
AC Line Frequency: 50/60 Hz
Input Voltage: 90-240 VAC
Current Rating:
24-port: 1.5A
48-port: 2.0A
24-port PWR: AC 8.0A; DC 15.0A
48-port PWR: AC 8.0A; DC 18.0A

ENVIRONMENTAL REQUIREMENTS
Operating temperature: 0° to 40°C (32° to 104°F)
Storage temperature: -10° to 70°C (14° to 158°F)
Humidity (operating and storage): 10% to 95% non-condensing
Standard: EN 60068 (IEC 68)

RELIABILITY
(MTBF @ 25°C)
24-port: 46 years (401,000 hours)
48-port: 35 years (310,000 hours)
24-port: PWR: 41 years (362,000 hours)
48-port PWR: 28 years (245,000 hours)
2-port 10-Gigabit module: 371 years (3,255,000 hours)
2-port Local Connect module: 1,798 years (15,758,000 hours)

IEEE STANDARDS SUPPORTED
IEEE 802.1D (STP)
IEEE 802.1p (CoS)
IEEE 802.1Q (VLANs)
IEEE 802.1w (RSTP)
IEEE 802.1X (Security)
IEEE 802.3 (Ethernet)
IEEE 802.3ab (1000BASE-T)
IEEE 802.3ad (Link Aggregation)
IEEE 802.3af (Power over Ethernet)
IEEE 802.3i (10BASE-T)
IEEE 802.3u (Fast Ethernet)
IEEE 802.3x (Flow Control)
IEEE 802.3z (1000BASE-X)

RFC STANDARDS
RFC 783 (TFTP)
RFC 791 (IP)
RFC 793 (TCP)
RFC 826 (ARP)
RFC 951 (BootP)
RFC 1157 (SNMP)
RFC 1723 (RIP)
RFC 2131 (DHCP client)
RFC 2236 (IGMP Snooping)
RFC 2284 (EAP over LAN)
RFC 2819 (RMON)

Management, including MIBs Supported
RFC 1212 (Concise MIB definitions)
RFC 1213/2233 (MIB II)
RFC 1493 (Bridge MIB)
RFC 1724 (RIP Version 2 MIB Extension)
RFC 1907 (SNMP v2c, SMI v2 and Revised MIB-II)
RFC 2021 (RMON II Probe Config MIB)
RFC 2233 (Interfaces MIB)
RFC 2571 (SNMP Framework)
RFC 2572-2575 (SNMP)
RFC 2665 (EtherLike MIB)
RFC 2667 (IP Tunnel MIB)
RFC 2668 (IEEE 802.3 MAU MIB)
RFC 2674 (VLAN MIB Extension)
RFC 2737 (Entity MIB)
RFC 2819 (RMON MIB)

EMISSIONS / AGENCY APPROVALS
EN 55022 :1998+A1:2000+A2:2003 Class A
FCC Part 15 :2004 Class A
ICES-003 :2004 Class A
VCCI :2004 Class A
CISPR 22 :2003 Class A
IEC 61000-3-2:2001/EN 61000-3-2 2000
IEC 61000-3-3:2002/EN 61000-3-3:1995 +A1:2001
Korean EMI Class A
ETSI EN 300 386V1.3.3 :2005

IMMUNITY
EN 55024: 1998+A1:2001+A2:2003
ETSI EN 300 386 V1.3.3 :2005

SAFETY AGENCY CERTIFICATIONS
UL 60950-1:2003
EN 60950-1:2001
CSA 2.22 # 60950-1:2003
IEC 60950-1:2001
EU RoHS Compliant

WARRANTY AND OTHER SERVICES
Limited Lifetime Hardware Warranty, including fans and power supply
Limited Software Warranty for 90 days
Advance Hardware Replacement with Next Business Day shipment in most regions
90 days of telephone technical support
Refer to **www.3com.com/warranty** for details.

ORDERING INFORMATION

PRODUCT DESCRIPTION	3COM SKU
3Com Switch 4500G 24-Port	3CR17761-91
3Com Switch 4500G 48-Port	3CR17762-91
3Com Switch 4500G PWR 24-Port	3CR17771-91
3Com Switch 4500G PWR 48-Port	3CR17772-91
3Com Switch 4500G 2-Port 10-Gigabit Module (XFP)	3C17766
3Com Switch 4500G 2-Port 10-Gigabit Local Connection Module	3C17767
Cables	
3Com CX4 Local Connection Cable – 50 cm	3C17775
3Com CX4 Local Connection Cable – 100 cm	3C17776
3Com CX4 Local Connection Cable – 300 cm	3C17777
Gigabit SFP Transceivers	
3Com 1000BASE-SX SFP	3CSFP91
3Com 1000BASE-LX SFP	3CSFP92
3Com 1000BASE-LH SFP	3CSFP97
10-Gigabit XFP Transceivers	
3Com 10GBASE-LR	3CXFP92
3Com 10GBASE-SR	3CXFP94
3Com 10GBASE-ER	3CXFP96
3Com Global Services	
3Com Network Health Check, Installation Services, and Express Maintenance	www.3com.com/services_quote
3Com University Courses	www.3com.com/3comu

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