

3COM® SWITCH 8800 FAMILY

A high-performance, multilayer modular switching platform for the most demanding Enterprise environments, driving secure, non-stop delivery of business applications



from left: 3Com Switch 8807, Switch 8810, Switch 8814

OVERVIEW

The 3Com® Switch 8800 Family of intelligent, multilayer modular LAN switches is ideal for enterprise environments where non-stop availability of critical applications and the highest performance, security and granular control are required.

These switches provide unparalleled investment protection for the enterprise with industry-leading scalability and flexible modular architecture, delivering high performance Gigabit and 10-Gigabit switching and routing.

The Switch 8800 Family enables end-to-end connectivity and network application control in an architecture scaleable to 1.44 Terabits per second. Three available chassis models—featuring 14, 10 and 7 slots—provide flexibility based on the switching capacity and interface port density required:

- › Switch 8814: Highest capacity, 14-slot chassis, with two slots supporting dual load-sharing switch fabrics and 12 slots for any combination of switching I/O modules, supporting up to 48 10-Gigabit ports or 576 10/100/1000 ports.
- › Switch 8810: 10-slot chassis, with two slots for load-sharing switch fabrics and eight slots for switching I/O modules, supporting up to 32 10-Gigabit ports or 384 10/100/1000 ports.
- › Switch 8807: 7-slot chassis, with two slots for load-sharing switch fabrics and five slots for switching I/O modules, supporting up to 20 10-Gigabit ports or 240 10/100/1000 ports.

Application modules for the Switch 8800 provide the flexibility to add a firewall, IPsec encryption, network monitoring with NetFlow, and Layer 2 VPN networking using Virtual Private LAN Service (VPLS) by simply adding a module to the chassis.

KEY BENEFITS

INTELLIGENT ENTERPRISE INFRASTRUCTURE

Enterprise network infrastructure is evolving dramatically, from the core to the edge of the network, with greater demands being placed on the entire network system to deliver:

- › Highly intelligent, non-stop transport of data and access to information resources
- › Guaranteed quality of service (QoS) for mission critical business applications, including Voice over IP (VoIP), storage and video
- › Comprehensive security for network access control, encryption and protection of corporate resources
- › Unprecedented levels of management visibility and granular control
- › An open, standards-based architecture to enable seamless growth and future investment without proprietary lock-ins



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KEY BENEFITS (CONTINUED)

The 3Com Switch 8800 has been designed to stand up to these challenges for the most demanding enterprise environments. The Switch 8800 delivers a comprehensive infrastructure solution that is highly resilient, intelligent, secure and scalable—one that is capable of adapting to the evolving needs of the enterprise.

RESILIENT ARCHITECTURE FOR BUSINESS CONTINUITY

With a highly resilient modular architecture, the Switch 8800 Family enhances business continuity by helping ensure availability of convergent enterprise applications including data, voice and video. All critical system components including power supplies, cooling fans and switch fabrics are redundant and hot-swappable, minimizing any impact to the enterprise in the event a single component should fail.

All Switch 8800 chassis models support the option for dual switch fabrics providing high resiliency and rapid failover—less than one second—to deliver the highest possible availability of network resources. With dual switch fabrics installed, both fabrics are active and load-sharing, ensuring resiliency as well as doubling effective system performance.

Changes in network topology due to device or link failures can lead to disruption of service for critical business applications. Rapid recovery from such topology changes is achieved with features such as Multiple Spanning Tree Protocol (MSTP), Rapid Spanning Tree Protocol (RSTP), Open Shortest Path First (OSPF) routing and Virtual Router Redundancy Protocol (VRRP).

APPLICATION CONVERGENCE: QOS AND POWER OVER ETHERNET

Real-time applications such as voice over IP (VoIP) demand high Quality of Service (QoS) and differentiated service levels to function properly. The 3Com Switch 8800 Family provides robust QoS and advanced traffic management features, allowing critical applications to be prioritized and serviced as the needs of the organization dictate.

Additionally, the Switch 8800 supports industry-standard IEEE 802.3af Power over Ethernet (PoE) to provide both electrical power and network connectivity to PoE-capable devices, such as IP telephones and wireless access points, making the switches ideal for large-scale enterprise edge deployment. PoE simplifies network deployment by eliminating the need for separate data and power infrastructures, significantly reducing installation and maintenance costs. PoE also provides greater flexibility for moves, adds and changes on the network, as powered network devices can be deployed or relocated anywhere an Ethernet connection is available without requiring a dedicated power outlet.

ENTERPRISE-WIDE SECURITY

Security is paramount in today's enterprise and as dependency on information technology continues to rise, so does the need for highly secure IT systems and infrastructure. The 3Com Switch 8800 Family features advanced security capabilities, including user and device authentication, policy-based access controls, encrypted system management access and quarantine enforcement for containment of vulnerabilities and deliberate attacks.

The Switch 8800 provides secure network access using standard IEEE 802.1X along with user- and device-based access control capabilities. RADIUS support enables user authentication. Port- and VLAN-based Access Control Lists (ACLs) and dynamic traffic filtering capabilities can be deployed to further control access to network resources.

Additional security measures are enforced on access to switch management utilities via Secure Shell version 2 (SSH v2) and SNMP v3 with authentication and encryption of network management traffic.

Optional firewall and IPsec modules deliver an unprecedented level of integrated security. The firewall module enables a stateful firewall that operates in either a routed or transparent mode, and offers high-efficiency packet filtering, transparent proxy, stateful detection security technology. The IPsec module is a high-performance hardware-based encryption VPN module designed for enterprises requiring support for multiple VPN applications. It provides multiple VPN functions (L2TP VPN, GRE VPN, IPsec VPN) and supports IPsec hardware encryption of DES, 3DES, and AES with a maximum of 256-bit encryption.

The Switch 8800 family functions as an integral part of the 3Com Quarantine Protection solution to automate containment of security threats on the enterprise network. 3Com Quarantine integrates the industry-leading TippingPoint® Intrusion Prevention System with switch-based endpoint enforcement at the network edge.

SCALABLE PERFORMANCE

With its 1.44 Terabits-per-second-capable backplane and wire-speed switching capacity, the Switch 8800 provides exceptional scalability for core, data center, distribution and edge environments within the enterprise. System performance and connectivity options can be tailored to each environment with a wide selection of switching modules, scaling up to 48 10-Gigabit ports or 576 Gigabit ports in a single chassis.

The flexible design of the Switch 8800 allows for any combination of switching modules to be used in a single system, allowing easy expansion of network capacity, accommodating a range of port densities and media types for 10-Gigabit and Gigabit Ethernet.

KEY BENEFITS (CONTINUED)

Installation of the optional second switch fabric increases performance from 720 Gbps to 1.44 Tbps, as the fabrics are load-sharing. Each switching I/O module provides on-board local multilayer switching, maximizing system performance and application response times; adding modules increases the aggregate system performance, to a maximum Layer 2/3 switching capacity of 856 Mpps. In addition, the backplane is designed to accommodate higher-performing switch fabrics.

Standards-based link aggregation (via IEEE 802.3ad) allows scalable, high-bandwidth interconnectivity between network devices, with the ability to aggregate multiple Gigabit or 10-Gigabit links together as a single “trunk”. Link aggregation of ports is supported across modules within the Switch 8800 for virtually non-stop network availability.

PRIORITIZATION AND TRAFFIC MANAGEMENT

Eight priority queues per port enable standard IEEE 802.1p Class of Service Quality of Service (CoS/QoS). Protocol filtering and bandwidth rate limiting capabilities allow the switch to enforce port-based controls for efficient use of network resources and prioritization of business-critical or time-sensitive applications, including Voice over IP (VoIP).

For example, protocols associated with key business applications can receive prioritized, high-bandwidth service, while protocols associated with non-critical (or even undesirable) applications can receive lower priority and bandwidth resources, or be blocked completely.

STANDARDS BASED INTEROPERABILITY AND INVESTMENT PROTECTION

Enterprises today rely on open standards-based technology solutions to enable interoperability among new and existing systems and to ensure that today’s investments will continue to provide value well into the future without being locked-in to a particular vendor’s products or technology.

The Switch 8800 has an open architecture, facilitating seamless growth and migration based on widely accepted international standards, free from costly lock-ins and the restrictions of proprietary approaches.

3Com’s standards-based design philosophy—inherent in the Switch 8800 and all other 3Com products—provides investment protection as well as the flexibility to deploy “best-in-class” technology solutions which leverage industry standards.

ENTERPRISE CLASS MANAGEMENT AND CONTROL

The Switch 8800 system features independent channels for data and management control. The dedicated data channel provides high-speed data switching and packet forwarding, while a separate management channel provides control, monitoring, route learning and distribution.

A comprehensive set of management features allows the Switch 8800 to provide enterprise-wide visibility and control to IT staff for configuration, network monitoring and advanced troubleshooting capabilities. Management features are accessible via an intuitive command line interface (CLI), as well as by SNMP, with hierarchical access controls and password protection for secure management access.

Additional management security is provided through user authentication and the data encryption capabilities of SNMP v3 and SSH v2, further reducing the likelihood of unauthorized access or snooping of management traffic.

SEAMLESS MIGRATION TO IPV6

IPv6-ready hardware architecture enables migration from today’s IPv4 networks to IPv6 whenever required, without the worry of costly forklift upgrades. An optional Advanced Feature Software version enables comprehensive IPv6 capabilities including RIPng, OSPFv3, BGP-4, MLD, and PIM (SM and DM). IPv6 routing functions are performed in hardware for maximum routing performance.

ETHERNET METRO AREA NETWORK

Ethernet Metro Area Networks (MANs) offer enterprises a compelling solution for linking diverse sites together over metropolitan area distances into a seamless Ethernet switched network. The simplicity and affordability of Ethernet, in comparison to legacy technologies used for metro area networks, have driven significant new Ethernet-based MAN deployments that will continue to accelerate.

The Switch 8800 supports long range optical lasers on its Gigabit and 10-Gigabit Ethernet Modules for linking Switch 8800s across the metro area, as well as technologies like “Q-in-Q” encapsulation (VLAN VPN) and MPLS for creating IP-VPNs, and Virtual Private LAN Service (VPLS) for creating Layer 2 VPNs. Combined with Ethernet, VPLS transforms the MAN—with many enterprise sites—into a large Ethernet switch with any-to-any connectivity.

FEATURES

Highly flexible, resilient architecture for end-to-end enterprise deployment in the core, data center, distribution layer and network edge.

High-density multilayer switching for Gigabit and 10-Gigabit Ethernet.

Up to 576 Gigabit or 48 10-Gigabit Ethernet ports.

1.44 Tbps system bandwidth; up to 856 Mpps switching capacity.

Advanced traffic prioritization and routing of multicast traffic in hardware for convergent applications including voice over IP, streaming audio and video.

Virtually non-stop operation with redundant power supplies, fans and switch fabrics, as well as hot-swappable switching I/O modules.

Robust network access control and enterprise-wide security via standards-based IEEE 802.1X, RADIUS authentication and advanced Access Control Lists, as well as authentication and encryption of management traffic.

Industry-standard Power over Ethernet to power IP phones, wireless access points and other devices; reduces implementation and maintenance costs.

Unifies management and administration with a common operating system and centralized control available via 3Com Enterprise Management Suite.

Granular QoS and traffic management for enhanced availability and performance of critical business applications.

Extensive L2/3/4 switching and routing capability, including advanced features* like IS-IS, BGP-4, MBGP, MPLS, and VPLS, applicable in very large enterprises.

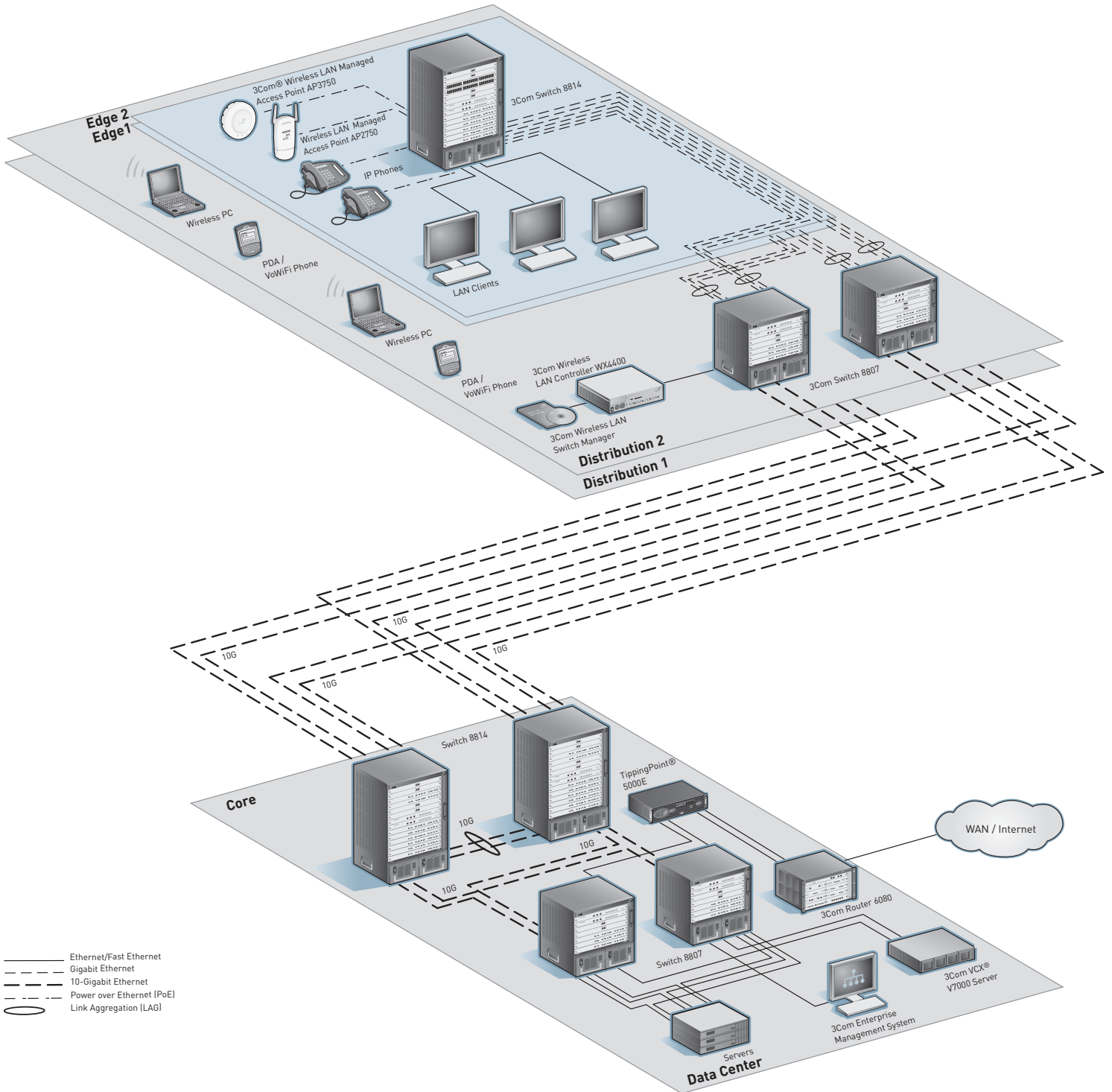
Specialized application modules for enhanced security, network analysis and Layer 2 Ethernet VPN enable the flexibility to integrate major capabilities as the network evolves.

Extensive IPv6 feature suite[◇] with support for full IPv6 addressing and routing, and transition mechanisms such as dual stack and tunneling. IPv6 can be supported on all existing I/O modules using "Centralized Mode", preserving previous investment in those modules.

* Available in the 3Com Advanced Feature Software v3, at additional cost

◇ Available in the 3Com Advanced Feature Software v5 IPv6, at additional cost

SAMPLE CONFIGURATION: CORE / DATA CENTER DEPLOYMENT OF SWITCH 8800 FAMILY IN ENTERPRISE CAMPUS NETWORK



SPECIFICATIONS

All information in this section is relevant to all members of the 3Com Switch 8800 Family, unless stated otherwise.

CAPACITIES AND PERFORMANCE

Switch 8814

Two slots for switch fabrics; twelve payload slots

Backplane: 1.44 Tbps, max.

Bandwidth:

- 1.44 tbps, max. (dual fabrics)
- 720 Gbps, max. (single fabric)

Throughput, aggregate: 856 Mpps, max.

Switch 8810

Two slots for switch fabrics; eight payload slots

Backplane: 960 Gbps, max.

Bandwidth:

- 960 Gbps, max. (dual fabrics)
- 480 Gbps, max. (single fabric)

Throughput, aggregate: 572 Mpps, max.

Switch 8807

Two slots for switch fabrics; five payload slots

Backplane: 600 Gbps, max.

Bandwidth:

- 300 Gbps, max. (dual fabrics)
- 150 Gbps, max. (single fabric)

Throughput, aggregate: 358 Mpps, max.

LAYER 2 SWITCHING

14K MAC addresses per I/O module, 168K MAC addresses per chassis max. (depending on VLAN configuration and number of I/O modules in chassis)

1K static MAC addresses

Modules forwarding (delay <10µs)

4096 VLANs (IEEE 802.1Q)

Port-based (IEEE 802.1Q) and protocol-based (IEEE 802.1v) VLANs

Dynamic VLAN assignment capability based on user/device authentication

GVRP (GARP VLAN Registration Protocol)

IEEE 802.3ad Link Aggregation, with support for aggregation groups across modules

Max. 31 link aggregation groups of 8 ports each; Advanced modules (or hybrid mix) provides max. 7 groups of 8 ports each

Auto-negotiation of port speed and duplex

IEEE 802.3x full-duplex flow control

Back-pressure flow control for half-duplex

Broadcast storm suppression per VLAN

IEEE 802.1D Spanning Tree Protocol (STP)

IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)

IEEE 802.1S Multiple Spanning Tree Protocol instances (MSTP)

Single STP instance

BPDU (Bridge Protocol Data Unit) protection

Jumbo frames (up to 10K bytes)

Super VLAN aggregation (RFC 3069)

Private VLAN

VLAN-based ACL

Multicast VLAN

Q-in-Q Tagging (VLAN VPN)

VPLS (Virtual Private LAN Service) using MPLS (Multiprotocol Label Switching) and LDP (Label Distribution Protocol)⁰

VLL (Virtual Leased Line) using Martini and Kompella[‡]

LAYER 3 SWITCHING

Hardware-based routing

128K routes; 256K routes on Advanced modules^{††}

4K dynamic/static ARP (Address Resolution Protocol) max. entries per chassis (3K for user ports and 1K allocated for link aggregation); Advanced modules allow for 8K entries per I/O module (7K for user ports and 1K allocated for link aggregation), with 64K max. per chassis[‡]

1K IP interfaces

RIP (Routing Information Protocol), v1 and v2, 2K routes; supports Split Horizons

OSPF (Open Shortest Path First), v1 and v2, 80K entries; 80K routes on Advanced modules

ECMP (Equal Cost Multi-Path) for OSPF

BGP4 (Border Gateway Protocol 4)^{*}

IS-IS (Intra-Domain Intermediate System to Intermediate System)^{*}

Hardware-based multicast routing for wirespeed performance

4K multicast routes; 256 groups

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

IGMP v1 and v2

PIM-DM (Protocol Independent Multicast-Dense Mode)

PIM-SM (Protocol Independent Multicast-Sparse Mode)

Multicast BGP^{*}

MSDP (Multicast Source Discovery Protocol)

Multiple multicast static addresses to support Microsoft ISA and other firewalls

DHCP Relay (Dynamic Host Configuration Protocol Relay)

DHCP Option 82

TCP/IP protocol stack

UDP Helper

MPLS with Layer 3 VPN, LDP and MBGP (Multiprotocol BGP)^{*}

VRP (Virtual Router Redundancy Protocol): 256 virtual routers per switch; each virtual router supports 16 IP addresses

Complete IPv6 feature suite⁰:

- IPv6 addressing architecture
- site-local, link-local and global unicast addresses
- multicast addresses
- IPv6 specification
- transmission of IPv6 over Ethernet networks
- IPv6 neighbor discovery
- IPv6 duplicate address detection
- IPv6 stateless address autoconfiguration
- IPv6 path MTU discovery
- ICMPv6
- IPv6 static routes
- RIPng
- OSPFv3
- BGP4+ for IPv6
- VRRPv3
- ECMP for IPv6
- MLD
- MLD snooping
- PIM-SM and PIM-DM for IPv6
- dual stack architecture
- configured tunnels
- IPv6 to IPv4 tunnels
- GRE tunnels
- ISATAP tunnels
- ACLs for IPv6
- DNSv6
- Telnetv6
- FTP/TFTP over IPv6
- ping and traceroute for IPv6
- centralized IPv6 for non-IPv6-capable modules

⁰ Chassis must be configured with VPLS and Advanced routing modules

[†] Chassis must be configured only with Advanced routing modules

^{††} Support for 256K routes requires optional 1Gb memory upgrade kit (3C17518)

^{*} Available in the 3Com Advanced Feature Software v3, at additional cost

⁰ Available in the 3Com Advanced Feature Software v5 (IPv6), at additional cost

SPECIFICATIONS (CONTINUED)

CONVERGENCE

Eight hardware queues per port

Flow-based QoS profiles

Ingress and egress

Remarking of packets based on priority:

- Selectable prioritization
- DSCP (Diffserv Code Point)
- Type of Service (ToS)
- IEEE 802.1p Class of Service (CoS)
- IP precedence
- Local precedence: physical port, source/destination MAC address, VLAN information, Ethernet type, Layer 3 protocol, source/destination IP address, DSCP, datagram type, IP Layer 4 protocol, IP Layer 4 ports

Flow-based bandwidth management

Flows identified through ACLs (Access Control Lists)

Configurable bandwidth granularity

RED (Random Early Detect/Discard)

Queuing algorithms

Strict Priority Queuing

WRR (Weighted Round Robin) provided through bandwidth management

IEEE 802.3af PoE on 10/100/1000 ports

SECURITY

Network login with IEEE 802.1X user authentication

Local authentication and RADIUS authentication

TACACS+ (Terminal Access Controller Access Control System Plus) authentication[†]

Automatic assignment of VLAN based on user/device authentication

Wirespeed packet filtering in hardware

Supports a maximum of 12K ACL rules per system; 1K ACL rules per module

ACLs filter at Layers 2, 3 and 4:

- physical port
- source/destination MAC address
- VLAN information
- Ethernet type
- Layer 3 protocol
- source/destination IP address
- DSCP
- datagram type
- IP Layer 4 protocol
- IP Layer 4 ports

MD5 cipher-text authentication and clear-text authentication for OSPF v2 and RIP v2 packets and SNMP v3 traffic

Protection against DoS (Denial of Service) attacks which exploit protocols including IP, ARP and IEEE 802.1X/EAP

IEEE 802.1X user authentication on switch Telnet sessions

Hierarchical management and password protection for management interface

Encrypted management traffic using SSH v2[‡] and SNMP v3[‡]

Realtime hardware data encryption: DES, 3DES, AES 256-bit encryption[§]

NETWORK APPLICATION MODULES

Network Monitoring Module

Netflow network analysis; v5, 8 and 9 compatible data export
400 network monitoring stream sessions, max.

Statistics based on, among others:

- source and destination IP address
- UDP and TCP port
- protocol type
- ICMP type
- IP priority
- TOS
- DSCP

2 Gbps throughput, max.

Firewall Module

Stateful firewall, supports routing and transparent modes

NAT (Network Address Translation)

2k rules for each ACL item, max.

15K max. Application Specific Packet Filters (ASPFs)

128 secure VLANs, max.

8 Demilitarized Zones (DMZ), max.

Protects from attacks originating outside (IP spoofing, smurf, fraggle, WinNuke, SYN flood, etc.) and inside (ARP and host cheats)

ICMP redirection, traceroute control

Net traffic real time analysis

Mail alarm for firewall events

Binary log file

2 Gbps throughput, max.

8 1000 Mbps SFP ports

3 10/100 Ethernet ports and AUX and console ports for management

IPsec Module

Fully integrated IPsec VPN

3DES, DES; AES 256-bit hardware encryption

8,192 L2TP tunnels, max.

100 L2TP sessions, max.

1,024 GRE tunnels, max.

5,000 IPsec tunnels, max.

100 IPsec sessions, max.

512-bit hardware encryption, max.

2 Gbps throughput, max.

8 1000 Mbps SFP ports

3 10/100 Ethernet ports and AUX and console ports for management

VPLS Module

Lassere Kompella LDP VPLS

Complies with IETF draft-ietf-ppvpn-vpls-ldp (05)

H-VPLS

Q-in-Q

MPLS hierarchical VPLS PE (U-PE, N-PE)

1K VPLS instances, max.

128K MAC addresses, max.

3.5 Gbps bandwidth, max.

* Available in the 3Com Advanced Feature Software v3, at additional cost

† TACACS+ authentication and SNMP v3 and SSH v2 encryption features are available in the Basic Software with Encryption and Advanced Feature Software versions only

‡ Available in the 3Com Switch 8800 IPsec module, at additional cost

§ Available in the 3Com Switch 8800 IPsec module, at additional cost

SPECIFICATIONS (CONTINUED)

MANAGEMENT

CLI (Command Line Interface) configuration mode
 Configuration via the console (control console) port
 Local/remote configuration via Telnet
 Remote configuration via modem dial-up
 System configuration with SNMP v1, 2 and 3*
 Comprehensive statistics
 Port mirroring (one-to-one and many-to-one), supported across modules
 RMON (Remote Monitoring) groups: statistics, history, alarm and events
 ACL/QoS and IP interface statistics
 System log
 Syslog
 Detailed alarm/debug information
 Hierarchical alarms
 Alarm generation and filtering
 Statistics
 Ping and Traceroute
 NQA (Network Quality Assurance)
 NTP (Network Time Protocol)
 Configuration file for backup and restore
 System file transfer mechanisms: Xmodem, FTP, TFTP
 IGMP MIBs per RFC 2932

GRAPHICAL MANAGEMENT

3Com Enterprise Management Suite: flexible, extensible management in advanced enterprise IT environments
3Com Network Director: comprehensive, turnkey network management; includes 3Com Switch Manager application for GUI-based management of Switch 8800 systems

CONNECTIVITY

Mix and match technologies and media types in available payload slots:
 1-, 2- and 4-port 10GBASE-X (XFP) modules
 12-, 24- and 48-port 1000BASE-X (SFP) modules
 24- and 48-port 10/100/1000BASE-T (RJ-45) modules

DIMENSIONS

Switch 8814

Height: 75.3 cm (29.6 in)
 Width: 43.6 cm (17.2 in)
 Depth: 48.0 cm (18.9 in)
 Weight (fully loaded chassis): <120 kg (265 lbs)

Switch 8810

Height: 61.9 cm (24.4 in)
 Width: 43.6 cm (17.2 in)
 Depth: 48.0 cm (18.9 in)
 Weight (fully loaded chassis): <80 kg (176 lbs)

Switch 8807

Height: 48.6 cm (19.1 in)
 Width: 43.6 cm (17.2 in)
 Depth: 48.0 cm (18.9 in)
 Weight (fully loaded chassis): <65 kg (143 lbs)

POWER SUPPLY

1,200 W AC Power Supply

Input voltage: 100-240 VAC auto-ranging
 Operating frequency: 47-63 Hz
 Max. current: 13.6 A at 110 VAC; 6.8 A at 200 VAC
 Max. output power: 1,200 Watts
 Max. input power: 1,500 Watts

2,000 W AC Power Supply

Input voltage: 100-140 or 200-240 VAC auto-ranging
 Operating frequency: 47-63 Hz
 Max. current: 11.4 A at 110 VAC; 11.4 A at 200 VAC
 Max. output power: 1,000 Watts at 110 V; 2,000 Watts at 220 V
 Max. input power: 1,250 Watts at 110 V; 2,500 Watts at 220 V

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 90% non-condensing

Heat dissipation:

Switch 8814: 5,529 BTU/hr
 Switch 8810: 3,857 BTU/hr
 Switch 8807: 2,594 BTU/hr

IEEE STANDARDS SUPPORTED

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

IETF STANDARDS

RFC 768 (UDP)
 RFC 783/1350 (TFTP)
 RFC 791/1349 (IP)
 RFC 792/950 (ICMP)
 RFC 793 (TCP)
 RFC 826 (ARP)
 RFC 919/ 922 (Broadcasting Internet Datagrams)
 RFC 950 (Internet Standard Subnetting Procedure)
 RFC 951 (BOOTP)
 RFC 958 (SNTP)
 RFC 959/ 2228/ 2640 (FTP)
 RFC 1058 (RIP v1)
 RFC 1112 (IGMP v1)
 RFC 1142 (OSI IS-IS Intra-domain Routing Protocol)*
 RFC 1155 (Structure and Identification of Management Information for TCP/IP-based Internets)
 RFC 1195 and ISO10589-1992 (IS-IS)*
 RFC 1256 (ICMP Router Discovery Messages)
 RFC 1518/ 1519 (CIDR)
 RFC 1542/ 2132/ 3442 (DHCP)
 RFC 1587/ 3101 (OSPF NSSA option)
 RFC 1723/ 2453/ (RIP v2)
 RFC 1765 (OSPF Database Overflow)
 RFC 1771 (BGP-4)*
 RFC 1772 (BGP-4 Applicability)*
 RFC 1812/ 2644 (IP v4)
 RFC 1965/ 3065 (BGP AS Confederations)*
 RFC 1981 Path MTU Discovery for IPv6^o
 RFC 1997/ 1998 (BGP Communities Attributes)*
 RFC 2080 RIPng^o
 RFC 2131/3396 (DHCP)

* Available in the 3Com Advanced Feature Software v3, at additional cost

^o TACACS+ authentication and SNMP v3 and SSH v2 encryption features are available in the Basic Software with Encryption and Advanced Feature Software versions only

^s Available in the 3Com Switch 8800 IPsec module, at additional cost

SPECIFICATIONS (CONTINUED)

RFC 2138/ 2865/ 2868/ 3575
[RADIUS Authentication]
RFC 2139/ 2866/ 2867
[RADIUS Accounting]
RFC 2236 (IGMP v2)
RFC 2267/ 2827/ 3704 (Network Ingress Filtering)
RFC 2328 (OSPF v2)
RFC 2338/ 3768 (VRRP)
RFC 2354 IPv6 MIB for UDP[◊]
RFC 2362 (PIM-SM)
RFC 2370/ 3630 (OSPF Opaque LSA Option)
RFC 2373 IPv6 Addressing Architecture[◊]
RFC 2385 (BGP – MD5)*
RFC 2439 (BGP Route Flap Damping)*
RFC 2452 IPv6 MIB for TCP[◊]
RFC 2454 IPv6MIB for UDP
RFC 2460 IPv6 Specification[◊]
RFC 2461 Neighbor Discovery for IPv6[◊]
RFC 2462 IPv6 Stateless Address Autoconfiguration[◊]
RFC 2463 ICMPv6[◊]
RFC 2464 Transmission of IPv6 over Ethernet[◊]
RFC 2465 MIB for IPv6 – Textual Conventions[◊]
RFC 2466 ICMPv6 MIB[◊]
RFC 2474 Definition of DS in IPv4 and IPv6[◊]
RFC 2474/ 3168 (Diffserv)
RFC 2475 (Architecture for Differentiated Service)
RFC 2545 Use of BGP-4 for IPv6[◊]
RFC 2547, 3031, 3036 (MPLS)[†]
RFC 2553 Basic Socket Interface for IPv6[◊]
RFC 2597 AF PHB[◊]
RFC 2598 Expedited AF PHB[◊]
RFC 2622 (Routing policy)
RFC 2644 (Change Default: Router Directed Broadcasts)
RFC 2697 Single rate 3 color marker[◊]
RFC 2698 Two rate 3 color marker[◊]
RFC 2710 MLD for IPv6[◊]
RFC 2715 (Interoperability: Multicast Routing Protocols)
RFC 2740 OSPFv3[◊]
RFC 2784 GRE[◊]
RFC 2796 (BGP Route Reflection)*
RFC 2893 Transition Mechanisms for IPv6[◊]
RFC 2918 (Route Refresh for BGP-4)*
RFC 3056 Connection of IPv6 via IPv4[◊]
RFC 3069 (LDP, VLAN Aggregation)
RFC 3168 (Explicit Congestion Notification (ECN))
RFC 3363 IPv6 Addresses in DNS[◊]
RFC 3513 IPv6 Addressing[◊]
RFC 3596 DNS Extensions for IPv6[◊]
RFC 3954 (NetFlow)
RFC 4213 Basic Transition for IPv6 Hosts and Routers[◊]

Management, including MIBs Supported

RFC 1155 (Structure and Mgmt Information (SMI v1))
RFC 1157 (SNMP v1/v2c)
RFC 1213/ 2011-2013 (MIB II)
RFC 1213, 1573 / 2233/ 2863 (MIB II)
RFC 1253/ 1850 (OSPF Version 2 MIB)
RFC 1493 (Bridge MIB)
RFC 1573/ 2233/ 2863 (Private IF MIB)
RFC 1657 (draft) (BGP4)*
RFC 1724 (RIP Version 2 MIB Extension)
RFC 1850 (OSPF Version 2 MIB Extension)
RFC 1901-1907/ 2578-2580/ 3416-3418 (SNMP v2c, SMI v2 and Revised MIB-II)
RFC 2233/ 3376 (Interfaces MIB)
RFC 2271/ 2571 (FrameWork)
RFC 2571-2575/ 3411-3415 (SNMP v3)*
RFC 2578-2580 (SMI v2)
RFC 2613 (Remote Network Monitoring MIB Extensions)
RFC 2618 (RADIUS Authentication Client MIB)
RFC 2620 (RADIUS Accounting Client MIB)
RFC 2665/ 3635 (Pause control)
RFC 2674 (VLAN MIB Extension)
RFC 2787 (VRRP MIB)
RFC 2819 (RMON MIB)
RFC 2932 (IGMP MIBs)

IETF DRAFTS

draft-martini-l2circuit-tran-mpls (Martini LDP)
draft-kompella -ppvpn-l2vpn-l2VPN
draft-ietf-pwe3-ethernet-encap-07.txt
draft-ietf-ppvpn-vpls-ldp.03 (support FEC127)

EMISSIONS/AGENCY APPROVALS

CISPR 22 Class A
FCC Part 15 Class A
EN 55022 Class A
ICES-003 Class A
AS/NZS 3548 Class A
EN 61000-3-2
EN 61000-3-3

IMMUNITY

Product conforms to:
EN 55024: 1998
EN 61000-4-2 to 61000-4-6, EN 61000-4-11

SAFETY AGENCY CERTIFICATIONS

UL 60950
IEC 60950-1:2001; all national deviations
EN 60950-1: 2001; all deviations
CAN/CSA-C22.2 No. 60950-1-03
NOM-019 SCFI, Mexico; AS/NZ TS-001 and 60950: 2000, Australia

* Available in the 3Com Advanced Feature Software v3, at additional cost
◊ Available in the 3Com Advanced Feature Software v5 (IPv6), at additional cost

◊ Switch 8800 systems with one or more 48-Port 10/100/1000BASE-T Access modules (3C17532A) installed will not support the BGP4, IS-IS and MBGP Advanced Software routing features

† Advanced Feature Software v5 does not include IS-IS and MPLS and does not support Application Modules

SPECIFICATIONS (CONTINUED)

SYSTEM SOFTWARE OPTIONS

Basic Software

Standard software version for Switch 8800, pre-loaded on Switch Fabric

Basic Software with Encryption

Includes all features of the Basic Software plus:

- SNMP v3 and SSH v2 encryption
- TACACS+ authentication

Available as a free download: www.3com.com/software_8800

Advanced Feature Software, v3

Includes all features of the Basic Software with Encryption plus:

- BGP4 (WAN routing protocol)^o
- IS-IS (Large-scale WAN routing protocol)^o
- MBGP (WAN routing protocol)^o
- MPLS (requires Advanced Routing module)
- VPLS (requires VPLS Network Module and Advanced Routing Module)

Ordered separately

Advanced Feature Software, v5 (IPv6)^o

Includes all features of the Basic Software with Encryption plus:

- IPv6 addressing architecture
- site-local, link-local and global unicast addresses
- multicast addresses
- IPv6 specification
- transmission of IPv6 over Ethernet networks
- IPv6 neighbor discovery
- IPv6 duplicate address detection
- IPv6 stateless address autoconfiguration
- IPv6 path MTU discovery
- ICMPv6
- IPv6 static routes
- RIPng

- OSPFv3
- BGP4+ for IPv6
- VRRPv3
- ECMP for IPv6
- MLD
- MLD snooping
- PIM-SM and PIM-DM for IPv6
- dual stack architecture
- configured tunnels
- IPv6 to IPv4 tunnels
- GRE tunnels
- ISATAP tunnels
- ACLs for IPv6
- DNSv6
- Telnetv6
- FTP/TFTP over IPv6
- ping and traceroute for IPv6
- centralized IPv6 for non-IPv6-capable modules

Ordered separately

WARRANTY AND OTHER SERVICES

Limited Hardware Warranty for 1 year

Limited Software Warranty for 90 days

90 days free telephone technical support

Refer to www.3com.com/warranty for details

^o Switch 8800 systems with one or more 48-Port 10/100/1000BASE-T Access modules (3C17532A) installed will not support the BGP4, IS-IS and MBGP Advanced Software routing features

^o Advanced Feature Software v5 does not include IS-IS and MPLS and does not support Application Modules

AGGREGATE SYSTEM CAPACITIES

	SWITCH 8814	SWITCH 8810	SWITCH 8807
CHASSIS SLOTS			
Available slots (switch fabric and I/O)	14	10	7
PERFORMANCE			
Switching Capacity	856 Mpps	572 Mpps	358 Mpps
Fabric bandwidth:			
Single switch fabric	720 Gbps	480 Gbps	150 Gbps
Dual switch fabric	1.4 Tbps	960 Gbps	300 Gbps
TOTAL PORT CAPACITY			
10-Gigabit Ethernet (XFP)	48	32	20
Gigabit Ethernet (10/100/1000)	576	384	240
Gigabit Ethernet PoE (10/100/1000)	576	384	240
Gigabit Ethernet (SFP)	576	384	240

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, local 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 remain strong and competitive.

SUGGESTED SERVICE, SUPPORT AND TRAINING OFFERINGS

Network Health Check	<p>An activity-auditing service focused on improving network performance and productivity</p> <p>Includes traffic monitoring, utilization analysis, problem identification, and asset deployment recommendations</p> <p>Extensive report provides blueprint for action</p>
Network Installation and Implementation Services	<p>Experts set up and configure equipment and integrate technologies to maximize functionality and minimize business disruption</p> <p>For large and complex sites, implementation services include personalized configuration, project management, extended testing and coaching on network administration</p>
Project Management	<p>Provides extra focus and resources that special projects demand</p> <p>3Com engineer(s) manage entire process from initial specifications to post-project review</p> <p>Using structured methodology, requirements are identified, projects planned and progress of implementation activities tracked</p>
3Com Guardian SM Maintenance Service	<p>This service provides comprehensive on-site support and includes advance hardware replacement, telephone technical support and software upgrades</p>
3Com Express SM Maintenance Service	<p>This service provides speedy access to 3Com shipment of advance hardware replacements, software upgrades and telephone support</p>
3Com University	<p>Self-paced and instructor-led technology and product courses, plus certification programs</p>

For additional information, please visit www.3com.com/services

ORDERING INFORMATION

PRODUCT DESCRIPTION	3COM SKU
Chassis Kits	
3Com Switch 8814 Chassis Kit (chassis, one power supply, two fan assemblies; fabric ordered separately)	3C17540
3Com Switch 8810 Chassis Kit (chassis, one power supply, fan assembly; fabric ordered separately)	3C17541
3Com Switch 8807 Chassis Kit (chassis, one power supply, fan assembly; fabric ordered separately)	3C17543
Switch Fabric	
3Com Switch 8800 720 Gbps Fabric	3C17539
3Com Switch 8800 360 Gbps Fabric	3C17508
10-Gigabit I/O Modules	
3Com Switch 8800 2-Port 10GBASE-X (XFP) Advanced	3C17527
3Com Switch 8800 2-Port 10GBASE-X (XFP) IPv6	3C17537
3Com Switch 8800 4-Port 10GBASE-X (XFP) Quad IPv6	3C17536
3Com Switch 8800 4-Port 10GBASE-X (XFP)	3C17526
Gigabit I/O Modules	
3Com Switch 8800 24-Port 1000BASE-X (SFP) IPv6	3C17533
3Com Switch 8800 24-Port 1000BASE-X (SFP) Advanced	3C17530
3Com Switch 8800 48-Port 1000BASE-X (SFP) IPv6	3C17538
3Com Switch 8800 24-Port 10/100/1000BASE-T IPv6	3C17534
3Com Switch 8800 24-Port 10/100/1000BASE-T Advanced	3C17531
3Com Switch 8800 48-Port 10/100/1000BASE-T IPv6	3C17528A
3Com Switch 8800 48-Port 10/100/1000BASE-T Access IPv6 ⁰	3C17532A
Network Application Modules	
3Com Switch 8800 Network Monitoring	3C17542
3Com Switch 8800 Firewall	3C17546
3Com Switch 8800 VPLS	3C17548
3Com Switch 8800 IPsec	3CR1754766
Software	
3Com Switch 8800 Advanced Feature Software, v3 ⁰	3CR1752165V3
3Com Switch 8800 Advanced Feature Software, v5 [IPv6] ¹	3CR1752593V5

PRODUCT DESCRIPTION	3COM SKU
Transceivers	
3Com 10GBASE-CX4 XFP	3CXFP95
3Com 10GBASE-ER XFP	3CXFP96
3Com 10GBASE-LR XFP	3CXFP92
3Com 10GBASE-SR XFP	3CXFP94
H3C 10GBASE-ER XFP	0231A03W
H3C 10GBASE-ER XFP	0231A72X
H3C 10GBASE-LR XFP	0231A438
H3C 10GBASE-SR XFP	0231A494
H3C 10GBASE-ZR XFP	0231A41G
3Com 1000BASE-LH70 SFP	3CSFP97
3Com 1000BASE-LX SFP	3CSFP92
3Com 1000BASE-SX SFP	3CSFP91
3Com 1000BASE-T SFP	3CSFP93
H3C 1000BASE-LH100 SFP	0231A321
H3C 1000BASE-LH40 SFP (1310nm)	2312170
H3C 1000BASE-LH40 SFP (1550nm)	2312172
H3C 1000BASE-LH70 SFP	2312173
H3C 1000BASE-LX BX10-D (BIDI) SFP	0231A11V
H3C 1000BASE-LX BX10-U (BIDI) SFP	0231A11U
H3C 1000BASE-LX SFP	0231A563
H3C 1000BASE-SX SFP	0231A562
H3C 1000BASE-T SFP	0231A085
Power over Ethernet (PoE) Components	
3Com Switch 8800 External PoE Power Rack	3C17509
3Com Switch 7750/8800 PoE Power Supply Unit	3C16884
3Com Switch 8800 PoE Option (PoE DIMM Module)	3C17529
3Com Switch 8800 PoE Entry Module	3C17510
Spare Components	
3Com Switch 8807 / 8814 Fan Assembly	3C17503
3Com Switch 8810 Fan Assembly	3C17504
3Com Switch 8800 1,200W AC Power Supply	3C17506A
3Com Switch 8800 2,000W AC Power Supply	3C17507A
3Com Switch 8800 1Gb Memory Upgrade	3C17518
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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¹ Advanced Feature Software v5 does not include IS-IS and MPLS and does not support Application Modules.

Visit www.3com.com for more information about 3Com solutions.

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