Alteon 180

SELECTABLE 10/100/1000 MBPS ETHERNET WEB SWITCH

Alteon WebSystems' award-winning Alteon 180 is the first Ethernet Web switch to provide per port selectable 10/100/1000 Mbps Ethernet connectivity on every port, giving users the utmost in flexibility and investment protection. With nine gigabit ports, the Alteon 180 is ideal for high-performance Web server farms and the aggregation of 10/100/1000 Mbps Ethernet.

With the addition of Alteon's WebOS Internet traffic control services, the Alteon 180 delivers the ultimate in high performance traffic management functions including local and global server load balancing, application redirection, packet filtering, and support for content-intelligent switching such as URL-based redirection and load balancing.

FEATURES

- Eight gigabit aggregate switch capacity
- Eight selectable 10/100/1000 Mbps Ethernet ports and one 1000 Mbps uplink
- Physical redundancy on 10/100/1000 Mbps ports
- Simultaneous Layer-2, 3 ,4 - 7 switching
- Up to 224 packet filtering rules per switch for flexibility and control of all IP traffic
- Support for server load balancing and application redirection with optional WebOS Internet traffic control software
- Support for 802.1Q VLAN tagging, with 256 network-wide VLANs per port
- Standard or Jumbo Ethernet frame sizes on both 100 Mbps and 1000 Mbps ports
- Support for 802.1d spanning tree, 802.3z auto-negotiation, 802.3x flow control
- 4,000 MAC addresses per port; 8,000 per switch
- SNMP, port mirroring and per port RMON
- EtherChannel™ compatible trunk groups
- Support for URL-based redirection and load balancing

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High Performance

Each port on the Alteon 180, operating at 10/100 or 1000 Mbps, is capable of 100 percent wire-speed throughput. With eight Gigabits of aggregate switch bandwidth, the Alteon 180 can forward five million packets (64 bytes) per second. A switching ASIC on every port incorporates a Layer-2 switching engine and dual 32-bit RISC processors for session switching services. The Alteon 180 can switch web sessions at blazing speed—up to 200,000 sessions per second can be load-balanced across multiple servers.

Jumbo Frames to Accelerate Data Transfer

The Alteon 180 automatically and transparently forwards Ethernet frames of all sizes, including Jumbo Frames of up to 9,000 bytes. Used in conjunction with Alteon WebSystems' ACEnic adapters, Jumbo Frames can reduce packet processing on servers by as much as 85 percent and increase throughput on CPU-bound systems by over 100 percent. It is ideal for server backup, data replication, and communications between application front-ends and NFS servers.

Dual-Speed Ports Deliver the Ultimate in Flexibility

The Alteon 180 supports eight selectable 10/100-TX/1000-SX ports plus one 1000-SX uplink. Each dual-speed port is equipped with an RJ-45 connector (10/100-TX) and an SC connector (1000-SX). The switch automatically detects the correct port speed for each interface. Six LEDs on each port provide status at-a-glance: Active port, Link up/down, and Data traffic on both the 10/100 and 1000 Mbps interfaces.

Built-In Redundancy at Every Level

Both 10/100 Mbps and 1000 Mbps interfaces on a dual-speed port can be attached to corresponding interfaces on a remote Alteon 180 for physical redundancy. The Alteon 180 automatically selects the higher speed interface as the active interface and provides failover between interfaces within a second.

EtherChannel Trunk Groups

The Alteon supports Layer 2, 3 and 4 EtherChannel-compatible trunk groups enabling link level redundancy and load-sharing with Cisco routers and switches as well as other EtherChannel-compatible devices. If a link within a trunk group fails, traffic is redirected over the remaining trunks in less than a second.

IP Switching

IP switching in the Alteon 180 provides complete topological flexibility. The Alteon 180 supports RIP v1, static routes, and two default routes with health checking. Routing updates are enabled on a per port basis to avoid sending unnecessary broadcast traffic. The Alteon 180 also learns and caches up to 8000 IP addresses, providing direct IP switching for locally attached networks. It can route between VLANs or IP subnets within the switched network without an external router.

Flexible Filtering

Filtering on the Alteon 180 delivers unprecedented levels of network traffic control. Administrators can forward or drop packets based on application type, protocol and IP source and destination addresses. Up to 224 filtering rules can be created per switch with any or all rules applied to each port.

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Part #	Product	Description
700104	Alteon 180	10/100/1000 Mbps Web Switch
700112	Alteon 180+	Includes WebOS pre-enabled
700107	Alteon 180e	Includes WebOS pre-enabled and 2 MB memory per port

WebOS for Internet Traffic Control

With the addition of WebOS software, the Alteon 180 tracks and load balances application sessions across multiple servers for any TCP, UDP or IP-based application. Server load balancing enables virtually unbounded server capacity within a single site and across multiple, geographically dispersed sites, with linearly increasing performance as more servers are added. By monitoring the health of individual servers and applications, it also assures high service availability. Application redirection on the Alteon 180 enables the use of transparent Web caches and allows load balancing of devices such as firewalls and routers.

Multiple VLANs/IP Subnets on a Physical Port

Using IEEE 802.1Q frame tagging, the Alteon 180 supports up to 256 network-wide VLANs per port. This allows traffic from multiple VLANs or IP subnets to share a single 10/100 or 1000 Mbps switch connection to another Alteon or to an ACEnic-equipped server. The Alteon 180 provides automatic frame tag insertion and removal to interoperate transparently with non-802.1Q devices.

Adaptive Network Management

Network managers can configure and monitor all switch functions via standard web browsers, SNMP applications and CLI from the console port or via Telnet. The Alteon 180 supports a private MIB and four groups of RMON on every port. Port mirroring capability provides for switch and server performance analysis. The Alteon 180 management interface is integrated with HP OpenView 5.0 under UNIX (HPUX, Solaris) and Windows NT.

S P E C I F I C A T I O N S

Standards

Spanning Tree (IEEE 802.1d), Logical Link Control (IEEE 802.2), 10BASE-T/100BASE-TX (IEEE 802.3, 802.3u), Flow Control (IEEE 802.3x), RMON (RFC 1757), SNMP (1213 MIB-II, 1643 Ethernet, 1493 Bridge), 1000BASE-SX (IEEE 802.3z), IP, RIPv1, TFTP (RFC 783), BootP (RFC 1542), BootP (RFC 951), Telnet(RFC 854)

1000BASE-SX Ports

Full-duplex Gigabit Ethernet SC fiber connectors

10BASE-T/100BASE-TX Ports

10/100 full or half-duplex (auto-negotiation) with RJ-45 connections for UTP ports

Layer 2/3 Support

802.1Q (256 VLANs), Jumbo Frames (all ports), EtherChannel-compatible trunking, 802.1d Spanning Tree, 4K MAC addresses per port, 8K per switch, IP switching, 256 IP interfaces, four default routes supported by load balancing, health checking and automatic failover, IP-based trunking

RS-232C Console

DB-9 serial connection, female DCE interface for out-of-band management

Dimensions

Width: 17.00 inches
Depth: 18.00 inches
Height: 3.47 inches
(Standard 19" EIA rack or wall mountable)

Environmental

Operating
– Temperature 0 to 40° C
– Humidity 5% to 85% (non-condensing)
Power
– Auto-ranging supply: 90-265 VAC@ 47-65 Hz
– Power consumption: 92W

1000BASE-SX Operating Distance

Shortwave (850 nm)
62.5 micron MM fiber
– 2 to 275 meters
50 micron MM fiber
– 2 to 550 meters

Certifications

Emissions: FCC, CFR 47 Part 15, Subpart A ANSI C63.4D11.4 1991, VCCI Class 1, FCC OST 55, CISPR 16, CISPR 22, CSA C108.8-M1983 (R1989), EN55022, CE, EN6100-3-2, EN60555-2
Safety: UL 1950, CUL, DIN/VDE 0805, CSA 22.2 , No. 950-93, IEC 950 EN 60950, TUV EMKO-TSE (74-SEC) 207/94 Nordic Deviations to EN 60950

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