DELL POWERCONNECT M6348 SWITCH

Dell more than satisfies increasing I/O requirements with the PowerConnect M6348 Gigabit Ethernet blade switch for the PowerEdge M-Series blade chassis. The M6348 provides the highest number of server ports of any of the PowerConnect blade switches. This means you need fewer blade switch modules to satisfy a greater number of I/O ports commonly required by applications like server virtualization. Fewer switch modules means lower overall cost as well as greater data center efficiency. The M6348 also delivers uncompromising performance featuring 2:1 oversubscription, support for up-to 12 switches in a single stack, and port aggregation utilizing up-to four integrated 10 Gigabit uplinks. Combine this with the valuable features and functions standard to all PowerConnect switches and you have everything you need to optimize your data center with an extreme I/O solution from Dell.

HIGH DENSITY

Delivering extreme rack density in a bladed form factor, the PowerConnect M6348 is designed to give users the flexibility to maximize blade server connectivity in a 0U form factor. Up to 192 non-redundant servers and can be connected in a stack of twelve M6348 blade switches to provide the maximum density, flexibility, and manageability.

POWERCONNECT FAMILY BENEFITS

Dell™ PowerConnect™ M6348 is a member of a broad family of Dell PowerConnect products and enjoys valuable features, functions, and benefits available in other Dell switches installed in the data center. This not only eases integration but also simplifies ongoing management. IT personnel will find familiar products recognized for their valuable capabilities. Additionally, IT server administrators will find deployment of the M6348 to be simplified enjoying the benefits delivered by the Simple mode feature included with all PowerConnect blade switches. This capability along with other features and functions of the M6348 make deploying blade switches a quick and effective solution for growing data centers with Dell™ PowerEdge™ blades.

IPv6 CERTIFIED

IPv6 is version six of the “Internet Protocol” that has been in development for over 20 years. IPv6 has been designed to address IP address limitations of previous version of the Internet Protocol, enabling an increased number of unique IP addresses for broader scalability worldwide now and in the future.

FEATURES	DELL POWERCONNECT M6348
Port Attributes	48 auto-sensing 10/100/1000BASE-T Gigabit Ethernet switching ports; 32 internal server ports; 16 external RJ45 Ethernet ports; Two 10GE SFP+ uplink ports; Two CX4 / 32Gbps Stacking ports (each port can be configured as either CX4 or 32Gbps stacking. 16Gbps in each direction); Auto-negotiation for speed; duplex mode and flow control; Auto MDI/MDIX; Port mirroring; Flow-based port mirroring; Broadcast storm control
Performance	Switch Fabric Capacity up to 184 Gb/s; Forwarding Rate up to 160 Mpps; Up to 32K MAC Addresses; 512MB of CPU SDRAM; 64MB of Flash Memory
Availability	Spanning Tree (IEEE 802.1D) and Rapid Spanning Tree (IEEE 802.1w) with Fast Link Support; Multiple spanning trees (IEEE 802.1s); Supports Virtual Redundant Routing Protocol (VRRP); Cable diagnostics; Optical transceiver diagnostics
Layer 3 Routing Protocols	Static routes; Routing Information Protocol (RIP) v1/v2; Open Shortest Path First (OSPF) v1/v2/v3; Classless Inter-Domain Routing (CIDR); Internet Control Message Protocol (ICMP); ICMP Router Discover Protocol (IRDP); Virtual Redundant Routing Protocol (VRRP); Address Resolution Protocol (ARP); Internet Group Management Protocol (IGMP) v2; Distance-Vector Multicast Routing Protocol (DVMRP); DHCP – Helper/Relay; Support IGMP v3
Layer 3 Routing Performance	Up to 10K IPv4 Routes; Up to 3K IPv6 Routes; Up to 512 RIP Routing Interfaces; Maximum OSPF V2 LSAs is 25165; Maximum OSPF V3 LSAs is 16992; Up to 32 routes for ECMP Routing; up to 4 next hops per ECMP; Up to 128 VLAN Routing Interfaces; Up to 2K Multicast Forwarding Entries; Up to 400 NDP entries; Up to 8K IPv4 ARP Entries; Up to 4K IPv6 ARP Entries
VLAN	VLAN support for tagging and port-based as per IEEE 802.1Q; Double VLAN tagging (QinQ); Up to 1024 VLANs supported; Dynamic VLAN with GVRP support; Voice VLAN support
Quality of Service	Layer 2 Trusted Mode (IEEE 802.1p tagging); Layer 3 Trusted Mode (DSCP); Layer 4 Trusted Mode (TCP/UDP); Advanced Mode using Layer 2/3/4 flow-based Policies; including metering/rate limiting; marking and bandwidth guarantees; up to 100 ACLs can be used for QoS flow identification via Class-maps; 8 Priority Queues per Port; Adjustable Weighted-Round-Robin (WRR) and Strict Queue Scheduling; Port-based QoS Services Mode; Flow-based QoS Services Mode
Layer 2 Multicast	Static IP Multicast; Dynamic Multicast Support – 256 Multicast groups supported in IGMP Snooping; IGMP and MLD snooping for IP multicast support ; IGMP and MLD snooping Querier; Protocol Independent Multicast (PIM-DM; PIM-SM)
Security Options	IEEE 802.1x based edge authentication—supports single and multiple host access; guest access; and voice authorization; Switch access password protection; User-definable settings for enabling or disabling Web; SSH; Telnet; SSL management access; IP Address filtering for management access via Telnet; HTTP; HTTPS/SSL; SSH and SNMP; RADIUS and TACACS+ remote authentication for switch management access; Up to 100 Access Control Lists (ACLs) supported; up to 12 Access Control Entries (ACEs) per ACL; SSLv3 and SSHv2 encryption for switch management traffic; Management access filtering via Management Access Profiles
Other Switching Features	Link Aggregation with support for up to 48 LAGs total; up to 18 of which can be dynamic; aggregated links; 8 dynamic aggregated links per switch and up to 8 member ports per aggregated link; LACP support (IEEE 802.3ad); LLDP-MED
Management	Supports a simple switch mode to allow auto configuration of complex network settings; Web-based management interface; Industry-standard CLI accessible via Telnet; SSH or Local Serial Port; SNMPv1; SNMP v2c and SNMPv3 supported; 4 RMON groups supported (history; statistics; alarms and events); FTP; HTTP; FTP; SFTP and SCP transfers of firmware and configuration files; Dual Firmware images on-board; Multiple Configuration file upload/download supported; Statistics for error monitoring and performance optimization including port summary tables; BootP/DHCP IP address and configuration management supported; Syslog remote logging capabilities; Temperature sensors for environmental monitoring
Peripherals	Transceivers: 10Gb SFP+ Optical Transceiver, SR, LC Connector 10Gb SFP+ Optical Transceiver, LR, LC Connector 10Gb SFP+ Optical Transceiver, LRM, LC Connector Cables: SFP+ Direct Connect Cables CX4 Cables and Stacking Cables
Standards Supported	IEEE 802.3 – 10 Base-T; IEEE 802.3u – 100 Base-T; IEEE 802.3ab – 1000 Base-T; IEEE 802.3ac – VLAN Tagging; IEEE 802.3ad – Link Aggregation; IEEE 802.1D – Spanning Tree 1; IEEE 802.1S – Multiple Spanning Tree; IEEE 802.1W – Rapid Spanning Tree 1; GARP – Generic Attribute Registration Protocol; GMRP – Dynamic L2 Multicast Registration; GVRP – Dynamic VLAN Registration; IEEE 802.1v – Protocol-based VLANs; IEEE 802.1p – Ethernet Priority with User Provisioning and Mapping; IEEE 802.1X – Port-based Authentication; IEEE 802.3x – Flow Control; XMODEM; RFC 768 – UDP; RFC 783 – TFTP; RFC 791 – IP; RFC 792 – ICMP; RFC 793 – TCP; RFC 826 – ARP; RFC 951 – BootP; RFC 1321 – Message Digest Algorithm; RFC 1534 – Interoperation between BootP and DHCP; RFC 2030 – Simple Network Time Protocol (SNTP) Version 4 for IPv4; IPv6 and OSI; RFC 2131 – DHCP Client/Server; RFC 2132 – DHCP Options and BootP Vendor Extensions; RFC 2865 – RADIUS Client
Blade Mezzanine Cards	Broadcom NetExtreme II™ 5709 Quad Port Mezzanine Card Intel Gigabit ET Quad Port Mezzanine Card

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