DELL™ POWERCONNECT™ M6220 SWITCH

The Dell PowerConnect M6220 is a key component of the FlexIO architecture of the M1000e Modular Server Enclosure. FlexIO delivers a level of IO flexibility, bandwidth, features, and investment protection that is truly exceptional in the blade server market. The M6220, a breakthrough modular design that packages a high-performance 24-port stackable Ethernet switch with modular bays that can be populated with 10GbE or stacking modules to provide customers the flexibility to create exactly the switch they need for their environment.

VALUE AND FLEXIBILITY

The PowerConnect M6220 offers additional value because the modular design allows you to upgrade to advanced stacking or 10GE when you need it. It helps provide further flexibility and value with optional modules that allow for either 10 Gigabit optical or CX-4 copper interfaces — or both, based on your needs.

HIGH DENSITY

The PowerConnect M6220 is designed to give users the flexibility to maximize server and workstation connectivity. The M6220, along with Dell blade servers, can help users address space constraints, reduce cabling requirements, and can help lower overall TCO. It offers integrated Gigabit connectivity and 10 Gigabit Ethernet (10GE) options for the PowerEdge™ M1000e Modular Server Enclosure. Up to 240 servers and/or clients can be connected in a stack of 12 M6220 switches to help provide maximum density, flexibility, and manageability.

HIGH-PERFORMANCE STACKING

The PowerConnect M6220 supports high-performance, 48 Gbps stacking bandwidth for up to 12 systems, which allows increased throughput to be added as needed without affecting network performance. With each switch supporting up to 128 Gbps in switch bandwidth, the customer can have over 1.5 terabytes of bandwidth in a single stack of 12 switches.

10 GIGABIT ETHERNET

The PowerConnect M6220 switch supports up to four 10GE uplinks which allow users to add bandwidth as they need it, and consolidate uplinks across the stack for further cable reduction. The two 10 Gb module slots support two 10 Gb ports each, with a wide variety of port variants.

ADVANCED LAYER 3 CAPABILITIES

The PowerConnect M6220 supports advanced Layer 3 routing and multicast protocols to help reduce congestion and manage traffic in the network. It also supports frequently used LAN routing protocols such as RIPv1/v2, OSPFv2/v3, VRRP, IGMPv2, DVMRP, PIM, and LLDP-MED.

ADVANCED QoS

The PowerConnect M6220 offers flexibility in Quality of Service (QoS) by giving network administrators the ability to prioritize time-critical network traffic based on a variety of user-defined criteria. Administrators can expedite traffic based on L2 or L3 information, such as IP QoS, and provide greater control over traffic flow within the network. Voice VLANs are provided specifically for VoIP applications.

ADVANCED SECURITY

Up to 1,024 L2-L4 Access Control Lists (ACLs) can be supported on the switch, allowing the user to perform deep packet inspection. 802.1x port authentication offers both single and multiple host access. Further security is provided through Denial of Service (DoS) Attack Prevention, whereby the switch can help protect against common network and CPU attacks.

IPv6 SUPPORT

Both the hardware and software for the PowerConnect M6220 support IPv6. In development for over 20 years, IPv6 has been designed to resolve IP address limitations of the previous version of the Internet Protocol, enabling an increased number of unique IP addresses for broader scalability worldwide now and in the future.

INTRODUCING DELL PROSUPPORT

Designed to address the technology challenges you face today. Designed for IT professionals like you, Dell ProSupport for IT provides 7x24 direct access to Dell Expert Centers, fast-track dispatch of parts and labor without phone troubleshooting when desired for Dell-certified technicians, and escalation management through Dell's Global Command Centers. In addition, Dell ProSupport optional services align with the way you use technology by providing rapid response to your needs, helping to protect your investment, productivity and sensitive data, and enhancing proactive support services to help reduce the risk and complexity of managing your infrastructure.

Speed of Response
With the Mission Critical[1] option you get priority response for server and storage environments when avoiding unplanned downtime and reducing recovery time are critical. Includes priority 4-hr onsite[1] service or optional 2-hr response[1] with 6-hr hardware repair,[1] Dell's proven Critical Situation process, and emergency dispatch.

Protection
With the Keep your Hard Drive[2] option you retain control of your sensitive data and comply with data privacy regulations (to help mitigate regulatory and civil liability risks) by keeping your hard drive.

Premium Proactive
With the Enterprise-Wide Contract option, you get enhanced, proactive capabilities via a designated Service Delivery Manager, performance benchmarking and custom reporting, and planning and assessments. Our Proactive Maintenance option is designed to proactively maximize the availability and stability of your infrastructure. Includes a detailed system assessment and implementation of driver or firmware updates and upgrades for your server or storage systems. Remote Advisory option provides telephone and Internet access to technical expertise for specialized applications and solutions such as Microsoft Exchange, Virtualization, and more.

ADDITIONAL SERVICE OFFERINGS

Comprehensive Storage Training and Certification
Provides expertise for integrating Dell storage into an existing IT infrastructure. For company compliance, an advanced certification path is available for validating or maintaining skill sets.

Backup and Recovery
Solutions that help ensure adequate procedures are in place to minimize or avoid data loss.

Storage Consolidation
Our storage experts can analyze your existing infrastructure, operational practices and technical readiness, and develop a detailed consolidation deployment plan that includes a validated and refined solution design.

To help you get the most from your Dell systems, visit www.dell.com/services

Services vary by region.

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[1] For terms of service, please visit www.dell.com/servicecontracts
[2] The defective hard drive must still be covered by the hardware limited warranty.

FEATURES	DELL™ POWERCONNECT™ M6220
Port Attributes	20 (16 internal, 4 external) 10/100/1000BASE-T auto-sensing Gigabit Ethernet switching ports Up to 2, dual port SR or LR 10 Gbps uplink modules (optional) 48 Gbps stacking module (optional) 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 128 Gb/s Forwarding Rate 95 Mpps Up to 8,000 MAC Addresses 256 MB of CPU SDRAM 32 MB of Flash Memory
Availability	Spanning Tree (IEEE 802.1D) and Rapid Spanning Tree (IEEE 802.1w) with Fast Link Support; Multiple Spanning Tree (IEEE 802.1s); support for 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 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
Layer 3 Routing Performance	Up to 128 RIP Routing Interfaces Up to 128 OSPF Routing Interfaces; up to 128 OSPF Areas; up to 128 Routing Interfaces per OSPF Area; up to 32 routes for ECMP Routing; up to 2 next hops per ECMP Up to 128 VLAN Routing Interfaces Up to 256 Multicast Forwarding Entries Up to 896 ARP entries; Up to 512 NDP entries
VLAN	VLAN support for tagging and port-based as per IEEE 802.1Q; double VLAN tagging (QinQ); up to 1,024 VLANs supported; dynamic VLAN with GVRP support; voice VLAN support, and private 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 snooping for IP multicast support; IGMP Querier; Protocol Independent Multicast (PIM-DM, PIM-SM)
Security	IEEE 802.1x–based edge authentication which supports single and multiple host access, guest access, voice authorization, and Microsoft® Active Directory® Switch access password protection User-definable settings for enabling or disabling Web, SSH, Telnet, SSL management access Port-based MAC Address alert and lock-down 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 18 static aggregated links, 8 dynamic aggregated links per switch and up to 8 member ports per aggregated link (IEEE 802.3ad); LACP support (IEEE 802.3ad); Link Layer Discovery Protocol supported (IEEE 802.1AB)
Management	Web-based management interface; industry-standard CLI accessible via Telnet or Local Serial Port; SNMPv1, SNMPv2c and SNMPv3 supported; 4 RMON groups supported (history, statistics, alarms, and events); TFTP 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 management supported; syslog remote logging capabilities; temperature sensors for environmental monitoring
Chassis	267 x 258 x 31mm (WxDxH) 10.5" x 10.2" x 1.2" Approximate weight: 2.7kg, 5.8lbs
Optional Peripheral Products	SFP Optical Transceivers, 1000BASE-SX, LC Connector SFP Optical Transceiver, 1000BASE-LX, LC Connector CX-4 Module XFP Module 10GBase-T Module Stacking Module with 1 Meter Dell stacking cable 3 meter stacking cable

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