



Dell PowerConnect M8024 Switch

Dell combines flexible modularity with 10Gb Ethernet in the innovative design of the Dell™ PowerConnect™ M8024 Switch. Providing impressive network bandwidth and performance ideal for I/O intensive environments, the M8024 delivers 24 ports of 10Gb Ethernet to the Dell™ PowerEdge™ M1000e chassis. Built upon FlexIO architecture, the M8024 takes modularity one step further with modular external uplinks providing flexible choices in diverse media types for connecting to LANs. A member of the PowerConnect family of switches, the M8024 leverages many valued features and functions enabling simplified deployment. These capabilities and more make the M8024 a perfect solution for deploying blades and 10Gb Ethernet.

The PowerConnect M8024 is a layer 3 switch designed to provide optimal performance for server connectivity and meet the demanding needs of datacenter environments. With up to 24 ports, the M8024 aggregates 16 internal server ports and up to 8 external ports at wire-speed rates. FlexIO design enables different connectivity choices via a mix of 10GBase-T, CX4 and SFP+ module options allowed in the M8024. A Simple Switch mode option further allows auto configuration of complex network settings without accessing the command-line interface.

High-performance with 10GbE

Each PowerConnect M8024 switch provides 24 10GbE ports to the Dell PowerEdge M1000e blade chassis. This valuable capability delivers 10GbE to each of the up to 16 server blades. The enhanced bandwidth and performance is engineered to satisfy requirements that have become increasingly important to servers embracing technologies like virtualization.

In addition to the 16 internal 10GbE ports, the M8024 delivers flexible external I/O connectivity choices, utilizing up-to two modular 10Gb Base-T, CX-4 and/or SFP+ uplinks. Each SFP+ module provides four 10GbE ports. When using two SFP+ modules, a total of eight external 10GbE ports are provided. Each CX-4 module provides three 10GbE ports. Two CX-4 modules yield a total of six external 10GbE ports. Two 10Gb Base-T modules provide four 10GbE ports. For even more flexibility, the M8024 supports mixed environments using combinations of SFP+, 10G Base-T, and CX-4 modules.

Advanced Layer 3 capabilities and IPv6 Support

The PowerConnect M8024 supports advanced Layer 3 routing and multicast protocols to help reduce congestion and manage traffic in the network. Frequently used LAN routing protocols such as RIPv1/v2, OSPFv2/v3, VRRP, IGMP, DVMRP, and PIM, are also supported.

Both the hardware and software for the PowerConnect M8024 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.

Advanced QoS and security features

The PowerConnect M8024 offers Advanced security and Quality of Service (QoS) features make this switch ideal for applications such as server virtualization, Layer 3 routing, High Performance Cluster Computing (HPPC), and iSCSI storage.

The PowerConnect M8024 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. 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 attacks and CPU attacks.

Feature	Dell™ PowerConnect™ M8024
Port attributes	24 auto-sensing 1/10Gb Ethernet switching ports Up to 16 internal server 1/10Gigabit Ethernet ports Up to 8 external 10GbE ports via up to 2 optional uplink modules Flexible media choices for up to 2 external 10GE uplink modules per switch 4-port SFP+ 10GbE module 3-port CX-4 10GbE module 2-port 10Gb Base-T copper RJ45 module 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 240Gb/s; Forwarding Rate 357Mpps; Up-to 16KMAC Addresses; 512MB of CPU SDRAM; 32MB 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)
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; Supports IGMP v3
Layer 3 routing performance	Up to 224 RIP Routing Interfaces; Up to 224 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 4 next hops per ECMP; Up to 128 VLAN Routing Interfaces; Up to 256 Multicast Forwarding Entries; Up to 4K ARP entries; Up to 2K NDP 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
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 – 2K 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 — 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 28 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 12 static aggregated links, 8 dynamic aggregated links per switch and up to 8 member ports
Management	Supports a simple switch mode to allow auto configuration of complex network settings; Web-based management interface; Industry-standard CLI accessible via Telnet or Local Serial Port; SNMPv1, SNMP v2c and SNMPv3 supported; 4 RMON groups supported (history, statistics, alarms and events); TFTP transfers of firmware and configuration files; Dual Firmware images; 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

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