

MR2408 10 Gigabit Managed Switch



Overview

The MR2408 high performance 10G Ethernet Switch delivers wire-speed intelligent services. With eight 10 Gigabit ports, this switch is ideal for high-performance network backbones that need to boost network performance over fiber optic cables. The MR2408 offers a complete set of sophisticated multilayer services delivering security, quality of service (QoS), and availability with the simplicity of traditional LAN switching.

MR2408 supports comprehensive layer 2 features such as, IEEE 802.3ad (LACP) trunking and Link aggregation; port-based 802.1x, HTTPS/SSL and SSH security features and QoS features include 802.1p and DiffServ, WRR, strict scheduling, 8-level priority in switching to ensure the steadiness of data communication. Furthermore, its SMTP function will send alerts to the administrator's email box, when fault conditions occur. The MR2408 Jumbo packets can support up to 9K bytes under 10 Gigabit speed that give administrators the flexibility to make performance-enhancing adjustments. The MR2408 provides multiple security algorithms such as Port Security, SSL, Web management Encryption, RADIUS, TACACS+ and 802.1x.

Feature Highlights

- Wire-speed performance
- 8 10 Gigabit Ethernet ports using XFPs, giving greater flexibility and cost savings for network backbone installations
- Complete Layer 2 standard features including:
 - IEEE 802.1q and 802.1p (Class of Service) with 8 hardware queues
 - Per port to enable prioritization of mission-critical applications
 - Port-base VLAN
 - Spanning Tree IEEE 802.1D, 802.1w, 802.1s for superior network reliability
 - 802.3ad for automatic link aggregation and 802.1x for port security
 - Support for Generic VLAN Registration Protocol (GVRP)
 - Internet Group Management Protocol (IGMP) Snooping

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CoS Features:

- Bandwidth Management, Class of Service (802.1p) mapping to Type Of Service
- DiffServ, priority queuing algorithms such as Weighted Round Robin and Strict-Priority
- Support for jumbo frames of up to 9,000 bytes ideal for high-end server connectivity and network attached file servers
- Supports Up to 16K MAC address entries
- Management – access control list, Cisco look alike CLI interface, SNMP V1/V2c/V3
- RMON, WEB Management, BOOTP client, DHCP client, SNTP, Syslog
- Security- IEEE 802.1X, RADIUS, TACACS+, Port Security, SSH, SSL

Performance

The MR2408 High-end switch performs L2/L4 switching eliminating network bottlenecks with wire-speed switching capabilities. The MR2408 switch offers an elaborate set of software to manage and secure the entire communication network.

The intelligent high-quality design of the MR2408 switch provides a comprehensive set of features, including: Quality of Service, Port trunking, broadcast storm protection, extensive VLAN support, IGMP snooping, Rapid Spanning Tree, Multiple Spanning Tree and link aggregation.

Fault-Tolerance

Spanning tree is a link management protocol that provides path redundancy while preventing undesirable loops in the network. The MR2408 switch supports the IEEE802.1D (Spanning Tree) protocol, the IEEE802.1w (Rapid Spanning Tree) protocol and the IEEE802.1s (Multiple Spanning Tree) protocol for Fault-Tolerance.

The MR2408 also provides redundant power supply hook-ups to enable simultaneous connections to two independent power sources to ensure the system reliability.

Enhanced Security Features

The OptiSwitch-MR Series switches offer enhanced data security through a wide range of security features that protect network management and administrative traffic, secure the network from unauthorized users, provide granular levels of network access to users, and track where users are located.

Secure Shell (SSH), Secure Telnet (v1.5/2.0) port based security, Simple Network Management Protocol version 3 (SNMPv3) and network management information are supported thereby protecting it from tampering or eavesdropping. Terminal Access Controller Access Control System (TACACS+) or Remote Access Dial-In User Service (RADIUS) authentication enables centralized access control of switches and restricts unauthorized users from altering the configurations. Alternatively, a local username and password database can be configured on the switch itself. Multiple levels of authorization on the switch console and two levels on the web-based management interface provide the ability to give different levels of configuration capabilities to different administrators.

Port security and 802.1x provide the ability to keep unauthorized users from accessing the network. Port security limits access on an Ethernet port based on the MAC address of the device that is connected to it. It can also be used to limit the total number of devices plugged

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Port security and 802.1x provide the ability to keep unauthorized users from accessing the network. Port security limits access on an Ethernet port based on the MAC address of the device that is connected to it. It can also be used to limit the total number of devices plugged into a switch port, thereby reducing the risks of rogue wireless access points or hubs. 802.1x can be used to authenticate users based on username and password (or other credentials) via a centralized RADIUS server. This is particularly useful for a mobile workforce because the authentication will be executed regardless of where the user connects to the network.

Network Control Through Advanced QOS and Rate Limiting

The MR2408 switch prioritizes each packet based on the required level of service, using eight priority queues with Weighted Round Robin Queuing. It uses IEEE 802.1p and IP DSCP to prioritize incoming traffic based on input from the end-station application. These functions can be used to provide independent priorities for delay-sensitive data and best-effort data.

The MR2408 switch also supports several common methods of prioritizing traffic to meet application requirements. Traffic can be prioritized based on the priority bits in the IP frame's Type of Service (ToS) octet. When these services are enabled, the priorities are mapped to a Class of Service value by the switch, and the traffic then sent to the corresponding output queue.

Interface Options using XFP

The MR2408 switch supports XFP pluggable optics. The XFP interface supports both single mode and multi mode 10 Gigabit fiber-optic communication, allowing network managers the flexibility to upgrade their networks connecting the network backbone using SX, MMX, LR and IR2 optics. Fiber-optic transmission enables distances of 300m, 500m, 10Km and 40Km, respectively.



Eliminates Network Bottlenecks

To secure bandwidth for bandwidth-hungry traffic applications, the MR2408 switch offers the basic IEEE 802.3ad Link Aggregation, and Cisco's Ether Channel for static trunks. Users have a user-friendly option to choose which of the two better suits their needs.

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MR2408 Switch Properties

Physical Ports

- 8 10G XFP ports
- 1 RJ45 10/100 Ethernet private management port
- 1 RS232 port
- 1 Redundant Power (DC) connector

L2 Features

- Supports Jumbo frame up to 9KB
- Supports up to 16K MAC address entries
- Supports Flow Control supported:
- Provides IEEE802.3x for full duplex mode
- Back-Pressure flow control half duplex mode
- Provides store-and-forward forwarding scheme
- Provides HOL (Head of Line) blocking prevention
- Provides Broadcast storm protection
- Supports IGMP snooping v1/v2
- Supports IGMP querier

Advanced Features

- Link Aggregation
- Complies to IEEE 802.3ad (LACP)
- Cisco Ether-Channel compatible (Static Trunk)
- Up to 4 trunks
- 2 ~ 4 ports per trunk
- Support Load Balance for both Unicast and Multicast traffic
- Spanning Tree
- Supports IEEE 802.1D Spanning Tree Protocol
- Supports IEEE 802.1s Multiple Spanning Tree
- Supports IEEE 802.1w Rapid Spanning Tree
- VLAN functions
- IEEE 802.3ac frame extension for VLAN tagging
- IEEE 802.1Q tagging VLAN
- Up to 255 VLAN entries
- Supports Port-based VLAN
- GVRP protocol for dynamic VLAN management

Security

- User/Password protected system management terminal
- Static port security (MAC-based)
- RADIUS
- TACACS+
- SSH/Secure Telnet (v1.5/2.0) port based security
- HTTPS/SSL
- IEEE 802.1x

Quality of Service features

- 802.1p based CoS
- 8 priority queues per port
- WRR for priority queue
- IP TOS/Precedence based CoS
- DSCP based CoS
- DiffServ*

Management

- Provides 1 Male DB9 RS-232C console interface configured as DTE
- Supports Cisco-like Command Line Interface (CLI) using VT-100 style terminal, 4 sessions
- Supports Telnet management
- Supports Embedded Web-based Management
- Supports software upgrade/download via XMODEM or TFTP
- Supports configuration download/upload via TFTP
- Support Port Mirroring
- Supports BOOTP/DHCP client for IP address Assignment
- Supports Remote Ping
- Supports dual copies of Firmware image
- Supports multiple copies of configuration
- Supports System/Crash/Error log
- Supports SNMP (RFC 2030)
- Supports SNMPv1/v2c/v3
- Supports RFC 2819 RMON group (1,2,3 & 9)
- Supports MIBs

Weight:

- 5.56 kg (12.26 lbs)

Mechanical

- Dimensions: 44.0 x 41.0 x 4.3 cm (17.32 x 16.14 x 1.69 in)

Performance

- Switch Fabric: 160 Gbps / 120 Mpps
- MAC addresses: 16K

Electrical Power Requirements

- Nominal Input Voltages: 110V & 230V
- Input Voltage Range: 90-240V RMS
- Input Frequency: 50/60Hz

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Safety

- CSA/NRTL (UL1950, CSA 22.2.950)
- TUV/GS (EN60950)
- CB

Electromagnetic Compatibility

- CE Mark
- FCC Class A
- VCCI Class A
- CISPR Class A

Environmental

- Temperature:
 - IEC 68-2-14
 - 0°C to 50°C (Standard Operating) (32 - 122°F)
 - -40°C to 70°C (Non-operating) (-40 to 158° F)
- Humidity: 5% to 95% (Non-condensing)
- Vibration: IEC 68-2-36, IEC 68-2-6
- Shock: IEC 68-2-29
- Drop: IEC 68-2-32

IEEE Standards

- IEEE 802.3 10BASE-T [1]
- IEEE 802.3u 100BASE-TX and 100BASE-FX [2]
- IEEE 802.3ad 10-GbE
- IEEE 802.3x flow control support
- IEEE 802.1D (Bridging), 1993
- IEEE 802.1Q (Virtual LAN) 1998
- IEEE 802.3ad (LACP)
- IEEE 802.1s
- IEEE 802.1w

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- Nominal Input Voltages: 110V & 240V
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- Input Frequency: 50/60Hz
- Maximum i/p current: 1.2A@110V, 0.6A@230V



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Ordering Info

MR2408	Layer 2 standalone switch comprised of eight XFP 10 Gigabit Ethernet ports
10 Gigabit Ethernet XFP Ordering Information	
XFP-10GD-SX	XFP 10-GbE, or 10GFC, MM, 850nm, 0.3km
XFP-10GD-MMX	XFP 10-GbE, or 10GFC, Extended MM, 1310nm, 0.5km
XFP-10GD-LR	XFP OC192/STM-64, 10GE or 10G FC, SM, 1310nm, 10km
XFP-10GD-IR2	OC192/STM-64, 10GE or 10G FC, SM, 1550nm, 40km

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