



[Oviraptor Series OR-1048]

OR-1048 1-Gbps/10-Gbps Standalone Ethernet Switch

Product Description

The OR-1048 Gigabit Ethernet Switch is an intelligent switch with 48 10/100/1000BASE-T ports, four of which are combination ports that are shared with four SFP transceiver slots and 2 optional expansion slots on the rear panel for 10GBASE modules. There is also an SNMP-based management agent embedded on the main board. This agent supports both in-band and out-of-band access for managing the switch. This switch provides a broad range of powerful features for Layer 2 switching, delivering reliability and consistent performance for network traffic. The switch brings order to poorly performing networks by segregating them into separate broadcast domains with IEEE 802.1Q compliant VLANs, and empower multimedia applications with multicast switching and CoS services.

Performance

The OR-1048 Gigabit Ethernet switch employs a wire-speed, non-blocking switching fabric. This permits simultaneous wire-speed transport of multiple packets at low latency on all ports. The switch also features full-duplex capability on all ports, which effectively doubles the bandwidth of each connection. The switch uses store-and-forward switching to ensure maximum data integrity. With store-and-forward switching, the entire packet must be received into a buffer and checked for validity before being forwarded. This prevents errors from being propagated throughout the network. The switch also includes two slots on the rear panel for slide-in single-port 10GBASE modules that support XFP transceivers.

Configurations

The switch contains a comprehensive array of LEDs for “at-a-glance” monitoring of network and port status. It also includes a management agent that allows you to configure or monitor the switch using its embedded management software or via SNMP applications. To manage the switch, you can make a direct connection to the RS-232 console port (out-of-band), or you can manage the switch through a network connection (in-band) using Telnet, the on-board Web agent, or Windows-based network management software. The OR-1048 can be configured with 48 RJ-45 10/100/1000 Base-TX ports or with 44 RJ-45 10/100/1000Base-TX ports and four Gigabit SFP ports. The switch also has optional dual 10Gbase XFP ports.

Key Features:

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|------------------------------------------------------------------------------|----------------------------------------|
| • Affordable | • Fixed Format Construction |
| • Layer 2 with Layer 3/4 ACL Classification | • Data Classification Layer 2-4 |
| • 48 1-GbE Ports or 44 10/100/1000 Base-T with four 1000 Base-X Ports | • Two 10-Gbps Ports |
| • 20 Gbps Trunks | • Jumbo Frames |

Key Applications

- | | |
|----------------------------------------|----------------------------------------------|
| • Enterprise / Closet / Desktop | • Data Center / Closet / Desktop |
| • Server Farms | • Small-to-Medium Enterprise Solution |



[OR-1048]



Standards and Specifications

Switching

- Provides 44-port 10/100/1000BASE-T plus 4 gigabit combo ports (R-J45/SFP) on the front panel.
- Provides Redundant Power Supply (RPS) connectivity
- The 10/100/1000BASE-TX ports support auto-sensing, auto-negotiation.
- Supports Jumbo packet up to 9KB
- Supports 1.5 MB of packet buffer (embedded)
- Supports 16 MB flash memory
- Supports 64 MB SDRAM
- Supports up to 8K MAC address entries
- Flow Control supported
 - Provides IEEE 802.3x 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
- Provides multicast rate control
- VLANs support:
 - Supports IEEE 802.3ac frame extension for VLAN tagging
 - Supports IEEE 802.1Q VLAN
 - Supports 256 VLANs entries, out of 4K VLAN ID
 - Supports Port-based VLAN
 - Supports Protocol-Based VLAN (IEEE 802.1v) – Phase II release
 - Private VLAN
 - Supports GVRP protocol for dynamic VLAN management
- Supports IGMP snooping (v2)
- Provides 8-level priority in switching (IEEE 802.1p)
- Spanning Tree:
 - Provides Spanning Tree (IEEE 802.1D)
 - Fast forwarding mode supported
 - IEEE 802.1w, Rapid Reconfiguration Spanning Tree
- Provides Link Aggregation
 - Complies to IEEE 802.3ad
 - Cisco EtherChannel® compatible

QoS

- Priority queue scheduling scheme:
 - Weighted Round Robin (WRR)
 - Strict Priority
- Per port bandwidth management, minimum bandwidth starts from 1 percent of the running bandwidth.
- Traffic classification and priority management based on the following parameters:
 - IEEE 802.1p (COS)
 - DSCP
 - TCP/UDP port number

Security Features

- User/Password protected system management terminal (SNMP, Telnet, Web)
- Port Security – MAC address filter
- MAC Address notification (Intrusion detection)
- IP filtering configuration for management interface (SNMP, Telnet, Web)
- L2/L3/L4 access control list
- RADIUS
- TACACS+
- Secure Shell (SSH v1/Secure Telnet)
- HTTPS/SSL
- IEEE 802.1x port-based, MAC-based security

Management Features

- Provides 1 Male DB-9 RS-232C console interface configured as DTE for operation, diagnostics, status, and configuration information.
- Supports Cisco-like Command Line Interface (CLI) for local console or remote telnet management using VT-100 style terminal, 4 sessions
- Supports Telnet management (4 sessions)
- Supports Embedded Web-based Management
- Supports software upgrade/download via XMODEM or TFTP
- Supports configuration download/upload via TFTP
- Supports BOOTP/DHCP client for IP address assignment
- Supports Remote Ping
- Supports dual copies of code
- Supports dual or more copies of configuration
- Supports System/Crash/Error log
- Simple Network Time Protocol (SNTP, RFC2030)
- Simple Mail Transfer Protocol (SMTP, RFC 821)
- Supports SNMPv1/v2c
- Supports RFC 2819 RMON group (1, 2, 3, & 9)

Product Specifications

Mechanical: 17.4 in. (W) x 16.4 in. (D) x 1.8 in. (H) 44.0 cm (W) x 41.5 cm (D) x 4.4 cm (H)
Weight: 5.05 kg (11.13 lbs)

Electrical Power Requirements:

Nominal Input Voltages: 100V ~ 240V (auto range) 50-60 Hz, 2A
Input Frequency: 50/60Hz (+/- 3Hz)

Heat & Power Dissipation: Power: 105 watts maximum

Electromagnetic Compatibility

- CE Mark
- EN50081-1:
- EN50082-1:
- EN60555-3
- EN55022 Class A
- IEC 1000-4-2/3/4/6
- EN60555-2 Class A
- FCC Class A,

Environmental

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

IEEE Standards

- IEEE 802.3x flow control support
- IEEE 802.3u Fast Ethernet
- IEEE 802.3ae 10-Gigabit Ethernet
- IEEE 802.3x full-duplex flow control
- SO/IEC 8802-3
- IEEE 802.3 Ethernet
- IEEE 802.3z & 802.3ab Gigabit Ethernet
- IEEE 802.1D (Bridging)
- IEEE 802.1Q (Virtual LAN)

Part Number Description

OR-1048	Base Unit: switch with 48-port 1 Gbps copper 10/100/1000Base-T RJ-45, 4-port 1000Base-X SFP, and 1 AC Power Supply
OR-1048D	Base Unit: switch with 48-port 1 Gbps copper 10/100/1000Base-T RJ-45, 4-port 1000Base-X SFP, 2 10 Gbps fiber 10GBase-X uplink, and 1 AC Power Supply
1048-10GEF-1	Or-1048 MODULE, 10 Gbps fiber 10GBase-X uplink, single port
1048-RPS	OR-1048 12V, 13A redundant power supply

SFP Pluggables

OPT-SFP-300	1000GBase-X, 850nm up to 300m on MMF, LC connector
OPT-SFP-10K	1000GBase-X, 1310nm up to 10km on SMF, LC connector
OPT-SFP-55K	1000GBase-X, 1310nm up to 55km on SMF, LC connector
OPT-SFP-90K	1000GBase-X, 1550nm up to 90km on SMF, LC connector
OPT-SFP-BIDI	Bi-directional optic pair, 1000GBase-X, 1310nm and 1490nm, LC connector

XFP Pluggables

OPT-XFP-300	10GBase-X, 850nm up to 300m on MMF, LC connector
OPT-XFP-10K	10GBase-X, 1310nm up to 10km on SMF, LC connector
OPT-XFP-40K	10GBase-X, 1310nm up to 40km on SMF, LC connector
OPT-XFP-40K	10GBase-X, 1310nm up to 40km on SMF, LC connector



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