

## Ethernet switches MES2348P and MES2348P

### Description

The new generation of MES access switches are managed L2+ switches which have 24 or 48 10/100/1000BASE-T ports with PoE/PoE+ support and 4 10GBASE-R (SFP+)/1000BASE-X (SFP) ports.

The switches are designed to connect end users to large-scale, medium and small enterprise networks and to service provider networks using 1G/10G Ethernet interfaces.

The switches support physical stacking, VLANs and multicast groups, as well as advanced security features.

- **L3 switches\***
- **Stacking support**
- **Multicast support (IGMP Snooping, MVR)**
- **Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)**



MES2324P



MES2348P

\* Firmware version 4.0.7 contains L3 functionality (RIP, OSPF, PIM-SM)

### Technical features

	MES2324P	MES2348P
<i>Common parameters</i>		
Packet processor	Marvell 98DX3236	Marvel 2x98DX3236
<i>Interface</i>		
10/100/1000BASE-T (RJ-45) PoE/PoE+	24	48
10GBASE-R (SFP+)/1000BASE-X (SFP)	4	4
Console port	RS-232/RJ-45	RS-232/RJ-45
<i>Performance</i>		
Bandwidth	128 Gbps	176 Gbps
Buffer memory	12 Mb	24 Mb
MAC table	16k	
VLAN table	4k	
Quality of Service (QoS)	8 egress queues per port	
TCAM	For routing: 1024xIPv4 For traffic processing: 1024x24 B	
Maximum Jumbo frames size	10240	
Stacking	Up to 8 units	

## Features and capabilities

### Interfaces functions

- Head-of-line blocking (HOL) prevention
- Back Pressure
- Auto MDI/MDIX
- Jumbo Frames support
- IEEE 802.3X Flow control
- Port Mirroring

### MAC table functions

- Independent learning mode per VLAN
- MAC Multicast Support
- Configurable aging time of MAC addresses per VLAN
- Static MAC Entries

### VLAN functions

- Voice VLAN
- IEEE 802.1Q
- Q-in-Q
- Selective Q-in-Q
- GVRP

### L2 Multicast functions

- Multicast profiles
- Static Multicast groups
- IGMP Snooping v1,2,3
- Port/host- based IGMP Snooping FastLeave
- IGMP authorization via RADIUS
- MLD Snooping v1,2
- IGMP Querier
- MVR

### L2 functions

- STP (Spanning Tree Protocol, IEEE 802.1d)
- RSTP (Rapid Spanning Tree Protocol, IEEE 802.1w)
- MSTP (Multiple Spanning Tree Protocol, IEEE802.1s)
- STP Multiprocess
- Spanning Tree Fast Link option
- EAPS<sup>1</sup>
- STP Root Guard
- BPDU Filtering
- STP BPDU Guard
- Loopback Detection (LBD)
- ERPS (G.8032v2)

### Link Aggregation functions

- Static LAG
- Dynamic LAG (LACP)
- LAG Balancing Algorithms

### IPv6 functions

- IPv6 Host
- Dual-stack

### Monitoring functions

- Interface statistics
- RMON/SMON
- CPU utilization monitoring per task
- Temperature monitoring
- TCAM utilization monitoring

### Service functions

- Virtual Cable Testing (VCT)
- Optical transceiver diagnostic
- Green Ethernet

### Security functions

- DHCP Snooping
- DHCP option 82
- IP Source Guard
- Dynamic ARP Inspection
- sFlow
- MAC-based authentication, Port Security, static MAC entries
- Port-based authentication IEEE 802.1x
- Guest VLAN
- DoS attack prevention
- Traffic segmentation
- Protection against non-authorized DHCP servers
- DHCP client filtering
- BPDU attack prevention
- NetBIOS/NetBEUI filtering
- PPPoE Intermediate Agent

### ACL

- L2-L3-L4 ACL (Access Control List)
- Time-Based ACL
- IPv6 ACL
- ACL based on:
  - Physical port number
  - IEEE 802.1p
  - VLAN ID
  - Ethertype
  - DSCP
  - Protocol type
  - TCP/UDP port number
  - User Defined Bytes

### Quality of service (QoS) and rate limiting

- QoS statistics
- Port rate limiting (Shaping, Policing)
- IEEE 802.1p Class of Service (CoS)
- Storm Control
- Bandwidth management
- Scheduling algorithms: Strict Priority/Weighted Round Robin (WRR)
- Three marking colors
- ACL-based CoS/DSCP assignment

### OAM/CFM

- IEEE 802.3ah Ethernet Link OAM
- Dying Gasp
- IEEE 802.1ag Connectivity Fault Management (CFM)<sup>1</sup>
- IEEE 802.3ah Unidirectional Link Detection

### L3 functions

- RIP
- OSPF
- PIM-SM

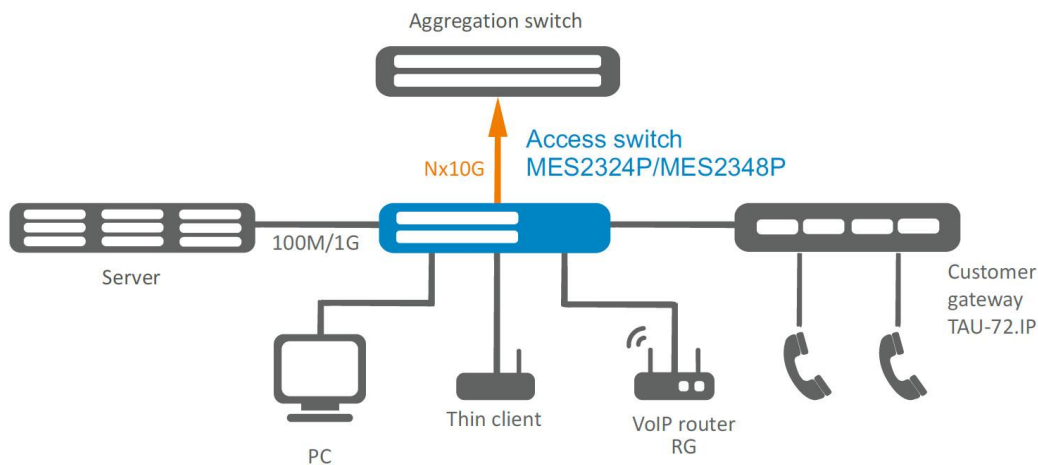
### Management functions

- Download and upload of configuration via TFTP/SCP
- SNMP (Simple Network Management Protocol)
- Command Line Interface (CLI)
- Web interface
- Syslog
- SNTP (Simple Network Time Protocol)
- Traceroute
- LLDP (802.1ab) + LLDP MED
- Access control - privilege level
- Management interface blocking
- Local authentication
- IP addresses filtering for SNMP
- RADIUS and TACACS+ (Terminal Access Controller Access Control System) clients
- SSH server
- SSL
- Macrocommands
- CLI commands logging
- System log
- DHCP autoprovision
- DHCP Relay (IPv4 support)
- DHCP Option 12
- DHCP Relay Option 82
- PPPoE Circuit-ID tag
- Flash File System
- Debugging commands
- Rate limit of traffic to CPU
- Password encryption
- Password recovery
- Ping (IPv4/IPv6 support)
- FTP server<sup>1</sup>

<sup>1</sup> Not supported in the current firmware version 4.0.6

### MIB

- RFC 1065, 1066, 1155, 1156, 2578 MIB Structure
- RFC 1212 Concise MIB Definitions
- RFC 1213 MIB II
- RFC 1215 MIB Traps Convention
- RFC 1493, 4188 Bridge MIB
- RFC 1157, 2571-2576 SNMP MIB
- RFC 1901-1908, 3418, 3636, 1442, 2578 SNMPv2 MIB
- RFC 271,1757, 2819 RMON MIB
- RFC 2465 IPv6 MIB
- RFC 2466 ICMPv6 MIB
- RFC 2737 Entity MIB
- RFC 4293 IPv6 SNMP Mgmt Interface MIB
- Private MIB
- RFC 3289 DIFFSERV MIB
- RFC 2021 RMONv2 MIB
- RFC 1398, 1643, 1650, 2358, 2665, 3635 Ether-like MIB
- RFC 2668 802.3 MAU MIB
- RFC 2674, 4363 802.1p MIB
- RFC 2233, 2863 IF MIB
- RFC 2618 RADIUS Authentication Client MIB
- RFC 4022 MIB for TCP
- RFC 4113 MIB for UDP
- RFC 3298 MIB for Diffserv
- RFC 2620 RADIUS Accounting Client MIB
- RFC 2925 Ping & Traceroute MIB
- RFC 768 UDP
- RFC 791 IP
- RFC 792 ICMPv4
- RFC 2463, 4443 ICMPv6
- RFC 4884 Extended ICMP for Multi-Part messages support
- RFC 793 TCP
- RFC 2474, 3260 DS field definition in IPv4 and IPv6 headers
- RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
- RFC 2571, 2572, 2573, 2574 SNMP
- RFC 826 ARP



### Ordering Code

Name	Description
<b>MES2324P-AC</b>	Ethernet switch MES2324P, 24x 10/100/1000BASE-T (RJ-45) ports with PoE/PoE+ support, 4x 10GBASE-R (SFP+)/1000BASE-X (SFP) ports, L2+, 220V AC
<b>MES2348P-AC</b>	Ethernet switch MES2348P, 48x 10/100/1000BASE-T (RJ-45) ports with PoE/PoE+ support, 4x 10GBASE-R(SFP+)/1000BASE-X (SFP) ports, L2+, 220V AC
<b>EMS-MES-access</b>	Option EMS-MES-access of EMS system for management and monitoring