

- Bandwidth up to 176 Gbps
- Non-blocking architecture
- L3 switches
- Up to 4 ports of 10G
- Stacking up to 8 devices
- Multicast (IGMP Snooping, MVR)
- Advanced security functions (L2-L4 ACL, IP Source Guard, Dynamic ARP Inspection, etc.)



MES2300-48P switches with PoE support connect end users to the network of large enterprises, small and medium-sized businesses and service provider networks using 1G/10G interfaces.

The switch functionality provides physical stacking, support for VLANs, multicast groups, and advanced security features.

Technical features

Interfaces	
10/100/1000BASE-T (RJ-45) PoE/PoE+	48
10GBASE-R (SFP+)/1000BASE-X (SFP)	4
Console port RS-232 (RJ-45)	1
Performance	
Bandwidth	176 Gbps
Throughput for 64 bytes ¹	130.9 MPPS
Buffer memory	3 MB
RAM (DDR4)	2048 MB
ROM (RAW NAND)	512 MB
MAC table	16384
ARP table ²	820
VLAN table	4094
L2 Multicast groups	1024
SQinQ rules	958 (ingress/egress)
ACL rules	958
L3 IPv4 Unicast ³ routes	818
L3 IPv6 Unicast ³ routes	210
L3 IPv4 Multicast (IGMP Proxy, PIM) ³ routes	412
L3 IPv6 Multicast (IGMP Proxy, PIM) ³ routes	103
VRRP routers	255
Maximum size of ECMP groups	8
VRF	16 (including default VRF)
L3 interfaces	130
Link Aggregation Groups (LAG)	32, up to 8 ports per LAG
Quality of Service (QoS)	8 egress queues per port
Jumbo frames	10240 bytes, maximum packet size
Stacking	8 devices

¹ Values are given for one-way transmission.

² For each host in the ARP table, an entry is created in the in the routing table.

³ IPv4/IPv6 Unicast/Multicast routes share hardware resources.

Features and capabilities

Interface functions

- HOL blocking protection
- Back pressure support
- Auto MDI/MDIX
- Jumbo frames
- IEEE 802.3X flow control
- Port mirroring (SPAN, RSPAN)
- Stacking

MAC table functions

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

VLAN support

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

L2 Multicast

- Multicast profiles
- Static Multicast groups
- IGMP Snooping v1,2,3
- IGMP Snooping Fast Leave based on the host/port
- IGMP proxy-report
- 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, IEEE 802.1s)
- PVSTP+
- RPVSTP+
- Spanning Tree Fast Link option
- STP Root Guard
- BPDU Filtering
- STP BPDU Guard
- Loopback Detection (LBD)
- ERPS (G.8032v2)
- Private VLAN
- Layer 2 Protocol Tunneling (L2PT)

L3 functions

- Static IP routes
- Dynamic routing protocols: RIPv2, OSPFv2, OSPFv3, IS-IS (IPv4 Unicast), BGP¹ (IPv4 Unicast, IPv4 Multicast)
- BFD (for BGP)
- Address Resolution Protocol (ARP)
- Proxy ARP
- VRRP
- Multicast routing protocols: PIM SM, IGMP Proxy
- ECMP load balancing
- IP Unnumbered

Link Aggregation functions

- Static LAG
- Dynamic LAG (LACP)
- LAG Balancing Algorithm
- Multi-Switch Link Aggregation Group (MLAG)

IPv6 functions

- IPv6 Host
- Dual-stack IPv6, IPv4

Service functions

- Optical transceiver diagnostics
- Green Ethernet

Security functions

- Protection against unauthorized DHCP servers (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
- DHCP client filtering
- BPDU attack prevention
- NetBIOS/NetBEUI filtering

ACL (Access Control List)

- L2-L3-L4 ACL (Access Control List)
- Time-Based ACL
- IPv6 ACL
- ACL based on:
 - Switch port
 - IEEE 802.1p priority
 - VLAN ID
 - EtherType
 - DSCP
 - IP protocol type
 - TCP/UDP port number
 - User Defined Bytes

Quality of service (QoS) and rate limiting

- QoS statistics
- Shaping, Policing
- IEEE 802.1p Class of Service (CoS)
- Storm Control for different types of traffic (broadcast, multicast, unknown unicast)
- Bandwidth management
- Queue scheduling algorithms: Strict Priority/Weighted Round Robin (WRR)
- Three marking colors
- ACL-based traffic classification
- ACL-based CoS/DSCP mark assignment
- Setting the IEEE 802.1p priority for management VLAN
- DSCP to COS, COS to DSCP remarking
- ACL-based VLAN assignment
- 802.1p, DSCP mark assignment for IGMP

OAM

- 802.3ah Ethernet Link OAM
- 802.3ah Unidirectional Link Detection

¹ BGP protocol support is provided under the license.

Features and capabilities (continued)

Management functions

- Upload/download of configuration file and software via TFTP
- SNMP (Simple Network Management Protocol)
- CLI (Command Line Interface)
- Web interface
- Syslog
- SNTP (Simple Network Time Protocol)
- Traceroute
- LLDP (802.1ab) + LLDP MED
- LLDP (IEEE 802.1ab)
- Swtch access control — privilege levels for users
- Management ACL
- Management interface blocking
- Local authentication
- IP addresses filtering for SNMP
- RADIUS/TACACS+ (Terminal Access Controller Access Control System) clients
- Telnet server, SSH server
- Telnet client, SSH client
- SSL
- Macrocommands
- CLI commands logging
- System log
- DHCP autoprovision
- DHCP Relay (IPv4 support)
- DHCP Option 12
- Debugging commands
- Rate limit of traffic to CPU
- Password encryption
- Password recovery
- Ping (IPv4/IPv6)

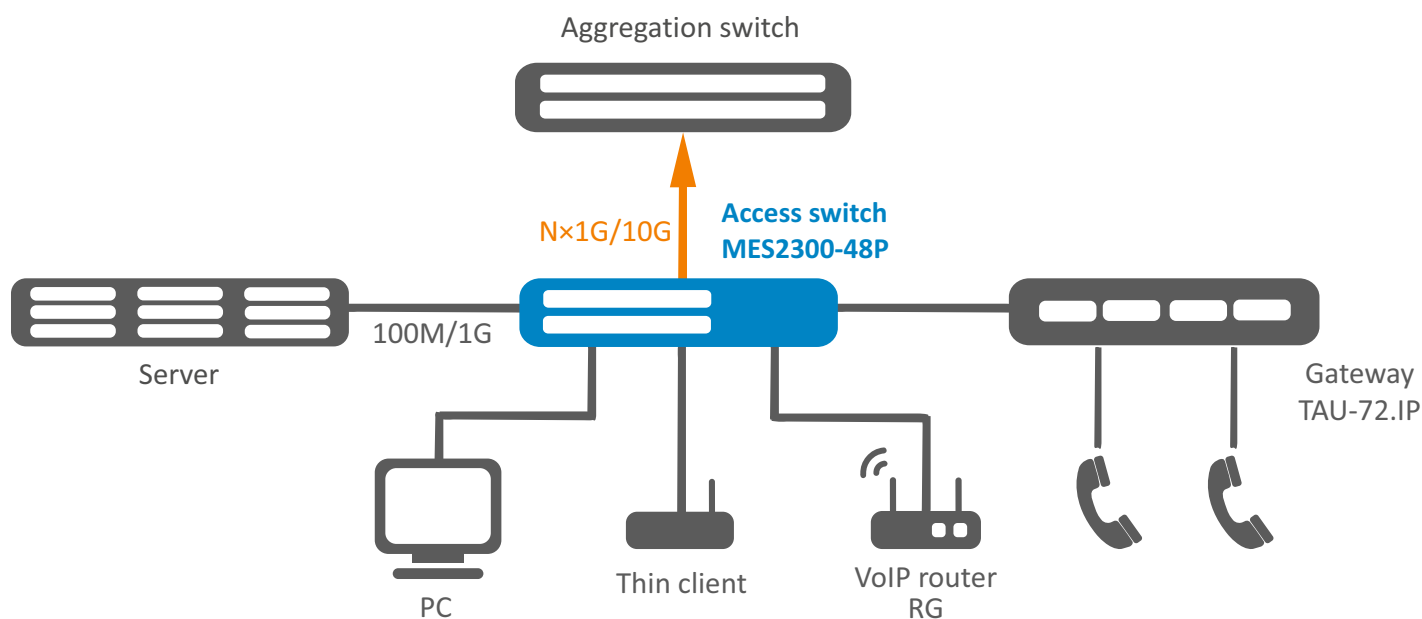
Monitoring functions

- Interface statistics
- RMON/SMON remote monitoring
- IP SLA
- CPU utilization monitoring per task and traffic type
- Temperature monitoring
- TCAM monitoring

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 1271,1757, 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 2021 RMONv2 MIB
- RFC 1398, 1643, 1650, 2358, 2665, 3635 Ether-like MIB
- RFC 2668 IEEE 802.3 MAU MIB
- RFC 2674, 4363 IEEE 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 3289 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 to support Multi-Part Messages
- RFC 793 TCP
- RFC 2474, 3260 Definition of the DS field in the IPv4 and IPv6 Headers
- RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
- RFC 2571-2574 SNMP
- RFC 826 ARP
- RFC 854 Telnet

Use case



Physical specification

Physical specifications and environmental parameters	
Power supply	100–240 V AC, 50–60 Hz; 36–72 V DC (up to 2 hot-swappable power supplies)
Maximum power consumption (including PoE load)	1600 W
PoE budget	1450 W
Heat dissipation	160 W
Operating temperature	from -10 to +50 °C
Storage temperature	from -50 to +70 °C
Humidity	no more than 80 %
Cooling	4 fans
Form factor	19", 1U
Dimensions (W × H × D)	440 × 44 × 490 mm
Weight	9.55 kg

Ordering information

Name	Description
MES2300-48P	MES2300-48P Ethernet switch, 48 ports of 10/100/1000BASE-T (RJ-45) PoE/PoE+, 4 ports of 10GBASE-R (SFP+)/1000BASE-X (SFP), L3
Related products	
PM950-220/56	PM950-220/56 power module, 100–240 V AC, 950 W
PM950-48/56	PM950-48/56 power module, 36–72 V DC, 950 W
Related software	
ECCM-MES2300-48P	ECCM-MES2300-48P option of Eltex.ECCM control system to manage and monitor ELTEX network elements: 1 network element MES2300-48P

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ELTEX Enterprise is a leading Russian developer and manufacturer of communication equipment with 30 years of history. Complete solutions and their seamless integrability into the Customer's infrastructure are the priority growth areas of the company.