Integrated Networking Solutions

- **High performance**
- **Stacking support**
- **4x10G ports in base configuration**
- **Power redundancy, hot swappable**
- **Advanced L2 functions**
- **L3 functions**
- **Front-to-back fan system**

MES3348 switches can be used in service provider network as the aggregation or transport switches, as well as in data centers as Top-of-Rack switches. They have a high performance with interfaces operating at speeds of 10 Gbps or 1 Gbps.

The features' set of MES3348 includes advanced L2 functions, static routing, dynamic routing, 4 SFP+ 10 Gbps interfaces, stack up to 8 devices, redundant and hot swappable power supplies .

Ethernet Ring Protection Switching (ERPS) protocol provides fast convergence (less than 200 ms) of the network, that guaranties uninterrupted service.

MES3348 has redundant and hot swappable power supplies. If one supply malfunctions, the other supply can take over the entire system load. Redundancy is enabled automatically.

Technical features

	MES3348
Common parameters	
Packet Processor	2xMarvell 98DX3336-A1 (PonCat3)
Network ports	48 x 10/100/1000Base-T (RJ-45) 4 x 10G Base-R/1000Base-X (SFP+/SFP)
Console port	RS-232/RJ-45
Bandwidth	176 Gbps
Buffer memory	12 Mbit
MAC table	16K
VLANs	4K
Quality of Service (QoS)	8 priority queues
L2 Multicast groups	4K
TCAM	For the traffic processing: 3Kx24 B
Jumbo frames size	10240 B
Stacking	Up to 8 units
Physical parameters and parameters of environment	
Power supply	220 V AC, 50 Hz
Max. power consumption	≤ 45 W
Fan system	Front-to-Back, 2 fans
Operating temperature	from -20° to +50° C
Operating humidity	≤ 80%
Storage temperature	from -40° to +70° C
Form factor	19", 1U
Dimensions, mm	440x44x316 (WxHxD)

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Features and capabilities

Interfaces functions
– HOL blocking protection
– Back Pressure
– Auto MDI/MDIX
– Jumbo frames
– IEEE 802.3X flow control
– Port mirroring

MAC table functions
– Independent mode of learning for each VLAN
– MAC Multicast Support
– Automatic MAC addresses aging
– Static MAC Entries

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

L2 Multicast functions
– Multicast profiles
– Multicast static groups
– IGMP Snooping v1,2,3
– Port/host based IGMP Snooping Fast Leave
– IGMP autorization support via RADIUS[1]
– 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[1]
– STP Root Guard
– BPDU Filtering
– STP BPDU Guard
– Loopback Detection (LBD)
– ERPS (G.8032v2)

L3 functions
– Static IP routes
– Dynamic routing protocols: RIPv2, OSPFv2, OSPFv3
– Address Resolution Protocol (ARP)
– VRRP
– Multicast routing protocols: PIM SM, IGMP Proxy

Link Aggregation functions
– Static LAG
– Dynamic LAG (LACP)
– LAG Balancing Algorithms

IPv6 functions
– IPv6 Host
– IPv4, IPv6 shared usage

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[1]

Quality of service (QoS) and rate limiting
– QoS statistics
– Port rate limiting (shaping, policing)
– 8 priority queues
– IEEE 802.1p 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)[1]
– IEEE 802.3ah Unidirectional Link Detection

[1] *It is not available in the current firmware version (4.0.5)*

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Features and capabilities

Management functions

– Configuration file download and upload via TFTP/SCP
– SNMP (Simple Network Management Protocol)
– Command line interface (CLI)
– Web interface
– Syslog
– SNTP (Simple Network Time Protocol)
– Traceroute
– LLDP (802.1ab) including LLDP MED support
– Configuration of user 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
– Traffic to CPU rate limiting
– Password encryption
– Password recovery
– Ping (IPv4/IPv6)
– FTP server[1]

Monitoring functions

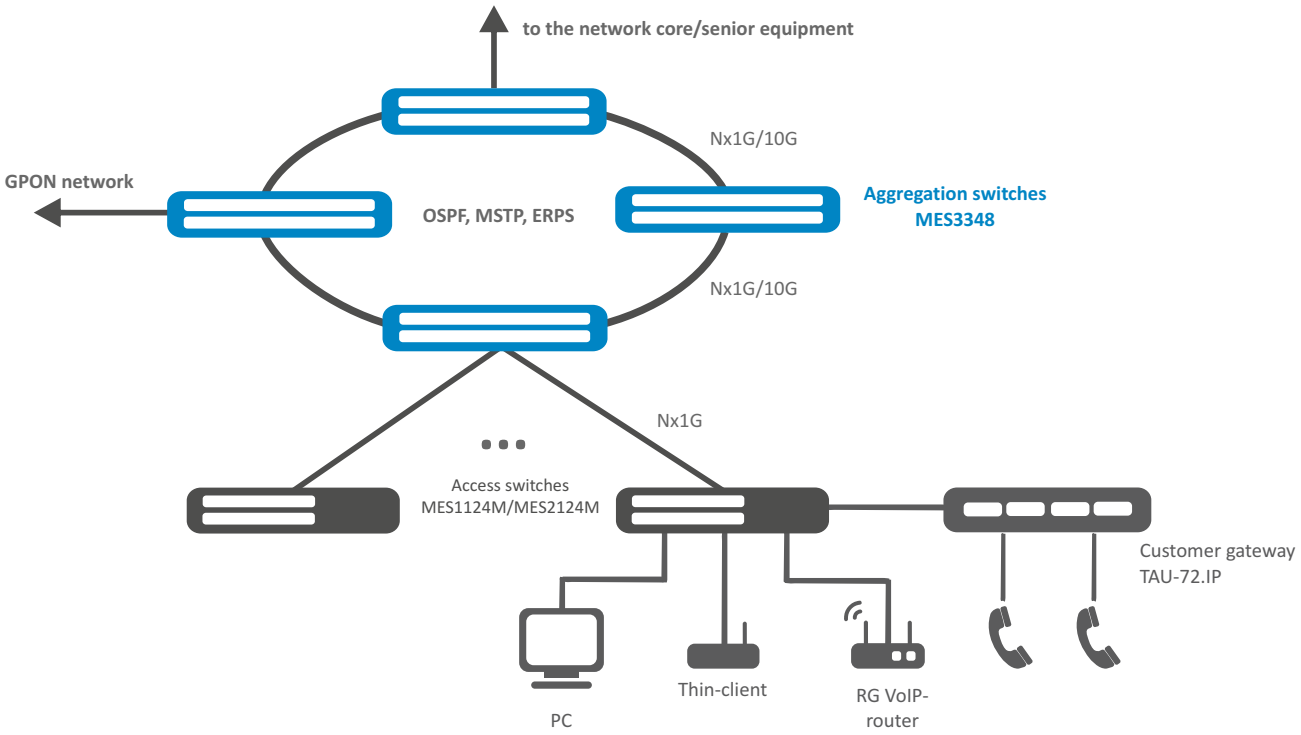
– Interface statistics
– RMON/SMON
– CPU utilization monitoring per task
– Temperature monitoring
– TCAM utilization monitoring

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 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 для TCP
– RFC 4113 MIB для UDP
– RFC 3298 MIB для 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

[1] *It is not available in the current firmware version (4.0.5)*

Application diagramm



Ordering information

Name	Description		Image
MES3348	Ethernet switch MES3348, 48x10/100/1000Base-T (RJ-45), Base-R/1000Base-X (SFP+/SFP)	4x10G	
	Jointing products		
PM75-48/12	Power supply module PM75-48/12, 48V DC, 75W		
PM160-220/12	Power supply module PM160-220/12, 220V AC, 160W		

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About Eltex

Eltex company is leading Russian developer and manufacturer of telecommunications equipment with 20 years of history. Integrity of solutions and seamless integration capability into Customer infrastructure is priority area of company development.