ELTEX
Integrated networking solutions

– **Bandwidth up to 112 Gbps**
– **Non-blocking architecture**
– **4 ports of 10G**
– **L3 functions**
– **Stacking up to 8 devices**
– **Hot-swappable redundant power supplies**
– **Dual ventilation system**
– **Front-to-Back cooling**

MES3300-08F

MES3300-16F

MES3300-08F and MES3300-16F switches can be used as aggregation or transport switches in carrier networks and as Top-of-Rack switches for data centers. They ensure high performance due to the universal interfaces operating at speeds of 10 Gbps or 1 Gbps.

The benefits of MES aggregation switches include advanced L2 functions, support for static and dynamic routing, stacking of up to 8 devices, and hot-swappable redundant power modules.

Technical features

	MES3300-08F	MES3300-16F
Interfaces		
1000BASE-X/100BASE-FX (SFP)	4	12
10/100/1000BASE-T/1000BASE-X/100BASE-FX Combo	4	
10GBASE-R (SFP+)/1000BASE-X (SFP)	4	
10/100/1000BASE-T (OOB)	1	
Console port RS-232 (RJ-45)	1	
Performance		
Bandwidth	96 Gbps	112 Gbps
Throughput for 64 bytes[1]	71.4 MPPS	88.3 MPPS
Buffer memory	1.5 MB	
RAM (DDR4)	2 GB	
ROM (RAW NAND)	512 MB	
MAC table	16384	
ARP table[2]	4087	
VLAN table	4094	
L2 Multicast groups	4092	
SQinQ	1320 ingress, 1320 egress	
MAC ACL	3000	
IPv4/IPv6 ACL	2999/1500	
L3 IPv4 Unicast[3]	13278	
L3 IPv6 Unicast[3]	3316	
L3 IPv4 Multicast (IGMP Proxy, PIM)[3]	4087	
L3 IPv6 Multicast (IGMP Proxy, PIM)[3]	1642	

[1] *Values are given for 1-way transmission.*
[2] *For each host in the ARP table, an entry is created in the routing table.*
[3] *IPv4/IPv6 Unicast/Multicast routes share hardware resources.*

Technical features (continued)

	MES3300-08F	MES3300-16F
VRRP routes	255	
Maximum size of ECMP groups	5	
VRF	16 (including default VRF)	
L3 interfaces	2050	
Link Aggregation Groups (LAG)	32, up to 8 ports per LAG	
Quality of Service (QoS)	8 egress queues per port	
Jumbo frames	10240 bytes	
Stacking	8 devices	

Features and capabilities

Interface functions
– Head-of-line blocking (HOL) protection
– Back Pressure
– Auto MDI/MDIX
– Jumbo Frames
– Flow control (IEEE 802.3X)
– 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 logging

VLAN functions
– Voice VLAN
– 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 Fast Leave
– Pim-Snooping
– IGMP proxy-report
– IGMP authorization via RADIUS
– MLD Snooping v1,2
– IGMP Querier
– MVR

L2 functions
– Spanning Tree Protocol, IEEE 802.1d
– Rapid Spaning Tree Protocol, IEEE 802.1w
– Multiple Spanning Tree Protocol, IEEE802.1s
– PVSTP+
– RPVSTP+
– Spanning Tree Fast Link option
– STP Root Guard
– BPDU Filtering
– STP BPDU Guard
– Loopback Detection
– ERPS (G.8032v2)
– Flex-link
– Private VLAN
– Layer 2 Protocol Tunneling (L2PT)

L3 functions
– Static IP routes
– Dynamic routing protocols RIPv2, OSPFv2, OSPFv3, IS-IS (IPv4 Unicast), BGP[1] (IPv4 Unicast, IPv4 Multicast, IPv6 Unicast)
– BFD (for BGP)
– Address Resolution Protocol (ARP)
– Proxy ARP
– VRRP
– PIM SM, PIM DM, IGMP Proxy, MSDP
– ECMP Load Balancing
– IP Unnumbered
– VRF lite

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

IPv6 functions
– IPv6 Host
– Dual stack

Service functions
– Virtual Cable Testing (VCT)
– Optical transceiver diagnostics
– Green Ethernet

Security functions
– Protection against unauthorized DHCP servers (DHCP Snooping)
– DHCP Option 82
– IP Source Guard
– Dynamic ARP Inspection
– First Hop Security
– sFlow
– MAC-based authentication, Port Security, Static MAC entries
– Port-based authentication IEEE 802.1x
– Guest VLAN
– DoS attack prevention
– Traffic segmentation
– DHCP clients filtering
– BPDU attacks prevention
– NetBIOS/NetBEUI filtering

[1] BGP protocol support is provided under license.

Features and capabilities (continued)

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

OAM
– 802.3ah Ethernet Link OAM
– 802.3ah Unidirectional Link Detection

ACL (Access Control Lists)
– 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

Management functions
– Download and upload of configuration file via TFTP/SCP
– SNMP
– Command Line Interface (CLI)
– Web interface
– Syslog
– SNTP (Simple Network Time Protocol)
– Traceroute
– LLDP (802.1ab) + LLDP MED
– Authorization of entered commands using TACACS+ server
– Access control – privilege levels
– Management interface blocking
– Local authentication
– IP addresses filtering for SNMP
– RADIUS and TACACS+ (Terminal Access Controller Access Control System) clients
– SSH server, Telnet server
– SSH client, Telnet client
– SSL
– Macrocommands
– CLI commands logging
– System log
– DHCP autoprovision
– DHCP Relay (Option 82)
– DHCP Option 12
– Debugging commands
– Rate limit of traffic to CPU
– Password encryption
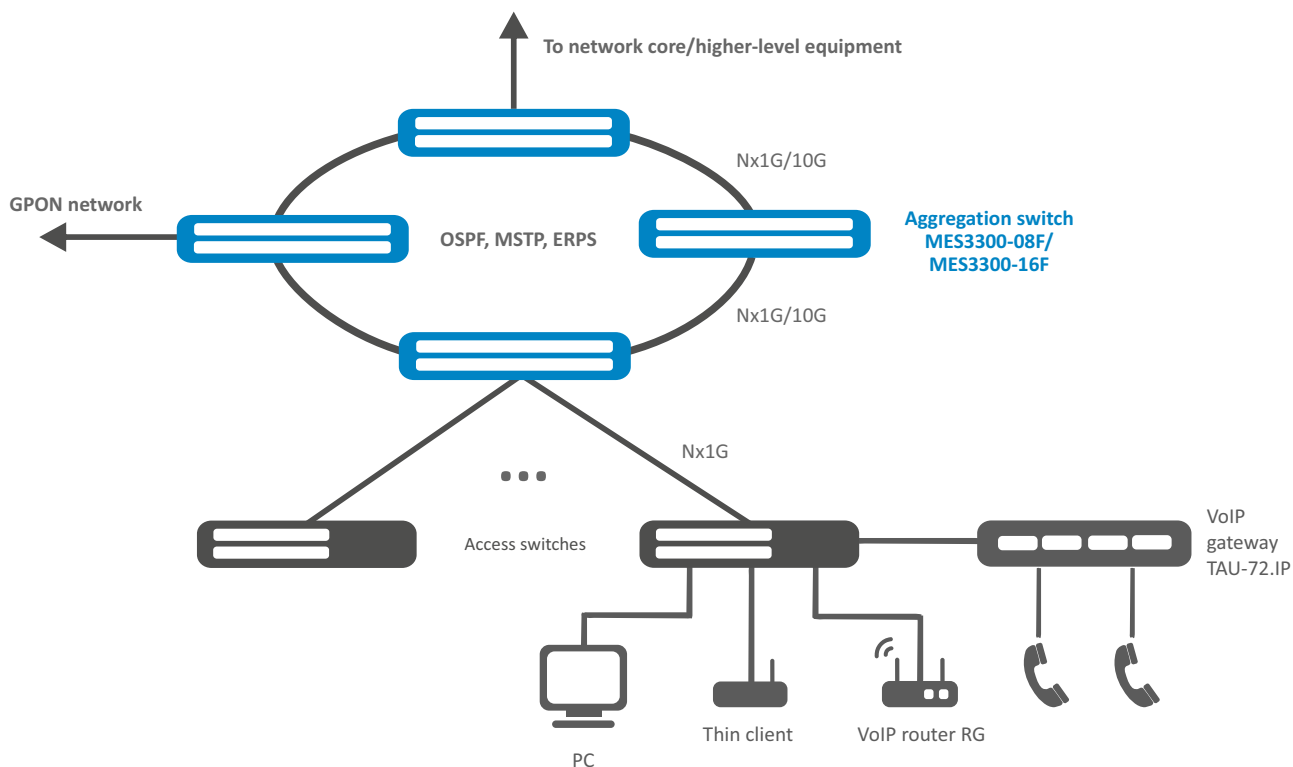– Password recovery
– Ping (IPv4/IPv6 support)

Monitoring functions
– Statistics on interfaces
– RMON/SMON
– IP SLA
– CPU utilization monitoring per task and per traffic type
– RAM utilization monitoring
– Temperature monitoring
– TCAM utilization monitoring

MIB/IETF
– 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 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 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 in the IPv4 and IPv6 header
– RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
– RFC 2571, RFC2572, RFC2573, RFC2574 SNMP
– RFC 826 ARP
– RFC 854 Telnet

ELTEX
Integrated networking solutions

Use case

To network core/higher-level equipment

GPON network

Nx1G/10G

OSPF, MSTP, ERPS

Aggregation switch
MES3300-08F/
MES3300-16F

Nx1G/10G

Nx1G

Access switches

VoIP gateway TAU-72.IP

PC

Thin client

VoIP router RG

Physical parameters

	MES3300-08F	MES3300-16F
Power supply	100–240 V AC, 50–60 Hz; 36–72 V DC Power options: • one DC or AC power supply • two hot-swappable DC or AC power supplies	
Input current	0.7–0.2 A	0.8–0.2 A
Maximum power consumption	29 W	37 W
Heat dissipation	29 W	37 W
Dying Gasp hardware support	no	
Operating temperature	from -10 to +45 °C	
Storage temperature	from -50 to +70 °C	
Operating humidity	no more than 80 %	
Cooling	Front-to-Back, 2 fans	Front-to-Back, 4 fans
Form factor	19", 1U	
Dimensions (W × H × D)	430 × 44 × 305 mm	430 × 44 × 305 mm
Weight	4.64 kg	4.89 kg

Ordering information

Name	Description
MES3300-08F	MES3300-08F Ethernet switch, 1 port of 10/100/1000BASE-T (OOB), 4 ports of 1000BASE-X/100BASE-FX (SFP), 4 combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, 4 ports of 10GBASE-R (SFP+)/1000BASE-X (SFP), L3
MES3300-16F	MES3300-16F Ethernet switch, 1 port of 10/100/1000BASE-T (OOB), 12 ports of 1000BASE-X/100BASE-FX (SFP), 4 combo ports of 10/100/1000BASE-T/1000BASE-X/100BASE-FX, 4 ports of 10GBASE-R (SFP+)/1000BASE-X (SFP), L3
Related products	
PM160-220/12	PM160-220/12 power module, 100–240 V AC, 160 W
PM100-48/12	PM100-48/12 power module, 36–72 V DC, 100 W
Related software	
ECCM-MES3300-08F	ECCM-MES3300-08F option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES3300-08F
ECCM-MES3300-16F	ECCM-MES3300-16F option of Eltex ECCM control system to manage and monitor Eltex network elements: 1 network element MES3300-16F

About ELTEX

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.