**ELTEX**

Overview of New Eltex 3400-xx Series. Dynamic Routing Configurationat 24xx and 3400-xx Switche

MES3400-24F
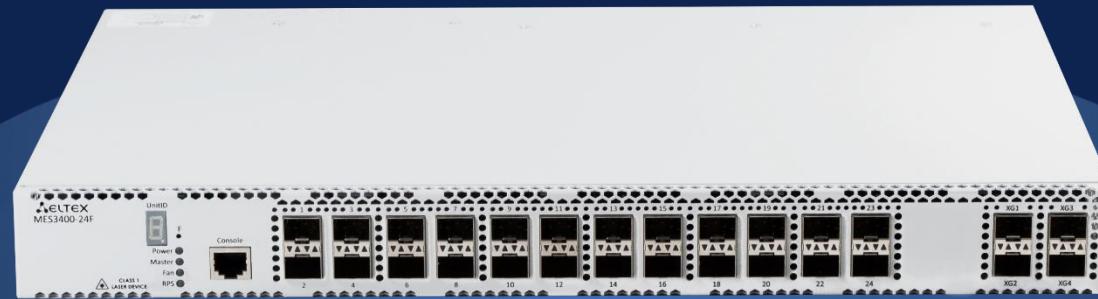
MES3400-24F
Technical features

Interfaces

1000BASE-X/100BASE-FX (SFP)	24
1000BASE-X (SFP)/10GBASE-R (SFP+)	4
Console port RS-232 (RJ-45)	1

Performance

Bandwidth	128 Gbps
RAM (DDR3)	1 GB
MAC table	32768
SQinQ rules	768 (ingress) 1024 (egress)
IPv4/IPv6 ACL rules	640/320
MAC ACL rules	766
VRRP routers	32

MES3400-48
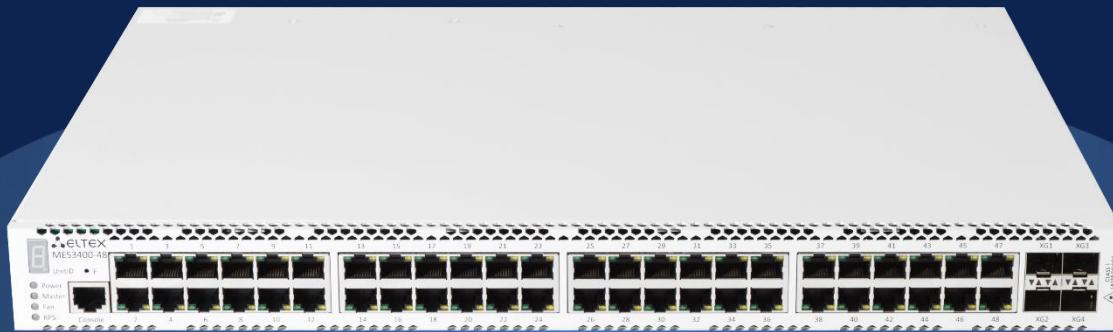
MES3400-48
Technical features

Interfaces

10/100/1000BASE-T (RJ-45)	48
1000BASE-X (SFP)/10GBASE-R (SFP+)	4
Console port RS-232 (RJ-45)	1

Performance

Bandwidth	176 Gbps
RAM (DDR3)	1 GB
MAC table	32768
SQinQ rules	768 (ingress) 1024 (egress)
IPv4/IPv6 ACL rules	640/320
MAC ACL rules	766
VRRP routers	32

VLAN Features

- ✓ Voice VLAN
- ✓ IEEE 802.1Q
- ✓ Q-in-Q
- ✓ Selective Q-in-Q
- ✓ GVRP
- ✓ MAC-based VLAN
- ✓ Protocol-based VLAN

L2 Multicast Features

- Multicast profiles
- Static Multicast groups
- IGMP Snooping v1,2,3
- IGMP Snooping fast-leave
- IGMP proxy
- IGMP authorization via RADIUS
- IGMP Querier
- MVR

Spanning Tree Support

- STP (Spanning Tree Protocol, IEEE 802.1d)
- RSTP (Rapid Spanning Tree Protocol IEEE 802.1w)
- MSTP (Multiple Spanning Tree Protocol, IEEE 802.1s)
- STP Root Guard
- STP Loop Guard
- STP BPDU Guard

- BPDU Filtering
- Spanning Tree Fast Link option
- Loopback Detection (LBD)
- Port isolation
- Storm Control for different types of traffic (broadcast, multicast, unknown unicast)
- Layer 2 Protocol Tunneling (L2PT)
- ERPS (G.8032v2)

Access Control Lists (ACL)

L2-L3-L4 ACL (Access Control List)

IPv6 ACL

ACL:

- MAC-based
- IEEE 802.1p
- VLAN ID
- EtherType

- DSCP
- Protocol type
- TCP/UDP port number
- User Defined Bytes

Security functions

- DHCP Snooping
- DHCP Option 82
- MAC-based authentication, Port Security, Static MAC entries
- IEEE 802.1x re-authentication
- Guest VLAN
- DoS attack prevention
- Traffic segmentation

- DHCP clients filtering
- BPDU attacks prevention
- PPPoE Intermediate agent
- IP Source Guard
- Dynamic ARP Inspection
- DHCPv6 Snooping
- IPv6 Source Guard
- IPv6 ND Inspection Support
- IPv6 RA Guard Support

Quality of Service (QoS)

- sr-TCM and tr-TCM based policing
- Shaping
- IEEE 802.1p Class of Service (CoS)
- Scheduling algorithms:
 Strict Priority / Weighted Round Robin (WRR)

- IEEE 802.1p-based priority for management VLAN
- ACL-based Classification
- ACL-based CoS/DSCP marking
- DSCP to CoS remarking
- CoS to DSCP remarking
- ACL-based VLAN assignment

Use case
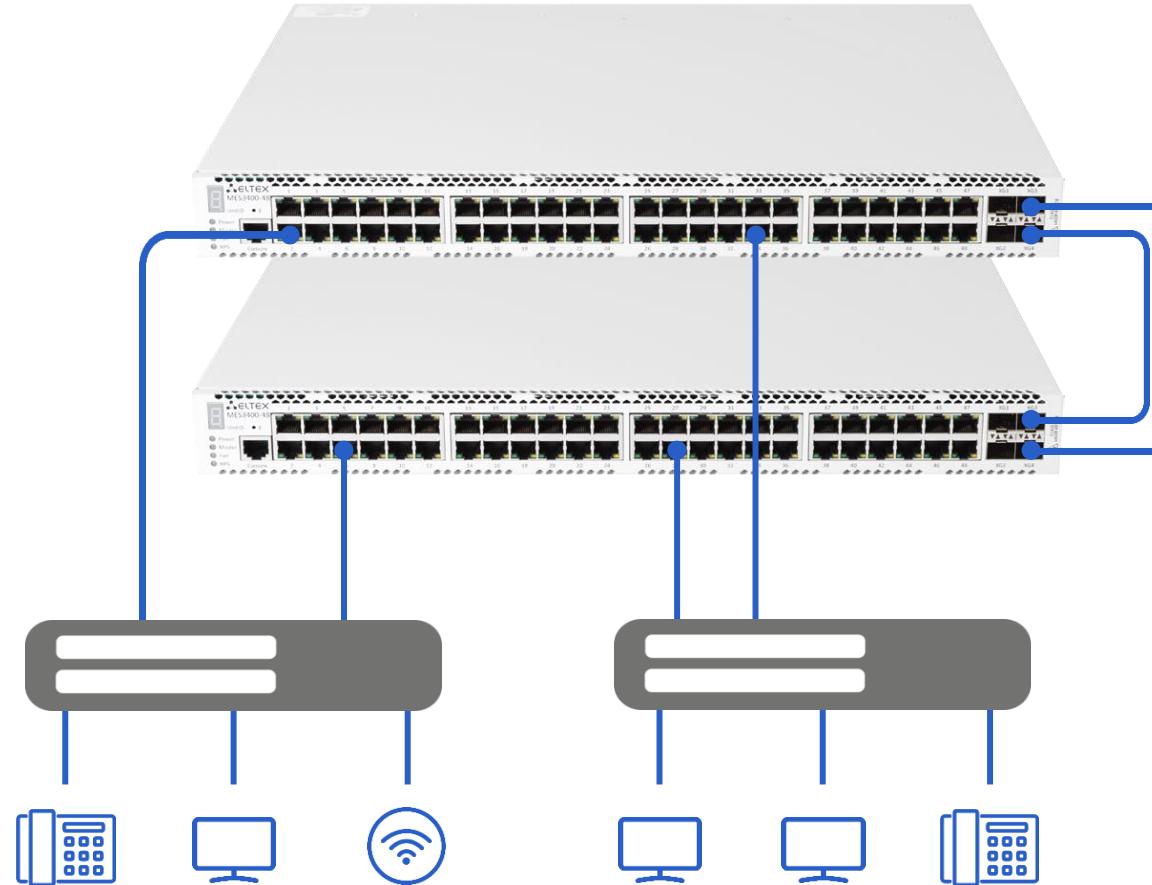
Configuring OSPF and RIP

At MES24xx and 3400-xx switches
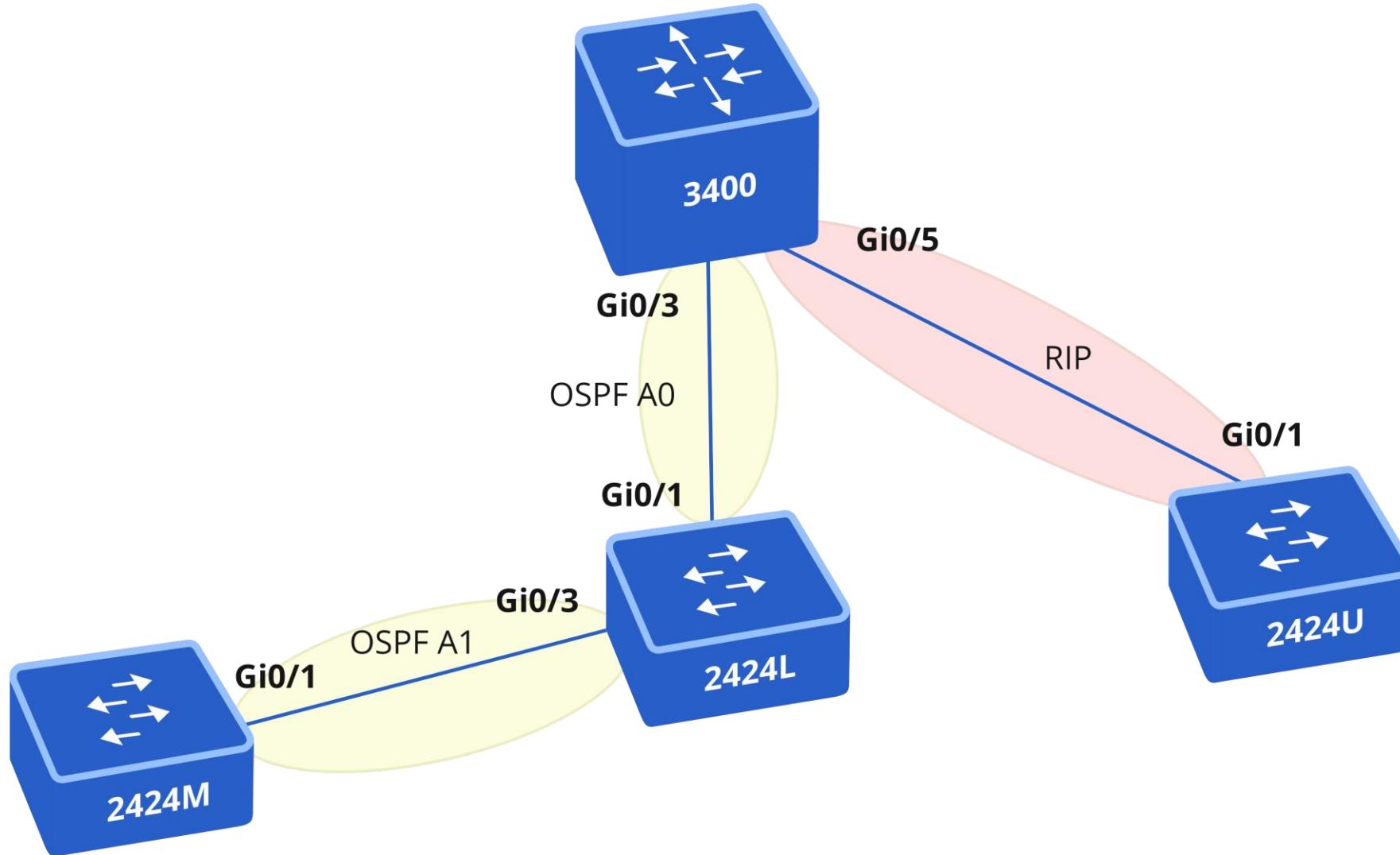
Configuring OSPF at 24xx/3400-xx switches

OSPF is supported at MES2424, MES2424P, MES2424PB, MES2448, MES3400-24, MES3400-24F and MES3400-48 switches

OSPF process is configured using the command:

```
MES2424(config)# router ospf
```

Setting the Router ID that uniquely identifies the switch within the autonomous system

```
MES2424(router_ospf)# router-id id
```

Network advertisement to OSPF area

```
MES2424(router_ospf)# network ip-address area area_id
```

Advertisement of connected networks and/or static routes

```
MES2424(router_ospf)# redistribute [all | bpg | connected | ISIS | rip | static] {metric | metric-type}
```

- *Id* – Router ID in dotted quad format
- *ip-address* – OSPF-enabled interface IP address
- *area_id* – OSPF area number in dotted quad format

OSPF configuration at 24xx/3400-xx switches

1) Create VLAN 10 and respective SVI, configure the IP address 10.10.10.1

```
MES2424(config) vlan 10
MES2424(config-vlan)vlan active
MES2424(config-vlan)exit
MES2424(config)interface vlan 10
MES2424(config-if)ip address 10.10.10.1 /24
MES2424(config-if)exit
```

2) Create an OSPF process, assign a Router ID 1.1.1.1 and advertise a network 10.10.10.0/24 to the Area 0.0.0.0

```
MES2424(config)router ospf
MES2424(config-router)router-id 1.1.1.1
MES2424(config-router)network 10.10.10.1 area 0.0.0.0
MES2424(config-router)no shutdown
```

Checking OSPF operation at 24xx/3400-xx switches

```
MES2424#show ip ospf
OSPF Router with ID (10.10.10.1) (Vrf  default)
   Router Status: Active
   Supports only single TOS(TOS0) route
   Opaque LSA Support : Disabled
   ABR Type supported is Standard ABR
   Autonomous System Boundary Router : Enabled
   P-Bit setting for the default Type-7 LSA: Disabled
   Non-Stop Forwarding disabled
   Redistributing External Routes -
   rip is enabled
   Default passive-interface  Disabled
   Rfc1583 compatibility is enabled
   Administrative Distance is 110
   Area is 0.0.0.0
   Number of interfaces in this area is 1
   SPF algorithm executed 5 times
   Number of Areas in this router is 1
Host Configuration
==========================================================
IP Address         Metric Value          Area ID
```

Checking OSPF operation at 24xx/3400-xx switches

```
MES2424#show ip ospf route


OSPF Routing Table   Vrf  default

Dest/Mask                       TOS NextHop/Interface         Cost Rt.Type    Area

---------                       --- -------/---------         ---- -------    ----

8.8.8.8/255.255.255.255          0   10.10.20.1/vlan20         20   Type2Ext  0.0.0.1

9.9.9.9/255.255.255.255          0   0.0.0.0/loopback0         10   IntraArea 0.0.0.1

10.10.10.0/255.255.255.0         0   10.10.20.1/vlan20         20   InterArea 0.0.0.1

10.10.20.0/255.255.255.0         0   0.0.0.0/vlan20            10   IntraArea 0.0.0.1
```

Checking OSPF operation at 24xx/3400-xx switches

```
MES2424#show ip route

Codes: C - connected, S - static, R - rip, B - bgp, O - ospf, I - isis, E - ECMP

IA - OSPF inter area, N1 - OSPF NSSA external type 1,

N2 - OSPF NSSA external type 2, E1 - OSPF external type 1,

E2 - OSPF external type 2 L1 - ISIS Level1, L2 - ISIS Level2, ia - ISIS Inter Area


Vrf Name:          default

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O E2 8.8.8.8/32 [110/20] via 10.10.10.1

O 9.9.9.9/32 [110/20] via 10.10.20.2

C 10.10.10.0/24 is directly connected, vlan 10

C 10.10.20.0/24 is directly connected, vlan 20
```

Checking OSPF operation at 24xx/3400-xx switches

```
MES2424#show ip ospf neighbor


  Vrf  default

  Neighbor-ID      Pri   State          DeadTime   Address         Interface
  -----------      ---   -----          --------   -------         ---------

  10.10.10.1       1     FULL/DR        33         10.10.10.1      vlan 10

  10.10.20.2       1     FULL/BACKUP    35         10.10.20.2      vlan 20
```

Thank you for your attention!

We are always ready to discuss, develop and finalize solutions for your specification

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