



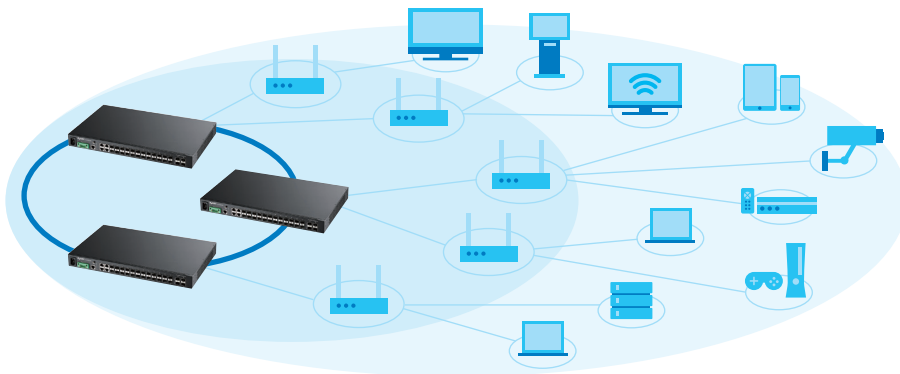
## MGS3750-28F

### 24-port GbE L2 Switch with Four 10G SFP+ Uplink Ports

The ZyXel MGS3750-28F 24-port GbE L2 Switch with four 10G SFP+ Uplinks has been specially designed for service providers to deliver profitable Ethernet services. With the high-performance hardware platform, service providers can easily extend network topologies while enabling robust security, QoS and management functions to help customers fulfilling different needs for Metro Ethernet services.

### Benefits

#### Carrier Ethernet services



Carrier Ethernet technology employed in the ZyXel MGS3750-28F 24-port GbE L2 Switch with four 10G SFP+ Uplink refers to the utilization of high-bandwidth Ethernet technology in Internet access as well as in government, business and academic LAN communications. Carrier Ethernet employs hardware and software to improve connectivity, along with maintenance



Fully managed Layer-2 switching



Four (4) 10GbE SFP+ uplink flexibility



ITU-T G.8032 Ethernet Ring Protection Switching



Support Software Stacking through standard 10GE ports



Future-proof with IPv6 support



Policy-based QoS optimizes multi-service quality

and management services beyond standard Ethernet to offer performance carrier-grade network transport protocols that are ideal for Metropolitan Area Networks (MAN) as well as WAN. It also enjoys quick fault recovery generally engineered for carrier-grade systems. IP traffics have significant increased by about five-folds over the years, and it is bound to continue at the same pace in the following years. The need for higher bandwidth from the increasing use of mobile broadband and other wireless technologies is a major factor entailing the demand for scalable network infrastructures such as carrier Ethernet equipment.

### Enhanced security to protect customers

Avoiding subscribers to affect each other on a shared network or device is a major concern for service providers. The Zyxel MGS3750-28F offers a complete set of security features to protect user data while looking over the traffics.

The intrusion lock function detects the “plugged” and “unplugged” status change of Ethernet cables to deactivate a specific port automatically if needed. The 802.1x authentication can secure the network from unauthorized users, while Port Security provides the ability to deny unauthorized users from accessing the network.

Moreover, the 802.1x feature, in collaboration with RADIUS, is useful on preventing unauthorized access based on username and password (or other credentials) and it also acts as a powerful access controller for networks with mixed wired and wireless converge. The MGS3750-28F provides a multi-layer (L2/L3/L4) ACL suite of sophisticated policy-based control mechanisms to enables service providers to easily deploy networks based on actual environment needs as well as to prevent abnormal or illegal access via a Web GUI or command line interface. The policies can be defined to deny packets based on source/destination MAC addresses, IP addresses or TCP/UDP ports.

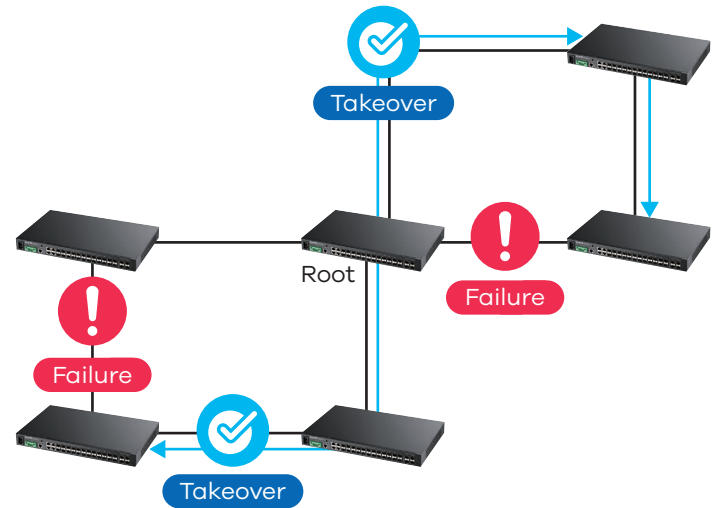
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### Resilient, fail-safe design

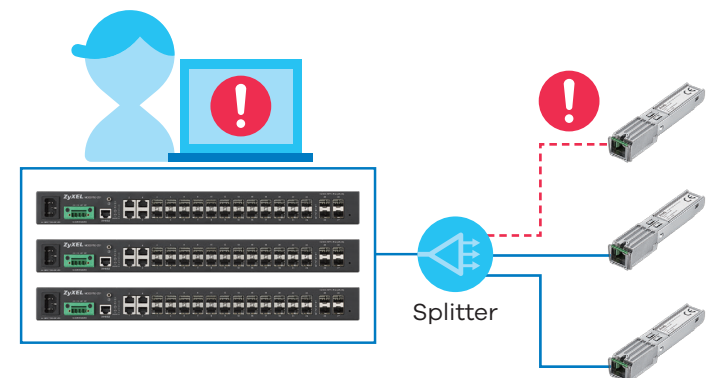
Quick recovery and round-the-clock availability is vital for service providers to establish a robust network. The Zyxel MGS3750-28F provides comprehensive features to assure the required network availability.

The IEEE 802.3ad Link Aggregation feature reduces network downtime by providing redundant paths and bandwidth aggregation to critical connections, while the IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) allow immediate recovery from failed connections by sending packets via the backup link.



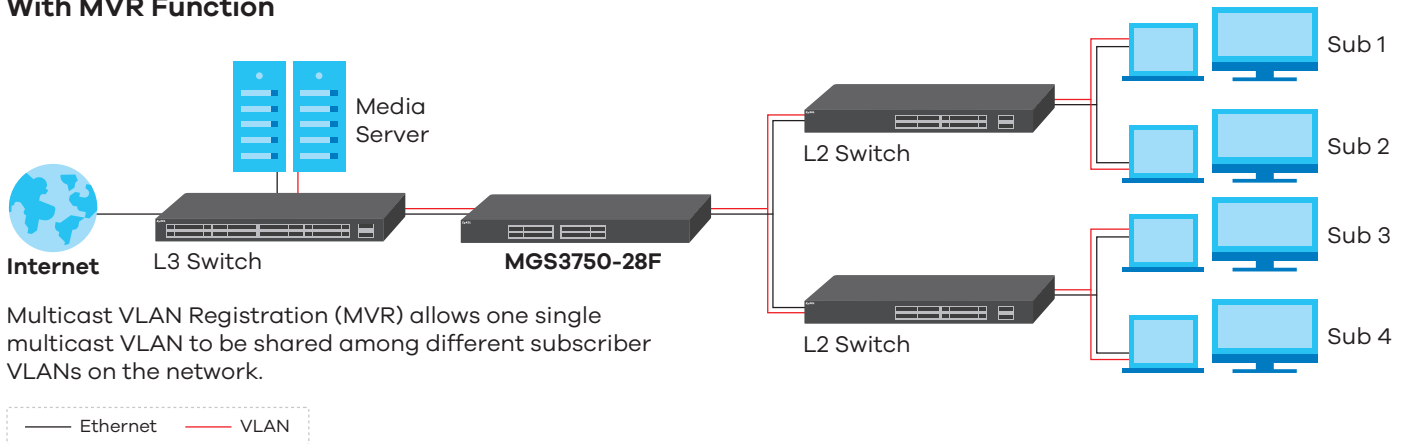
### Carrier switches supports DDMI SFP

The enhanced digital interface allows real-time access to device operating parameters, and it includes optional digital features such as soft control and monitoring of SFP I/O signals. In addition, it fully incorporates the functionality needed to implement digital alarms and warnings. The Digital Diagnostics Monitoring Interface (DDMI) enables users with the capability to perform component monitoring, fault isolation and failure prediction tasks on their transceiver-based applications.

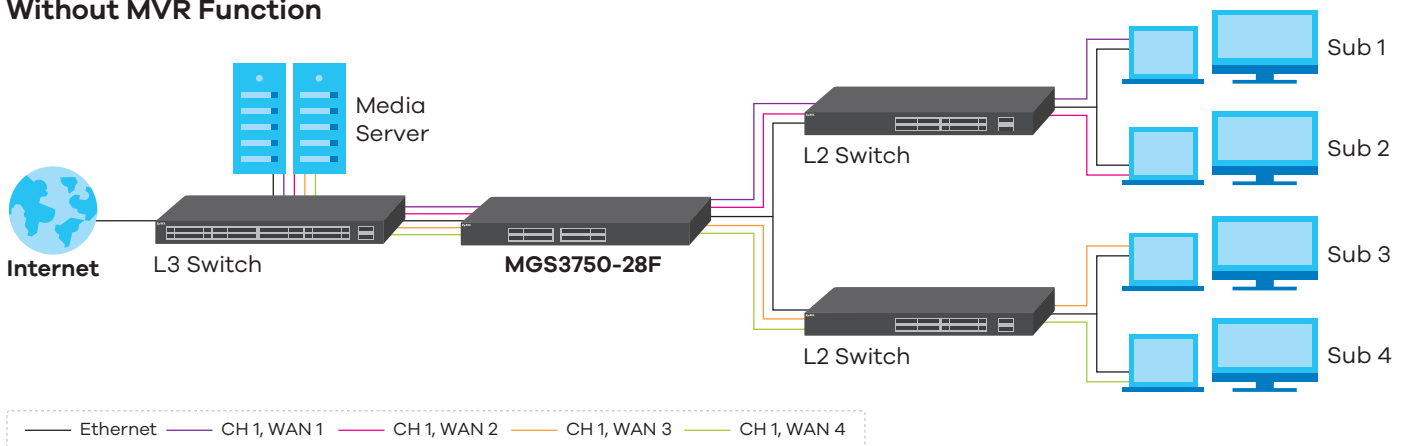


# Application Diagram

## With MVR Function



## Without MVR Function



# Specifications

## System Specifications

### Standard Compliance

- IEEE 802.3u 100BASE-Tx Ethernet
- IEEE 802.3z 1000BASE-SX/LX Ethernet
- IEEE 802.3ae 10GBASE-SR/LR Ethernet
- IEEE 802.3x flow control
- IEEE 802.1d spanning tree protocol
- IEEE 802.1w rapid spanning tree protocol
- IEEE 802.1s multiple spanning tree protocol
- IEEE 802.1p class of service, priority protocols
- IEEE 802.1q VLAN tagging
- IEEE 802.1x port authentication
- IEEE 802.3ad LACP aggregation
- IEEE 802.3ah Ethernet OAM

### VLAN

- VLAN-ID range: 1-4094
- Maximum number of VLAN: 4K
- MAC-based VLAN
- IP subnet-based VLAN
- Protocol-based VLAN
- VLAN trunking
- VLAN translation
- Q-in-Q
- Selective Q-in-Q

### MAC

- Maximum number of MAC: 16K
- Maximum number of port learning dynamic MAC table
- Static MAC table & black hole MAC table
- Aging time of dynamic MAC address table
- Calculating, checking, viewing of MAC address

### Port

- Port rate limiting
- Port isolating
- Unicast, multicast, broadcast
- Support 10k jumbo frame
- Port loop-detection
- LACP (numbers of groups & links) 31 groups, maximum 8 ports per group
- Port mirror function
  - Port local mirroring
  - Port remote mirroring
  - Traffic mirroring

### ARP

- Dynamic ARP inspection
- Static ARP

## Multicast

- IGMP snooping
- IGMP filtering
- IGMP throttling
- Fast leave
- MVR

## QoS

- Traffic classification
- 802.1p remarking
- Congestion management
  - Strict priority
  - Weight round robin
  - SP+WRR
- Two rate three color marking
- Rate limitation

## Spanning Tree

- MSTP/RSTP/RSTP
- STP protection
  - BPDU protection
  - Root protection
  - Loop protection
- BPDU tunnel function

## Security

- Port security
- IP source guard
- DHCP server
- DHCP client
- Option 82 support
- Option 60 support
- DHCP snooping
- DHCP anti-attack
- ARP anti-flood
- 802.1X

## Management

- Switch information viewing
- Version information viewing
- Warning viewing
- Port condition viewing
- SNMP V1&V2&V3
- Telnet
- Shell
- AAA radius
- Tacacs+
- MIB
- SSH
- English Web manager
- RMON

## OAM

- 802.1ag
- 802.3ah
- UDLD
- DDMI support
- ERPSv2
- LLDP

## IPv4 Routing

- Static route
- Policy-Based-Route

## IPv6

- MLDv1/v2 snooping
- IPv6 trace route
- DHCPV6 snooping
- IPv6 ACL
- IPv6 source guard

## Safety Certification

- EN 60950-1: 2006+A2: 2013

## EMC

- CE:
  - EN 55032: 2012/AC: 2013
  - EN61000-3-2: 2014
  - EN61000-3-3: 2013
  - EN55024: 2010
- AS/NZS CISPR 32: 2013
- FCC Part 15B

## RoHS

- Level A

## Hardware Specifications

- 4 combo ports (Fixed RJ-45 1G BASE-T or SFP open slot)
- 20 SFP with dual rate GbE/FE
- 4 10G SFP+
- 1 console port

## Power Consumption

- AC power input (100 V to 240 V)
- DC power range: -42 to -55 V DC

## Physical Specifications

- Item dimensions (WxDxH):  
440 x 280 x 44 mm  
(17.32" x 11.02" x 1.73")
- Item weight: 3 kg (6.61 lb.)
- Packing dimensions (WxDxH):  
530 x 373 x 120 mm  
(20.87" x 14.69" x 14.68")
- Packing weight: 5.29 kg (11.66 lb.)

## Environmental Specifications

### Operating Environment

- Temperature:  
0°C to 50°C (32°F to 122°F)
- Humidity:  
10% to 95% RH (Non-condensing)

### Storage Environment

- Temperature:  
-30°C to 70°C (-22°F to 158°F)
- Humidity:  
5% to 95% RH (Non-condensing)

## Certification

- CE/FCC

## Package Contents

- Switch
- EU+US power cord
- Grounding wire
- Console cable
- Rack-mount bracket, screws, rubber pad
- DC cable
- Quick start guide

For more product information, visit us on the web at [www.zyxel.com](http://www.zyxel.com)

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