ZyXEL

Delivering Secure Converged SMB Networks

- RIP, Static Routing Protocol Support
- Flexible 4 GbE Uplink Interfaces (Copper/Fiber)
- Multilayer-aware (L2/L3/L4) ACL for Security Protection
- Port Security and Enhanced 802.1x Port Authentication
- MAC Freeze and Intrusion Lock
- Backup Power System Support
- Multilayer-Aware (L2/L3/L4) ACL for Optimizing Traffic Prioritization
- IEEE 802.1p 8 Hardware Priority Queue
- WFQ, WRR and SPQ Queuing Algorithms

Benefits

Delivering Secure Convergence within the SMB Network

The ZyXEL ES-2724 is designed for SMB networks to realize multifunctional and flexible connectivity. In addition to L2 switching, the ES-2724 offers L3 routing for specialized applications to be handled that makes the ES-2724 an one-device, cost-effective platform for a SMB to build a combined L2 switching and L3 routing network. Moreover, the ES-2724 offers prioritization of applications such as VoIP and security with QoS configured through the ES-2724 network management tools.

Secure Multi-Service Delivery Quality

To harness multiple services such as VoIP, video conferencing and video streaming in business environments, the ES-2724 is equipped with valued-added features for optimized traffic prioritization. The combination of eight priority queues and the WFQ scheduling algorithm guarantees the quality of time-sensitive applications, while different services can be assigned to specific VLANs and configured with different priorities for traffic management. The ES-2724 comes with Multi-layer ACLs that provides L2/L3/L4 indicators for enforcing policy management on traffics.

Enhanced Multi-layer Security Protection

The ES-2724 is capable of strict security protection. For example, intrusion lock deters intruders while MAC freeze, static MAC forwarding and MAC filtering provides MAC address-based protection. 802.1Q VLAN divides the network traffic into different virtual LANs to protect business-critical information. Multi-layer ACL provides L2/L3/L4 indicators for policy management and security protection. In terms of access authentication, 802.1x and TACACS+ are supported for centralized management, and 802.1x further facilitates VLAN and bandwidth allocation.

24-port Managed L3 Fast Ethernet Switch

ES-2724

Specifications

Standard Compliance
- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3u 100BASE-Tx Ethernet
- IEEE 802.3ab 1000BASE-T Ethernet
- IEEE 802.3ah 1000BASE-BX10-U Ethernet
- IEEE 802.3ah 1000BASE-BX10-D Ethernet
- IEEE 802.3z
- 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

Performance
- 12.8 Gbps non-blocking switching fabric
- Switching Forwarding Rate 9.6 Mpps (1488000 pps/1000BASE-T/1000BASE-X/1000BASE-BX, 148800 pps/100BASE-TX)
- Wire-speed performance

MAC and Packet Buffer
- 16 K MAC entries
- 32 MB Packet Buffer

Traffic Management and QoS
- Rate Limiting: Rule-based/Port-based bandwidth control, 64 kbps granularity
- Dual-Rate-Three-Color
- CIR/PIR for bandwidth control
- Port-based egress traffic shaping
- Broadcast Storm Control
- IEEE 802.1p with 8 priority queues per port for different traffic types
- WFQ (Weighted Fair Queuing)/WRR (Weighted Round Robin)/SPQ scheduling algorithm
- Supports DSCP
- Supports DSCP to 802.1p priority mapping
- Supports IGMP/IGMP snooping v1, v2, v3
- Supports MVR
- Congestion control on all ports

IP Routing and Service Features
- 8 IP routing domains
- 4 K IP address table
- Wire-speed IP forwarding
- RIP v1, v2
- Static Routing
- IGMP v1, v2, v3
- Support DHCP Server/Relay

Link Aggregation
- IEEE 802.3ad LACP link aggregation compliant
- Support static manually port trunking
- Up to 6 aggregation groups, 8 ports/per group randomly selected

Resilient Network
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- BPS (Backup Power System)

User Security and Authentication
- IEEE 802.1Q tag-based and port-based VLAN
- Support GVRP, automatic VLAN member registration
- 256 static VLAN, up to 4K dynamic VLAN
- Full range 4 K PVID support
- Port-base VLAN & VLAN isolation
- IP Classification VLAN
- Intrusion Lock
- MAC Freeze
- MAC filtering per port secures access to each port
- Specific MAC forwarding per port: only specified MAC addresses can access the network (Port Security)
- Limited MAC number per port
- IP Source Guard
- Loop Guard
- RADIUS MAC log in
- IP Filtering
- TCP/UDP Socket Filtering
- BPDU transparency

- 802.1x port-based authentication, compensated assignment over VLAN and bandwidth for valid access
- TACACS+

Network Administration Security
- User name/password required for Web/Telnet/local console administrators
- Two-level security by specific SNMP read/write community
- Multiple login session
- Multiple access permission management
- SSH v1/v2
- SSL/TLS

Network Management
- ZyXEL iStacking™, up to 24 switches managed by single IP address
- Web-based management
- Telnet CLI
- SNMP v1, v2, v3
- RS-232c Local console
- IP management: static IP or DHCP client
- RMON four RMON groups 1, 2, 3, 9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
- Port mirroring: supports Source/Destination/Both port mirroring
- ZyXE EMS* support

Intelligent ACL
(L2/L3/L4 Access List Control)
- Based on MAC address
- Based on VLAN
- Based on IP address
- Based on Protocol type
- Based on TCP/UDP type
- Based on DSCP

MIB Information

- RFC1213 MIB II
- RFC1493 Bridge MIB
- RFC1643 Ethernet MIB
- RFC1757 RMON group 1, 2, 3, 9
- RFC2011 IP MIB
- RFC2012 TCP MIB
- RFC2013 UDP MIB
- RFC2233 ifVHCPacketGroup
- RFC2674 VLAN MIB
- RFC2925 PING-MIB and TRACEROUTE-MIB
- ZyXEL Private MIB

Hardware Specifications

- Support of auto-negotiation
- Support of auto MDI/MDI-X
- Console: D-Sub 9 pin Female (DCE)
- Management: One out-of-band management
  RJ-45 port

- Ports: 24 10/100Base-T, RJ-45 ports,
  2 1000Base-T, RJ-45 ports and 2 dual-personality
  GbE ports (RJ-45 or SFP open slots)

Physical Specifications

ES-2724 (28 ports)

- 24 10/100 ports + 2 1000Base-T ports + 2 Dual-
  personality GbE ports
- Dimensions: 438 (W) x 270 (D) x 44.45 (H) mm
- Weight: 4.0 Kg

Power Requirements

- Input voltage of AC: 100-240VAC, 50/60Hz
- Max power rating of AC: 60 Watt
- Backup power supply into 12V DC

Environmental Specifications

- Operating temperature: 0°C ~ 45°C
- Storage temperature: -25°C ~ 70°C
- Operating humidity: 10% ~ 90%,
  (non-condensing)

Safety

- UL 60950-1
- CSA 60950-1
- EN 60950-1
- IEC 60950-1

EMS supports for future enhancement.

Operational Information

Gigabit Transceiver (Optional)

Model Name	Connector Type	Mode	Wavelength	Distance	P/N	EAN Code
SFP-SX	LC	Multi-mode	850 nm	500 m	91-010-064001B	4718937420308
SFP-LX-10	LC	Single mode	1310 nm	10 km	91-010-065001B	4718937420292
SFP-BX1310-10	LC	Single mode	1310 nm (TX) 1490 nm (RX)	10 km	91-010-152001B	4718937504527
SFP-BX1490-10	LC	Single mode	1490 nm (TX) 1310 nm (RX)	10 km	91-010-153001B	4718937504510
SFP-LHX1310-40	LC	Single mode	1310 nm	40 km	91-010-068001B	4718937420452
SFP-ZX-80	LC	Single mode	1550 nm	80 km	91-010-070001B	4718937420469

For more product information, visit us on the web www.ZyXEL.com

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