

ES4528V

Managed 24 Port Gigabit Standalone L2 Ethernet Switch



Product Overview

The Edge-Core ES4528V is a standalone Gigabit Ethernet Layer 2 switch with 24 10/100/1000 ports and 4 combo Gigabit Ethernet RJ-45/SFP ports. The ES4528V is a fully managed switch that supports power saving. It offers advanced administration through a user-friendly browser interface. Sophisticated QoS and VLAN support provide great scalability for mission-critical applications. Switching ports can be aggregated to create a high bandwidth pipe to the network. Comprehensive network management functions such as STP/RSTP/MSTP protocol for standard bridging, SNMP, RMON and advanced security are fully supported.

Key Features and Benefits

Performance and Scalability

With 56Gbps switching capacity, the Edge-Core ES4528V delivers non-blocking and wire-speed switching performance for all gigabit connections. The Edge-Core supports 24 10/100/1000 ports and 4 combo Gigabit Ethernet RJ-45/SFP ports with flexible choices for copper or fiber uplinks. It allows users to take full advantage of existing high-performance.

High Availability

The Edge-Core ES4528V supports IEEE 802.3ad Link Aggregation Control Protocol (LACP). It increases bandwidth by automatically aggregating several physical links together as a logical trunk and offers load balancing and fault tolerance for uplink connections.

IGMP snooping prevents flooding of IP multicast traffic and limits bandwidth intensive video traffic to only the subscribers.

Comprehensive QoS

The Edge-Core ES4528V offers advanced QoS for marketing, classification, and scheduling to deliver best-in class performance for data, voice and video traffic at wire speed. 8 egress queues per port enable differentiated management of up to 8 traffic types. Traffic is prioritized according to IEEE 802.1p, DSCP, IP precedence and TCP/UDP port number to provide optimal performance to real-time applications.

Asymmetric bidirectional rate-limiting per port or per traffic class preserves network bandwidth and allows maximum control of network resources.

IEEE 802.1Q-in-Q allows service providers to provide differentiated services, such as Internet access for specific customers with specific VLANs and assign other VLANs to other customers for other types of services.

Enhanced Security

The Edge-Core ES4528V provides enhanced security for connectivity and access control including Access Control List (ACL), authentication and port-level security with IEEE 802.1x.

IEEE 802.1x port-based access control ensures all users are authorized before being granted access to the network. User authentications is carried out using any standard-based RADIUS server.

Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on L2 headers.

Security Shell (SSH) and Secure Sockets Layer (SSL/HTTPS) encrypt network management information via Telnet and web, providing secure network management.

TACACS+/RADIUS authentication enables centralized control of the switch and restricts unauthorized users from altering the configuration of the switch.

Private VLAN isolates edge ports to ensure user privacy.

Simplified Management

For IP multicast traffic, the Edge-Core enables IGMP snooping to provide fast client joins and leaves of multicast streams. It prevents flooding of IP multicast traffic, and limits bandwidth intensive video traffic to the subscribers only.

The Edge-Core ES4528V support IPV6 management functions in SNMP / Telnet / TFTP.

The Edge-Core ES4528V can be managed through by industry standard Command Line Interface (CLI) which provides a common industry look and feel to reduce training and operations costs. It also provides easy-of-use web GUI interface through a standard web browser.

With four groups of RMON, the Edge-Core ES4528V can easily backup and restore firmware and configuration files via TFTP.



Features

Physical Ports

24 RJ-45 10/100/1000Base-T ports
4 Combo G (RJ-45/SFP) ports
1 console port

Performance

Switching Capacity: 56Gbps
Forwarding Rate: 41.7pps
MAC Address Table Size: 8K
Packet Buffer Size: 1.75MB

L2 Features

Auto-negotiation for port speed and duplex mode
Flow Control: IEEE 802.3x & Back-Pressure
Spanning Tree Protocol:
 ■ IEEE 802.1D Spanning Tree Protocol (STP)
 ■ IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
 ■ IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
 ■ BPDU guard
 ■ Root guard
 ■ Auto Edge
 ■ Loop detection*
VLANs:
 ■ 4K IEEE 802.1Q VLANs, Port-based VLANs
 ■ IEEE 802.1v Protocol-based VLANs
 ■ Private VLAN
Link Aggregation:
 ■ Static Trunk, IEEE 802.3ad Link Aggregation Control Protocol
 ■ Trunk groups: 32, Trunk links: 2~8
IGMP Snooping:
 ■ IGMP v1, v2 snooping
 ■ IGMP Queried
 ■ IGMP snooping leave proxy
 ■ IGMP filtering/throttling
 ■ IGMP immediate leave
Storm Control
 ■ Broadcast
 ■ Multicast
 ■ Unknown unicast
Q in Q
Jumbo frames up to 9KB

IPv6 Features

IPv4/IPv6 Dual Protocol stack
IPv6 Address Types Stack: Multicast / Unicast
IPv6 Neighbor Discovery
ICMPv6 Redirect (host)
IPv6 SNMP/HTTP/Telnet/SSH/RADIUS/TACACS+
IPv6 ACL and DSCP remapping

QoS Features

Priority Queues: 4 hardware queues per port
Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP, TCP/UDP port number and Access Control List
Scheduling: WRR and strict priority
DiffServ
Bandwidth Control:
 ■ Egress rate limiting: 1Mbps granularity
 ■ Ingress rate limiting: 1Mbps granularity

Security

IEEE 802.1x port-based/MAC-based access control*
RADIUS authentication
IP Source Guard
TACACS+
Access Control List
SSH v2
Web Authentication
Mac Authentication
HTTPS / SSL
VLAN Assignment*
Guest Vlan*

Management

Switch Management:
 ■ CLI via console port or Telnet
 ■ WEB management
 ■ SNMP v1, v2c,v3
Firmware & Configuration:
 ■ Dual firmware images
 ■ Firmware upgrade via TFTP server
 ■ Multiple configuration files
 ■ Configuration file upload/download via TFTP server
RMON (groups 1, 2, 3 and 9)
BOOTP, DHCP for IP address assignment
DHCP snooping
DHCP option 82 relay
MLD v1 snooping & MLD v2 snooping*
IP Source guard
IP Clustering*
SNTP
Event / Error Log / Syslog
Dynamic ARP Inspection (DAI)
LLDP

SNMP Standards

- RFC 2674 VLAN MIB
- RFC 1213 MIB II
- RFC 4188 Bridge MIB
- RFC 4668 Radius auth. Client MIB
- RFC 4670 Radius Accounting MIB
- RFC 3635 Ethernet-like MIB
- RFC 2863 Interface Group MIB using SMI v2
- RFC 2933 IGMP MIB
- RFC 3636 802.3 MAU MIB
- RFC 4133 Entity MIB version 3
- RFC 3414 User-based Security Model for SNMPv3
- RFC 3415 View-based access Control Model for SNMP
- IEEE 802.3AB LLDP-MIB
- IEEE 802.3ad MIB (IEEE802.3-AD-MIB)
- RFC 2819 RMON-MIB
- RFC 3411 SNMP-FRAMEWORK-MIB

IEEE Standards

IEEE 802.3 Ethernet, IEEE 802.3u Fast Ethernet, IEEE802.3z Gigabit
IEEE 802.1D MAC Bridges
IEEE802.1p priority tags
IEEE802.1Q VLAN
IEEE802.1ac VLAN tagging
IEEE802.1ad Link aggregation control protocol
IEEE802.1w Fast Spanning Tree
IEEE802.1x authentication
802.3x Flow Control
802.1Q-2005 Multiple Spanning Tree (phase 2 feature)

* Next Release

ES4528V Product Specifications



Features

Mechanical

Dimension (H x W x D) cm: 4.3 x 44 x 17.2cm
LED Indicators: Port, Uplink, System, Diagnostic
AC Power Input: 100 ~ 240VAC, 50 ~ 60Hz
Maximum Power Consumption: 32W
Weight: 2.22Kg (4.89lbs)

Safety

CSA/NRTL (UL60950, CSA 22.2.No 60950)
TUV/GS(EN60950)
CB

Electromagnetic Compatibility

CE Mark Class A
EN50081-1:
EN55022 Class A
EN50082-1:
IEC 1000-4-2/3/4/6)
EN60555-2 Class A
EN60555-3
FCC Class A
VCCI Class A

Environmental Specifications

Temperature:
■ IEC 68-2-14
■ 0℃ to 45℃ (Standard Operating)
■ -40℃ to 70℃ (Non-Operating)
Humidity: 10% to 90% (Non-condensing)
Vibration: IEC 68-2-36, IEC 68-2-6
Shock: IEC 68-2-29
Drop: IEC 68-2-32

Warranty

Limited lifetime warranty

Ordering Information

Optional Accessories

ET4201-SX
ET4201-LX
ET4201-LHX
ET4201-ZX

Product Description

Small Form Factor Pluggable (Distance: 500m; Wavelength: 850nm)
Small Form Factor Pluggable (Distance: 10km; Wavelength: 1310nm)
Small Form Factor Pluggable (Distance: 40km; Wavelength: 1310nm)
Small Form Factor Pluggable (Distance: 80km; Wavelength: 1550nm)