ECS4620/ECS4510

L3 Gigabit Ethernet Stackable Switch

*

Product Overview

The Edgecore ECS4620/ECS4510 is a family of high-performance Gigabit Ethernet Layer 3 switches featuring 28 or 52 ports; with 24 /48 10/100/1000BASE-T ports, 2 10G SFP+ ports, and one 10G dual port expansion slot. The switches are ideal for high-performance server aggregations, such as enterprise data centers, where they can connect high-end or network-attached files servers over fiber ports. They can also be deployed as a backbone upgrade, or to provide Gigabit–to-the-desktop for power users. These switches are packed with features and are a cost-effective solution that bring continuous availability, enhanced security, and advanced QoS to the network edge, while maintaining simplicity of management.

Enterprise Solution

Key Features and Benefits

Performance and Scalability

The ECS4620/ECS4510 includes high-performance Gigabit Ethernet Layer 3 managed switches with 128/176 Gbps switching capacity. The switches deliver wire-speed switching performance on all Gigabit ports, taking full advantage of existing high-performance PCs by significantly improving the responsiveness of applications and file transfer times.

Continuous Availability

The IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence, ensuring a faster recovery from failed links and enhancing overall network stability and reliability.

The IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links for up to 32 instances.

The ECS4620/ECS4510 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.

The ECS4620/ECS4510 supports G.8032 Ethernet Ring Protection Switching, with the ability for the network to detect and recover from incidents without impacting users, meeting the most demanding quality and availability requirements. Rapid recovery time when problems do occur is as low as 50 msec.

Comprehensive QoS

The ECS4620/ECS4510 offers advanced QoS for marking, classification, and scheduling to deliver best-in-class performance for data, voice, and video traffic at wire speed. Eight egress queues per port enable differentiated management of up to eight traffic types through the switch.

Traffic is prioritized according to 802.1p and DSCP to provide optimal performance for real-time applications. Weighted Round Robin (WRR) and strict priority ensure differential prioritization of packet flows and avoid congestion of ingress and egress queues.

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

The ECS4620/ECS4510 supports Three Color Marker and Policing Single rate: Committed Information Rate (CIR) Two rate: CIR + Peak Information Rate (PIR) Traffic Policing: Which drop or remark the priority tags of packets when they exceed burst size.

Enhanced Security

Port Security limits the total number of devices using a switch port and protects against MAC flooding attacks.

IEEE 802.1X port-based or MAC-based access control ensures all users are authorized before being granted access to the network. When a user is authenticated, the VLAN, QoS, and security policy are automatically applied to the port where the user is connected, otherwise the port is grouped in a guest VLAN with limited access.

DHCP snooping allows a switch to protect a network from rogue DHCP servers to offer invalid IP address.

IP Source Guard prevents people from using IP addresses that were not assigned to them.

Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on source and destination MAC addresses, IP addresses, or TCP/UDP ports. ACLs are hardware supported, so switching performance is not compromised.

Secure Shell and Secure Sockets Layer (SSL/HTTPS) encrypt Telnet and web access to the switch, providing secure network management.

Private VLANs (traffic segmentation per port) isolates edge ports to ensure user privacy.

DAI (Dynamic ARP Inspection) is a security feature that validates Address Resolution Protocol (ARP) packets in a network. DAI allows a network administrator to intercept, log, and discard ARP packets with invalid MAC-to-IP address bindings.

Simple Management

An industry-standard command-line interface (CLI), accessed through the console port or Telnet, provides a familiar user interface and command set for users to manage the switch.

Layer 3 Features IPv4 Static Route

The ECS4620/ECS4510-28P with L3 software supports hardware-based IPv4/IPv6 routing with wired speed performance.

Full L3 functions are supported including unicast routing protocol for IPv4 RIPv1/v2, OSFP and BGP, for IPv6 RIPng* and OSFPv3; Multicast routing protocol for IPv4 PIM-DM/SM, for IPv6 PIM-DM6/SM6.

* Future release

ECS4620/ECS4510 Product Specifications

www.edge-core.com

Features

Product Model		ECS4620-52P-2AC	ECS4510-28P*
Product Image			
Port	RJ-45 10/100/1000 Ports	48	24
	100/1000 SFP Ports	0	0
	10/100/1000 Combom Ports	0	0
	SFP+ 10 Gigabit Uplink Ports	2	2
	10G SFP+ Expansion Module Slots	1	1
	PoE Port	0	24
	RJ-45 Console Port	Yes	Yes
Performance	Switching Capacity	176 Gbps	128 Gbps
	Forwarding Rate	130.94 Mpps	95.23 Mpps
	Flash Memory	128BM	128 MB
	DRAM	256 MB	256 MB
	MAC Address Table	16 K	16 K
	Jumbo Frames	10 K	10 K
	Auto-negotiation, Auto-MDI/MDIX	Yes	Yes
PoE	Support on all Gigabit ports based on IEEE 802.3af	Yes	Yes
	PoE+ based on IEEE 802.3at	Yes	Yes
	Auto disable after exceeding power budget	Yes	Yes
	Dynamic Power Allocation	Yes	Yes
	PoE Power Budget	730 W	410 W
Mechanical	Rack Space	19"	19"
	Dimension (W x D x H) cm	44 x 52 x 4.4	44 x 31.5 x 4.4
	Weight	7.97 kg	4.5 kg
Power Supply	100-240 VAC, 50-60 Hz	Yes	Yes
	Max System Power Consumption (Watts)	925 W	730 W
Environmental	Operating Temperature	0 ~ 45°C	0 ~ 45°C
	Storage Temperature	-40 ~ 70°C	-40 ~ 70°C
	Operating Humidity (non-condensing)	10% to 90%	10% to 90%
	Storage Temperature (non-condensing)	10% to 90%	10% to 90%
	Environmental Regulation Compliance: WEEE	Yes	Yes
	Environmental Regulation Compliance: RoHS	Yes	Yes
Certification	FCC Class A	Yes	Yes
	CE	Yes	Yes
	Safety Compliance: CB	Yes	Yes
	Safety Compliance: UL	Yes	Yes

*ECS4510-28P with L3 software

Features

L2 Features

Auto-negotiation for port speed and duplex mode
Flow Control:
- IEEE 802.3x for full-duplex mode
- Back-pressure for half-duplex mode

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)
- IEEE 802.1D Per VLAN Spanning Tree Protocol (PVST)
- BPDU Guard
- BPDU filtering
- Root Guard
- Loopback detection
- Spanning Tree Fast Forwarding
- Auto Edge-Port
- BPDU Forward

Storm Control (broadcast/multicast/unknown unicast)
VLANs:
- Supports 4K IEEE 802.1Q VLANs
- Port-based
- GVRP/GARP
- VLAN Translation
- IEEE 802.1v Protocol-based VLANs
- MAC-based VLANs
- IP subnet-based VLAN
- Private VLAN (Community)
- Traffic Segmentation (port isolated)
- Guest VLAN
- Voice VLAN
- VLAN trunking

Link Aggregation:
- Static trunk
- IEEE 802.3ad Link Aggregation Control Protocol
- Trunk groups: 16
- Trunk links: 2~8 ports for Gigabit Ethernet ports
  2~4 ports for 10 Gigabit Ethernet ports
- Load Balance: SA+DA, SA, DA, SIP+DIP, SIP, DIP

IGMP Snooping:
- IGMP v1/v2/v3 snooping
- IGMP Filtering
- IGMP Throttling
- IGMP Immediate Leave
- IGMP Querier v1/v2
- IGMP SNP Proxy (v1/v2/v3)
- IGMP Authentication
- Source Filtering Mode Data Forwarding

Non-STP loopback Detection
L2 Protocol Tunneling (CDP,PVST,STP,LLDP)
MVR (Multicast VLAN Registration)
Supports Q-in-Q
Supports select Q-in-Q
UDLD
G.8032 v2 (ERPS)
Supports jumbo frames up to 10KB
Supports Digital Diagnostic Monitoring (DDM)
Packet filtering of L2 control CDP/PVST
Cable diagnostics
HW Stacking

QoS Features

Priority Queues: 8 hardware queues per port
Traffic classification
- IEEE 802.1p CoS
- DSCP

Traffic Scheduling
- Strict Priority
- Weighted Round Robin
- Strict + WRR traffic scheduling

PHB (Per Hop Behavior – internal priority)
Port-based default priority
Diffserv
Rate Limiting (ingress and egress, per port base)
- GE: Resolution 64 Kbps ~ 1000 Mbps

Security Features

Port security
IEEE 802.1X port-based and MAC-based authentication
IEEE 802.1X EAPOL frames pass-through
IEEE 802.1X supplicant support
Dynamic VLAN assignment
Dynamic QoS assignment
MAC authentication, Web authentication
Voice VLAN, Guest VLAN
Access Control List
- L2/L3/L4
  - L2 ACL filter SA/DA/VLAN
  - L3 IP SA/DA, subnet based
  - L4 TCP/UDP port
  - IPv6
- Time-based (time range)

DHCP Snooping
DHCP Snooping Option 82
IP Source Guard
Dynamic ARP Inspection
Instruction lock (link detection)
PPPoE Intermediate Agent
RADIUS authentication and accounting
TACACS + authentication, authorization, and accounting
Management Security
- HTTPS and SSL (secured Web)
- Denial of Service (DoS) protection
- SSH 1.5/V2.0 (secured telnet session)
- Management interface access filtering (SNMP, Web, Telnet)

OAM Features

IEEE 802.3ah link
IEEE 802.1ag Connectivity Fault Management (CFM)
ITU-T Y.1731 performance and throughput management

TEL: +886-3-5638888 FAX: +886-3-6686111
No.1, Creation Rd. III, Hsinchu Science Park, Taiwan 30077
sales@edge-core.com www.edge-core.com

TEL: +1 (949)-336-6801
20 Mason Irvine, CA 92618

Features

Management

Switch Management:
- CLI via console port or Telnet
- Web management
- SNMP v1, v2c, v3

Firmware and Configuration:
- Firmware upgrade via TFTP server
- Supports dual image
- Supports auto configuration provision
- Supports auto firmware upgrade
- Multiple configuration files
- Software download/upgrade via TFTP , HTTP, SFTP, SCP server
- Configuration file download/upgrade via TFTP , HTTP, SFTP, SCP server

RMON (groups 1, 2, 3 and 9)
BOOTP, DHCP client for IP address assignment
SNTP, NTP
IP clustering
Port mirroring
VLAN mirror
sFlow
Event/error log/syslog, remote log, SMTP, debug log
MIB I/II
LLDP (802.1ab)
Auto traffic control
DHCP: Relay, dynamic provision (via Option 66,67), DHCPINFO, SERVER
MAC-based mirror
ACL mirror
Remote port mirror (RSPAN)
DNS client, proxy
Link Layer Discovery Protocol (LLDP)
LLDP-MED (VoIP related)

L3 Features IPv4

Proxy ARP
Static unicast routes
RIP v1/v2
OSPF
BGP4
Equal cost multipath routing (ECMP)
PIM-DM
PIM-SM
IGMP v1/v2
IGMP v1/v2 proxy
IGMP v3
IGMP v3 proxy
VRRP
UDP Helper
DHCP Server

IPv6 static route

RIPng*
OSPFv3
MLD v1/v2
PIM-DM6
PIM-SM6
DHCPv6 server*

IPv6 Features

IPv4/IPv6 dual protocol stack
IPv6 address types (unicast/multicast only used internally)
ICMPv6 & ICMPv6 Redirect
IPv6 Path MTU Discovery
IPv6 Neighbor Discovery
- Duplicate address
- Static cache entry
- Address resolution
- Unreachable neighbor detection

Manual configuration
SNMP over IPv6
HTTP over IPv6
SSH over IPV6
Ping over IPv6
Traceroute over IPv6
IPv6 Telnet support
IPv6 DNS resolver
IPv6 Syslog
IPv6 SNTP
IPv6 sFlow
IPv6 TFTP (CLI not support)
Remote IPv6 Ping
DHCPv6 Snooping Table: 2K
ARP Table: 4K
MVRv6
IPv6 DiffServ
IPv6 ACL support
IPv6 Source Guard
RA Guard
IPv6 ND Snooping
MLD Snooping v1/v2

IEEE Standard

IEEE 802.1p priority tags
IEEE 802.1X port authentication
IEEE 802.3x Ethernet frame start and stop requests and timers used for flow control on full-duplex links
IEEE 802.3u CSMA/CD access method and physical layer specifications for 100BASE-TX Fast Ethernet
IEEE 802.3z CSMA/CD access method and physical layer specifications for 1000BASE Gigabit Ethernet
IEEE 802.1q Virtual LAN
IEEE 802.1d Spanning Tree Protocol
IEEE 802.3ad Link Aggregation Control Protocol
IEEE 802.1s Rapid Spanning Tree Protocol
IEEE 802.1w Multiple Spanning Tree Protocol

TEL: +886-3-5638888 FAX: +886-3-6686111
No.1, Creation Rd. III, Hsinchu Science Park, Taiwan 30077
sales@edge-core.com www.edge-core.com

TEL: +1 (949)-336-6801
20 Mason Irvine, CA 92618

ECS4620/ECS4510 Product Specifications

www.edge-core.com

Features

Regulatory

EMI
- CE Mark (EN55022 Class A)
- FCC Part 15 Class A
- EN 61000-3-2/3
- VCCI Class A

Immunity
- EN 61000-4-2/3/4/5/6/8/11

Safety
- UL 60950-1 & CSA 60950-1
- IEC 60950-1 & EN 60950-1
- UL/CUL

Country of Origin: Taiwan (TAA Compliant)

MTBF
- ECS4510-28P: 231829 hrs
- ECS4620-52P-2AC: 233125 hrs

Warranty

Please check www.edge-core.com for the warranty terms in your country.

For More Information

To find out more about Edgecore Networks Corporation products and solutions, visit www.edge-core.com.

About Edgecore Networks Corporation

Edgecore Networks Corporation is in the business of providing innovative network solutions. In the service provider network, in the data center or in the cloud, Edgecore Networks Corporation delivers the software and systems that transform the way the world connects. Edgecore Networks Corporation serves customers and partners worldwide. Additional information can be found at www.edge-core.com.

Edgecore Networks Corporation is a subsidiary of Accton Technology Corporation, the leading network ODM company. The Edgecore Data Center switches are developed and manufactured by Accton.

To purchase Edgecore Networks solutions, please contact your Edgecore Networks Corporation representatives at +886 3 563 8888 (HQ) or +1 (949)-336-6801 or authorized resellers.

Ordering Information

Optional Accessories	Product Description
ET4201-SX	1Gbps, Small Form Factor Pluggable (Distance: 500 m; Wavelength: 850 nm)
ET4201-LX	1Gbps, Small Form Factor Pluggable (Distance: 10 km; Wavelength: 1310 nm)
ET4201-LHX	1Gbps, Small Form Factor Pluggable (Distance: 40 km; Wavelength: 1310 nm)
ET4201-ZX	1Gbps, Small Form Factor Pluggable (Distance: 80 km; Wavelength: 1550 nm)
ET4202-SX	1Gbps, Small Form Factor Pluggable (Distance: 550 m; Wavelength: 850 nm, DDM)
ET4202-LX	1Gbps, Small Form Factor Pluggable (Distance: 10 km; Wavelength: 1310 nm, DDM)
ET5402-SR	10Gbps, Small Form Factor Pluggable (Distance: 300 m; Wavelength: 850 nm)
ET5402-LR	10Gbps, Small Form Factor Pluggable (Distance: 10 km; Wavelength: 1310 nm)
ET5402-ER	10Gbps, Small Form Factor Pluggable (Distance: 40 km; Wavelength: 1550 nm)
EM4510-10GSFP+	10G SFP+ Dual port module
ECView Pro	Network Management Software
Redundant Power Supply (RPS900W)	Redundant Power Supply, 1 connected switch with Output: -53.5 V/14.3 A + 11.3 V/ 10 A

TEL: +886-3-5638888 FAX: +886-3-6686111
No.1, Creation Rd. III, Hsinchu Science Park, Taiwan 30077
sales@edge-core.com www.edge-core.com

TEL: +1 (949)-336-6801
20 Mason Irvine, CA 92618