AS5512-54X
10GbE Data Center Switch
Bare-Metal Hardware

Product Overview

The Edgecore AS5512-54X switch meets the high-performance, availability, and network-scaling requirements of enterprise and cloud data centers. The AS5512-54X provides full line-rate switching at Layer 2 or Layer 3 across 48 x 10GbE ports and 6 x 40GbE uplinks. The switch can be deployed either as a Top-of-Rack switch, or as part of a 10GbE or 40GbE distributed spine, forming a non-blocking folded-Clos data center fabric. The switch is rack mountable in either a standard 19 inch rack, or with the Open Rack Switch Adapter in a 21 inch Open Rack.

The AS5512-54X hardware provides the high availability features required for data center operation, including; redundant, hot-swappable AC or -48 VDC PSUs or 12 VDC power input; fan tray with 4+1 redundant fans; and port-to-power or power-to-port airflow options. The AS5512-54X is an ideal Top-of-Rack switch for virtualized data centers, with its support of VXLAN and NVGRE tunneling functions in hardware.

Key Features and Benefits

- Cost-effective, bare-metal switch infrastructure for data center fabric.

- 48 x SFP+ switch ports, supporting 10GbE (DAC, 10GBASE-SR/LR) or 1GbE (1000BASE-T/SX/LX).

- 6 x 40 QSFP switch ports, each supporting 40GbE (DAC, 40GBASE-SR4/LR4) or 4 x 10GbE (DAC or fiber breakout cable).

- Port grouping of 4 x 10G ports into one 40G port at the physical layer for maximum bandwidth utilization, and for 300 m optical reach over MMF.

- Full line-rate Layer 2 or Layer 3.

- Flexible operation mode support: legacy/SDN mode and Hybrid mode

- Support VM Switching, VXLAN and NVGRE tunneling support in hardware for network virtualization.

- Rack mountable in standard 19" racks. Mountable in 21" Open Rack with the Open Rack Switch Adapter.

- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.

- All ports on front; PSUs, fan tray on rear.

- Hot-swappable, load sharing, redundant AC or -48 VDC PSUs. 12 VDC power input option.

- Hot swappable 4+1 redundant fans.

- Management: Ethernet and console RJ-45 ports; USB storage port.

- Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated loading of compatible independent SwitchOS software.

- Compatible with EstiNOS 2.0 and later version from EstiNet Technologies Inc.

- CPU and memory subsystem provided on factory-pluggable internal module for flexibility
  – AS5512-54X SKUs with Intel™ Atom® C2538 x86 processor, to allow switch to run scripts and applications built with standard Linux tools.

10GbE Data Center Switch

Features

Ports

Switch Ports:
- 48 x SFP+ each supporting 10GbE or 1GbE
- 6 x QSFP each supporting 40GbE or 4 x 10GbE

Management Ports on Front Panel:
- 1 x RJ-45 serial console
- 1 x RJ-45 100/1000BASE-T management
- 1 x USB Type A storage port

Key Components

Switch Silicon: Nephos Aries MT3257 720Gbps
AS5512-54X: Intel Atom C2538 quad-core 2.4GHz x86 processor
- 8 GB SODIMM DDR3 RAM with ECC
- 16 MB SPI Flash
- 8 GB NAND Flash

Performance

Wire Speed Forwarding: L2 and L3
Switching Capacity: 1.44 Tbps full-duplex
Forwarding Rate: 1 Bpps
Jumbo frames support up to 9K Bytes
Packet Buffer Size: 12 MB shared buffer pool
Subject to NOS:
- MAC Addresses: 256 K
- VLAN IDs: 4 K
- L3 Routes: IPv4 maximum 96 K, IPv6 maximum 56 K

LEDs

10G SFP+ Port LEDs: Link Speed, Link Status, Activity
40G QSFP Port LEDs: Link Status, Activity for 40G status
40G QSFP Breakout LEDs: set of 24 LEDs, 4 per QSFP port, show Link, Status, Activity 10G links with 4x10G breakout
Ethernet Management Port LED: Link Status, Activity
Console Port LED: Link Status
System LEDs: PSU1, PSU2, Diagnostic, Fans, Locator

Supported Optics and Cables

SFP+ Ports:
- 10GBASE-CR DAC: up to 5 m passive; up to 10 m active
- 10GBASE-SRL/SR: up to 100/300 m over OM3 MMF
- 10GBASE-LR: Up to 10 km over SMF 10GBASE-LR
- 1000BASE-SX, 1000BASE-LX, 100/1000BASE-T

QSFP Ports:
- 40GBASE-CR4 DAC; 0.5 m to 7 m; Passive and Active
- 40GBASE-CR4 DAC to 4 x SFP+ 10GBASE-CR DAC; up to 5 m passive; up to 10 m active
- 40GBASE-SR4: Up to 100 m over OM3 MMF, 150 m over OM4 MMF
- 40GBASE-SR4 to 6 x 10GBASE-SR: 100 m over OM3, 150 m OM4
- 40GBASE-LR4: Up to 10 km over SMF

Software

Switch is loaded with Open Network Install Environment (ONIE) software installer
Compatible with EstiNOS 2.0 and later version from EstiNet Technologies Inc

Physical and Environmental

Dimensions (WxDxH): 443 x 473 x 43.4 mm (17.4 x 18.6 x 1.71 in)
Weight: 8.5 kg (18.74 lb), with two installed PSU modules
Fans: hot-swappable 4+1 redundant fans
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Storage Temperature: -40°C to 70°C (-40°F to 158°F)
Operating Humidity: 5% to 95% non-condensing

Power

PSUs: 2 redundant, load-sharing, hot-swappable AC or -48 VDC
- Input Voltage: 90 to 264 VAC at 50-60 Hz. -48 to -72 VDC.
Input Current: Max 6 A @100/120 VAC, 3 A @200/240 VAC, 10 A @-72 VDC
PSU Efficiency: Up to 93% for AC PSUs
Power input option: 12 VDC

Regulatory

EMI
- CE Mark
- EN55022 Class A
- EN55024
- EN61000-3-2
- EN61000-3-3
- FCC Part 15 Class A
- VCCI

Safety
- CB
- UL/CUL

Environmental:
- Temperature: IEC 68-2-14
- Vibration: IEC 68-2-36, IEC 68-2-6
- Shock: IEC 68-2-29
- RoHS-6 Compliant

Acoustic Noise Level: Under 60dB in 40°C

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.

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