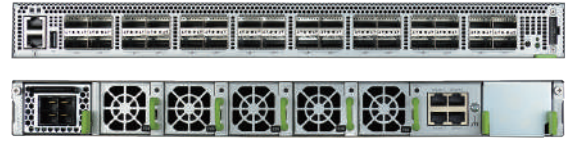


Wedge100S-32X

100GbE Data Center Switch



Product Overview

The Edgecore Wedge100S-32X is a commercial product based on Facebook’s Wedge100S design. Facebook designed the Wedge100S as a 32 x 100 GbE top-of-rack switch optimized for web-scale data centers, and submitted the design to the Open Compute Project. Edgecore’s parent company, Accton Technology, performed the design validation for Facebook and manufactures the Wedge100S for Facebook’s deployment. Edgecore now offers the Wedge100S as a fully supported commercial product to enable network operators to increase capacity with 25 G and 100 G networking.

The Wedge100S switch provides 32 QSFP28 ports that can each run at 100 GbE/40 GbE, or as 4 x 25 GbE/ 4 x 10 GbE/2 x 50 GbE through breakout cables. The Wedge100S design is based on the Broadcom BCM56960 Tomahawk 3.2 Tbps switch silicon. The Wedge CPU subsystem is the COM-E CPU module, based on the Intel Xeon Broadwell-DE D1508 processor. The use of this standard CPU system, coupled with the BMC (Baseboard Management Controller) on the Wedge main board, enables the Wedge100S to be provisioned and managed using similar tools used by data center operators for their server and application environments.

Key Features and Benefits

- Bare-metal TOR switch for data center fabric.
- Open hardware design contributed by Facebook to the Open Compute Project.
- Compatible with a 19” rack, or a 21” Open Rack using the Open Rack Switch Adapter.
- 32 x QSFP28 ports in a compact 1RU form factor.
- Each port supports 1 x 100 GbE/40 GbE, or 4 x 25 GbE/4 x 10 GbE/2 x 50 GbE via breakout cables.
- Line-rate Layer 2 or Layer 3 forwarding of 3.2 Tbps full duplex.
- Hot-swappable, load-sharing, redundant AC PSUs or 12 V DC PSUs.
- 4+1 redundant, hot-swappable fans.
- Front-to-back airflow.
- Console, management, and USB ports on switch ports side.
- Hardware switch pre-loaded with Open Network Install Environment (ONIE) for automated loading of compatible open source and commercial NOS offerings.
- Compatible with Open Network Linux (ONL), an open-source, OCP reference NOS.
- Compatible with open-source FBOSS Agent software.

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Features

Ports

Switch Ports:
32 QSFP28 fixed ports:
100 GbE/40 GbE or 4 x 25 GbE/4 x 10 GbE/ 2 x 50 GbE per port
Total Switch Capacity: 32 x 100 GbE
Management Ports (on port side):
1 x RJ-45 serial console port to BMC
1 x RJ-45 100/1000BASE-T management port
1 x USB Type A storage port
Facebook-specific debug port
Management Ports (on power side):
1 x RJ-45 100/1000BASE-T management port
Facebook-specific ports

Key Components

Switch Silicon: Broadcom BCM56960 Tomahawk 3.2 Tbps
CPU Module: COM-E CPU module based on Intel
Broadwell-DE D1508 Processor
8GB SO-DIMM DDR4 2400MHz with ECC
m.2 SSD 128GB
TPM Module

Performance

Switching Capacity: 3.2 Tbps full duplex
Forwarding Rate: 4.7 Bpps
Jumbo frames support up to 9216 Bytes
Packet Buffer Size: 16 MB integrated packet buffer
Subject to NOS:
MAC Addresses: 8K min./136K max.
VLAN IDs: 4K
IPv4: 8K min./72K max. host entries; 16K LPM entries with
TCAM-only mode
IPv6: 4K//36K max. host entries; IPv6/64=8K TCAM-only mode
Support Trusted Platform Module (TPM)

LEDs

100G QSFP28 Ports: 2 LEDs per port for speed, activity
System LEDs: Power, Heartbeat
Fan LEDs: on each fan module indicating status

Supported Optics and Cables

40GBASE-CR4 DAC; 0.5 m to 3 m; passive and active
40GBASE-CR4 to 4 x SFP+ 10GBASE-CR DAC; 0.5 to 3 m
40GBASE-SR4: 100 m over OM3 MMF, 150 m OM4 MMF
40GBASE-SR4 to 4 x 10GBASE-SR: 100 m OM3, 150 m OM4
40GBASE-LR4: 10 km over SMF
100GBASE-CR4 DAC; 0.5 m to 3 m; passive and active
100GBASE-CR4 to 4 x SFP28 25G DAC; 0.5 to 3 m
100GBASE-SR4: 100 m over OM3 MMF, 150 m OM4 MMF
100GBASE-LR4: 10 km over SMF
Cat 5/6 cables for console and management ports

Physical

Dimensions (WxDxH): 44 x 50.7 x 4.4 cm (17.32 x 19.97 x 1.732 in)
Weight: 8.8 kg (19.56 lb)
Fans: 4+1 redundant, hot-swappable
Front-to-back airflow direction

Environmental

Operating Temperature: 0°C to 45°C (32°F to 113°F)
Storage Temperature: -40°C to 70°C (-40°F to 158°F)
Operating Humidity: 10% to 90% non-condensing
Storage Humidity: 10% to 90% non-condensing

Power

PSUs: 2 redundant, load-sharing, hot-swappable AC or -54 VDC
Input Voltage: 120 to 240 VAC at 50-60 Hz. 40 to 72 VDC.
PSU Efficiency: Up to 93% for AC PSUs
Power Input Option: 12 VDC
Typical Power Consumption: 436 W

Regulatory

EMI
CE Mark
EN55022 Class A
EN55024
EN61000-3-2
EN61000-3-3
FCC Part 15 Class A
Safety
CB
UL/CUL
Environmental
Temperature: IEC 68-2-14
Vibration: IEC 68-2-36, IEC 68-2-6
Shock: 68-2-29
Drop: ISTA 2A
RoHS-6 Compliant

Software

Switch is loaded with Diagnostics
Compatible with FBOSS Agent open-source software from OCP
Compatible with the following NOS options:
Open Network Linux, the open-source, OCP reference NOS

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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Ordering Information

Model Number	Description
Wedge100S-32X-O-12V-F	12V power supply
Wedge100S-32X-O-AC-F-US	US SKU power cord of Wedge
Wedge100S-32X-O-AC-F-EU	EU SKU power cord of Wedge
Wedge100S-32X-O-AC-F-UK	UK SKU power cord of Wedge
Wedge100S-32X-O-AC-F-JP	JP SKU power cord of Wedge
ORSA-1U	Open Rack Switch Adapter for Open Rack installation