BES-53248 Ethernet Storage Switch

IP Clustering for the Modern Data Center

Operational Efficiency

The BES-53248 Ethernet Storage Switches are built for increased "pay-as-you-grow" scalability. Organizations can start with 16 SFP28 (10/25GbE) and 2 QSFP28 ports and scale up to 48 SFP28 and 8 QSFP28 with Ports on Demand, all in an efficient 1U package.

The Broadcom® industry-leading Enterprise Fabric Operating System (EFOS) also delivers production-ready networking software customized for IP storage solutions. Broadcom's extensive experience provides users with a couple cornerstone attributes:

- Extensive software suite of advanced networking features and protocols necessary to develop in the modern storage infrastructure for data center applications.
- Optimized for quick and easy deployments by tightly integrating with the hardware.
- Extensive quality assurance testing to verify functional and system performance to accommodate the ever-increasing demands on network devices.

EFOS software is suited for any network infrastructure device using leading-edge applications that require detailed packet inspection or dissection. For example these switches are designed to work in clusters from two to 24 nodes, plus Metro-Cluster deployments using ONTAP 9.6 and later.

Application Responsiveness

The BES-53248 Ethernet Storage Switch is also delivering flexible performance to support growing and dynamic workloads with support for 10/25/40 and 100 Gb Ethernet.

In addition to the ultra-low latency, the switch provides a total switching capacity of 4Tbps. As a result, the BES-53248 Ethernet Storage Switch provides both elegant scalability and powerful performance to stay ahead of the demands of IP flash storage workloads.

Availability & Management

The BES-53248 Ethernet Storage Switch is also designed for high availability with its two hot-swap redundant power supplies and six hot-swap redundant fan trays. On top of that the EFOS software APIs are designed to be carefully abstracted without compromising performance.

The layered architecture allows system designers to use varying combinations of modules within the EFOS software and to build customized applications to collaborate with the software at any level.

Furthermore, the existing architectural components simplify the extension of the existing module components or for the addition of new functionality to the system.

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Specifications

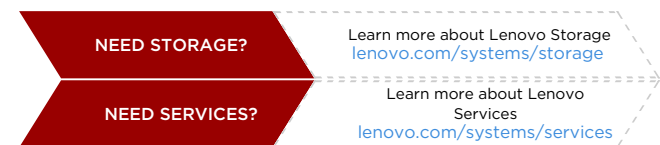| Model	Base model with 16x SFP28 (10/25GbE) and 2x QSFP28 ports active (Back-to-Front airflow)
Physical ports	• Max. Ports: 48x SFP28 (10/25GbE) and 8x QSFP28 ports (10/40 or 25/50/100GbE) • Management Port: Out-of-band management port (RJ-45, 10/100/1000Base-T) • Console Port: 1x RJ-45 console port & 1x USB 2.0 port
Port on Demand Options	• Port License E-key activates up to 8 SFP+ additional ports • Port License E-key activates up to 6 QSFP+ additional ports • Port License E-key activates up to 8 SFP+ and 2 QSFP+ additional ports
Supported Optics and Cables	• DAC cable: 10 GbE SFP+, 25 GbE SFP28, 40 GbE QSFP+, and 100 GbE QSFP28; multiple lengths available • 10G optic (SFP+, LC, 850nm, MMF): 10GBASE-SR & (SFP+, LC, 1310nm, SMF): 10GBASE-LR • 25G optic (SFP28, LC, 850nm, MMF): 25GBASE-SR4 • 40G optic (QSFP+, MPO, 850nm, MMF): 40GBASE-eSR4; • 100G optic (QSFP28, MPO, 850nm, MMF): 100GBASE-SR4
Performance	• Switching capacity: 4Tbps • Maximum forwarding rate: billion packets per second (Bpps) • Latency: Ultra-low latency • MAC: Broadcom Trident3 BCM56873
EFOS Networking OS	• OS: Linux based • Packet Processing: L2, L3 v4/v6, MLAG, ECMP, ACLs • Storage Flows: PFC, ECN, Lossless Traffic Class, DCTCP.
Electrical	Power requirement: 100~240VAC, 50/60Hz
Rack-mount rail kits	4-post rail kit
Enclosure	Back-to-front airflow (port-side exhaust); Dimension (HxWxD): 43mm (1U) x 440 x 508mm
Power & Cooling supply	Hot-swap redundant power supplies (1 + 1) & Hot-swappable fan tray (4 + 2) standard
Warranty	1-year hardware and firmware/EFOS (upgrades available)

Why Lenovo

Lenovo is the leading provider of x86 systems for the data center. The portfolio includes rack, tower, blade, dense and converged systems, and supports enterprise class performance, reliability and security.

Lenovo also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle.

For More Information

To learn more about the BES-53248 Ethernet Storage Switch, contact your Lenovo representative or Business Partner, or visit lenovo.com/systems/servers. For technical details, refer to the Lenovo IP SAN Switch Product Guide.

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