Pluribus Freedom 9572L-V Switch

High-Performance Open Network Switch with Advanced Network Services for Leaf and Top of Rack Deployments with up to 48 1/10/25 Gigabit Ethernet Interfaces and 6x 40/100 Gigabit Ethernet Interfaces

Highlights

- Compact 1 RU standards based open network switch built on ONIE
- Deployment-proven Broadcom StrataXGS® Tomahawk+ switching ASIC
- Wire-speed, sustained performance and throughput for all configurations
- Large-scale VXLAN configurations supported in hardware
- Redundant power and fans to support high-availability operations
- Hot-swappable, load-sharing, redundant AC or -48V DC or 12V DC PSUs
- Reversible airflow supports hot-aisle and cold-aisle placement

Product Overview

The Pluribus Freedom™ 9572L-V switch is a best-in-class, programmable open network switch that provides standards-based networking to meet the stringent requirements of high-performance enterprise and service provider data centers. Built on the deployment proven Broadcom StrataXGS® Tomahawk+ switching ASIC, the Pluribus Freedom 9572L-V switch is optimized to deliver the advanced networking and service capabilities of the Pluribus Netvisor® ONE operating system (OS). The Pluribus Freedom 9572L-V switch is built with the Open Network Install Environment (ONIE) to support any compatible network operating system for maximum flexibility and adaptability to future data center networking requirements.

The Pluribus Freedom 9572L-V switch delivers wire-speed Layer 2 and Layer 3 switching and routing with sustained packet forwarding performance of 3.6 terabits per second (Tbps) full duplex and 2.6 billion packets per second (Bpps) throughput with all network services enabled. The Pluribus Freedom 9572L-V switch provides 48 x2 5 GbE SFP28 with 6x100 GbE QSFP28, supporting up to 48 x 10/25 GbE, 6 x 40/100 GbE connections. It can be deployed as a TOR switch supporting 10/25 GbE to servers with 40/100 GbE uplinks, or as a spine switch supporting 40/100 GbE spine interconnects.

The platform is built for high-availability environments with redundant and hot swappable power and fan units. The switch is highly power efficient and is architected for high-availability environments with redundant and hot-swappable power and fan units. The compact design of the Pluribus Freedom 9572L-V switch minimizes its deployment footprint, requires less power and lowers cooling requirements, which reduces the cost of data center network operations.
System Highlights

- Wire-speed Layer 2 and Layer 3 forwarding up to 3.6 Tbps full duplex and 2.6 Bpps
- Deploy as Top-of-Rack switch supporting 10 or 25 GbE to servers, with 40 or 100 GbE uplink
- Deploy as spine switch supporting 10, 25, 40, or 100 GbE ToR and spine interconnects
- 48 x 25G SFP28 plus 6 x 100G QSFP28 ports, each SFP28 supporting 1 x 10 or 25 GbE and each QSFP28 supporting 1 x 100 GbE or 1 x 40 GbE
- Broadcom Tomahawk+ switching ASIC
- Intel Atom® C2538 quad-core 2.4 Ghz x86 processor
- 22 MB integrated packet buffer
- VXLAN services supported in hardware at wire speed
- All ports on front; PSUs and fans accessible from rear
- Hot-swappable, load-sharing, redundant AC or -48V DC or 12V DC PSUs
- 5+1 redundant, hot-swappable fan modules
- Configurable hot/cold aisle with port-to-power and power-to-port airflow
- 1 RU compact form factor mountable in either a standard 19” or 21” rack

Adaptive Cloud Fabric

The Pluribus Adaptive Cloud Fabric (ACF) empowers organizations to speed up their transition to a completely automated network that supports software defined data center and cloud automation principles with a simpler non disruptive and more transparent architecture that makes it easier to deliver, manage and secure service delivery. The ACF can be deployed across a single data center, or geographically distributed to seamlessly interconnect multiple of data centers or aggregate the campus edge over existing core WAN infrastructure.

Netvisor ONE Operating System

Enabling simple, plug-and-play deployments, the Pluribus Freedom 9572L-V switch is delivered as an integrated, turnkey solution that is shipped pre-configured with the Pluribus Netvisor ONE OS installed on the Open Network Install Environment foundation. Pluribus Netvisor ONE is a virtualized network operating system (NOS) that provides a best-in-class Layer 2 and Layer 3 networking foundation and optionally licensed advanced network services such as VXLAN, the distributed Adaptive Cloud Fabric™ architecture and embedded network performance monitoring telemetry.

Netvisor ONE Licensing Options

- **Netvisor Enterprise** — Included with the switch. It supports Layer 2 and Layer 3 switching and routing functionality with all standard networking protocols and high-availability features. Netvisor Fabric — It adds VXLAN, telemetry, Adaptive Cloud Fabric and security and segmentation capabilities (not included with the switch).
- **vNET License** — It supports multi-tenant and network/traffic segmentation requirements. Licensed one per switch. vNET Manager capabilities require Virtual Netvisor (vNV) to be deployed (not included with the switch).
- **VirtualWire+™ License** — It includes Fabric license and enables VirtualWire capabilities (not included with the switch).
- **VirtualWire™ License** — It enables VirtualWire capabilities in standalone L1 VirtualWire mode (not included with the switch).

Warranty

The Pluribus Netvisor® ONE OS and Pluribus Freedom™ Open Networking Switches are backed by a 90-Day limited warranty and access to technical support. Pluribus FreedomCare™ extended support options provide for extended support coverage, which includes advanced Product replacements, software updates and upgrades and access to 24x7 technical support. Contact Pluribus Networks or a Pluribus Networks authorized reseller for details on advanced support options.
Specifications
Pluribus Freedom 9572L-V Switch

Switching Engine
- Broadcom BCM56967 Tomahawk+ No PHVs, No Retimers

Onboard CPU
- Intel Atom® C2538 quad-core 2.4 GHz x86 processor
- DDR3: 8 GB x 2 SO-DIMM with ECC
- SPI NOR Flash: 8 MB x 2
- mSATA: 32 GB MLC

Physical and Environmental
- Dimensions (WxDxH): 43.84 x 47.3 x 4.35 cm (17.26 x 18.62 x 1.73 in)
- Weight: 9.43 kg (20.78 lb.), with two installed PSUs
- Fans: 5+1 redundant, hot-swappable
- 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: 5% to 95% non-condensing

Software
- Switch is loaded with Open Network Environment Install Environment (ONIE) software installer
- Pluribus Netvisor ONE OS - based upon options ordered

Interface Ports
Network Interfaces
- 48 x 25G SFP28 plus 6 x 100G QSFP28 ports:
  - Each SFP28 supports 1 x 10 G or 25 GbE
  - Each QSFP28 supports 1x40/100 GbE or 4 x 25 GbE or 4 x 10 GbE per port using splitter cables

Management Ports
- 1 x RJ-45 serial console
- 1 x RJ-45 100/1000BASE-T management
- 1 x USB Type A storage

Performance
- Switching Capacity: 3.6 Tbpps full duplex
- Forwarding Rate: 2.6 Bpps
- Jumbo frames support up to 9398 Bytes
- Packet Buffer Size: 22 MB integrated packet buffer

Hardware Capacity
- Please refer to the Pluribus Netvisor® ONE OS data sheet

Operational
- PSUs: 2 redundant, load-sharing, hot-swappable AC or -48 VDC
- Input Voltage: 90 to 240 VAC at 50-60 Hz, -36 to -72 VDC
- PSU Efficiency: Up to 93% for AC PSUs
- Power input option: 12 VDC
- Max Power: 584 Watts
- Typical Power: 509 Watts
- Hot-swappable 5+1 redundant fan modules
- Supports both hot-aisle and cold-aisle placement with reversible airflow

LEDs
- 10G SFP+ Port LEDs: Link Speed, Link Status, Activity
- 25G SFP28 Port LEDs: Link Status, Activity for 25G status
- 100G QSFP28 Port LEDs: Link Status, Activity for 100G status
- 100G QSFP28 Breakout LEDs: show Link, Status, Activity with 4 x 25G breakout
- Ethernet Management Port LED: Link Status, Activity
- System LEDs: Diagnostic, Locator, PSU and Fan Status

Regulatory
EMI
- CE Mark
- EN55032 Class A
- EN55024
- EN61000-3-2
- EN61000-3-3
- FCC Part 15 Subpart B Class A
- VCCI Class A
- CCC

Safety
- CB UL/CUL
- CCC
- BSMI

Environmental
- NEBS GR63-CORE (Pre-test)
- RoHS 2.0 Compliant
- Pluribus Netvisor ONE OS - based upon options ordered

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Pluribus Networks, Inc.
www.pluribusnetworks.com