

Pluribus Freedom 9476-V Switch

High-Performance Open Network Switch with Advanced Network Services for Leaf and Top of Rack Deployments with up to 48 25 Gigabit Ethernet SFP28 Interfaces and 8x 100 Gigabit Ethernet QSFP28 Interfaces

Highlights

- Compact 1 RU standards-based open network switch with ONIE software installer
- Optimized to support Netvisor OS advanced services
- Deployment-proven Broadcom Trident 3 switching ASIC
- Intel Xeon CPU D-1518 @ 2.20GHz, 8 cores
- Wire-speed, sustained performance and throughput for all configurations
- Highly scalable VXLAN routing, bridging and gateway capabilities supported in hardware
- Redundant power and fans to support high-availability operations
- Reversible airflow supports hot-aisle and cold-aisle placement



Product Overview

The Pluribus Freedom™ 9476-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® Trident 3 switching ASIC, the Pluribus Freedom 9476-V switch is optimized to deliver the advanced networking and service capabilities of the Pluribus Netvisor® ONE operating system (OS). The Pluribus Freedom 9476-V switch is Open Compute Project (OCP) Accepted. The switch comes pre-configured with the Netvisor ONE operating system but 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 9476-V switch delivers wire-speed Layer 2 and Layer 3 switching and routing with sustained packet forwarding performance of 4 terabits per second (Tbps) and 1 billion packets per second (Bpps) throughput with all network services enabled.

The Pluribus Freedom 9476-V switch provides 48 SFP28 server-facing ports that each support either 25G or 10G connections¹, and 8 QSFP28 ports that can each be configured as either additional 4x 10G/4x 25G ports or 1x 40G/1x 100G for uplink connections, making it ideal for leaf or ToR deployments.

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 9476-V switch minimizes its deployment footprint, requires less power and lowers cooling requirements, which reduces the cost of data center network operations.

¹ There are specific port templates providing the ability to mix and match 1G/10G and 25G ports. Refer to the software release notes for specific details.

System Highlights

- Wire-speed Layer 2 and Layer 3 forwarding up to 4 Tbps and 1 Bpps
- 48 SFP28 ports, each able to support either 1x 25G, 1x 10G or 1x 1G (up to 48 total ports with specific port templates)
- 8 QSFP28 ports for 40G/100G, and 7 of them are configurable to support 1x 100G or 1x 40G as uplink ports or 4x 25G or 4x 10G ports
- Broadcom Trident 3 switching ASIC
- VXLAN services supported in hardware at wire speed
- 32 MB shared packet buffer with Dynamic Buffer Allocation
- Intel Xeon CPU D-1518 @ 2.20GHz, 8 cores
- All ports on front; PSUs and fans accessible from rear
- Dual redundant, load-sharing, hot-swappable 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 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 9476-V switch is delivered as an integrated, turnkey solution that is shipped pre-configured with the Pluribus Netvisor ONE OS installed on the ONIE foundation.

Pluribus Netvisor ONE is a Linux-based, containerized network operating system (NOS) that provides a best-in-class Layer 2 and Layer 3 networking foundation, Netvisor also offers the optionally licensed advanced network fabric overlay services of the Adaptive Cloud Fabric™ with embedded SDN-automation for underlay and overlay networking along with 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 Freedom 9476-V switch is backed by a 12-month limited hardware warranty. Multiple extended support options, including advanced replacement and 24x7 on-demand support services, are available. Contact Pluribus Networks or a Pluribus Networks authorized reseller for complete details.

Specifications

Pluribus Freedom 9476-V Switch

Switching Engine

- Broadcom Trident 3 (BCM56873) ASIC

Onboard CPU/NFV Engine

- Intel Xeon CPU D-1518 @ quad-core 2.20GHz
- 16 GB RAM SO-DIMM
- 64 GB SSD MLC

Software

- Switch is loaded with ONIE software installer
- Pre-loaded with current shipping version of Pluribus Netvisor ONE OS based upon options ordered
- Supports qualified open networking OS software from any vendor

Interface Ports

Network Interfaced

- 48 x SFP28 —configurable as either 48x25G or 36x25G + 12x10G/1G
- 8 x QSFP28 – each port configurable as 1x 40G or 1x 100G, or up to 7 ports configurable as 4x 10G or 4x 25G

Management Ports

- 1x RJ45 serial console
- 1x RJ-45 100/1000BASE-T management
- 1x USB Type A storage

Performance

- Wire-speed L2 and L3 packet forwarding
- Switching capacity: 4 Tbps
- Forwarding rate: 1 Bpps
- Supports jumbo frames up to 9216 bytes
- 32 MB shared packet buffer

Hardware Capacity

- VXLAN supported in hardware
- 224K MAC addresses
- 80K IPv4 host routes
- 32K IPv4 LPM routes
- VLAN IDs: 4K

Operational

- 2x redundant, load-sharing, hot-swappable PSUs
- Input voltage: 90 to 240 VAC at 50-60 Hz
- PSU efficiency up to 93%
- 550W maximum power (without pluggable optics)
- Hot-swappable 5+1 redundant fan modules
- Supports both hot-aisle and cold-aisle placement with reversible airflow

Physical and Environmental

- 1RU, mountable in either 19" or 21" racks
- Dimension: (WxDxH) 43.84 x 53.6 x 4.35cm (17.26 x 21.1 x 1.71in)
- Weight: 10 kg (22.05 lbs.), with two PSU modules installed
- Storage Temperature: -40°C to 70°C (-40°F to 158°F)
- Operating Temperature: 0°C to 45°C (32°F to 113°F)
- Operating Humidity: 5% to 95% non-condensing

LEDs

- SFP28 Port LEDs: link speed, status, activity
- QSFP28 Port LEDs: link speed, Status, activity
- Ethernet Management Port: status, activity
- System: diagnostic, locator, PSU and fan status

Regulatory

EMI

- CE Mark
- EN55022 Class A
- EN55024
- EN6100-3-2
- EN6100-3-3

FCC Part 15 Subpart B Class A

VCCI Class A

Safety

- CB
- UL/CUL
- CCC
- MSMI

Environmental

- NEBS GR63-CORE (Pre-test)

RoHS-2.0 compliant

