

Pluribus Freedom 9480-V Switch

High-Performance Open Network Switch with Advanced Network Services for Leaf and Top of Rack Deployments with up to 48xSFP28 + 8xQSFP28 ports, and each QSFP28 Port Can Be Configured as 4x25GbE, 1x40GbE, or 4x10GbE by Using DAC Breakout Cables

Highlights

- Compact 1 RU standards-based open network switch with ONIE software installer
- Optimized to support Netvisor ONE OS advanced services
- Deployment-proven Broadcom Trident3 switching ASIC
- Intel® Xeon® D-1518 processor quad-core 2.2 GHz
- Wire-speed, sustained performance, and throughput for all configurations
- Highly scalable VXLAN routing, bridging and gateway capabilities supported in hardware
- Hot-swappable, load-sharing, redundant AC or -48V DC PSUs
- Redundant power and fans to support high-availability operations
- Reversible airflow supports hot-aisle and cold-aisle placement



Product Overview

The Pluribus Freedom™ 9480-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 9480-V switch is optimized to deliver the advanced networking and service capabilities of the Pluribus Netvisor® ONE operating system (OS). The Pluribus Freedom 9480-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 9480-V switch delivers wire-speed Layer 2 and Layer 3 switching and routing with sustained packet forwarding performance of 4Tbps full duplex and 2.9Bpps throughput with all network services enabled.

The Pluribus Freedom 9480-V switch provides 48x25GbE SFP28 plus 8x100GbE QSFP28 ports. Each SFP28 supports 1x10GbE or 25GbE¹. Each QSFP28 supports 1x40/100GbE or 4x25GbE or 4x10GbE per port using breakout cable, 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 9480-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 Netvisor ONE software release notes for specific details.

System Highlights

- Wire-speed Layer 2 and Layer 3 forwarding up to 4Tbps full duplex and 2.9Bpps
- Deploy as Top-of-Rack switch supporting 10 or 25GbE to servers, with 40GbE or 100GbE uplinks²
- 48xSFP28 + 8xQSFP28 switch ports, each QSFP28 supporting 1x100GbE or 1x40GbE, or via breakout cables, 4x25GbE or 4x10GbE
- Broadcom Trident3 switching ASIC
- VXLAN services supported in hardware at wire speed
- 32MB integrated packet buffer
- Intel® Xeon® D-1518 processor quad-core 2.2GHz
- All ports on front; PSUs and fans accessible from rear
- Hot-swappable, load-sharing, redundant AC or -48V 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

Unified Cloud Fabric™

The Unified Cloud Fabric (UCF) delivers the benefits of hyperscale agility, simplicity and availability to data centers, unified cloud networks and many other networking applications. The UCF unites networks across multiple dimensions: switches and servers, overlay and underlay networks, and distributed clouds. Powered by the Linux-based Netvisor® ONE operating system, the UCF solution features fabric-wide provisioning from any single switch in the fabric, resulting in massive service delivery speed-up and error reduction. This automation is achieved in a distributed, controller-less fashion, without the need for costly and complex software-defined networking appliances. The UCF solution offers a rich set of Layer 2 and Layer 3 overlay services to allow network architects and engineers to solve virtually any networking problem with agility in the overlay while maintaining a highly stable and scalable underlay. When deployed in servers with data processing units (DPUs), the fabric provides even finger-grained microsegmentation with distributed firewalls at the individual application level.

Netvisor ONE Operating System

Enabling simple, plug-and-play deployments, the Pluribus Freedom 9372-T 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 Unified Cloud Fabric™ architecture and embedded network performance monitoring telemetry.

Netvisor ONE Licensing Options

- **Netvisor ONE Enterprise Edition** — This license supports Layer 2 and Layer 3 switching and routing functionality with all standard networking protocols and high-availability features.
- **Netvisor ONE Fabric Edition** — This license supports VXLAN, telemetry, Unified Cloud Fabric and security and segmentation capabilities (not included with the switch).
- **vNET** — This license 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+™** — This license includes the Fabric license and enables VirtualWire capabilities (not included with the switch).
- **VirtualWire™** — This license enables VirtualWire capabilities in standalone Layer 1 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.

² Please refer to the Netvisor ONE software release notes for the supported port speeds and configurations.

Specifications

Pluribus Freedom 9480-V

Switching Engine

- Broadcom BCM56873 Trident3 4Tbps full duplex No PHYs

Onboard CPU

- Intel® Xeon® D-1518 processor quad-core 2.2GHz
- DDR4: SO-DIMM 8GBx2
- SPI Flash: 16MBx2
- m.2 SSD: 64GB MLC

Software

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

Interface Ports

Switch Ports

- 48x25GbE SFP28 plus 8x100GbE QSFP28 ports³:
 - Each SFP28 supports 1x10GbE or 25GbE
 - Each QSFP28 supports 1x40/100GbE or 4x25GbE or 4x10GbE per port using breakout cables

Note: When a DAC cable is used in a topology, a link issue may be encountered if the CR4 Auto-Negotiation/Link Training does not turn on. This can be solved by manually enabling CR4 Auto-Negotiation/Link Training.

Management Ports

- 1xRJ-45 serial console
- 1xRJ-45 100/1000BASE-T management
- 1xUSB Type A storage

Performance

- Switching capacity: 4Tbps full duplex
- Forwarding rate: 2.9Bpps
- Jumbo frames support up to 9398 bytes
- Packet buffer size: 32MB 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
- AC input range: 100–240 VAC
- DC input range: -36~–72 VDC
- Redundant, current sharing, PG
- Max power: 550 Watts
- Typical power: 465 Watts

Physical and Environmental

- Dimensions (WxDxH): 43.84 x 53.6 x 4.35 cm (17.26 x 21.1 x 1.71 in.)
- Weight: 10 kg (22.05 lb.), with two installed PSUs
- 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

LEDs

- SFP28 Port LEDs: Link Status, Activity, Rate
- QSFP28 Port LEDs: Link Status, Activity, Rate
- 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 Title 47, Part 15, Subpart B Class A
- VCCI Class A
- CCC
- BSMI

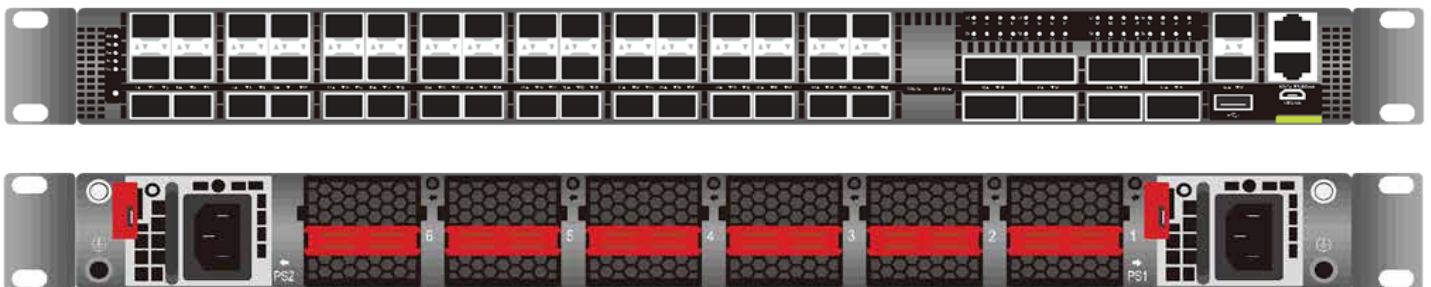
Safety

- CB
- UL/CUL
- CCC
- BSMI

Environmental

- NEBS GR63-CORE (Pre-test)

RoHS 2.0 Compliant



³ Please refer to the Netvisor ONE software release notes for the supported port speeds and configurations.