

# Pluribus Freedom 9572L-V Switch

High-Performance Open Network Switch with Advanced Network Services for Leaf and Top of Rack Deployments with up to 48x1/10/25GbE Interfaces and 6x40/100GbE 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 3.6Tbps full duplex and 2.6Bpps throughput with all network services enabled. The Pluribus Freedom 9572L-V switch provides 48x25GbE SFP28 with 6x100GbE QSFP28, supporting up to 48x10/25GbE, 6x40/100GbE connections. It can be deployed as a TOR switch supporting 10/25GbE to servers with 40/100GbE uplinks, or as a spine switch supporting 40/100GbE 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 3.6Tbps full duplex and 2.6Bpps
- Deploy as Top-of-Rack switch supporting 10 or 25GbE to servers, with 40 or 100GbE uplink
- Deploy as spine switch supporting 10, 25, 40, or 100GbE ToR and spine interconnects
- 48x25G SFP28 plus 6x100G QSFP28 ports, each SFP28 supporting 1x10 or 25GbE and each QSFP28 supporting 1x100GbE or 1x40GbE
- Broadcom Tomahawk+ switching ASIC
- Intel Atom® C2538 quad-core 2.4GHz x86 processor
- 22MB 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

## 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.

# Specifications

## Pluribus Freedom 9572L-V Switch

### Switching Engine

- Broadcom BCM56967 Tomahawk+ No PHYs, No Retimers

### Onboard CPU

- Intel Atom® C2538 quad-core 2.4GHz x86 processor
- DDR3: 8GBx2 SO-DIMM with ECC
- SPI NOR Flash: 8MBx2
- mSATA: 32GB iSLC

### 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

- 48x25G SFP28 plus 6x100G QSFP28 ports:
  - Each SFP28 supports 1x10GbE or 25GbE
  - Each QSFP28 supports 1x40/100GbE or 4x25GbE or 4x10GbE per port using splitter cables

#### Management Ports

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

### Performance

- Switching capacity: 3.6Tbps full duplex
- Forwarding rate: 2.6Bpps
- Jumbo frames support up to 9398 bytes
- Packet buffer size: 22MB 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

### 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

### 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

