The Pluribus Freedom™ 9664-C switch is an advanced best-in-class, programmable open network platform that provides high-capacity, standards-based networking to stay ahead of evolving service demands driven by cloud requirements for enterprise and service provider data centers. Built on the deployment-proven Broadcom StrataXGS® Tomahawk switching ASIC, the Pluribus Freedom 9664-C is optimized to deliver the comprehensive advanced services of the Pluribus Netvisor® ONE Operating System (OS). The Pluribus Freedom 9664-C is Open Compute Project (OCP) compliant and is built with the Open Network Install Environment (ONIE) to support any compatible network operating system for maximum flexibility and adaptability to meet future data center networking requirements.

The platform delivers wire-speed Layer 2 and Layer 3 switching and routing with sustained packet forwarding performance of 12.8 Terabits per second (Tbps) full duplex and 4.2 Billion packets per second (Bpps) throughput, even when complex, process-intensive services are enabled. The switch provides 64 ultra-low-latency QSFP28 FlexPorts that can support high-density 100, 40, 25 and 10 Gigabit Ethernet connections. The platform is highly power efficient and is architected for high-availability environments with redundant and hot-swappable power and fan units. To meet diverse environmental requirements, the Pluribus Freedom 9664-C switch offers airflow flexibility to support hot- or cold-aisle deployments.

The powerful next-generation switch can be deployed as a top-of-rack (ToR) or as a spine, enabling scale-out architectures and eliminating the need for costly, oversized chassis switches in the data center. Its simplicity empowers network operators to build a highly flexible architecture that can scale capacity horizontally to optimize performance and enhance agility to support growing application traffic on a pay-as-you-grow basis. The compact design of the Pluribus Freedom 9664-C switch dramatically reduces deployment footprint and requires less power and lower cooling, which immediately reduces the cost of data center network operations.
System Highlights

- Wire-speed, full-duplex across all ports, Layer 2 and Layer 3 forwarding up to 12.8 Tbps full duplex and 9.5 Bpps
- 64 QSFP28 FlexPorts — each supporting 1x 100/40G, or 4x 25/10G ports for a total of 128 ports
- Each port supports single-mode and multi-mode fibers (duplex or MPO/MTP), as well as copper transceivers or cables
- Broadcom Tomahawk2 switching ASIC
- Intel Xeon D-1518 quad-core 2.2 GHz processor
- 42 MB shared packet buffer
- VXLAN services supported in hardware at wire speed
- Intel Xeon D-1518 quad-core 2.2 GHz processor
- All ports on front; PSUs and fans accessible from rear
- Dual redundant, load-sharing, hot-swappable 850W PSUs
- 3+1 redundant, hot-swappable fan modules
- Configurable hot-/cold-aisle with port-to-power and power-to-port airflow
- 2RU 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 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.

Netvisor ONE Operating System

Enabling simple, plug-and-play deployments, the Pluribus Freedom 9664-C 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.
Specifications
Pluribus Freedom 9664-C Switch

Switching Engine
- Broadcom BCM56970 Tomahawk2 ASIC

Onboard CPU Engine
- Intel Xeon D-1518 quad-core 2.2 GHz
- 8 GB x 2 2133MHz with ECC (DDR4 SO-DIMM)
- 16 MB x 2 SPI Flash (Boot)
- m.2 SSD: 32 GB MLC Reserve
- mSATA connector

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

Physical and Environmental
- Dimensions (WxDxH): 43.8 x 58.0 x 8.8 cm (17.2 x 22.8 x 3.5 in)
- Weight: 14.11 kg (31.1 lb.)
- Fans: Hot-swappable 3 + 1 redundant fans
- Operating Temperature: 0°C ~ 45°C (32°F ~ 113°F)
- Operating Humidity: 5% ~ 95% non-condensing

QSFP 28 LEDs
- LED1: Blue (100 G), Orange (40 G), White (25 G), Green (10 G)
- LED2~LED4: White (25 G), Green (10 G)
- Management Port LED: Green: (10 M/100 M/1 G), Flashing: Activity
- System LEDs: PSU1, PSU2, Fan, Diag, and Loc
- Reset button

Interface Ports
Network Interfaces
- 64 x QSFP28 100 GbE

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

Performance
- Switching Capability: 12.8 Tbps full duplex
- Forwarding Rate: 4.2 Bpps
- Jumbo frames support up to 9398 Bytes
- Packet Buffer Size: 42 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: 100-240 VAC, 50-60 Hz
- Maximum Power: 850 Watts
- Typical Power: 690 Watts
- Hot-swappable 3 +1 redundant fan modules
- Supports both hot-aisle and cold-aisle placement with reversible airflow

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