

HPE C8S45A

Datasheet

Product Overview

- The HPE Brocade 16Gb SAN Switch for BladeSystem c-Class is an embedded Fibre Channel solution designed for high-speed data center connectivity.
- Ideal for enterprise, telecom, and managed service providers requiring simplified, reliable, high-performance SAN environments.
- Delivers 16 internal and 12 external ports, 16 Gbps Fibre Channel speed, and full-duplex data transfer for demanding workloads.
- Supports advanced trunking, auto-sensing bandwidth, and flexible port configuration to maximize network agility and scalability.
- Built-in Power Pack+ option enables robust data flow management, ensuring consistent and optimized performance for applications.
- Consolidates SAN infrastructure, freeing rack space and reducing costs, while simplifying deployment and management for growing data centers.

Product Highlights

- **Integrated SAN Connectivity:** Hot-pluggable switch seamlessly integrates into HPE BladeSystem c-Class, reducing the need for extra rack space and equipment.
- **High-Speed Storage Networking:** 16 Gbps Fibre Channel architecture supports high-performance data transfer for virtualized and intensive applications.
- **Flexible Port Bandwidth:** Auto-sensing ports allow 4, 8, or 16 Gbps, providing investment protection and adaptable configuration.
- **Cost-Effective Trunking:** Supports trunking of up to eight SAN ports, delivering up to 128 Gbps throughput while minimizing cabling and SFP usage.

Detailed Features



C8S45A

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Component	Specification
Internal Ports	16 (downlink)
External Ports	12 (uplink)
Aggregate Bandwidth	448 Gbps (28 ports x 16 Gbps full duplex)
Trunking Throughput	Up to 128 Gbps (8-port single trunk)
Port Speed Support	4/8/16 Gbps (external), 8/16 Gbps (internal)



Zero-Footprint Integration

The switch embedded design allows for seamless installation in the HPE BladeSystem c-Class enclosure, eliminating the need for separate rack mount units. This frees up valuable data center space and leverages shared power and cooling to lower overall operational costs. By integrating switching directly into the enclosure, cabling complexity and the number of required SFPs are significantly reduced.

High-Speed 16Gbps Storage Network

Supporting a Fibre Channel speed of up to 16 Gbps per port, the switch is built for high-density server virtualization and high-throughput storage applications. The non-blocking architecture allows for simultaneous full-speed operation across all ports, enabling aggregate device bandwidth up to 896 Gbps full duplex, which meets the needs of demanding workloads in modern SANs.

Investment-Protecting Flexible Ports

Auto-sensing ports on both internal and external interfaces provide compatibility with lower speed components (4, 8, or 16 Gbps for external, 8 or 16 Gbps for internal). This flexibility lets organizations upgrade gradually, protecting previous investments, and optimally balancing performance with current infrastructure needs.

Advanced Trunking Enhancements

The switch supports trunking of up to eight SAN ports, combining them into a single logical link for up to 128 Gbps balanced throughput. This feature boosts bandwidth, supports mission-critical application performance, and reduces the need for extra cables and SFPs. Trunking extends across external Brocade or HPE B-series switches, enabling cost-effective, high-capacity SAN links.

Optimized for Virtualization

Engineered for high-performance server virtualization, the switch supports rapid data movement between servers and storage. Enhanced throughput and low-latency switching ensure responsive virtual machine migrations and robust support for private clouds and large-scale virtualization deployments.

Simplified SAN Management

The Power Pack+ software package offers intuitive tools for monitoring and managing data flow, ensuring application performance stays consistent. Management access via WebTools, SNMP, and SMI-S reduces administrative burden and supports integration into existing management frameworks.

Comprehensive Fabric Services

Key fabric services such as Simple Name Server and Registered State Change Notification (RSCN) are included. Support for multiple classes of service (Class 2, Class 3, Class F) and advanced port types ensures compatibility with diverse SAN setups and multi-vendor environments.

Data Center Scalability and Efficiency

By enabling data center consolidation, the switch supports effortless scaling as storage demands increase. The pay-as-you-grow licensing model adapts to expanding workloads and evolving business needs, making it a cost-effective solution for long-term growth.

Technical Specifications

Product Specifications

Feature	Value
Internal Ports (Downlink)	16 ports
External Ports (Uplink)	12 ports
Port Combinations (16/16c SAN)	16 × 16Gb/s ports; any internal/external combination enabled
Port Combinations (16/28c SAN)	16 internal 16Gb/s ports, 12 external 16Gb/s auto-sensing ports enabled
Line Speed	16 Gb/s
Fabric Latency	700 ns
Maximum Frame Size	2112-byte payload
Aggregate Device Bandwidth	896 Gb/s full duplex



Feature	Value
Port Bandwidth	16 Gb/s
Classes of Service	Class 2, Class 3, Class F
Port Types	D_Port (Diagnostic), E_Port, F_Port, NPIV-enabled N_Port
Supported Data Traffic	Fabric switches supporting unicast
Media Speeds Supported	4/2/1 Gb/s, 8/4/2 Gb/s
Transceiver Types	Short-wave laser, long-wave laser, extended long-wave laser
Fabric Services	Simple Name Server, Registered State Change Notification (RSCN)
Management Access	WebTools, SMI-s provider, SNMP, Telnet, Secure Telnet
Operating Temperature	10°C to 35°C (50°F to 95°F) at sea level; altitude derating: 1.0°C per 305 m (1.8°F per 1000 ft), max 3050 m (10,000 ft)
Non-operating Temperature	-30°C to 60°C (-22°F to 140°F)
Operating Relative Humidity	10% to 90% (non-condensing), max wet bulb 28°C (82.4°F)
Non-operating Relative Humidity	5% to 95% (non-condensing), max wet bulb 38.7°C (101.7°F)
Operating Altitude	Up to 3050 m (10,000 ft), max change rate 457 m/min (1500 ft/min)
Non-operating Altitude	Up to 9144 m (30,000 ft), max change rate 457 m/min (1500 ft/min)
Vibration (Operating)	1 G, 10–500 Hz, 60 min/axis
Vibration (Non-operating)	2 G, 10–500 Hz, 30 min
Shock (Operating)	Half-Sine-Wave, 40 G, 2 ms
Shock (Non-operating)	Half-Sine-Wave, 140 G, 2 ms; Square-Wave up to 80 G, 180 ips velocity change
EMI/EMC Compliance	CFR 47 Subpart B (FCC Part 15, Class A), CISPR22 Class A, EN55022 Class A, VCCI Class A ITE, AS/NZS 3548 Class A, CNS 13438 Class A, EMC Directive (89/336/EEC)
Safety Standards	UL60950, CSA60950, EN60950 (TUV Rheinland, Nemko), Low Voltage Directive (73/23/EEC) CE
Dimensions (W × D × H)	19.27 in × 10.57 in × 1.1 in (49 cm × 26.84 cm × 2.7 cm)
Maximum Rate of Temperature Change (Operating)	10°C/hr (18°F/hr)



Feature	Value
Maximum Rate of Temperature Change (Non-operating)	20°C/hr (36°F/hr)

Product Comparison

Feature	C8S45A	C8R44A	C8R45B
Port Configuration	16 internal, 12 external	16 internal, 8 external	16 internal, 8 external
Fibre Channel Speed	16 Gbps	8 Gbps	16 Gbps
Aggregate Bandwidth	896 Gbps full duplex	384 Gbps full duplex	448 Gbps full duplex
Trunking Support	Up to 8 ports, 128 Gbps	Up to 8 ports, 64 Gbps	Up to 8 ports, 128 Gbps
Auto-sensing Port Speed	4/8/16 Gbps	4/8 Gbps	4/8/16 Gbps
Integrated Software Option	Power Pack+ supported	Power Pack+ supported	Power Pack+ supported
Management Options	WebTools, SNMP, Telnet, SMI-s provider	WebTools, SNMP, Telnet, SMI-s provider	WebTools, SNMP, Telnet, SMI-s provider
Dimensions (W × D × H)	19.27 × 10.57 × 1.1 in	19.27 × 10.57 × 1.1 in	19.27 × 10.57 × 1.1 in

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none"> - Power Adapter - Basic SFP Modules - Mounting Hardware
Optional Accessories	<ul style="list-style-type: none"> - Advanced SFP+ Transceivers - Additional Trunking Licenses - Management Software Pack



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References

[1] HPE. (2024). Brocade 16Gb SAN Switch for HPE BladeSystem c-Class: QuickSpecs. Retrieved from <https://www.hpe.com/psnow/doc/c04111380>