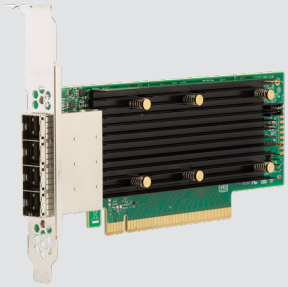
BROADCOM®

Product Brief

HBA 9405W-16e x16 Host PCIe Tri-Mode Storage Adapter

12Gb/s SAS/SATA/PCIe (NVMe) x16 Tri-Mode HBA



Applications

- High-port count SAS/SATA/NVMe adapter for bandwidth-intense application such as UHD and big data analytics
- Tri-Mode connectivity enabling maximum data center flexibility
- Highest sequential throughout; ideal for video streaming, big data analytics, medical imaging and media applications
- External storage requiring high connectivity SAS/SATA interface for host or drive side connect

Key Features

- x16 PCIe 3.1 Host Interface
  - Supports x16, x8, x4, x2, x1 PCIe lanes at a transfer rate up to 8.0 GT/s per lane, full duplex
  - Lane and polarity reversal
  - Variable PCIe bandwidth negotiation
- Low Profile MD2 Form Factor
- Tri-Mode enabled external storage interface
- Supports 12Gb/s SAS, SATA, and PCIe (NVMe) up to 8.0 GT/s*

Industry's First Single-Chip, x16 Low-Profile HBA with Tri-Mode SerDes Technology

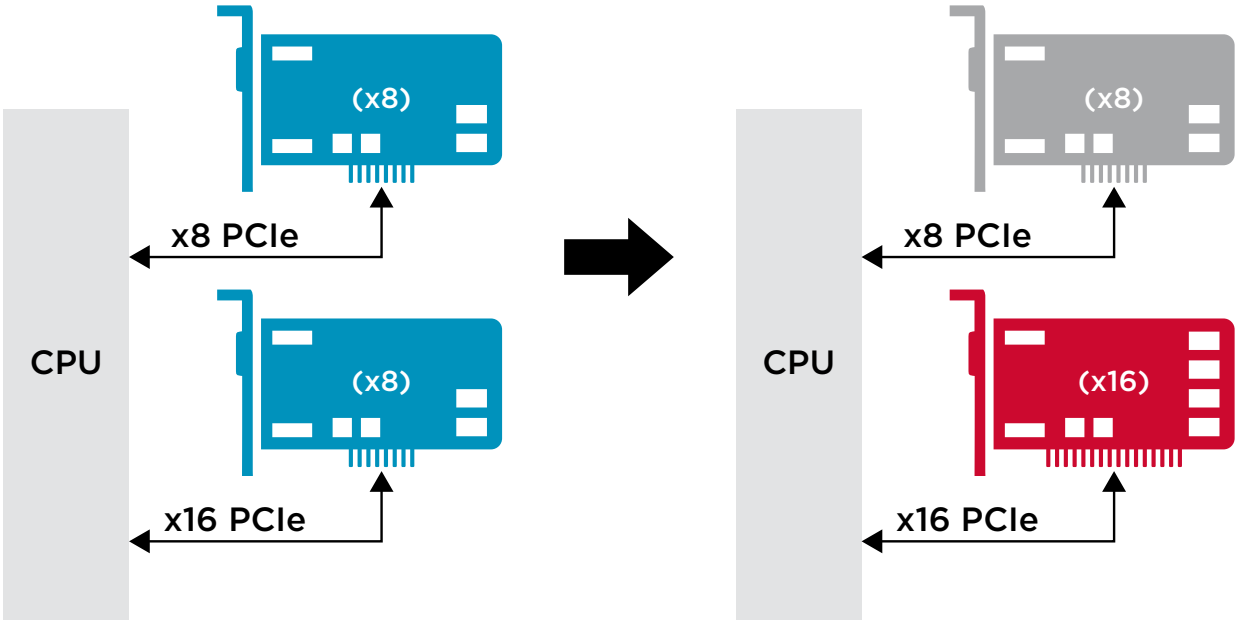
Broadcom enables high performance storage connectivity and flexible system designs that support any combination of NVMe, SAS and SATA devices with the industry's first x16 HBA with Tri-Mode SerDes technology. The host PCIe Gen3 x16 Tri-Mode HBA delivers high-performance storage for bandwidth-intense applications such as big data analytics, media applications and applications performing large sequential reads.

NVMe Performance Gains for Storage

The x16 Tri-Mode Storage HBA brings NVMe performance benefits to the storage tier by providing connectivity and data protection that HBAs have powered for over 20 years for SAS/SATA interfaces. Based on the single-core SAS3616W Tri-Mode Storage I/O controller (IOC), the HBA provides bandwidth and an IOPS performance increase compared to the previous generation, with with 2x the performance on the host side over previous generations, and nearly 14 GB/sec for SAS and 12 GB/sec for SATA, and is ideal for high-end servers connecting to large-scale external storage enclosures. The x16 Tri-Mode HBA is ideal for big data applications such as analytics and business intelligence. Take advantage of x16 slots and optimize two x8 controllers into one card; delivering more versatility and optimal slot performance density.

Endless design flexibility using Tri-Mode Controllers

Broadcom Tri-Mode SerDes Technology enables the operation of NVMe, SAS, or SATA storage devices in a single drive bay. A single controller can operate in all three modes concurrently servicing NVMe, SAS, or SATA drives. The controller negotiates between the speeds and protocols to seamlessly work with any of the three types of storage devices. Tri-Mode support provides a non-disruptive way to evolve existing data center infrastructure. By upgrading to a Tri-Mode HBA, users can expand beyond SAS/SATA and use NVMe without major changes to other system configurations.



9405W Tri-Mode HBAs

	9405W-16e
Ports	16 external
Connectors	Four (x4) SFF-8644
Storage Interface Support	SAS, SATA, PCIe (NVMe*)
Max Devices Per Controller	SAS/SATA 1024
I/O Processor / SAS Controller	SAS3616W
Host Bus Type	PCIe 3.1 x16
Power	13.84W
Physical Dimensions	6.600" x 2.712" (167.65 mm x 68.90 mm)
Cable Support	Passive copper, active copper, active optical
Operating Conditions	Operating: 10°C to 55°C, 20 to 80% non-condensing Airflow: 200 LFM Storage: -45°C to 105°C, 5 to 90% non-condensing
MTBF (Calculated)	>4,500,000 hours at 40°C
Operating Voltage	+12V +/-8%; 3.3V +/-9%
Hardware Warranty	3 years; with advanced replacement option
Regulator Certifications	USA (FCC 47 CFR part 15 Subpart B, class B); Canada (ICES -003, Class B); Taiwan (CNS 13438); Japan (VCCI V-3); Australia/New Zealand (AS/NZS CISPR 22); Korea (RRA no 2013-24 & 25); Europe (EN55022/EN55024); Safety: EN/IEC/UL 60950; RoHS; WEEE
OS Support	Microsoft Windows, Linux, VMware. Contact Oracle support for Oracle Solaris driver or software support. See www.broadcom.com/support/download-search for details on versions.
Ordering Information	
Single Pack	05-50044-00

*Feature available at a later release

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