

Overview

HPE Integrity Smart Array P441 Controller

The HPE Integrity Smart Array P441 Controller is a low-profile, PCIe3 x8, 12Gb/s Serial Attached SCSI (SAS) RAID controller that provides enterprise-class storage performance and data protection for Integrity rack optimized servers. It features eight external physical links and supports RAID levels 0, 1+0, 5 and 5+0.



HPE Integrity Smart Array P441 Controller

What's New

- Supports HPE D3610 and D3710 Disk Enclosures

Models

HPE Integrity Smart Array P441 12Gb 2-port External SAS Controller

Q9X08A

Standard Features

Key Features

Storage interface (SAS/SATA)

- 8 physical links across 2 x4 external ports
- 12Gb/s SAS, 6Gb/s SAS technology
- Support for SAS tape drives, SAS tape autoloaders and SAS tape libraries

PCI Express Gen2 x8 link

RAID 0, 1, 1+0, 5, 5+0

RAID mode only

Notes: No support for HBA mode with Q9X08A

EFI boot operation

Up to 32 logical drives

Support for HP-UX 11i v3 only

Ports

External: 8 SAS/SATA physical links across 2 x4 port

Performance

12Gb/s SAS (1200 MB/s theoretical bandwidth per physical lane)

6Gb/s SAS (600 MB/s theoretical bandwidth per physical lane)

Online Management Features

User selectable rebuild priority

User selectable RAID level and stripe size

Fault Prevention

The following features offer detection of possible failures before they occur, allowing preventive action to be taken:

- S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) was first developed by HPE which detects possible hard disk failure before it occurs, allowing replacement of the component before failure occurs.
- Drive Parameter Tracking monitors drive operational parameters, predicting failure and notifying the administrator.
- Dynamic Sector Repairing continually performs background surface scans on the hard disk drives during inactive periods and automatically remaps bad sectors, ensuring data integrity.
- Smart Array Cache Tracking monitors integrity of controller cache, allowing pre-failure preventative maintenance.

Fault Recovery

Minimizes downtime, reconstructs data, and facilitates a quick recovery from drive failure

- Recovery ROM: This feature protects the user from a firmware image corruption by storing a redundant copy of the firmware image. If the active firmware image becomes corrupt, the controller will use the redundant firmware image and continue operating.
- DRAM ECC detects and corrects data bit errors

Warranty

The warranty for this device is 3 years parts only.

Pre-Failure Warranty: Drives attached to the Smart Array Controller and monitored under Insight Manager are supported by a Pre-Failure (replacement) Warranty. For complete details, consult the HPE Support Center or refer to your HPE Server Documentation.

Warranty Upgrade Options

- Response - Upgrade on-site response from next business day to same day 4

Standard Features

hours

- Coverage - Extend hours of coverage from 9 hours x 5 days to 24 hours x 7 days
 - Duration - Select duration of coverage for a period of 1, 3, or 5 years
 - Warranty upgrade options can come in the form of Care Packs, which are sold at the HPE System level to which this product attaches.
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Related Options

Server Support HPE Integrity rx2800 i6
HPE Integrity rx2800 i4

Storage Support HPE D3610 Disk Enclosure
HPE D3710 Disk Enclosure
HPE D2600 Disk Enclosure
HPE D2700 Disk Enclosure
HPE MSA 2040 Storage

Notes:

- No HBA mode support. Only RAID mode support
 - No Support for OpenVMS
 - No FBWC/BBWC support
 - No Dual-Domain support
 - No Multi-initiator support
 - No RAID 6,60, 1+0 ADM support
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Operating Systems HP-UX 11i v3
https://www.hpe.com/psnow/doc/c04111649.pdf?jumpid=in_lit-psnow-red

Storage Management Software Suite **HPE Systems Insight Manager**
Powerful server and server options/storage manager tool with configuration/diagnostic utilities.

Service and Support

HPE Pointnext - Service and Support

Get the most from your HPE Products. Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services**, focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

Consume IT on your terms

HPE GreenLake brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake accelerates digital transformation in a distributed, edge-to-cloud world..

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

Managed services to run your IT operations

HPE GreenLake Management Services provides services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

Free up resources with Operational Services from HPE Pointnext Services

HPE delivers services for IT by using proven best practices as well as automation and methodologies that have been tested and refined by HPE experts and artificial intelligence through thousands of deployments globally. Choose from the recommended services for customers purchasing from Hewlett Packard Enterprise or an authorized reseller. Services are quoted using Hewlett Packard Enterprise order configuration tools.

HPE Pointnext Tech Care

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care is available in three response levels. Basic, which provides 9x5 business hour availability and a 2 hour response time. Essential which provides a 15 minute response time 24x7 for most enterprise level customers, and Critical which includes a 6 hour repair commitment where available and outage management response for severity 1 incidents.

<https://www.hpe.com/services/techcare>

HPE Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team

Service and Support

- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

<https://www.hpe.com/services/complecare>

Other related services from HPE Pointnext Services

HPE Education Services

Provides comprehensive training designed to expand the skills of your IT staff and keep them up to speed with the latest technologies.

HPE Integration and Performance Services

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AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a brand-new digital and data driven customer experience.

Sign into the customer engagement platform, featuring modern self-serve case creation and management capabilities with inline knowledge recommendations. You will find powerful troubleshooting support through a new intelligent virtual agent with seamless transition when needed to a live support agent.

<https://support.hpe.com/hpesc/public/home/signin>

HPE Support Center - AI Powered and Digitally Enabled Support

Achieve faster time to resolution with access to product-specific resources and expertise through a brand-new digital and data driven customer experience. Sign-in to the all-new customer engagement platform, featuring reimagined digital case management- simplified for easy case creation and management with inline knowledge recommendations. A personalized task panel shows cases awaiting action, expiring support and more. New virtual agent - powerful AI-driven troubleshooting with seamless transition to live agent with conversation history included and the ability to verify contract, warranty, and case status. And Enhanced, intelligent search - Machine Learning tailors content easily and instantly as it's used.

Learn more <https://support.hpe.com/hpesc/public/home/signin>

Parts and Materials

HPE will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

Defective Media Retention

An option available with HPE Pointnext Complete Care and HPE Pointnext Tech Care and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Service and Support

For more information

- www.hpe.com/services
- <https://www.hpe.com/us/en/services/operational.html>

To learn more on HPE Storage Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE" <https://www.hpe.com/us/en/contact-hpe.html>

HPE Support Services are sold by HPE and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
 - Customers purchasing from a commercial reseller can find HPE Support Services at <https://ssc.hpe.com/portal/site/ssc/>
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Summary of Changes

Date	Version History	Action	Description of Change
15-Nov-2021	Version 3	Changed	Service and Support Pointnext Tech Care and Complete Care information updated
02-Jul-2018	Version 2	Changed	Overview, Standard Features, and Related Options were updated.
04-Jun-2018	Version 1	New	Initial version.

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