

# **HPE Smart Array P416ie-m SR Gen10 (8 Int 8 Ext Lanes/2GB Cache) 12G SAS Mezzanine Controller (804428-B21)**

## **Overview**

Are you looking for an enterprise-level controller to maximize performance and storage capacity and to connect to the HPE Synergy D3940 Gen10 Storage Module?

The HPE Smart Array P416ie-m SR Gen10 Controller, supporting 12 Gb/s SAS and PCIe 3.0, provides enterprise-class storage performance, reliability, security and efficiency needed to address your evolving data storage needs. It has eight internal SAS lanes and eight external SAS lanes, allowing connection to the SAS or SATA drives in the Synergy compute module and to the drives inside the HPE Synergy D3940. This controller supports Mixed Mode operations of RAID and HBA simultaneously, and offers encryption for data-at rest on any drive.

The HPE Smart Array Gen10 controllers are supported by the HPE Smart Storage Battery, which supports multiple devices and is sold separately.

## **Features**

### **Increased Performance for Faster Data Insights**

The HPE Smart Array P416ie-m SR Gen10 Controller is an enterprise-class controller that increases performance in messaging, database, or general server applications and delivers 12 Gb/s SAS connectivity on HPE Synergy Gen10 Compute Modules when connected to 12 Gb/s internal storage devices.

Increases performance with 2 GB Flash-Backed Write Cache and reduces latency in write-intensive applications that require heavy logging such as databases.

Enhances performance in storage environments where data is read repeatedly from a large number of SSDs by using HPE SSD Smart Path to create a faster I/O path between the controller and SSD.

Accelerate access to data by up to 4X in HDD environments by caching hot data onto SSDs with HPE Smart Array SR SmartCache (optional license).

### Built-in Reliability and Security

The HPE Smart Array P416ie-m SR Gen10 Controller protects data-at-rest on any drive attached to the controller with HPE Smart Array SR Secure Encryption (optional license).

Complies with regulations for sensitive data, such as HIPAA and Sarbanes-Oxley with HPE Smart Array SR Secure Encryption—IUT with expected FIPS 140-2 Level 1 validation complete in 2018.

Preserve data integrity with HPE SmartSSD Wear Gauge, which alerts you to potential drive issues before a drive fails.

Long-term data retention with 2 GB Flash-Backed Write Cache for improved data reliability.

### Improved Efficiency and Storage Management

The HPE Smart Array P416ie-m SR Gen10 Controller has increased flexibility with Mixed Mode which operates in RAID and HBA simultaneously.

Delivers data migration between Synergy Compute Modules and the HPE Synergy D3940 Storage Module.

## Technical specifications

## HPE Smart Array P416ie-m SR Gen10 (8 Int 8 Ext Lanes/2GB Cache) 12G SAS Mezzanine Controller

<b>Product Number</b>	804428-B21
<b>Transfer rate</b>	12Gb/s SAS per lane 6Gb/s SATA per lane PCI Express 3.0 x8 lane width
<b>Form factor</b>	Mezzanine card
<b>Ports</b>	Internal: 8 SAS lanes across 2 x4 Slim SAS ports External: 8 SAS lanes
<b>Cache</b>	2 GB Flash-Backed Write Cache
<b>RAID levels</b>	0, 1, 5, 6, 10, 50, 60, 1 ADM, 10 ADM
<b>Servers supported</b>	HPE Synergy 480 Gen10 Compute Module HPE Synergy 660 Gen10 Compute Module
<b>Additional features</b>	HPE Smart Array SR Secure Encryption (optional license) HPE Smart Array SR SmartCache (optional license)
<b>Supported disk enclosure</b>	HPE Synergy D3940 Gen10 Storage Modules
<b>Warranty</b>	The warranty for this device is 3-years parts only.



For additional technical information, available models and options, please reference the [QuickSpecs](#)

## HPE Services

No matter where you are in your transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From strategy and planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

### Consulting services

Experts can help you map out your path to hybrid cloud and optimize your operations.

### Managed services

HPE runs your IT operations, giving you unified control, so can focus on innovation.

### Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources.

- HPE Complete Care Service: a modular service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals. All delivered by an assigned team of HPE experts.
- HPE Tech Care Service: the operational service experience for HPE products. The service provides access to product specific experts, an AI driven digital experience, and general technical guidance to help reduce risk and search for ways to do things better.

### Lifecycle Services

Address your specific IT deployment project needs with tailored project management and deployment services.

### HPE Education Services

Training and certification designed for IT and business professionals across all industries. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.

The [Defective Media Retention \(DMR\)](#) service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction. [Comprehensive Defective Material Retention \(CDMR\)](#) allows you to keep all data retentive components.

## HPE GreenLake

[HPE GreenLake edge-to-cloud platform](#) is HPE's market-leading as-a-Service offering that brings the cloud experience to apps and data everywhere – data centers, multi-clouds, and edges – with one unified operating model, on premises, fully managed in a pay per use model.

If you are looking for more services, like **IT financing solutions**, please explore them [here](#).

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Parts and Materials: HPE will provide HPE-supported replacement parts and materials required to maintain the covered hardware.

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.

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