



**Hewlett Packard**  
Enterprise

**How to create SmartCache write back or write through RAID using SSD drives**

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## Objective

Boot the server with Intelligent provisioning and select Smart storage administrator or you can boot from latest SPP and select Smart storage administrator

Create RAID 0 to RAID 1 using normal drive (SATA or SAS drives) and disable Caching in controller.

Below is example screen shots.

**RAID Level** (What's this...?)

☐ RAID 0

☒ RAID 1

**Strip Size / Full Stripe Size** (What's this...?)

☐ 16 KiB / 16 KiB

☐ 32 KiB / 32 KiB

☐ 64 KiB / 64 KiB

☐ 128 KiB / 128 KiB

☒ 256 KiB / 256 KiB

☐ 512 KiB / 512 KiB

☐ 1024 KiB / 1024 KiB

**Sectors/Track** (What's this...?)

☐ 63

☒ 32

**Size** (What's this...?)

☐ Max. for MBR Partition Table: 2097152 MiB (2 TiB)

☒ Maximum Size: 3815415 MiB (3.6 TiB)

☐ Custom Size

**Caching** (What's this...?)

☐ Enabled

☒ Disabled

[Create Logical Drive](#)

Click on cache Manager and Enable HPE Smartcache

**Selected Controller**

HPE Smart Array P816i-a SR Gen10  
Embedded Slot 1

**Controller Devices**

Logical Devices  
1 array, 1 logical drive

Physical Devices  
8 physical drives

Unassigned Drives  
6 unassigned drives

**Tools**

Cache Manager

License Manager

Encryption Manager  
Encryption Not Set

**Controller Cache**

**Cache Manager**

**Actions**

[Modify Caching Settings](#)

[Enable HPE SmartCache](#)

Creates an array that can hold SSD Cache Drives.

Select SSD drives

Cache Manager
>
Enable HPE SmartCache

- Select drives to create a SmartCache Array. SmartCaches can then be created on this array.
- The SmartCache Array cannot be used to create logical drives.
- HPE SmartCache will be fully enabled after the first SmartCache is created on the controller.

### Select Physical Drives for the Cache Array (What's this...?)

Group By
Enclosure

#### Internal Drive Cage at Port 1I : Box 2

☒
Select All (2)

**1.9 TB**
  
SATA SSD Bay 1

**960 GB**
  
SATA SSD Bay 2

#### Internal Drive Cage at Port 3I : Box 3

☐
Select All (4)

**960 GB**
  
SATA SSD Bay 1

**960 GB**
  
SATA SSD Bay 2

**1.9 TB**
  
SATA SSD Bay 3

**1.9 TB**
  
SATA SSD Bay 4

Select RAID and create logical drive and Click on finish

Cache Manager
>
Create SmartCache for Logical Drive

- Cache Logical Drive was successfully created. Please choose one of the actions below.

### SmartCache Details

Status	OK
Unrecoverable Media Errors	None
Parity Initialization Status	Queued
Cache Write Policy Status	OK
Cache Write Policy	Write-Back
RAID Level	RAID 5
Cache Line Size	64 KiB
Drive Number	2
Drive Unique ID	600508B1001C5592FEBD38A2C138B0F6
Size	372.60 GiB (400.08 GB)

### SmartCache Statistics


Read Cache Hits	0
Read Cache Misses (Total)	0
Read Cache Hit Rate	0
Write Cache Hits	0
Write Cache Misses (Total)	0
Write Cache Hit Rate	0

### Device Path

HPE Smart Array P816i-a SR Gen10 in Embedded Slot

SmartCache Array B

Finish


**Cache Manager** > **Create SmartCache for Logical Drive**

- The SmartCache will improve the read performance of a logical drive.
- If using write-back cache write policy, the HPE SmartCache cannot be deleted until its cache write policy is converted to write-through cache write policy.
- Specifying the write-back cache write policy when using a RAID 0 cache volume could result in data loss in the event of failure of the cache volume.

Hide

**Logical Drive to Cache** [\(What's this...?\)](#)

- ☒ Logical Drive 1 (3.64 TiB (4.00 TB), RAID 1)

**Cache Write Policy and RAID Type** [\(What's this...?\)](#)

- ☐ Write-Back with RAID 0
- ☒ Write-Back with RAID 5
- ☐ Write-Through with RAID 0

**Cache Line Size** [\(What's this...?\)](#)

- ☒ 64 KiB
- ☐ 256 KiB

**Size** [\(What's this...?\)](#)

- ☒ Recommended Size: 381541 MiB (372.5 GiB)
- ☐ Maximum Size: 1831366 MiB (1.7 TiB)
- ☐ Custom Size

Create SmartCache for Logical Drive
Cancel

Note: RAID 5 will support only odd number drives

## Environment

ProLiant Gen8, Gen9 and Gen 10 servers and HPE Synergy Gen9 and Gen10 Compute modules.

Smart array controller

SSD drives along with SATA or SAS drives

## Steps

Create RAID 0 to RAID 1 using normal drive (SATA or SAS drives) and disable Caching in controller

Once RAID has been created Click on cache Manager and Enable HPE Smartcache and Select RAID and create logical drive and Click on finish