

Overview

HPE Flash Media Kits

Do you need a self-contained resilient boot solution that does not impact overall server storage capacity or consume a PCIe slot? HPE Flash Memory Cards and USB Drives are engineered with enterprise-class high endurance NAND for life within non-stop datacenter environments. Using the highest industry flash technology to provide a higher level of performance and longer endurance characteristics at an enterprise level, each device undergoes rigorous testing and software validation to verify the highest level of quality and reliability while running on HPE ProLiant servers.

Flash USB Devices



HPE 32GB MicroSD Raid 1 USB Boot Drive  
Flash Memory Cards



HPE 32GB microSD Flash Memory Card

Models

HPE Flash USB Drives

HPE 32GB microSD RAID 1 USB Boot Drive	P21868-B21
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**Notes:** Supported on Gen9, Gen 10, and Gen10+ ProLiant servers

HPE Flash Memory Cards

HPE 32GB microSD Flash Memory Card	700139-B21
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**Notes:** Supported on Gen9 and Gen 10 ProLiant servers



## Standard Features

### Why HPE Flash Media?

Low Cost RAID 1 Boot Solution

- HPE USB Flash drive with dual 32GB microSD cards and on-board RAID 1
- Delivers a redundant OS boot without consuming server storage drive bays or consuming an internal PCIe slot
- Lower cost alternative to traditional boot methods that require multiple HDDs or SSDs with an array controller.
- 32GB capacity supports VMware vSphere v6.0 and later deployments up to 8TiB (DRAM sizing of solution deployment).
- Integrated on-board RAID 1 for customers requiring “dual boot” solution.

Highly Reliable Enterprise-Class microSD Drives

- Utilizes high endurance 3D pSLC NAND.
- Qualified and tested for use on HPE ProLiant Gen9, Gen10 and Gen10 Plus servers.

HPE Qualified Options Meet High Reliability and Performance Demands

- HPE tests and qualifies these devices according to stringent guidelines with strict revision control on the controllers and actual flash memory. This provides utmost reliability and performance within HPE customer production environment.

### Read/Write Performance

HPE Flash Media products offer superior performance with greater than 10+ MB/second Read Transfer Rate, and 5+ MB/second Write Transfer Rate.

### Power

A typical flash media device draws 1W versus 12W total power on 2 x 300GB SAS 10K SFF hard drives in a RAID configuration.

### OS Support

Flash USB Drives		Flash Memory Cards	
HPE 32GB MicroSD Raid 1 USB Boot Drive		HPE 32GB microSD Flash Memory Card	
VMware ESXi 6.0	✓	VMware ESXi 6.0	✓
VMware ESXi 6.5	✓	VMware ESXi 6.5	✓
VMware ESXi 6.7	✓	VMware ESXi 6.7	✓
VMware ESXi 7.0	✓	VMware ESXi 7.0	✓

In vSphere 7.0, VMware made changes that impact the use of an SD Card/USB media as a standalone boot device and will be removing support for them after version 7.x.

SD Card/USB media can still be used as a standalone boot option through all 7.x releases via published Customer Advisory **Usage of SD Card/USB Devices As Standalone Boot Devices Has Changed Due to System Storage Changes For VMware ESXi 7.0 (Or Later)**

For any major release beyond VMware ESXi 7.x, VMware will require M.2 or another local persistent device as the standalone boot option.



## 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.

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### Recommended Services

#### 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
- 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>

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## Service and Support

### Service and Support

**Notes:** HPE Flash Media Kits are supported as a part of the HPE Server Infrastructure. No separate HPE Pointnext operational are needed to be purchased.

#### HPE Technology Services for Industry Standard Servers

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HPE to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

#### Protect your business beyond warranty with HPE Pointnext operational services

HPE Pointnext operational services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

#### Get connected to HPE to improve your support experience

Connecting products to Hewlett Packard Enterprise will help prevent problems with 24x7 monitoring, pre-failure alerts, automatic call logging, and parts dispatch. With Connected products, you can have a dashboard to manage your IT anywhere, anytime, from any device.

#### Parts and Materials

Hewlett Packard Enterprise 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 QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

#### Customer Technical Training

In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, Hewlett Packard Enterprise offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities.

#### HPE Services Awards

HPE Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.

#### Additional Services Information

To learn more on HPE ProLiant servers, HPE BladeSystem servers and HPE storage products, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Or visit:

<http://www.hpe.com/services> or <https://www.hpe.com/us/en/servers/server-options.html>

#### Warranty

HPE Flash Media Kits have a 1-year limited warranty regardless of the warranty period for the system in which they are installed.



## Technical Specifications

<b>HPE 32GB microSD RAID 1 USB Boot Drive</b>	P21868-B21
<b>Usable Capacity</b>	32GB*
<b>Performance</b>	28+ MB/second Read Transfer Rate, 29+ MB/second Write Transfer Rate
<b>DWPD (64K sequential workload)*</b>	5.26
<b>DWPD (4K random workload)*</b>	0.22
<b>TBW (4K random workload)</b>	13TB
<b>TBW (64K sequential workload)</b>	307TB
<b>Class</b>	UHS I
<b>Form factor</b>	63mm(L) x 20mm(W) x 9.3mm(H)
<b>Voltage</b>	4.0V (min) – 6.0V (max)
<b>Compliance</b>	USB specification 2.0
<b>Operating Temperature</b>	0/70°C (Operational), -25°C/85°C (non-operational)
<b>Notes</b> * Assumes 5 Year time period for calculation	
<b>HPE 32GB microSD Flash Memory Card</b>	700139-B21
<b>Usable Capacity</b>	32GB*
<b>Performance</b>	33+ MB/second Read Transfer Rate, 34+ MB/second Write Transfer Rate
<b>DWPD (64K sequential workload)*</b>	5.26
<b>DWPD (4K random workload)*</b>	0.22
<b>TBW (4K random workload)</b>	13TB
<b>TBW (64K sequential workload)</b>	307TB
<b>Class</b>	UHS I
<b>Form factor</b>	15mm(L) x 11mm(W) x .95mm(H)
<b>Voltage</b>	2.7V (min) - 3.6V (max)
<b>Compliance</b>	SD Card Association
<b>Operating Temperature</b>	0°C /70°C (Operational), -25°C/85°C (non-operational)
<b>Notes</b> * Assumes 5 Year time period for calculation	

## Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life **product return, trade-in, and recycling programs** in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner. The EU WEEE Directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the **Hewlett Packard Enterprise web site**.

These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.



## Summary of Changes

Date	Version History	Action	Description of Change
06-Dec-2021	Version 30	Added	Added Customer Advisory information in OS Support section
04-Oct-2020	Version 29	Changed	Overview, Technical Specifications Sections were Updated
06-Apr-2020	Version 28	Changed	Overview, Technical Specifications & standard features
02-Dec-2019	Version 27	Changed	Standard Features Section was updated
07-Jan-2019	Version 26	Changed	Standard Features Section was updated
01-Oct-2018	Version 25	Changed	Overview were revised.
13-Aug-2018	Version 24	Changed	Overview & Standard Features sections were updated
02-Apr-2018	Version 23	Changed	Removed obsolete programs. Changed product descriptions. Revised OS Support.
23-Oct-2017	Version 22	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
25-Sep-2017	Version 21	Changed	Overview and Standard Features were revised.
		Removed	Compatibility section was removed.
17-Feb-2017	Version 20	Changed	Models, OS Support, and HPE 32GB microSD Enterprise Mainstream Flash Media Kit 700139-B21 were revised.
11-Dec-2015	Version 19	Changed	OS Support was revised.
28-Sep-2015	Version 18	Added	Added HPE 32GB SD enterprise Mainstream Flash Media Kit and HPE 32GB microSD Enterprise Mainstream Flash Media Kit for VMWare Hypervisors. Added VMware ESXi 5.1 Update 3, VMware ESXi 5.5 Update 3, VMware ESXi 6.0 to OS Support.
		Changed	Changed What's New was updated section to read: 32GB SD and MicroSD support for VMware.
30-Mar-2015	Version 17	Added	Added HPE Dual 8GB microSD Enterprise Midline USB Kit
		Changed	Compatibility, Standard Features, Service and Support, and Technical Specifications were revised.
20-Jun-2014	Version 16	Changed	4GB card was replaced by 8GB
		Removed	EOL kits were removed: <ul style="list-style-type: none"> <li>• HPE 2GB USB Flash Media Drive Key Kit</li> <li>• HPE 4GB SD Enterprise Performance Flash Media Kit</li> <li>• HPE 4GB microSD Enterprise Performance Flash Media Kit</li> </ul>
16-May-2014	Version 15	Changed	Compatibility was revised
9-Dec-2013	Version 14	Changed	Changed What's New section to read: HPE 8GB USB Enterprise Mainstream Flash Media Drive Key Kit
30-Sep-2013	Version 13	Added	HPE 8GB SD and microSD Enterprise Mainstream Flash Media Kits were added Servers were added to Compatibility Intelligent Provisioning was added to Standard Features VMware ESXi 5.1 and 5.5, RHEL 6.4, and SLES SP3 were added to OS Support
13-Mar-2013	Version 12	Changed	Technical Specifications: Updated entire section
20-Mar-2013	Version 11	Removed	Removed Supports Intelligent Provisioning of OS through AUX power from the Overview section
20-Feb-2013	Version 10	Changed	Changes made to update the Models and Technical Specifications sections
19-Feb-2013	Version 9	Changed	Changes made to completely revise the entire QuickSpecs except for the Service and Support section
4-Dec-2012	Version 8	Changed	Changes made in Overview and Service and Support sections
10-Oct-2012	Version 7	Changed	Changes made in the Compatibility section
24-Sep-2012	Version 6	Changed	Changes made in the Compatibility section
6-Apr-2012	Version 5	Changed	Changes made to the OS Support and Technical Specifications sections.
6-Mar-2012	Version 4	Changed	Server Support was updated

**Summary of Changes**

20-Jun-2011	Version 3	Removed	Mentions of StorageWorks were removed
22-Apr-2011	Version 2	Changed	Warranty was revised in Standard Features Compliance was completely revised for HPE 2GB USB Flash Media Drive Key Kit in Technical Specifications Note and Maximum supported lifetime/maximum usage was removed from Additional Services Information
05-Apr-2011	Version 1	New	New QuickSpecs



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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.

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