



**Hewlett Packard**  
Enterprise

# **HPE 3PAR OS 3.2.2 MU4 Patch 56 Release Notes**

## **Abstract**

This release notes document is for Patch 56 and intended for HPE 3PAR Operating System Software 3.2.2.612 (MU4).

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# Purpose

HPE 3PAR OS 3.2.2 MU4 Patch 56 provides several quality improvements in volume management, DIF handling, and remote copy.

## Guidance

- This patch is intended for 3PAR OS 3.2.2 MU4.
- This is a recommended patch.
- All eligible HPE 3PAR StoreServ Storage Systems are susceptible to the issues corrected in this patch.

## Prerequisites

- SP prerequisite: 4.4.0.GA-58 plus the latest SP patch (if any)
- OS prerequisites: OS-3.2.2.612-MU4

## Patch details

Patch ID: P56

Synopsis: Provides several quality improvements

Date: February 09, 2017, 10:41:18 PST

Description: See the Release Notes for details about this patch

Affected Packages: tpd-sysmgr, tpd-kernelpatch, tpd-pm, tpd-cli, tpd-prerevert

Obsoletes: OS-3.2.2.612-P54

Requires: OS-3.2.2.612-MU4

Build Version: 3.2.2.626

Supports Revert: Yes

Notes: Description of the incorporated patches:

Patch ID: P54

Synopsis: Addresses an inaccurate message if no cable is attached to a disk port

Date: January 18, 2017, 08:57:18 PST

Description: See the Release Notes for details about this patch

Affected Packages: tpd-sysmgr, tpd-prerevert

Obsoletes: None

Requires: OS-3.2.2.612-MU4

Build Version: 3.2.2.621

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**NOTE:**

- Applying this patch to the 3PAR OS might restart the affected OS components. With these restarts, events and alerts might be generated and this is an expected behavior. The system continues to serve data, but existing CLI or SSMC sessions might be interrupted.
  - Hewlett Packard Enterprise recommends installing patches in the same sequence as they are released, unless instructed otherwise.
  - When displaying the `showversion` command output from the SP, the CLI Client version is fixed in the SP code and might differ from the output displayed from any other system.
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## Modifications

Patch 56 includes the following modifications:

Issue ID	Description
145404	Resolves an issue that briefly prevented a volume from being grown shortly after the completion of a physical copy or <code>promotevv</code> copy.
153385	Provides a unique co-ordinated snapshot naming schema for remote copy snapshots which provides integration with Recovery Manager products.
180117	Chunklet relocation attempts to adhere to the RAID availability of the original chunklet. In instances where the same redundancy level cannot be achieved, the algorithm now searches for the highest available redundancy level.
183009	Prevents a rare condition in which a data underrun causes malformed data to be read by the SAS driver.
188347/ 188652	Resolves a timing issue that leads to controller node restarts during <code>tunevv</code> operations.
189441	Prevents a data integrity field (DIF) issue from causing an unexpected controller node restart.
189553	When Flash Cache is enabled on the array, running the CLI command <code>showflashcache</code> and adding a virtual volume (VV) into a VV set for flash cache causes the system manager and CLI commands to become unresponsive.
190692	The <code>checkhealth</code> command no longer reports a Remote Copy (RC) data structure incompatibility for Synchronous Long Distance RC configurations after the <code>admitrcopytarget</code> CLI command is run.
190957	Prevents a controller node restart triggered by a <code>controlport</code> reset operation.
191018	When performing <code>vvcopy</code> from a VV to a larger VV, the difference in size is zeroed, taking considerable time. The change optimizes the operation by not zeroing the destination if the volume is known to be empty.

*Table Continued*

Issue ID	Description
191216	Improves space management on the controller node's internal disk file system to maintain appropriate free space.
191533	Prevents a situation in which the hosts lose access to data and the array becomes unresponsive when virtual volumes and snapshots are removed. This includes commands such as <code>removevv</code> , <code>freespace</code> , online conversions and snapshot removals.

## Affected components

Component	Version
CLI Server	3.2.2.626 (P56)
CLI Client	3.2.2.626
System Manager	3.2.2.626 (P56)
TPD Kernel Patch	3.2.2.626 (P56)

## Verification

The installation of P56 can be verified from an interactive CLI session. Issue the CLI command `showversion -a -b` to verify that P56 is listed:

```
cli% showversion -a -b
Release version 3.2.2.612 (MU4)
Patches: P56

Component Name          Version
CLI Server              3.2.2.626 (P56)
CLI Client              3.2.2.626
System Manager          3.2.2.626 (P56)
Kernel                  3.2.2.612 (MU4)
TPD Kernel Code         3.2.2.612 (MU4)
TPD Kernel Patch        3.2.2.626 (P56)
```

# Websites

## General websites

**Hewlett Packard Enterprise Information Library**

**[www.hpe.com/info/EIL](http://www.hpe.com/info/EIL)**

**Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix**

**[www.hpe.com/storage/spock](http://www.hpe.com/storage/spock)**

**Storage white papers and analyst reports**

**[www.hpe.com/storage/whitepapers](http://www.hpe.com/storage/whitepapers)**

For additional websites, see **[Support and other resources](#)**.

# Support and other resources

## Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:  
<http://www.hpe.com/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:  
<http://www.hpe.com/support/hpesc>

### Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

## Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

**Hewlett Packard Enterprise Support Center**

[www.hpe.com/support/hpesc](http://www.hpe.com/support/hpesc)

**Hewlett Packard Enterprise Support Center: Software downloads**

[www.hpe.com/support/downloads](http://www.hpe.com/support/downloads)

**Software Depot**

[www.hpe.com/support/softwaredepot](http://www.hpe.com/support/softwaredepot)

- To subscribe to eNewsletters and alerts:

[www.hpe.com/support/e-updates](http://www.hpe.com/support/e-updates)

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

[www.hpe.com/support/AccessToSupportMaterials](http://www.hpe.com/support/AccessToSupportMaterials)

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### ❗ IMPORTANT:

Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

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## Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.



For more information about CSR, contact your local service provider or go to the CSR website:

<http://www.hpe.com/support/selfrepair>

## Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

### Remote support and Proactive Care information

HPE Get Connected	<a href="http://www.hpe.com/services/getconnected">www.hpe.com/services/getconnected</a>
HPE Proactive Care services	<a href="http://www.hpe.com/services/proactivecare">www.hpe.com/services/proactivecare</a>
HPE Proactive Care service: Supported products list	<a href="http://www.hpe.com/services/proactivecaresupportedproducts">www.hpe.com/services/proactivecaresupportedproducts</a>
HPE Proactive Care advanced service: Supported products list	<a href="http://www.hpe.com/services/proactivecareadvancedsupportedproducts">www.hpe.com/services/proactivecareadvancedsupportedproducts</a>

### Proactive Care customer information

Proactive Care central	<a href="http://www.hpe.com/services/proactivecarecentral">www.hpe.com/services/proactivecarecentral</a>
Proactive Care service activation	<a href="http://www.hpe.com/services/proactivecarecentralgetstarted">www.hpe.com/services/proactivecarecentralgetstarted</a>

## Warranty information

To view the warranty for your product, see the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products* document, available at the Hewlett Packard Enterprise Support Center:

[www.hpe.com/support/Safety-Compliance-EnterpriseProducts](http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts)

### Additional warranty information

HPE ProLiant and x86 Servers and Options	<a href="http://www.hpe.com/support/ProLiantServers-Warranties">www.hpe.com/support/ProLiantServers-Warranties</a>
HPE Enterprise Servers	<a href="http://www.hpe.com/support/EnterpriseServers-Warranties">www.hpe.com/support/EnterpriseServers-Warranties</a>
HPE Storage Products	<a href="http://www.hpe.com/support/Storage-Warranties">www.hpe.com/support/Storage-Warranties</a>
HPE Networking Products	<a href="http://www.hpe.com/support/Networking-Warranties">www.hpe.com/support/Networking-Warranties</a>

## Regulatory information

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[www.hpe.com/support/Safety-Compliance-EnterpriseProducts](http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts)

### Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

**[www.hpe.com/info/reach](http://www.hpe.com/info/reach)**

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

**[www.hpe.com/info/ecodata](http://www.hpe.com/info/ecodata)**

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

**[www.hpe.com/info/environment](http://www.hpe.com/info/environment)**

## **Documentation feedback**

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