



**Hewlett Packard  
Enterprise**

# **HPE 3PAR OS 3.2.2 MU2 Patch 83 Upgrade Instructions**

## **Abstract**

This upgrade instructions document is for installing Patch 83 on the HPE 3PAR Operating System Software 3.2.2.390 (MU2). This document is for Hewlett Packard Enterprise internal and partner use only.

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## Documentation

For the latest version of this document, go to the Services Access Workbench at <http://sawpro.atlanta.hp.com/km/saw/search.do>.

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# Installation Checklist

Use this checklist as a guide for your upgrade:

<b>Task</b>	<b>Reference</b>	<b>Done</b>
1. Review the patch details and prerequisites.	<i>Review the Patch Details</i>	
2. Verify that the service processor (SP) meets the requirements for installing this patch.	<i>Verify that the SP Meets Requirements</i>	
3. Verify that the HPE 3PAR OS release level supports this patch.	<i>Verify the OS release level</i>	
4. Perform a health check on the storage system.	<i>Verify the storage system health</i>	
5. Download and install the patch on the SP.	<i>Obtain and Install the Patch on the SP</i>	
6. Install the patch on the 3PAR OS.	<i>Install the Patch</i>	
7. Examine the patch results and review the patch details.	<i>Review the Patch Information</i>	
8. Update the back-end components.	<i>Updating Back-End Components</i>	
9. Perform a final health check on the system.	<i>Complete Post-installation Tasks</i>	

# Purpose

The HPE 3PAR OS 3.2.2 MU2 Patch 83 provides support for specific drive models while leaving the DOPE and DOPM drives at their current firmware level.

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## **NOTE:**

Arrays running prior to 322 MU2 P18 should NOT upgrade to P18, P25, P53, P77, P81 and should instead use P83.

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## **Guidance**

- This patch is intended for HPE 3PAR OS 3.2.2.390 (MU2).
- This is an as needed patch.

## **Prerequisites**

- SP prerequisite: SP-4.4.0.GA-30 plus latest SP patch.
- Base OS: 3.2.2.390 (MU2). See the Requires field in the Patch details.

## **Patch details**

Patch ID: P83

Synopsis: Provides support for drive FW updates

Date: January 08, 2018, 11:31:43 PST

Description: See the Release Notes for details about this patch

Affected Packages: tpd-fwdb, tpd-drivefw, tpd-sysmgr, tpd-prerevert

Obsoletes: OS-3.2.2.390-P81

Requires: OS-3.2.2.390-MU2,OS-3.2.2.390-P71

Build Version: 3.2.2.717

Patches Included: None

Patches Partially Superseded: OS-3.2.2.390-P71

Patches Obsolete by Combination: None

Supports Revert: Yes

Notes: Description of the obsoleted patches:

Patch ID: P81

Synopsis: Provides support for drive FW updates and enhanced logging.

Date: September 20, 2017, 15:25:53 PDT

Description: See the Release Notes for details about this patch

Affected Packages: tpd-sysmgr, tpd-drivefw, tpd-fwdb, tpd-prerevert

Obsoletes: OS-3.2.2.390-P53,OS-3.2.2.390-P77

Requires: OS-3.2.2.390-MU2,OS-3.2.2.390-P71

Build Version: 3.2.2.702

Notes: Description of the incorporated patches:

Patch ID: P53

Synopsis: Provides support for drive FW updates and new drives

Date: February 17, 2017, 10:59:07 PST

Description: See the Release Notes for details about this patch

Affected Packages: tpd-drivefw, tpd-fwdb, tpd-sysmgr, tpd-prerevert

Obsoletes: OS-3.2.2.390-P25

Requires: OS-3.2.2.390-MU2,OS-3.2.2.390-P14,OS-3.2.2.390-P19,OS-3.2.2.390-P20,OS-3.2.2.390-P27,OS-3.2.2.390-P38,OS-3.2.2.390-P46

Build Version: 3.2.2.627

Notes: Description of the incorporated patches:

Patch ID: P25

Synopsis: Provides support for new drives and drive FW updates.

Date: September 27, 2016, 13:57:35 PDT

Description: See the Release Notes for details about this patch

Affected Packages: tpd-fwdb, tpd-drivefw, tpd-prerevert

Obsoletes: OS-3.2.2.390-P18

Requires: OS-3.2.2.390-MU2

Build Version: 3.2.2.556

Notes: Description of the incorporated patches:

Patch ID: P18

Synopsis: Provides support for new drives and drive FW updates.

Date: May 13, 2016, 11:53:05 PDT

Description: See the Release Notes for details about this patch

Affected Packages: tpd-fwdb, tpd-drivefw, tpd-prerevert

Obsoletes: OS-3.2.2.390-P11

Requires: OS-3.2.2.390-MU2

Build Version: 3.2.2.442

Notes: Description of the incorporated patches:

Patch ID: P11

Synopsis: Adds support for additional drives

Date: February 09, 2016, 15:28:19 PST

Description: See the Release Notes for details about this

patch

Affected Packages: tpd-fwdb, tpd-drivefw, tpd-prerevert

Obsoletes: None

Requires: OS-3.2.2.390-MU2

Build Version: 3.2.2.392

Notes:

Patch ID: P77

Synopsis: Provides support for drive FW updates and new drives

Date: June 15, 2017, 15:24:33 PDT

Description: See the Release Notes for details about this patch

Affected Packages: tpd-drivefw, tpd-fwdb, tpd-prerevert

Obsoletes: None

Requires: OS-3.2.2.390-MU2,OS-3.2.2.390-P14,OS-3.2.2.390-P19,OS-3.2.2.390-P20,OS-3.2.2.390-P27,OS-3.2.2.390-P38,OS-3.2.2.390-P46,OS-3.2.2.390-P53

Build Version: 3.2.2.664

Notes:

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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.
-

# Verify that the SP Meets Requirements

## Check the SP release level

If the minimum SP software level requirements are not met, update the SP software level before installing the patch.

### Procedure

1. Establish a connection to the SP.
2. From the SPMINT main menu, enter: `=1.1` (Display SP Version).
3. Verify that the `SP Version` entry displays **4.4.0.GA-30** and `SP Patches` entry displays latest SP patch (if any).

```
1.1          Display SP Version
              SP Software Version
SP- 4.4.0.GA-53
SP Base Image Version:   Red Hat Enterprise Linux Server release 6.7
(Santiago)
SP Version: 4.4.0.GA-53
SP Patches:
HP 3PAR OS release (3.2.2): 3.2.2.390-MU2
HP 3PAR OS patches (3.2.2):
More detail is available in the latest SPLOR or spconfig data.
```

4. From the SPMINT main menu, enter: `=1.13` (Display SP Status).
5. Confirm that the following basic processes are running. Save the SP status output. You will require this output to compare it with the post upgrade SP status after you install the patch.



**Table 1: Example of Basic SP Processes**

The following global procedures are running:

```
/sp/prod/code/csst/bin/spcollect  
/sp/prod/code/csst/bin/SPcommctlr  
/sp/prod/code/csst/bin/spevent  
/sp/prod/code/csst/bin/SPnetmon  
/sp/prod/code/csst/bin/SPtransfer  
/sp/prod/code/csst/bin/SPup2date  
/sp/prod/code/csst/bin/stAnalyze  
/sp/prod/code/csst/bin/stBackDoor  
/sp/prod/code/csst/bin/stGrpNot  
/sp/prod/code/csst/bin/STlogger  
/sp/prod/code/csst/bin/stMonitor  
/sp/prod/code/csst/bin/stNotify
```

There are 10 httpd server processes running

spevent is running for the following clusters:

```
<StoreServ_serial_number> (<StoreServ_name>)
```

spcollect processes are running as follows:

```
adlc      for <StoreServ_serial_number> (<StoreServ_name>)  
biosmsg  for <StoreServ_serial_number> (<StoreServ_name>)  
config   for <StoreServ_serial_number> (<StoreServ_name>)  
eeprom   for <StoreServ_serial_number> (<StoreServ_name>)  
environ  for <StoreServ_serial_number> (<StoreServ_name>)  
evtlog   for <StoreServ_serial_number> (<StoreServ_name>)  
memdata  for <StoreServ_serial_number> (<StoreServ_name>)  
perfdb   for <StoreServ_serial_number> (<StoreServ_name>)  
perform  for <StoreServ_serial_number> (<StoreServ_name>)  
status   for <StoreServ_serial_number> (<StoreServ_name>)
```

```
SSAgent run status -  
agent is running
```

**6.** To return to the previous menu, press **Enter**.

# Verify that the 3PAR OS Meets Requirements

Before you install this patch, you must ensure that:

1. The 3PAR OS release level is OS-3.2.2.390 (MU2).
2. The storage system completes a health check.

## Verify the OS release level

### Procedure

1. From the SPMAINT main menu, to start the Interactive CLI, enter: **7**.
2. Select the storage system you want to check.
3. Enter: **showversion -a -b**.
4. Verify that the `Release version` entry at the top of the list displays **3.2.2.390-MU2** and `Patches` entry displays latest patches (if any).
5. To return to the SPMAINT main menu, enter: **exit** and then press **Enter**.

# Obtain and Install the Patch on the SP

Install the patch on the SP before installing it on the OS. Controller node reboot is not required to install this patch.

## Deploying the patch from Secure Service Architecture 6.8

If the SP is operating in Secure Network Mode (SNM), download and install the version of the patch from Secure Service Architecture. The following procedure must be performed by an authorized administrator.

---

### CAUTION:

Do not attempt to deploy a package to an SP while you are simultaneously logged into SPMAINT via DRM SSH.

---

### Procedure

1. If you are logged into SPMAINT via a DRM SSH session, log off.
2. Connect to Secure Service Architecture 6.8 and log on: <https://remote3par.houston.hp.com>
3. Select the **Content** tab in the upper center of the page.
4. Select the **Deploy packages to assets over the Internet** link.
5. Search for and select the OS-3.2.2.390-P83 self-install package and select **Next** (see the most recent patches by the Last Updated function).
6. Select **Manual Deployment** and select **Next**.
7. Select the **Asset Search** function and search on the MP name of the SP.
8. In the **Select Assets** table, select the asset to which you want to download the package and select **Add Checked**.

---

### NOTE:

A selfinstall package deploys to MP devices.

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9. Select **Next**.
10. To receive alerts to events as the package deploys, select the appropriate notification options, enter your contact information, and select **Next**.
11. Review the confirmation information. To install the patch on the SP, select **Deploy**.
12. Use the **Package Deployment Manager** to check the status of the patch deployment by returning to **Content**, then selecting **View packages that are deployed or in progress**. Use F5 to refresh the page.
13. Verify that the patch deployment is complete, and then exit the session and log off from the server.
14. From the SPMAINT main menu, enter: `=1.1 (Display SP Version)`.
15. Verify that the HP 3PAR OS patches (3.2.2) entry displays **3.2.2.390-P83**.

16. Enter: `=1.13` (Display SP status).
17. Compare the post-upgrade SP processes with the pre-upgrade SP processes listed before you applied the patch. For an example of the basic list, see the *Example of Basic SP Processes*.

## Install the patch from physical media

If you are installing the patch on-site, you can install the patch from the patch media.

### Procedure

1. Insert the *HPE 3PAR 3.2.2 MU2 P83 Software* media into the SP.
2. From the SPMAINT main menu, enter: `=1.16.2` (Download/Stage SP/StoreServ Software Revision).
3. Enter the number corresponding to the media drive.
4. After the message `Stage successfully completed` is displayed, press **Enter** to return to the SPMAINT main menu.
5. Enter: `=1.1` (Display SP Version).
6. Verify that the `HP 3PAR OS patches (3.2.2)` entry displays **3.2.2.390-P83**.
7. Compare the post-upgrade SP processes with the pre-upgrade SP processes listed before you applied the patch. For an example of the basic list, see the *Example of Basic SP Processes*.
8. If the basic SP processes are running, you can install the patch on the storage system.
9. If the basic SP processes differ after the patch installation, refer to the *HPE 3PAR Service Processor Software Troubleshooting Guide*.
10. Remove the media from the SP and place it in the storage system cabinet.

# Install the Patch

## Install the patch from SPOCC

Use SPOCC to install the patch from an ISO image, or to install a pre-loaded or auto-deployed patch. For information about supported browsers for the SP, see the Single Point of Connectivity Knowledge (SPOCK) website.

---

### NOTE:

In instances where a 3PAR OS patch is obsoleted by a combination of other 3PAR OS patches, installation of a later 3PAR OS patch that requires the obsoleted patch is not possible on SP version SP-4.4.0.GA-30 (MU1) or later using SPOCC. In those instances, use SPMAINT to install the patch.

---

### Procedure

1. Connect to SPOCC with the SP IP address. Enter the SP IP address into a supported browser and login with a valid username and password: `https://<SP_IP_address>`.
  2. Click the **Support** tab and then click **Health Check**. A system health check is performed. View the report and resolve issues, if any.
  3. To return to the SPOCC main page, click the **Home** tab.
  4. Click the **Update** tab and then click **Update HP 3PAR OS**.
  5. On the **Start** step click **Next**.
- 

### NOTE:

To exit the update interface at any time, click any of the tabs in the left navigation pane, or click Cancel to return to the SPOCC home page.

---

6. On the **Select OS version** step, select one of the following options, depending on the location of the OS Patch that you want to update to:
  - **Pre-loaded**—By default, this option is selected and populated with the latest OS software version that is available. The list includes all loaded updates and patches in addition to a Revert last patch option.
  - **ISO image**—This option enables you to browse to a local ISO image file.
  - **Service Processor DVD drive**—This option enables you to import the update from the SP's physical media drive.
  - **Location path**—(Hewlett Packard Enterprise authorized users only) This option enables Hewlett Packard Enterprise authorized users to specify the location path of a directory that contains the software RPMs.
7. Click **Next**.

---

**NOTE:**

If you selected the ISO image, Service Processor DVD drive, or Location path option, the load operation occurs automatically, and the OS software version is displayed as the Pre-loaded default option.

---

8. The **Review documentation and responsibilities** page appears with links to the current 3PAR OS release notes, and the Support Center. Review the recommended documentation and best practices information. After reviewing the information, click the acknowledgment checkbox and then click **Next**.
  9. On the **Select update method** step, click **Next**.
- 

**NOTE:**

When you are applying a patch to the OS or reverting a patch, the Offline option is unavailable.

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10. On the **Validate StoreServ readiness** step, allow the checks to run, and review the results. To view detailed results of the checks, click the **details** links. If issues are detected, resolve them and then click **Re-run Validation** to run the checks again without exiting this update interface.
  11. Click **Next**.
  12. On the **Install update** step, review the update version and options you selected, and then click **Install**.
- 

 **IMPORTANT:**

An update procedure cannot be canceled after it starts.

---

**NOTE:**

If an update installation is currently in progress, you will receive the following message: The update process cannot proceed because an update is already in progress. In this case, click **OK** and you are redirected to the **Updating HP 3PAR OS** status page.

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13. On the **Updating HP 3PAR OS** status page, you can monitor the status of the update: in progress, successful, or failed. If the update fails, contact Hewlett Packard Enterprise support.
  14. After successful installation, to return to the SPOCC main page, click the **Home** tab.
  15. Click the `SPmaint` tab, and then click `Run admithw` to complete the back-end process.
- 

## Install the patch from SPMAINT

### Procedure

1. From the SPMAINT main menu, enter: `=4 . 7 . 3`, and select the storage system to be upgraded.
2. Select the option for **Patch Upgrade**, and then press **Enter**.
3. Select the number associated with the patch (3.2.2.390-P83) to apply, then press **Enter**.
4. To proceed with the update, enter: `y`.
5. When prompted, enter the auto-generated five-digit number.
6. After the update process is completed, the output displays: `Update successful`. Verify that the `Patches` entry (under the `Patches :` entry) displays **P83**.

Release version 3.2.2.390 (MU2)

Patches: P14, P20, P22, P46, P71, **P83**

Component Name	Version
CLI Server	3.2.2.658 (P71)
CLI Client	3.2.2.658
System Manager	<b>3.2.2.717 (P83)</b>
Kernel	3.2.2.390 (MU2)
TPD Kernel Code	3.2.2.390 (MU2)
TPD Kernel Patch	3.2.2.658 (P71)
CIM Server	3.2.2.404 (P14)
WSAPI Server	3.2.2.390 (MU2)
Console Menu	3.2.2.390 (MU2)
Event Manager	3.2.2.390 (MU2)
Internal Test Tools	3.2.2.390 (MU2)
LD Check Tools	3.2.2.390 (MU2)
Network Controller	3.2.2.616 (P46)
Node Disk Scrubber	3.2.2.390 (MU2)
PD Scrubber	3.2.2.390 (MU2)
Per-Node Server	3.2.2.658 (P71)
Persistent Repository	3.2.2.390 (MU2)
Powerfail Tools	3.2.2.390 (MU2)
Preserved Data Tools	3.2.2.616 (P46)
Process Monitor	3.2.2.390 (MU2)
Rolling Upgrade Tools	3.2.2.390 (MU2)
Software Updater	3.2.2.658 (P71)
TOC Server	3.2.2.390 (MU2)
VV Check Tools	3.2.2.616 (P46)
File Persona	1.2.0.54-20160113
SNMP Agent	1.8.0
SSH	6.6p1-4~bpo70+1
VASA Provider	2.2.9
Firmware Database	<b>3.2.2.717 (P83)</b>
Drive Firmware	<b>3.2.2.717 (P83)</b>
UEFI BIOS	04.08.38
MCU Firmware (OKI)	4.8.28
MCU Firmware (STM)	5.2.52
Cage Firmware (DC1)	4.44
Cage Firmware (DC2)	2.64
Cage Firmware (DC3)	08
Cage Firmware (DC4)	2.64
Cage Firmware (DCN1)	4044
Cage Firmware (DCN2)	4044
Cage Firmware (DCS1)	4044
Cage Firmware (DCS2)	4044
Cage Firmware (DCS5)	1.92
Cage Firmware (DCS6)	1.92
Cage Firmware (DCS7)	4044
Cage Firmware (DCS8)	4044
QLogic QLA4052C HBA Firmware	03.00.01.77
QLogic QLE8242 CNA Firmware	04.15.06
QLogic 8300 HBA FC Firmware	08.01.05

QLogic 8300 HBA FCoE Firmware	08.01.05
QLogic 8300 HBA iSCSI Firmware	05.07.06
Emulex LP11002 HBA Firmware	02.82.x10
Emulex LPe12002 HBA Firmware	02.03.x02
Emulex LPe12004 HBA Firmware	02.03.x02
Emulex LPe16002 HBA Firmware	10.6.248.3
3PAR FC044X HBA Firmware	200A8
LSI 9201-16e HBA Firmware	17.11.00
LSI 9205-8e HBA Firmware	17.11.00
LSI 9300-8e HBA Firmware	07.00.00

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**NOTE:**

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.

---

7. If the correct patch is listed, the patch is successfully applied to the OS.



# Review the Patch Information

From the Interactive CLI, enter `showpatch -d P83` to display the patch details. For more information about P83, see the *HPE 3PAR OS 3.2.2 MU2 Patch 83 Release Notes*.

Entry	Description
Patch ID	P83
Synopsis	Provides support for drive FW updates
Date	January 08, 2018, 11:31:43 PST
Description	See the Release Notes for details about this patch
Affected Packages	tpd-fwdb, tpd-drivefw, tpd-sysmgr, tpd-prerevert
Obsoletes	OS-3.2.2.390-P81
Requires	OS-3.2.2.390-MU2, OS-3.2.2.390-P71
Build Version	<b>3.2.2.717</b>
Supports Revert	Yes

# Complete Post-installation Tasks

## Procedure

Complete a post-installation health check. For more information, see [\*\*Verify the storage system health\*\*](#).