

HP 3PAR OS 3.2.1 MU2 Patch 13 Upgrade Instructions

This upgrade instructions document is for installing Patch 13 on the HP 3PAR Operating System Software 3.2.1.200 (MU2) with Patch 11 (P11). This document is for HP 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/pmBrowse.do?oid=5044215>.

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1 Installation Checklist

Use this checklist as a guide for your upgrade:

Task	Reference	Done
1. Review the patch details and prerequisites.	“Review the Patch Details” (page 5)	
2. Verify that the SP meets the requirements for installing this patch.	“Verify that the Service Processor Meets Requirements” (page 6)	
3. Verify that the HP 3PAR OS release level supports this patch.	“Verify the OS Release Level” (page 8)	
4. Perform a health check on the storage system.	“Verify the Storage System Health” (page 8)	
5. Download and install the patch on the SP.	“Obtain and Install the Patch on the SP” (page 9)	
6. Install the patch on the HP 3PAR OS.	“Install the Patch on the HP 3PAR OS ” (page 11)	
7. Examine the patch results and review the patch details.	“Review the Patch Information” (page 13)	
8. Perform a final health check on the system.	“Complete Post-Installation Tasks” (page 15)	

2 Review the Patch Details

The purpose of this patch is to provide support for the following drives:

- HCBF1200S5xeF010 drives on HP 3PAR StoreServ 7xxx Storage systems and HP 3PAR StoreServ 7xxxc Storage systems.
- HSCP1920S5xnFMRI drives on HP 3PAR StoreServ 7xxx Storage systems and HP 3PAR StoreServ 7xxxc Storage systems.
- SAVN1000S5xeN7.2 drives on HP 3PAR StoreServ 7xxx Storage systems and HP 3PAR StoreServ 7xxxc Storage systems.

It also resolves Recovery Manager Central (RMC) issues and additional SFPs are recognized correctly.

This patch is intended to be installed on an as required basis.

Patch Details

- Patch Name: HP 3PAR OS 3.2.1 MU2 P13
- Prerequisite: The Service Processor must be at release level SP-4.3.0.GA-24 plus the latest SP patch
- This patch applies to: HP 3PAR OS Release 3.2.1.200 (MU2) + P11

NOTE: This patch is not revertible.

Included in This Patch

HP 3PAR OS 3.2.1 MU2 P13 includes:

- Issue ID: 125866, 123601, 128243, 131864, 131867, 131868, 131866, 131869
- Description: Support for the following drives:
 - HCBF1200S5xeF010
 - HSCP1920S5xnFMRI
 - SAVN1000S5xeN7.2

Additionally, Recovery Manager Central (RMC) issues are resolved and additional SFPs are now correctly recognized. See release notes for details.

- Affected Packages: tpd-cfgfiles, tpd-drivefw, tpd-fwdb, tpd-kernelpatch, tpd-sysmgr, tpd-prerevert
- Obsoletes: OS-3.2.1.200-P10
- Requires: OS-3.2.1.200-MU2, OS-3.2.1.200-P11
- Build Version: 3.2.1.286

For more information, see the *HP 3PAR OS 3.2.1 MU2 Patch 13 Release Notes*.

NOTE: HP recommends installing patches in the same sequence as they are released, unless instructed otherwise.

3 Verify that the Service Processor Meets Requirements

The Service Processor (SP) must be at release level SP-4.3.0.GA-24 plus the latest SP patch before you install this patch.

Check the SP Release Level

1. Establish a connection to the SP.
2. From the SPMAINT main menu, enter: **=1.1** (Display SP Version).
3. Verify that the SP Version entry displays **SP-4.3.0.GA-24**.

```
1.1      Display SP Version

          SP Software Version

SP-4.3.0.GA-24

SP Base Image Version:      Red Hat Enterprise Linux Server release 6.1
(Santiago)

SP Version:                4.3.0.GA-24
SP Patches:
HP 3PAR OS release (3.2.1):  3.2.1.200-MU2
HP 3PAR OS patches (3.2.1):  3.2.1.200-P11
More detail is available in the latest SPLOR or spconfig data.
```

4. From the SPMAINT 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>)
    eeeprom   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>)
```

Table 1 Example of Basic SP Processes *(continued)*

```
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**.

Update the SP if Necessary

If the minimum SP software level requirements are not met, to update the SP software level before installing the patch, deploy from the Secure Service Collector server or install it from a physical media source.

4 Verify that the HP 3PAR OS Meets Requirements

Before you install this patch, you must ensure that:

1. The HP 3PAR OS release level is 3.2.1.200 plus Patch 11 (P11).
2. The storage system completes a health check.

Verify the OS Release Level

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 **3.2.1.200** and `Patches` entry displays **P11**, required for this patch.
5. To return to the SPMAINT main menu, enter: **exit** and then press **Enter**.

Verify the Storage System Health

Verify the health of the storage system with either SPOCC or SPMAINT.

- [“Using SPOCC to Perform a Health Check” \(page 8\)](#)
- [“Using SPMAINT to Perform a Health Check” \(page 8\)](#)

Using SPOCC to Perform a Health Check

1. Launch a web browser and connect to a Service Processor.
To connect to the SP Maintenance Ethernet port, enter: `https://<SP_IP_address>`.
2. Log in and click **Support** on the left side of the screen.
3. Click **Health Check** on the right side of the screen and a health check window appears.
4. Review the check health summary and details. If necessary, resolve any health issues.

Using SPMAINT to Perform a Health Check

1. From the SPMAINT main menu, enter: **=4.4** (Perform InServ Health Check).
2. Select the storage system to check.
3. At the confirmation, enter: **y**.
The system lists health data files for each area of the system. Check for the file with the extension `.all`.
4. Enter the number corresponding to the `.all` data file.
5. Review the summary data.
To view each subsequent page, press the spacebar.
6. To exit the file, press the **Enter** key. To return to the previous menu, select **0** (Abort Operation).
After you return to the previous menu, the report is discarded. To view the health status again, run the health check again.
7. Resolve any health issues, if present.

5 Obtain and Install the Patch on the SP

NOTE: Controller node reboot is not required to install this patch.

Install the patch on the SP by using one of the following methods before installing the patch on the OS.

Determine the patch to use:	Obtain and install the patch:
If the SP is operating in Secure Network Mode (SNM), download the selfinstall patch from the Secure Service Collector.	"Deploying the HP 3PAR OS Patch from Secure Service Collector (Selfinstall Package)" (page 9)
If you are on-site, you can install the patch from the patch CD.	"Installing the Patch from a media" (page 10)
To install the patch from an ISO image or to install pre-loaded or auto-deployed patch.	"Install the patch from SPOCC" (page 11)

Deploying the HP 3PAR OS Patch from Secure Service Collector (Selfinstall Package)

If the Service Processor is operating in Secure Network Mode (SNM), download and install the selfinstall version of the patch from the Secure Service Collector server.

NOTE: The following procedure must be performed by an authorized administrator.

1. If you are logged into SPMAINT via a DRM SSH session, log off.

⚠ **CAUTION:** Do **NOT** attempt to deploy a package to an SP while you are simultaneously logged into SPMAINT via DRM SSH.

2. Connect to the Secure Service Collector server and log on.
3. Click the **Software** tab in the upper right corner.
4. Click the **Deploy packages to assets over the Internet** link.
5. Select the OS-3.2.1.200-P13 selfinstall package and click **Next**.
6. In the **Select Assets** table, select the asset to which you want to download the package and click **Add Checked**.

NOTE: A selfinstall Package deploys to MP devices.

7. Click **Next**.
8. Select **Schedule package for immediate deployment** and click **Next**.
9. To receive alerts to events as the package deploys, select the appropriate notification options, enter your contact information, and click **Next**.
10. Review the confirmation information. To install the patch on the SP, click **Deploy**.
11. Use the **Package Deployment Manager** to check the status of the patch deployment. To refresh the page, press **F5**.
12. Verify that the patch deployment is complete, and then exit the session and log off from the server.
13. From the SPMAINT main menu, enter: **=1.1** (Display SP Version).
14. Verify that the HP 3PAR OS patches (3.2.1) entry displays **3.2.1.200-P13**.
15. Enter: **=1.13** (Display SP status).

16. 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 table [Example of Basic SP Processes \(page 6\)](#)
If the basic SP processes are running, you can now install the patch on the storage system.
If the basic SP processes differ after the patch installation, see the *HP 3PAR Service Processor Software Troubleshooting Guide*.
17. To return to the previous menu, press **Enter**.
18. To install the patch from SPOCC continue to “[Install the patch from SPOCC](#)” (page 11) or continue to “[Install the patch from SPMAINT](#)” (page 12).

Installing the Patch from a media

If you are installing the patch onsite, you can install the patch from the patch media.

1. Insert the *HP 3PAR 3.2.1 MU2 P13 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 (3.2.1)` entry displays **3.2.1.200-P13**.
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 \(page 6\)](#).
If the basic SP processes are running, you can now install the patch on the storage system.
If the basic SP processes differ after the patch installation, refer to the *HP 3PAR Service Processor Software Troubleshooting Guide*.
8. Remove the media from the SP and place it in the storage system cabinet.
9. To install the patch from SPOCC continue to “[Install the patch from SPOCC](#)” (page 11) or continue to “[Install the patch from SPMAINT](#)” (page 12)

6 Install the Patch on the HP 3PAR OS

Install the patch from SPOCC

The HP 3PAR OS can be updated to version 3.2.1 Patch 13 by using Service Processor Onsite Customer Care (SPOCC). For information about supported browsers for SP, see the Single Point of Connectivity Knowledge for HP Storage Products (SPOCK) website: <http://www.hp.com/storage/spock>.

❗ **IMPORTANT:** After the patch installation, the drive firmware is activated automatically.

1. Login to SPOCC with the SP IP address. Enter the SP IP address into a supported browser.
 - `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**—(HP authorized users only) This option enables HP authorized users to specify the location path of a directory that contains the software RPMs.

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.

7. The **Review documentation and responsibilities** page appears with links to the current HP 3PAR OS release notes, and the HP Support Center. Review the recommended documentation and best practices information. After reviewing the information, click the acknowledgement checkbox and then click **Next**.
8. 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.
9. On the *Validate StoreServ readiness* step, allow the checks to run, and review the results. You can view detailed results of the checks by clicking 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.

Click **Next**.

10. On the *Install update* step, review the update version and options you selected, and then click **Install**.

① **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.

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 HP Support.

11. After successful installation, to return to the SPOCC main page, click the **Home** tab.
12. Continue to [“Review the Patch Information” \(page 13\)](#).

Install the patch from SPMAINT

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 (3.2.1.200-P13) to apply and then press **Enter**. To proceed with the update, enter: **y** and enter the auto-generated five digit number when prompted.
4. After the update process is completed, the output displays: `Update successful`. Verify that the `Patches` entry (under the `Patches :` entry) displays **P13**.

```
Release version 3.2.1.200 (MU2)
Patches: P11, P13

Component Name          Version
CLI Server              3.2.1.226 (P11)
CLI Client              3.2.1.226
System Manager          3.2.1.286 (P13)
Kernel                 3.2.1.200 (MU2)
TPD Kernel Code         3.2.1.200 (MU2)
TPD Kernel Patch        3.2.1.286 (P13)
.

Firmware Database       20150424
Drive Firmware          20150424
```

NOTE: When displaying the `showversion` command output from the Service Processor, the CLI Client version is fixed in the SP code, and might differ from the output displayed from any other system.

5. If the correct patch is listed, the patch is successfully applied to the OS.
6. Continue to [“Review the Patch Information” \(page 13\)](#).

7 Review the Patch Information

1. From the Interactive CLI, enter: **showpatch -d P13**

The output displays these details about the patch:

Entry	Description
Patch ID	P13
Synopsis	Support for new drives, additional SFPs and resolution of RMC issues.
Date	April 24, 2015, 18:50:47 PDT
Bugs fixed	125866, 123601, 128243, 131864, 131867, 131868, 131866, 131869
Description	Support for the following drives: HCBF1200S5xeF010 HSCP1920S5xnFMRI SAVN1000S5xeN7.2 Additionally, Recovery Manager Central (RMC) issues are resolved and additional SFPs are now correctly recognized. See release notes for details.
Affected Packages	tpd-cfgfiles, tpd-drivefw, tpd-fwdb, tpd-kernelpatch, tpd-sysmgr, tpd-prerevert
Obsoletes	OS-3.2.1.200-P10
Requires	OS-3.2.1.200-MU2, OS-3.2.1.200-P11
Build Version	3.2.1.286
Notes	Description of the incorporated patch: Patch ID: P10 Synopsis: Support for new and existing drives Date: February 02, 2015, 15:10:06 PST Bugs fixed: 123439, 113898, 125158, 125161 Description: Support for the following drives: HSCP0920S5xnFMRI HKCF0600S5xeF015 HSCP1920S5xnFMRI DOPA0920S5xnNMRI DOPA0480S5xnNMRI Affected Packages: tpd-fwdb, tpd-drivefw, tpd-prerevert Obsoletes: None Requires: OS-3.2.1.200-MU2 Build Version: 3.2.1.224

For more information about the details of this patch, see [“Patch Details”](#) (page 5).

2. Continue to [“Updating Back-End Components”](#) (page 14).

8 Updating Back-End Components

You can update the back-end components either from SPMAINT menu or from SPOCC.

Updating back-end components from SPMAINT

After completing the patch installation, to update the firmware:

1. To start a CLI session from the SPMAINT main menu, enter: =7.
2. Issue the `starttask admithw -ni` CLI command to complete the back-end updates.

The task number is displayed when the task is initiated. Record the task number.

3. To verify that the task is completed and the firmware is activated successfully, issue the `showtask -d <task_ID>` command.

If the task fails, resolve the issue that caused the failure. After the issue is resolved, execute the `starttask admithw -ni` CLI command again and monitor the task for successful completion.

4. To verify that the disk drives indicate a normal state, issue the `showpd` command.
5. The back-end components update process is now complete. Continue to [“Complete Post-Installation Tasks”](#) (page 15).

Updating back-end components from SPOCC

After completing the patch installation, to update the firmware:

1. Login to SPOCC with the SP IP address. Enter the SP IP address into a supported browser.
 - `https://<SP_IP_address>`
2. Click the **Support** tab and then click **Execute a CLI command**.
3. To complete the back-end updates, enter the command `starttask admithw -ni` in the **Enter your command** menu and then click **submit**.

The task number is displayed when the task is initiated. Record the task number.

4. To verify that the task is completed and the firmware is activated successfully, enter the command `showtask -d <task_ID>` in the **Enter your command** menu and then click **submit**.

If the task fails, resolve the issue that caused the failure. After the issue is resolved, execute the `starttask admithw -ni` CLI command again and monitor the task for successful completion.

5. To verify that the disk drives indicate a normal state, enter the command `showpd` in the **Enter your command** menu and then click **submit**.
6. The back-end components update process is now complete. Continue to [“Complete Post-Installation Tasks”](#) (page 15).

9 Complete Post-Installation Tasks

1. Complete a post-installation health check. For more information, see [“Verify the Storage System Health” \(page 8\)](#).
2. Notify the customer that the patch application is complete.