HPE 3PAR OS 3.3.1 Patch 02 Release Notes

Abstract

This release notes document is for Patch 02 and intended for HPE 3PAR Operating System Software 3.3.1.215.

Contents

Purpose

The HPE 3PAR OS 3.3.1 Patch 02 provides several quality improvements.

Guidance

- This patch is intended for HPE 3PAR OS 3.3.1 GA.
- This is a recommended patch.
- All HPE 3PAR StoreServ Storage Systems running HPE 3PAR OS 3.3.1 GA are susceptible to the issues corrected in this patch.

Prerequisites

- SP prerequisite: SP-5.0.0.0-22913 or later
- OS prerequisites: OS-3.3.1.215-GA, OS-3.3.1.215-P01

Patch details

Patch ID: P02

Synopsis: Provides several quality improvements

Date: May 30, 2017, 18:38:44 PDT

Description: See the Release Notes for details about this patch

Affected Packages: tpd-cli, tpd-sysmgr, tpd-tocsvr, tpd-kernelpatch, tpd-libcli, tpd-nodesvr, tpd-update, tpd-prerevert

Obsoletes: None

Requires: OS-3.3.1.215-GA,OS-3.3.1.215-P01

Build Version: 3.3.1.228

Supports Revert: Yes

Notes:

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.

Modifications

The following issues are addressed in this release:

Issue IDs: 159516

Issue summary: Reduced I/O block times for consistent imports

Affected platforms: StoreServ 7000, StoreServ 8000, StoreServ 10000, StoreServ 20000

Affected software versions: 3.2.2 MU4, 3.3.1 GA

Issue description: Reduces host I/O stall times near the end of a Peer Motion migration where consistency groups are being used.

Symptoms: Host may see longer I/O stall times of about 1 to 2 minutes near the end of migration.

Conditions of occurrence: Using consistency groups for migration with large number of volumes or large sized volumes.

Impact: High, Medium

Customer circumvention: Avoid using consistency groups for migration as a workaround.

Customer recovery steps: None.

Issue IDs: 165063

Issue summary: Online conversions, online copy, online promote, `updatevv`, and imports have long I/O stall times.

Affected platforms: StoreServ 20000

Affected software versions: 3.2.2 GA, 3.2.2 MU4, 3.3.1 GA

Issue description: Online conversions, online copy, online promote, `updatevv`, and imports have long I/O stall times due to internal structure invalidation.

Symptoms: Host may experience longer than normal service times at the end of migration.

Conditions of occurrence: Starting Online Imports, peer-motion imports or `updatevv`.

Impact: High

Customer circumvention: Avoid online conversions, online copy, online promote, `updatevv`, and imports on StoreServ 20000 systems.

Customer recovery steps: Use standard recovery for host timeouts.

Issue IDs: 188463

Issue summary: Single node will not boot after clean shutdown when 2nd node has a bad voltage regulator.

Affected platforms: StoreServ 7000

Affected software versions: 3.2.1 MU3, 3.2.1 MU5, 3.2.2 MU4, 3.3.1 GA

Issue description: After properly shutting down the system, if a power regulator failure prevents a controller node from booting, the system will not boot because it is waiting for the missing controller node to boot.

Symptoms: On a 2 node system, after a proper shutdown, the array does not boot while waiting for the other controller node to join the cluster.

Conditions of occurrence: When a 2 node array is shutdown and simultaneously encounters a power regulator failure.

Impact: High

Customer circumvention: None

Customer recovery steps: None

Issue IDs: 199218

Issue summary: Imports and `updatevv` have long host I/O stall times.

Affected platforms: StoreServ 7000, StoreServ 8000, StoreServ 10000, StoreServ 20000

Affected software versions: 3.3.1 GA

Issue description: Imports or `updatevv` with a large list of VVs will have long I/O stall times.

Symptoms: Longer than normal host service times on VLUNS.

Conditions of occurrence: Start an import or `updatevv` with multiple list of VVs, a VVset or consistency group.

Impact: High

Customer circumvention: Avoid using imports or `updatevv` with a large list of VVs.

Customer recovery steps: Use standard recovery for host timeouts.

Issue IDs: 200023

Issue summary: The `showpatch -hist` command output shows the **Id** as NA.

Affected platforms: StoreServ 7000, StoreServ 8000, StoreServ 10000, StoreServ 20000

Affected software versions: 3.2.2 MU4, 3.3.1 GA

Issue description: The `showpatch -hist` command output shows the **Id** as NA

Symptoms: The `showpatch -hist` command output shows the **Id** as NA

Conditions of occurrence: Running the CLI command `showpatch -hist`

Impact: Low

Customer circumvention: None

Customer recovery steps: None

Issue IDs: 200464

Issue summary: The command `updatevv -removeandrecreate` skips the addition of some of the VVs within a virtual volume set. The resultant VVs are missing from virtual volume set.

Affected platforms: StoreServ 7000, StoreServ 8000, StoreServ 10000, StoreServ 20000

Affected software versions: 3.2.1 GA, 3.2.1 MUx, 3.2.2 GA, 3.2.2 MUx, 3.3.1 GA

Issue description: `updatevv -removeandrecreate`, may skip A VV while adding it in Virtual Volume Set (VVSet).

Symptoms: `updatevv -removeandrecreate` all snapshots may not be added back to the VVSET.

Conditions of occurrence: Using `updatevv -removeandrecreate`

Impact: High

Customer circumvention: Do not user `updatevv -removeandrecreate`.

Customer recovery steps: Create the snapshot manually in the VVSet.

Issue IDs: 205041

Issue summary: When retention is applied, a scheduled task to create a snapshot is marked failed even though snapshot creation and removal are successful.

Affected platforms: StoreServ 7000, StoreServ 8000, StoreServ 10000, StoreServ 20000

Affected software versions: 3.3.1 GA

Issue description: When scheduled task of createfsnap is created with a retention period, the creation of the snapshot and removal of the old snapshot is successful from PML, but CLI intermittently indicates a failure in task details.

Symptoms: Even though the snapshot creation and reclamation is successful, the task indicates that the operation has not completed successfully.

Conditions of occurrence: When system is serving a heavy load and the customer executes numerous snapshot tasks.

Impact: Medium

Customer circumvention: None

Customer recovery steps: No recovery steps are required since creation and removal of snapshots are successful.

Issue IDs: 206194

Issue summary: When compressed or compressed deduplicated volume grows over 4TB, the VV master controller node may restart unexpectedly.

Affected platforms: StoreServ 7000, StoreServ 8000, StoreServ 10000, StoreServ 20000

Affected software versions: 3.3.1 GA

Issue description: Unexpected controller node restart that may result in unexpected array restart

Symptoms: Master controller node restarts unexpectedly, subsequent master controller node may also restart unexpectedly, triggering a full array restart.

Conditions of occurrence: Use of compressed or compressed deduplicated volume larger than 4TB in size.

Impact: High

Customer circumvention: Install Patch 02 or 3.3.1-EGA.

Customer recovery steps: None

Issue IDs: 206441

Issue summary: Unexpected array restarts in response to meta-data inconsistencies.

Affected platforms: StoreServ 7000, StoreServ 8000, StoreServ 10000, StoreServ 20000

Affected software versions: 3.3.1 GA

Issue description: After removing all Thinly Deduplicated Virtual Volumes (TDVV) within a CPG, and a controller node reboot or system manager restart, the next TDVV creation may result in LDs being reused.

Symptoms: The array or controller node may not successfully restart.

Conditions of occurrence: A new TDVV is created in a new CPG, after all TDVV are removed from an existing CPG and the array, a controller node or System Manager is restarted.

Impact: High

Customer circumvention: After removing all TDVVs within a CPG do not immediately reboot or shutdown the array.

Customer recovery steps: None

Issue IDs: 206840

Issue summary: Array unexpectedly restarts during Remote Copy operation when a read is requested from a disk during disk firmware upgrade.

Affected platforms: StoreServ 7000, StoreServ 8000, StoreServ 10000, StoreServ 20000

Affected software versions: 3.3.1 GA

Issue description: During an online upgrade to 3.3.1, HDD/SSD firmware is upgraded. It is possible for two HDD/SSD to be involved in the firmware upgrade process, one is in logging mode while other one is in log playback mode.

Symptoms: Customer applications may abort if array unexpectedly restarts as data is temporarily unavailable.

Conditions of occurrence: Online upgrade with Remote Copy active.

Impact: High

Customer circumvention: Perform the online upgrade to 3.3.1-EGA

Customer recovery steps: None.

Affected components

Component	Version
CLI Client	3.3.1.228
System Manager	3.3.1.228 (P02)
TOC Server	3.3.1.228 (P02)
TPD Kernel Patch	3.3.1.228 (P02)

Verification

The installation of P02 can be verified from an interactive CLI session. Issue the CLI command `showversion -a -b` to verify that P02 is listed:

```
cli% showversion -a -b
Release version 3.3.1.215
Patches:  P01,P02

Component Name                    Version
CLI Server                        3.3.1.228 (P02)
CLI Client                        3.3.1.228
System Manager                    3.3.1.228 (P02)
Kernel                            3.3.1.215
TPD Kernel Code                   3.3.1.215
TPD Kernel Patch                  3.3.1.228 (P02)
CIM Server                        3.3.1.215
WSAPI Server                      3.3.1.215
Console Menu                      3.3.1.215
Event Manager                     3.3.1.215
Internal Test Tools               3.3.1.215
LD Check Tools                    3.3.1.215
Network Controller                3.3.1.215
Node Disk Scrubber                3.3.1.215
PD Scrubber                       3.3.1.215
Per-Node Server                   3.3.1.228 (P02)
Persistent Repository             3.3.1.215
Powerfail Tools                   3.3.1.215
Preserved Data Tools              3.3.1.215
Process Monitor                   3.3.1.215
Software Updater                  3.3.1.228 (P02)
TOC Server                        3.3.1.228 (P02)
VV Check Tools                    3.3.1.217 (P01)
Upgrade Check Scripts             170330.U004 (3.3.1.215)
File Persona                      1.3.0.74-20170309
SNMP Agent                        1.10.0
SSH                               6.0p1-4+deb7u5
VASA Provider                     3.0.12
Firmware Database                 3.3.1.217 (P01)
Drive Firmware                    3.3.1.215
UEFI BIOS                         05.02.54
MCU Firmware (OKI)                4.8.60
MCU Firmware (STM)                5.3.17
Cage Firmware (DC1)               4.44
Cage Firmware (DC2)               2.64
Cage Firmware (DC3)               08
Cage Firmware (DC4)               2.64
Cage Firmware (DCN1)              4082
Cage Firmware (DCN2)              4082
Cage Firmware (DCS1)              4082
Cage Firmware (DCS2)              4082
Cage Firmware (DCS5)              2.78
Cage Firmware (DCS6)              2.78
Cage Firmware (DCS7)              4082
Cage Firmware (DCS8)              4082
QLogic QLA4052C HBA Firmware      03.00.01.77
QLogic QLE8242 CNA Firmware       04.15.27
QLogic 260x HBA FC Firmware       174.03.70
QLogic 27xx/268x HBA FC Firmware 174.03.70
```

```
QLogic 83xx HBA FCoE Firmware     08.01.05
QLogic 8300 HBA iSCSI Firmware    05.07.35
Emulex LP11002 HBA Firmware       02.82.x10
Emulex LPe12002 HBA Firmware      02.10.x02
Emulex LPe12004 HBA Firmware      02.10.x02
Emulex LPe16002 HBA Firmware      11.1.220.6
Emulex LPe16004 HBA Firmware      11.1.220.6
3PAR FC044X HBA Firmware          200A8
LSI 9201-16e HBA Firmware         17.11.03
LSI 9205-8e HBA Firmware          17.11.03
LSI 9300-8e HBA Firmware          10.00.08
```

Websites

General websites

Hewlett Packard Enterprise Information Library

www.hpe.com/info/EIL

Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix

www.hpe.com/storage/spock

Storage white papers and analyst reports

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

  Hewlett Packard Enterprise Support Center: Software downloads

    www.hpe.com/support/downloads

  Software Depot

    www.hpe.com/support/softwaredepot
- To subscribe to eNewsletters and alerts:

  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

  (!) **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.

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

        www.hpe.com/services/getconnected

    HPE Proactive Care services

        www.hpe.com/services/proactivecare

    HPE Proactive Care service: Supported products list

        www.hpe.com/services/proactivecaresupportedproducts

    HPE Proactive Care advanced service: Supported products list

        www.hpe.com/services/proactivecareadvancedsupportedproducts

Proactive Care customer information

    Proactive Care central

        www.hpe.com/services/proactivecarecentral

    Proactive Care service activation

        www.hpe.com/services/proactivecarecentralgetstarted

Warranty information

To view the warranty for your product or to view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products* reference document, go to the Enterprise Safety and Compliance website:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional warranty information

    HPE ProLiant and x86 Servers and Options

        www.hpe.com/support/ProLiantServers-Warranties

    HPE Enterprise Servers

        www.hpe.com/support/EnterpriseServers-Warranties

    HPE Storage Products

        www.hpe.com/support/Storage-Warranties

HPE Networking Products

www.hpe.com/support/Networking-Warranties

Regulatory information

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

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

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

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

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