Sun StorEdge™ 5210 and 5310 NAS Appliance Release Notes

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Contents

Sun StorEdge 5210 and 5310 NAS Appliance Release Notes

These release notes contain information for the Sun StorEdge™ 5210 and 5310 NAS Appliance software version 4.10, which is backwards compatible with the Sun StorEdge 5210 and 5310 NAS Appliance software.

When installing the Sun StorEdge 5310 Cluster, use these release notes with the *Sun StorEdge 5310 NAS Appliance and Gateway System Getting Started Guide*, 819-3237-10.

These release notes contain the following sections:

Important – The Web Administrator supports only a single login at a time. A best practice would thus be to have only one person administering the system at a time to avoid command conflicts. In a cluster configuration you must login to each server separately to manage that server.

System Requirements

The Sun StorEdge 5210 and 5310 NAS Appliance system ships with the Web Administrator software already installed. You do not need to install any software to manage the Sun StorEdge 5210 and 5310 NAS Appliance.

To access the Web Administrator management interface, you must have a network-attached computer running one of the following browsers. You must use a Java™ technology-enabled browser with Java Plug-In 1.3.1 (minimum version).

- Internet Explorer
- Mozilla™
- Netscape Navigator™

Note – To download the latest Java Plug-in software, go to `http://java.com`.

▼ To Determine Your Software and Build Versions

Perform one of the following procedures.

- Access the Web Administrator navigation panel and select System Operations → Update Software.
- Type `version`, on the command-line interface (CLI), and, for example, build 18 will display:

```
4.10 M0 (build 18)
```

Software Updates

Please upgrade your system by downloading the latest version of software from `http://sunsolve.sun.com`. Select the Patchfinder link, and then enter the patch number that is appropriate for your system.

- 118216   Software for the Sun StorEdge 5210 Appliance
- 119351   Software for the Sun StorEdge 5310 Appliance

New Features

The following new enhancements are provided with release 4.10:

- Sun StorEdge 5310 NAS Gateway system which provides Network File System (NFS) and Common Internet File System (CIFS) file services for the following systems.

  - Sun StorEdge 9970 and 9980 systems

  - Sun StorEdge 6920 system

- In-Band RAID Management (IBRM). With release 4.10, the management of LUNs and RAID configurations is included in the user interface for the Sun StorEdge 5210 and 5310 NAS Appliance (excluding Gateway configurations). Previously, LUN management was only available for Sun StorEdge 5210 NAS Appliance configurations.

- RAID 0+1 support for the Sun StorEdge 5310 Gateway system

- A new documentation set

Resolved Issues

The following issues have been resolved with this release.

- It is now possible to correctly mount a /vol*.chkpnt volume at the root level. Mounting a checkpoint volume using the following command will no longer cause a pwd command malfunction.

```
mount -F nfs se5k:/vol01.chkpnt    /z/vlcp
```

- The Simple Network Management Protocol (SNMP) attribute system.sysDescr.0 is now set correctly

- All checkpoints now list the Backup option.

- The Environmental Monitoring Unit (EMU) boards in the Sun StorEdge 5210 NAS Appliance expansion unit are now properly instrumented and monitored.

- The network-attached storage (NAS) head no longer sends false battery errors under any circumstances.

- The file transfer protocol (FTP) module in the NAS operating system now loads automatically at startup but remains disabled by default.

- The graphical user interface (GUI) can now show as many as three external expansion units instead of two.
- The console now displays all file volumes, even if more than 50 were created.
- Create and Delete bonding (port aggregate) occasionally caused an unresponsive system; this has been fixed.
- Large Network Data Management Protocol (NDMP) backup will not fill up /dvol with NDMP job files.
- SNMP attribute se5210RaidBBUStatus is set to "normal."
- On a Common Storage Module (CSM) redundant array of independent disks (RAID) controller hardware failure, pulling out the controller with active I/Os no longer causes volumes to go Read-Only.
- Occasional disk or Fibre Channel errors while running I/Os no longer cause some volumes to be marked Read-Only.
- A RAID volume will now automatically start rebuilding on an Expansion Unit Fibre (BU F (with a space between the U and F)) expansion unit when using existing HotSpares.
- NDMP Direct Access Restore (DAR) recovery will work with Backup Type set to "tar."
- Web Administrator will indicate read-only volumes if there is a LUN failure.
- There are no longer inconsistencies between setting the time zone from the Telnet Menu/CLI and Web Administrator.
- In-Band RAID management is now supported as of release 4.10, therefore the help topics are now valid.
- Old exports should no longer appear when there are no associated volumes.
- When a cluster is in failover mode, if a volume is created from the Alone head on a logical unit Logical Unit Number (LUN) that was originally owned by the Quiet head, applications accessing that volume should no longer get an EACCESS error during the cluster recovery process.
- If you add a new tray, you can assign ownership of an unowned LUN with the Web Administrator.
- When a mirrored volume is Promoted using the Web Administrator, a status message is now displayed on the GUI.
- The cluster should not lose time and get out of sync when under extreme load.

Known Issues

The following issues are not resolved at this time.

- Upgrading CRM firmware using In-Band RAID Management (IBRM) might cause all LUNs on the Sun StorEdge 6130 array to failover to a single RAID controller.

  Workaround: Place the ***LUNS*** back on the ***primary*** path by using the Web Administrator.

- The date/time shown on the System Events Panel is the client's machine time and not the Sun StorEdge 5210 or 5310 NAS Appliance's system time.

- An NDMP recover has mismatch on timestamp for the intermediate directories

  An NDMP recover may restore the mid-level directories with an incorrect "creation" timestamp. However, the target directories and files will be recovered with the correct timestamp.

- If the Sun StorEdge 5210 or 5310 NAS Appliance is shut down in a method other than using the Web Administrator, or if the Web Administrator loses contact with the Sun StorEdge 5310 NAS Appliance, the browser may stop working.

  Workaround: Close all instances of the Web Administrator and Web browsers. After the system reboots, reopen a Web browser and relaunch the Java browser interface.

- The Notification Email URL field shows the hostname URL. You might not be able to connect to the Web Administrator by clicking this URL.

  Workaround: If the Domain Naming System (DNS) does not resolve the hostname, use the IP address to connect to the Sun StorEdge 5210 or 5310 NAS Appliance. Ensure the hostname defined in the Sun StorEdge 5210 or 5310 NAS Appliance is registered in a name server (for example. DNS or Network Information System (NIS)).

- High Availability and Port aggregation bond IP address may not restore properly after you delete a bond.

  Workaround: Select a different IP address for the bond.

- Poor RX/TX optical signal strength may result in degraded performance.

  Workaround: If there are no other critical hardware errors and you see significant performance degradation, this degradation could be related to fibre channel link errors. Contact Sun Service for assistance. (See "Service Contact Information" on page 17.)

- When you run Configure NFS → Setup Hosts → Add User, the window contents don't refresh, and the system appears to stop working because of many entries in the NIS/NIS+ mappings.

Please wait for the system to finish processing and repaint the screen. Do not reboot your system.

- The Apply button becomes unusable when attempting to create a LUN with more than six SATA drives from the Manage Raid option of the Web Administrator.

  Workaround: When reconfiguring SATA drives using the Web Administration tools, be sure to not go over the 2.0 Terabyte LUN maximum size limit of the RAID controller.

- The Web Administrator stops receiving input from the keyboard. The mouse input continues to work.

  Workaround:

  1. **On UNIX systems, close your browser and end the** java_vm **process. On Windows systems, quit your browser and open the "Windows Task Manager" and select the process tab.**

  2. **Ensure that all browser processes have ended.**

  3. **Restart your browser to start a new Java virtual machine (JVM) process and resume normal operation.**

     This is an issue between certain JVMs and browsers.

- Attempts to login to a system with an offline LUN using the Web Administrator results in an error of "Login rejected." Attempting to delete a volume from an offline LUN results in the server not responding.

  Workaround: This can occur when an offline LUN caused by a double fault is followed by a deletion of a filesystem from that LUN. A reboot is required.

Cluster-Specific Issues (Sun StorEdge 5310 Cluster Only)

The following cluster-specific issues are not resolved at this time.

- In a cluster system using In-Band RAID Management (IBRM), it is important that the HBA ports on head 2 link to the same RAID Controller as the ports on head 1 using the same sequence. The setup needs to be mirrored.

  For example, if HBA port 2 on Head 1 is connected to Controller A, then HBA port 2 on Head 2 must be connected to Controller A on the same array controller. See FIGURE 1 for an example.
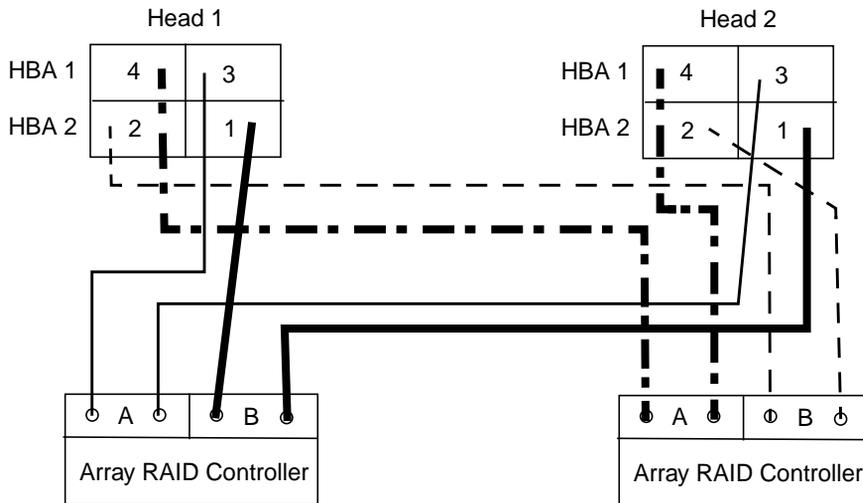
FIGURE 1 Relationship of HBA Ports to RAID Controllers

- Manual movement of LUNs between heads results in a zero capacity reading. This occurs during initial cluster setup or when adding new trays.

  Workaround: Run a manual disk scan from either the Web Administrator or the Telnet Menu/CLI and the head will refresh the LUN capacity.

- In a cluster configuration, if the QUIET head experienced system problems during recovery, some of its volumes may fail to mount on the ALONE head.

  Workaround: Using the Telnet Menu / CLI, type the following command:

```
mount -f /volume_name
```

- In a cluster configuration, before doing a recovery, check the partner head using the LCD to see if the head is in QUIET mode. Then do the recovery from the Web Administrator or Telnet Menu of the ALONE head.

  If physical access to the system is not available, you should Telnet to the cluster system. You will be logged into the Alone head. From there you can either check the log to ensure that the Quiet head has finished booting, or ping the Quiet head's heartbeat. By default the heartbeat IP is 10.10.10.1 for head 1 and 10.10.10.2 for head 2.

- In a cluster configuration, a head should only modify file permissions on file systems owned by that head and not those owned by the partner head.
- Attempting to login to the Web Administrator fails with a long delay and the message "Login rejected."

  Workaround: Close all the browser instances, then restart the Web Administrator. This appears to occur with Mozilla variants of web browsers and not Internet Explorer.
- A new LUN created from cluster heads displays with owner as "Unowned."

  Workaround: Assign LUN ownership using the Web Administration GUI or Telnet/CLI.

Compliance-Specific Issues (Sun StorEdge 5310 Appliance and Sun StorEdge 5310 Cluster Only)

The following compliance-specific issues are not resolved at this time.

- The compliance feature of worming a file through Windows is turned off by default.

  Workaround: Turn the Windows trigger on by using the following CLI command:

```
fsctl compliance wte on
```

- When a compliance license expires or is removed, the system will maintain compliance rules, but no new compliance volumes may be created.

File Replicator-Specific Issues

The following replicator-specific issues are not resolved at this time.

- During creation of a new mirror, if the Target/Mirror system does not have enough space and partitions, then the Source/Master system continuously retries until enough space and partitions are available.

  Workaround: You can break the mirror. Then recreate the mirror after enough space and partitions are available on the target system.

- If there is a system failure (such as a power failure) within 10 seconds of the start of a change role process, both systems may be set as the TARGET and there will be no MASTER, causing loss of the mirror.

  Workaround: Please contact Sun Technical Support for help in re-establishing your mirror.

- If you do a Change Role operation while there is heavy I/O activity on the master volume, the master might time out, and you might lose CIFS access to the volume.

  Workaround: Do a manual remount of the file volume from the CLI. For example, if the volume name is volx, type the following:

```
nas-5310> umount /volx
nas-5310> mount /volx
```

- The RESYNC option is not available in the Web Administrator.

  Workaround: This option is available via the Telnet Menu.

- During mirroring with heavy I/O activity, or during mirroring with cluster systems, you might see the following messages in the logs of the target/mirror server:

```
nmir: deseq_recv: The mirror log appears to be full
```

  Workaround: These messages are for informational purposes and the mirrors will continue with the normal operation. These messages can be safely ignored.

Gateway-Specific Issues (Sun StorEdge 5310 Gateway System Only)

The following gateway-specific issues are not resolved at this time.

- In a Gateway-clustered system, each head must have two Fiber Channel connections to a SAN storage unit. One Fiber Channel connection is insufficient for proper funtionality.

- After remapping a LUN from other SAN Hosts to the NAS Gateway, the LUN may appear to be inaccessible.

  Workaround: Run the CLI disk *disk_name* command. If the owner of the LUN is listed as "noDPMGR," then the disk has residual data.

  Run the following CLI command to clear the data and make the LUN usable.

  ```
  disk disk_name,partition_number zap
  ```

Caution – The zap command reformats the LUN. The disk table will be deleted.

Addenda to the Documentation

This section includes information that is additional to or overrides information in the documentation. It contains the following topics.

- "Online Help" on page 11
- "Upgrade to 4.10 Requires Resetting the Timezone" on page 12
- "Reintroduction of a LUN Requires a Reboot" on page 12
- "Offline LUNs Cannot Be Deleted" on page 12
- "Do Not Manually Mount /CVOL" on page 12
- "raidctl Command" on page 12
- "File Replication Using Clusters" on page 14
- "Exporting a File Volume" on page 14
- "MIB Files" on page 15
- "NAS System Log Messages" on page 15
- "Identification of Specific Disks for Replacement" on page 15
- "Scheduling Multiple Checkpoints Per Volume" on page 16

Online Help

The Set Up NIS panel is missing a description for the Check Rate field. The description of the Check Rate field is as follows:

Check Rate - Enter the frequency in minutes you want the NIS information to be refreshed. The default is five minutes.

Locate Drive and Locate Drive Tray

These two pages are missing from the Online Help. To determine these parameters, bring up the Web Administrator GUI navigation panel and select RAID → Manage RAID. The Manage RAID Panel is displayed. Then click the Locate Drive or Locate Drive Tray button. This causes the LCD indicator for the drive or drive tray to flash.

Upgrade to 4.10 Requires Resetting the Timezone

When upgrading to 4.10, you will be asked to re-enter timezone information, even though it was previously entered. This is due to a changed implementation that offers additional timezone locations.

Reintroduction of a LUN Requires a Reboot

A reboot is required when a LUN is deleted and then reintroduced to the NAS using a method other than In-Band RAID Management.

Offline LUNs Cannot Be Deleted

LUNs or volumes that are offline cannot be deleted. The LUN must be brought online before it or its volumes can be deleted.

Do Not Manually Mount /CVOL

The /cvol file system should not be manually shared or mounted. Do not make modifications to /cvol using any method other than the Web Administrator or Telnet/CLI.

Note – Sun Support Engineers are authorized to perform a manual mount.

---

raidctl Command

The raidctl command enables you to manage the Sun StorEdge 5310 NAS Appliance RAID controllers from the command-line interface (CLI). To get help on the raidctl subcommands, enter the raidctl help command.

Controlling LEDs

Use the raidctl locate command to control the LEDs in a tray.

To cause all LEDS in the tray to blink, enter:

raidctl locate type=lsi target=tray ctlr=0..*n* tray=0..*n*

To cause a specified drive's LED to blink, enter:

```
raidctl locate type=lsi target=drive ctlr=0..n tray=0..n slot=1..n
```

To stop blinking LEDs for a specified controller, enter:

```
raidctl locate type=lsi action=stop ctlr=0..n
```

Getting Events and Configuration Information

Use the `raidctl get` command to get RAID controller events and configuration information.

To get all events for a specified controller, enter:

```
raidctl get type=lsi target=events ctlr=0..n
```

The log of all events will be written to `/cvol/log/2882ae.log` file. If the file already exists, you will be prompted to overwrite the file, specify a new file name, or cancel the operation.

To get critical events for a specified controller, enter:

```
raidctl get type=lsi target=events ctlr=0..n etype=critical
```

The log of critical events will be written to `/cvol/log/2882ce.log` file. If the file already exists, you will be prompted to overwrite the file, specify a new file name, or cancel the operation.

To get configuration information for a specified controller, enter:

```
raidctl get type=lsi target=profile ctlr=0..n
```

Setting the Controller Time and Battery Age

Use the `raidctl set` command to set the time and battery age of a RAID controller.

To reset a specified controller's battery age, enter:

```
raidctl set type=lsi target=battery-age ctlr=0..n
```

To synchronize a controller's time with the server's time, enter:

```
raidctl set type=lsi target=ctlr_time-age ctlr=0..n
```

Downloading Firmware

Use the `raidctl download` command to download firmware. Download the firmware to the following directories:

Firmware	Directory
Controller	/cvol/firmware/2882/ctlr/
Controller NVSRAM	/cvol/firmware/2882/nvsram/
JBOD	/cvol/firmware/2882/jbod/
Disk	/cvol/firmware/2882/drive/

To download firmware to a specified controller, enter:

```
raidctl download type=lsi target=ctlr ctlr=0..n
```

To download firmware to a specified controller's NVSRAM, enter:

```
raidctl download type=lsi target=nvsram ctlr=0..n
```

To download firmware to a specified JBOD, enter:

```
raidctl download type=lsi target=jbod ctlr=0..n tray=1..n
```

To download firmware to a specified drive, enter:

```
raidctl download type=lsi target=drive ctlr=0..n tray=0..n slot=1..n
```

File Replication Using Clusters

Do not perform mirror operations such as change role when a cluster is in a degraded state. Please refer to the *Sun StorEdge 5310 NAS Appliance and Gateway System Administration Guide*, 819-3238-10, for information on best practices.

Exporting a File Volume

You can export a file volume only to a set of hosts with root permission (like Sun Solaris or UNIX) by adding the hosts to the "trusted group" using the Set Up Hosts screen.

Another way of doing this is to add the set of hosts to a Host Group and then export the required file volume against this group using the "with Map Root User set to Root User" option.

MIB Files

The Management Information Base (MIB) files are installed with the image in the *boot_directory*/www/data/mib directory. For example, /cvol/nf1/www/data/mib.

The MIB files may also be found in the release software download from http://sunsolve.sun.com.

NAS System Log Messages

If your system log contains error messages stating "Unowned SFS2" volumes, call Technical Support for assistance.

Identification of Specific Disks for Replacement

This section applies only to non-Gateway systems.

If you have a disk drive failure, use the log entry to help you identify the specific disk (you can interpret disk locations in both the system log and diagnostic reports the same way). The following is a log entry example.

```
Controller 0  enclosure 0  row 0  column 6
```

To interpret such log entries, keep the following points in mind:

- Ignore any channel and target numbers.
- Controller numbering starts at 0. For example, the controllers in the first array are 0 (slot A) and 1 (slot B), and the controllers in the second array are 2 and 3.
- Enclosure numbering starts at 0 and is relative to the array to which it belongs. For example, if the first array has 2 enclosures they are identified as enclosure 0 and 1.
- Row numbering is always 0 for the Sun StorEdge 5310 Cluster System.
- Column numbering starts at 0 and specifies the slot number in the enclosure.

Thus, you can interpret the example as indicating slot 7 of the first enclosure in the first array.

Note – There is no standard way to identify which array is the first one and which is the second one. Typically, the first HBA port is connected to the first array, the second HBA port is connected to the second array, and so on.

Scheduling Multiple Checkpoints Per Volume

Scheduled checkpoints per volume are limited to 5, but multiple checkpoints may be specified per schedule.

The following is an example:

```
                          Days       Hours AM       Hours PM        Keep

      Enabled  Description  SMTWTFS   M1234567890E   M1234567890E  Days + Hours

1.      Y      MTWTF5am5pm  -*****-   -----*------   -----*------  1      0

2.      Y      SunWed1pm    *--*---   ------------   -*----------  0      12

3.      Y      MWFmidnight  -*-*-*-   *-----------   ------------  0      3

4.      Y      Weekend      *-----*   *-----*-----   *-----*-----  0      6

5.      Y      FriEvery2hrs -----*-   *-*-*-*-*-*-   *-*-*-*-*-*-  0      2
```

Release Documentation

The following documentation is posted on the documentation Web site at:

`http://www.sun.com/hwdocs/Network_Storage_Solutions/nas`.

Title	Part Number
Sun StorEdge 5310 NAS Gateway System Poster	819-3240-10
Sun StorEdge 5310 NAS Appliance and Gateway System Getting Started Guide	819-3237-10
Sun StorEdge 5310 NAS Appliance and Gateway System Administration Guide	819-3238-10
Sun StorEdge 5310 NAS Appliance Safety and Compliance Guide	819-0881-10
Sun StorEdge 5300 RAID Expansion Unit and Sun StorEdge 5300 Expansion Unit Safety and Compliance Guide	819-0882-10

Service Contact Information

If you need help installing or using this product, call 1-800-USA-4SUN, or go to:

`http://www.sun.com/service/contacting/index.html`

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Introduction

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