Quick Upgrade Flowcharts

Applicable to: Sun StorEdge 3000 Family Arrays

Revision: C   **Date:** 08/05/05

Designed for users experienced with Sun StorEdge 3000 Family arrays, this document provides two flowcharts:

- The first flowchart is for a major upgrade from 3.xx controller firmware to 4.xx controller firmware with the upgrade script. Be sure to review the below Prerequisites and Preliminaries before using the upgrade script.

- The second flowchart is for a minor upgrade from one 4.xx version to a higher 4.xx version.

For detailed upgrade procedures, refer to the README file in this patch.
For script troubleshooting and related error messages, refer to the script_troubleshooting.pdf file in this patch.
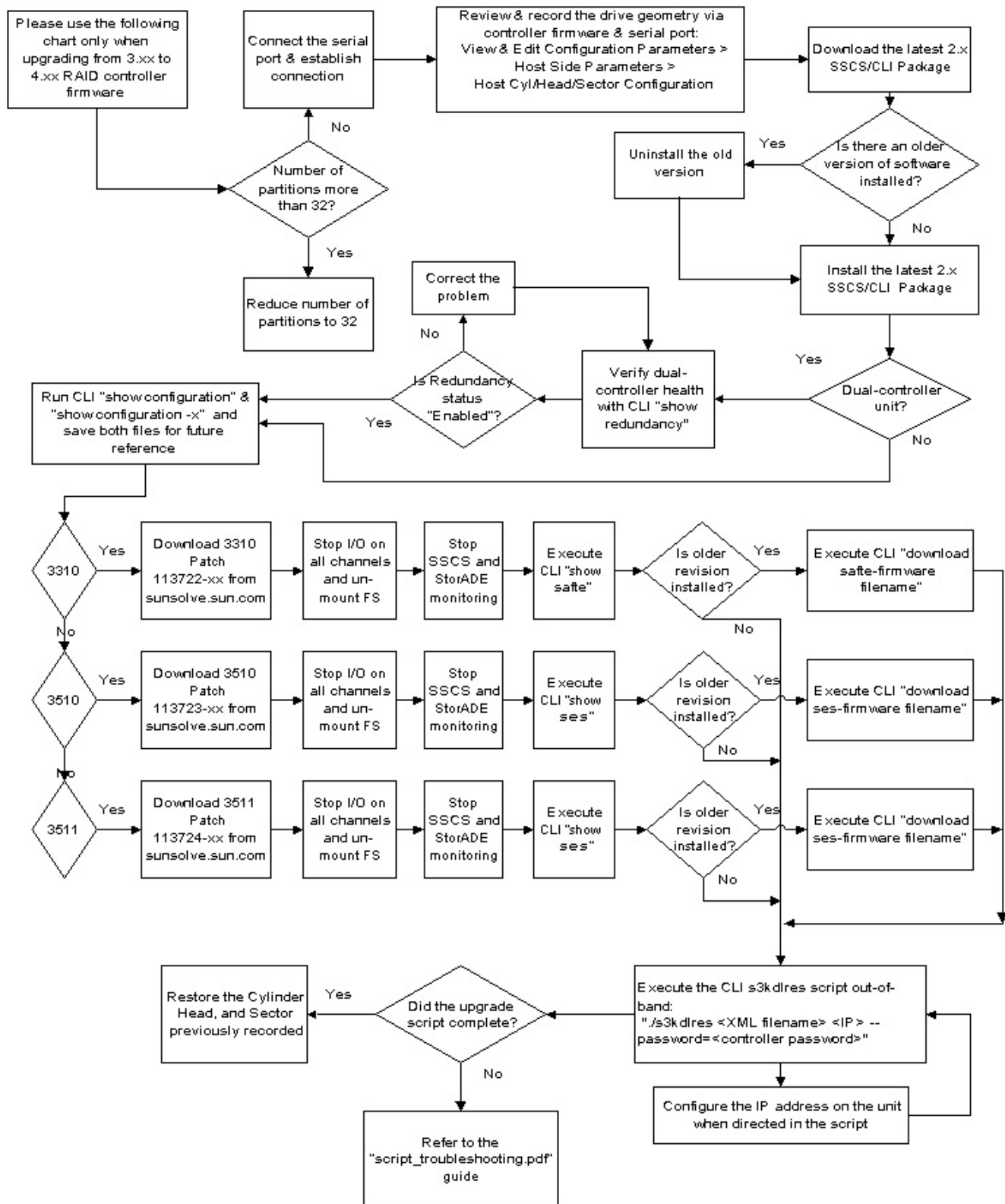
Prerequisites for Performing a 3.xx to 4.xx Firmware Upgrade with a Script

1. Confirm that you are connected to the Ethernet port of your array, have an IP address or device name, and can access the array out-of-band.
2. Create a complete, verified backup of all data.
3. Upgrade SAF-TE/SES prior to running the script:

   SAF-TE = 1170 for SCSI

   SES = 1046 for FC

   SES = 0420 for SATA
4. Make sure PLD is at 1000 prior to running script.
5. Make sure SATA router is at 555a prior to running script.
6. Make sure that no logical drive has more than 32 partitions.
7. Make sure that you have an RS-232 serial connection to the RAID controller serial port.
8. Record any masking or filtering from View and Edit Host LUNs.
9. Record heads, cylinders, and sectors drive geometry via the serial interface: "View and Edit Configuration Parameters > Host Side > Heads, Cylinders, Sectors"
10. Make sure sccli 2.1.0 (or higher) is installed on the host that will be used to perform the upgrade.
11. Stop all background processes (e.g. SSCS, Diagnostic Reporter, StorADE, etc).
12. Stop all I/O activity to the RAID system to be upgraded:
    a. Unmount any mounted LUNs.
    b. Stop all databases and software that access the system.
13. Verify that all files to be used during the upgrade are in the correct directory.
14. Shut down all hosts that boot from the system to be upgraded.
15. If the controller is using password protection *and* out-of-band is used, record the password.

Preliminaries for Performing a 3.xx to 4.xx Firmware Upgrade with a Script

1. Verify communication with the RAID array.
2. Save configuration parameter information using sccli.
   a. Save show config as a text file (suggested filename: se3xxx-chassisSN.txt)
   b. Save show config as an XML file (suggested filename: se3xxx-chassisSN-bkup.xml)

Flowchart for Upgrading 3.xx to 4.xx Controller Firmware

Please use the following chart only when upgrading from 3.xx to 4.xx RAID controller firmware

Connect the serial port & establish connection

Review & record the drive geometry via controller firmware & serial port:
View & Edit Configuration Parameters >
Host Side Parameters >
Host Cyl/Head/Sector Configuration

Download the latest 2.x SSCS/CLI Package

No — Number of partitions more than 32?

Yes — Reduce number of partitions to 32

Is there an older version of software installed?
Yes — Uninstall the old version
No

Install the latest 2.x SSCS/CLI Package

Correct the problem

Verify dual-controller health with CLI "show redundancy"

Yes — Dual-controller unit?
No

Is Redundancy status "Enabled"?
No — Correct the problem
Yes — Run CLI "show configuration" & "show configuration -x" and save both files for future reference

Run CLI "show configuration" & "show configuration -x" and save both files for future reference

3310
Yes — Download 3310 Patch 113722-xx from sunsolve.sun.com — Stop I/O on all channels and un-mount FS — Stop SSCS and StorADE monitoring — Execute CLI "show safte" — Is older revision installed? **Yes** — Execute CLI "download safte-firmware filename"
No ↓

3510
Yes — Download 3510 Patch 113723-xx from sunsolve.sun.com — Stop I/O on all channels and un-mount FS — Stop SSCS and StorADE monitoring — Execute CLI "show ses" — Is older revision installed? **Yes** — Execute CLI "download ses-firmware filename"
No ↓

3511
Yes — Download 3511 Patch 113724-xx from sunsolve.sun.com — Stop I/O on all channels and un-mount FS — Stop SSCS and StorADE monitoring — Execute CLI "show ses" — Is older revision installed? **Yes** — Execute CLI "download ses-firmware filename"
No

Execute the CLI s3kdlres script out-of-band:
"./s3kdlres <XML filename> <IP> --password=<controller password>"

Configure the IP address on the unit when directed in the script

Did the upgrade script complete?
Yes — Restore the Cylinder Head, and Sector previously recorded
No — Refer to the "script_troubleshooting.pdf" guide

Flowchart for Upgrading 4.xx to 4.xx Controller Firmware

This flowchart outlines the steps to perform a minor upgrade from one 4.xx version to a higher 4.xx version.

```
┌─────────────────────────┐
│ Please use the following chart │
│ only when upgrading a 4.xx RAID │
│ controller to a higher revision of │
│ 4.xx firmware │
└─────────────────────────┘
             │
             ▼
      ┌─────────────┐   Yes   ┌──────────────────┐        ┌──────────────┐   No   ┌──────────────┐
      │ Dual-controller │ ─────→ │ Verify dual-controller │ ────→ │ Is redundancy │ ─────→ │ Correct the │
      │    unit?     │         │ health with CLI "show │        │ status "Enabled"? │        │   problem    │
      └─────────────┘         │    redundancy"    │        └──────────────┘        └──────────────┘
             │                └──────────────────┘              │
             │ No                                               │ Yes
             │                                                  │
             ▼                                                  │
      ┌─────────────┐   Yes   ┌──────────────┐        ┌──────────────┐   Yes
      │    3310     │ ─────→  │ Download 3310 │ ────→ │  Is older    │ ─────→
      │             │         │    Patch     │        │  revision    │
      └─────────────┘         │ 113722-xx from │      │ installed?   │
             │ No             │ sunsolve.sun.com │    └──────────────┘
             │                └──────────────┘              │ No
             ▼                                              ▼
      ┌─────────────┐                               ┌──────────────┐
      │             │                               │  No upgrade  │
      │             │                               │    needed    │
      └─────────────┘                               └──────────────┘

      ┌─────────────┐   Yes   ┌──────────────┐        ┌──────────────┐   Yes
      │    3510     │ ─────→  │ Download 3510 │ ────→ │  Is older    │ ─────→
      │             │         │    Patch     │        │  revision    │
      └─────────────┘         │ 113723-xx from │      │ installed?   │
             │ No             │ sunsolve.sun.com │    └──────────────┘
             │                └──────────────┘              │ No
             ▼                                              ▼
      ┌─────────────┐                               ┌──────────────┐
      │    3511     │                               │  No upgrade  │
      │             │                               │    needed    │
      └─────────────┘                               └──────────────┘
```

- Download 3511 Patch 113724-xx from sunsolve.sun.com
- Is older revision installed? Yes / No
- No upgrade needed
- Stop all I/O and unmount FS
- Stop SSCS and StorADE monitoring
- Execute the CLI command out-of-band: "sccli [-w<password>] <IP> " "download controller-firmware SUNxxxx-xxxx.bin" and wait at least 10 minutes for the sccli prompt to return.
- Verify successful revision upgrade and execute CLI "show inquiry"