Sun StorEdge™ RAID Manager 6.22
Release Notes Addendum

About This Addendum

This addendum is a supplement to the *Sun StorEdge RAID Manager 6.22 Release Notes* (805-7758-10). It explains how to create LUNs on a Sun StorEdge A3500FC connected to a Solaris™ SBus system.

Note – Ignore the procedures in this document if you do *not* plan to create new LUNs on your StorEdge A3500FC or if you are using PCI host adapters.

Description of Problem

The StorEdge A3500FC is shipped with preconfigured logical units (LUNs) that have been specially optimized for data storage in most applications. However, if your application requires modification to the LUNs, and you are using SBus host adapters, follow the guidelines and procedures in this document to avoid a problem (Bug ID 4272887) with the SBus device driver that causes the following error messages:

- LUNs in use by another host
- LUN being modified
- Lost communication with the controller module

Sun is currently testing an SBus device driver patch that will fix the problem. Until this patch is released, use the procedures in this document to create or delete LUNs. The following driver patches will be available soon:

Solaris Version	Patch ID	Description
2.6	105375-xx	sf and socal device drivers patch
7	107469-xx	sf and socal device drivers patch

Contact your Sun support service provider to get the latest information about these patches.

General Guidelines

Until the SBus device driver patch is installed on your system, it is important to follow these guidelines to create or delete LUNs on a StorEdge A3500FC.

- Make sure at least *one* optimal LUN exists; this allows the host to communicate with the RAID controller.
  - Never delete the default LUN 0 on controller A before creating additional LUNs.
  - Never use the `raidutil -c device -D all` command to delete all LUNs.
  - If you inadvertently delete all LUNs, recreate an optimal LUN by turning off the power to the enclosure and turning it on again. This creates a default LUN 0 on controller A.
- Create LUNs one at a time through the graphical user interface or from the command line.

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- Verify that the LUNs have been created and the alternate paths are correct.
- If more than one A3500FC RAID module is connected to the *same* host, LUN creation on a RAID module must complete before LUN creation begins on another RAID module.

Important – Creating LUNs on one controller and moving the LUNs to another controller can result in different output from the RAID Manager `lad` utility and the Solaris `format` command. In this case, Sun recommends using only the devices displayed by the `format` command.

Creating New LUNs

Some operations can be performed through the RAID Manager graphical user interface *or* from the command line. Although both methods are described, perform a step either through the GUI or the CLI.

Note – The following step is not necessary if a RAID module has preconfigured LUNs (upgrade or factory-configured) and you do not want to delete all LUNs.

1. **Reset the configuration on your StorEdge A3500FC system and initialize the enclosure.**

Note – Controller A must own at least one LUN so that you can reset the configuration successfully.

From the GUI: Select Configuration → File → Reset Configuration.

Caution – Do not use the `raidutil -c device -D all` command to delete all LUNs.

From the command line: Run the `lad` utility to display the RAID controllers and LUNs connected to the system and then run the `raidutil` utility on controller A to reset the configuration back to a default configuration. For example:

```
# /usr/lib/osa/bin/lad
c3t4d0 1T71322073 LUNS: 0 2 4 6
c8t5d1 1T71322005 LUNS: 1 3 5 7
# rdacutil -i c3t4d0
turing72_001: dual-active
Active controller a (c8t5d1) units: 1 3 5 7
Active controller b (c3t4d0) units: 0 2 4 6
rdacutil succeeded!
# /usr/sbin/osa/raidutil -c c8t5d1 -X
# /usr/lib/osa/bin/lad
c3t4d0 1T71322073 LUNS:
c8t5d0 1T71322005 LUNS: 0
```

2. **Change the controllers to Active/Active mode.**

From the GUI: Select Maintenance/Tuning → Options → Controller Mode.

From the command line: Run the `rdacutil` utility as shown in the following example:

```
# rdacutil -m 2 c8t5d0
```

3. **Create an optimal LUN on controller A.**

Important – Always create an additional LUN on controller A before deleting the default LUN 0.

From the GUI: Select Configuration → Options → Create LUN (make sure the LUN assignment is A).

From the command line: Use the output from the lad utility to select a controller (RAID module) on which you want to create LUNs. In the following example, a RAID 5 LUN 1 is created using drives in slots (1.0), (2.0), (3.0), (4.0), and (5.0).

```
# /usr/sbin/osa/raidutil -c c8t5d0 -l 5 -n 1 -s 2000 -g 10,20,30,40,50
```

If the raidutil failed message appears, perform the recovery procedure in "If LUN Creation Fails."

See the RAID Manager man pages for details about the raidutil and drvutil command line utilities.

4. **Verify that the Optimal LUN has been created.**
   From the GUI: Select Configuration → Module Profile → LUNs to display the LUN Profile screen.
   From the command line: Run the lad utility as shown in the following example.

```
# /usr/lib/osa/bin/lad
c3t4d0 1T71322073 LUNS:
c8t5d0 1T71322005 LUNS: 0 1
```

5. **Once the Optimal LUN is created, delete the default LUN 0 on controller A and create another LUN 0; you can set the RAID level and capacity of the new LUN.**
   From the GUI: Select Configuration → Options → Delete.
   From the command line: Run the raidutil command as shown in the following example.

```
# /usr/sbin/osa/raidutil -c c8t5d0 -D 0
```

6. **Continue to create LUNs one at a time as described in Step 3 and Step 4.**
7. **After creating all LUNs on controller A, move the LUNs to the alternate controller B.**
   From the GUI: Select Maintenance/Tuning → Options → LUN Balancing.
   From the command line: Run the lad utility and the rdacutil utility as shown here.

```
# /usr/lib/osa/bin/lad
c3t4d0 1T92100576 LUNS:
c8t5d0 1T92100593 LUNS: 0 1 ... 30 31
# /usr/lib/osa/bin/rdacutil -l 0-31 c3t4d0
rdacutil succeeded!
# /usr/lib/osa/bin/lad
c3t4d0 1T92100576 LUNS: 0 1 ... 30 31
c8t5d0 1T92100593 LUNS:
```

8. **Use the Solaris format command to verify the alternate path.**

Note – You cannot perform this operation through the GUI.

From the command line: Run the format command on each LUN. In the following example, the format command is used to check LUN 0.

```
# format -f /usr/lib/osa/format.cmds -s /dev/osa/dev/rdsk/c3t4d0s2
```

If the auto configure failed error message appears, perform the recovery steps described in the next section, "If LUN Creation Fails."

9. **Finally, balance the LUNs to meet your system requirements; refer to Step 7 for instructions.**

If LUN Creation Fails

Under very rare circumstances, the procedure described in “Creating New LUNs” may fail. If this occurs, perform the recovery procedure described here.

1. **Force a loop initialization process (LIP) on both ports of the controller on which LUN creation failed. There are two ways to force a LIP. Although both methods are described here, choose one method.**

- Pull the fiber cables located on the front of the A3500FC controller. To avoid mixing connections, it is best to pull and reinsert the cables one at a time. Whenever you pull a cable, make sure you reinsert it within 15 seconds to avoid potential driver-related issues. A quick pull and reinsertion is immediately detected by the drivers forcing a LIP.
- If you have access to a StorTools™ diagnostic toolkit (available only to Sun internal personnel and Sun authorized service providers), you can run `luxdiag` to identify your fiber cable ports and use the `luxadm` command to force a loop initialization process as shown in the following example.

```
# /opt/STORtools/bin/luxdiag port -n
/devices/sbus@2,0/SUNW,socal@2,0:0
/devices/sbus@a,0/SUNW,socal@2,0:0
# luxadm -e forcelip /devices/sbus@2,0/SUNW,socal@2,0:0
# luxadm -e forcelip /devices/sbus@a,0/SUNW,socal@2,0:0
```

2. **Run the following command:**

```
# /usr/lib/osa/bin/hot_add
```

3. **Return to Step 3 or Step 8 in “Creating New LUNs.”**

If this recovery procedure fails, contact your Sun support service provider for assistance.

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