Seagate Savvio SAS hard disks firmware update

Number: DEL000836 **Version: A**

September 2013

Table of Contents

1. Introduction

This document describes the procedure to update the embedded firmware of the Savvio SAS Seagate hard disks managed by a LSI Megaraid 9261-8i adapter.

Warning:
This update can be made using the LSI `Storcli` tool and **only from a Linux operating system installation running on a mono-module computer**.

The `storCLI` tool is currently not working in the following environments:

- EFI
- multi-module Linux installation
- WMware ESXi installation.

2. Linux Procedure

2.1 Firmware Update Tool

Updating the Seagate Savvio SAS hard disks firmware can be realized using the Linux version of the LSI `Storcli` program.

Another file is needed: the file containing the image of the disk firmware.
This file has a .LOD extension.
Examples :

. `FF-SAS-0008.LOD` firmware for ST9146803SS and ST9300603SS hard disks,
. `YJ-SAS-0005.LOD` firmware for ST9146853SS and ST9300653SS hard disks,
. `CP-SAS-0004.LOD` firmware for ST9300605SS hard disks,
. …

For Red `Hat` Enterprise Linux, the LSI `StorCli` tool is delivered as an rpm file.
Install the `StorCli` program:

```
rpm -ivh  Storcli_rpm_file_name
```

The `storcli64` program is now installed in the `/opt/MegaRAID/storcli` directory.

2.2 Retrieving Update Parameters

Run the following command and retrieve your controller ID in the `Ctl` field:

```
/opt/MegaRAID/storcli/storcli64 show
```

```
[root@turin4 LSI]# /opt/MegaRAID/storcli/storcli64 show
Status Code = 0
Status = Success
Description = None

Number of Controllers = 1
Host Name = turin4
Operating System  = Linux2.6.32-279.el6.x86_64

System Overview :
================

-----------------------------------------------------------------
Ctl Model   Ports PDs DGs DNOpt VDs VNOpt BBU  sPR DS  EHS ASOs
-----------------------------------------------------------------
  0 9261-8i     8   1   1     1   1     1 Msng On  1&2 Y      2
-----------------------------------------------------------------
```

Then retrieve enclosure and disks slots numbers by running the command:

```
/opt/MegaRAID/storcli/storcli64 /cx /eall /sall show
```

where x is the ID of the controller managing the disks to be updated (see above).

```
[root@turin4 ~]# /opt/MegaRAID/storcli/storcli64 /c0 /eall /sall show
Controller = 0
Status = Success
Description = Show Drive Information Succeeded.


Drive Information :
=================

-----------------------------------------------------------------------------
EID:Slt DID State DG       Size Intf Med SED PI SeSz Model            Sp
-----------------------------------------------------------------------------
252:0    22 Onln   0 557.861 GB SAS  HDD N   N  512B ST9600204SS      U
252:1    25 UGood  - 557.861 GB SAS  HDD Y   N  512B ST600MM0026      U
252:2    21 Onln   1 135.972 GB SAS  HDD N   N  512B ST9146803SS      U
252:3    20 Onln   1 135.972 GB SAS  HDD N   N  512B ST9146803SS      U
-----------------------------------------------------------------------------

EID-Enclosure Device ID|Slt-Slot No.|DID-Device ID|DG-DriveGroup
DHS-Dedicated Hot Spare|UGood-Unconfigured Good|GHS-Global Hotspare
UBad-Unconfigured Bad|Onln-Online|Offln-Offline|Intf-Interface
Med-Media Type|SED-Self Encryptive Drive|PI-Protection Info
SeSz-Sector Size|Sp-Spun|U-Up|D-Down|T-Transition|F-Foreign
UGUnsp-Unsupported
```

In the example above, the disks to be flashed are the disks from the RAID1 Drive Group 1. The command execution results show:

- the disk enclosure has number 252,
- the disks to be flashed are in slots 2 and 3.

2.3 Updating the Disks Firmware

Using the information retrieved at 2.2, run the command updating the disks firmware:

```
/opt/MegaRAID/MegaCli/storcli64 /ccontroller_number
/eenclosure_number /sdisk_slot_number download
src=firmware_file_path
```

The command in the example below updates the firmware for the disk in slot 2:

```
[root@turin4 LSI]# /opt/MegaRAID/storcli/storcli64 /c0 /e252 /s2 download
src=/tmp/Seagate/ST9146803SS-ST9300603SS/firmware/FF-SAS-0008.LOD

Controller = 0
Status = Success
Description = Firmware Download Succeeded.
```

.

2.4 Checking Firmware updated revision

After restarting the system, you can check that the new firmware has been applied.

For instance, the command below displays the firmware version for the disk updated in the example used at 2.3 (controller 0, enclosure 252, slot 2):

```
/opt/MegaRAID/storcli/storcli64 /c0 /e252 /s2 show all
```

```
Drive /c0/e252/s2 - Detailed Information :
=========================================

Drive /c0/e252/s2 State :
=======================
Shield Counter = 0
Media Error Count = 0
Other Error Count = 0
BBM Error Count = 0
Drive Temperature =  32C (89.60 F)
Predictive Failure Count = 0
S.M.A.R.T alert flagged by drive = No


Drive /c0/e252/s2 Device attributes :
===================================
SN = 6SD07Y2H
WWN = 5000C5001AA1A770
Firmware Revision = 0008
Raw size = 136.732 GB [0x11177330 Sectors]
Coerced size = 135.972 GB [0x10ff2000 Sectors]
Non Coerced size = 136.232 GB [0x11077330 Sectors]
Device Speed = 6.0Gb/s
Link Speed = 6.0Gb/s
Logical Sector Size = 512B
Physical Sector Size = 512B
```

The disk information displayed shows that disk firmware has been updated to revision 0008.