

Replacing a (Failed) S1500 Chassis

FE-95HPP008-00

Revision 1.0

Revision History

| Revision | Date | Author | Description |
|----------|----------|---------------|---|
| 1.0 | 05/19/15 | Jim Valentino | Initial document for replacement of a failed S1500 Chassis. |

The procedure to replace the (failed) chassis is outlined in this document. This procedure is also utilized if the EXAR Compression Card (DX1740) has failed. The EXAR card MAY NOT be replaced according to policy; a replacement chassis containing a new DX1740 must be deployed.

This is a Field Replaceable Unit (FRU) procedure and should only be performed by qualified technicians.

This is NOT a Customer Replaceable Unit (CRU).

IMPORTANT

Ensure that the part number on the replacement part is identical with the failed part.

This procedure is designed to preserve the data on the existing drive sets.

To prevent damaging a FRU/CRU, make sure you adhere to the following static electricity precautions:

- *Remove plastic, vinyl, and foam from the work area.*
 - *Wear an antistatic wrist strap attached to a ground.*
 - *Before handling a FRU/CRU discharge any static electricity by touching a ground surface.*
 - *Do not remove a FRU/CRU from its antistatic protective bag until you are ready to install it.*
 - *When removing a FRU/CRU from a controller enclosure immediately place the FRU/CRU in an antistatic bag and in antistatic packaging.*
 - *Handle a FRU/CRU only by its edges and avoid touching the circuitry.*
 - *Do not slide a FRU/CRU over any surface.*
 - *Limit body movement (which builds up static electricity) during FRU/CRU installation.*
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FORWARD

The S1500 system disk set consists of two internal drives in a RAID 1 configuration controlled by the LSI MegaRAID Adapter. These drives are located on the rear of the CR220S unit.

The S1500 data disk set consists of twelve drives in a RAID 6 configuration controlled by the LSI MegaRAID Adapter. These drives are mounted in carriers and inserted into the front drive slots of the CR220S unit.

PROCEDURE

1. Stop all backup processes to the S1500 Appliance. Ingest must be totally quiesced.
2. Insure that there are no backups scheduled which will start during the required maintenance window.
3. Using a local console or KVM, log into the S1500 as user 'root' and password 'sangate'.
4. Shut down the HPP Application and power down the S1500 by issuing the following command:

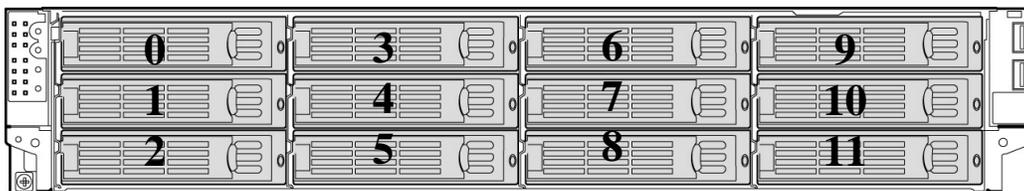
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[root@pe-s1500-1 ~] service vtl shutdown
```

When the command completes the HPP services will have been gracefully terminated and the S1500 unit will be powered down.

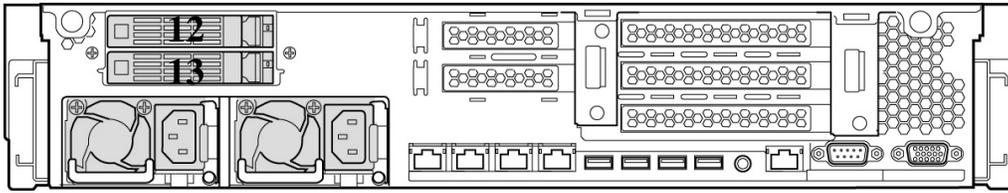
WARNING:

Failure to properly shut down the HPP Application can result in data loss, data corruption, and possibly result in the failure of this procedure due to preserved cache entries.

5. Unplug both power cords from the S1500 from their outlets.
6. Place the replacement enclosure next to the failed enclosure. One at a time, move the drives from the failed unit to the replacement unit, insuring that the drives are placed in the same location. Refer to the illustrations below for the numbering of the front drive slots. It is recommended that drives be moved to the new unit in slot number order to avoid confusion.

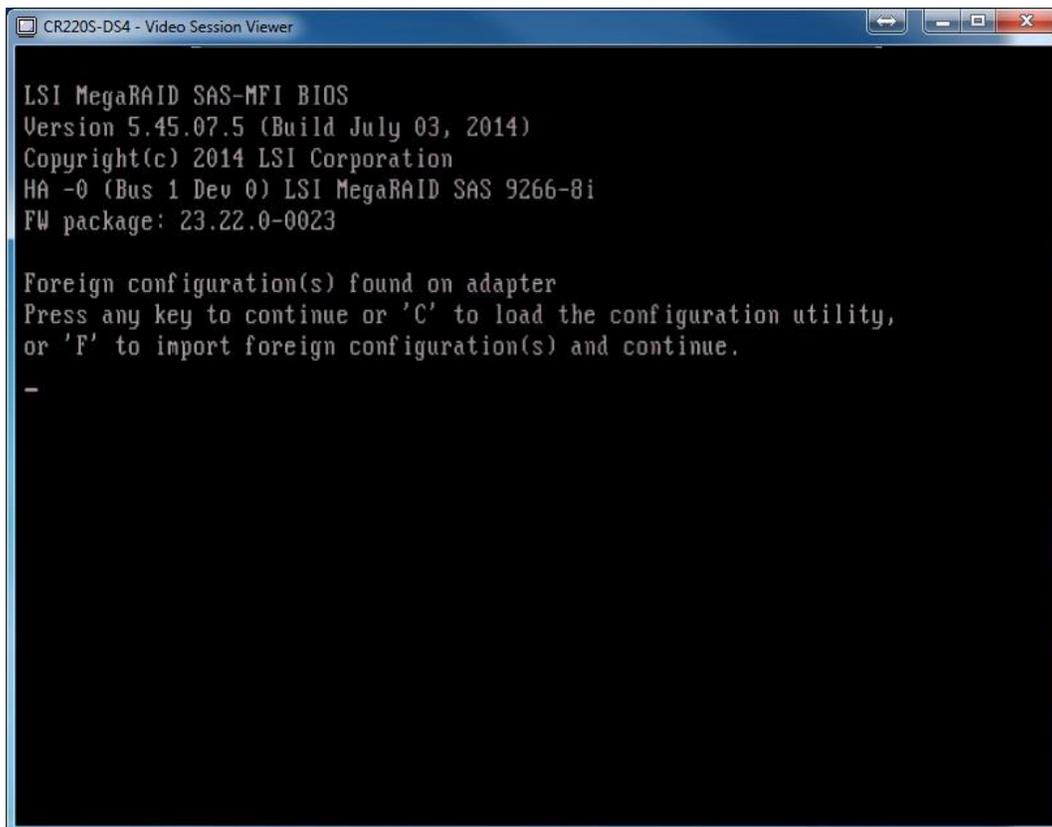


Front of Unit



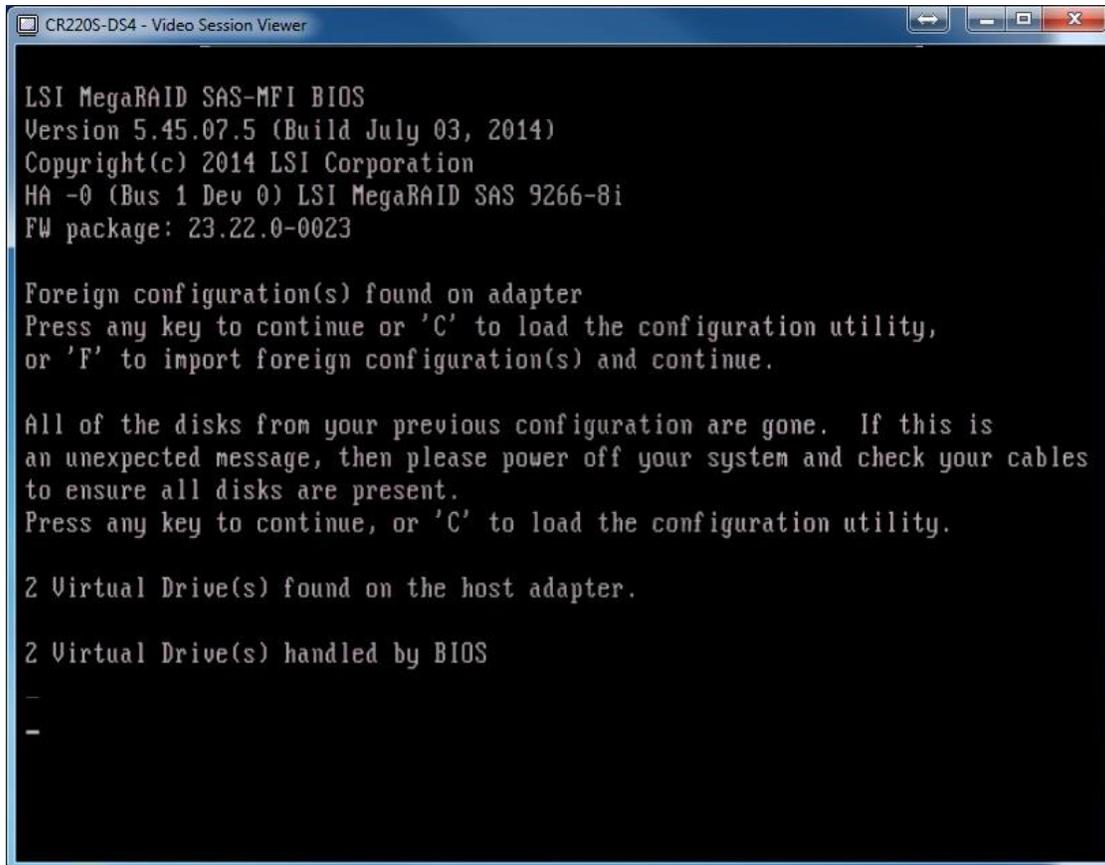
Rear of Unit

7. Plug in the power cords and power on the S1500 unit.
8. The LSI Controller will report that it sees foreign configurations. This is correct and reflects the configurations for the RAID-1 Boot Drive pair, and the RAID-6 Data Drive array. Those configurations are written on the drives themselves. The LSI BIOS will prompt you to import these configurations as follows:



Press <F> to import the configurations

9. If the import operation was successful the following message will be displayed. The previous configuration that may have been on the controller has been replaced by the imported configuration from the metadata on the drives.



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CR220S-DS4 - Video Session Viewer

LSI MegaRAID SAS-MFI BIOS
Version 5.45.07.5 (Build July 03, 2014)
Copyright(c) 2014 LSI Corporation
HA -0 (Bus 1 Dev 0) LSI MegaRAID SAS 9266-8i
FW package: 23.22.0-0023

Foreign configuration(s) found on adapter
Press any key to continue or 'C' to load the configuration utility,
or 'F' to import foreign configuration(s) and continue.

All of the disks from your previous configuration are gone. If this is
an unexpected message, then please power off your system and check your cables
to ensure all disks are present.
Press any key to continue, or 'C' to load the configuration utility.

2 Virtual Drive(s) found on the host adapter.

2 Virtual Drive(s) handled by BIOS
-
-
```

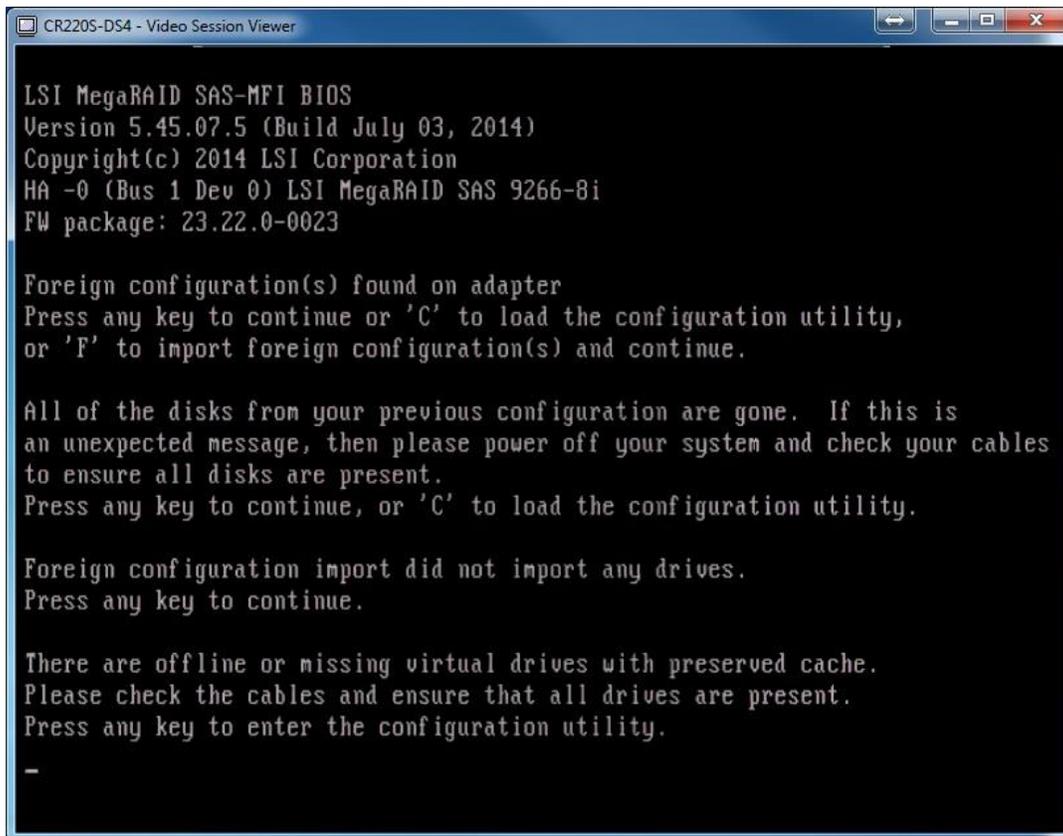
10. Reboot. The VTL will start normally and go into Maintenance Mode, as the chassis has changed and the previously installed license is no longer valid.
11. Follow existing protocol to obtain and install a new license for the chassis.

Complete steps for obtaining S1500 licenses are described in the *Hitachi Protection Platform S1500 Software Installation Instructions (FE-95HPP00?-0?)*, "Obtaining a License from the S1500 HPP Support Portal."

TIP for Procedure Failures

Previously deployed LSI Adapter

If the LSI Controller in the replacement chassis has been used before, it may still have configuration information from its previous deployment, such as the failed drive history or preserved cache contents. A screen similar to the following will be displayed:

A screenshot of a video session viewer window titled "CR220S-DS4 - Video Session Viewer". The window displays a black terminal with white text. The text is the LSI MegaRAID SAS-MFI BIOS boot screen. It shows the BIOS version (5.45.07.5), copyright (2014 LSI Corporation), and hardware information (HA -0, Bus 1 Dev 0, LSI MegaRAID SAS 9266-8i, FW package: 23.22.0-0023). The screen then displays several warning messages: "Foreign configuration(s) found on adapter", "All of the disks from your previous configuration are gone...", and "Foreign configuration import did not import any drives...". Each message prompts the user to press a key to continue or 'C' to load the configuration utility. The screen ends with a hyphen character.

```
CR220S-DS4 - Video Session Viewer
LSI MegaRAID SAS-MFI BIOS
Version 5.45.07.5 (Build July 03, 2014)
Copyright(c) 2014 LSI Corporation
HA -0 (Bus 1 Dev 0) LSI MegaRAID SAS 9266-8i
FW package: 23.22.0-0023

Foreign configuration(s) found on adapter
Press any key to continue or 'C' to load the configuration utility,
or 'F' to import foreign configuration(s) and continue.

All of the disks from your previous configuration are gone. If this is
an unexpected message, then please power off your system and check your cables
to ensure all disks are present.
Press any key to continue, or 'C' to load the configuration utility.

Foreign configuration import did not import any drives.
Press any key to continue.

There are offline or missing virtual drives with preserved cache.
Please check the cables and ensure that all drives are present.
Press any key to enter the configuration utility.

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```

If this should be determined to be the case, the controller can be cleared by following this procedure:

1. Remove all drives from the S1500 unit including the boot drives.
2. Reboot the unit.
3. At the LSI prompt press <CTRL-H> to signal the LSI WebBIOS for entry.
4. The WebBIOS will appear, select the adapter.
5. Select Adapter properties.
6. Use <NEXT> until you come to the option to set factory defaults. Set that to "Yes" in the drop down box.
7. Acknowledge any warnings and continue. Press <ESC> then F4 to save changes.
8. Reboot. The VTL will start normally.