Chapter 5

System Maintenance

5.1 Overview

Constant monitoring and maintenance of you Suma subsystem will minimize subsystem downtime and preserve the working integrity of the system for a longer period of time. If any of the subsystem components fail, they must be replaced as soon as possible.

WARNING:

Do not remove a failed component from the subsystem until you have a replacement on hand. If you remove a failed component without replacing it the internal airflow will be disrupted and the system will overheat causing damage to the subsystem.

All the following components can be replaced in case of failure:

1. Controller Modules – ***Section 5.2***
2. PSU Modules – ***Section 5.3***
3. Cooling FAN Modules – ***Section 5.4***
4. Hard Drives – ***Section 5.5***
5. Hard Drive trays – ***Section 5.5***
6. Dongle/MUX kit – ***Section 5.6***

5.2 Replacing Controller Module Components

The controller module in the EonStor subsystem consists of the following replaceable components:

- BBU (optional for single controller modules)
- DIMM Modules
- Controller module itself

If any of these components fail, they will need to be replaced. To replace any of these components, the controller module must first be removed from the EonStor subsystem.

5.2.1 Re-Moving the controller Module

To remove the controller module:

1. If you have a ***single controller model***, the subsystem must be either ***powered off*** (if possible) or in case of controller module failure, ***turned off***. If you have a ***redundant controller module*** then the system can continue to operate with only a single controller and does not have to be powered down.

2. ***Disconnect all cables*** that are connected to the controller module you wish to replace. These include the cables connecting to the host, FC cables connected to the expansion port (for the redundant models), Ethernet cables connected to the LAN port and any cables connected to the RS-232C audio jacks.

3. Once all the cables have been disconnected, ***remove the retention screw*** from the right hand side of the controller module and ***loosen the silver hand screw*** that is connected to the ejector handle.

4. After both these screws have been taken out, gently ***open the ejector handle***. When the ejector handle is opened, the controller module will automatically be eased out of the controller module bay in the subsystem.

5. Carefully pull the controller module out of the subsystem chassis.

5.2.2 Re-placing the BBU

Please note that BBUs are optional items for the single controller modules. To replace a failed BBU:

1. Remove the controller module from the Suma subsystem (see ***Section 5.2.1***).

2. After the controller module has been removed from the subsystem, ***disconnect the BBU cable*** from the connector on the side of the controller board.

3. Once the cable has been disconnected***, remove the retention screws*** from the arms of the BBU. These retention screws are attached to spacers that are connected to the BBU board.

4. When the failed BBU has been removed from the controller module, re-install the new BBU. To re-install the new BBU refer to the BBU installation instructions in ***Section 2.6***.

5. After the new BBU has be installed, re-install the controller module into the Suma subsystem (see ***Section 2.7***)

5.2.3 Replacing a Failed DIMM Module

If a DIMM module has failed it must be replaced. To replace a failed DIMM module:

1. Remove the controller module from the EonStor subsystem (see ***Section 5.2.1***). If you have also previously installed a BBU module, it too must be removed (see ***Section 5.2.2***)

2. After the controller module and the BBU module (if previously installed) have been removed, ***pull down the white clips*** on either side of the DIMM module to a 45-degree angle. This should dislodge the failed DIMM module.

3. ***Re-insert the new DIMM module***. If you are using a redundant controller module the new DIMM module **MUST HAVE** the same capacity and operate at the same speed as the DIMM module that is already installed on the operating controller board.

4. Once the new DIMM module has been installed***, replace the optional BBU module*** (see ***Section 5.2.2***) and ***the controller module*** (see ***section 2.7***).

5.2.4 Replacing the controller Module

If the controller module itself has failed, it must be replaced. To replace a failed controller module:

1. ***Remove the controller module*** from the EonStor subsystem (see ***Section 5.2.1***), the BBU module (see ***Section 5.2.2***) (if it was installed) and the DIMM module (see ***Section 5.2.3***).

2. After these three items have been removed, ***install the DIMM module and the optional BBU module*** onto the new controller module.

6. Once the DIMM module and the optional BBU module have been installed on the new controller module, ***install the new controller module*** into the Suma subsystem (see ***Section 2.7***).

7. ***Re-attach all the cables*** that were removed. These include the cables that are used to connect to the host, FC cables that must

be connected to the expansion port (redundant models only), any ethernet cable that was previously attached to the LAN port and any cables that were attached to the RS-232C audio jacks.

8. If you are using a single controller module ***power up*** the system.

5.3 Replacing a Failed PSU Module

The PSUs are preinstalled components and accessed through the rear panel. If a PSU fails it must be replaced as soon as possible.

WARNING:

Although the PSU modules are fully redundant, it is not advisable to run the EonStor subsystem with a single PSU module for a long period of time. If the second PSU module fails the sub-system will be shut down..

To replace a PSU please follow these steps:

1. ***Turn off the PSU***. The power switch is located at the top of the rear panel, directly above the PSU module. (See ***Figure 5- 1***)

2. Once the power switch has been turned off, ***remove the power cable*** that connects the EonStor subsystem to the mains. The power cable socket is found on the left-hand side.

3. After the power cable has been removed from the socket, ***remove the retention screw*** that is found on the right hand side of the PSU. (See ***Figure 5- 1***)

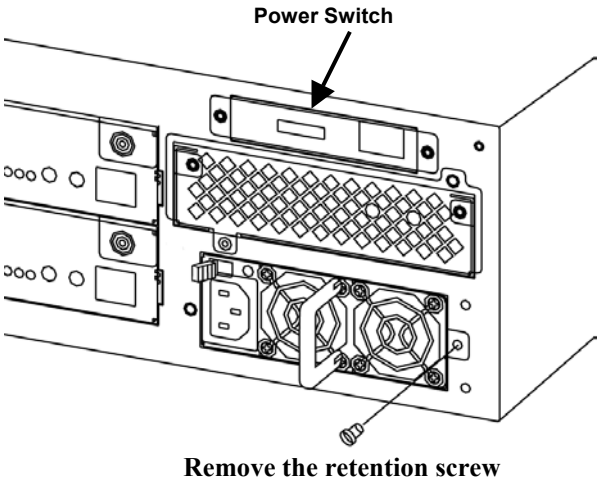

Figure 5- 1: Removing the PSU Retention Screw

4. A clip can be seen at the top left-hand corner of the PSU. This clip is used to secure the PSU into the subsystem enclosure. To remove the PSU, ***push this clip towards the right***. (See ***Figure 5- 2***).

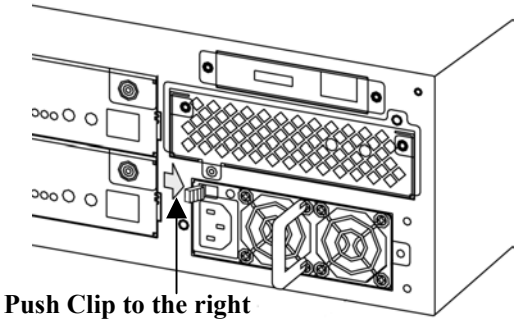

Figure 5- 2: Dislodging the PSU

5. After the PSU module has been dislodged from the enclosure, use the handle at the rear of the PSU to ***gently pull the PSU module out of the enclosure***. (See ***Figure 5- 3***)

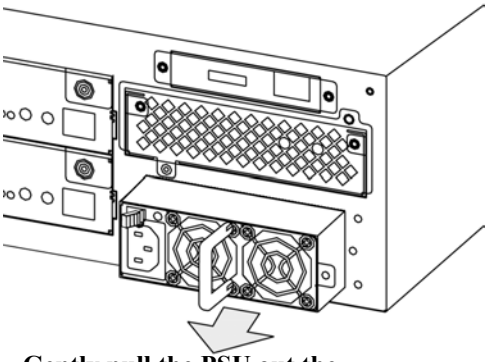

Figure 5- 3: Removing the PSU from the subsystem

6. Once the faulty PSU has been removed, ***insert the new PSU module*** into the subsystem. Push the PSU into the slot until it clicks into place.

7. To firmly secure the PSUs into place, reinsert the retention screw.

8. Replace the power cable that is used to connect the PSU module to the mains.

9. Turn the PSU module on.

5.4 Replacing a Failed Cooling FAN Module

The cooling FAN modules are accessed through the rear panel. If one of the cooling FAN modules fails it must be replaced as soon as possible. To replace the cooling FAN module, please follow these steps:

WARNING:

Although the cooling FAN modules are fully redundant, it is not advisable to run the EonStor subsystem with a single cooling FAN module for a long period of time. If the second cooling FAN module fails the system is at risk of sustaining irreparable damage.

1. Two retention screws are used to secure the cooling FAN module to the EonStor subsystem. The first retention screw can be found at the top, on the right, and the second at the bottom on the left. ***Remove these retention screws***.

2. Once **BOTH** retention screws have been removed, gently pull the cooling fan module out of the EonStor subsystem enclosure. (See ***Figure 5- 4***).

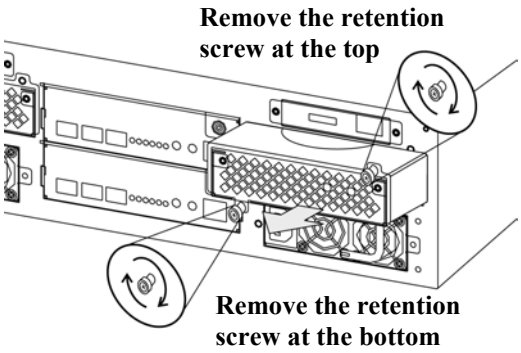

Figure 5- 4: Removing the Cooling FAN Module Retention Screws

3. Once the damaged/broken cooling FAN module has been removed, gently slide the new cooling FAN module into the EonStor chassis.

4. Re-insert both the retention screws that were previously removed.

5.5 Replacing a Failed Hard Drive

If one of the hard drives fails it needs to be replaced. To replace a hard-drive please follow these steps.

1. ***Remove the drive bay*** from the EonStor enclosure. To remove the drive bay from the enclosure, the key-lock must be unlocked. To do this, turn the silver key-lock on the front of the drive tray until the groove on its face is in a horizontal orientation.

2. Once the key-lock is unlocked ***open the front flap***. To open the front flap, lift up the clip at the front of the drive tray. This will dislodge the hard drive from the enclosure and the hard drive can be carefully withdrawn.

3. ***Remove the retention screws*** on the sides of the drive tray from the hard drive and then remove the hard-drive from the drive tray.

4. ***For PATA and redundant controller model hard drives***, once the hard drive has been removed from the drive tray, ***disconnect the drive*** from the dongle/MUX board.

5. Install the new hard drive. Please refer to the complete hard drive installation procedure in Chapter 2.

5.6 Replacing a Dongle/MUX Kit

If a dongle/MUX kit is damaged or broken in some way it needs to be replaced. To replace the dongle/MUX kit please follow these instructions.

1. **Remove the drive tray** from the drive bay in the subsystem.

2. After the drive tray has been removed, **remove the hard drive from the drive tray**.

3. After the hard drive has been removed, ***turn the drive tray over*** and ***remove the three retention screws*** that hold the dongle/MUX kit in place.

4. Once the retention screws have been removed, re-install the new dongle/MUX kit using the instructions given in ***Chapter 2***.

5. Once the new dongle/MUX kit has installed on the drive tray***, re-install the hard drive***.

6. After the hard drive has been placed in the hard drive, ***re-insert the drive tray*** in to the EonStor subsystem.

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