



Sun StorageTek™ 2500 Series

Controller Removal and Replacement

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Removing and Replacing a Controller

You must use the Service Advisor software to remove and replace controller. This document provides a simplified version of the Service Advisor instructions, and is provided as a reference. You can access the Service Advisor software by clicking the Service Advisor button from the Sun StorageTek Common Array Manager application (<https://<host-name>:6789>).

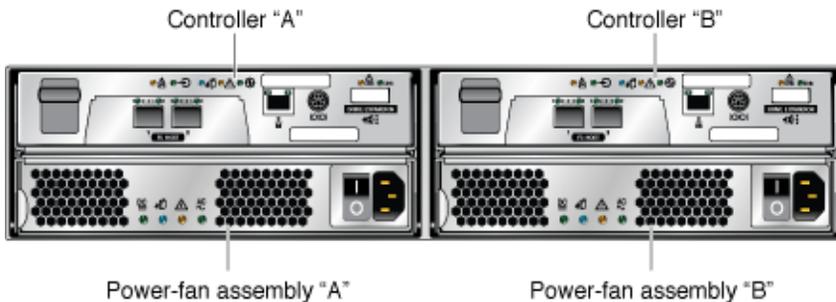
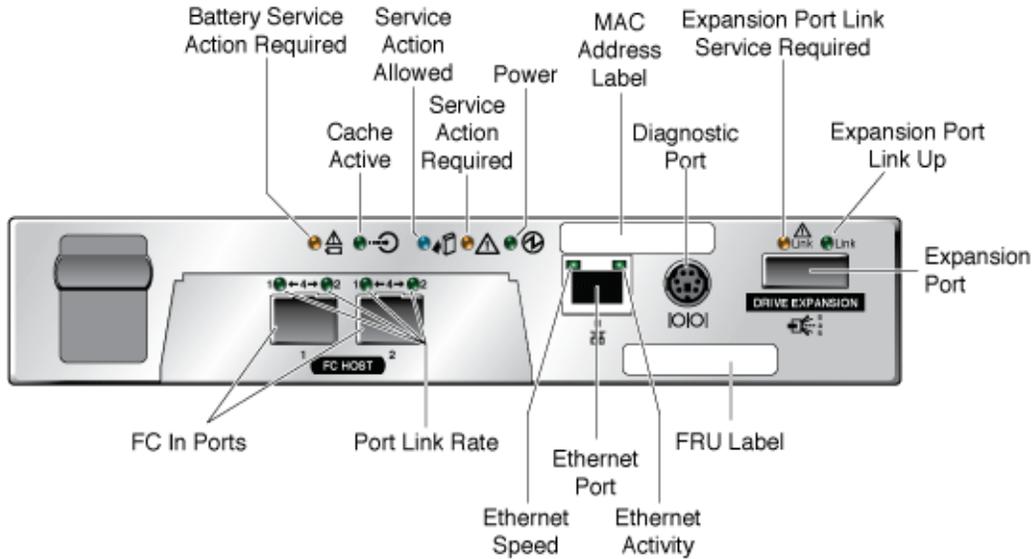
This document makes the following assumptions:

- You know which tray needs a replacement controller.
- You have located the failed controller and verified that removing it will not cause a problem. (The amber Service Action Required LED and the blue Service Action Allowed LED are on.)

Note – Single Expansion Storage Modules (ESMs) cannot be used with a duplex 25xx array.

FIGURE 1 Locations of Controllers in a Dual Controller Tray

FIGURE 2 Controller Port and LED Locations



Note – If this is a single controller tray, there will be a controller in slot “A” and a filler/blank assembly in slot B. The removal and replacement procedures are the same as in a dual controller tray with the exception of the steps to redistribute the volumes.

- You have verified that the failed controller is ready to be removed (From the Service Advisor software, the State value is Enabled but Offline and Status value is Error for the controller.).

Note – If the Status value is not `Error` for the controller, contact your Sun service provider or your next level of technical support.

Preparing for this Service Action

To prepare for this service action, perform the following:

- Obtain a phillips head screwdriver.
- Access the Service Advisor software and reserve the array for maintenance.
- From the Service Advisor software, generate a customer-replaceable unit (CRU) inventory.
- If this is a single controller tray, stop all I/O to the tray.
- Observe all Electrostatically Sensitive Devices (ESD) precautions:
 - Remove all plastic, vinyl, and foam material from the work area.
 - Before handling any CRU, discharge any static electricity by touching a grounded surface.
 - Wear an antistatic wrist strip at all times when handling any CRU.
 - Do not remove a CRU from its antistatic protective bag until you are ready to install it.
 - After removing a CRU from the cabinet, immediately place it in an antistatic bag or antistatic packaging.
 - Handle any card CRU only by its edges and avoid touching the components or circuitry.
 - Do not slide a CRU over any surface.
 - Limit body movement (which builds up static electricity) during the removal and replacement of a CRU.

Removing and Replacing the Controller

This section describes how to remove and replace a controller.

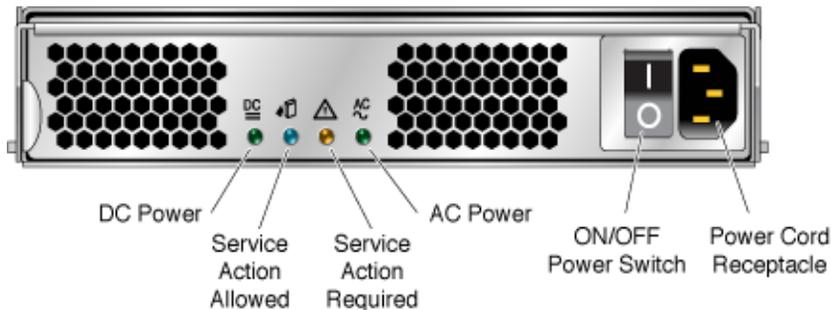
Caution – Potential loss of data access - Never remove a controller assembly unless the blue Service Action Allowed LED is on. See [FIGURE 2](#).

▼ To Remove and Replace a Controller

1. Do one of the following:

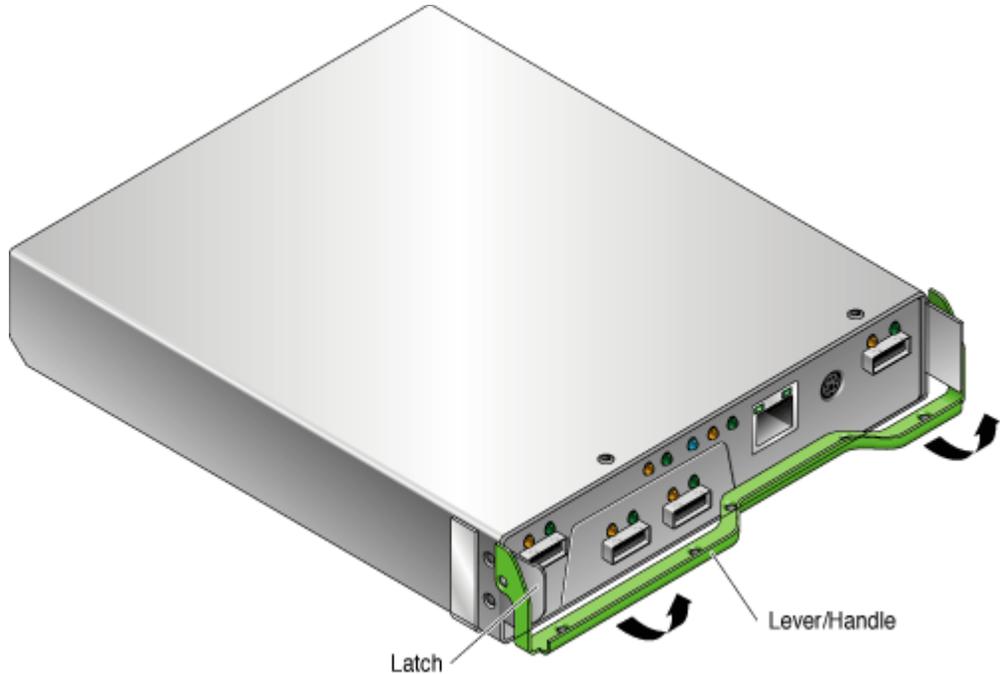
- If this is a dual controller tray, skip to [Step 2](#).
- If this is a single controller tray, power off the tray:
 - i. Make sure the Cache Active LED is “Off”. See [FIGURE 2](#).
 - ii. For each power assembly in the tray, press the ON/OFF power switch to the OFF position.

FIGURE 3 Power-Fan Assembly ON/OFF Power Switch Location



2. Label the host interface cables, expansion tray interface cables (if present), ethernet cable, and SFP transceivers (if present) connected to the controller.
3. Disconnect the cables from the controller.
4. Push and hold the latch tab on the left side of the failed controller to the right and lift the lever/handle up to remove the controller from the tray.

FIGURE 4 Controller Removal



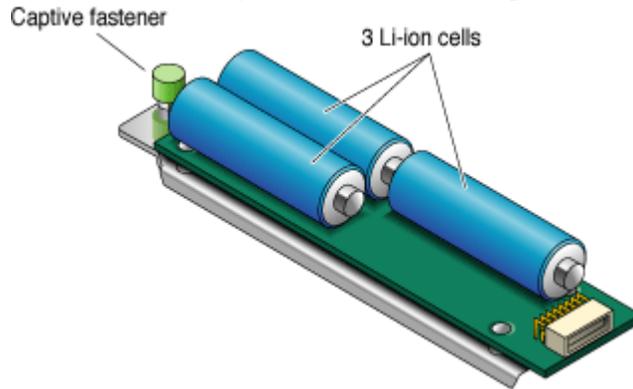
5. Place the failed controller on a flat surface.
6. Unpack the new controller, place it on a flat surface, and save the packing materials.
7. Place the new and failed controllers side-by-side with the components visible and the front of the controllers facing toward you.

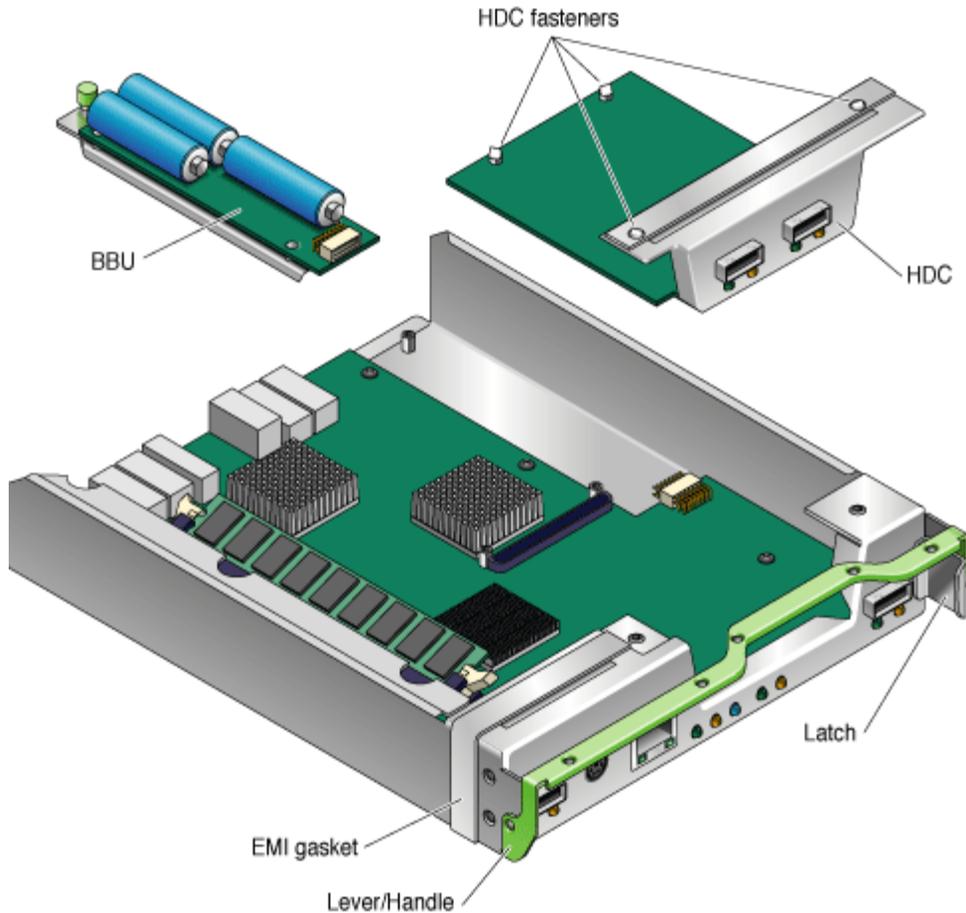
Caution – Use care when handling either the new or failed controller. Make sure all ESD precautions are being followed.

8. Do one of the following:
 - If the new controller already has a battery, skip to [Step 9](#).
 - If the new controller does not have a battery, remove the battery from the failed controller and place it in the new controller:
 - a. From the front of the failed controller, locate the battery in the right rear corner.

FIGURE 5 Controller Battery (BBU) Location

FIGURE 6 Controller Battery (BBU) Removal and Replacement





- b. With a phillips head screwdriver, loosen the captive screw at the rear of the battery and its mounting bracket.**
- c. Slide the battery out of the rear of the controller.**

Note the direction of the arrow next to the captive screw for proper removal.
- d. Carefully insert the battery into the new controller until the connectors are completely mated.**

Use care to align the connector at the end of the battery with the connector in the controller.
- e. Tighten the captive screw.**

9. Record the MAC address for the new controller from the white label on the front or top of the controller assembly.

This information is needed later in this document.

10. Insert the new controller into its tray until it connects with the midplane connector, and push the lever/handle down to the locked position.

Note – Be sure that the latch tab holds the lever/handle in place.

11. Reconnect all cables from [Step 2](#) to the new controller.
12. If this is a single controller tray, press the ON/OFF switch on each of the power-fan assemblies to the ON position. See [FIGURE 3](#).
13. Do one of the following:
 - Place the failed controller in the packing materials so that you can return it to Sun for proper disposal.
 - Properly dispose of the failed controller.

▼ To Verify and Complete the Controller Replacement

1. Wait approximately 60 seconds for the controller to complete its boot process, at which point ensure that the following is true:
 - All Link port LEDs (which have cables inserted) are “On”.
 - All Fault LEDs are “Off”. See [FIGURE 2](#).
2. Access the Service Advisor software and verify that the State value is `Enable` and Status value is `OK` for the controller.

If the State and Status values are not `Enable` and `OK`, contact your Sun Service provider or your next level of technical support.
3. Do one of the following:
 - If you used the battery from the failed controller, skip this step.
 - If the new controller came with a battery, access the Service Advisor software and reset the battery age.

Caution – Potential data loss - If the age of a battery is not set correctly, you might not be notified to change the battery at the correct time, and data loss could occur. If you have mistakenly reset the battery age, contact your Sun service provider or your next level of technical support.

4. From the Service Advisor software, generate a new CRU inventory.

5. Do one of the following:

- If you are using DHCP/BOOTP, update the BOOTP server configuration with the MAC address from [Step 9](#) in the previous procedure. For detailed information, see the Administrator's Guide for your operating system.
- If you have customized the IP address and are not using DHCP/BOOTP, change the IP address and other network information:

a. **Launch the Sun StorageTek Common Array Manager application.**

The default page of the application is displayed.

b. **In the left pane, click the arrow next to the name of the array that contains the new controller.**

The *<array-name>* node is expanded.

c. **Click the arrow next to the Physical Devices node.**

The Physical Devices node is expanded.

d. **Click Controllers.**

The Controller Summary on Storage System *<array-name>* page is displayed.

e. **Edit the IP address and other network information for the new controller.**

Note – Several controllers can be displayed on this page. Make sure your changes are for the new controller.

f. **Click Save.**

Caution – If you need to change the IP address for a single controller tray, you must make the change using the serial interface. For more information, see the *Sun StorageTek 2500 Series Array Hardware Installation Guide*.

6. Do one of the following:

- If you added a controller to a single controller tray, skip to the next step.

- If you added a controller to a dual tray, access the Service Advisor software and verify the “Preferred Manager” for your volumes as described in the Controller Replacement/Removal procedure in the Service Advisor software.
- 7. From the Service Advisor software, release the array from maintenance and validate the firmware revision level.**