VERITAS

Veritas Appliance
Hardware Service Procedure

Replacing a faulty SAS3 RAID Controller in a Veritas 5U84 Primary Storage Shelf

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Purpose

This document describes the process for replacing a SAS3 RAID controller in a 5U84 Primary Storage Shelf.

Affected appliance models

- 3340 Appliance
- 3350 Appliance
- 3360 Appliance
- 5350/5350 HA Appliance
- 5360/5360 HA Appliance

Electrical Safety

The static discharged by human bodies can damage static-sensitive components on the boards. When installing and maintaining the equipment, observe appropriate electrostatic safety precautions to prevent personnel injuries or device damage.

When operating a device in an electrostatic sensitive area, you must take electrostatic-discharge (ESD)-preventive measures. These include wearing ESD-preventive gloves, an ESD-preventive wrist strap, and ESD-preventive clothes to avoid personnel injury or device damage.

To prevent damage to the device, pay attention to the following during operations:

- Do not touch devices with bare hands because ESD from the human body may damage the electrostatically sensitive elements on a board.
- When dealing with the server or any of the internal components, wear an ESD-preventive wrist strap, ESD-preventive gloves, and ESD-preventive suit.

High availability (HA) appliance service considerations

Attention: A HA or multi-node appliance is serviced in the same manner as a single node appliance.

About the SAS3 RAID Controller in a 5U84 Primary Storage Shelf

The Veritas 5U84 Primary Storage Shelf uses dual, hot swappable SAS3 RAID Controllers. These controllers create and manage the 5U84 Primary Storage Shelf disk drive RAID sets that contain backed up data. They also create and manage the RAID sets on 5U84 Expansion Storage Shelves when those are attached to the 5U84 Primary Storage Shelf.

The 5U84 Primary Storage Shelf can continue to operate with one functioning SAS3 RAID controller. However, if both SAS3 RAID controllers are faulty the shelf must be powered off before you replace the controllers. Although you must have access to the rear panel of the 5U84 Primary Storage Shelf, it is not necessary to remove the shelf from the rack to replace the SAS3 RAID Controller.

Note: Always ensure that one SAS3 RAID controller per 5U84 Primary Storage Shelf is functional before attempting to remove and replace a faulty SAS3 RAID controller. Do not remove a faulty SAS3 RAID controller unless you can immediately install a replacement. Because the RAID controllers also help provide adequate cooling to the storage shelf internal components, both controllers must be in place during storage shelf operations.

Requirements

The following items are required.

Verify you have the following items

1. Replacement hot-swappable SAS3 RAID controller - NCR Part # 8770319182

2   Replacement hot-swappable SAS3 RAID controller - NCR Part # 8770308830

> **Caution:** The different SAS3 RAID Controllers **cannot** be intermixed. Make sure the replacement SAS3 RAID Controller matches the faulty SAS3 RAID Controller. If the SAS3 RAID Controller does not match, STOP and contact the Veritas Field Service Coordinators
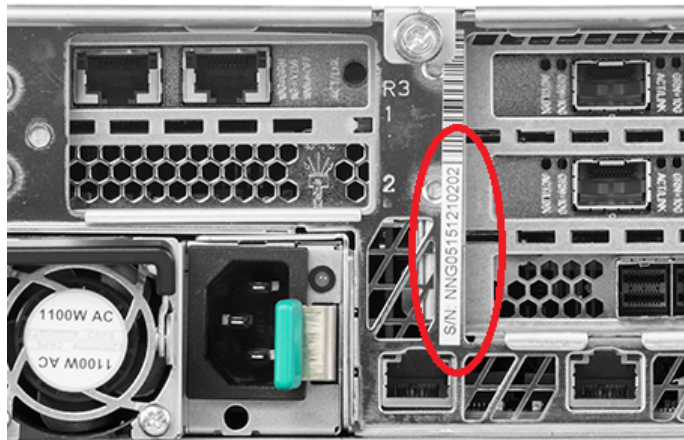
3. Cable labels
4. ESD wrist strap

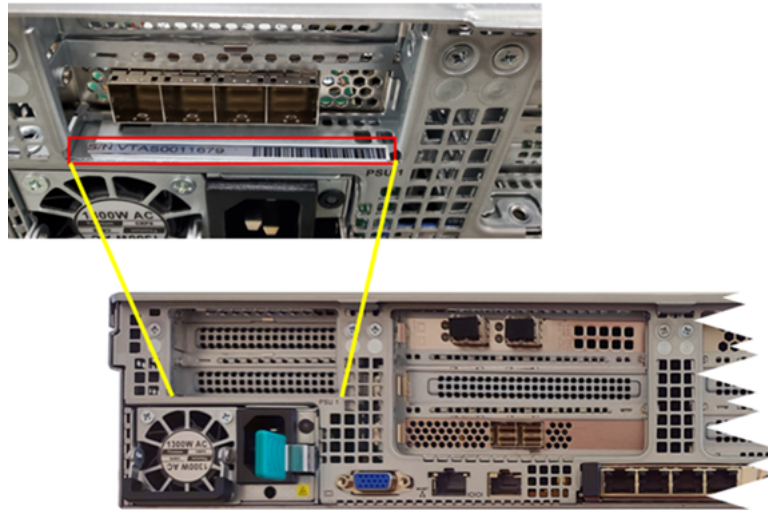# Locating the appliance with the faulty component

Use the following steps to locate the appliance with the faulty component.

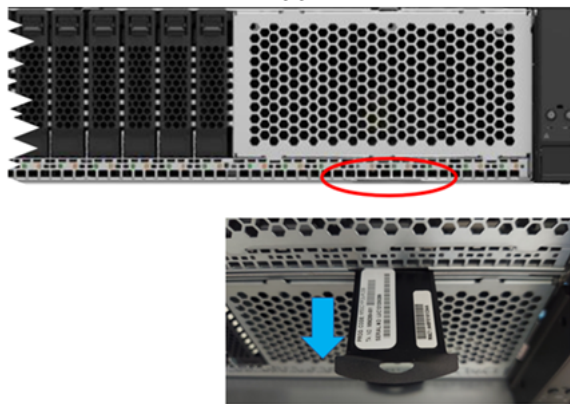**To locate the appliance with the faulty component**

1 Contact the Veritas Field Service Coordinators to let them know that you have arrived at the customer site.

2 Have the customer take you to the unit with the faulty component.

3 Verify the appliance compute node serial number.

- For the 3340/3350/5350 Appliances, the serial number is located on the rear panel of the appliance and begins with the letters VTAS.
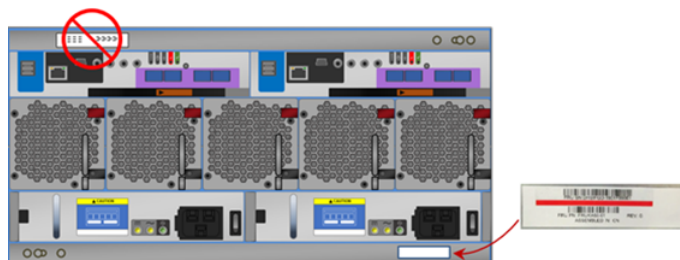

- For the 3360/5360/5362 Appliance, the serial number is located on the rear panel of the appliance above PSU 1 and begins with letters VTAS.

The serial number can also be found on the pull-out tab on the front of the appliance.

If the work order provides the 5U84 Storage Shelf serial number, verify that the serial number on the work order matches the serial number on the storage shelf. The Veritas Serial Number label is located in the lower right-hand corner of the shelf's rear panel under the power supply. Do not use the label in the upper left-hand corner for the Veritas Serial Number.
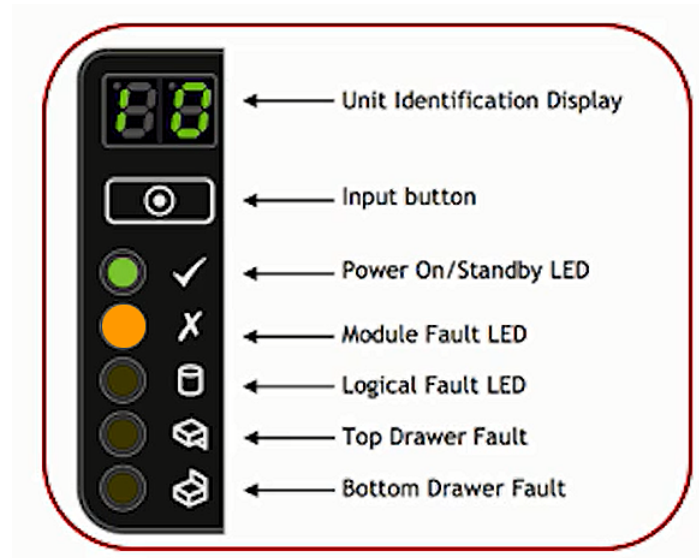

Removing the faulty SAS3 RAID controller

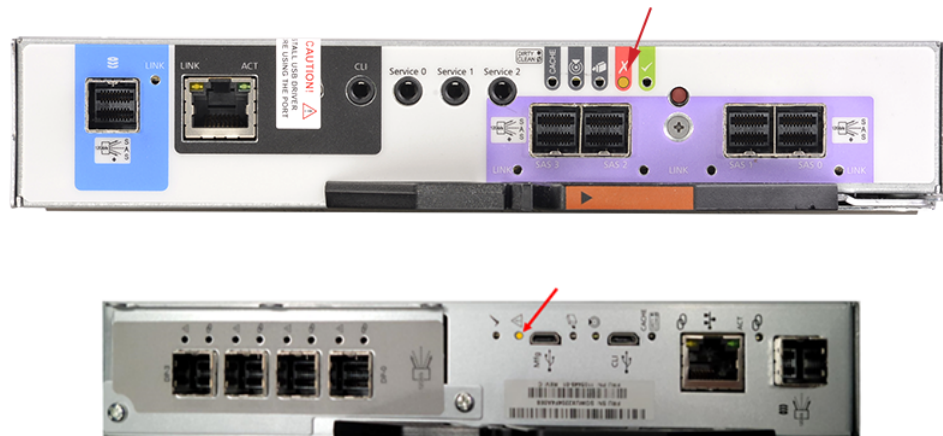Use the following procedure to remove the faulty SAS3 RAID controller.

To remove the faulty SAS3 RAID controller

1   Check the Module Fault LED on the front of the Storage Shelf.

At the front of the Storage Shelf, an Operator Panel located on the left-hand storage shelf ear displays any fault information using a series of LEDs. The Module Fault LED should be amber, indicating that a module fault exists.

2   Identify the SAS3 RAID controller to be removed. If the controller has failed, the fault LED will be lit amber.

Note: A SAS3 RAID controller uses SAS3 cables. It may also have a SAS3 cable attached to it if there is a 5U84 Expansion Storage Shelf as part of the Appliance system.

3   Label all cables that are connected to the faulty SAS3 RAID controller. Label each cable to facilitate re-connection to the replacement SAS3 RAID controller.

Make a note of the locations of the cables before removing them. Also note the orientation of the blue tabs on each SAS3 cable. Each cable must be reinstalled in the replacement RAID controller exactly as they were installed in the original controller.

4 After labeling each cable, disconnect the SAS3 cables from the faulty SAS3 RAID controller.

Note: Only the ends of the SAS3 cables that connect to the faulty SAS3 RAID controller need to be removed.

5 Pinch the latch on the module and pull the handle towards you. This levers the module out of its connector on the midplane.

Note: Do not disturb other SAS3 cables if there are multiple storage shelves installed as part of the Appliance system.

6 Swing the latch handle open, grip the latch handle and ease the SAS3 RAID controller forward from the slot.

7   Place both hands on the module body, and pull it straight out of the enclosure such that the RAID Controller remains level during removal.

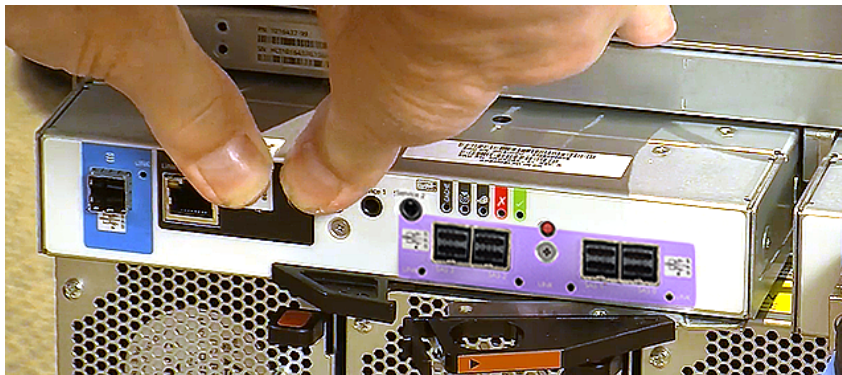**8**   Place the faulty SAS3 RAID controller in an ESD-preventative bag.

Installing the replacement SAS3 RAID controller

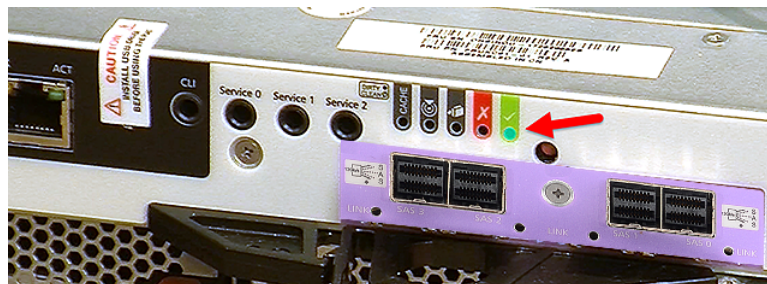Use the following procedure to install the replacement SAS3 RAID controller.

To install the replacement SAS3 RAID controller

1   Slide the replacement SAS3 RAID controller into the chassis.

To insert a replacement SAS3 RAID controller, rotate the replacement SAS3 RAID controller so that the release latch is at the bottom. Open the release latch and rotate it to its most open position. Slide the replacement SAS3 RAID controller into its slot until it will go no further and the handle has started to close.

2   Close the latch until it clicks in place.

3   Verify that the LED illuminates green.

4   Reattach each of the SAS3 cables that you removed from the faulty SAS3 RAID controller.

When attaching the cables, refer to the labels that you placed on the cables. Doing so helps to ensure that the cables are connected to the proper ports on the replacement RAID controller. Also ensure that blue SAS3 cable tabs are oriented as they were when they were connected to the faulty SAS3 RAID controller.

5   If the LED is not green, call Veritas Technical Support.