This procedure is for systems running SANtricity® 10.83 and later.

NetApp® E-Series Storage Systems: Replacing a Drive in the DE6600 Drive Tray

To download SANtricity ES Storage Manager and related product documentation, go to the NetApp Support Site at support.netapp.com.

Before you replace a drive in the DE6600 drive tray, gather antistatic protection and a replacement drive.

ATTENTION Possible loss of data access – Never insert drives into the drive tray without first confirming that the drive firmware level is compatible with the firmware level of the other drives. Inserting a drive with an incorrect firmware level can cause loss of data access. For information about the supported drive firmware levels, contact your Technical Support representative.

ATTENTION Possible loss of data access – Magnetic fields can destroy all data on the drive and cause irreparable damage to the drive circuitry. To avoid loss of data access and damage to the drives, always keep drives away from magnetic devices.

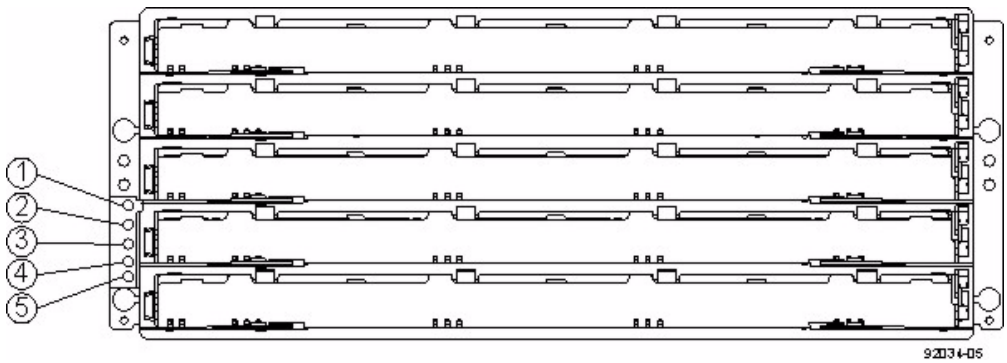
Install only drives that are specifically designed for your drive tray and that have been tested and qualified by the factory.

You can determine whether you have a failed drive in two ways:

- The Recovery Guru directs you to replace a failed drive.
- You locate the failed drive by checking the LEDs in three locations. The Service Action Required LEDs are located on the drive tray (Figure 1), the drive drawer (Figure 2 on page 2), and the drive itself (Figure 3 on page 2).

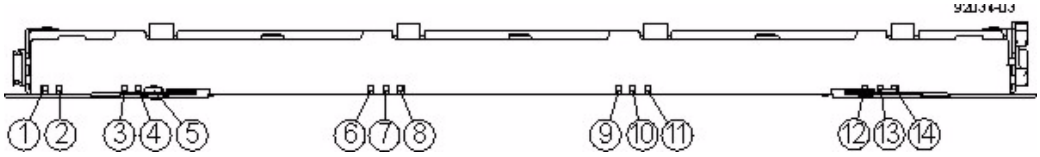
ATTENTION Possible hardware damage – To prevent electrostatic discharge damage to the tray, use proper antistatic protection when handling tray components.

Figure 1 LEDs on the Left End Cap of the DE6600 Drive Tray – Front View with the Bezel Removed



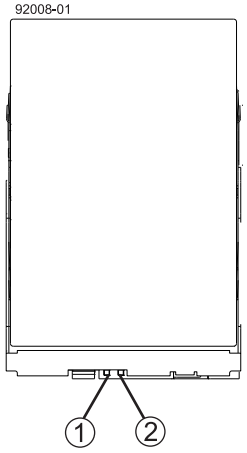
1. Drive Tray Locate LED
2. Drive Tray Service Action Required LED
3. Drive Tray Over-Temperature LED
4. Power LED
5. Standby LED

Figure 2 LEDs on the Drive Drawer – Front View



1. Drive Drawer Status Service Action Allowed LED
2. Drive Drawer Status Service Action Required LED
3. Drive 1 Activity LED
4. Drive 2 Activity LED
5. Drive 3 Activity LED
6. Drive 4 Activity LED
7. Drive 5 Activity LED
8. Drive 6 Activity LED
9. Drive 7 Activity LED
10. Drive 8 Activity LED
11. Drive 9 Activity LED
12. Drive 10 Activity LED
13. Drive 11 Activity LED
14. Drive 12 Activity LED

Figure 3 LEDs on the Drive – Top View



1. Drive Service Action Allowed LED
2. Drive Service Action Required LED

1. Gather support data about your storage array by using one of these methods:
   - Use the storage management software to collect and save a support bundle of your storage array. From the Array Management Window, select **Monitor >> Health >> Collect Support Data**. Then name and specify a location on your system where you want to store the support bundle.
   - Use the command line interface (CLI) to run the `save storageArray supportData` command to gather comprehensive support data about the storage array. For more information about this command, refer to the *Command Line Interface and Script Commands*. Running this command can temporarily impact performance on your storage array.
2. Did the Recovery Guru direct you to replace a failed drive?
   - **Yes** – Go to step 3.
   - **No** – Run the Recovery Guru to identify the failed component.
3. Put on antistatic protection.
4. Unpack the new drive.
   a. Set the new drive on a flat, static-free surface near the drive tray.
   b. Save all of the packing materials in case you need to return the drive.
5. Locate the failed drive by checking the Drive Drawer Service Action Required LEDs (Figure 2 on page 2) on the front of the drive tray.

   If a fault is detected, the amber Drive Drawer Service Action Required LED is on. If you can safely remove the drive, the blue Drive Drawer Service Action Allowed LED is on.

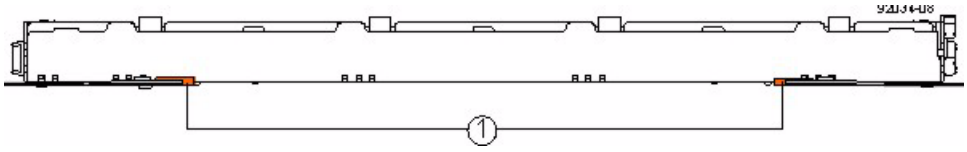
ATTENTION Possible damage to drives – It is a best practice to wait 30 seconds after the blue Drive Drawer Service Action Allowed LED comes on before you open the drive drawer. Waiting 30 seconds allows the drive to spin down, which prevents possible damage to the hardware. To prevent possible damage to the other spinning drives in the drive drawer, open the drive drawer slowly.

ATTENTION Possible damage to drives – Bumping a drive against another surface can damage the drive mechanism or connectors.

---

6. Remove the bezel from the front of the drive tray.
7. Release the levers on each side of the drive drawer by pulling both towards the center (Figure 4).

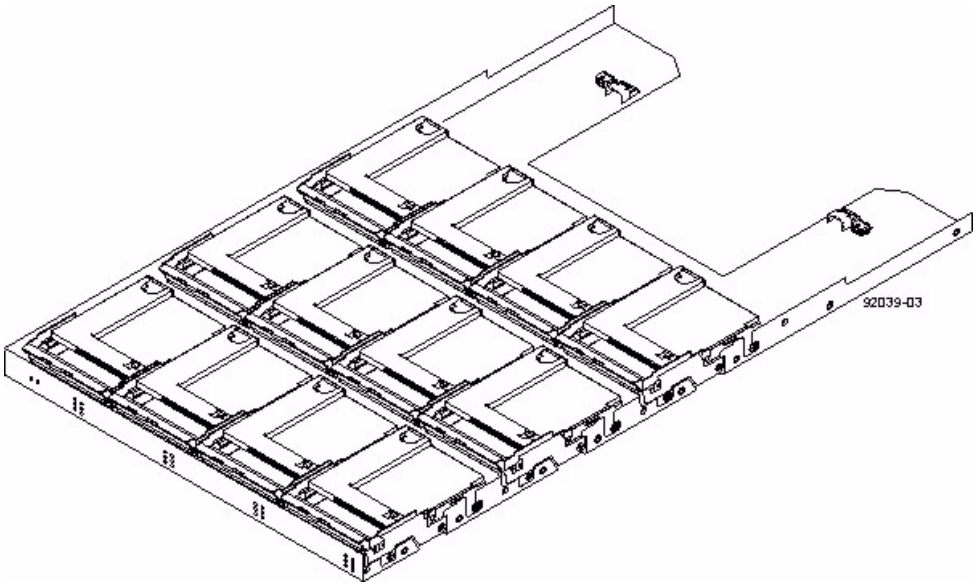
Figure 4 Drive Drawer Levers



1. Drive Drawer Levers

8. Carefully pull on the extended drive drawer levers to pull out the drive drawer (Figure 5) to its full extension without removing it from the drive tray.

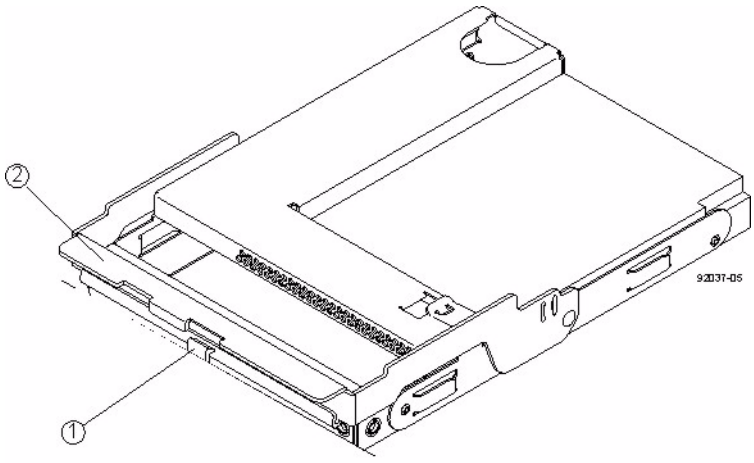
Figure 5 Fully Populated Drive Drawer



9. Remove the failed drive from the drive drawer. To remove a drive, perform these steps:

   a. Locate the drive release lever that secures the drive handle in place. Disengage the drive release lever by carefully pulling it back to release the drive handle (Figure 6).

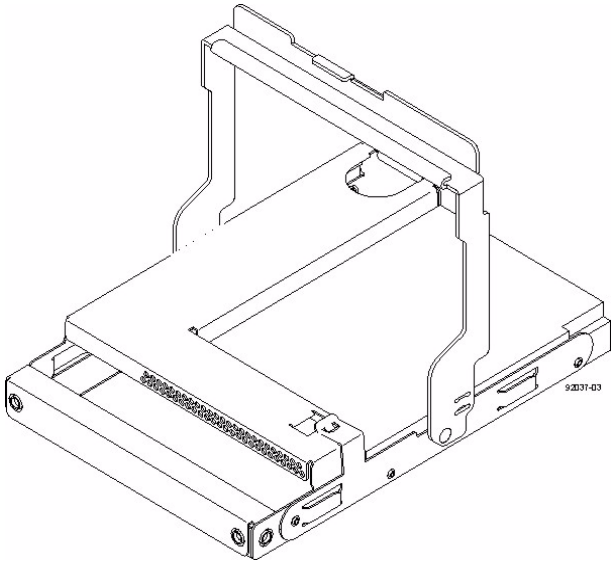
Figure 6 Drive Release Lever



1. Drive Release Lever
2. Drive Handle

   b. Raise the drive handle to the vertical position (Figure 7).

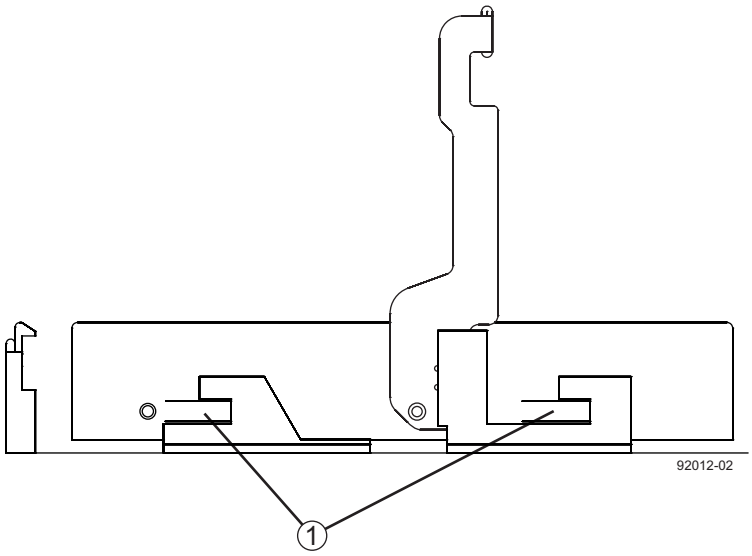
Figure 7 Raised Drive Handle



   c. Lift the drive from the drive drawer by using the drive handle, and put the drive on a flat, static-free surface. If you are removing multiple drives, label each drive with the tray number, the drive drawer number, and the slot number. Then if the fault is with the drive drawer and not the drive, the drive can be re-used.

10. To install the new drive, raise the drive handle on the new drive to the vertical position.
11. Align the two raised buttons on each side over the matching gap in the drive channel on the drive drawer (Figure 8).

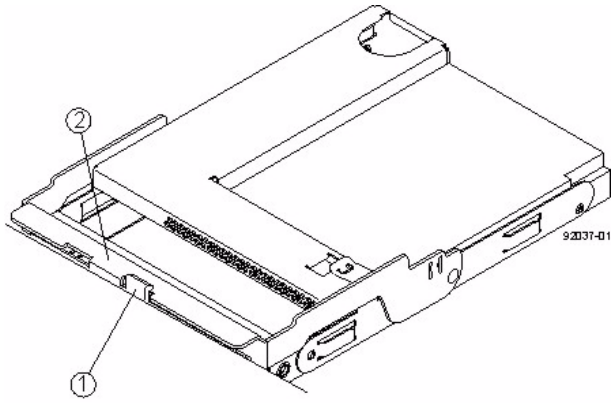
Figure 8 Drive with Raised Handle – Side View



1. Raised Buttons

12. Lower the drive straight down, and then rotate the drive handle down until the drive snaps into place under the drive release lever (Figure 9).

Figure 9 Drive Release Lever Locked by the Drive Handle



1. Drive Release Lever
2. Drive Handle

13. Push the drive drawer all the way back into the drive tray, and close the levers on each side of the drive drawer.

ATTENTION Possible equipment malfunction – Make sure that you push both drive drawer levers to each side so that the drive drawer is completely closed. The drive drawer must be completely closed to allow proper airflow and prevent overheating.

---

14. Look at the Drive Drawer Service Action Required LED (Figure 2 on page 2). Based on the LED status, perform one of these actions:
    - **The Drive Drawer Service Action Required LED is on** – The drive might not be installed correctly, or the new drive might be defective. Remove the drive, wait 60 seconds, and reinstall the drive. If it still fails, replace it with another new drive. Go to step 15.
    - **The Drive Drawer Service Action Required LED is off** – Go to step 16.
15. Did this action correct the problem?
    - **Yes** – Go to step 16.
    - **No** – If the problem has not been resolved, the drive drawer might need to be replaced. Contact your Technical Support representative.
16. Install the bezel on the front of the drive tray.
17. Bring the new drive back online by using the storage management software.
18. Check the status of all of the trays in the storage array.
19. Does any component have a Needs Attention status?
    - **Yes** – Click the **Recovery Guru** toolbar button in the Array Management Window, and complete the recovery procedure. If the problem has not been resolved, contact your Technical Support representative.
    - **No** – Go to step 20.
20. Remove the antistatic protection.
21. Gather support data about your updated storage array by using one of these methods:
    - Use the storage management software to collect and save a support bundle of your storage array. From the Array Management Window toolbar, select **Monitor >> Health >> Collect Support Data**. Then name and specify a location on your system where you want to store the support bundle.
    - Use the CLI to run the `save storageArray supportData` command to gather comprehensive support data about the storage array. For more information about this command, refer to the *Command Line Interface and Script Commands*. Running this command can temporarily impact performance on your storage array.