NetApp® E-Series Storage Systems

Replacing an Environmental Services Monitor Canister in a DE1600 Drive Tray or a DE5600 Drive Tray

This procedure is for systems running SANtricity® 10.80.

In this procedure, you will replace a failed environmental services monitor (ESM) canister with a new ESM canister.

Before you start to replace the ESM canister in the drive tray, gather antistatic protection and a replacement ESM canister.

ATTENTION **Possible equipment damage** – You must replace the ESM canister within three minutes after removing the failed ESM canister to prevent the possibility of overheating the equipment.

ATTENTION **Possible extended outage** – You must replace the ESM with the power turned on to ensure auto-code synchronization of the native controller firmware to the new ESM canister, and to prevent the possibility of an extended outage.

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

- The Recovery Guru directs you to replace a failed ESM canister.

- You locate the failed ESM canister by checking the ESM Service Action Required LED.

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

1 If possible, use the storage management software to create, save, and print a new storage array profile.

2 Did the Recovery Guru direct you to replace a failed ESM canister?

- ▪ **Yes** – Go to step 3.

- ▪ **No** – Run the Recovery Guru to identify the failed component.

3 Put on antistatic protection.

4 Unpack the new ESM canister.

a Set the new ESM canister on a dry, level surface near the drive tray.

b Save all the packing materials in case you need to return the ESM canister.

5 Locate the failed ESM canister by checking the ESM Service Action Required LEDs (Figure 1).

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

Figure 1 LEDs on an ESM Canister

90001-02
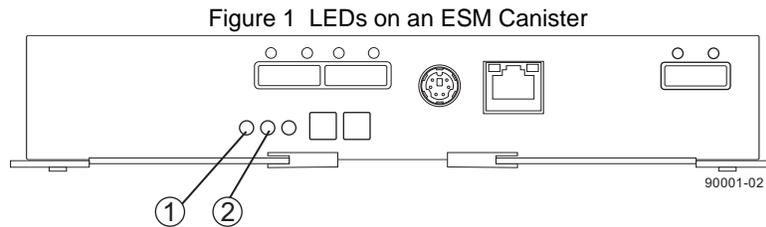
1 ESM Service Action Allowed LED (Blue)
2 ESM Service Action Required LED (Amber)

ATTENTION   **Possible damage to fiber-optic cables** – Fiber-optic cables are fragile. Bending, twisting, folding, or pinching fiber-optic cables can cause damage to the cables, degraded performance, or loss of data. To prevent damage, do not twist, fold, pinch, or step on the cables. Do not bend the cables in less than a 5-cm (2-in.) radius.

6 Label each interface cable that is attached to the ESM canister so that you can reconnect the cables correctly to the new ESM canister.

7 Disconnect all of the controller interface cables, and, if applicable, disconnect all of the interface cables to other ESM canisters from the failed ESM canister.

8 Remove the failed ESM canister from the drive tray:

   a Rotate the ESM latches to disengage the ESM canister.

   b Use the ESM latches as handles to pull the ESM canister out of the drive tray.

Figure 2 Removing and Replacing an ESM Canister

96008-01
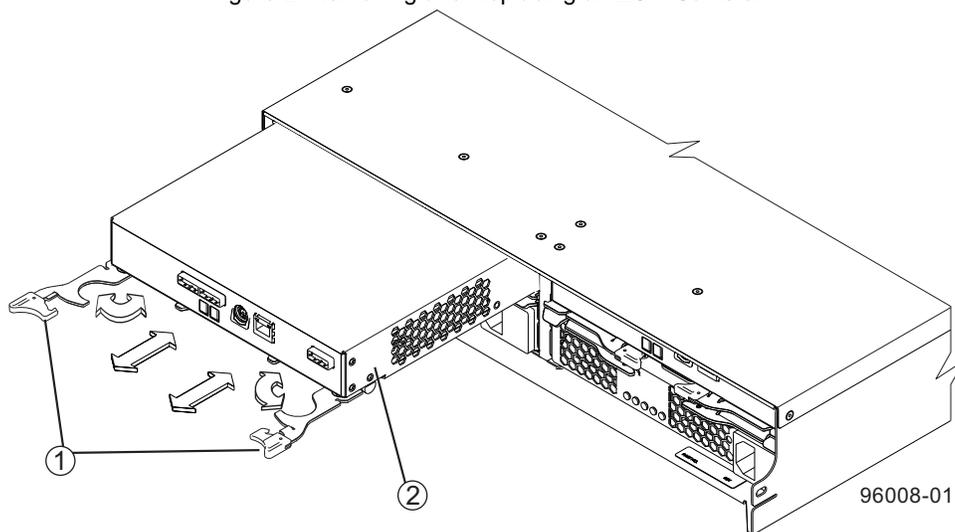
1 ESM Latches
2 ESM Canister

9 Slide the replacement ESM canister all the way into the drive tray. Rotate the ESM latches to lock the ESM canister into place.

10 Reconnect all of the controller interface cables, as well as reconnect the cables from the other ESM canisters to the replacement ESM canister.

11 Look at the LEDs on the ESM canister and the drives to make sure that the new ESM canister is rebooting correctly. The symbols next to the LEDs identify their purpose.

Figure 3 Removing and Replacing an ESM Canister

96002-01
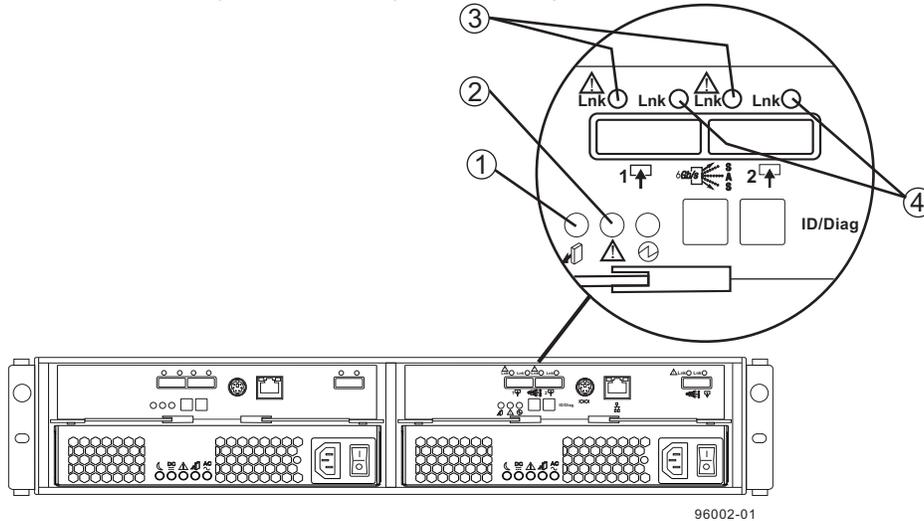
1 ESM Service Action Allowed LED (Blue)
2 ESM Service Action Required LED (Amber)
3 ESM Link Service Action Required LEDs (Amber)
4 ESM Link LEDs (Green)

All four LEDs come on and go off intermittently for approximately 60 seconds (possibly longer). After this time, you are able to discover the new ESM canister by using the storage management software.

12 Look at the ESM Link LEDs and the ESM Service Action Required LED on both ESM canisters. Based on the LED status, perform one of these actions:

- **On both ESM canisters, the ESM Link LEDs are on *and* the ESM Service Action Required LEDs are off** – Go to step 14.

- **On both ESM canisters, either of the ESM Link LEDs is off *or* either of the ESM Service Action Required LEDs is on** – Check that the ESM canister is installed correctly. Reinstall the ESM canister if necessary. Go to step 13.

13 Did this action correct the problem?

- **Yes** – Go to step 14.

- **No** – If the problem has not been resolved, click the **Recovery Guru** toolbar button in the Array Management Window to see if any further issues are reported. After you attempt to correct any problems listed, contact a Customer and Technical Support representative.

14 Remove the antistatic protection.

15 Check the status of all the trays in the storage array.

16 Does any component have a Needs Attention status?

- **Yes** – Go to step 17.

- **No** – Click the **Recovery Guru** toolbar button in the Array Management Window, and complete the recovery procedure. If the problem has not been resolved, contact a Customer and Technical Support representative.

17 Create, save, and print a new storage array profile.