



## **Canisters**

### **E-Series storage systems**

NetApp  
January 20, 2026

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# Canisters

## Replace the power supply - E4000

You can replace a power supply in an E4000.

### Before you begin

- Review the details in the Recovery Guru to confirm that there is an issue with the power supply. Select **Recheck** from the Recovery Guru to ensure no other items must be addressed first.
- Check that the amber Attention LED on the power supply is on, indicating that the power supply or its integrated fan has a fault. Contact technical support for assistance if both power supplies in the shelf have their amber Attention LEDs on.
- Make sure you have the following:
  - A replacement power supply that is supported for your controller shelf or drive shelf model.



Do not mix PSUs of the different voltage types. Always replace like for like.

- An ESD wristband, or you have taken other antistatic precautions.
- A management station with a browser that can access SANtricity System Manager for the controller. (To open the System Manager interface, point the browser to the controller's domain name or IP address.)

### Step 1: Prepare to replace power supply

Prepare to replace a power supply in a 12-drive or 24-drive controller shelf or drive shelf.



#### Steps

1. Collect support data for your storage array using SANtricity System Manager.
  - a. Select **Support > Support Center > Diagnostics**.
  - b. Select **Collect Support Data**.
  - c. Click **Collect**.

The file is saved in the Downloads folder for your browser with the name, **support-data.7z**.

2. From SANtricity System Manager, determine which power supply has failed.

You can find this information in the Details area of the Recovery Guru, or you can review the information displayed for the shelf.

- a. Select **Hardware**.
- b. Look at the power  and fan  icons to the right of the **Shelf** drop-down lists to determine which shelf has the failed power supply.

If a component has failed, either or both of these icons are red.

- c. When you find the shelf with a red icon, select **Controller & Components**.
- d. Select either power supply.

- e. On the **Power Supplies** and **Fans** tabs, look at the statuses of the power-fan canisters, the power supplies, and the fans to determine which power supply must be replaced.

A component with a **Failed** status must be replaced.



If the second power supply canister in the shelf does not have **Optimal** status, do not attempt to hot-swap the failed power supply. Instead, contact technical support for assistance.

3. From the back of the storage array, look at the Attention LEDs to locate the power supply you need to remove.

You must replace the power supply that has its Attention LED on.

## Step 2: Remove failed power supply

Remove a failed power supply so you can replace it with a new one.

### Steps

1. Unpack the new power supply, and set it on a level surface near the drive shelf.

Save all packing materials for use when returning the failed power supply.

2. Turn off the power supply and disconnect the power cables:
  - a. Turn off the power switch on the power supply.
  - b. Open the power cord retainer, and then unplug the power cord from the power supply.
  - c. Unplug the power cord from the power source.
3. Squeeze the latch on the power supply cam handle, and then open the cam handle to fully release the power supply from the mid plane.
4. Use the cam handle to slide the power supply out of the system.



When removing a power supply, always use two hands to support its weight.

## Step 3: Install new power supply

Install a new power supply to replace the failed one.

### Steps

1. Make sure that the on/off switch of the new power supply is in the **Off** position.
2. Using both hands, support and align the edges of the power supply with the opening in the system chassis, and then gently push the power supply into the chassis using the cam handle.

The power supplies are keyed and can only be installed one way.



Do not use excessive force when sliding the power supply into the system; you can damage the connector.

3. Close the cam handle so that the latch clicks into the locked position and the power supply is fully seated.

4. Reconnect the power supply cabling:
  - a. Reconnect the power cord to the power supply and the power source.
  - b. Secure the power cord to the power supply using the power cord retainer.
5. Turn on the power to the new power supply canister.

## Step 4: Complete power supply replacement

Confirm that the new power supply is working correctly, gather support data, and resume normal operations.

### Steps

1. On the new power supply, check that the green Power LED is on and the amber Attention LED is OFF.
2. From the Recovery Guru in SANtricity System Manager, select **Recheck** to ensure the problem has been resolved.
3. If a failed power supply is still being reported, repeat the steps in [Step 2: Remove failed power supply](#), and in [Step 3: Install new power supply](#). If the problem continues to persist, contact technical support.
4. Remove the antistatic protection.
5. Collect support data for your storage array using SANtricity System Manager.
  - a. Select **Support > Support Center > Diagnostics**.
  - b. Select **Collect Support Data**.
  - c. Click **Collect**.

The file is saved in the Downloads folder for your browser with the name, **support-data.7z**.

6. Return the failed part to NetApp, as described in the RMA instructions shipped with the kit.

### What's next?

Your power supply replacement is complete. You can resume normal operations.

## Replace the power canister - E4000 (60-drive)

You can replace a power canister in an E4000 array with a 60-drive shelf, which include the following shelf types:

- E4060 controller shelf
- DE460C drive shelf

### About this task

Each 60-drive controller shelf or drive shelf includes two power canisters for power redundancy. If a power canister fails, you must replace it as soon as possible to ensure that the shelf has a redundant power source.

You can replace a power canister while your storage array is powered on and performing host I/O operations, as long as the second power canister in the shelf has an Optimal status and the **OK to remove** field in the Details area of the Recovery Guru in SANtricity System Manager displays **Yes**.

While you perform this task, the other power canister supplies power to both fans to ensure that the equipment does not overheat.

### Before you begin

- Review the details in the Recovery Guru to confirm that there is an issue with the power canister and select **Recheck** from the Recovery Guru to ensure no other items must be addressed first.
- Check that the amber Attention LED on the power canister is on, indicating that the canister has a fault. Contact technical support for assistance if both power canisters in the shelf have their amber Attention LEDs on.
- Make sure you have the following:
  - A replacement power canister that is supported for your controller shelf or drive shelf model.
  - An ESD wristband, or you have taken other antistatic precautions.


## Step 1: Prepare to replace power canister

Prepare to replace a power canister in a 60-drive controller shelf or drive shelf.

### Steps

1. Collect support data for your storage array using SANtricity System Manager.
  - a. Select **Support Center > Diagnostics**.
  - b. Select **Collect Support Data**.
  - c. Click **Collect**.

The file is saved in the Downloads folder for your browser with the name, **support-data.7z**.

2. From SANtricity System Manager, determine which power canister has failed.
  - a. Select **Hardware**.
  - b. Look at the power  icon to the right of the **Shelf** drop-down lists to determine which shelf has the failed power canister.

If a component has failed, this icon is red.

- c. When you find the shelf with a red icon, select **Controller & Components**.
- d. Select either power canister or the red power icon.
- e. On the **Power Supplies** tab, look at the statuses of the power canisters to determine which power canister must be replaced.

A component with a **Failed** status must be replaced.



If the second power canister in the shelf does not have **Optimal** status, do not attempt to hot-swap the failed power canister. Instead, contact technical support for assistance.



You can also find information about the failed power canister in the Details area of the Recovery Guru, or you can review the information displayed for the shelf, or you can review the Event Log under Support and filter by Component Type.

3. From the back of the storage array, look at the Attention LEDs to locate the power canister you need to remove.

You must replace the power canister that has its Attention LED on.

## Step 2: Remove failed power canister

Remove a failed power canister so you can replace it with a new one.

### Steps

1. Put on antistatic protection.
2. Unpack the new power canister, and set it on a level surface near the shelf.

Save all packing materials for use when returning the failed power canister.

3. Turn off the power switch on the power canister that you need to remove.
4. Open the power cord retainer of the power canister that you need to remove, and then unplug the power cord from the power canister.
5. Press the orange latch on the power canister cam handle, and then open the cam handle to fully release the power canister from the mid plane.
6. Use the cam handle to slide the power canister out of the shelf.



When removing a power canister, always use two hands to support its weight.

## Step 3: Install new power canister

Install a new power canister to replace the failed one.

### Steps

1. Make sure the on/off switch of the new power canister is in the Off position.
2. Using both hands, support and align the edges of the power canister with the opening in the system chassis, and then gently push the power canister into the chassis using the cam handle until it locks into place.



Do not use excessive force when sliding the power canister into the system; you can damage the connector.

3. Close the cam handle so that the latch clicks into the locked position and the power canister is fully seated.
4. Reconnect the power cord to the power canister, and secure the power cord to the power canister using the power cord retainer.
5. Turn on the power to the new power canister.

## Step 4: Complete power canister replacement

Confirm that the new power canister is working correctly, gather support data, and resume normal operations.

### Steps

1. On the new power canister, check that the green Power LED is on and the amber Attention LED is OFF.
2. From the Recovery Guru in SANtricity System Manager, select **Recheck** to ensure the problem has been resolved.
3. If a failed power canister is still being reported, repeat the steps in [Step 2: Remove failed power canister](#) and in [Step 3: Install new power canister](#). If the problem continues to persist, contact technical support.

4. Remove the antistatic protection.
5. Collect support data for your storage array using SANtricity System Manager.
  - a. Select **Support Center > Diagnostics**.
  - b. Select **Collect Support Data**.
  - c. Click **Collect**.

The file is saved in the Downloads folder for your browser with the name, **support-data.7z**.

6. Return the failed part to NetApp, as described in the RMA instructions shipped with the kit.

### What's next?

Your power canister replacement is complete. You can resume normal operations.

## Replace the fan canister - E4000 (60-drive)

You can replace a fan canister in an E4000 array with a 60-drive shelf, which include the following shelf types:

- E4060 controller shelf
- DE460C drive shelf

### About this task

Each 60-drive controller shelf or drive shelf includes two fan canisters. If a fan canister fails, you must replace it as soon as possible to ensure that the shelf has adequate cooling.



**Possible equipment damage** — If you perform this procedure with the power turned on, you must complete it within 30 minutes to prevent the possibility of overheating the equipment.

### Before you begin

- Review the details in the Recovery Guru to confirm that there is an issue with the fan canister and select **Recheck** from the Recovery Guru to ensure no other items must be addressed first.
- Check that the amber Attention LED on the fan canister is on, indicating that the fan has a fault. Contact technical support for assistance if both fan canisters in the shelf have their amber Attention LEDs on.
- Make sure you have the following:
  - A replacement fan canister (fan) that is supported for your controller shelf or drive shelf model.
  - An ESD wristband, or you have taken other antistatic precautions.

## Step 1: Prepare to replace fan canister

Prepare to replace a fan canister in a 60-drive controller shelf or drive shelf by collecting support data about your storage array and locating the failed component.

### Steps


1. Collect support data for your storage array using SANtricity System Manager.
  - a. Select **Support Center > Diagnostics**.
  - b. Select **Collect Support Data**.



- c. Click **Collect**.

The file is saved in the Downloads folder for your browser with the name, **support-data.7z**.

2. From SANtricity System Manager, determine which fan canister has failed.

- a. Select **Hardware**.
- b. Look at the fan  icon to the right of the **Shelf** drop-down lists to determine which shelf has the failed fan canister.

If a component has failed, this icon is red.

- c. When you find the shelf with a red icon, select **Controller & Components**.
- d. Select either fan canister or the red fan icon.
- e. On the **Fans** tab, look at the statuses of the fan canisters to determine which fan canister must be replaced.

A component with a **Failed** status must be replaced.



If the second fan canister in the shelf does not have **Optimal** status, do not attempt to hot-swap the failed fan canister. Instead, contact technical support for assistance.

You can also find information about the failed fan canister in the Details area of the Recovery Guru, or you can review the Event Log under Support and filter by Component Type.

3. From the back of the storage array, look at the Attention LEDs to locate the fan canister you need to remove.

You must replace the fan canister that has its Attention LED on.

## Step 2: Remove failed fan canister and install new one

Remove a failed fan canister so you can replace it with a new one.



If you do not turn off the power to your storage array, ensure that you remove and replace the fan canister within 30 minutes to prevent the system from overheating.

### Steps

1. Unpack the new fan canister, and place it on a level surface near the shelf.

Save all packing material for use when returning the failed fan.

2. Press the orange tab to release the fan canister handle.
3. Use the fan canister handle to pull the fan canister out of the shelf.
4. Slide the replacement fan canister all the way into the shelf, and then move the fan canister handle until it latches with the orange tab.

## Step 3: Complete fan canister replacement

Confirm that the new fan canister is working correctly, gather support data, and resume normal operations.

## Steps

1. Check the amber Attention LED on the new fan canister.



After you replace the fan canister, the Attention LED stays on (solid amber) while the firmware checks that the fan canister was installed correctly. The LED goes off after this process is complete.

2. From the Recovery Guru in SANtricity System Manager, select **Recheck** to ensure the problem has been resolved.
3. If a failed fan canister is still being reported, repeat the steps in [Step 2: Remove failed fan canister and install new one](#). If the problem persists, contact technical support.
4. Remove the antistatic protection.
5. Collect support data for your storage array using SANtricity System Manager.
  - a. Select **Support Center > Diagnostics**.
  - b. Select **Collect Support Data**.
  - c. Click **Collect**.

The file is saved in the Downloads folder for your browser with the name, **support-data.7z**.

6. Return the failed part to NetApp, as described in the RMA instructions shipped with the kit.

## What's next?

Your fan canister replacement is complete. You can resume normal operations.

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