NetApp

Replace the NVDIMM battery - AFF A320

ONTAP Systems

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Replace the NVDIMM battery - AFF A320

To replace the NVDIMM battery, you must remove the controller module, remove the battery, replace the battery, and then reinstall the controller module.

All other components in the system must be functioning properly; if not, you must contact technical support.

Shut down the node

To shut down the impaired node, you must determine the status of the node and, if necessary, take over the node so that the healthy node continues to serve data from the impaired node storage.

About this task

If you have a cluster with more than two nodes, it must be in quorum. If the cluster is not in quorum or a healthy node shows false for eligibility and health, you must correct the issue before shutting down the impaired node.

ONTAP 9 System Administration Reference

Steps

1. If AutoSupport is enabled, suppress automatic case creation by invoking an AutoSupport message:
   `system node autosupport invoke -node * -type all -message MAINT=number_of_hours_downh`

   The following AutoSupport message suppresses automatic case creation for two hours: `cluster1:*> system node autosupport invoke -node * -type all -message MAINT=2h`

2. Disable automatic giveback from the console of the healthy node: `storage failover modify -node local -auto-giveback false`

3. Take the impaired node to the LOADER prompt:

If the impaired node is displaying…	Then…
The LOADER prompt	Go to the next step.
Waiting for giveback…	Press Ctrl-C, and then respond `y` when prompted.
System prompt or password prompt (enter system password)	Take over or halt the impaired node: • For an HA pair, take over the impaired node from the healthy node: `storage failover takeover -ofnode` *`impaired_node_name`* When the impaired node shows Waiting for giveback…, press Ctrl-C, and then respond `y`.

Remove the controller module

To access components inside the controller module, you must remove the controller module from the chassis.
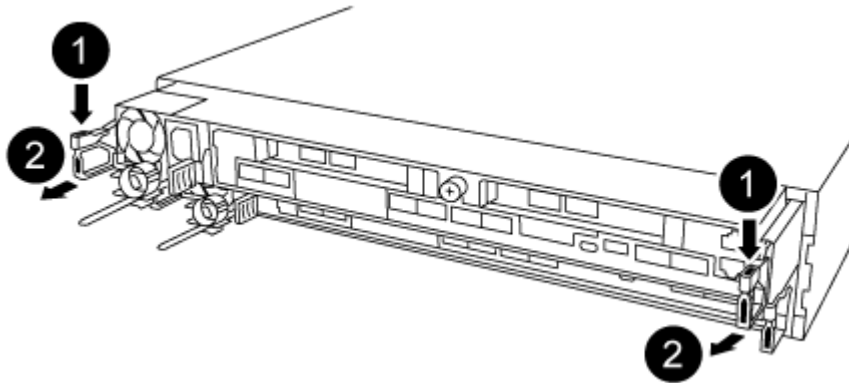
1. If you are not already grounded, properly ground yourself.

2. Unplug the controller module power supply from the power source.

3. Loosen the hook and loop strap binding the cables to the cable management device, and then unplug the system cables and SFPs (if needed) from the controller module, keeping track of where the cables were connected.

   [drw a320 controller cable unplug animated gif] |

../media/drw_a320_controller_cable_unplug_animated_gif.png

Leave the cables in the cable management device so that when you reinstall the cable management device, the cables are organized.

4. Remove and set aside the cable management devices from the left and right sides of the controller module.

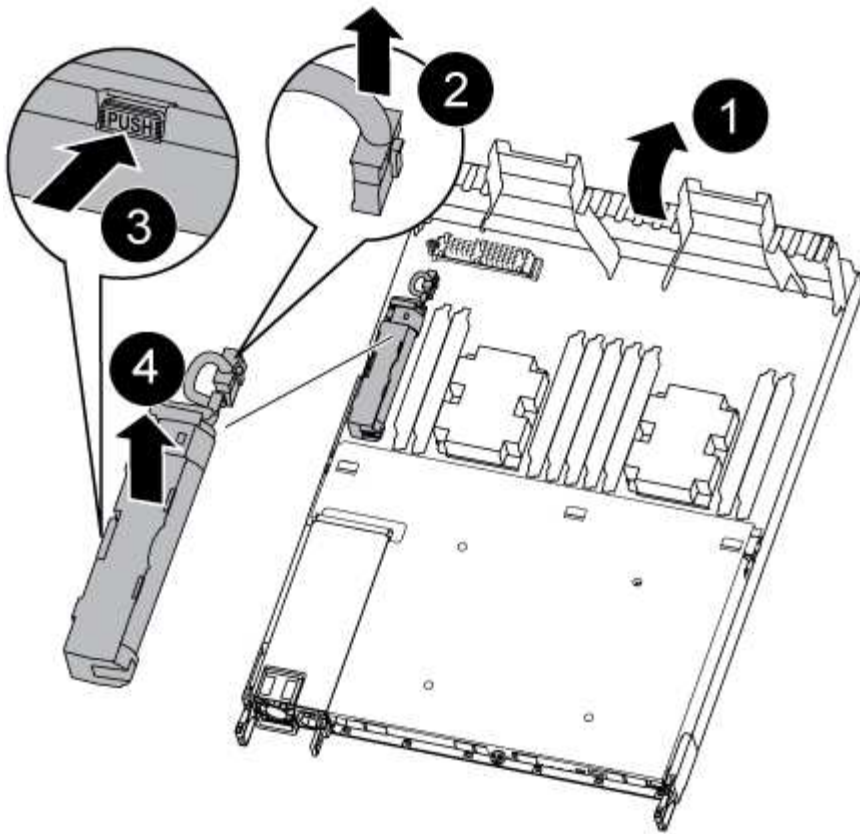5. Remove the controller module from the chassis:

a. Insert your forefinger into the latching mechanism on either side of the controller module.

b. Press down on the orange tab on top of the latching mechanism until it clears the latching pin on the chassis.

The latching mechanism hook should be nearly vertical and should be clear of the chassis pin.

a. Gently pull the controller module a few inches toward you so that you can grasp the controller module sides.

b. Using both hands, gently pull the controller module out of the chassis and set it on a flat, stable surface.

Replace the NVDIMM battery

To replace the NVDIMM battery, you must remove the failed battery from the controller module and install the replacement battery into the controller module.
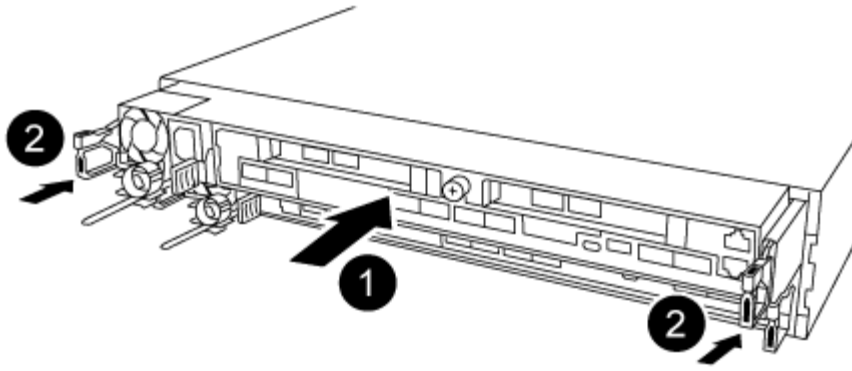
1. Open the air duct and locate the NVDIMM battery.

2. Locate the battery plug and squeeze the clip on the face of the battery plug to release the plug from the socket, and then unplug the battery cable from the socket.

3. Grasp the battery and press the blue locking tab marked PUSH, and then lift the battery out of the holder and controller module.

4. Remove the replacement battery from its package.

5. Align the battery module with the opening for the battery, and then gently push the battery into slot until it locks into place.

6. Plug the battery plug back into the controller module, and then close the air duct.

Install the controller module

After you have replaced the component in the controller module, you must re-install the controller module into the chassis, and then boot it to Maintenance mode.

1. If you have not already done so, close the air duct at the rear of the controller module and reinstall the cover over the PCIe cards.

2. Align the end of the controller module with the opening in the chassis, and then gently push the controller module halfway into the system.

> **i**   Do not completely insert the controller module in the chassis until instructed to do so.

3. Cable the management and console ports only, so that you can access the system to perform the tasks in the following sections.

> **i**   You will connect the rest of the cables to the controller module later in this procedure.

4. Complete the reinstallation of the controller module:

    a. Make sure the latch arms are locked in the extended position.

    b. Using the latch arms, push the controller module into the chassis bay until it stops.

    c. Press down and hold the orange tabs on top of the latching mechanism.

    d. Gently push the controller module into the chassis bay until it is flush with the edges of the chassis.

    > **i**   The latching mechanism arms slide into the chassis.

    The controller module begins to boot as soon as it is fully seated in the chassis.

    e. Release the latches to lock the controller module into place.

    f. Recable the power supply.

    g. If you have not already done so, reinstall the cable management device.

    h. Interrupt the normal boot process by pressing `Ctrl-C`.

Run diagnostics

After you have replaced a component in your system, you should run diagnostic tests on that component.

Your system must be at the LOADER prompt to start diagnostics.

All commands in the diagnostic procedures are issued from the node where the component is being replaced.

1. If the node to be serviced is not at the LOADER prompt, reboot the node: `system node halt -node node_name`

    After you issue the command, you should wait until the system stops at the LOADER prompt.

2. At the LOADER prompt, access the special drivers specifically designed for system-level diagnostics to function properly: `boot_diags`

3. Select **Scan System** from the displayed menu to enable running the diagnostics tests.

4. Select **Test system** from the displayed menu to run diagnostics tests.

5. Proceed based on the result of the preceding step:

   ◦ If the scan show problems, correct the issue, and then rerun the scan.

   ◦ If the scan reported no failures, select Reboot from the menu to reboot the system.

Restore the controller module to operation after running diagnostics

After completing diagnostics, you must recable the system, give back the controller module, and then reenable automatic giveback.

1. Recable the system, as needed.

   If you removed the media converters (QSFPs or SFPs), remember to reinstall them if you are using fiber optic cables.

2. Return the node to normal operation by giving back its storage: `storage failover giveback -ofnode` *impaired_node_name*

3. If automatic giveback was disabled, reenable it: `storage failover modify -node local -auto -giveback true`

Return the failed part to NetApp

After you replace the part, you can return the failed part to NetApp, as described in the RMA instructions shipped with the kit. Contact technical support at NetApp Support, 888-463-8277 (North America), 00-800-44-638277 (Europe), or +800-800-80-800 (Asia/Pacific) if you need the RMA number or additional help with the replacement procedure.

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