Replacing the NVRAM backup battery pack

To replace the NVRAM backup battery pack in a server, you remove the old battery and install the new replacement. Perform the battery pack replacement as quickly as possible, and only when the new pack is present. Note if possible, shut down the server before replacing the battery backup pack. Shutting down the server or migrating all of the EVSs to the other node is not required. However, during the replacement procedure, there will be a period of time when the NVRAM contents are not backed up by the battery pack. If a power failure occurs during this period, the NVRAM contents may be lost.

Removing the battery pack from the caddy

Prepare the new battery. Separate the battery pack from the caddy (module case).

Procedure

1. Loosen thumbscrew on the rear of the caddy (the side with the electrical connector).

![Image of loosening thumbscrew](https://knowledge.hitachivantara.com/Documents/Storage/NAS_Platform/13.2/NAS_Hardware_Reference/3080_and_3090_G…)

2. Separate the caddy from the rest of the battery pack by sliding the metal cover away from the thumbscrew and lift it off the module.

![Image of separating caddy](https://knowledge.hitachivantara.com/Documents/Storage/NAS_Platform/13.2/NAS_Hardware_Reference/3080_and_3090_G…)

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3. Remove the battery pack from the caddy.

4. Disconnect the battery from the caddy by pressing down on the retention clip that holds the connector together and then separating the connector. The metal portion of the module can be returned to the supplier or be discarded.

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Removing the battery pack: type 1 chassis

Remove the NVRAM battery backup pack (type 1, no bracket).

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Procedure

1. Make sure you have the new battery pack present.

2. Remove the fascia (see Bezel removal for more information).

3. Gently slide the old battery pack out of the server.
4. Disconnect the battery:

   1. Carefully push in on the retention clip.
   
   2. Carefully pull the connector away from the socket.

   Note: Disconnect the battery pack by grasping the battery pack connector; do not pull on the wires.

5. Properly dispose of the old battery pack in compliance with local environmental regulations, or return it to the battery pack supplier.

**Inserting the new battery pack: type 1 chassis**

Procedure

1. Plug the connector in **before** inserting the new battery pack. The connector plug must be positioned so that the retention clip is on the **left** side before pushing it in as shown.

   ![Image of connector being plugged in]

2. To plug in the battery connector:
   
   **Caution** Do not force the connector into the socket. Forcing the connector into the socket when the retention tab is on the wrong side of the receptacle can cause permanent damage to the server.

   1. Position the battery connector so that the retention clip is on the left side.
   
   2. Make sure that the retention clip is aligned with the tab on the chassis receptacle.
   
   3. Insert the battery connector into the chassis receptacle and push until the retention clip locks onto the retention tab.
     
     Do not force the plug in. When correctly aligned, it will slide in easily.
   
3. Carefully insert the battery pack. Ensure that the print is facing left and the cable is on the bottom.
Note: The new cable is wrapped in a braided sheath and may be thicker than the wires on the previous battery pack. Due to the thicker cable, you must carefully work the new battery pack into the server.

4. Carefully work with the battery connector cable so that it is along the right side of the battery compartment. It must be fully behind the fascia mounting tab and the LED mounting tab.

5. Check the battery connector to make sure the battery is plugged in correctly.

6. Go to Collecting system backups and diagnostics.

Removing the battery pack: type 2 chassis

Remove the NVRAM battery backup pack (type 2, bracket).

Procedure

1. Prepare the new battery. See Step 1 Removing Battery Pack from Caddy.

2. Remove the fascia.
3. Disconnect the battery connector, located on the right side of the battery compartment.

Note: Disconnect the battery pack by grasping the battery pack connector; do not pull on the wires.

4. Remove the battery retention bracket.
5. Gently remove the old battery pack from the compartment.

6. Disconnect the battery:
   1. Carefully press down on the retention clip.
2. Pull the connector away from the socket.

![Image of pulling connector away from socket]

7. Properly dispose of the old battery pack in compliance with local environmental regulations, or return it to the battery pack supplier.

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**Inserting the new battery pack: type 2 chassis**

1. Insert the battery pack with the connector cable on the bottom and the printing on the left side.

   ![Image of inserting battery pack]

   **Note**
   Do not connect the battery connector yet.

2. Fit the left-side of the battery retention bracket into the slot.
3. Fasten the battery retention bracket into place.

4. Before proceeding to the next step, make sure that the clip is on the left.

5. To connect the battery:
   1. Position the battery connector so that the retention clip is on the left side.
   2. Make sure the retention clip is aligned with the tab on the chassis receptacle.
   3. Insert the battery connector into the chassis receptacle and push until the retention clip locks onto the retention tab.
WARNING
Do not force the connector into the receptacle. Forcing the connector into the receptacle when the retention clip is on the wrong side of the receptacle can cause permanent damage to the server.

6. Carefully work with the battery connector so that it is along the right side of the battery compartment. It must be fully **behind** the fascia mounting tab and the LED mounting tab.

7. Check the battery connector to make sure the battery is plugged in correctly.

8. Install the fascia or bezel (the server cover).

9. Go to [Collecting system backups and diagnostics](#).

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**Collecting system backups and diagnostics**

After replacing the battery, collect system backups and diagnostics.

**Procedure**

1. Connect to the back-end HNAS Private Management Switch.

2. Open a browser session to the SMU. (External: 192.0.2.1; Internal: 192.0.2.2).

3. Login as Username: *admin* Password: *nasadmin*

4. Back up the Server registry (Internal SMU - this will include the SMU configuration).
   1. Navigate to Home > Server Settings > Configuration Backup and Restore.
   2. Click Backup.
   3. Save the registry file to a location on your computer.
   4. Verify that the archive file can be opened and the contents can be extracted.

5. Backup the SMU Configuration - External SMU ONLY.
   1. In the GUI, navigate to SMU Administration > SMU Backup and Restore
   2. Click Backup SMU: Backup.
3. Save the configuration file to a location on your computer.

4. Verify that the archive file can be opened and the contents can be extracted.

6. Collect Diagnostics from the cluster.

1. Navigate to Home > Status and Monitoring > Download Diagnostics

2. Check only the check boxes and radio button shown below.

3. Click download.

4. Save to a location on your computer.

5. Verify that the archive file can be opened and the contents can be extracted.

6. If the archive file contains the words "MISSING_FILES", repeat step 6. If this does not resolve the issue, then check that both nodes are fully operational and resolve any issues identified before repeating the procedure.

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**Resetting the battery age and restarting the chassis monitor**

Reset the battery age and Restart the Chassis Monitor as necessary.

**Procedure**

1. Connect a serial cable to the serial port of the node with the new battery.

2. Open a putty application and set up a serial console session.

   1. Select the Serial Radio button.

   2. Enter the COM port that your serial dongle is using.

   3. Enter **115200** in the **Speed** box.

   4. Click Serial in the Category Tree on the left.

   5. Make sure the Speed is 115200.
6. Set the Data bits to 8.

7. Set the Stop bits to 1.

8. Set the Parity to None.

9. Set the Flow Control to None.

10. Click Session in the Category Tree on the left.

11. Enter SMU serial (or similar) in the Saved Sessions box.

12. Click Save.

3. Turn on the putty session logging.
   1. Click Logging from the Category Tree on the left.
   2. Select Printable output in Session logging.
   3. Set the location for the putty output file.
   4. In the section What to do if the log file already exists, select Ask the user every time.
   5. Click Session from the Category Tree on the left, which returns you to the Session window.
   6. Click Save.

4. Click Open to open the session to the Node console.
   1. Login as Username: manager Password: nasadmin

5. Type the command ipaddr and verify that you are connected to the correct node.

6. Perform ONLY ONE of the following procedures.
   ◦ If the node firmware is **below** 11.1.3225.02, perform the following procedure:
     1. Type the command: new-battery-fitted --field --confirm
     2. Once the prompt returns, press: <ctrl>+d to exit out of BALI into the Linux Layer.
     3. Type su to change the login to root.
     5. Restart the chassis monitor by issuing the command: /etc/init.d/chassis-monitor restart
     6. Type `scc localhost` to return to the Bali prompt.
If the node firmware is at or later than 11.1.3225.02 then perform the following procedure:

1. Type the command `new-battery-fitted --field --confirm`

7. Check the Battery Status.

   1. Type the command `batt-log-show`; the output should show that the battery is fitted and initialization has started.

   2. If the battery is not showing fitted or initialization does not start, call the GCC to open a SR for resolution.

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**Collecting a final diagnostic**

Collect a final diagnostic as the last step in battery replacement.

**Procedure**

1. Open a browser session to the SMU. (External: 192.0.2.1; Internal: 192.0.2.2).

2. Login as Username: admin Password: nasadmin

3. Collect Diagnostics from the cluster.

   1. Navigate to Home > Status and Monitoring > Download Diagnostics

   2. Check only the checkboxes and radio button shown below.

   ![Screenshot of Download Diagnostics page]

   3. Click download.

   4. Save to a location on your computer.

   5. Verify that the archive file can be opened and the contents can be extracted.

   6. If the archive file contains the words "MISSING_FILES", repeat step 3. If this does not resolve the issue, then check that both nodes are fully operational and resolve any issues identified before repeating the procedure.

   7. Upload both the diagnostic taken in the beginning of the procedure and this diagnostic to TUF using the SR for the battery replacement.