Swapping out a fan

You can shut down or take over the impaired controller using different procedures, depending on the storage system hardware configuration.

Shutting down the impaired 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.

Steps

1. If you have a cluster with more than two nodes, check the health and Epsilon from advanced mode:
   
   ```
   cluster show -epsilon *
   ```

   If the cluster is not in quorum or a node that is not the impaired node shows `false` for eligibility and health, correct the issue before proceeding to the next step.

   If Epsilon resides in the impaired node:
   
   a. Remove Epsilon from the impaired node:
      
      ```
      cluster modify -node impaired_node -epsilon false
      ```

   b. Assign Epsilon to a healthy node in the cluster:
      
      ```
      cluster modify -node healthy_node -epsilon true
      ```

2. If the impaired node is part of an HA pair, 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:
   
<table>
<thead>
<tr>
<th>If the impaired node is displaying...</th>
<th>Then...</th>
</tr>
</thead>
<tbody>
<tr>
<td>The LOADER prompt</td>
<td>Go to the next step.</td>
</tr>
<tr>
<td>Waiting for giveback...</td>
<td>Press Ctrl-C, and then respond <code>y</code>.</td>
</tr>
<tr>
<td>System prompt or password prompt</td>
<td>Take over or halt the impaired node:</td>
</tr>
</tbody>
</table>
   |                                      | ```
   |                                      | storage failover takeover -ofnode impaired_node_name |
   |                                      | When the impaired node shows Waiting for giveback..., press Ctrl-C, and then respond `y`. |
Removing the controller module

You must remove the controller module from the chassis when you replace the controller module or replace a component inside the controller module.

Steps

1. If you are not already grounded, properly ground yourself.

2. 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.
   Leave the cables in the cable management device so that when you reinstall the cable management device, the cables are organized.

3. Unplug the controller module power supply from the source, and then unplug the cable from the power supply.

4. Remove the cable management device from the controller module and set it aside.

5. Press down on both of the locking latches, and then rotate both latches downward at the same time.
   The controller moves slightly out of the chassis.

6. Slide the controller module out of the chassis.
   Make sure that you support the bottom of the controller module as you slide it out of the chassis.

<table>
<thead>
<tr>
<th>1</th>
<th>Locking latch</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Locking pin</td>
</tr>
</tbody>
</table>
7. Place the controller module on a stable, flat surface, and then open the air duct:
   a. Press in the locking tabs on the sides of the air duct toward the middle of the controller module.
   b. Slide the air duct toward the fan modules, and then rotate it upward to its completely open position.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Air duct locking tabs</td>
</tr>
<tr>
<td>2</td>
<td>Risers</td>
</tr>
<tr>
<td>3</td>
<td>Air duct</td>
</tr>
</tbody>
</table>

### Replacing a fan

To replace a fan, remove the failed fan module and replace it with a new fan module.

**Steps**

1. If you are not already grounded, properly ground yourself.
2. Identify the fan module that you must replace by checking the console error messages or by locating the lit LED for the fan module on the motherboard.
3. Remove the fan module by pinching the locking tabs on the side of the fan module, and then lifting the fan module straight out of the controller module.
4. Align the edges of the replacement fan module with the opening in the controller module, and then slide the replacement fan module into the chassis until the locking latches click into place.

**Reinstalling the controller module**

After you replace a component within the controller module, you must reinstall the controller module in the system chassis and boot it.

**Steps**

1. If you are not already grounded, properly ground yourself.

2. If you have not already done so, close the air duct:
   a. Swing the air duct all the way down to the controller module.
   b. Slide the air duct toward the risers until the locking tabs click into place.
   c. Inspect the air duct to make sure that it is properly seated and locked into place.
3. Align the end of the controller module with the opening in the chassis, and then gently push the controller module halfway into the system.

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

4. Recable the system, as needed.
   If you removed the media converters (SFPs), remember to reinstall them if you are using fiber optic cables.

5. Plug the power cord into the power supply, reinstall the power cable locking collar, and then connect the power supply to the power source.

6. Complete the reinstallation of the controller module:
   a. If you have not already done so, reinstall the cable management device.
   b. Firmly push the controller module into the chassis until it meets the midplane and is fully seated.
      The locking latches rise when the controller module is fully seated.
      **Attention:** Do not use excessive force when sliding the controller module into the chassis; you might damage the connectors.
      The controller module begins to boot as soon as it is fully seated in the chassis.
   c. Rotate the locking latches upward, tilting them so that they clear the locking pins, and then lower them into the locked position.

7. Return the node to normal operation by giving back its storage:
   `storage failover giveback -ofnode impaired_node_name`
Completing the replacement process

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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