EMC® VNXe3100™

Replacing a VNXe3100 Memory Module

Before you start
Before you begin the replacement procedure, make sure you have correctly identified the faulted part, and that a replacement memory module (DIMM) is available. Refer to your EMC® VNXe™ online help (Servicing your system > Adding or replacing faulted hardware components > Replace a faulted hardware component) for instructions on how to identify failures, order new parts, and handle hardware components. Also, prepare your disk processor enclosure (DPE) for service as described below.

Preparing your disk processor enclosure for service

To protect your VNXe system from accidental data loss while you remove and replace DPE components, open Unisphere™ and select Settings, then Service System.

- Log in with your service password.
- In the System Components column, select the storage processor (A or B) associated with the faulted component.
- Under Service Actions, select Enter Service Mode, then Execute service action.

The storage processor fault LED will flash alternating amber and blue while the SP remains in Service Mode and is receiving active power.

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Task 1: Remove the storage processor (SP) assembly

The memory modules reside on the storage processor printed circuit board (motherboard), within the storage processor assembly. To replace a memory module, you must remove the SP assembly from the chassis, and then remove its top cover to gain access to processor board components.

Follow these steps to remove the VNXe storage processor assembly:

**CAUTION**

DO NOT REMOVE a storage processor while the “Unsafe to remove SP” LED is on. The light indicates that you may interrupt a vital system or data-caching process.

If your system has a single storage processor, DO NOT REMOVE the storage processor if the “Unsafe to remove” LED for the cache protection module is on.

1. Disconnect the network and all other cables from the back of the assembly that includes the faulted module. Do not remove any cables from the other storage processor assembly.

   Mark the cables with the port numbers from which you removed them.

2. Locate the two orange release levers on the storage processor latches.

3. Squeeze the levers to release the latches and then pull the latches outward.

4. Pull out the latches until they are fully extended and the storage processor assembly is released from its enclosure.

5. Use the latches to partially slide the assembly from its enclosure. When the storage processor is about half-way out of its enclosure, use both hands to support the assembly and draw it fully out of the enclosure.

6. Place the storage processor assembly on a clean, flat, static-free work surface.
Task 2: Remove the SP assembly top cover

1. Press the blue button on the cover.
2. Push the cover back 1/4 inch.
3. Lift the cover up.
4. Unpack the replacement memory module and then place it on the same clean, flat, static free work area.

**Note:** Retain the packaging to return the faulted module.
Task 3: Replace the memory module

Remove the memory module from the storage processor, and install the replacement:

1. Rotate the memory module latches outward to release the module from the socket.
2. Touching only the outside edges of the memory module, pull the module directly out of the socket, and place it on an antistatic surface.

3. Remove the replacement memory module from its antistatic bag.
4. Handling only the outside edges of the module, align the module with the socket.

   **Note:** The socket and module are keyed to prevent incorrect alignment.

5. Firmly push the module directly into the socket.
6. The latches will snap to the closed position when the module is fully inserted in its socket.
Task 4: Replace the SP top cover

Replace the canister cover:
1. Align the cover tabs with the notches in the canister.
2. Slide it forward 1/4 inch until the tab secures the cover.
Task 5: Replace the storage processor

Replace the SP assembly in the enclosure:

1. Pull out the latches on each side of the SP and make sure they stay in the open position.
2. Align the SP with the chassis opening and push it straight into the chassis.
   
   The latches begin to close when they contact the chassis edges.
3. Close the right and left latches to fully seat the SP in the chassis.
   
   An audible click indicates that the latches are secure.

4. Reconnect the cables to the back of the storage processor.
   
   • Connect all cables to the same ports from which you removed them on the faulted SP assembly.
   • The SP begins powering up immediately after connection to an active AC power source.
Task 6: Reboot the storage processor

Once you have replaced the faulted memory module and returned the storage processor assembly to the chassis, reboot the recently serviced SP to ensure that it leaves Service Mode:

1. From Unisphere, select **Settings**, then **Service System**.
2. Log in with your service password.
3. In the **System Components** column, select the replaced storage processor (A or B).
4. Under **Service Actions**, select **Reboot**, then **Execute service action**.
   
   **Note:** It may take several minutes for the system to complete its reboot and return to Normal Mode.

5. Refresh your browser, or follow the on-screen instructions, to bring the software out of Service Mode and restore full-function Unisphere.

Task 7: Verify the operation of the new module

Verify that the new memory module is recognized by your system, and operating correctly:

1. In Unisphere, click **View System Health**.
2. Select the storage processor in the Component list or the graphical view:
   - In the Component list, the memory should be marked with a status OK icon: 😄
   - In the graphical view, the SP is highlighted green.

   **Note:** If the system health monitor shows the replacement module as faulted, contact your service provider.
Task 8: Return the faulted memory module

Return the faulted memory module to your service provider:

1. Package the faulted part in the shipping box that contained the replacement, and seal the box.

2. From Unisphere, click **Support > Need more Help? > Customer replaceable parts > Return a customer replaceable part** to enter the EMC Online Support website. The site includes detailed instructions on how to return the faulted part.

   **Note:** If your screen does not show the **Return a customer replaceable part** option, contact your service provider for instructions on what to do next.

3. Follow the on-screen instructions. The website includes a printable return label and box pickup information.

4. Attach the shipping label, and contact the appropriate person to pick up the faulted part.

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