

Spare/Add-on Disk Drive Instructions

This document describes how to either install new disk drives or remove and replace an existing disk drive assembly in a DX1 server, DX2 server, or X2 node from Overland Storage. Drives are hot-swappable.

CAUTION: While working with the unit, observe standard Electrostatic Discharge (ESD) precautions to prevent damage to micro-circuitry or static-sensitive devices.

IMPORTANT: Because of the SnapScale hot-swap feature, it is not necessary to power down the unit to swap out this part.



Register the Add-on Drives

NOTE: If you are only replacing an existing drive, skip to the next section, "SnapScale Installation Caveats."

When **adding** new drives to your server or node, you must first register the drives to activate their warranty. Technical and warranty support are **not available** until this is done.

1. Go to the **Overland Storage** website at: <http://www.overlandstorage.com/>.
2. Select **Service & Support > My Products**.
3. At the **Site Login**, enter your **e-mail address** and **password**, and click **GO**.
4. Click the **Manage Products** button.
5. From the **Product Selector** drop-down list, select the **server or node** in which you are installing extra drives.
6. Click **Add a Component**.
7. Enter the drive **information**.
8. For each **additional** drive, click **Save & Add Another**, then repeat **Step 7**.
9. When **ALL** drives are registered, click **Save & Exit**.

NOTE: You'll receive a confirmation email to complete the process.

E-mail:

Password:

Remember Me

GO >

[Forgot your password?](#) [New member?](#)

MY PRODUCTS **MY SUPPORT REQUESTS** MY RMAS

Register New **Manage Products**

Product Family: All Products Families

Products Found: 2 **Register New Product**

Product Selector: 5325301507-SnapScale X2, s/n: QC5377

Note: The All Product Families option does not display software products.

Actions:

Create a Support Request

Manage Product

Add a Component

Renew Warranty



SnapScale Installation Caveats

Replacing Drives

On a SnapScale cluster node, should a drive fail (solid red LED), it can be replaced (hot-swapped) without shutting down the SnapScale node. If a spare is available on a node that doesn't already have an active member of the failed drive's peer set, the spare automatically replaces the failed drive and the new drive being installed automatically becomes a spare. If no spares are available, the new drive automatically becomes a member of the failed drive's peer set.

A failed drive can be removed and replaced anytime. When hot-swapping multiple drives, it is recommended to swap one drive at a time to avoid timing issues.

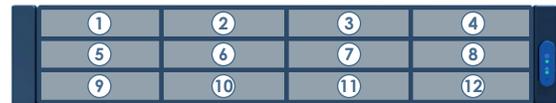
NOTE: Hot-removed (non-spare) drives cannot be added directly back into the peer set from which they were removed. When any non-spare drive is physically removed, it is also removed from the peer set to which it belonged. That peer set then becomes degraded and it attempts to incorporate a suitable cluster spare. If the removed drive is reinserted and there is a degraded peer set or not enough spares to satisfy the spare count, the reinserted drive is reconfigured as a spare; otherwise, the reinserted drive becomes unused and available to the user to incorporate manually via the Web Management Interface.

If there are no errors, after the new drive is incorporated, any alert LEDs are turned off and system statuses are updated.

Adding Drives to Expand Storage

If empty drive bays are available on one or more nodes, you can add Overland-approved drives to either expand cluster storage space or add hot spares. When adding drives to expand storage space, distribute the new drives evenly across all the cluster nodes. Drives should be added without shutting down the node so that the cluster properly recognizes each drive.

NOTE: Drives with different rotational speeds cannot be combined in the same cluster.



In order to properly create peer sets with each member on different nodes, if you have the Data Replication Count set at 2x, you must add drives in groups of two, each one to different nodes. For a 3x count, add drives in groups of three, each one in a different node.

Once the new drives are added to the nodes, they must be incorporated using the New Disks Detected page in the Web Management Interface to enable the cluster to properly use them to create new peer sets and spares.

CAUTION: If new peer sets are created when adding new drives to a node in a SnapScale cluster, all existing snapshots will be deleted.

Important Considerations

When adding new drives, consider the following:

- Only add new drives (hot-insert) when the cluster is up and fully operational. Do not add new drives when the cluster is powered down.
- New drives can be added to Uninitialized nodes either while running or powered down.
- If there are fewer spares in the cluster than the spare count specifies, drives added to any cluster node are automatically configured as hot spares until the spare count is satisfied.
- If there is a degraded peer set on the cluster when adding a new drive and there are no existing spares, the drive will automatically be incorporated into the peer set as long as it is not in one of the nodes containing another active member of the peer set.
- When replacing a failed drive, it is recommended that the new drive be installed in the same drive bay as the old one to maintain a capacity balance.
- When adding a drive that replaces a failed drive in a peer set, the Peer Sets page will display that peer set as rebuilding the new drive into the peer set.

For more information, refer to the *SnapScale Administrator's Guide*.

Prepare the Unit

Remove the Front Bezel

The front bezel is held in place with magnets. Carefully take hold of the front bezel and pull it straight out from the appliance until the magnets release. Set it aside.

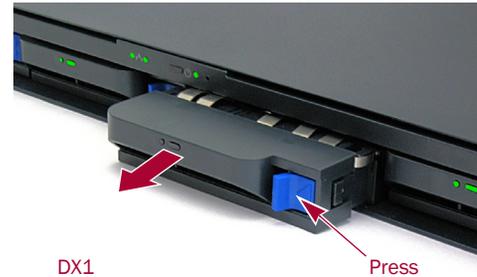


Remove Old Drives/Blanks

NOTE: Do not remove the disk drives from their carriers. Doing so voids the drive warranty.

This process applies to both replacing drive assemblies and removing blank carriers so new drives can be added:

1. Press the release **button** on the right side of the carrier.
2. Using the scoop **handle**, pull the carrier out.
3. Set the **carrier** on an ESD-safe surface.
4. Repeat **Steps 1–3** for **any** remaining carriers where new drives are going.



DX1

Press

Install New Drives

1. Position a **new drive** assembly in front of the empty **bay**.
2. Slide the assembly into the bay until the **latch** clicks, locking it in place.
3. Repeat **Steps 1–2** for **any** remaining drives being installed.

 **IMPORTANT:** To maintain proper airflow and cooling, a drive assembly or a blank drive carrier must be installed in every bay. No empty bays are allowed.

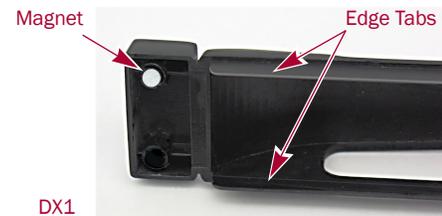


DX2

Attach the Bezel

1. Position the **bezel** with the bezel tabs aligned inside the top and bottom edges of the chassis.
2. Move the bezel toward the appliance until the **magnets** make contact.
3. Verify that the bezel is **aligned** properly and that all the LEDs are visible.

On the DX2 and X2, the Power panel should also be fully visible through the hole on the right side flange.



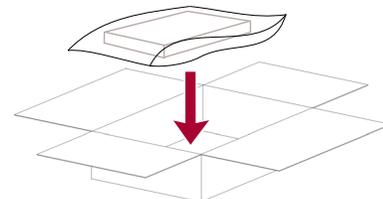
DX1

Return Old Part to Overland

If you are replacing a failed drive:

1. Place the **old part** in the anti-static bag and put it in the replacement part's box.
2. Use an RMA to return the part to **Overland Storage**.
For return shipping details and RMA number, go to: <http://docs.overlandstorage.com/return-instructions>.

NOTE: Save the blank drive carriers from where any new drives were added should they be needed later.



Activate New Drives

SnapServer DX1 or DX2

For details on activating any new drives in a DX1 or DX2, refer to the *SnapServer Administrator's Guide For GuardianOS 7* on replacing disk drives in the **Disks and Units** section of **Chapter 6**.

That section covers both DynamicRAID and Traditional RAID configurations.



SnapScale X2

When newly installed drives are detected, SnapScale first auto-incorporates drives to fix any failed peer set and fulfill any reserved spare count.

If there are unused drives still left after the auto-incorporation, the Web Management Interface then displays an alert banner about the new drives detected and the **New Disks Detected** page is activated.

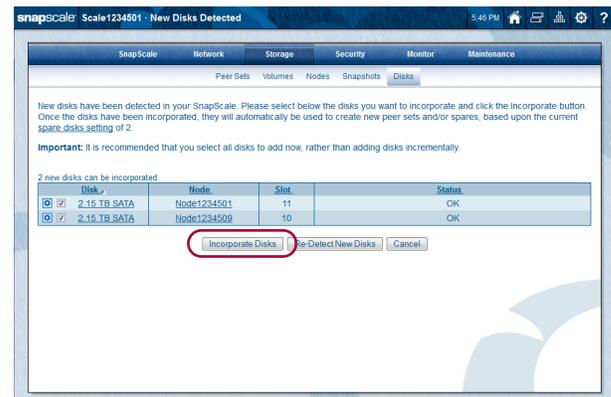
Click the link in the alert to go to the **New Disks Detected** page. The **New Disks Detected** page displays all new drives available to be formed into new peer sets or used to create new spares.

The boxes next to the drive name can be unchecked to remove a drive from the incorporation list. However, to balance peer set and spare creation, it is recommended that all drives be incorporated at the same time.

Click **Incorporate Disks** to begin the process.

- If enough new or spare drives exist on different nodes based on your Data Replication Count, new peer sets are formed as long as the spare count is satisfied.
- If there are not enough drives or they are not on different nodes, the drives are used to create additional hot spares.

After incorporation, the drives are displayed normally as peer sets or hot spares on the **Disks** page.



<http://support.overlandstorage.com>

You can get additional technical support on the Internet at the **Overland Storage Support web page**, or by contacting Overland Storage using the information found on the **Contact Us** page on our web site.