

# Creating a New Array After LSI RAID Failure

## Purpose

In the event of a catastrophic failure of a RAID 5 or RAID 6 array on an LSI RAID controller, this guide will explain how to remove the failed array and set up a new one.

## Step 1: Identify the failed array

1. In the exacqVision Client, open the **Config (Setup)** page, identified by the gears icon, and select **Storage**.
2. Select the **Hardware** tab and then the **LSI MegaRAID SAS** device. Note the **Alarmed** state.
3. Scroll down the list of devices. A section of drives should be shown as **Offline**. They might appear under the **Non-RAID** section.
4. This guide assumes that the drives listed as Offline have failed and must be replaced with new, functional drives. The computer does not have to be powered down.

## Step 2: Remove the failed array

1. If the server was shut down, close exacqVision Client, log out of the user account, and log in to the admin account.
2. Minimize exacqVision Client and open the **LSI MegaRAID Storage Manager** from **Start > All Programs > MegaRAID Storage Manager > StartupUI**, or by double-clicking the **MegaRAID Manager** icon on the Desktop (if present).
3. The **Host View** page opens. Select the Host that appears in the list to display the login window.
4. Enter the username/password -- **admin/admin256** (Windows) or **root/exacqvisionip** (Linux) -- and select Login.  
**NOTE:** Newer deployments (19.12 or higher) do not require username/password so you may not be prompted.
5. Confirm on the **Dashboard** tab that the controller is in a "Needs attention" state, and then navigate to the **Logical** tab and find **Virtual Drive 0, Offline**.
6. Right-click the **Virtual Drive** and select **Delete Virtual Drive**.
7. Select **Confirm** and then select **Yes**. This removes the field array.

## Step 3: Set up the new array

1. Right-click on **LSI MegaRAID 9271** and select **Create Virtual Drive**.
2. Select **Advanced** and then select **Next**.
3. Use the drop-down menu to select the RAID level. On systems with nine or more drives, use **RAID 6**. On systems with three to eight drives, use **RAID 5**.
4. Select the first drive under **Select Unconfigured Drives** and then press **Ctrl + A** on the keyboard to select the remaining unconfigured drives. Then select **Add**.
5. Confirm all drives have been added and then select **Create Drive Group**. Select **Next**.
6. On **Virtual drive settings**, change the following sections and then select **Create Virtual Drive**:

Initialization state: **Fast Initialization**

Stripe size: **256 KB**

Read policy: **Always Read Ahead**

Write policy: **Write Back with BBU**

I/O policy: **Direct IO**

Access policy: **Read Write**

Disk cache policy: **Disabled**

7. Select **Yes**. Confirm the settings of the array and then select **Finish**.
8. Navigate back to the **Dashboard** tab. Locate the **Background Operations** section and confirm the new **Virtual Drive** has begun its **Background Initialize** operation.

## Step 4: Format the array and restart the exacqVision Server service (Windows ONLY)

1. Select **Start**, right-click **Computer**, and select **Manage**.
2. Navigate to and select **Disk Management**.
3. Locate and right-click in the shaded space of **Disk 1**. Select **New Simple Volume...**
4. Select **Next**. Confirm that **Simple Volume Size** is correct and then select **Next**.
5. Confirm the **Drive Letter** is **D** and select **Next**.
6. Rename the **Volume Label** to **Data** and then select **Next**. Then select **Finish**.
7. Select **Start**, type **services** in the Search bar, and select **Services**.
8. Locate and select the **exacqVision Server** service. Select **Restart**.

9. Open the **exacqVision Client** and then navigate to the **Config (Setup) page** and select **Storage**.
10. Confirm the new drive (**D:**) is present and **Healthy**.

## Step 5: Format the array and restart the exacqVision Server service (Linux ONLY)

1. From the desktop open **Terminal**
2. Execute the following commands:

```
sudo /opt/exacq/Maintenance/disk-prep.py -s  
sudo mount -a  
sudo systemctl edvrserver restart
```

3. Open the **exacqVision Client** and then navigate to the **Config (Setup) page** and select **Storage**.
4. Confirm the new drive (**/mnt/edvr/1**) is present and **Healthy**.