NetApp JetStream DR

5.1.0 Upgrade Guide

On-Premises and Azure VMware Solution (AVS) Deployments

Target release: 5.1.0.692
IO Filter / IOF management: 5.1.0.220
Audience/ Document type: Customer/Upgrade procedure

This guide describes how to upgrade a JetStream DR environment to version 5.1.0. It covers both on-premises deployments and Azure VMware Solution (AVS) private clouds, and presents each component in the order it must be upgraded.

Version 5.1 is a **major release**. In addition to the Management Server Appliance (MSA), plug-in and virtual appliance updates, it also includes an **IO Filter upgrade** and an **IOF REST management upgrade**. As a result, **each ESXi host in a JetStream-configured cluster requires two maintenance windows**: one for the IO Filter and one for the IOF REST management version. This applies to both on-premises and AVS environments. The JetStream cluster upgrade task places hosts into maintenance mode automatically, one host at a time, no manual intervention is required here.

Prerequisites

Complete every item below before you begin the upgrade.

Planning

- **Maintenance window.** Schedule the upgrade for a period of minimal system load, no downtime is required for this upgrade.
- **Scheduled backups.** Suspend any scheduled snapshot based backups for protected VMs on the duration of the upgrade. Snapshot operations on a protected VM will fail while its associated DRVAs is being upgraded.
- **RCR operations.** If any Reverse Continuous Rehydration (RCR) operations are in progress, should be terminated before starting the upgrade.
- **ESXi maintenance windows.** Plan for two maintenance cycles per ESXi host: one for the IO Filter and one for the IOF REST management version.

> **Upgrade the recovery site first**
> Upgrade the **recovery site first**. Once it is complete, proceed to the protected site.

Health Checks

	Check	Where to verify
☐	All JetStream DR components are healthy, and any previously failed update tasks are resolved.	JetStream UI
☐	All ESXi hosts are healthy.	vSphere Client
☐	All ESXi host IO Filter storage (VASA) providers are online.	vCenter > Configure > Storage Providers
☐	No active anti-affinity rules would prevent a host from entering maintenance mode.	vSphere DRS rules
☐	Cleanup has been run before starting a new upgrade.	MSA: `sudo js_upgrade.py -v clean`
☐	*vSAN only:* all vSAN objects are healthy.	vSAN Cluster > Monitor > vSAN Skyline Health > Data > vSAN Object Health
☐	*vSAN only:* no resync operations are running, since resyncing can affect maintenance mode.	vSAN Cluster > Monitor > Resyncing Objects

> Contact NetApp JetStream support if any error state is observed (*How to engage Support*)

Upgrading JetStream DR on AVS

Follow the Admin Guide to upgrade JetStream DR to version 5.1.0 by using the latest **JSDR.Configuration** run command from your AVS private cloud. Run **Upgrade JetStream DR for AVS to 5.1.0**.

Reference: Upgrading JetStream DR for AVS

> **Maintenance windows on AVS**
> The IO Filter and IOF REST management upgrades still require two maintenance cycles per ESXi host on AVS. See steps 8 and 9 of the on-premises procedure for the cluster upgrade workflow.

> **Note**: Upgrade the recovery site first. Once it is complete, proceed to the protected site.

Upgrading JetStream DR On-Premises

Enabling SSH on the MSA

SSH is disabled by default on the MSA VM. To enable it, log in to the MSA VM console as **admin** and run:

```
sudo systemctl start sshd
```

Note: Upgrade the recovery site first. Once it is complete, proceed to the protected site.

1 Prepare the MSA

Log in to the MSA as **admin** through the console or SSH. If you have not already done so, clear data from any previous upgrade:

```
sudo js_upgrade.py -v clean
```

2 Download and validate the upgrade bundle

1. Download the latest GA bundle provided by JetStream Support.
2. Transfer the ISO file `jetstreamsoft-jetdr-update-5.1.0.692.iso` to the datastore where the MSA VM resides.
3. Validate the ISO to confirm file integrity. On Windows, for example:

```
certutil -hashfile <path_to_downloaded_iso> SHA256
```

4. Compare the generated SHA256 value with the checksum supplied with the upgrade bundle.

Do not proceed if the checksums differ

A mismatch indicates a corrupted or altered file. Download the bundle again or contact JetStream Support.

3 Mount the ISO on the MSA VM

In vCenter, right-click the MSA VM and select **Edit Settings > CD/DVD drive > Datastore ISO File**. Expand the CD/DVD drive menu, browse to and select the uploaded ISO file, and select the **Connected** check box.

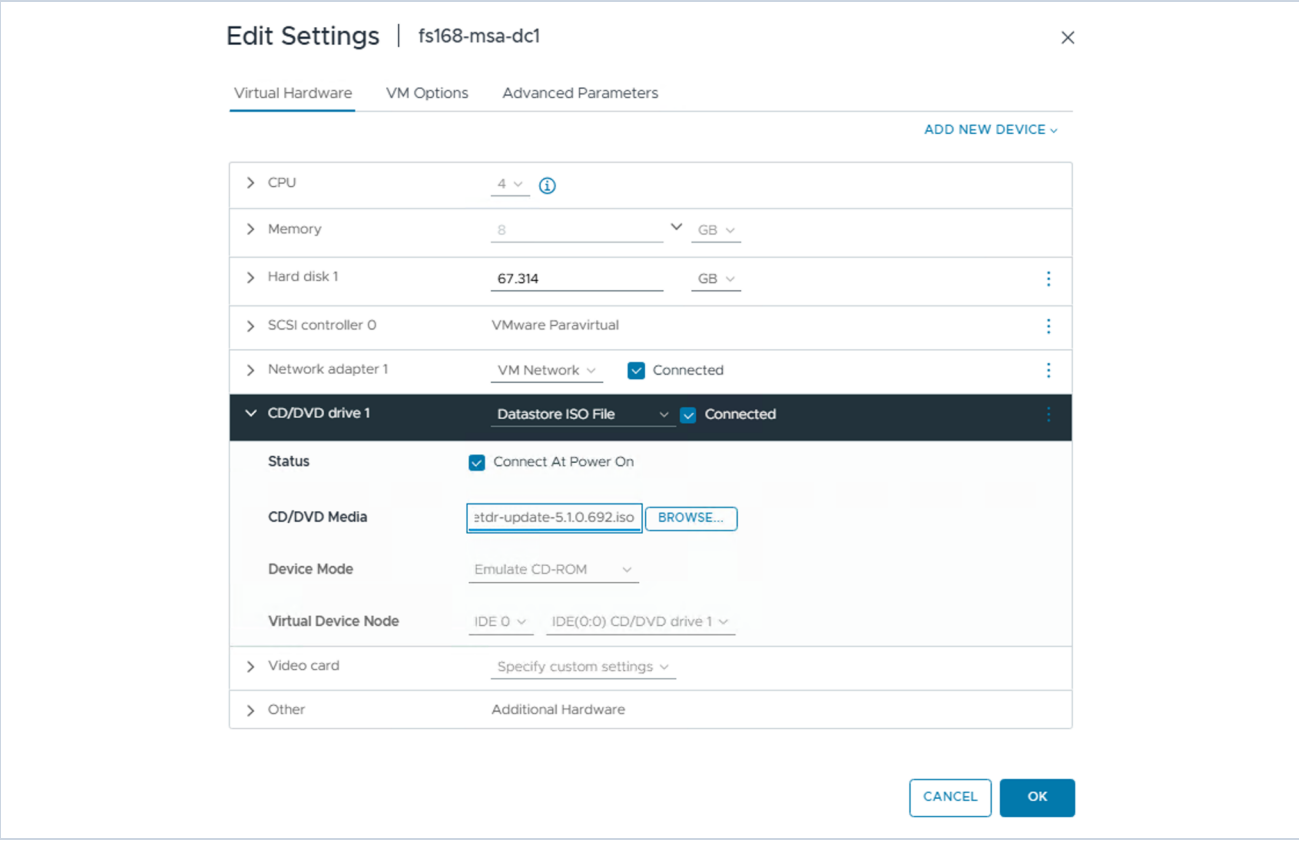

Figure 1. Mounting the upgrade ISO on the MSA VM

While mounting the ISO, vCenter may display a notice that the guest operating system has locked the CD-ROM door. Select **Actions** and answer **Yes** to continue.

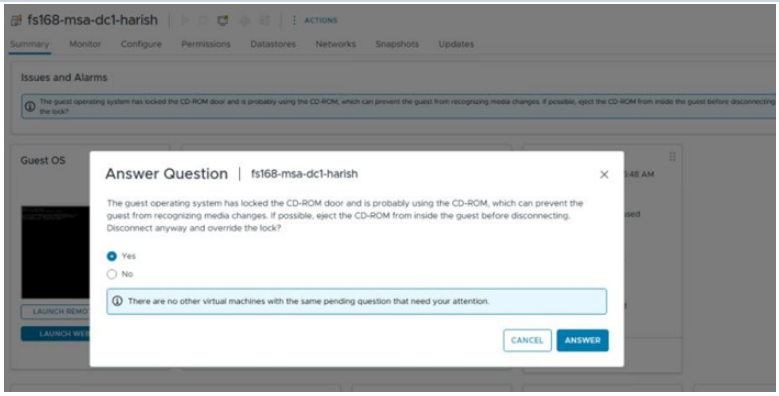

Figure 2. Acknowledging the CD-ROM lock prompt in vCenter

4 Run the pre-upgrade check

On the MSA, run the following command and confirm that it completes **without errors** before continuing:

```
sudo js_upgrade.py -v check
```

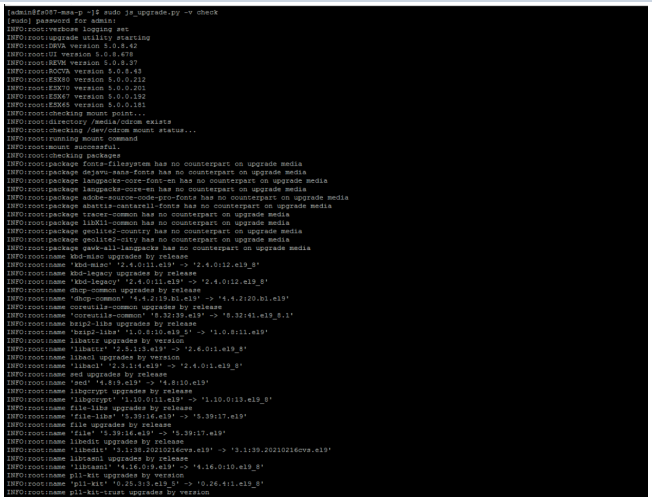

Figure 3. Sample output of a successful pre-upgrade check

5 Upgrade the MSA and JetStream DR plug-in

Run the following command on the MSA:

```
sudo js_upgrade.py -v upgrade
```

This command upgrades both the MSA and the JetStream DR plug-in. Confirm that the output ends with `"status": "Success"` and no error message.

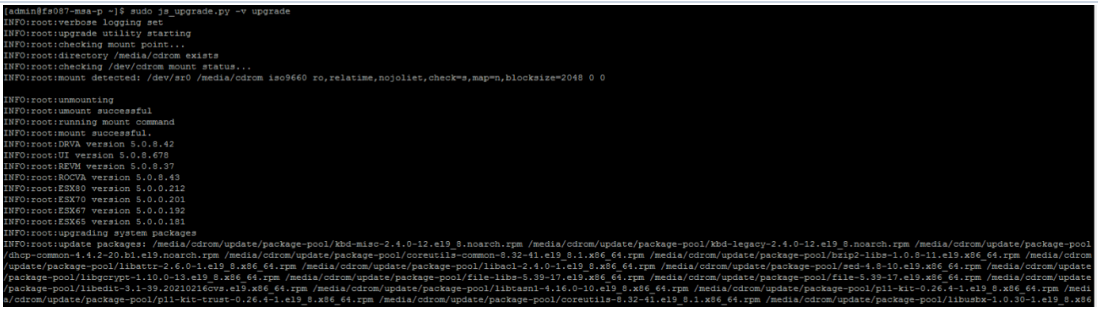

Figure 4. Upgrade command in progress

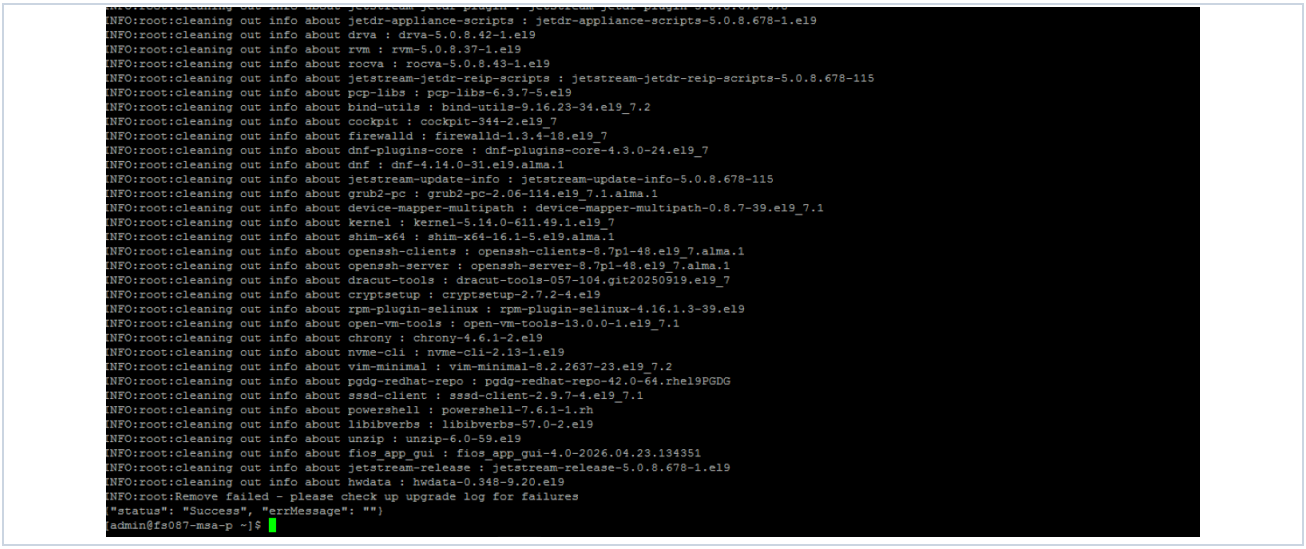

Figure 5. Upgrade completed with status Success

Refresh the vSphere Client browser, then go to **Administration > Client Plugins > NetApp JetStream DR** and verify that the displayed version is **5.1.0.692**.

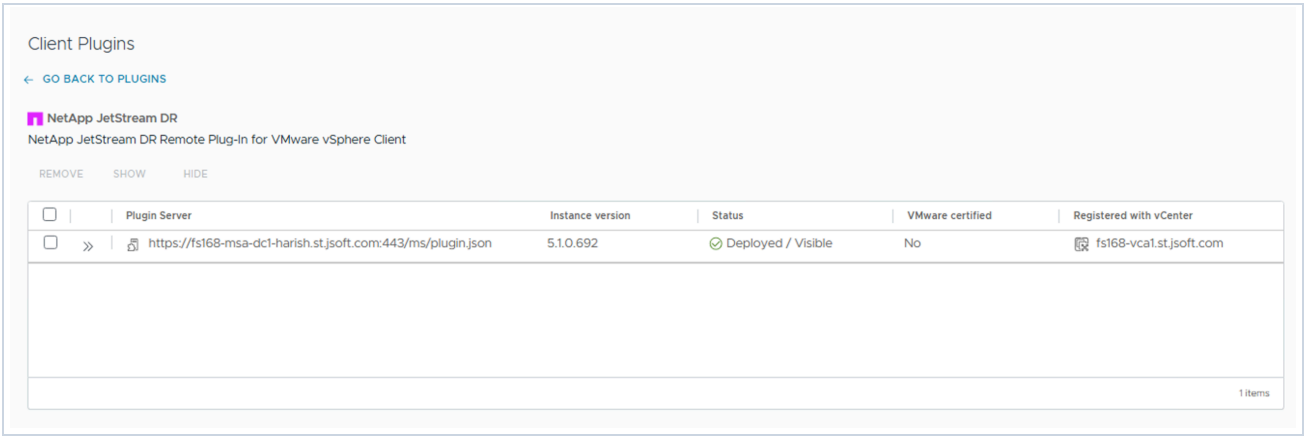

Figure 6. Client Plugins page showing version 5.1.0.692

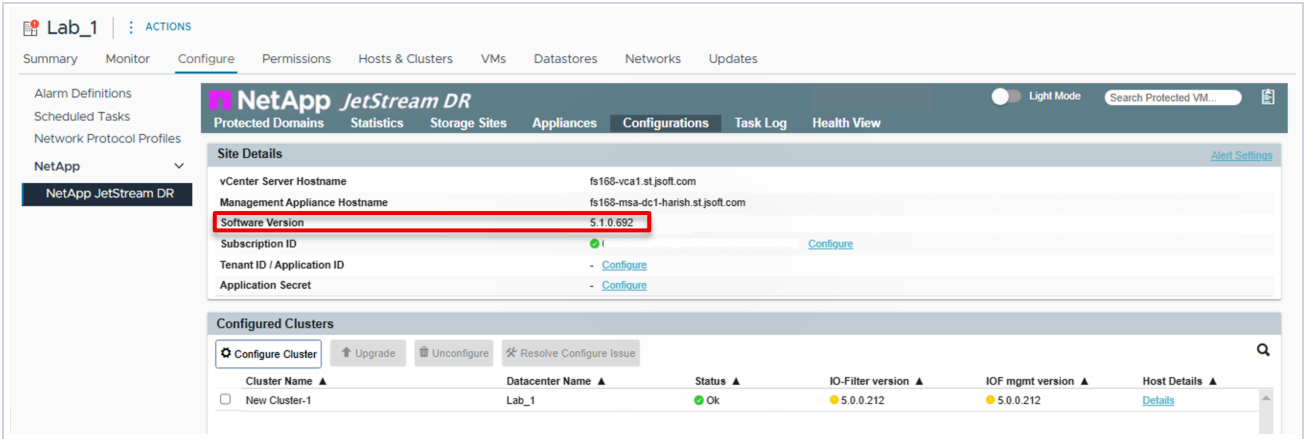

Figure 7. Plug-in version 5.1.0.692 in the NetApp JetStream DR Configurations view

6 Upgrade the DRVA

After the MSA and plug-in upgrades complete, upgrade each DR Virtual Appliance (DRVA):

1. In the NetApp JetStream UI, open **Appliances**.
2. Select the DRVA.
3. Click **Upgrade**.

Environments with several DRVAs or Continuous Failover (CFO) domains can use the optional script-based parallel upgrade described in **Appendix A**.

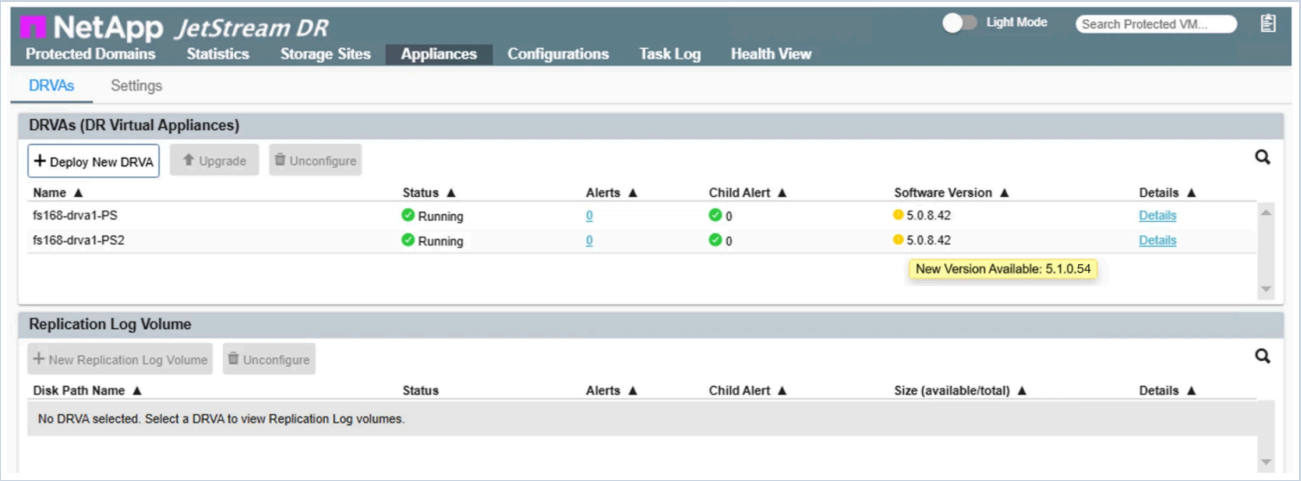

Figure 8. A new DRVA version is available

When the upgrade finishes, verify the DRVA version on the same page.

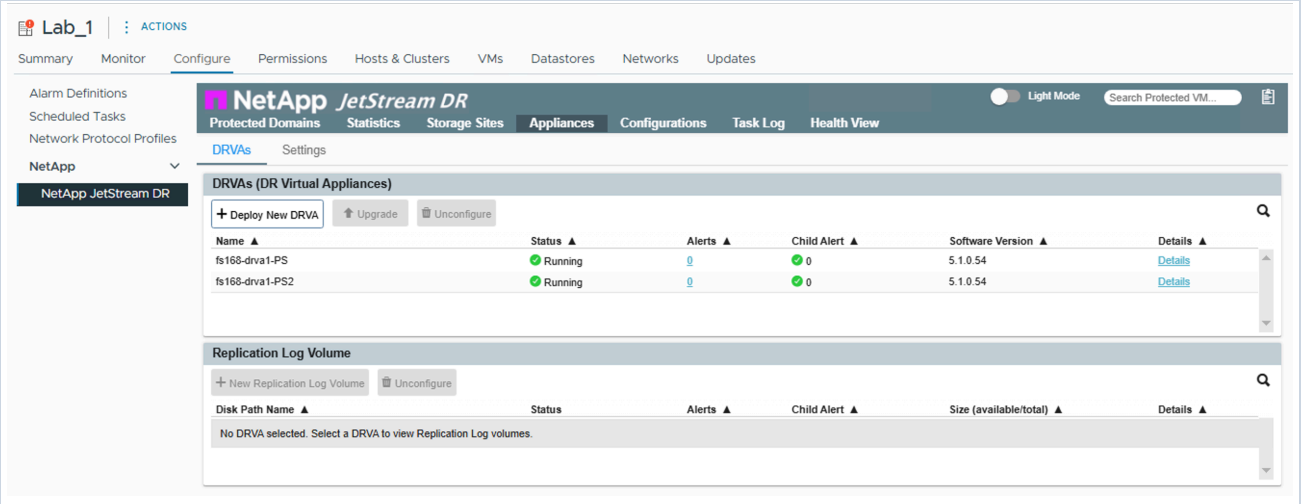

Figure 9. DRVA software version after the upgrade

7 Upgrade RocVA and RVM (Continuous Failover (CFO) domains only)

For CFO domains, upgrade RocVA and RVM after the DRVA upgrade completes.

> **Order matters**
> RocVA must be upgraded before RVM for the respective CFO domain.

Upgrade RocVA

1. Open the Continuous Failover domain.
2. Select **More**, then click **Upgrade RocVA**.
3. Click **Confirm**.

Monitor progress in **NetApp JetStream UI > Task Log**.

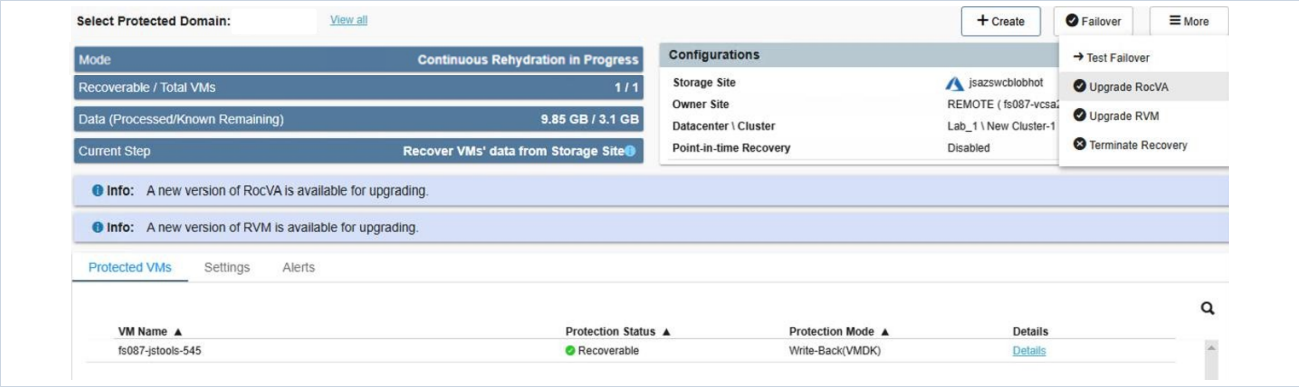

Figure 10. Initiating the RocVA upgrade

Upgrade RVM

After the RocVA upgrade completes successfully, upgrade the RVM for the same domain by selecting **More > Upgrade RVM**. Monitor status in the **Task Log**.

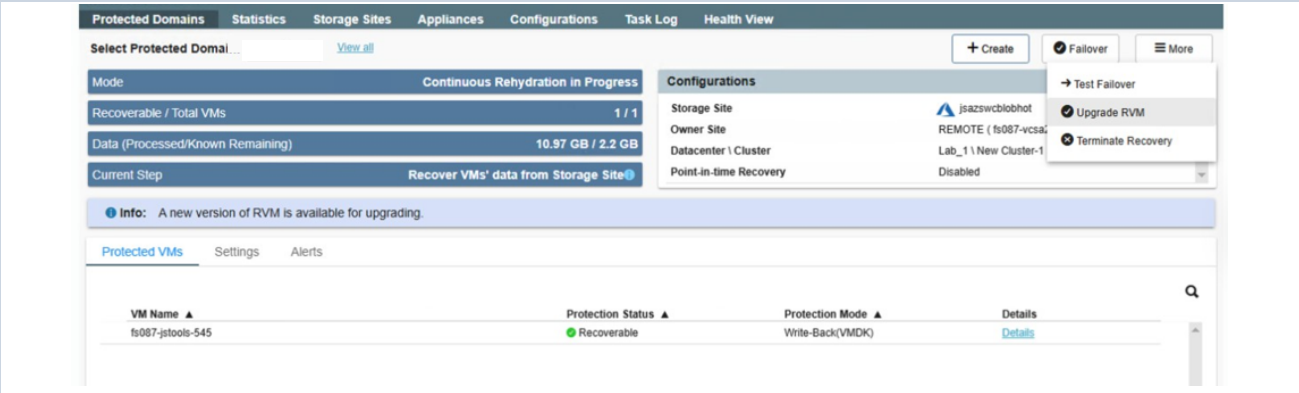

Figure 11. Initiating the RVM upgrade

8 Upgrade the cluster IO Filter

1. In the NetApp JetStream UI, go to **Configurations**.
2. Select the configured cluster (Upgrade one cluster at a time).
3. Click **Upgrade**, then click **Confirm** in the dialog, this should upgrade both Cluster IO-Filter and IOF management
4. If there are multiple clusters, wait for the selected cluster upgrade to complete successfully, then repeat the same steps for the next cluster (one at a time).

Two maintenance cycles per host

Version 5.1 includes both an IO Filter upgrade and an IOF management upgrade. Each ESXi host enters maintenance mode once for each upgrade. This applies to on-premises and AVS.

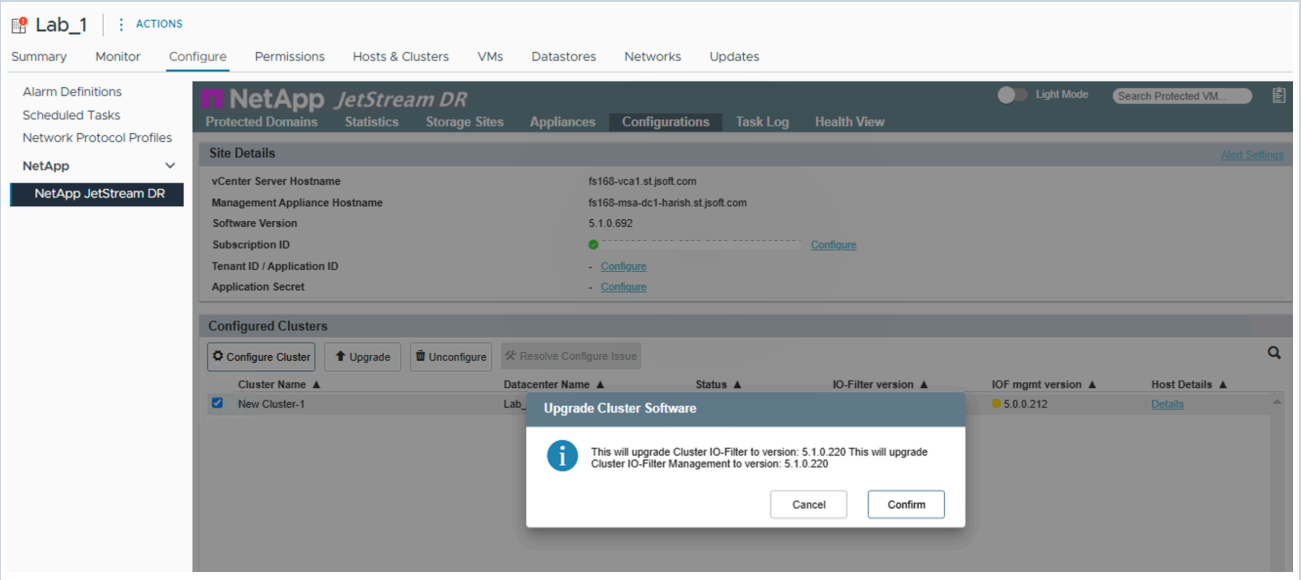

Figure 12. Cluster IO Filter upgrade confirmation

When the cluster upgrade task completes, both the IO Filter and the IOF management version report **5.1.0.220**.

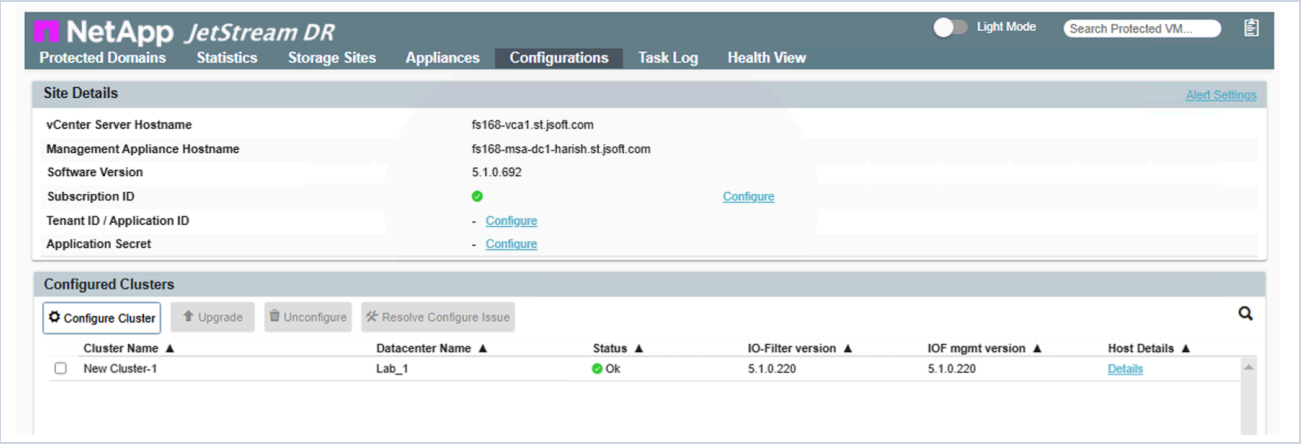

Figure 13. IO Filter and IOF management version both upgraded

9 Run post-upgrade cleanup

After all upgrade activities are complete, run the cleanup command on the MSA:

```
sudo js_upgrade.py -v clean
```

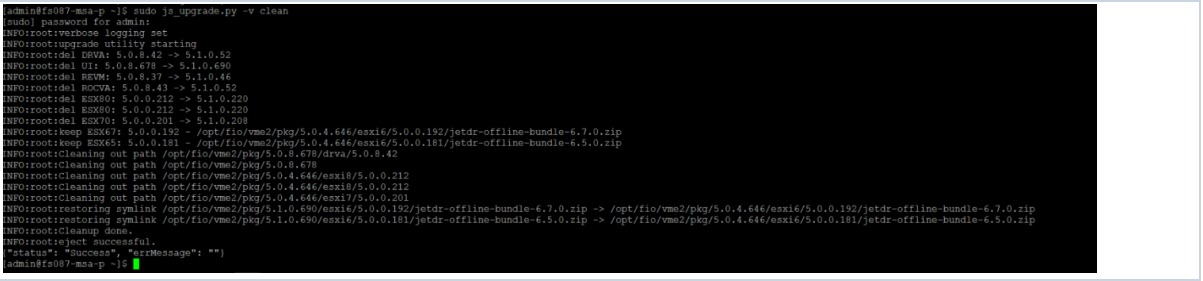

Figure 14. Cleanup completed successfully

> **Upgrade complete**
>
> Validate the status of all components in the NetApp JetStream UI. If you need assistance, contact NetApp JetStream Support.

Verification Summary

Component	Expected version	Where to verify
MSA / NetApp JetStream DR plug-in	5.1.0.692	vSphere Client > Administration > Client Plugins > NetApp JetStream DR
DRVA	5.1.54	NetApp JetStream UI > Appliances
RocVA / RVM	Latest available	NetApp JetStream UI > Task Log > All upgrade tasks completed successfully
IO Filter	5.1.0.220	NetApp JetStream UI > Configurations
IOF management version	5.1.0.220	NetApp JetStream UI > Configurations

Getting Help

If you encounter any issues or errors during the upgrade, engage JetStream Support with the problem details and include the **MSA support bundle**.

🤝 Contacting NetApp JetStream Support

Script-Based Parallel Upgrade (Optional)

This optional method upgrades the JetStream appliances (DRVA, RocVA and RVM) **in parallel**. It is recommended when multiple DRVAs or Continuous Failover (CFO*)* domains run on-premises, because it significantly reduces upgrade time compared with the default sequential manual process.

> **AVS**
> On AVS, the **Update-JetDR** run command performs the parallel upgrade by default. This is applicable to on-premises deployments.

Prerequisites

Do not start the script-based upgrade until both of the following are complete:

- The MSA upgrade finished successfully.
- The JetDR plug-in is upgraded.

Procedure

1. Deploy the latest **JSTools** appliance.
2. Log in to the JSTools appliance.
3. Change to the script directory and start PowerShell:

```
cd /opt/jetstream/jetdr/script/support
pwsh
```

4. Run the upgrade script:

```
./upgrade_jetstream_appliances.ps1
```

5. When prompted, enter the vCenter username and password, and the MSA IP address and password.
6. The script detects the vCenter registered with the MSA, identifies DRVA appliances that need upgrading, and upgrades them in parallel. When the DRVA upgrades finish, it checks for required RocVA and RVM upgrades and starts them automatically.
7. Monitor progress in **NetApp JetStream UI > Task Log**.