

# Upgrading VMware Cloud Director Availability

A Natural Partnership

For Tenants

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## Introduction

Upgrading your VMware Cloud Director Availability to its most recent version (4.2) enables you to utilize all its latest and greatest features and support integrating it with VMware Cloud Director 10.2.x.

Also, the End of General Support date for 3.5 is approaching (2021-11-14).

## Upgrade path

The only supported upgrade path is as follows:

- 3.5.x → 4.0.0.2 → 4.2.1 → 4.3
- 4.2.1 → 4.3
- 4.1.1 → 4.3

## Interoperability

To guarantee that you will not experience any issues with your DR and Migration services due to the VMware Cloud Director Availability upgrade, you need to make sure your Cloud Provider is running a compatible version of the VMware Cloud Director Availability on-premises appliance. You can see the supported versions in the table below:

VMware Cloud Director Availability On-Premises Appliance	Cloud Site 3.5	Cloud Site 4.0	Cloud Site 4.1	Cloud Site 4.2	Cloud Site 4.3
3.5	Supported	Supported	Supported	Unsupported	Unsupported
4.0	Supported	Supported	Supported	Supported	Unsupported
4.1	Supported	Supported	Supported	Supported	Supported
4.2	Unsupported	Supported	Supported	Supported	Supported
4.3	Unsupported	Unsupported	Supported	Supported	Supported

For ensuring the rest of your infrastructure will continue to operate without any disruptions, you can check the [VMware Interoperability Matrix](#):

## Upgrade options

Each Cloud Provider environment has some specifics such as internet connectivity, webserver availability, access to the VMware Cloud Director Availability appliance VMs through SSH or just through the UI. Because of all these and other factors, there are two different ways to perform an upgrade:

- Using a repository – the VMware official repository or a custom one shared by the Provider.
- Using an ISO file mounted locally to the On-premises appliance VM.

Each upgrade method can be achieved from the VMware Cloud Director Availability UI or through command-line.

## How to obtain the VMware Cloud Director Availability ISO files

To start the upgrade procedure, you need to request the proper ISO files from your provider. You need the following ones:

- VMware-Cloud-Director-Availability-4.0.0.4532-16407624.iso
- VMware-Cloud-Director-Availability-4.2.1.xxxx-xxxxxxx.iso
- VMware-Cloud-Director-Availability-4.3.0.xxxx-xxxxxxx.iso

If you are currently running VMware Cloud Director Availability 3.5.x, you need first to download and upgrade to 4.0.0.2 because with 4.0 there is a major change in the upgrade mechanism.

If your version is 4.0.x, you can skip this step.

### VMware repositories

There are official VMware repositories that can be used during the upgrade procedure. They offer the latest VMware Cloud Director Availability releases.

- 4.2.1 - <https://packages.vmware.com/vcav/4.2>
- 4.3 - <https://packages.vmware.com/vcav/4.3>

### Snapshots

Verify that before starting the upgrade, current snapshots of all the appliances exist in the site. Take snapshots only with all the VMware Cloud Director Availability services stopped or with the appliances powered off.

If the upgrade of the appliance fails, revert to the latest snapshot.

After a successful upgrade, delete all snapshots.

### Upgrade from a repository

#### Prerequisites

- Connectivity to the repository URL from the VMware Cloud Director Availability appliance host.

Steps for an upgrade from a repository through the UI

3.5.x → 4.0.0.2

1. Log in to the management interface at <https://Appliance-IP-Address/ui/admin>.
2. Go to the **Configuration** menu.
3. At the bottom, in the **Version** submenu, you will see the current product version and the repository.

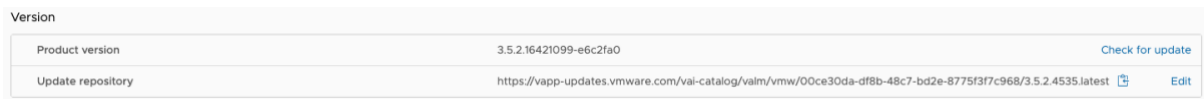


Figure 1 - VMware Cloud Director Availability version

4. If you will use the default VMware repository, please go directly to step #7. In case you will use a custom repository, click **Edit** on the **Update repository** setting and select the **Use Specified Repository** option.
5. Enter the repository URL and username/password (only if required, otherwise leave blank).

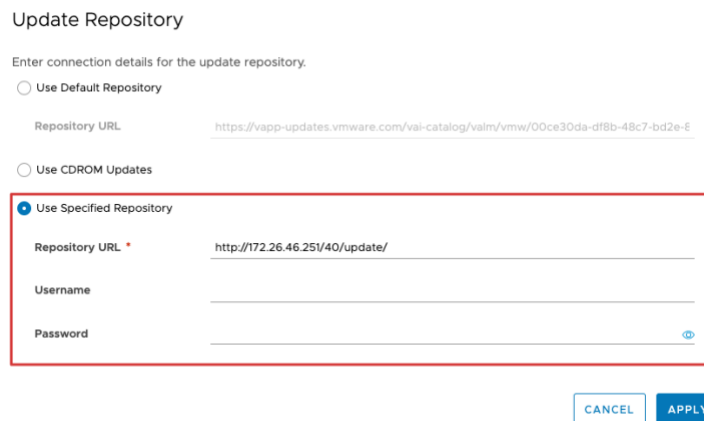


Figure 2- Change repository

6. Click **Apply**.
7. To start the upgrade process, click on **Check for update**.
8. After a few seconds, you will see that an update is available.

Version		
Product version	3.5.2.16421099-e6c2fa0 <span style="border: 1px solid red; padding: 2px;">( Updates available )</span>	<a href="#">Update</a>
Update repository	<a href="http://172.26.46.251/40/update/">http://172.26.46.251/40/update/</a>	<a href="#">Edit</a>

Figure 3 - Updates check

9. Click on **Update**.
10. The window will indicate that version 4.0.0.4532 will be installed. Click on **Apply**.
11. Scroll to the bottom and accept the End User License Agreement.
12. Click on **Apply**.
13. The upgrade will start, and VMware Cloud Director Availability will be inaccessible while it finishes. Do NOT close the browser window.
14. Once it is completed, the page will be automatically reloaded. Clear the browser cache, reload the page, and you will be able to log in again.

4.0.0.2 → 4.2.1

1. Log in to the management interface at <https://Appliance-IP-Address/ui/admin>.
2. To proceed with the upgrade to 4.2.1, navigate to the **Configuration** and click on **Check for updates**.
3. Select **Use Specified Repository**, enter the repository URL (VMware repository URL or custom repository URL) and click **Next**.

### Update

- 1 Repository
- 2 Available updates
- 3 EULA Review
- 4 Ready for update

### Repository

Enter connection details for the update repository.

Use Official Online Repository  
 Use CDROM Updates  
 Use Specified Repository

**Repository URL:** \*

Figure 4 - Change repository

4. Select version 4.2.1.XXXX and click **Next**.

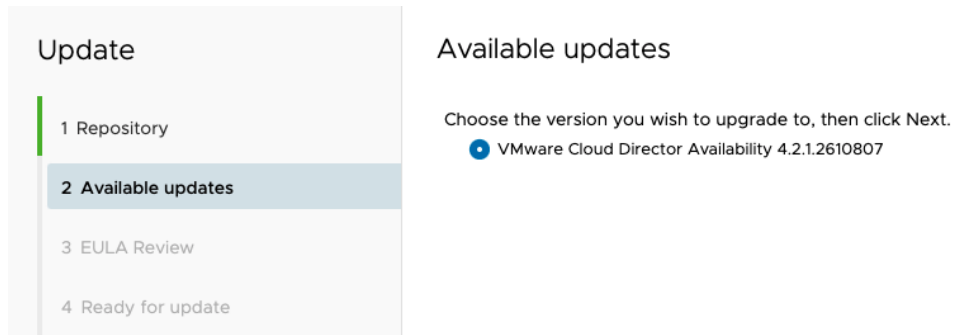


Figure 5 - Select version for upgrade

5. Accept the End User License Agreement by clicking **Next**.
6. Click **Finish** to finalize the process.
7. The upgrade will start, and VMware Cloud Director Availability will be inaccessible while it finishes. Do NOT close the browser window.
8. Once it is completed, the page will be automatically reloaded. Clear the browser cache, reload the page, and you will be able to log in again.
9. Navigate to the **Settings** menu to verify that the version has changed.

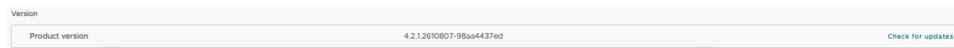


Figure 6 - VMware Cloud Director Availability version after a successful upgrade to 4.2.1

**Note:** These steps are also valid for VMware Cloud Director Availability 4.0.1.2.

4.2.1 → 4.3

1. Log in to the management interface at <https://Appliance-IP-Address/ui/admin>.
2. To proceed with the upgrade to 4.3, navigate to the **Configuration** and click on **Check for updates**.
3. Select **Use Specified Repository**, enter the repository URL (VMware repository URL or custom repository URL) and click **Next**.

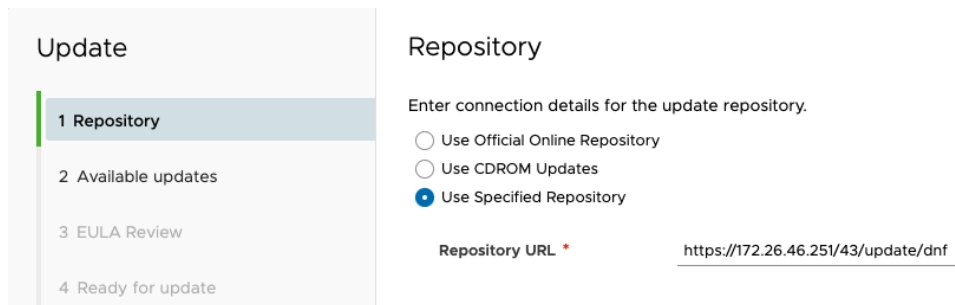


Figure 7 - Change repository

- Select version 4.3.0.XXXX and click **Next**.

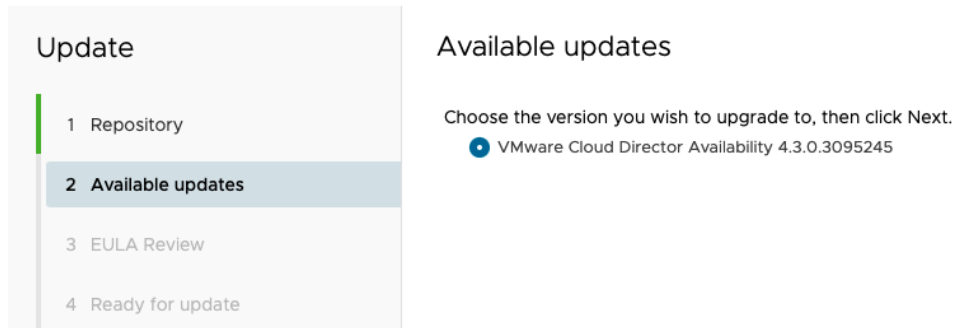


Figure 8 - Select version for upgrade

- Accept the End User License Agreement by clicking **Next**.
- Click **Finish** to finalize the process.
- The upgrade will start, and VMware Cloud Director Availability will be inaccessible while it finishes. Do NOT close the browser window.
- Once it is completed, the page will be automatically reloaded. Clear the browser cache, reload the page, and you will be able to log in again.
- Navigate to the **Settings** menu to verify that the version has changed.

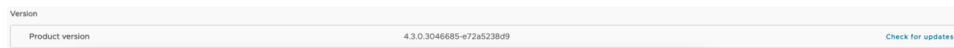


Figure 9 - VMware Cloud Director Availability version after a successful upgrade to 4.2

4.1.x → 4.3

- Log in to the management interface at <https://Appliance-IP-Address/ui/admin>.
- To proceed with the upgrade to 4.3, navigate to the **Configuration** and click on **Check for updates**.
- Select **Use Specified Repository**, enter the repository URL (VMware repository URL or custom repository URL) and click **Next**.

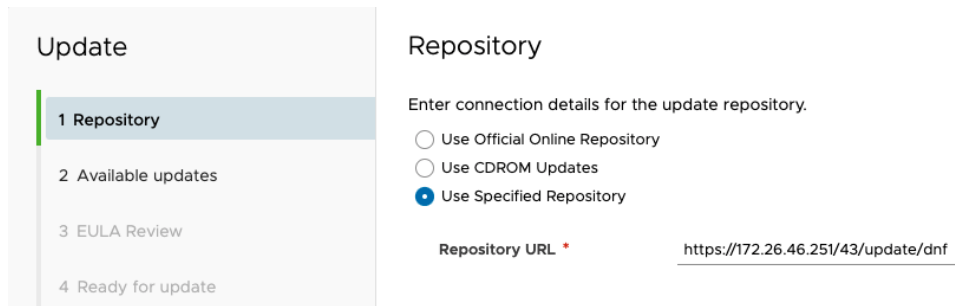


Figure 10 - Change repository



4. Select version 4.3.0.XXXX and click **Next**.

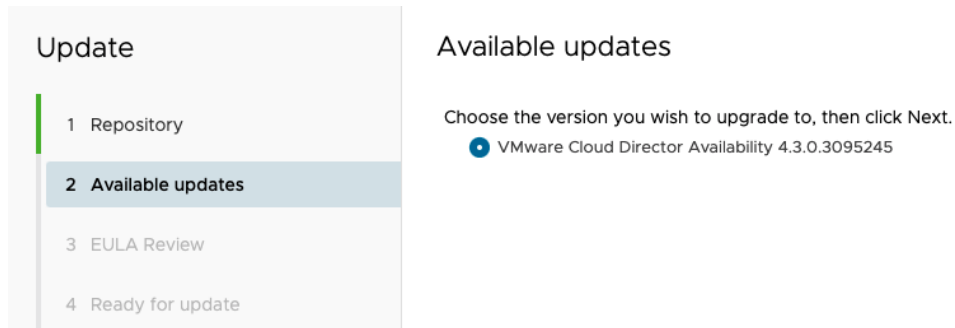


Figure 11 - Select version for upgrade

5. Accept the End User License Agreement by clicking **Next**.
6. Click **Finish** to finalize the process.
7. The upgrade will start, and VMware Cloud Director Availability will be inaccessible while it finishes. Do NOT close the browser window.
8. Once it is completed, the page will be automatically reloaded. Clear the browser cache, reload the page, and you will be able to log in again.
9. Navigate to the **Settings** menu to verify that the version has changed.

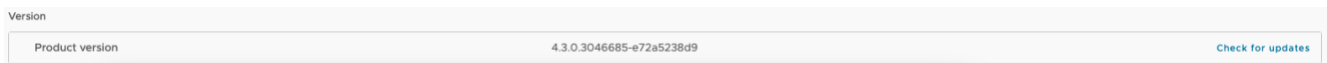


Figure 12 - VMware Cloud Director Availability version after a successful upgrade to 4.3

Steps for an upgrade from a repository through the command-line

3.5.x → 4.0.0.2

1. Connect to the appliance host through SSH and log in as root.
2. If you will use the default VMware repository, go directly to step #4. In case you will use a custom repository, specify the desired repository URL and webserver username/password (only if required) with the following command:

```
sudo /opt/vmware/bin/vamicli update --repo "http://172.26.46.251/40/update/" --user "upgrade" --password "upgrade"
```

3. The output should look like this:

```
[root@cda35-onprem-76 ~]# sudo /opt/vmware/bin/vamicli update --repo "http://172.26.46.251/40/update/" --user "upgrade" --password "upgrade"
Set local repository address...
Done.
```

Figure 13 - Change repository command-line output

4. Check for updates with the following command:

```
sudo /opt/vmware/bin/vamicli update --check
```

- The output should look like this:

```
[root@cda35-onprem-76 [ ~ ]# sudo /opt/vmware/bin/vamcli update --check
Checking for available updates, this process can take a few minutes...
Available Updates -
4.0.0.4532 Build 16407624
```

Figure 14 - Check for updates from command-line

- Install the update with the following command:  
`sudo /opt/vmware/bin/vamcli update --install latest --accepteula`
- After the upgrade is done, you will be disconnected from your SSH session due to a reboot.
- Once the VM is accessible again, you can open the management interface and log in.
- Verify that the version has changed under **Version** in the **Configuration** menu.



Figure 15 - VMware Cloud Director Availability version

#### 4.0.0.2 → 4.2.1

The only option for upgrading VMware Cloud Director Availability 4.0.0.2 to 4.2.1 through the command-line is using an ISO file. There is no option for a different repository.

You can perform the upgrade through the UI ([Upgrade steps for an upgrade through the UI](#)), or you can download the VMware Cloud Director Availability 4.2.1 upgrade disk ISO file and proceed with an offline upgrade through the command-line ([Upgrade steps for an upgrade through the command line](#)).

**Note:** These steps are also valid for VMware Cloud Director Availability 4.0.1.2.

#### 4.2.1 → 4.3

The only option for upgrading VMware Cloud Director Availability 4.1.x to 4.3 through the command-line is using an ISO file. There is no option for a different repository.

You can perform the upgrade through the UI ([Upgrade steps for an upgrade through the UI](#)), or you can download the VMware Cloud Director Availability 4.3 upgrade disk ISO file and proceed with an offline upgrade through the command-line ([Upgrade steps for an upgrade through the command line](#)).

#### 4.1.x → 4.3

The only option for upgrading VMware Cloud Director Availability 4.1.x to 4.3 through the command-line is using an ISO file. There is no option for a different repository.

You can perform the upgrade through the UI ([Upgrade steps for an upgrade through the UI](#)), or you can download the VMware Cloud Director Availability 4.3 upgrade disk ISO file and proceed with an offline upgrade through the command-line ([Upgrade steps for an upgrade through the command line](#)).

## Upgrade from an ISO file

### Prerequisites

- VMware Cloud Director Availability 4.0.0.2, 4.2.1 and 4.3 update disk ISO files. See the [How to obtain ISO files](#) for more information.
- The downloaded ISO files need to be uploaded to a Datastore accessible by the VMware Cloud Director Availability host or directly uploaded to the VMware Cloud Director Availability host so they can be mounted to their CD/DVD drive.

### Steps for an upgrade from an ISO file through the UI

#### 3.5.x → 4.0.0.2

1. Log in to the management interface at <https://Appliance-IP-Address/ui/admin>.
2. Go to the **Configuration** menu.
3. At the bottom, in the **Version** submenu, you will see the current product version and the repository.

Version		
Product version	3.5.2.16421099-e6c2fa0	<a href="#">Check for update</a>
Update repository	<a href="https://vapp-updates.vmware.com/vai-catalog/vaim/vmw/00ce30da-df8b-48c7-bd2e-8775f3f7c968/3.5.2.4535.latest">https://vapp-updates.vmware.com/vai-catalog/vaim/vmw/00ce30da-df8b-48c7-bd2e-8775f3f7c968/3.5.2.4535.latest</a>	<a href="#">Edit</a>

Figure 16 - VMware Cloud Director Availability version

4. Change the repository to **CDROM** by clicking **Edit**.

### Update Repository ×

Enter connection details for the update repository.

Use Default Repository

Repository URL <https://vapp-updates.vmware.com/vai-catalog/vaim/vmw/00ce30da-df8b-48c7-bd2e-8775f3f7c968/3.5.2.4535.latest>

Use CDROM Updates

Use Specified Repository

Repository URL \*

Username

Password

Figure 17 - Change the repository to CDROM

5. To start the upgrade process, click on **Check for update**.
6. After a few seconds, you will see that an update is available.

Version		
Product version	3.5.2.16421099-e6c2fa0	<span style="border: 1px solid red; padding: 2px;">Updates available</span> <a href="#">Update</a>
Update repository	<a href="#">cdrom://</a>	<a href="#">Edit</a>

Figure 18 - Check for updates

7. Click on **Update**.
8. The window will indicate that version 4.0.0.4532 will be installed. Click on **Apply**.

9. Scroll to the bottom and accept the End User License Agreement.
10. Click on **Apply**.
11. The upgrade will start, and VMware Cloud Director Availability will be inaccessible while it finishes. Do NOT close the browser window.
12. Once it is completed, the page will be automatically reloaded. Clear the browser cache, reload the page, and you will be able to log in again.
13. Navigate again to the **Configuration** menu to verify that the version has changed.



Figure 19 - VMware Cloud Director Availability version

4.0.0.2 → 4.2.1

1. Log in to the management interface at <https://Appliance-IP-Address/ui/admin>.
2. To proceed with the upgrade to 4.2.1, navigate to the **Configuration** menu click on **Check for updates**.
3. Select **Use CDROM Updates** and click **Next**.

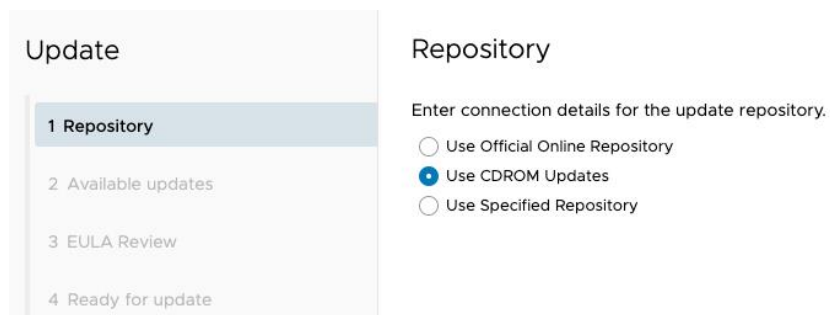


Figure 20 - Change the repository

4. Select version 4.2.1.XXXX and click **Next**.

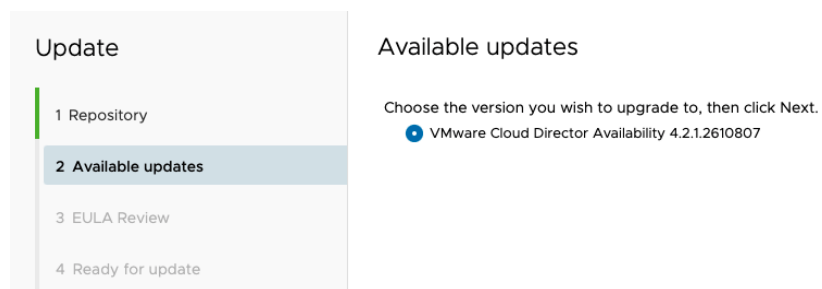


Figure 21 - Select a version to upgrade

5. Accept the End User License Agreement by clicking **Next**.
6. Click **Finish** to finalize the process.
7. The upgrade will start, and VMware Cloud Director Availability will be inaccessible while it finishes. Do NOT close the browser window.
8. Once it is completed, the page will be automatically reloaded. Clear the browser cache, reload the page, and you will be able to log in again.

- Navigate to the **Settings** menu to verify that the version has changed.

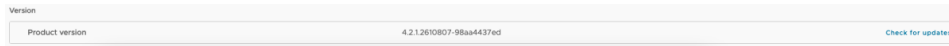


Figure 22 - VMware Cloud Director Availability version after a successful upgrade to 4.2.1

**Note:** These steps are also valid for VMware Cloud Director Availability 4.0.1.2.

**Note:** When upgrading from 4.0.0.2, in some cases, the upgrade finishes properly, but the UI still shows 4.0.0.2 instead of 4.2.1, or there is a failed task in System tasks. Also, the following error message is present at the end of the upgrade log file (/var/log/upgrade.log):

```
Complete!
Verifying... #####
Preparing... #####
package filesystem-1.1-4.ph3.x86_64 is already installed
Bad exit code: 256
{
  "code": "BadExitCode",
  "msg": "",
  "args": [
    "256"
  ]
}
```

The above message is harmless. To complete the process, please **reboot** the appliances manually after finishing the Upgrade job.

4.2.1 → 4.3

- Log in to the management interface at <https://Appliance-IP-Address/ui/admin>.
- To proceed with the upgrade to 4.3, navigate to the **Configuration** menu click on **Check for updates**.
- Select **Use CDROM Updates** and click **Next**.

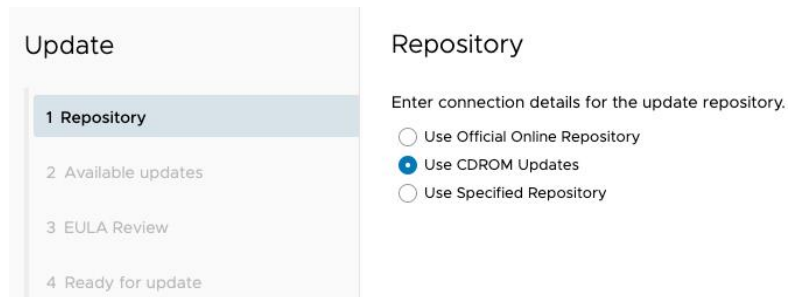


Figure 23 - Change the repository

- Select version 4.3.0.XXXX and click **Next**.

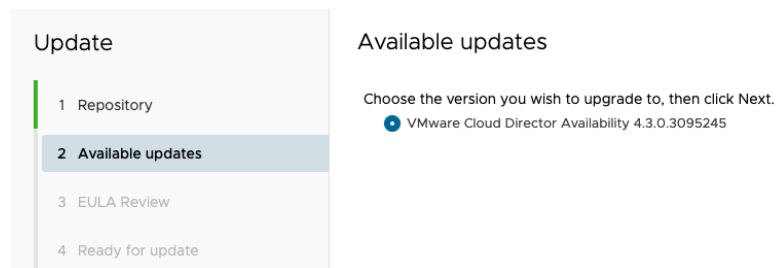


Figure 24 - Select a version to upgrade

5. Accept the End User License Agreement by clicking **Next**.
6. Click **Finish** to finalize the process.
7. The upgrade will start, and VMware Cloud Director Availability will be inaccessible while it finishes. Do NOT close the browser window.
8. Once it is completed, the page will be automatically reloaded. Clear the browser cache, reload the page, and you will be able to log in again.
9. Navigate to the **Settings** menu to verify that the version has changed.

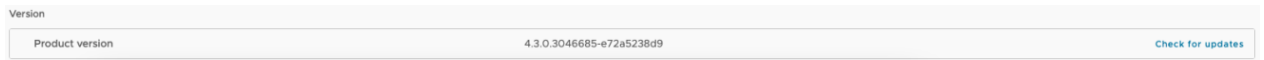


Figure 25 - VMware Cloud Director Availability version after a successful upgrade to 4.3

4.1.x → 4.3

1. Log in to the management interface at <https://Appliance-IP-Address/ui/admin>.
2. To proceed with the upgrade to 4.3, navigate to the **Configuration** menu click on **Check for updates**.
3. Select **Use CDROM Updates** and click **Next**.

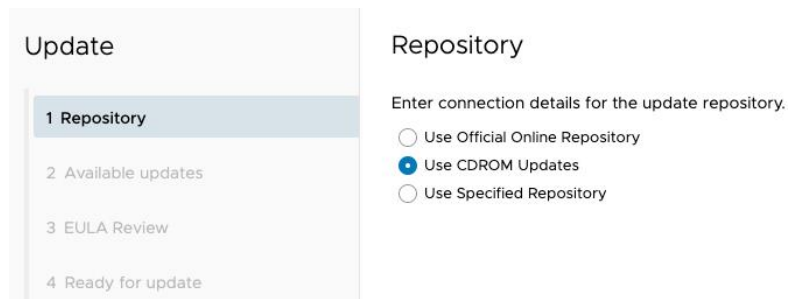


Figure 26 - Change the repository

4. Select version 4.2.0.XXXX and click **Next**.

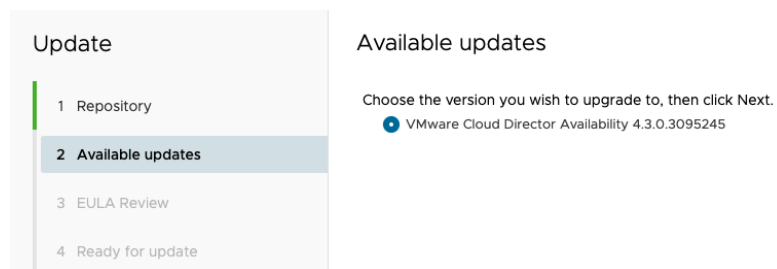


Figure 27 - Select a version to upgrade

5. Accept the End User License Agreement by clicking **Next**.
6. Click **Finish** to finalize the process.
7. The upgrade will start, and VMware Cloud Director Availability will be inaccessible while it finishes. Do NOT close the browser window.
8. Once it is completed, the page will be automatically reloaded. Clear the browser cache, reload the page, and you will be able to log in again.

- Navigate to the **Settings** menu to verify that the version has changed.

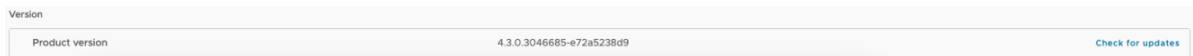


Figure 28 - VMware Cloud Director Availability version after a successful upgrade to 4.3

Steps for an upgrade from an ISO file through the command-line

3.5.x → 4.0.0.2

- Mount the VMware Cloud Director Availability 4.0.0.2 ISO file to the appliance host CD/DVD drive through the vSphere Client and make sure the drive is connected.
- Connect to the appliance host through SSH and log in as **root**.
- Change the repository to CDROM with the following command:  
`sudo /opt/vmware/bin/vamcli update --repo cdrom://`
- The output should look like this:

```
root@vcda35-mgmt-70 [ /mnt/cdrom/update ]# sudo /opt/vmware/bin/vamcli update --repo cdrom://
Set local repository address...
Done.
```

Figure 29 - Change the repository through the command-line

- Check for updates with the following command:  
`/usr/bin/sudo /opt/vmware/bin/vamcli update --check`
- The output should look like this:

```
root@vcda35-mgmt-70 [ /mnt/cdrom/update ]# sudo /opt/vmware/bin/vamcli update --check
Checking for available updates, this process can take a few minutes...
.
Available Updates -
 4.0.0.4532 Build 16407624
```

Figure 30 - Check for updates through the command-line

- Install the update with the following command:  
`sudo /opt/vmware/bin/vamcli update --install latest --accepteula`
- After the upgrade is done, you will be disconnected from your SSH session due to a reboot.
- Once the VM is accessible again, you can open the management interface and log in.
- Verify that the version has changed under **Version** in the **Configuration** menu.

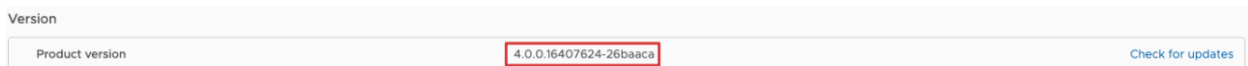


Figure 31 - VMware Cloud Director Availability version after a successful upgrade

## 4.0.0.2 → 4.2.1

1. Mount the VMware Cloud Director Availability 4.2.1 ISO file to the appliance host CD/DVD drive through the vSphere Client and make sure the drive is connected.
2. Connect to the appliance host through SSH and log in as **root**.
3. Mount the ISO file to the guest OS with the following command:  
*mount /mnt/cdrom*
4. Review the End User License Agreement with the following command:  
*python3 /mnt/cdrom/update/iso-upgrade.py eula | less*
5. Click **q** to accept it.
6. Install the update with the following command:  
*python3 /mnt/cdrom/update/iso-upgrade.py*
7. When the installation is done, reboot the system with the following command:  
*reboot*
8. Once the VM is accessible again, you can open the management interface and log in.
9. Navigate to the **Settings** menu to verify that the version has changed.

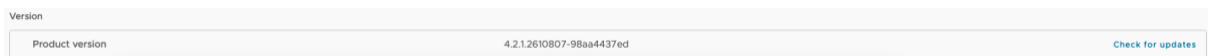


Figure 32 - VMware Cloud Director Availability version after a successful upgrade to 4.2.1

**Note:** If you encounter any problems with the upgrade, please check `/var/log/upgrade.log`.

**Note:** These steps are also valid for VMware Cloud Director Availability 4.0.1.2.

## 4.2.1 → 4.3

1. Mount the VMware Cloud Director Availability 4.3 ISO file to the appliance host CD/DVD drive through the vSphere Client and make sure the drive is connected.
2. Connect to the appliance host through SSH and log in as **root**.
3. Mount the ISO file to the guest OS with the following command:  
*mount /mnt/cdrom*
4. Review the End User License Agreement with the following command:  
*python3 /mnt/cdrom/update/iso-upgrade.py eula | less*
5. Click **q** to accept it.
6. Install the update with the following command:  
*python3 /mnt/cdrom/update/iso-upgrade.py*
7. When the installation is done, reboot the system with the following command:  
*reboot*
8. Once the VM is accessible again, you can open the management interface and log in.
9. Navigate to the **Settings** menu to verify that the version has changed.





Figure 33 - VMware Cloud Director Availability version after a successful upgrade to 4.3

**Note:** If you encounter any problems with the upgrade, please check `/var/log/upgrade.log`.

#### 4.1.x → 4.3

1. Mount the VMware Cloud Director Availability 4.3 ISO file to the appliance host CD/DVD drive through the vSphere Client and make sure the drive is connected.
2. Connect to the appliance host through SSH and log in as **root**.
3. Mount the ISO file to the guest OS with the following command:  
*mount /mnt/cdrom*
4. Review the End User License Agreement with the following command:  
*python3 /mnt/cdrom/update/iso-upgrade.py eula | less*
5. Click **q** to accept it.
6. Install the update with the following command:  
*python3 /mnt/cdrom/update/iso-upgrade.py*
7. When the installation is done, reboot the system with the following command:  
*reboot*
8. Once the VM is accessible again, you can open the management interface and log in.
9. Navigate to the **Settings** menu to verify that the version has changed.



Figure 34 - VMware Cloud Director Availability version after a successful upgrade to 4.3

**Note:** If you encounter any problems with the upgrade, please check `/var/log/upgrade.log`.

### Post-upgrade procedures

1. Perform a backup of all the VMware Cloud Director Availability appliances. You can find more information about the backups at:

<https://blogs.vmware.com/cloudprovider/2020/12/vmware-cloud-director-availability-4-1-backup-and-restore-appliances.html>

## Changelog

Date	Release	Changes
<b>Mar 21</b>	1.0	Initial release that covers upgrade path from VMware Cloud Director Availability 3.5 to 4.1
<b>Jul 21</b>	1.1	Added upgrade procedures for upgrading to VMware Cloud Director Availability 4.2
<b>Nov 21</b>	1.2	Removed VMware Cloud Director Availability 3.0 from the Interoperability Matrix and the upgrade steps for 4.0.x -> 4.1 upgrade.



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