



Protecting VMs

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VM Backup and Recovery

Cisco UCS Director's integration with Cisco HyperFlex enables you to set up cluster-to-cluster data protection on Cisco HyperFlex pods.

With Cisco UCS Director, you can perform the following tasks:

- Create HyperFlex protection groups to schedule replication of groups of VMs
- Modify VM replication schedules, individually or by protection group
- Add and remove VMs to and from a protection group
- Protect VMs individually
- View HyperFlex replication pairs, replication networks, and protection groups
- View the replication status of HyperFlex VMs

The following configuration must be done in Cisco HX Connect:

- Creating replication pairs
- Configuring a replication network

Restoring VMs from snapshots after a disaster must be done in Cisco HX Connect.

See "Managing Virtual Machine Disaster Recovery" in the [Cisco HyperFlex Data Platform Administration Guide](#).

Viewing a Replication Pair

You can view HyperFlex replication entities of every level in Cisco UCS Director, including:

- Clusters
- Replication pairs
- Replication networks
- Protection groups
- VMs

The VM protection functionality in Cisco UCS Director is accessible at the level of replication pairs. To view a replication pair, do the following:

Before you begin

Create a replication pair between a HyperFlex source cluster and a HyperFlex target cluster. See "Managing Virtual Machine Disaster Recovery" in the [Cisco HyperFlex Data Platform Administration Guide](#).

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **Clusters**.
- Step 4** Choose the primary or source cluster.
- Step 5** Click the **View Details** action.
- Step 6** On the **HyperFlex Cluster Details** page, click **Protect**.
- Step 7** From the HyperFlex Cluster Details page, choose a replication pair.

Note The HyperFlex replication pairs shown on this page are from the perspective of the source cluster you chose in Step [Step 4, on page 2](#). From this perspective, the **Remote Cluster** is the cluster *on which* outgoing VM replications are placed, and *from which* incoming VMs images are transmitted to be replicated on the current cluster.

- Step 8** Click the **View Details** action.
- Step 9** On the Replication Pair page, you can now click to view:

Summary

Graphical summaries of the source cluster VMs, replication networks, protection groups and VMs, and replication pairs.

Replication Pair

A report of all replication pairs associated with the source cluster.

Note Currently only one-to-one pairing of clusters is allowed for replication, so there is only one replication pair displayed.

Note The replication pair information is also available on the Primary Cluster page from which you selected the replication pair.

Replication Network

The parameters of the replication network associated with the replication pair.

You can click to view and manage:

Protection Groups

A report of all protection groups associated with the replication pair.

VMs

All VMs in the source or target cluster.

Creating a Protection Group

You can create protection groups that specify a replication schedule on the source cluster of a replication pair. All VMs that belong to the protection group are replicated to the target cluster according to the replication schedule.

Before you begin

Create a replication pair between a HyperFlex source cluster and a HyperFlex target cluster. You create protection groups on the source cluster. See "Managing Virtual Machine Disaster Recovery" in the [Cisco HyperFlex Data Platform Administration Guide](#).

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- Step 1** Choose **Hyper Converged > HyperFlex**.
 - Step 2** On the **HyperFlex** page, choose the pod.
 - Step 3** On the **HyperFlex** page, click **Clusters**.
 - Step 4** Choose the primary or source cluster.
 - Step 5** Click the **View Details** action.
 - Step 6** On the **HyperFlex Cluster Details** page, click **Protect**.
 - Step 7** Choose a replication pair.
 - Step 8** Click the **View Details** action.
 - Step 9** Click **Protection Groups**.
 - Step 10** Click the **Add** action.
 - Step 11** On the **Create Protection Group** page, complete the following fields:

Name

(Required.) Enter a name for the protection group.

Interval

(Required.) Choose a time interval between replications. Intervals range from 15 minutes to 24 hours. The shorter the interval, the more up-to-date the snapshot is in case of disaster recovery, at the cost of more server resource consumption.

Protect now or later

(Required.) Choose either **Now** or **Later**. If you choose **Now**, replication begins immediately. If you choose **Later**, replication begins at the next scheduled instance of the interval.

Use VMware tools to quiesce the virtual machine

If checked, then VMs are suspended before they are replicated. If unchecked, then VMs are snapshotted in their current state, even if active.

Step 12 Click **Submit**.

What to do next

Add VMs to the protection group. See [Protecting VMs, on page 5](#).

Changing a Protection Schedule

You can modify HyperFlex protection groups to change the scheduling of replication of the VMs in the group.

Before you begin

Create a replication pair between a HyperFlex source cluster and a HyperFlex target cluster. You create protection groups on the source cluster. See "Managing Virtual Machine Disaster Recovery" in the [Cisco HyperFlex Data Platform Administration Guide](#).

Create at least one protection group.

Step 1 Choose **Hyper Converged > HyperFlex**.

Step 2 On the **HyperFlex** page, choose the pod.

Step 3 On the **HyperFlex** page, click **Clusters**.

Step 4 Choose the primary or source cluster.

Step 5 Click the **View Details** action.

Step 6 On the **HyperFlex Cluster Details** page, click **Protect**.

Step 7 Choose a replication pair.

Step 8 Click the **View Details** action.

Step 9

- To change the schedule for a protection group, click **Protection Groups**.
- To change the schedule for an individual VM, click **VMs**.

Step 10 Choose a protection group or a protected VM.

Note You cannot modify the protection schedule for an unprotected VM. To protect a VM, you must select the VM and click **Protect VM**, then select **Protect this machine independently** or **Add to an existing protection group**.

Step 11 Click the **Edit Schedule** action.

Step 12 On the **Edit Protection Group (or VM)** page, complete the following fields:

Name

You cannot rename an existing protection group.

Interval

(Required.) Choose a time interval between replications. Intervals range from 15 minutes to 24 hours. The shorter the interval, the more up-to-date the snapshot is in case of disaster recovery, at the cost of more server resource consumption.

Protect now or later

(Required.) Choose either **Now** or **Later**. If you choose **Now**, replication begins immediately. If you choose **Later**, replication begins at the next scheduled instance of the interval.

Use VMware tools to quiesce the virtual machine

If checked, then VMs are suspended before they are replicated. If unchecked, then VMs are snapshotted in their current state, even if active.

Step 13 Click **Submit**.

For a protection group, the new schedule applies to all VMs currently in the protection group and to any VMs subsequently added to the protection group. For an individually selected VM, the schedule applies only to that VM.

Protecting VMs

You can protect individual VMs from disaster by replicating the VMs between two HyperFlex clusters making up a replication pair. To protect more than one VM on the same schedule, add the VMs to a protection group. See [Creating a Protection Group, on page 3](#).

Before you begin

Create a replication pair between a HyperFlex source cluster and a HyperFlex target cluster. You create protection groups on the source cluster. See "Managing Virtual Machine Disaster Recovery" in the [Cisco HyperFlex Data Platform Administration Guide](#). Create VMs on the source cluster that you want to protect.

Optional: Create at least one protection group.

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **Clusters**.
- Step 4** Choose the primary or source cluster.
- Step 5** Click the **View Details** action.
- Step 6** On the **HyperFlex Cluster Details** page, click **Protect**.
- Step 7** Choose a replication pair.
- Step 8** Click the **View Details** action.
- Step 9** Click **VMs**.
- Step 10** Choose an unprotected VM.
- Step 11** Click the **Protect VM** action.
- Step 12** You can protect a VM individually or by adding it to a protection group.
- To protect the VM as part of a group, select **Add to an existing protection group** from the **Protection Type** drop-down menu. Proceed to the next step.
 - To protect an individual VM, choose **Protect this virtual machine independently** from the **Protection Type** drop-down menu. Skip the next step. See [Creating a Protection Group, on page 3](#).
- Step 13** Do the following to add the VM to a protection group:
- a) For **Protection Group**, click **Select**.
 - b) Choose a protection group by checking it in the **Protection Group** report.
 - c) Click **Select**.

- Step 14** To protect the VM, specify its replication schedule by completing the rest of the Protect VM dialog:
- For **Interval**, choose the backup interval.
 - For Protect now or later, choose **Now** or **Later**.
 - If you chose **Later**, specify a protection time using the **Protection Time** calendar and clock controls.
 - Optionally, check **Use VMware Tools to quiesce the virtual machine**.
 - Click **Submit**.
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Unprotecting VMs

You unprotect VMs by either removing them from a protection group or removing their individually assigned replication schedule.

Before you begin

Create a replication pair between a HyperFlex source cluster and a HyperFlex target cluster. You create protection groups on the source cluster. See "Managing Virtual Machine Disaster Recovery" in the [Cisco HyperFlex Data Platform Administration Guide](#).

Create at least one VM and protect it individually (See [Protecting VMs, on page 5](#)) or create at least one protection group with at least one VM in it. See [Creating a Protection Group, on page 3](#).

- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **Clusters**.
- Step 4** Choose the primary or source cluster.
- Step 5** Click the **View Details** action.
- Step 6** On the **HyperFlex Cluster Details** page, click **Protect**.
- Step 7** Choose a replication pair.
- Step 8** Click the **View Details** action.
- Step 9** Click **VMs**.
- Step 10** Choose a protected VM:
- A VM that is part of a protection group. Its **Protected** status value is **Protected** and its protection group is listed under the **Protection Group** heading.
 - A VM that is protected individually. Its **Protected** status value is **Protected** and its **Protection Group** value is **None**.
- Step 11** Click the **UnProtect VM** action.
- Step 12** In the confirmation dialog, click **Submit**.
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