Volume Backup Using SnapVault® Express Guide

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Updated for ONTAP 9.5
Contents

Deciding whether to use this guide ............................................................. 4
SnapVault backup configuration workflow ............................................... 5
  Verifying cluster peer relationship and SVM peer relationship .................. 5
  Creating a SnapVault relationship (starting with ONTAP 9.3) ..................... 6
  Creating the SnapVault relationship (ONTAP 9.2 or earlier) ....................... 8
  Monitoring the SnapVault relationship .................................................. 11
Where to find additional information ....................................................... 12
Copyright .................................................................................................... 13
Trademark .................................................................................................. 14
How to send comments about documentation and receive update
  notifications ............................................................................................ 15
Index ............................................................................................................. 16
Deciding whether to use the Volume Backup Using SnapVault Express Guide

This guide describes how to quickly configure SnapVault backup relationships between volumes that are located in different clusters. The SnapVault backup contains a set of read-only backup copies, which are located on a destination volume that you can use for restoring data when data is corrupted or lost.

You should use this guide if you want to create SnapVault backup relationships for volumes in the following way:

- You are working with clusters running ONTAP 9.
- You are a cluster administrator.
- You have configured the cluster peer relationship and the SVM peer relationship.
- **Cluster and SVM peering express configuration**
  - You must have enabled either the SnapMirror or SnapVault license, after all of the nodes in the cluster have been upgraded to the same version of ONTAP 9.
  - You want to use default protection policies and schedules, and not create custom policies.
  - You do not want to back up data for a single file or LUN restore.
  - You want to use best practices, not explore every available option.
  - You do not want to read a lot of conceptual background.
  - You want to use OnCommand System Manager, not the ONTAP command-line interface or an automated scripting tool.

If these assumptions are not correct for your situation, or if you want more conceptual background information, you should see the following resources:

- **Data protection**
- *NetApp Documentation: OnCommand Workflow Automation (current releases)*
  OnCommand Workflow Automation enables you to run prepackaged workflows that automate management tasks such as the workflows described in Express Guides.
SnapVault backup configuration workflow

Configuring a SnapVault backup relationship includes verifying the cluster peer relationship, creating the SnapVault relationship between the source and the destination volumes, and monitoring the SnapVault relationship.

Verifying cluster peer relationship and SVM peer relationship

Before you set up a volume for data protection by using SnapVault technology, you must verify that the source cluster and destination cluster are peered and are communicating with each other through the peer relationship. You must also verify that the source SVM and destination SVM are peered and are communicating with each other through the peer relationship.

About this task

You must perform this task from the source cluster.

Choices

- If you are running ONTAP 9.3 or later, perform the following steps to verify the cluster peer relationship and SVM peer relationship:
  1. Click Configuration > Cluster Peers.
  2. Verify that the peered cluster is authenticated and is available.
  3. Click Configuration > SVM Peers.
  4. Verify that the destination SVM is peered with the source SVM.

- If you are running ONTAP 9.2 or earlier, perform the following steps to verify the cluster peer relationship and SVM peer relationship:
  1. Click the Configurations tab.
2. In the Cluster Details pane, click Cluster Peers.

3. Verify that the peered cluster is authenticated and available.

4. Click the SVMs tab and select the source SVM.

5. In the Peer Storage Virtual Machines area, verify the destination SVM is peered with the source SVM.
   
   If you do not see any peered SVM in this area, you can create the SVM peer relationship when creating the SnapVault relationship.

   Creating the SnapVault relationship (ONTAP 9.2 or earlier) on page 8

Creating a SnapVault relationship (starting with ONTAP 9.3)

You must create a SnapVault relationship between the source volume on one cluster and the destination volume on the peered cluster to create a SnapVault backup.

Before you begin

- You must have the cluster administrator user name and password for the destination cluster.
- The destination aggregate must have available space.

About this task

You must perform this task from the source cluster.

Steps

1. Click Storage > Volumes.

2. Select the volume that you want to back up, and then click Actions > Protect.
   
   You can also select multiple source volumes, and then create SnapVault relationships with a single destination volume.

3. In the Volumes: Protect Volumes page, provide the following information:
   
   a. Select Vault from the Relationship Type drop-down list.

   b. Select the destination cluster, destination SVM, and the suffix for the destination volume.
      
      Only peered SVMs and permitted SVMs are listed under destination SVMs.
      
      The destination volume is automatically created. The name of the destination volume is the source volume name appended with the suffix.

   c. Click .

   d. In the Advanced Options dialog box, verify that the Protection Policy is set as XDPDefault.

   e. Select the Protection Schedule.
      
      By default, the daily schedule is selected.
f. Verify that **Yes** is selected for initializing the SnapVault relationship.

All data protection relationships are initialized by default.

g. Click **Apply** to save the changes.

### Advanced Options

<table>
<thead>
<tr>
<th>Protection Policy</th>
<th>XDPDefault</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SnapMirror Labels</th>
<th>Retention Count</th>
</tr>
</thead>
<tbody>
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<td>daily</td>
<td>7</td>
</tr>
<tr>
<td>weekly</td>
<td>52</td>
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<table>
<thead>
<tr>
<th>Protection Schedule</th>
<th>daily</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Every Night at 0:10 AM</td>
</tr>
</tbody>
</table>

1. Initialize Protection
   - **Yes**
   - **No**

<table>
<thead>
<tr>
<th>SnapVault in FabricPool</th>
<th>There are no SnapVault aggregates assigned to the destination SVM.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FabricPool</td>
<td>There is no FabricPool assigned to the destination SVM.</td>
</tr>
</tbody>
</table>

### Apply

4. In the **Volumes: Protect Volumes** page, click **Validate** to verify whether the volumes have matching SnapMirror labels.

5. Click **Save** to create the SnapVault relationship.

6. Verify that the status of the SnapVault relationship is in the **Snapmirrored** state.

   a. Navigate to the **Volumes** window, and then select the volume that is backed up.

   b. Expand the volume and click **PROTECTION** to view the data protection status of the volume.
Creating the SnapVault relationship (ONTAP 9.2 or earlier)

You must create a SnapVault relationship between the source volume on one cluster and the destination volume on the peered cluster to create a SnapVault backup.

Before you begin

- You must have the cluster administrator user name and password for the destination cluster.
- The destination aggregate must have available space.

About this task

You must perform this task from the source cluster.

Steps

1. Click Storage > SVMs.
2. Select the SVM, and then click SVM Settings.
3. Click the Volumes tab.
4. Select the volume that you want to back up, and then click Protect.
5. In the Create Protection Relationship dialog box, select Vault from the Relationship Type drop-down list.
6. In the Destination Volume section, select the peered cluster.
7. Specify the SVM for the destination volume:

<table>
<thead>
<tr>
<th>If the SVM is...</th>
<th>Then...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peered</td>
<td>Select the peeled SVM from the list.</td>
</tr>
<tr>
<td>Not peered</td>
<td>a. Select the SVM.</td>
</tr>
<tr>
<td></td>
<td>b. Click Authenticate.</td>
</tr>
<tr>
<td></td>
<td>c. Enter the cluster administrator's credentials of the peered cluster, and then click Create.</td>
</tr>
</tbody>
</table>

8. Create a new destination volume:

a. Select the New Volume option.

b. Use the default volume name or enter a new volume name.

c. Select the destination aggregate.

d. Ensure that the Enable dedupe check box is selected.
9. In the **Configuration Details** section, select **XDPDefault** as the protection policy.

10. Select a protection schedule from the list of schedules.

11. Ensure that the **Initialize Relationship** check box is selected to transfer the base Snapshot copy, and then click **Create**

The wizard creates the relationship with the specified vault policy and schedule. The relationship is initialized by starting a baseline transfer of data from the source volume to the destination volume.

The **Status** section shows the status of each job.
12. Verify that the relationship status of the SnapVault relationship is in the **Snapmirrored** state.
   
a. Select the volume from the Volumes list, and then click **Data Protection**.
   
b. In the **Data Protection** bottom tab, verify that the SnapMirror relationship you created is listed and the relationship state is **Snapmirrored** and type is **Vault**.
Monitoring the SnapVault relationship

You should periodically monitor the status of the SnapVault relationships to ensure that the data is backed up on the destination volume per the specified schedule.

About this task

You must perform this task from the destination cluster.

Steps

1. Depending on the System Manager version that you are running, perform one of the following steps:
   - ONTAP 9.4 or earlier: Click Protection > Relationships.
   - Starting with ONTAP 9.5: Click Protection > Volume Relationships.

2. Select the SnapVault relationship between the source and the destination volumes, and then verify the status in the Details bottom tab.

   The health status of the SnapVault relationship, any transfer errors, and the lag time are displayed:
   - The Is Healthy field must display Yes.
     For most data transfer failures, the field displays No. In some failure cases, however, the field continues to display Yes. You must check the transfer errors in the Details section to ensure that no data transfer failure occurred.
   - The Relationship State field must display Snapmirrored.
   - The Lag Time must be not more than the transfer schedule interval.
     For example, if the transfer schedule is daily, then the lag time must not be more than a day.

You should troubleshoot any issues in the SnapVault relationships. The troubleshooting procedures for SnapMirror relationships are also applicable to SnapVault relationships.

Where to find additional information

Additional documentation is available to help you restore data from a destination volume to test the backed-up data or when the source volume is lost.

Express guide
- Volume restore express management using SnapVault
  Describes how to quickly restore a volume from a SnapVault backup in ONTAP

Conceptual guide
- ONTAP concepts
  Describes conceptual information about disaster recovery and disk-to-disk backup of clustered systems
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Index

A
about this guide
deciding whether to use the Volume Backup Using SnapVault Express Guide 4

B
backup relationships
deciding whether to use the Volume Backup Using SnapVault Express Guide when configuring 4
backup vault relationships
configuration workflow flowchart 5
where to get additional information about 12

C
cluster peer relationships
verifying the status 5
comments
how to send feedback about documentation 15

D
documentation
how to receive automatic notification of changes to 15
how to send feedback about 15

F
feedback
how to send comments about documentation 15
flowcharts
backup vault configuration workflow 5

I
information
how to send feedback about improving documentation 15

M
monitoring

P
peer relationships
verifying the status of cluster 5
verifying the status of SVM 5

R
relationships
creating SnapVault 6, 8
monitoring SnapVault 11
requirements
for using the Volume Backup Using SnapVault Express Guide 4

S
SnapVault relationships
creating 6, 8
monitoring 11
suggestions
how to send feedback about documentation 15
SVM peer relationships
verifying the status 5

T
Twitter
how to receive automatic notification of documentation changes 15

V
volumes
creating SnapVault relationship for backup 6, 8

W
workflows
backup vault, configuration workflow flowchart 5