



Disaster recovery for FlexGroup volumes

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Disaster recovery for FlexGroup volumes

Disaster recovery workflow for FlexGroup volumes

When a disaster strikes on the source FlexGroup volume, you should activate the destination FlexGroup volume and redirect client access. Depending on whether the source FlexGroup volume can be recovered, you should either reactivate the source FlexGroup volume or reverse the SnapMirror relationship.



About this task

Client access to the destination FlexGroup volume is blocked for a brief period when some SnapMirror

operations, such as SnapMirror break and resynchronization, are running. If the SnapMirror operation fails, it is possible that some of the constituents remain in this state and access to the FlexGroup volume is denied. In such cases, you must retry the SnapMirror operation.

Activate the destination FlexGroup volume

When the source FlexGroup volume is unable to serve data due to events such as data corruption, accidental deletion or an offline state, you must activate the destination FlexGroup volume to provide data access until you recover the data on the source FlexGroup volume. Activation involves stopping future SnapMirror data transfers and breaking the SnapMirror relationship.

About this task

You must perform this task from the destination cluster.

Steps

1. Disable future transfers for the FlexGroup volume SnapMirror relationship: `snapmirror quiesce dest_svm:dest_flexgroup`

```
cluster2::> snapmirror quiesce -destination-path vsd:dst
```

2. Break the FlexGroup volume SnapMirror relationship: `snapmirror break dest_svm:dest_flexgroup`

```
cluster2::> snapmirror break -destination-path vsd:dst
```

3. View the status of the SnapMirror relationship: `snapmirror show -expand`

```
cluster2::> snapmirror show -expand
```

Progress	Source	Destination	Mirror	Relationship	Total		
Last	Path	Type	Path	State	Status	Progress	Healthy
Updated							
-----	-----	-----	-----	-----	-----	-----	-----

vss:s	XDP	vsd:dst	Broken-off				
			Idle		-	true	-
vss:s__0001	XDP	vsd:dst__0001	Broken-off				
			Idle		-	true	-
vss:s__0002	XDP	vsd:dst__0002	Broken-off				
			Idle		-	true	-
vss:s__0003	XDP	vsd:dst__0003	Broken-off				
			Idle		-	true	-
vss:s__0004	XDP	vsd:dst__0004	Broken-off				
			Idle		-	true	-
vss:s__0005	XDP	vsd:dst__0005	Broken-off				
			Idle		-	true	-
vss:s__0006	XDP	vsd:dst__0006	Broken-off				
			Idle		-	true	-
vss:s__0007	XDP	vsd:dst__0007	Broken-off				
			Idle		-	true	-
vss:s__0008	XDP	vsd:dst__0008	Broken-off				
			Idle		-	true	-
...							

The SnapMirror relationship status of each constituent is Broken-off.

4. Verify that the destination FlexGroup volume is read/write: `volume show -vserver svm_name`

```
cluster2::> volume show -vserver vsd
```

Vserver	Volume	Aggregate	State	Type	Size
Available	Used%				
-----	-----	-----	-----	-----	-----
vsd	dst	-	online	**RW**	2GB
1.54GB	22%				
vsd	d2	-	online	DP	2GB
1.55GB	22%				
vsd	root_vs0	aggr1	online	RW	100MB
94.02MB	5%				
3 entries were displayed.					

5. Redirect clients to the destination FlexGroup volume.

Reactivate the original source FlexGroup volume after disaster

When the source FlexGroup volume becomes available, you can resynchronize the original source and original destination FlexGroup volumes. Any new data on the destination FlexGroup volume is lost.

About this task

Any active quota rules on the destination volume are deactivated and the quota rules are deleted before resynchronization is performed.

You can use the `volume quota policy rule create` and `volume quota modify` commands to create and reactivate quota rules after the resynchronization operation is complete.

Steps

1. From the destination cluster, resynchronize the FlexGroup volume SnapMirror relationship: `snapmirror resync -destination-path dst_svm:dest_flexgroup`
2. View the status of the SnapMirror relationship: `snapmirror show -expand`

```
cluster2::> snapmirror show -expand
```

Progress	Source		Destination	Mirror	Relationship	Total	
Last	Path	Type	Path	State	Status	Progress	Healthy
Updated							
-----	----	-----	-----	-----	-----	-----	-----
	vss:s	XDP	vsd:dst	Snapmirrored			
				Idle		-	true -
	vss:s__0001	XDP	vsd:dst__0001	Snapmirrored			
				Idle		-	true -
	vss:s__0002	XDP	vsd:dst__0002	Snapmirrored			
				Idle		-	true -
	vss:s__0003	XDP	vsd:dst__0003	Snapmirrored			
				Idle		-	true -
	vss:s__0004	XDP	vsd:dst__0004	Snapmirrored			
				Idle		-	true -
	vss:s__0005	XDP	vsd:dst__0005	Snapmirrored			
				Idle		-	true -
	vss:s__0006	XDP	vsd:dst__0006	Snapmirrored			
				Idle		-	true -
	vss:s__0007	XDP	vsd:dst__0007	Snapmirrored			
				Idle		-	true -
	vss:s__0008	XDP	vsd:dst__0008	Snapmirrored			
				Idle		-	true -
	...						

The SnapMirror relationship status of each constituent is Snapmirrored.

Reverse a SnapMirror relationship between FlexGroup volumes during disaster recovery

When a disaster disables the source FlexGroup volume of a SnapMirror relationship, you can use the destination FlexGroup volume to serve data while you repair or replace the source FlexGroup volume. After the source FlexGroup volume is online, you can make the original source FlexGroup volume a read-only destination and reverse the SnapMirror relationship.

About this task

Any active quota rules on the destination volume are deactivated and the quota rules are deleted before resynchronization is performed.

You can use the `volume quota policy rule create` and `volume quota modify` commands to create and reactivate quota rules after the resynchronization operation is complete.

Steps

1. On the original destination FlexGroup volume, remove the data protection mirror relationship between the source FlexGroup volume and the destination FlexGroup volume: `snapmirror delete -destination -path svm_name:volume_name`

```
cluster2::> snapmirror delete -destination-path vsd:dst
```

2. On the original source FlexGroup volume, remove the relationship information from the source FlexGroup volume: `snapmirror release -destination-path svm_name:volume_name -relationship -info-only`

After deleting a SnapMirror relationship, you must remove the relationship information from the source FlexGroup volume before attempting a resynchronization operation.

```
cluster1::> snapmirror release -destination-path vsd:dst -relationship  
-info-only true
```

3. On the new destination FlexGroup volume, create the mirror relationship: `snapmirror create -source-path src_svm_name:volume_name -destination-path dst_svm_name:volume_name -type XDP -policy MirrorAllSnapshots`

```
cluster1::> snapmirror create -source-path vsd:dst -destination-path  
vss:src -type XDP -policy MirrorAllSnapshots
```

4. On the new destination FlexGroup volume, resynchronize the source FlexGroup: `snapmirror resync -source-path svm_name:volume_name`

```
cluster1::> snapmirror resync -source-path vsd:dst
```

5. Monitor the SnapMirror transfers: `snapmirror show -expand`


```
cluster2::> snapmirror show -expand
```

Progress	Source	Destination	Mirror	Relationship	Total		
Last	Path	Type	Path	State	Status	Progress	Healthy
Updated							
-----	-----	-----	-----	-----	-----	-----	-----

	vsd:dst	XDP	vss:src	Snapmirrored			
				Idle	-	true	-
	vss:dst__0001	XDP	vss:src__0001	Snapmirrored			
				Idle	-	true	-
	vsd:dst__0002	XDP	vss:src__0002	Snapmirrored			
				Idle	-	true	-
	vsd:dst__0003	XDP	vss:src__0003	Snapmirrored			
				Idle	-	true	-
	vsd:dst__0004	XDP	vss:src__0004	Snapmirrored			
				Idle	-	true	-
	vsd:dst__0005	XDP	vss:src__0005	Snapmirrored			
				Idle	-	true	-
	vsd:dst__0006	XDP	vss:src__0006	Snapmirrored			
				Idle	-	true	-
	vsd:dst__0007	XDP	vss:src__0007	Snapmirrored			
				Idle	-	true	-
	vsd:dst__0008	XDP	vss:src__0008	Snapmirrored			
				Idle	-	true	-
...							

The SnapMirror relationship status of each constituent shows as Snapmirrored that indicates that the resynchronization was successful.

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