

Migrating VSMs & Performing disaster recovery

In CloudByte ElastiStor

CAN I MIGRATE A VSM ACROSS SITES?

WHAT ARE THE CONSIDERATIONS TO PERFORM DISASTER RECOVERY?

I HAVE AN APPLICATION WITH 500 IOPS, I NEED A BETTER PERFORMANCE AND WANT TO INCREASE THE IOPS TO 1000. DOES ELASTISTOR SUPPORT THIS?

HOW DOES BACKUP MECHANISM WORK IN ELASTISTOR?

WHAT TYPE OF REMOTE REPLICATION IS PERFORMED IN ELASTISTOR? IS IT SYNCHRONOUS OR ASYNCHRONOUS?

WHAT ARE THE CONFIGURATION PROCEDURES TO PERFORM VSM MIGRATION?

Contents

Migrating VSMs and performing disaster recovery in CloudByte ElastiStor	3
Introduction	3
VSM migration	3
Definition	3
Objective	4
When to perform	4
Scenarios	4
Use case 1	4
Use case 2	4
Requisites/Considerations	4
Procedures	4
Disaster recovery	5
Definition	5
Disaster recovery in ElastiStor	5
Use case	5
Requisites/Considerations	6
Procedures	6

Migrating VSMs and performing disaster recovery in CloudByte ElastiStor

Introduction

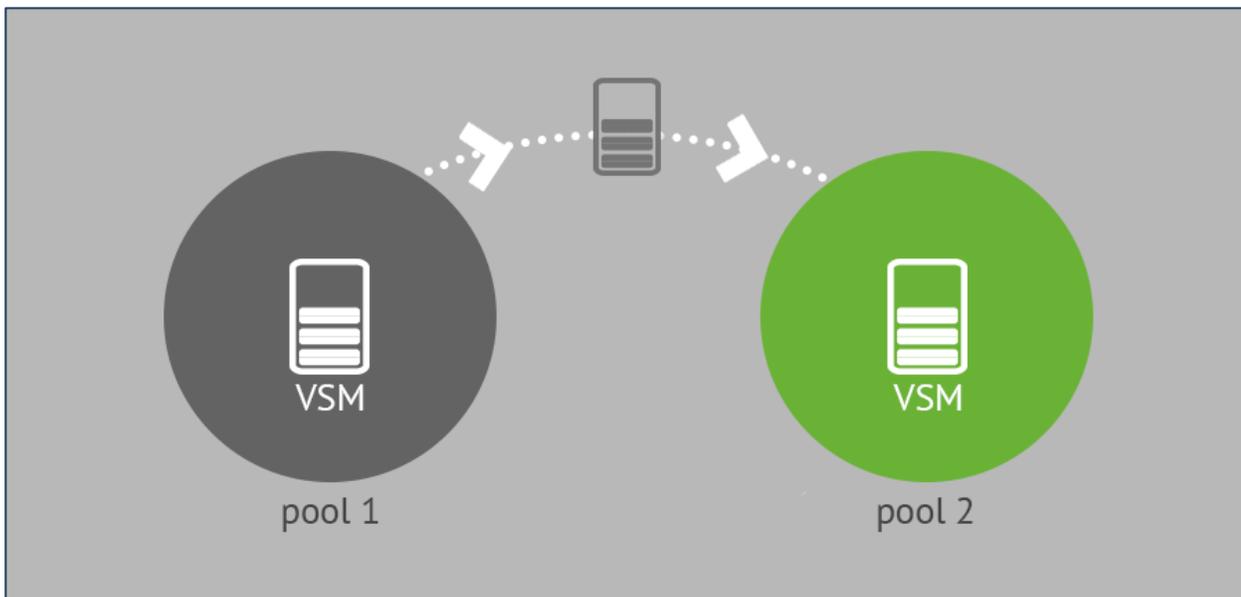
This document discusses various user queries related to disaster recovery and VSM migration. The scenarios in which these features are used and the requirements to perform them are explained in detail.

VSM Migration	Disaster Recovery
<ul style="list-style-type: none"> Moving a VSM in a Pool to another Pool for QoS optimization 	<ul style="list-style-type: none"> The ability to resume complete services and retrieve data within a specific amount of time in disaster situations
<ul style="list-style-type: none"> Only a single instance of the VSM exists. When you migrate, the VSM is moved to the new Pool without any trace in the parent Pool. 	<ul style="list-style-type: none"> Data is copied to the secondary Site. The primary Site has active data. If disaster occurs, activate the data on the secondary and resume the services.
<ul style="list-style-type: none"> Performed when the parent Pool cannot satisfy the required increment in IOPS/throughput, but the other Pools can. 	<ul style="list-style-type: none"> Performed when there is a disaster. Services are brought to normal using the secondary Site by activating disaster recovery.
<ul style="list-style-type: none"> Non-disruptive and zero downtime 	<ul style="list-style-type: none"> Asynchronous
<ul style="list-style-type: none"> Works on data network 	<ul style="list-style-type: none"> Works on remote backup network

VSM migration

Definition

Moving a VSM in a Pool to another Pool.



Objective

The objective of VSM migration is QoS optimization.

When to perform

Migration is necessary when VSM's parent Pool

- Cannot guarantee the required IOPS/throughput
- There is not enough storage space on the Pool

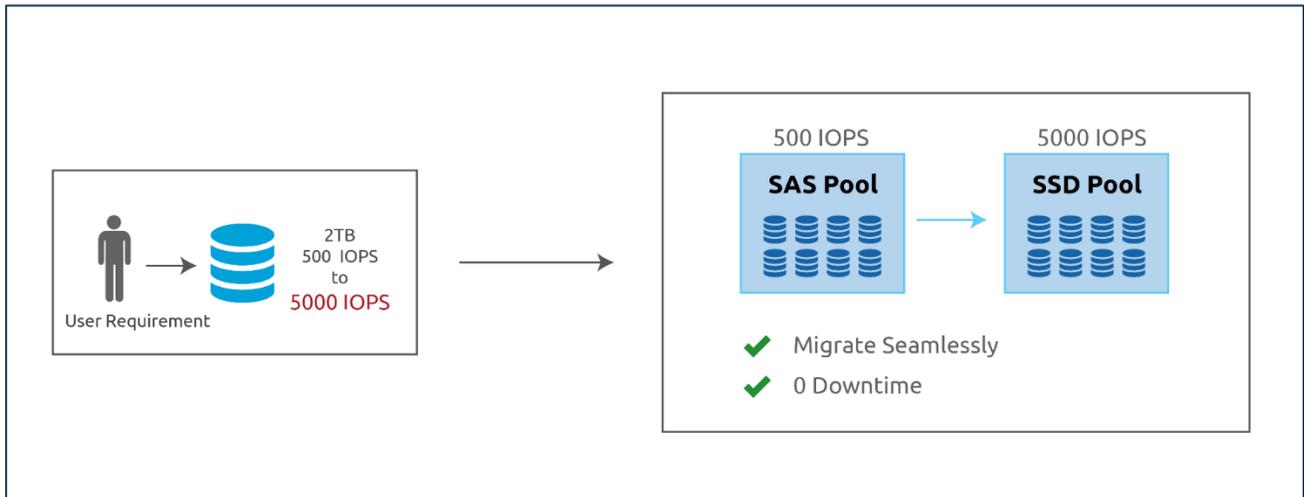
Scenarios

You can migrate VSMs

- From a Pool to another within the same Node or across Nodes.
- From one Pool to another, with in same HA Group or across HA Groups.
- From a Pool to another within a Site or across Sites.

Use case 1

You have to increase the IOPS of an application on a 2TB Storage Volume, from say 500 to 5000.



ElastiStor will seamlessly migrate a VSM to an SSD Pool. This involves zero downtime and no application disruption with the VSM. You can continue to work on the application during the VSM migration.

Use case 2

Your workload does not demand high performance but requires an additional storage space. The SSDs may not have the required storage space (but the SAS Pool has). Therefore, you can migrate the VSM to a SAS Pool with no application disruption.

Requisites/Considerations

- VSMs can be migrated from one Pool (which cannot satisfy the required increment in IOPS/throughput), but to another, with in same HA Group or across HA Group, provided both HA Groups are managed by the same ElastiCenter.
- In the case of migrating VSMs across appliances, ensure that appliances are managed by the same ElastiCenter.

Procedures

To configure VSM migration, go to the following URL:

<http://www.docs.cloudbyte.com/what-is-elasticenter/configuring-vsm-migration/>

Disaster recovery

Definition

Disaster implies an unplanned outage. Whether it be because of a severe natural calamity, system failure, site damage, or disk failure, data storage without backup is a great risk which might cause loss of data.

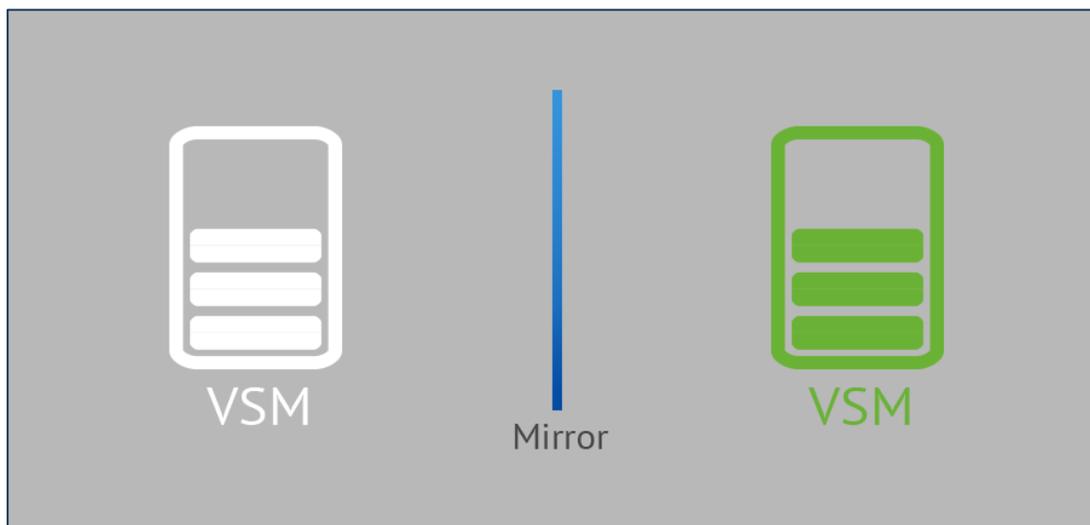
Disaster recovery is the ability to resume complete services within a specific amount of time. The disaster recovery mechanism helps you effectively retrieve data in disaster situations.

Disaster recovery in ElastiStor

CloudByte ElastiStor equips you to effectively recover data in the case of adversities using the *Mirror* feature represented by DR VSM in ElastiCenter. Disaster Recovery in ElastiStor is asynchronous.

Data is mirrored and a remote snapshot of the data on the primary setup is created in the secondary storage setup. The data on secondary storage setup is a read-only copy until it is activated.

In the case of disaster, you can activate the DR VSM to take care of the services handled by the primary setup.



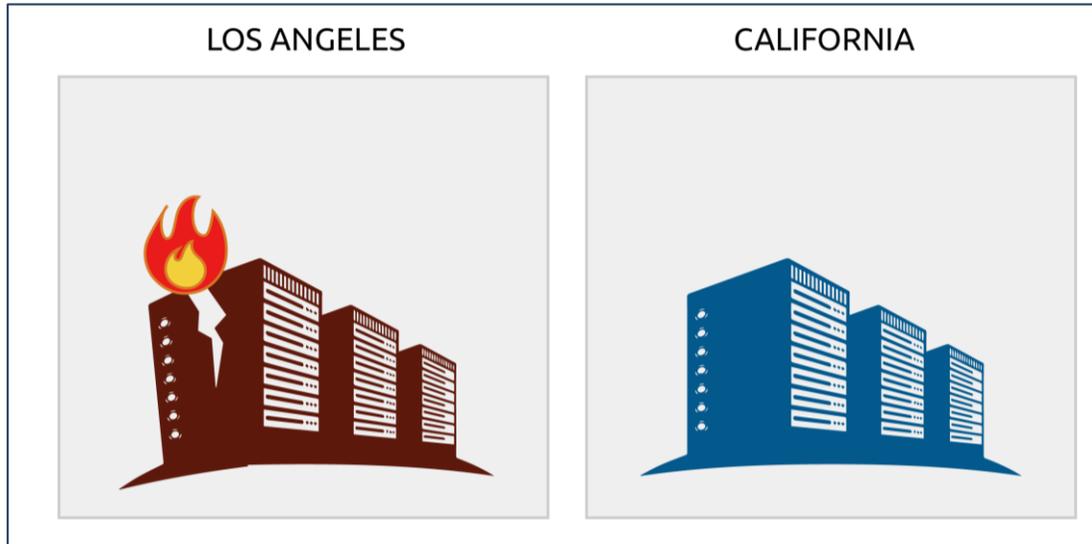
The backup mechanism for disaster recovery is as follows:

The first backup is a full backup. The first backup is followed by incremental backups based on snapshot technology.

You can schedule your backup in ElastiCenter by selecting a frequency (minimum frequency is one minute). CloudByte recommends a scheduling frequency higher than the time taken to transfer the differential data from source to the destination Site. For example, if the differential data is about 1 GB, and the time taken to transfer it is about 90 seconds, then set a scheduling frequency of about 120 seconds.

Use case

Data loss at your primary site in Los Angeles.



In this case, the remote site can be brought online and the work continues from the last successful data transfer (from primary site).

When the primary site is up, you can transfer back the responsibility and quickly sync with the remote copy for only the incremental data. This ensures a complete data backup and also keeps the system in an operating condition continuously with the least amount of downtime.

Requisites/Considerations

- While backing up data across appliances, ensure that appliances are managed by the same ElasticCenter.
- If the primary and secondary Sites are on different networks, ensure that you have a dedicated network for data transfer. For example, Site to Site VPN.
- CloudByte ElasticStor currently supports disaster recovery across Sites managed by the same ElasticCenter.

Procedures

To configure disaster recovery, go to the following URL:

<http://www.docs.cloudbyte.com/what-is-elasticcenter/configuring-remote-disaster-recovery/>.