



# MIGRATION GUIDE

## VMware vSAN

*How to migrate non-disruptively  
from VMware vSAN to StorMagic SvSAN*

### EXECUTIVE SUMMARY

The purpose of this document is to provide basic guidance for resellers and partners who are migrating customers from a VMware ESXi/vSAN 2-node architecture to a VMware ESXi and StorMagic SvSAN 2-node architecture.

### IN-PLACE MIGRATION

SvSAN can present non-mirrored storage that can convert to mirrored, to enable storage high availability, later.

This enables an in-place, non-disruptive migration, detailed in the following steps.

#### Migration workflow

Due to the restrictions of VMware vSAN the below workflow is necessary, including a reinstall of VMware ESXi.

- 1 Clear node 2 and migrate all guest VMs to node 1
- 2 Reboot node 2, reinstall ESXi and scrub vSAN partitions
- 3 Deploy SvSAN to node 2
- 4 Migrate all guest VMs from node 1 to node 2
- 5 Reboot node 1, reinstall ESXi and scrub vSAN partitions
- 6 Deploy SvSAN to node 1 and mirror the storage with node 2
- 7 Enable VMware High Availability and any other hypervisor features required

### TARGET AUDIENCE

**Resellers and Partners** – Sales and Technical

SvSAN presents storage over block iSCSI that can be shared to the same hosts for hyperconverged storage, or to any other iSCSI initiator hosts on the network. This enables a non-disruptive migration path with the VM migration tools included in all hypervisors.

### FURTHER HELP

If you require additional assistance in migrating from VMware vSAN to StorMagic SvSAN, please contact [support@stormagic.com](mailto:support@stormagic.com)

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# 1 CLEAR NODE 2 AND MIGRATE ALL GUEST VMs TO NODE 1

(see figures 1 to 4)

Place node 2 in Maintenance Mode to migrate VMs to another node in the cluster, or alternatively, manually live migrate VMs, then place node 2 in Maintenance Mode.

Remove host from inventory.

## VMware vSphere 7.0

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.resmgmt.doc/GUID-8F705E83-6788-42D4-93DF-63A2B892367F.html>

## VMware vSphere 8.0

<https://docs.vmware.com/en/VMware-vSphere/8.0/vsphere-resource-management/GUID-8F705E83-6788-42D4-93DF-63A2B892367F.html>

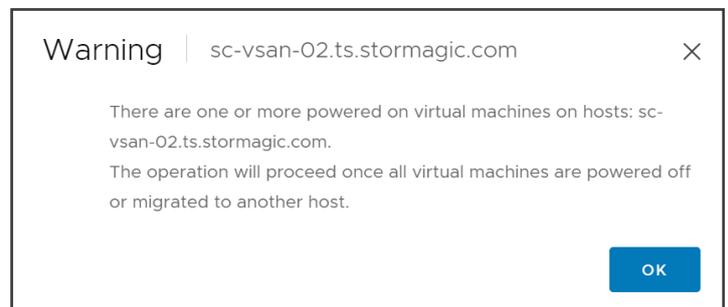


Figure 3 - Maintenance Mode VM warning

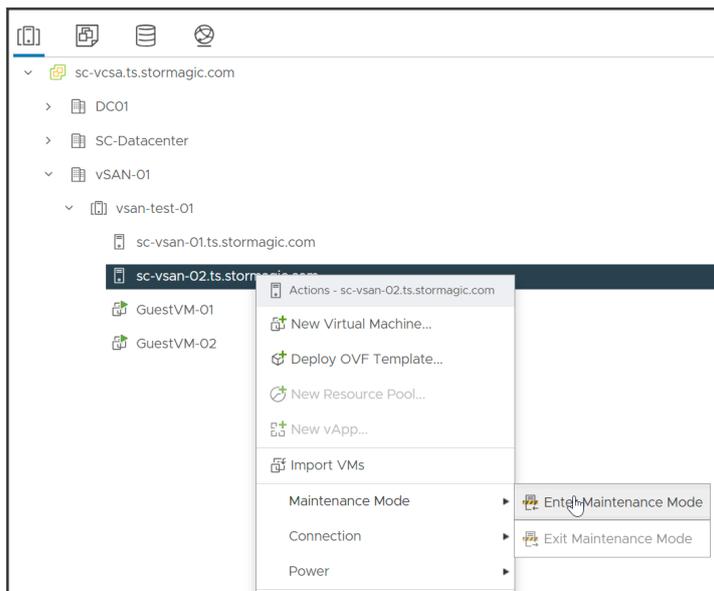


Figure 1 - Place ESXi host (node 2) into Maintenance Mode

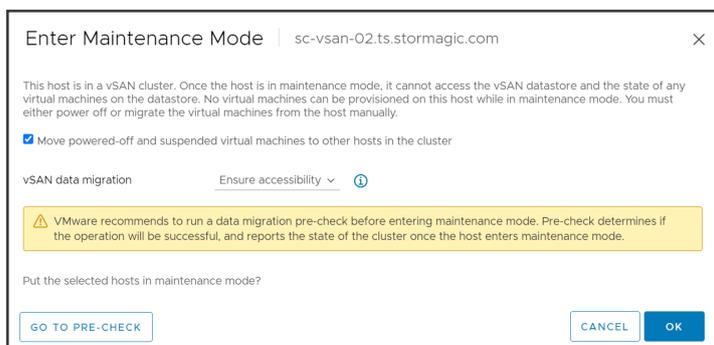


Figure 2 - Disabling vSAN in Maintenance Mode

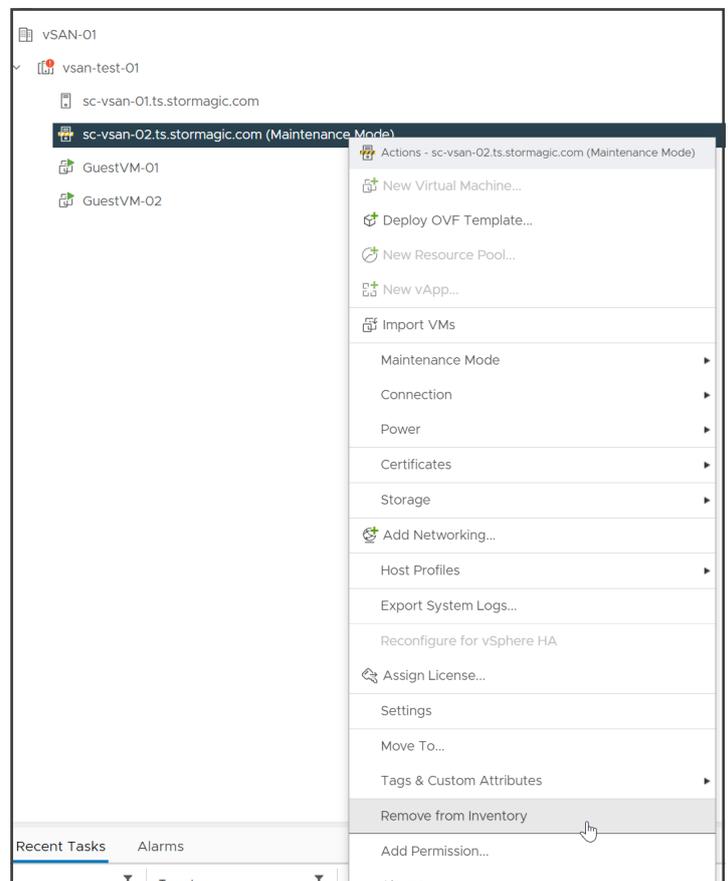


Figure 4 - Remove Host (node 2) from Inventory



## 2 REBOOT NODE 2, REINSTALL ESXi AND SCRUB vSAN PARTITIONS

(see figures 5 to 10)

### VMware ESXi 7.0.x install

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.esxi.upgrade.doc/GUID-A33C4CAB-18EE-4C8C-A55D-8AD7E8042BFA.html>

### VMware ESXi 8.0.x install

<https://docs.vmware.com/en/VMware-vSphere/8.0/vsphere-esxi-upgrade/GUID-A33C4CAB-18EE-4C8C-A55D-8AD7E8042BFA.html>

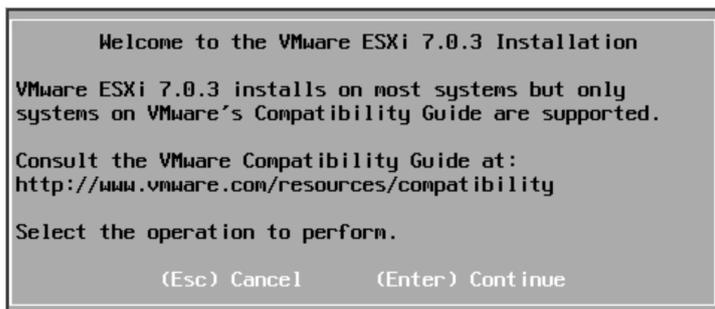


Figure 5 - ESXi Installer



Figure 7 - ESXi Installer – Reboot on completion

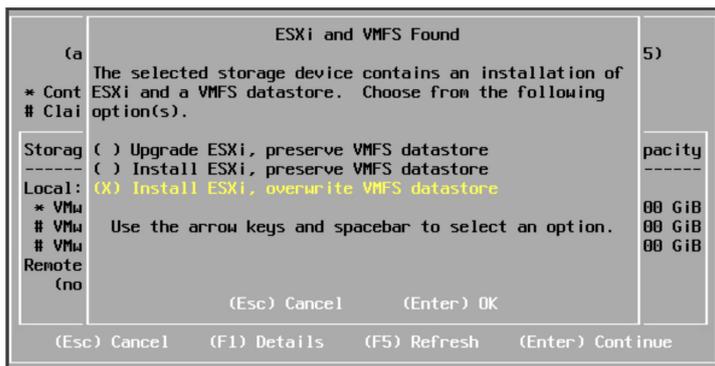


Figure 6 - ESXi Installer VMFS overwrite

After ESXi has been successfully reinstalled on node 2 and the host is manageable via an IP address, log into the ESXi Host Client, not via vCenter, to clear the old partitions on any VMware vSAN cache and capacity disks.

Go to Storage, then Devices, select the disk, then select clear partition table.

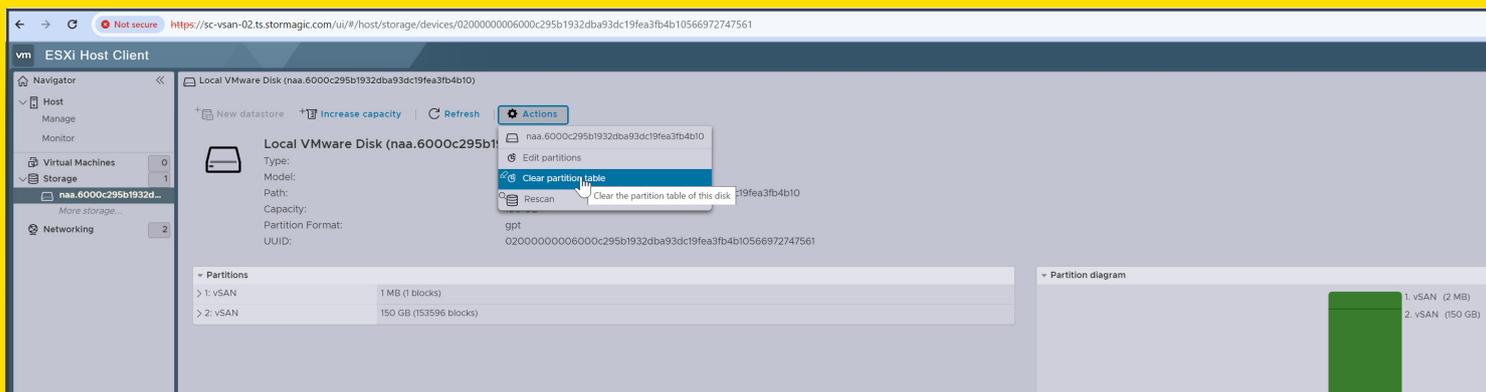
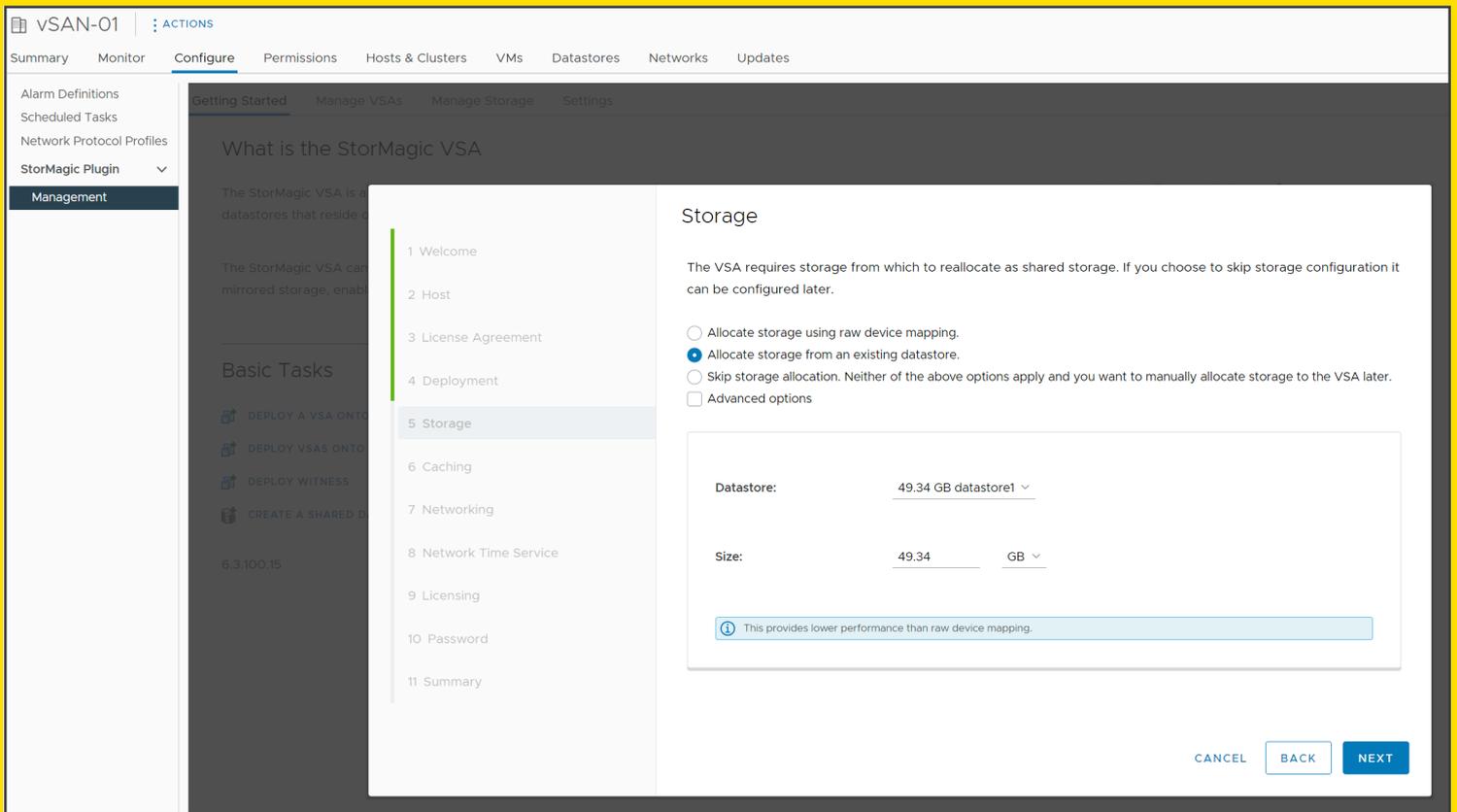


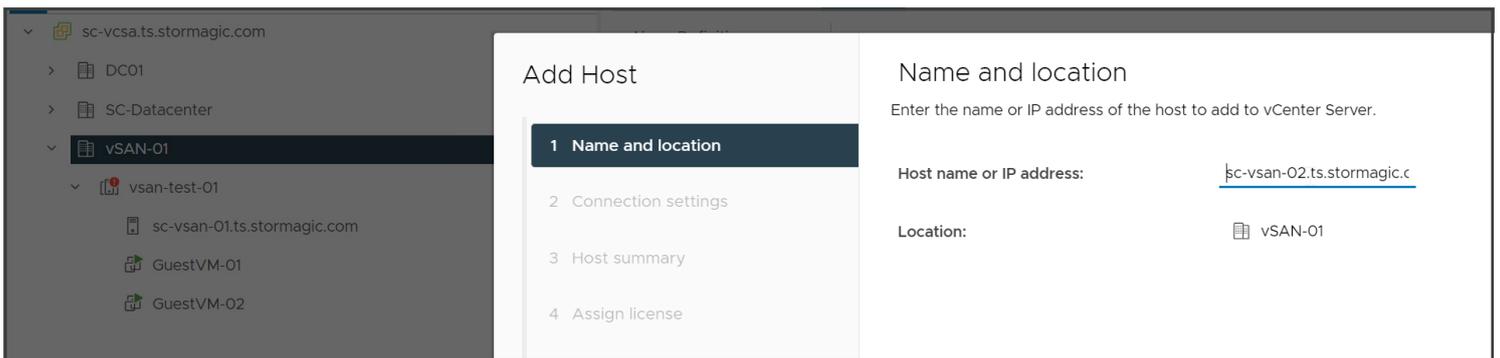
Figure 8 - Clear vSAN cache and capacity drive partitions



**Figure 9** - VSA deploy wizard without vSAN partitions cleared

If the vSAN partitions are not removed, the VSA deploy wizard will not present the disks as available for use, believing them to already be consumed by something else.

Add the redeployed ESXi host to the existing vSAN Datacenter, **NOT the cluster** (vSAN will be reinstalled if this host is added to the cluster).



**Figure 10** - ESXi host added to the Datacenter, not the cluster

## VMware 7.0.x

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.vcenterhost.doc/GUID-CCE2AEC1-FE9F-4387-8EBF-512CB4B51B26.html>



### 3 DEPLOY SvSAN TO NODE 2

(see figures 11 to 20)

With the host added to vCenter, configure virtual switches for the ESXi host, based on your organization's network policies and requirements.

<https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.esxi.install.doc/GUID-26F3BC88-DAD8-43E7-9EAO-160054954506.html>

Deploy the StorMagic plugin to vCenter, if not already deployed.

[https://stormagic.com/doc/svSAN/6-3-U1/en/Content/vSphere%20Plugin/Plugin\\_deploy\\_vsphere.htm](https://stormagic.com/doc/svSAN/6-3-U1/en/Content/vSphere%20Plugin/Plugin_deploy_vsphere.htm)

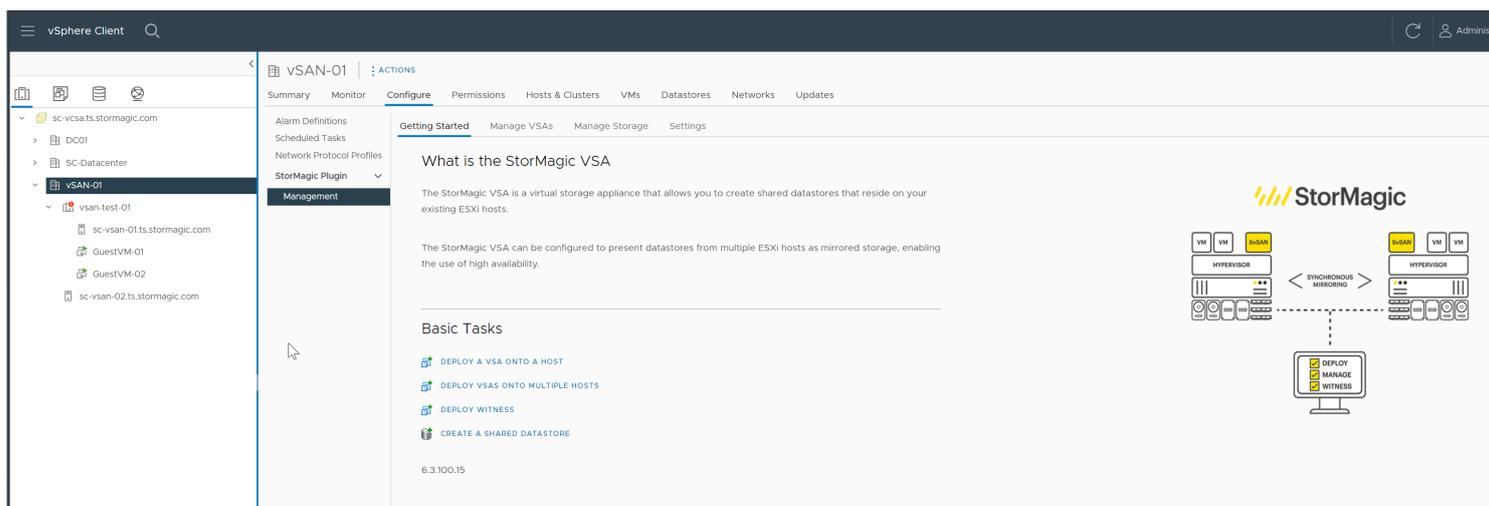


Figure 11 - Deploy SvSAN Plugin to vCenter

Deploy a StorMagic VSA to the newly cleared ESXi host (node 2):

<https://stormagic.com/doc/svSAN/6-3-U1/en/Content/vsa-deploy-vs.htm>

#### Deployment

You can change the default VSA hostname, domain name and datastore to install on. The StorMagic VSA will consume 21 GB of disk space from the selected datastore.

VSA Hostname:

VSA Domain Name:

Datastore:

Figure 12 - Deploy a SvSAN VSA to the newly cleared ESXi host (node 2)

#### Summary

When you click 'Finish', the deploy VSA task will be queued. You can view progress in Recent Tasks. The VSA will be powered on when deployment is completed.

```
Host:
ESXiHostname: sc-vsan-02.ts.stormagic.com
ESXiPassword: ***

Deployment:
VSAHostname: sc-vsa-02.ts.stormagic.com
VSAPassword: ***
Destination Datastore: localdatastore2
RAM: 3072 MB

Storage:
 Keep VSA on deployment failure
Download PowerShell script
```

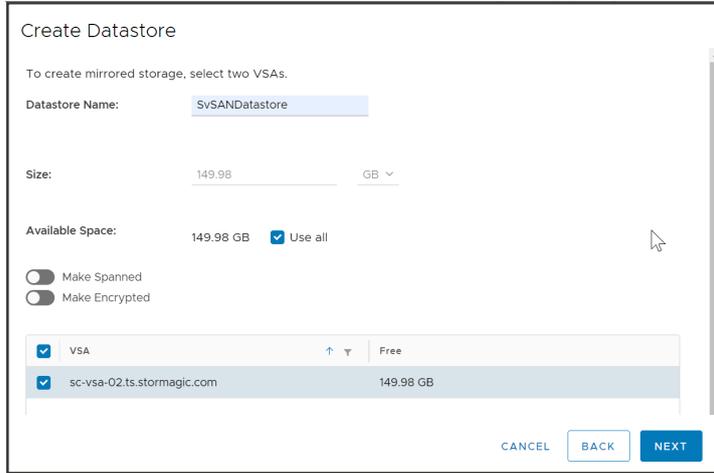
Figure 13 - VSA deployment wizard summary



## Create a non-mirrored datastore

As per the documentation at the link below, select the one StorMagic VSA and create an unmirrored datastore sharing to the ESXi hosts in the cluster.

<https://stormagic.com/doc/svSAN/6-3-U1/en/Content/datastore-create-vs.htm>



Create Datastore

To create mirrored storage, select two VSAs.

Datastore Name: SvSANDatastore

Size: 149.98 GB

Available Space: 149.98 GB  Use all

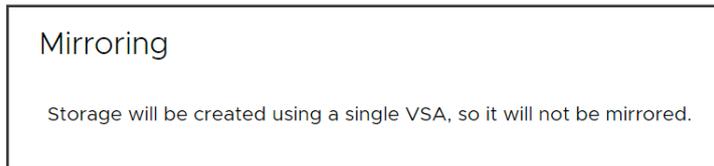
Make Spanned  
 Make Encrypted

VSA

VSA	Free
sc-vsa-02.ts.stormagic.com	149.98 GB

CANCEL BACK NEXT

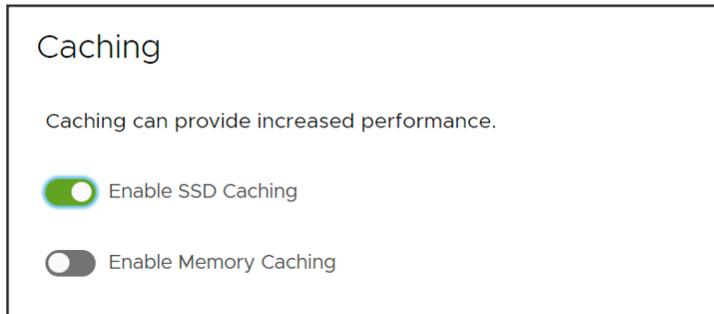
Figure 14 - Datastore creation wizard



Mirroring

Storage will be created using a single VSA, so it will not be mirrored.

Figure 15 - Non-mirrored storage creation message

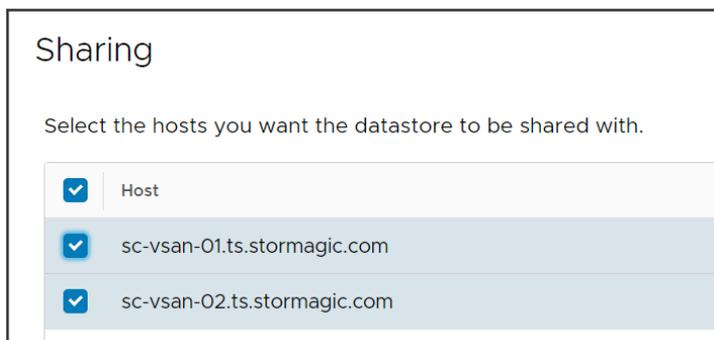


Caching

Caching can provide increased performance.

Enable SSD Caching  
 Enable Memory Caching

Figure 16 - Optionally enable caching

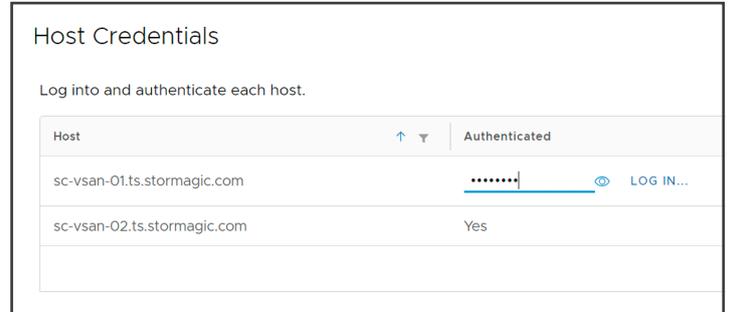


Sharing

Select the hosts you want the datastore to be shared with.

<input checked="" type="checkbox"/>	Host
<input checked="" type="checkbox"/>	sc-vsan-01.ts.stormagic.com
<input checked="" type="checkbox"/>	sc-vsan-02.ts.stormagic.com

Figure 17 - Share the datastore to both, and any additionally desired, ESXi hosts

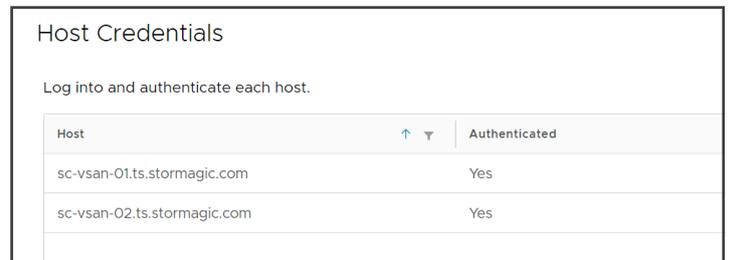


Host Credentials

Log into and authenticate each host.

Host	Authenticated
sc-vsan-01.ts.stormagic.com	..... LOG IN...
sc-vsan-02.ts.stormagic.com	Yes

Figure 18 - Login to the ESXi hosts with the plugin

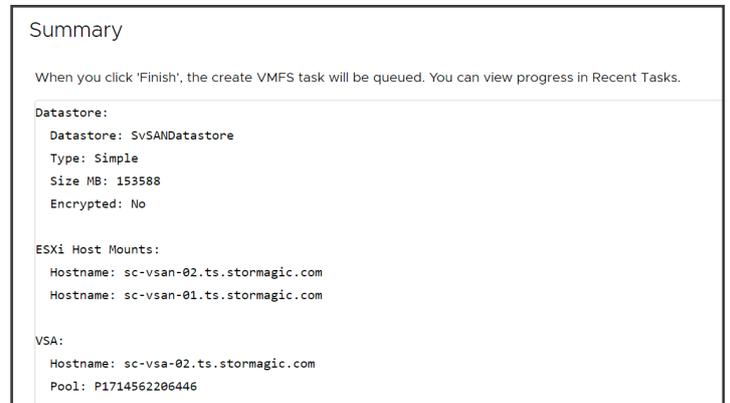


Host Credentials

Log into and authenticate each host.

Host	Authenticated
sc-vsan-01.ts.stormagic.com	Yes
sc-vsan-02.ts.stormagic.com	Yes

Figure 19 - Ensure the hosts are authenticated



Summary

When you click 'Finish', the create VMFS task will be queued. You can view progress in Recent Tasks.

Datastore:

Datastore: SvSANDatastore  
Type: Simple  
Size MB: 153588  
Encrypted: No

ESXi Host Mounts:

Hostname: sc-vsan-02.ts.stormagic.com  
Hostname: sc-vsan-01.ts.stormagic.com

VSA:

Hostname: sc-vsa-02.ts.stormagic.com  
Pool: P1714562206446

Figure 20 - Datastore creation wizard summary



## 4 MIGRATE ALL GUEST VMs FROM NODE 1 TO NODE 2

(see figures 21 to 22)

Leveraging VMware VM Compute and Storage vMotion, or other tools, migrate the VMs from node 1 to the newly presented SvSAN storage and newly reprovisioned ESXi host (node 2).

### 2 Virtual Machines - Migrate

- 1 Select a migration type**
- 2 Select a compute resource
- 3 Select storage
- 4 Select networks
- 5 Select vMotion priority
- 6 Ready to complete

Select a migration type  
Change the virtual machines' compute resource, storage, or both.

- Change compute resource only  
Migrate the virtual machines to another host or cluster.
- Change storage only  
Migrate the virtual machines' storage to a compatible datastore or datastore cluster.
- Change both compute resource and storage  
Migrate the virtual machines to a specific host or cluster and their storage to a specific datastore or datastore cluster.
- Cross vCenter Server export  
Migrate the virtual machines to a vCenter Server not linked to the current SSO domain.

Figure 21 - VM Migration of both compute and storage

### 2 Virtual Machines - Migrate

- ✓ 1 Select a migration type
- ✓ 2 Select a compute resource
- 3 Select storage**
- 4 Select networks
- 5 Select vMotion priority
- 6 Ready to complete

Select storage  
Select the destination storage for the virtual machine migration.

BATCH CONFIGURE CONFIGURE PER DISK

Select virtual disk format Same format as source

VM Storage Policy Keep existing VM storage policies

	Name	Storage Compatibility	Capacity	Provisioned	Free	Type	Cluster
<input type="radio"/>	localdatastore2	--	71.75 GB	21.99 GB	49.76 GB	VMFS 6	
<input checked="" type="radio"/>	SvSANDatasto...	--	149.75 GB	1.41 GB	148.34 GB	VMFS 6	

Compatibility

✓ Compatibility checks succeeded.

CANCEL BACK NEXT

Figure 22 - Select the new SvSAN datastore to migrate the guest VMs to

After all VMs are migrated, validate that they are operational before proceeding.

## 5 REBOOT NODE 1, REINSTALL ESXi AND SCRUB vSAN PARTITIONS

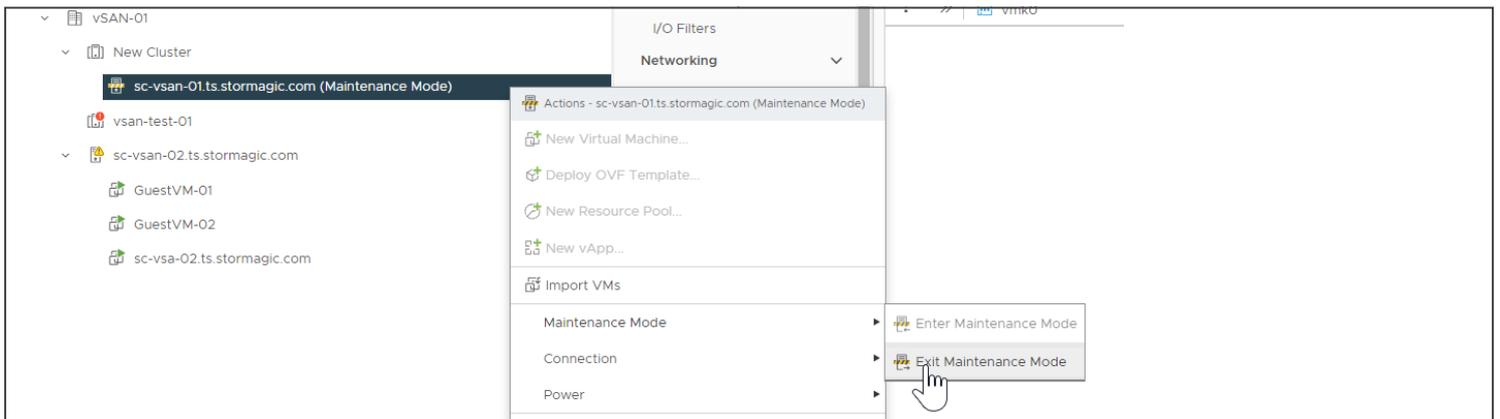
(see figures 23 to 24)

Follow the below process for the remaining ESXi host and cluster (node 1):

1. On the VMware Cluster, disable DRS, if in use.
2. On the VMware Cluster, disable HA, if in use.
3. Under the Cluster > vSAN Services, turn off VMware vSAN.

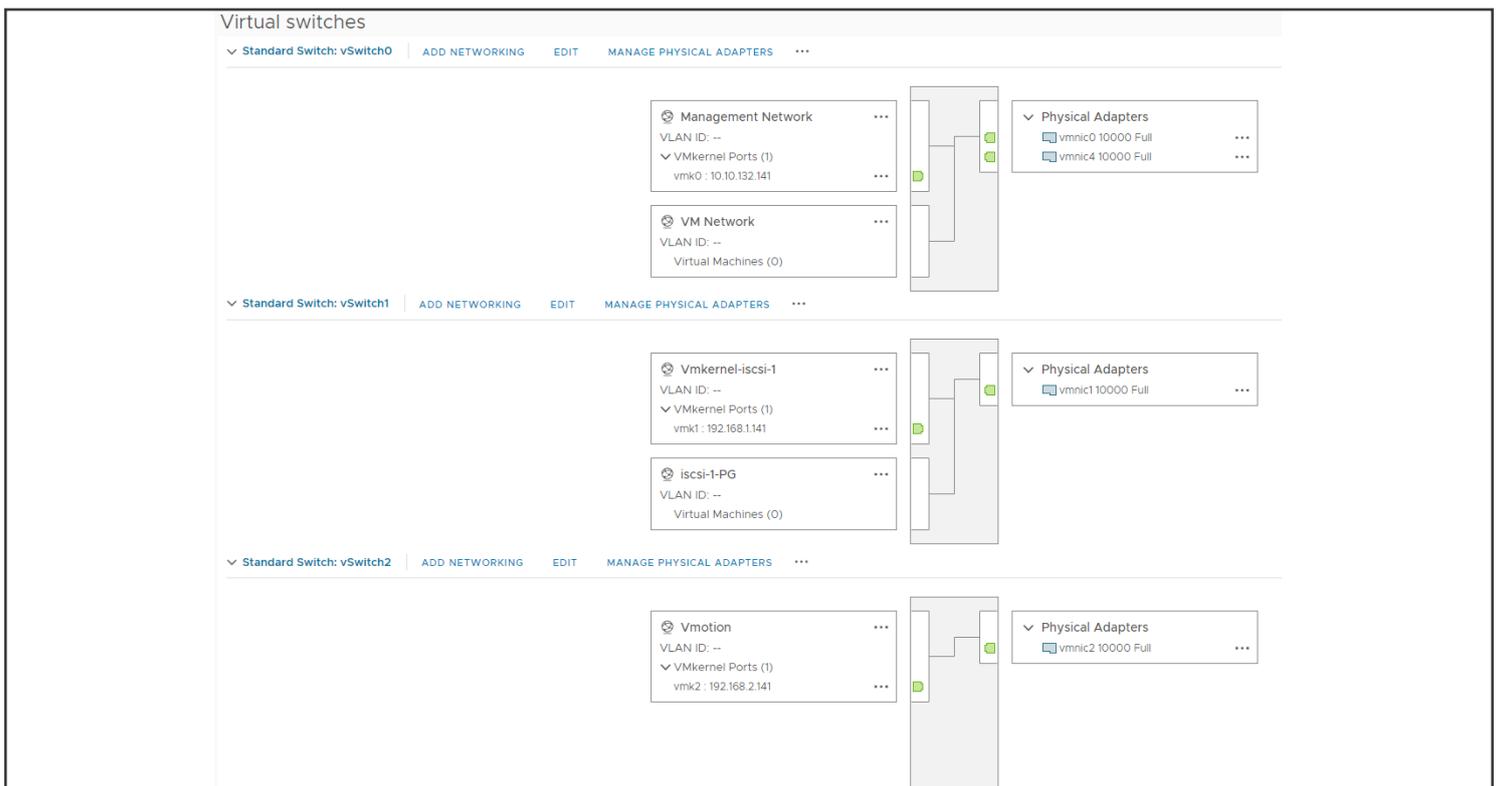
Then, repeat the steps outlined earlier in this guide for clearing and reinstalling ESXi, this time on node 1:

1. Place Host in Maintenance Mode.
2. Remove Host from vSAN cluster.
3. Reinstall ESXi on this host.
4. Clear the old VMware vSAN partitions from the cache and capacity drives.
5. Add this ESXi host to the Datacenter, and provision a new cluster.



**Figure 23** - Exit the Maintenance Mode

6. Drag both the ESXi hosts into the new cluster with vSAN disabled.
7. Configure virtual networking.



**Figure 24** - Example networking utilized for this guide



## 6 DEPLOY SvSAN TO NODE 1 AND MIRROR THE STORAGE WITH NODE 2

(see figures 25 to 30)

Deploy a StorMagic VSA to the remaining host.

<https://stormagic.com/doc/svSAN/6-3-U1/en/Content/vsa-deploy-vs.htm>

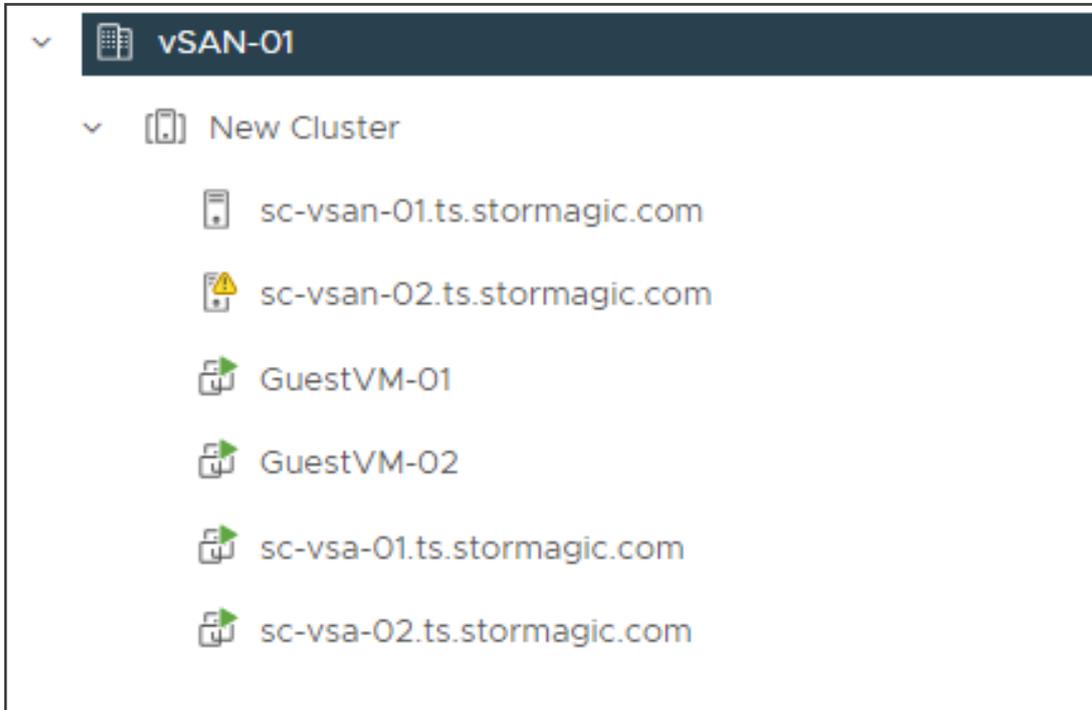
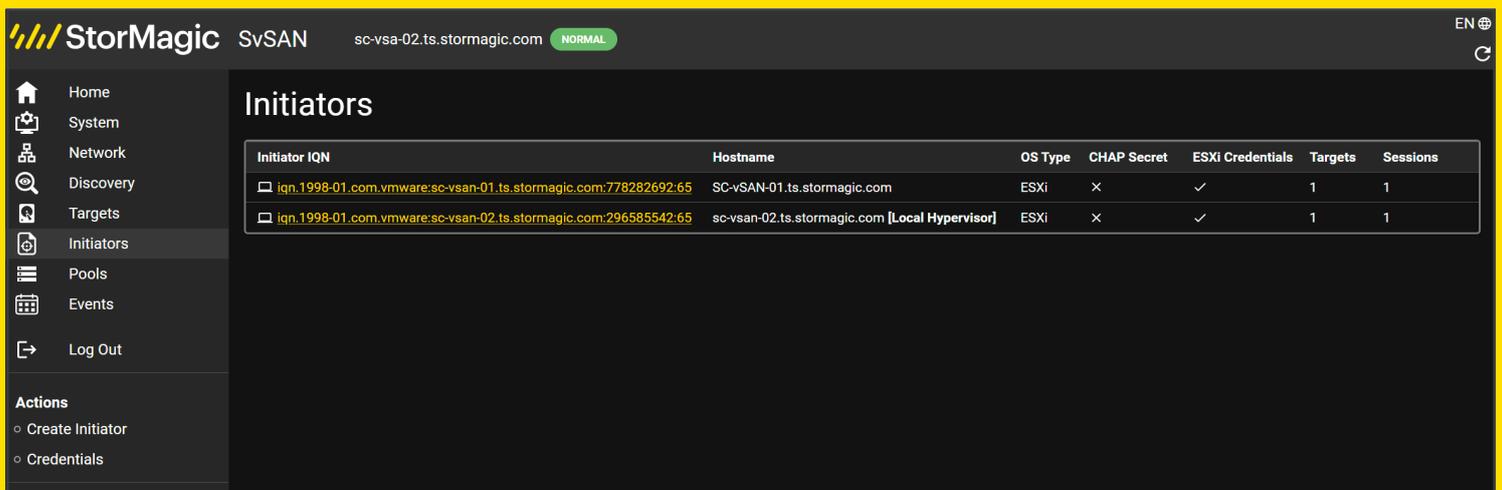


Figure 25 - Hosts in a new cluster, running VSAs

Ensure ESXi or vCenter credentials for all ESXi hosts are entered into each VSA. See the article below for more information:

<https://support.stormagic.com/hc/en-gb/articles/5971578201373-SvSAN-and-ESXi-Credentials>



Initiator IQN	Hostname	OS Type	CHAP Secret	ESXi Credentials	Targets	Sessions
iqn.1998-01.com.vmware.sc-vsan-01.ts.stormagic.com:778282692:65	SC-vSAN-01.ts.stormagic.com	ESXi	×	✓	1	1
iqn.1998-01.com.vmware.sc-vsan-02.ts.stormagic.com:296585542:65	sc-vsan-02.ts.stormagic.com [Local Hypervisor]	ESXi	×	✓	1	1

Figure 26 - Validate VMware credentials on any/all SvSAN VSAs

If DNS is on the cluster, change the ESXi hostname to IP address.

Via the VSA1 WebGUI add the mirror to VSA2, selecting your SvSAN witness of choice:

<https://stormagic.com/resources/data-sheets/svsan-witness-data-sheet/>

<https://stormagic.com/doc/svsan/6-3-U1/en/Content/target.htm#convert-simple-target>

<https://stormagic.com/doc/svsan/6-3-U1/en/Content/plex.htm>

<https://support.stormagic.com/hc/en-gb/articles/16651389633821-How-to-convert-a-simple-target-to-a-mirrored-target>

**StorMagic SvSAN** sc-vsa-02.ts.stormagic.com **NORMAL**

### Mirroring

**Target Information**

Name	m0svsandatastore
IQN	iqn.2006-06.com.stormagic:f2d25e020000018.m0svsandatastore
EUI-64	000339F2D25E0001
Enabled	<input checked="" type="checkbox"/>
State	Online
Pool	P1714562206446
Size	149.98 GB
Authentication	None
Notes	
Encryption	<input type="checkbox"/>
UNMAP support	<input type="checkbox"/>

**Manage Target Storage**

Enable Mirroring	<input checked="" type="checkbox"/>
------------------	-------------------------------------

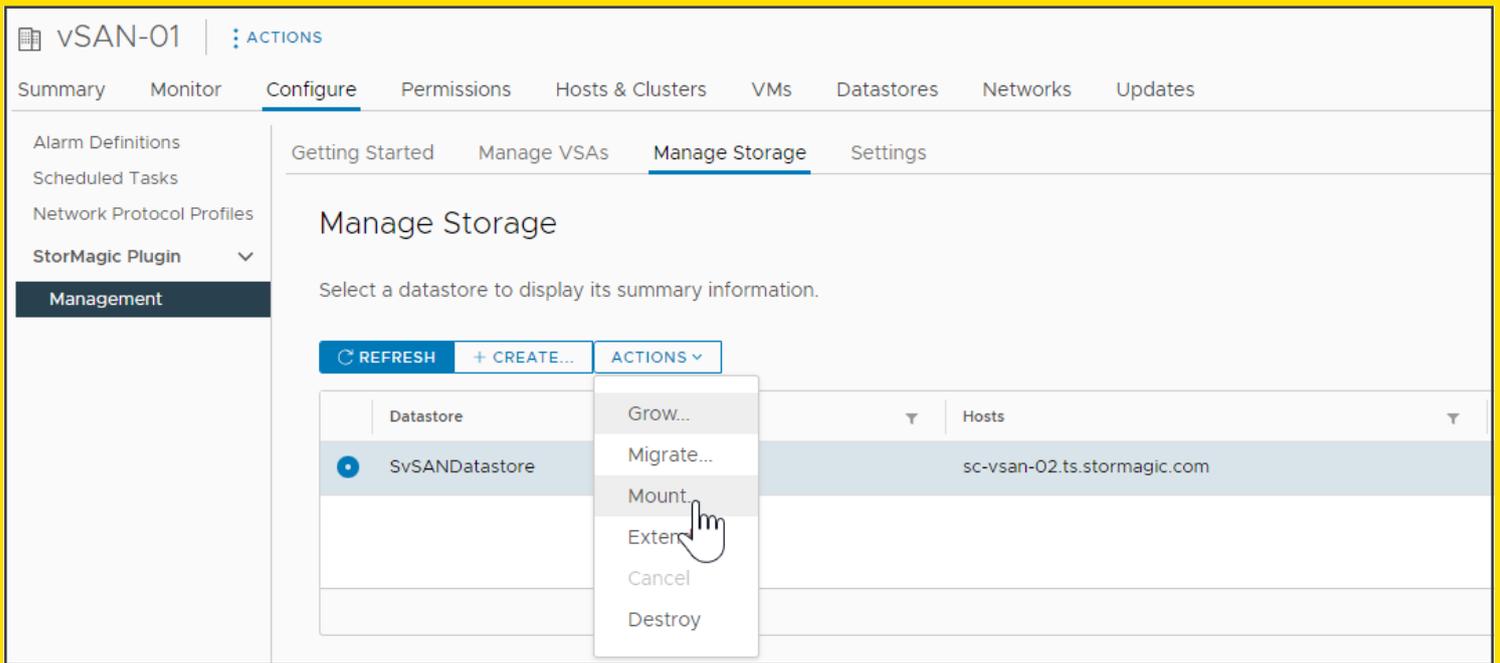
**Mirroring**

Isolation Policy	Majority
Global Witness	<input type="checkbox"/> Use Global Witness (Configure)
Witness	SCpluginOva [00505682590D] <input type="checkbox"/> Show all appliances
Remote Hostname	sc-vsa-01.ts.stormagic.com [72A593B51202]
Remote Pools	<input checked="" type="radio"/> P1714653631241 149.98 GB free of 149.98 GB <input type="radio"/> C1714653634163 0 MB free of 39.98 GB
Resynchronization Priority	Equal priority
Prefer Local Path	<input checked="" type="checkbox"/>

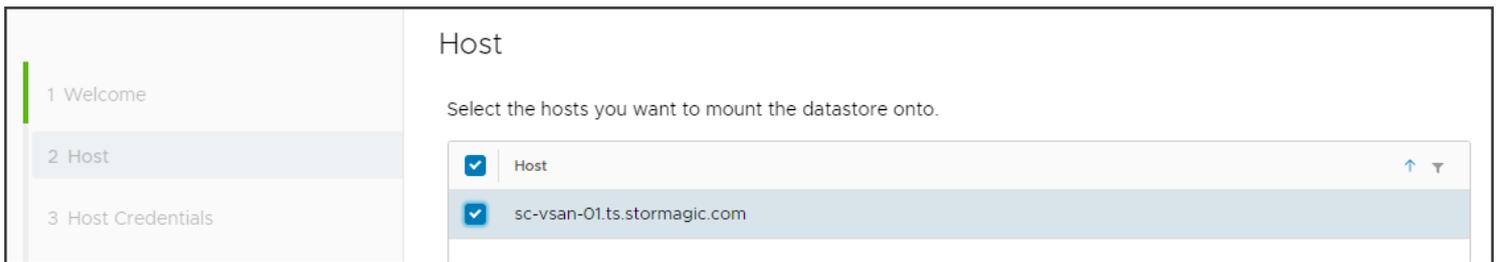
**CREATE** **CANCEL**

Figure 27 - Mirror the target



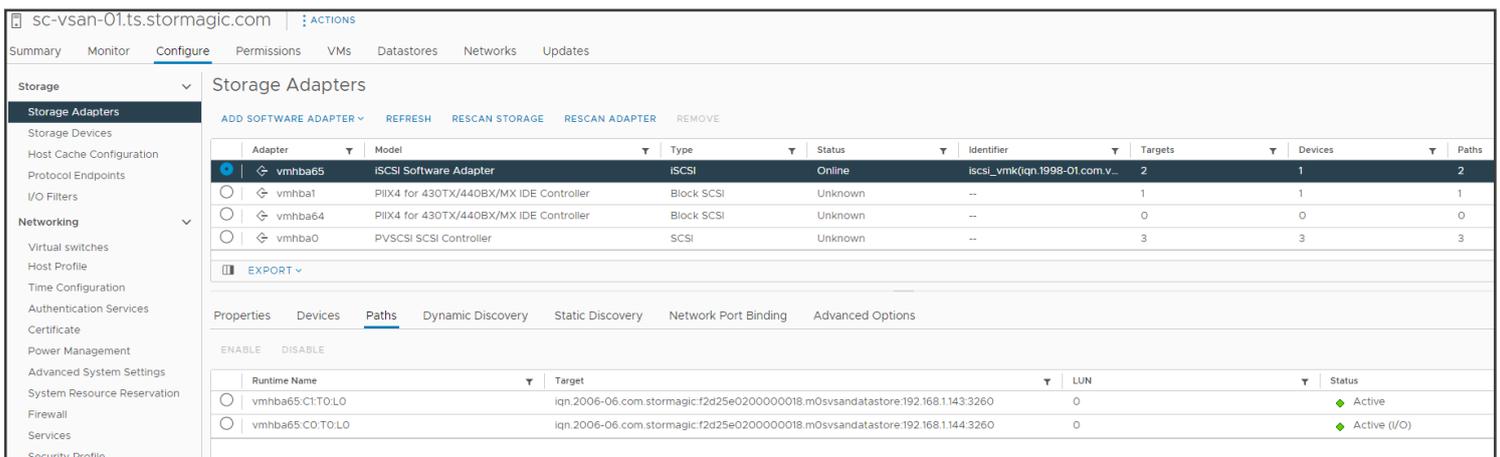


**Figure 28** - Mount the datastore to the newly deployed host (node 1)



**Figure 29** - Selecting any and all additional hosts to mount the volume

Ensure path availability for all hosts to both VSAs:



**Figure 30** - iSCSI software adapter ensuring path availability to both VSAs

## 7 ENABLE VMware HIGH AVAILABILITY AND ANY OTHER HYPERVISOR FEATURES REQUIRED

With the Datastore now mirrored, enable VMware High Availability and any additional hypervisor features required by your organization.

