

# **StarWind iSCSI SAN Software: StarWind Asynchronous Replication Failover and Fail Back Procedure VMware vSphere 4**

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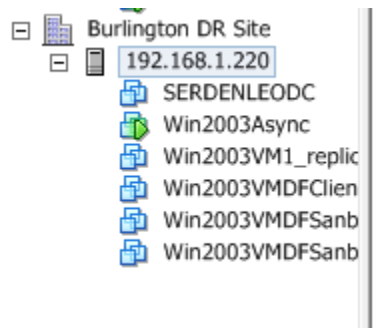
If you have questions about installing or using this software, check this and other documents first - you will find answers to most of your questions here or there. If you need further assistance, please contact us.

## StarWind Asynchronous Replication Failover and Fail Back Procedure VMware vSphere 4

This document is meant to help the user understand the process used to fail over from your active storage node to your passive storage node when using StarWind Software Asynchronous replication device.

For the purposes of this walkthrough we will be using the following devices:

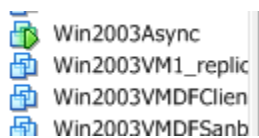
vSphere 4 Host with an IP address of 192.168.1.220



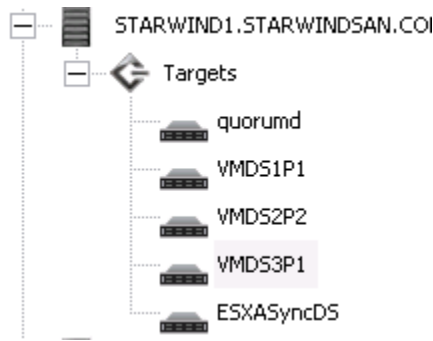
We have created a data store on this device called AsyncDS1

Identification	Status	Device	Capacity	Free	Type	Last Update
AsyncDS1	Alert	ROCKET iSCSI Di...	14.75 GB	391.00 MB	vmfs3	3/11/2010 3:12:32 PM
ESXSERV2:storag...	Normal	Local ATA Disk (t...	66.75 GB	48.49 GB	vmfs3	3/11/2010 3:12:32 PM
LocalDS1	Warning	Local ATA Disk (t...	465.50 GB	86.08 GB	vmfs3	3/11/2010 3:12:32 PM

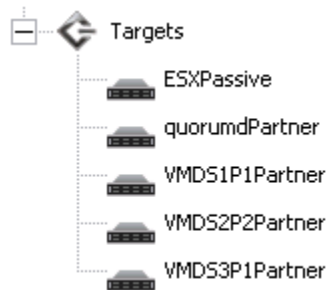
We have created a virtual machine on this data store called Win2003Async



StarWind Active storage node IP address 192.168.1.80 which controls our Async Device (active storage device) which we have called ESXAsyncDS



StarWind Passive Storage node IP address 192.168.1.202 this storage box controls our passive storage device called ESXPassive



This process assumes that you have set the following configuration options via the Software Advanced settings:

**Disk.UseLunReset to 1**

**Disk.UseDeviceReset to 0**

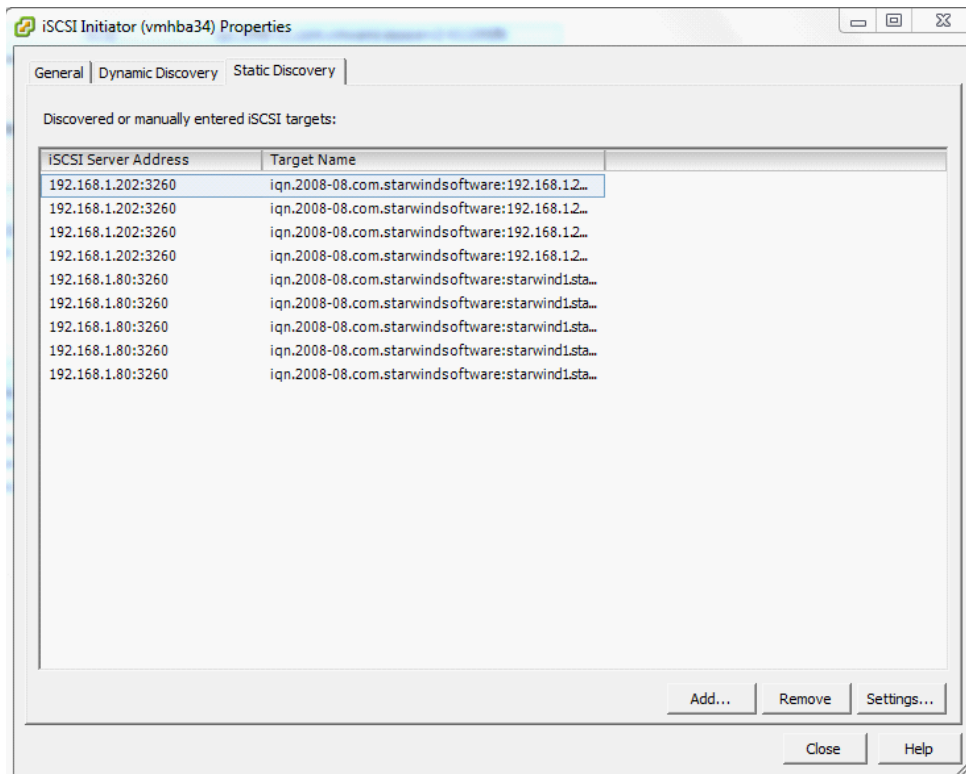
### The Baseline:

Our baseline assumes that you have setup this asynchronous replication storage device and are currently running a VM or VMs on this replicated data store. We will pick up the action assuming that your primary storage box has failed you need to fail over to your passive box. The process assumes that you just lost your active storage host and now must get back to a running state via the “warm” copy of your data.

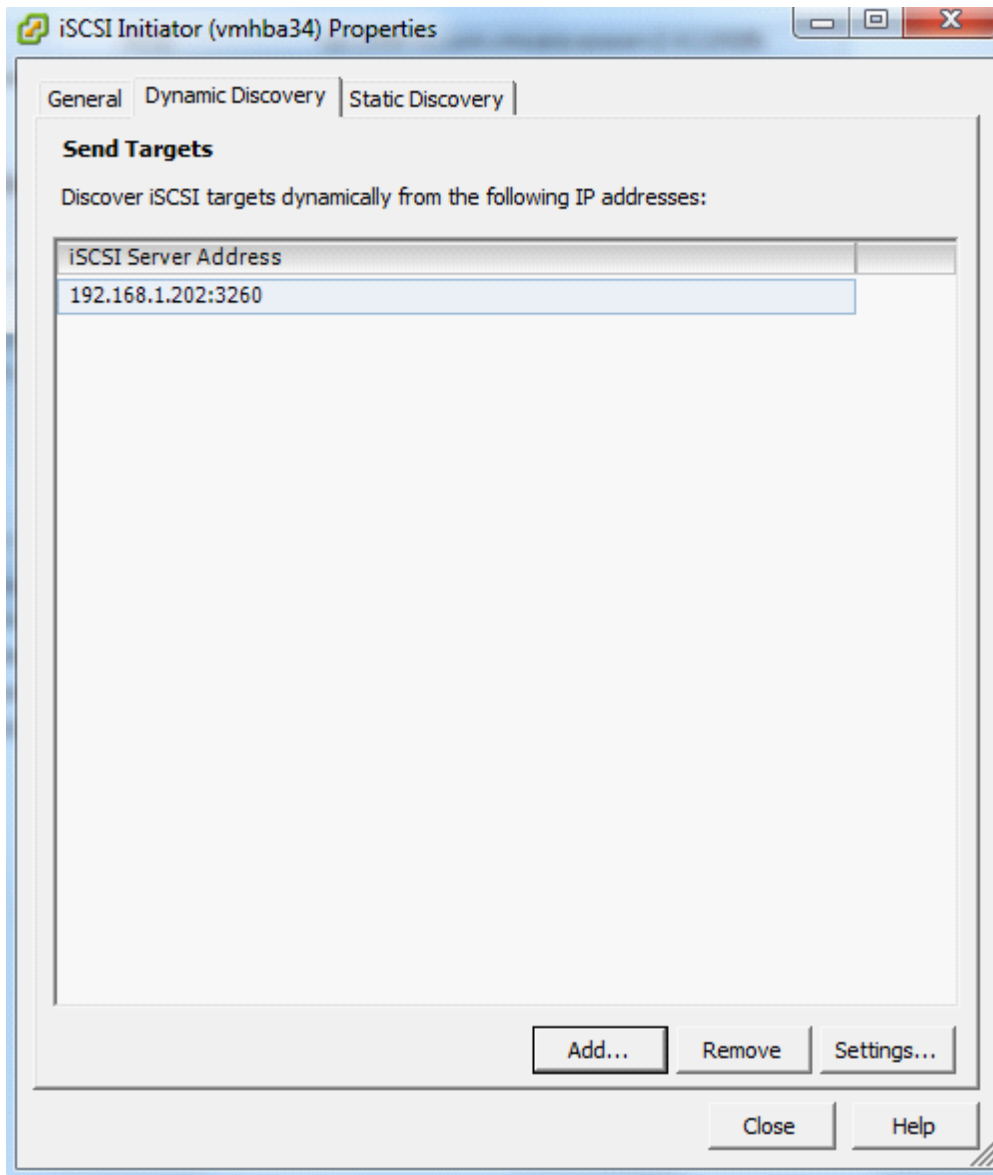
## Step 1: Re-Connect to your passive box

Assuming that your VMs were running at the time of the storage failure, we are going to need to start with some housekeeping on the ESX side of things. In order to get the orphaned VM cleared out and to make sure you are able to see the passive node storage, you will want to take a few steps.

- A. Via the storage Adapters console modify the iSCSI discovery properties to remove all reference to the now dead storage server **(both in Static discovery and Dynamic Discovery)**



- B. Once you have removed all reference to the dead storage box, add the IP address of your passive box to the dynamic discovery tab:



\*\*You be asked if you want to Re-scan the HBA you do not need to waste time on that here, as that will happen during the next step.

- C. The next step is to cycle the ESX host, this will force the VMs linked to the failed storage to become orphaned (which is what we want). Once the box cycles, two things will happen, the VMs will become orphaned and the HBA will be rescanned.
- D. Next, you will want to go through each VM and remove them from the inventory

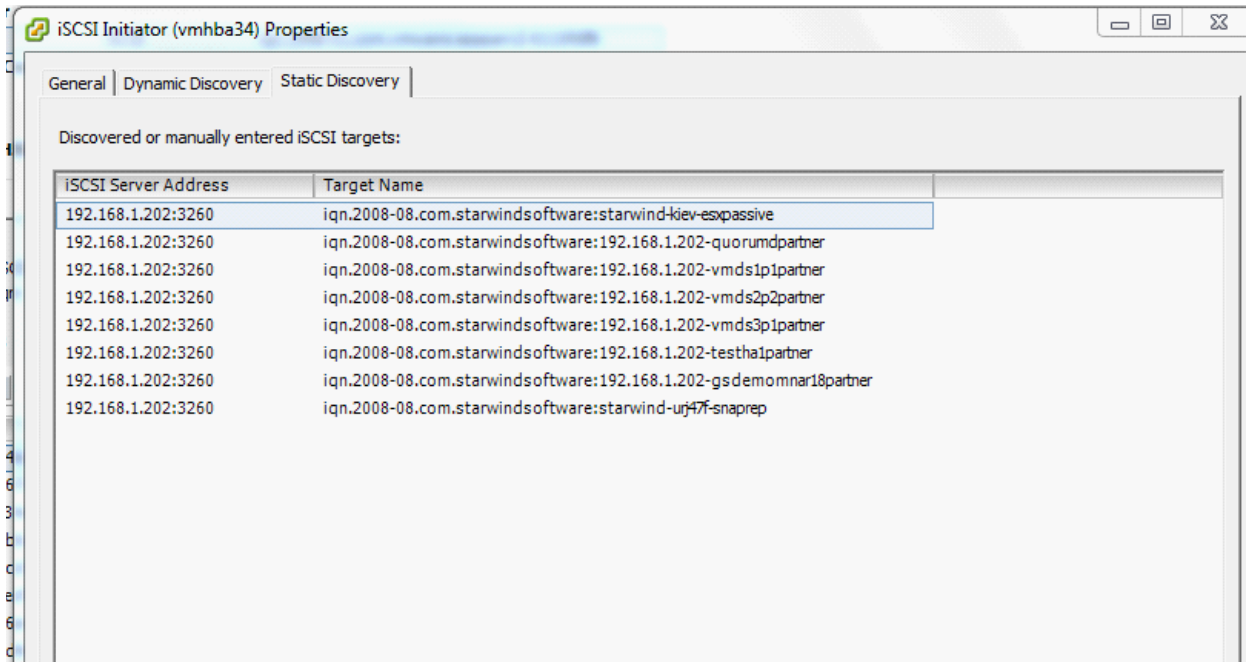
- E. Next you will want to navigate to the Storage tab, here you will want to click on the Add Storage Link
- F. You will see the storage with the VMFS label that matches that of the old data store, you will want to select this data store, when asked you will want to **Add A New Signature**
- G. Once the data store has been re-signature process is complete, the data store will be added
- H. At this point, you can browse the data store and re-add the VMs to the inventory, and spin them back up. **Note: When asked via prompt within the VI Client if you moved or copied your VM Select the I\_ Copied it option**

At this point you will have recovered from the failed storage using your passive node, which has been promoted to your primary node, to run your VM's until you are able to bring your primary node back online.

## Step 2 Fail Back to Primary:

The next step is to fail back to the primary storage controller (Syncing any changes that have been made while you were running on the passive node).

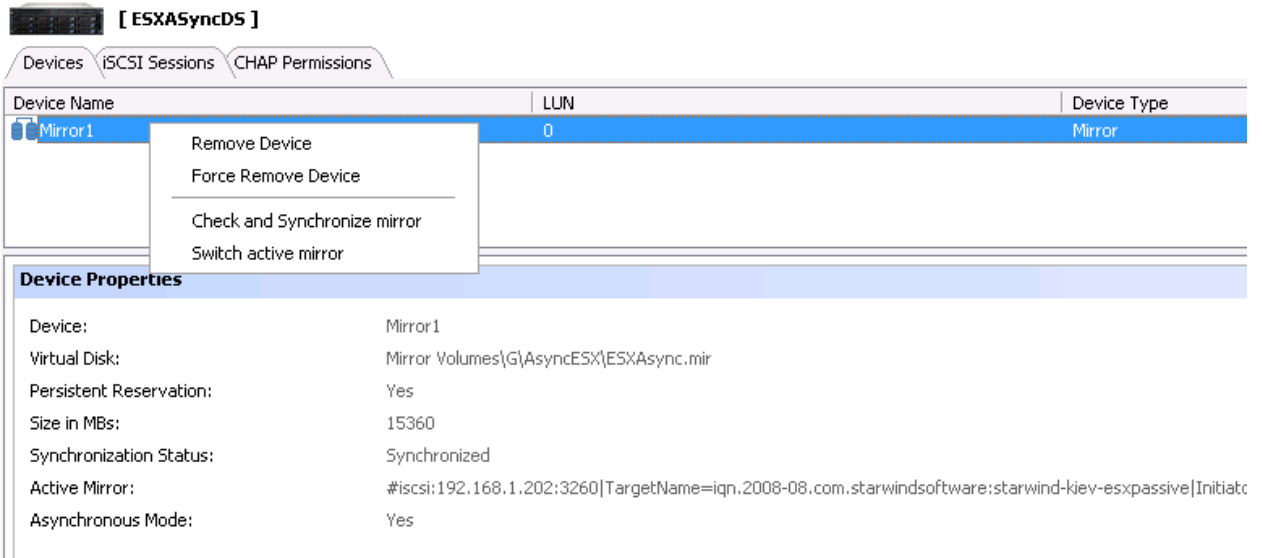
- A. Shutdown all of the running virtual machines and remove them from inventory
- B. Remove the passive target from the Static Discovery



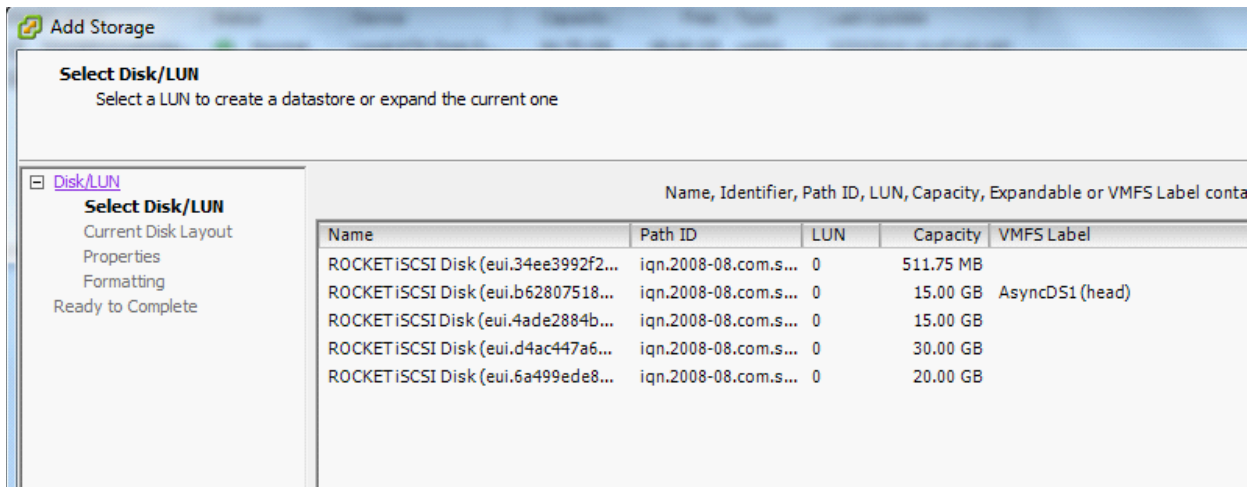
- C. Remove the Passive storage node from the Dynamic Discovery as well
- D. Reboot the ESX host
- E. While the ESX host(s) are rebooting you will bring your primary storage back online by first changing the active mirror to the passive node (Right Click on the Mirror Device and select change active mirror)

This will make your passive mirror (the one you were just running from) the new active mirror for the purposes of syncing the changes back over to the primary.

- F. Once this process has completed and now your passive target is now the “Active” mirror you will want to kick off a check and synchronize (this will sync changes made to passive while you were directly running VMs from it:



- G. Wait for the check and synchronize to complete
- H. Once the sync has completed you will then change the active mirror again (this time changing it back to the local image file which is your primary storage). Using the switch active mirrors function.
- I. Once you have changed the active mirror back to your primary box you can then proceed with adding your primary box back onto the ESX iSCSI Initiator (via dynamic discovery) and Rescan the HBA
- J. At this point you will now see your primary storage target once again (you will see it listed under add storage with the appropriate VMFS label):



- K. Add the storage back in with a new signature (you can change the name once it is re-added)
- L. Browse the data store and re-add all of your virtual machines **When you power on these VMs you will be once again asked if you copied or moved the VMs select the copied option**

This will complete your fail back process, upon completing these steps, you will see all of your VMs back up and running, reflective of any changes that were made while running off of the passive node. At this point you are also mirroring any new changes that you make to your storage down to your passive node once again.

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