Configuration of Violin Disk Arrays

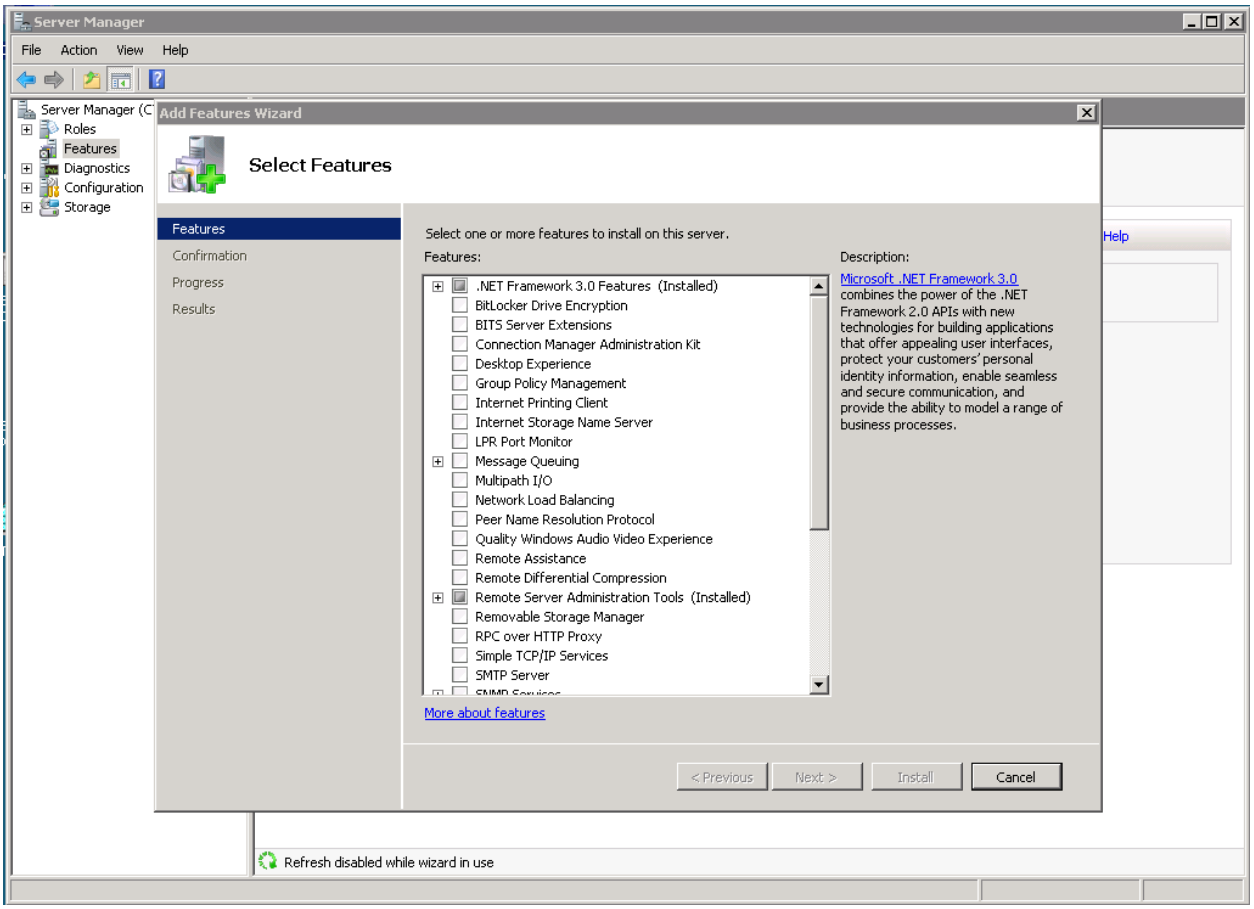
The Violin disk arrays are billed as 2.6TB arrays, but the amount that can be used to accommodate writes can be varied by the vendor. As delivered they were configured to present 1.723 TB of storage to the system.

Each pair of Violin 1010 Memory Appliances was connected via 20Gb PCI channels to a Violin Network Head. Each Violin Network head has 4 4gb fiber channel ports. On each, two of the four were connected, one to each of the HP Brocade 8/12c SAN switches in the interconnect bays of the Blade enclosure. The top two fiber ports were used, the bottoms being unconnected.

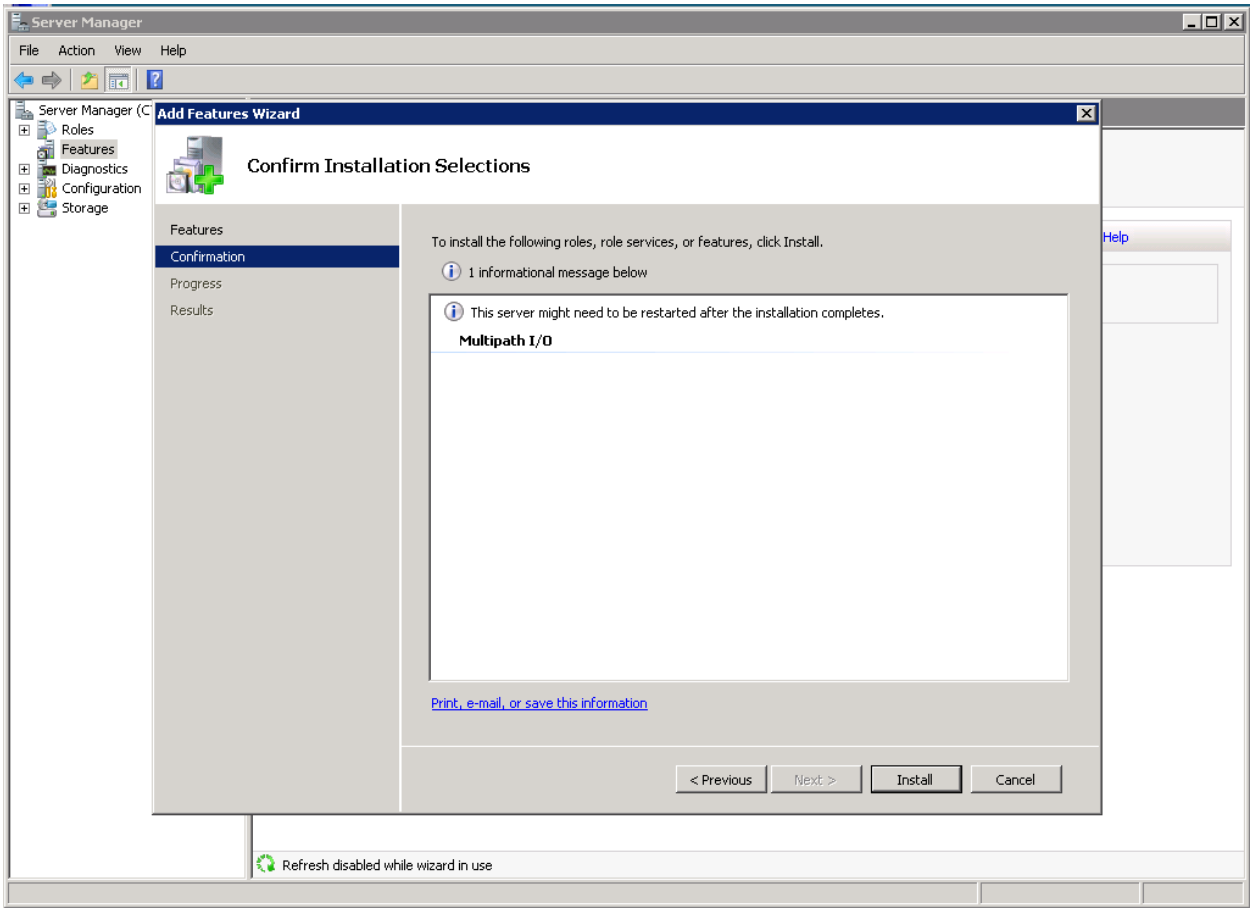
The Violin Network Head presents both 1010 Memory appliances on both ports, so it was necessary to use Windows MPIO facility to eliminate the ambiguity.

Configuration of MPIO

Start Server Manager, click on Features in the left hand pane, then select “Add Features”:

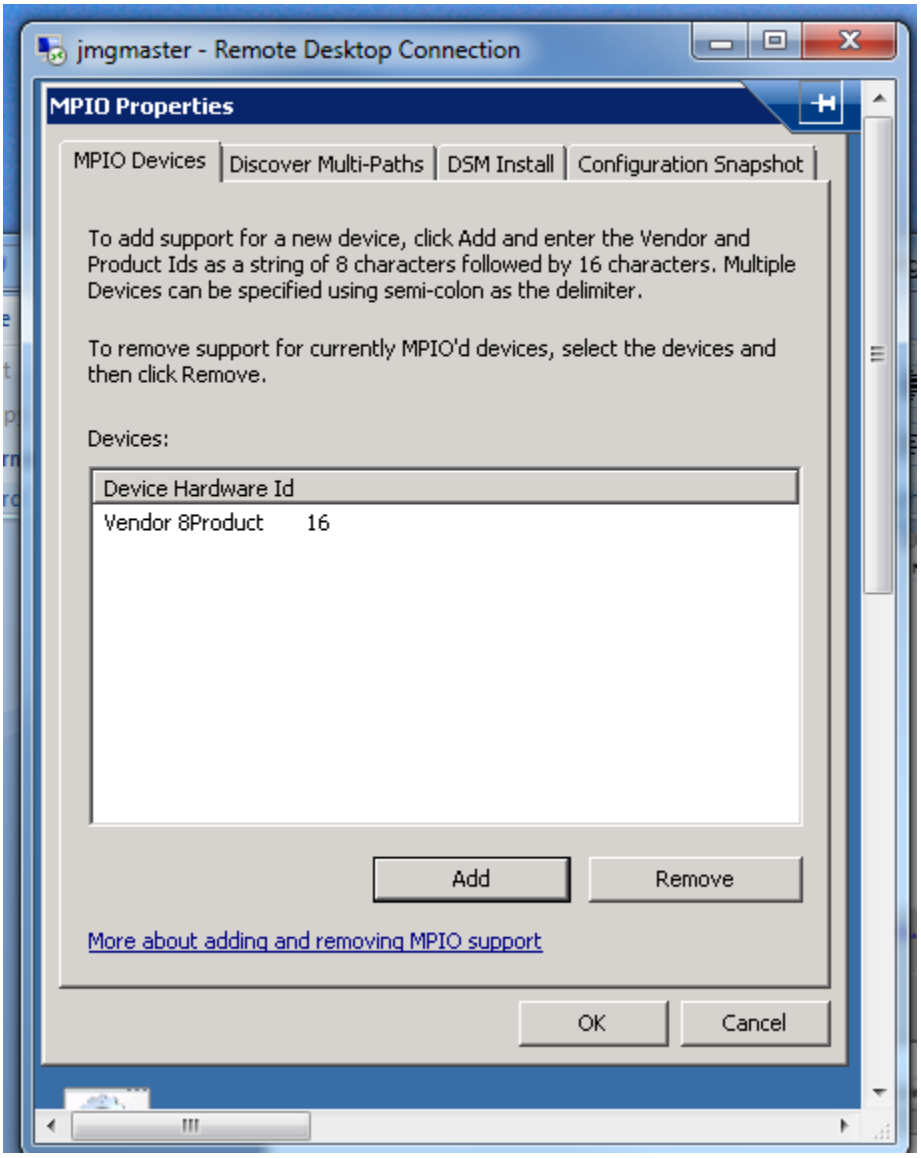


Select MultiPath I/O, then Next

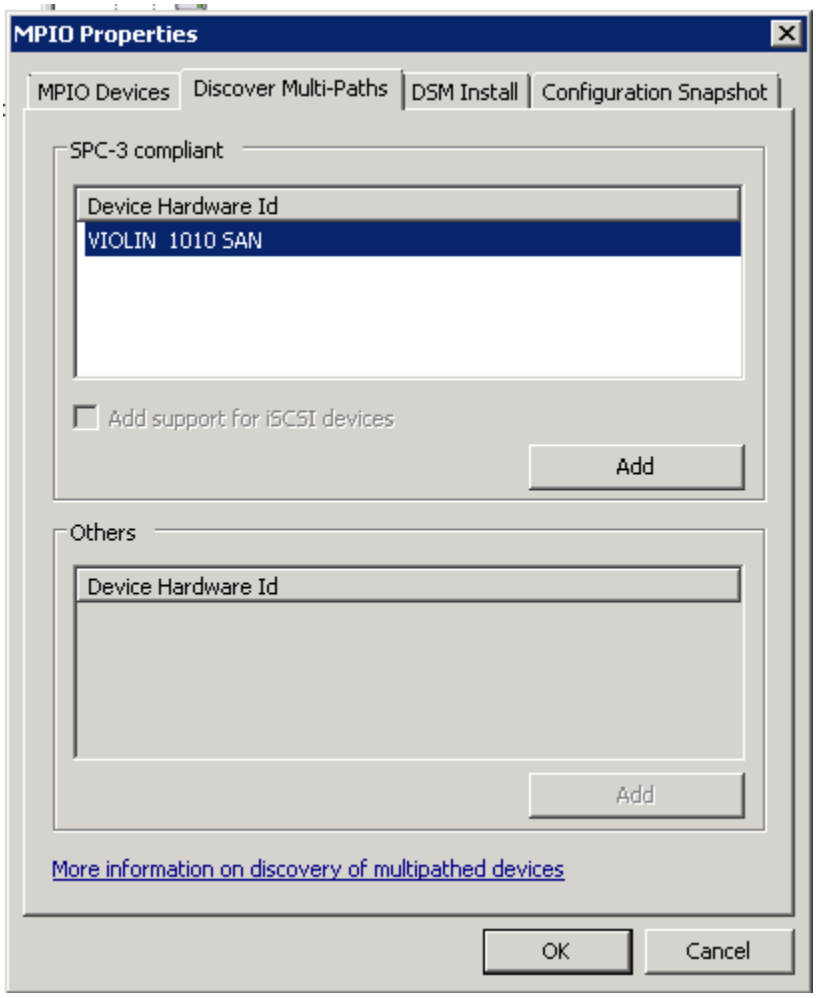


Click Install and reboot if instructed.

After installation and reboot, run the MPIO GUI under Start->Administrative tools.



Select the Discover Multi-Paths tab, the VIOLIN 1010 SAN will show. Select that device, and click “ADD”



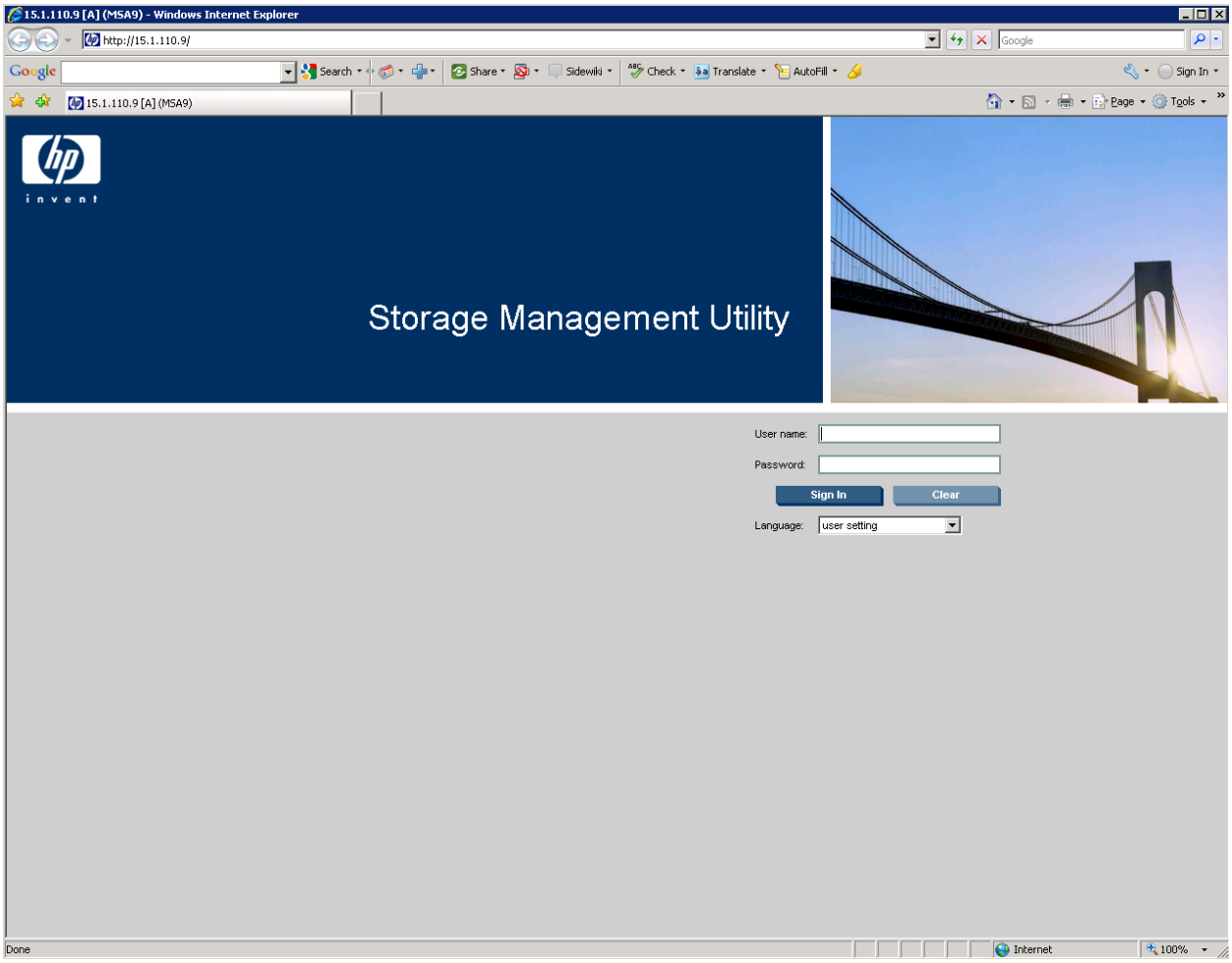
Reboot if requested. The devices should show properly upon system startup.

The MPIO properties were left at the default, namely a Round-Robin policy.

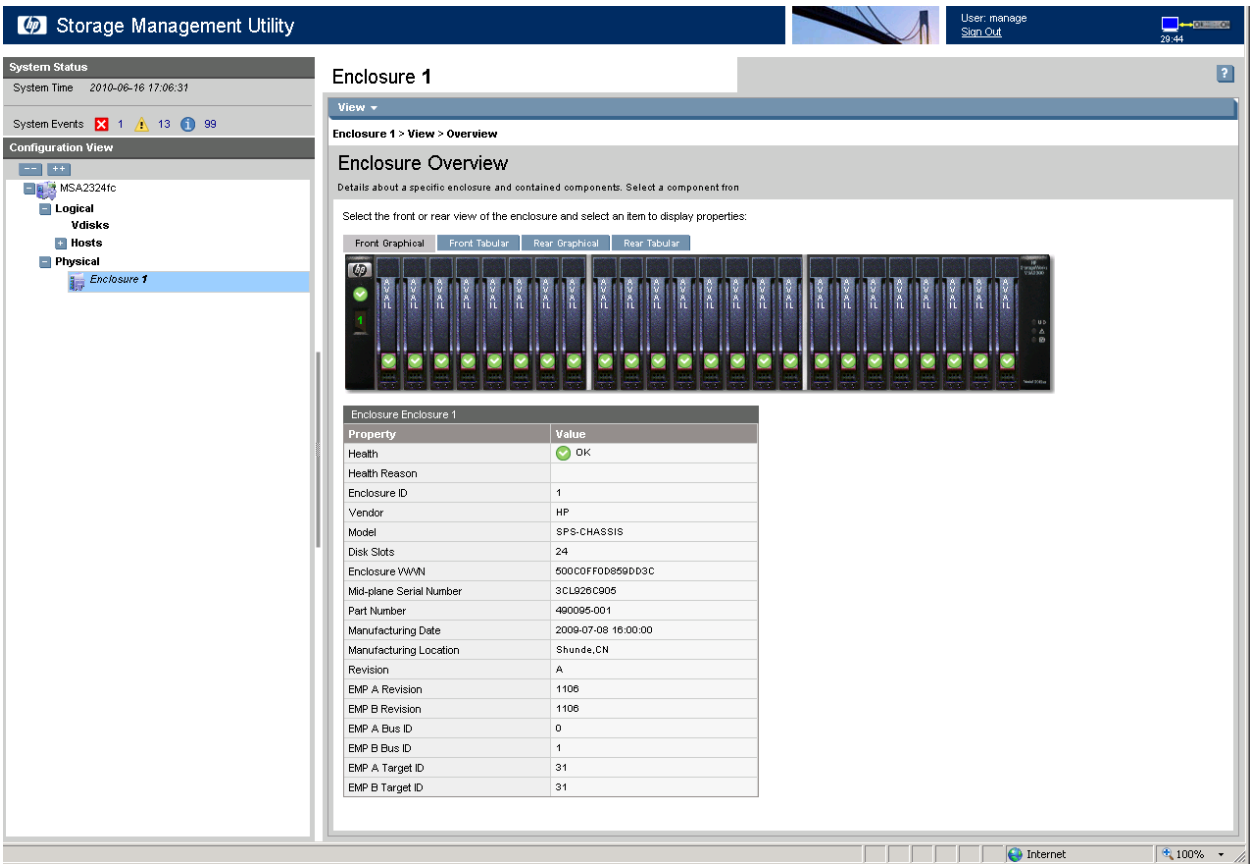
Configuration of SQL Log Array

The SQL log array was housed in an HP 2324fc SmartArray. This device can be configured both via a gui or a telnet script. The GUI will be shown here:

1st, log into the storage array GUI:



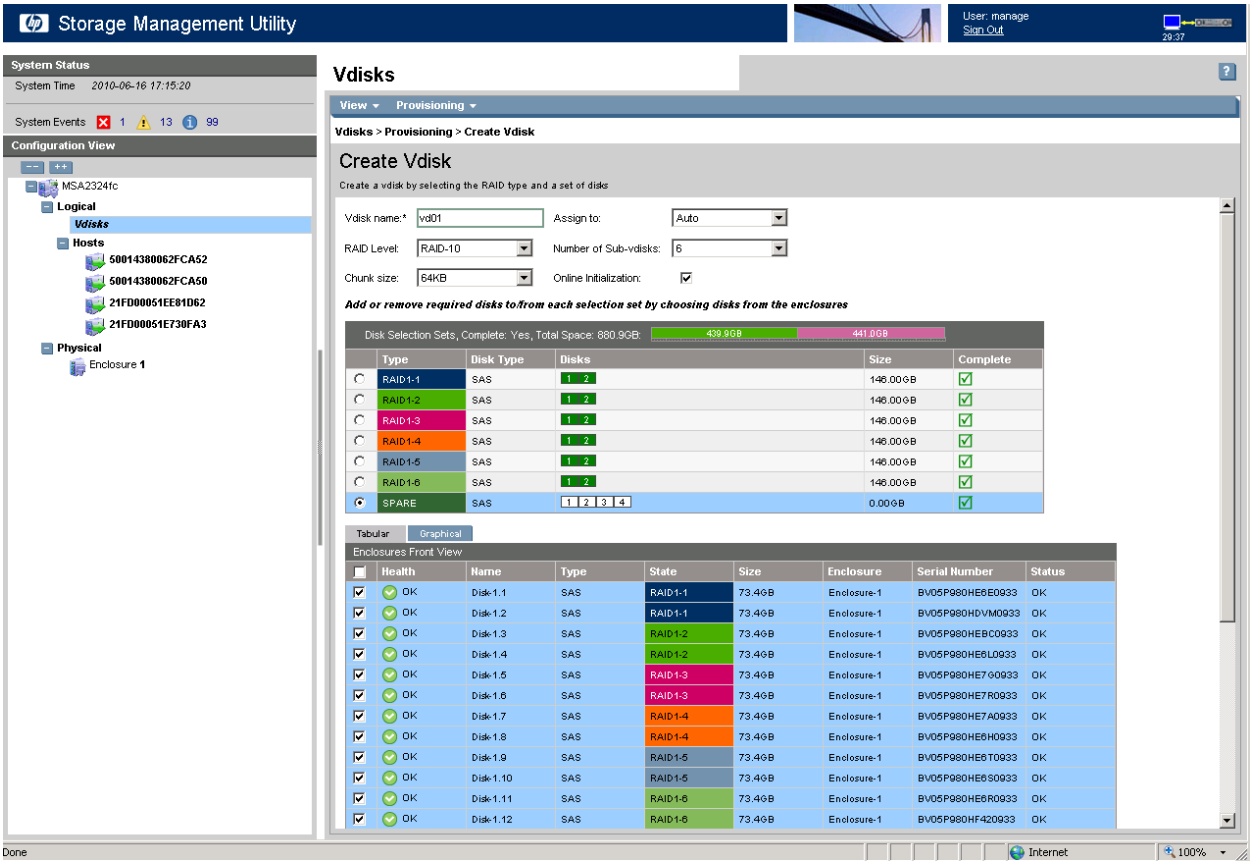
Start with a fresh array



Highlight “Vdisks”, select Provisioning-> Create Vdisk.

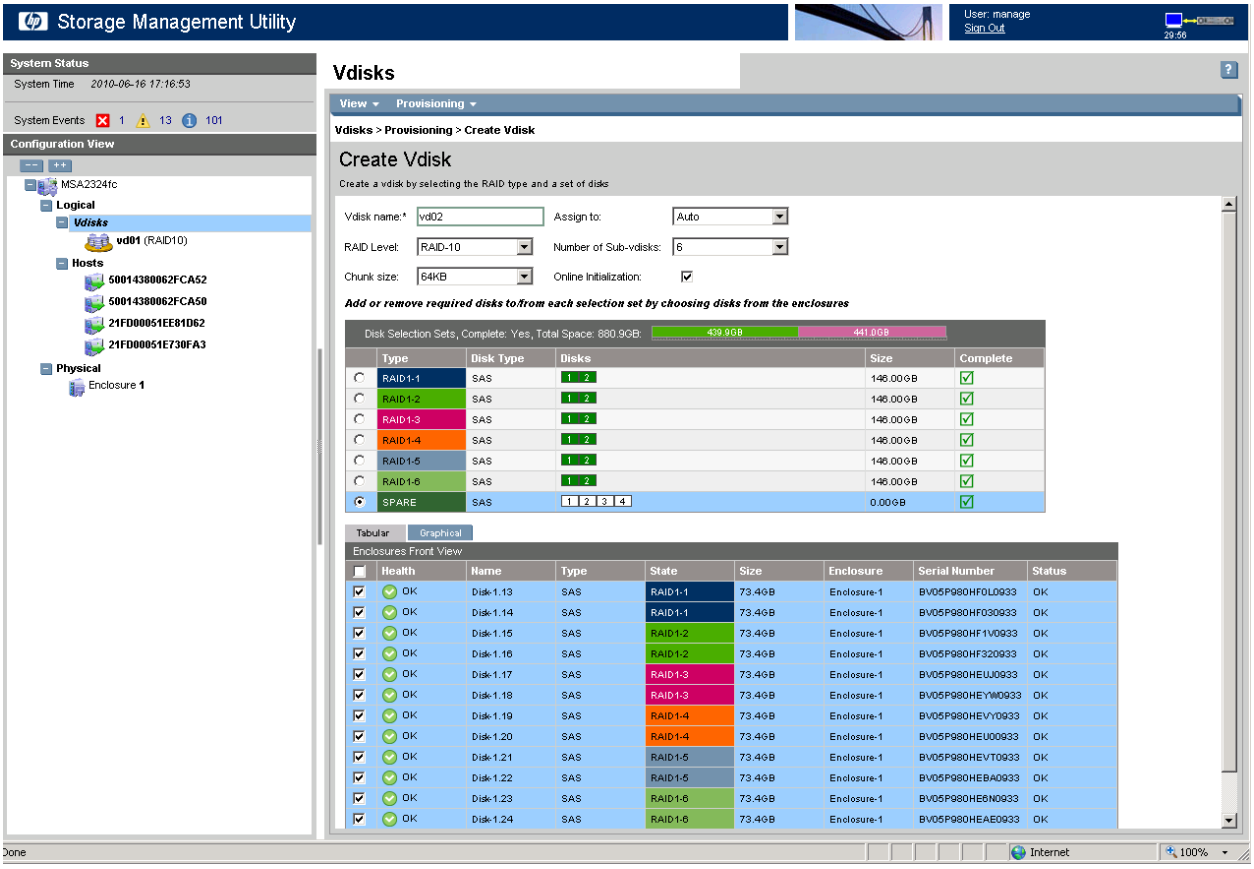
Select Raid Level – RAID-10, Number of Sub-vdisks: 6, Chuck Size 64KB

Select the first 12 disks, and the screen will look like this:

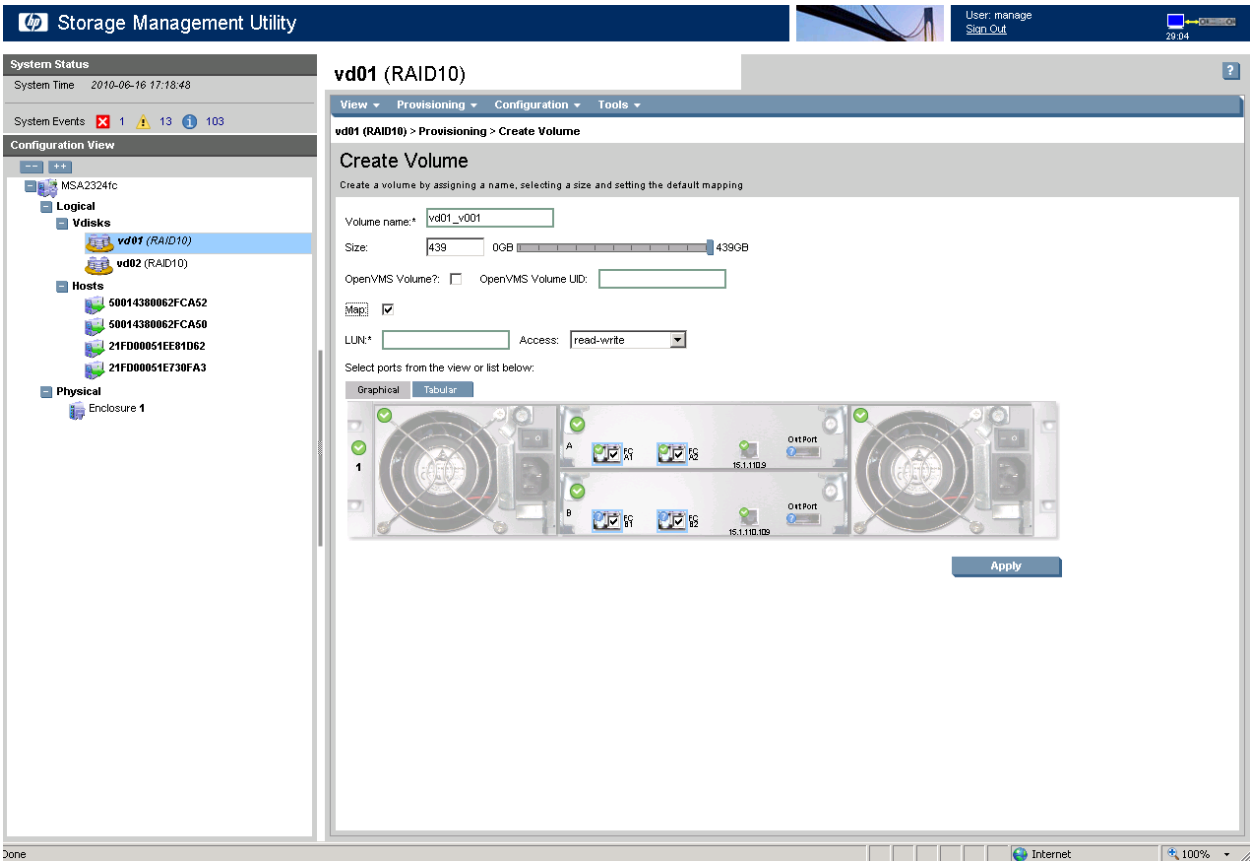


Hit “Create Vdisk” at the bottom of the screen.

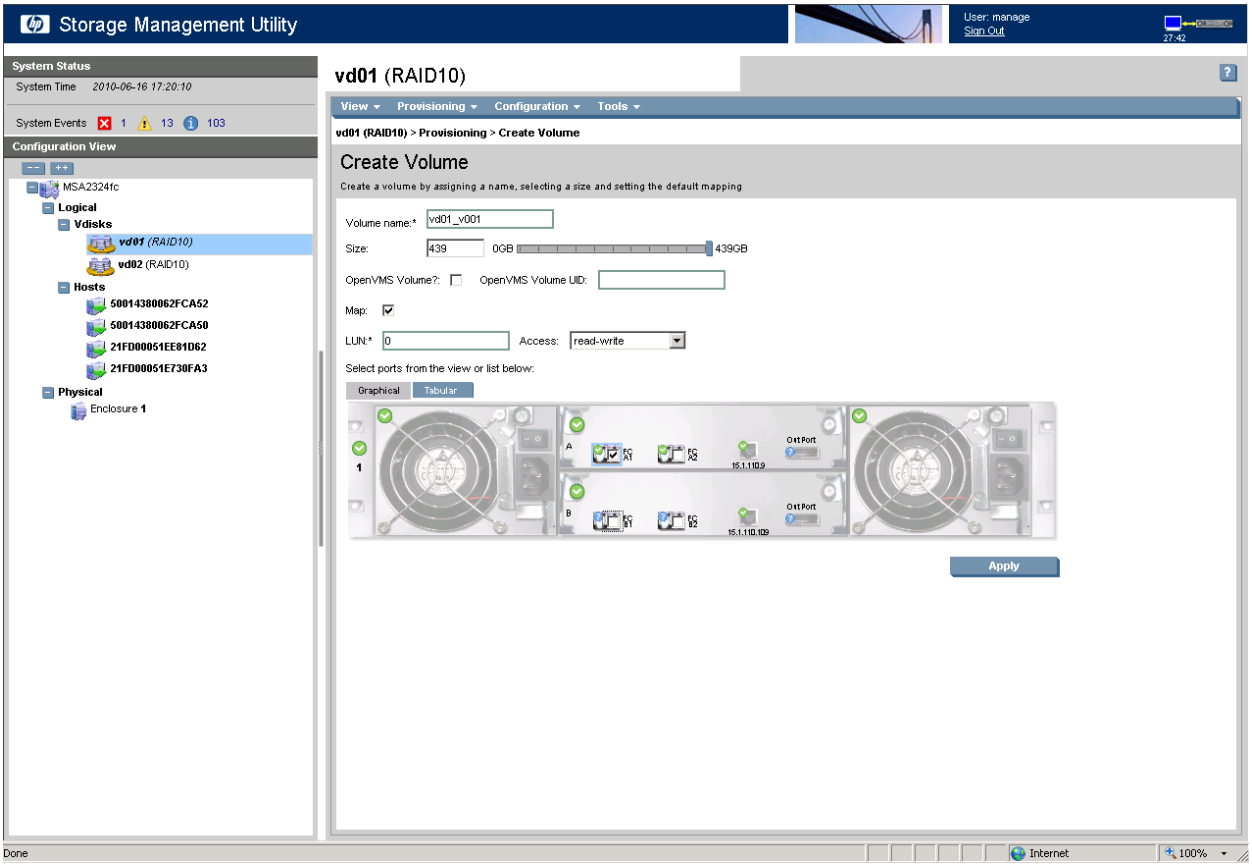
Screen will then setup to build VD02. Do same selections:



Now create logical Volumes. Select VD01, select Provisioning-> Create Volume. Click “Map” and the screen will look like this:

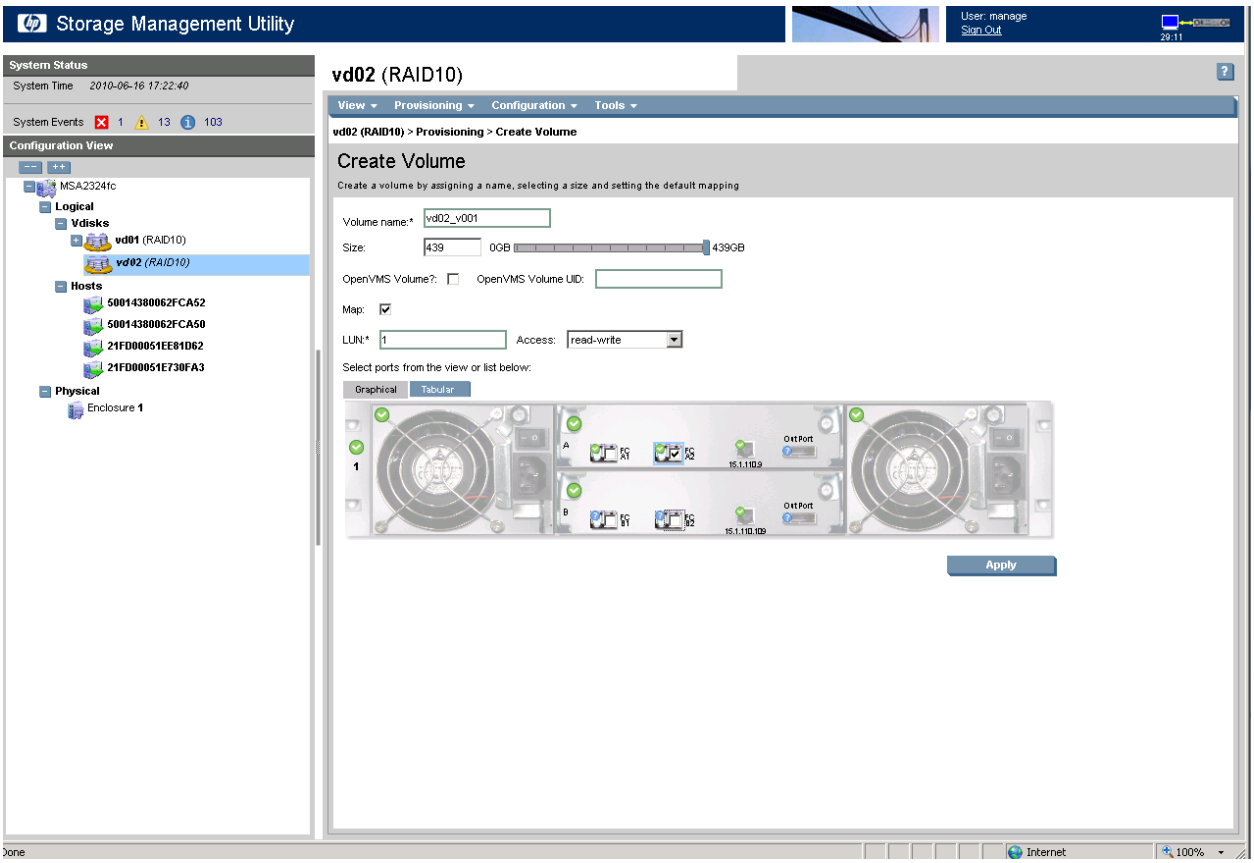


Select the box on Controller A, Port A1 (deselect the rest) for the mapping, enter “0” as the LUN

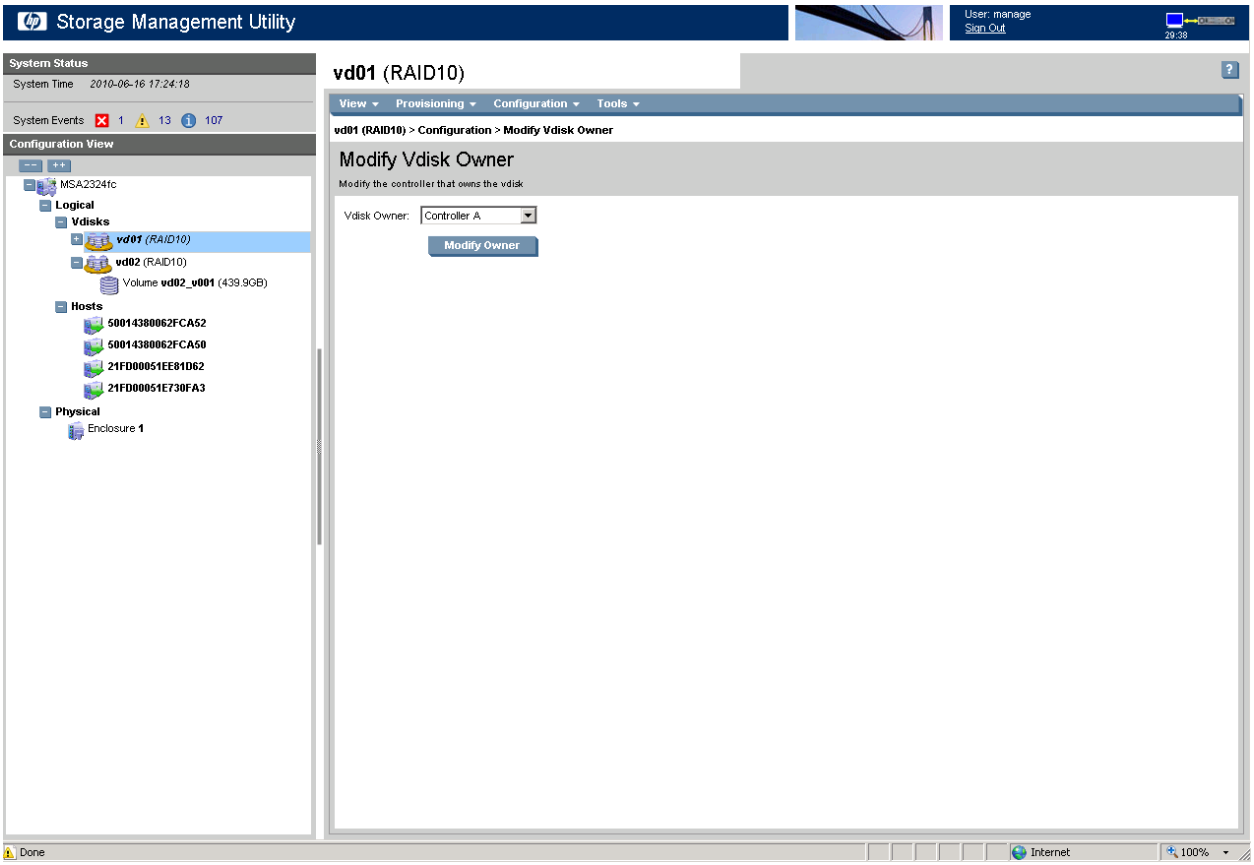


Click “Apply”

Select Vdisk VD02, check “map”, Lun 1, and map to Controller A, Port A2.



Click “apply”. Then select VD01, Click Configuration->Modify Vdisk Owner. Verify it is Controller A

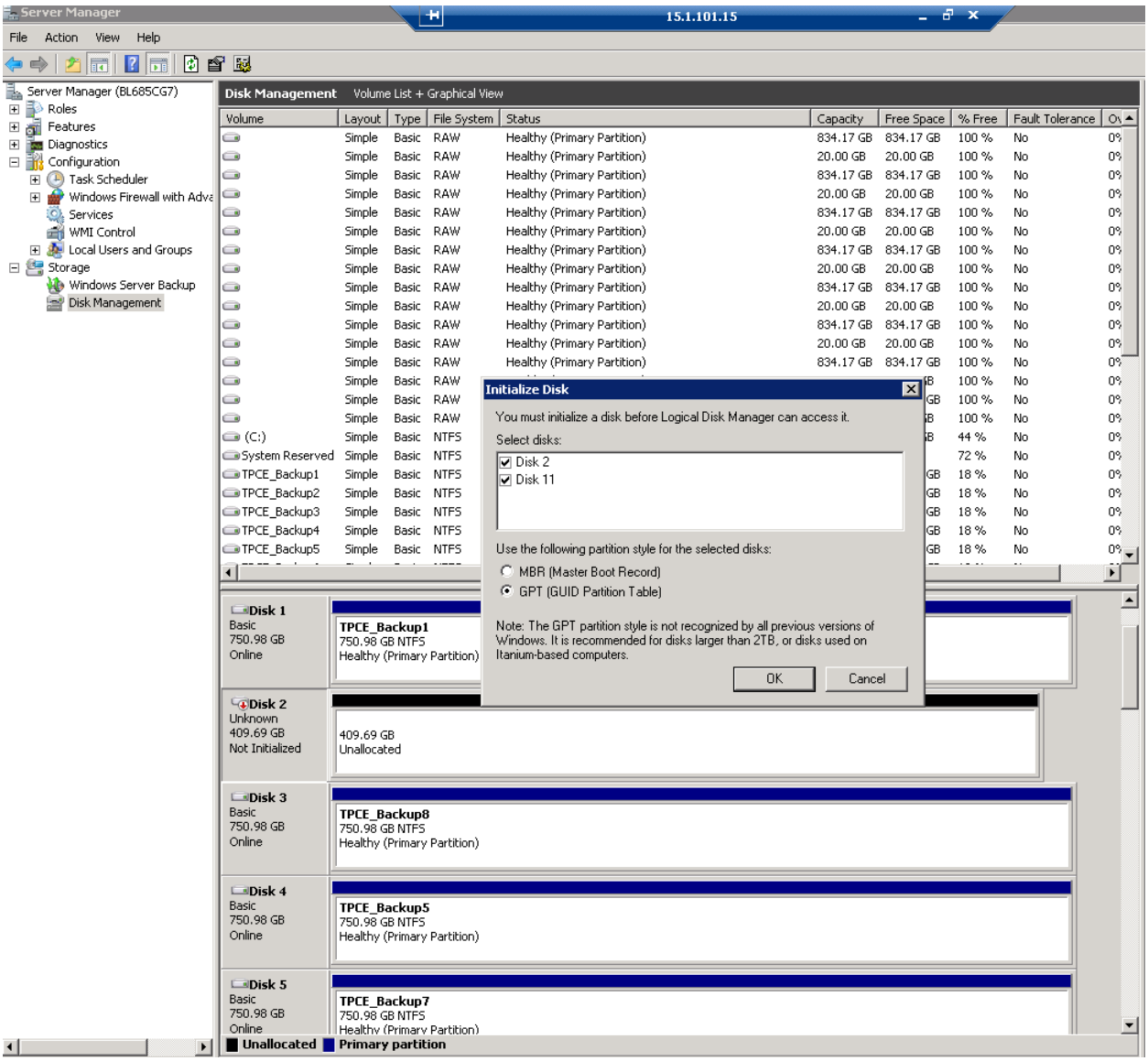


Do the same for vd02. Change owner to Controller A.

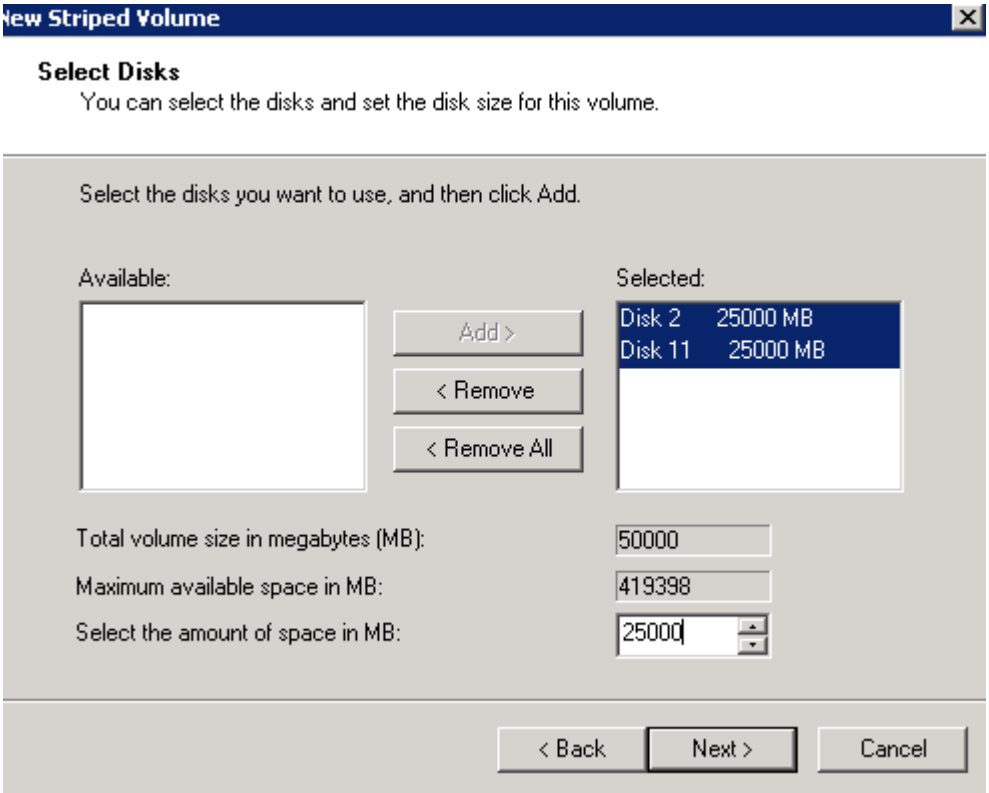
The vdisks will then initialize, and two luns will be presented to the OS.

The Disk Manager GUI was used to configure the partitions. The two luns were software striped, and 3 partitions were created. The T: drive was used for the main Tempdb data and log file, the L: drive was a raw partition used for the main TPCE SQL log, and the 2nd half of the array was configured as an NTFS partition that was used for flat file storage during the db build.

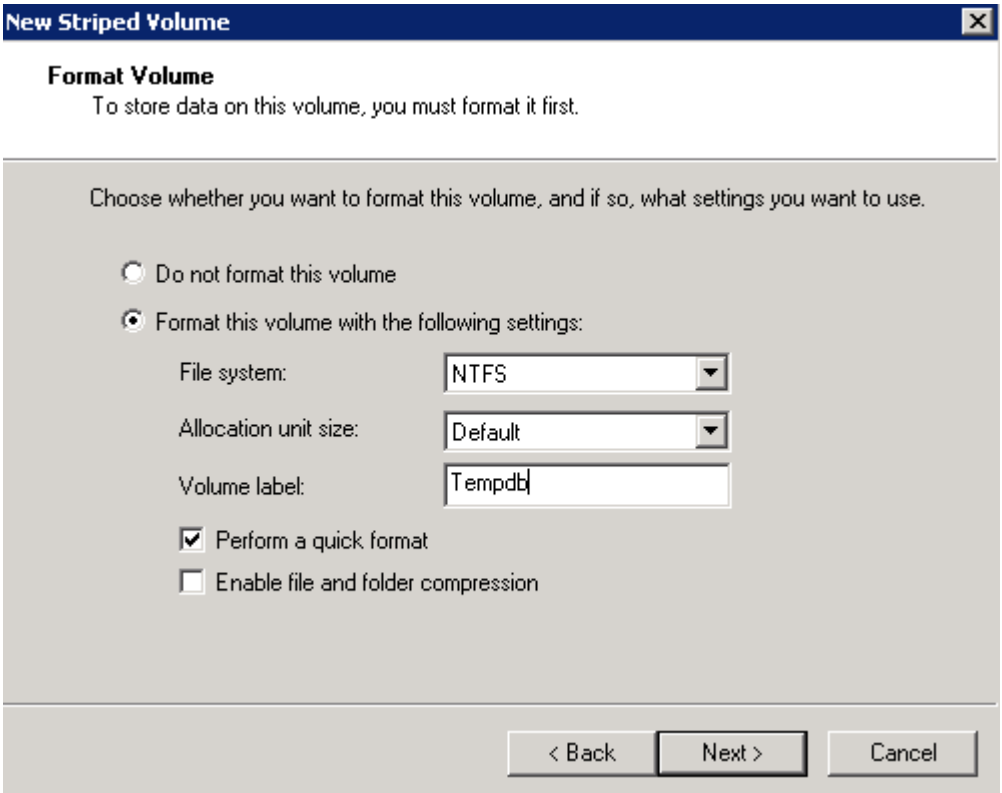
First, initialize the disks. Right click one of the two. Select both disks, click on GPT and click OK



Then Right click the disk part, and select New Striped Volume. Add the 2nd drive until they both show. Enter 25000mb in the "Select amount of space" field.



Click “next”, then Assign Drive Letter T:, “next”, then Format the partition as NTFS, default, Volume Label of “TEMPDB”



Click “next” and “finish”

Repeat this process for the next partition, assign 180000mb, Drive letter L: and do NOT format

New Striped Volume

Format Volume

To store data on this volume, you must format it first.

Choose whether you want to format this volume, and if so, what settings you want to use.

- (•) Do not format this volume
- ( ) Format this volume with the following settings:

File system: NTFS

Allocation unit size: Default

Volume label: New Volume

[x] Perform a quick format

[ ] Enable file and folder compression

< Back | Next > | Cancel

New Striped Volume

Completing the New Striped Volume Wizard

You have successfully completed the Wizard.

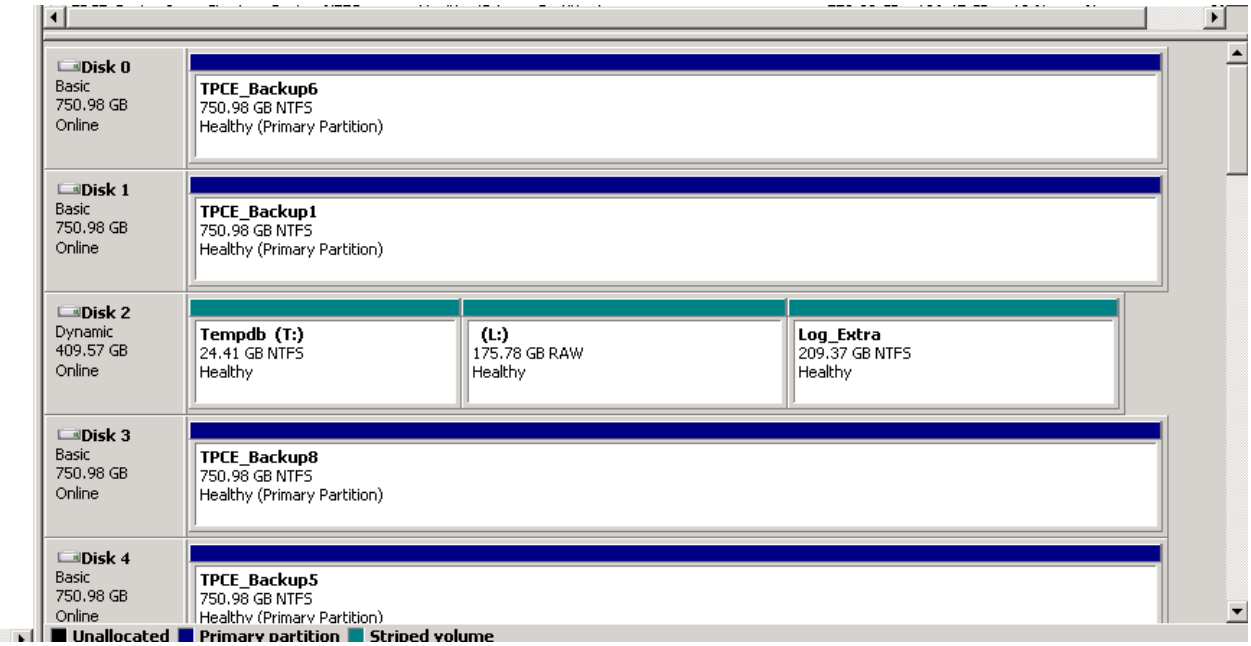
You selected the following settings:

```
Volume type: Striped
Disks selected: Disk 2, Disk 11
Volume size: 360000 MB
Drive letter or path: L:
File system: None
Allocation unit size: Default
```

To close this wizard, click Finish.

< Back | Finish | Cancel

Assign the remaining space to an NTFS partition with path C:\mnt\backup\LOG_EXTRA



There will be another device with the same configuration.