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Thor Projects LLC. Uses UltraStor™ RS8 IP for "The Monster Server Project - VMware, iSCSI, and Learning"



Robert Bogue, the president of Thor Projects LLC., is doing some work with SharePoint which is a web-based collaboration from Microsoft. This project was not easy for Bogue because he needs to get to know the virtual machines. He describes to us the problem he faces configuring VMware and also his decision to purchase ULTRASTOR™ RS8 IP that became part of his solution. Here is the scenario of Bogue working on "The Monster Server Project."

The challenge:

Bogue had to make a decision to use VMware Infrastructure (ESX 3.5) for a new server. His idea was to get a big virtual server up and connect to the images running on that server. "I needed a server with fast disks and a fast processor to handle some conversion work," said Bogue. "So, I ended up getting a Dell 1950 1U server with a Quad Core 2.66 GHz and 4GB of RAM and configured it with 4x 146GB SAS 10K drives." When he finished the conversion project, he was left with a server that by all accounts could make a good virtual host; however, there wasn't enough RAM to run multiple machines. So, he bought a RAM that could hold 32GB of RAM. "I had configured the disks on the machine in a RAID 1+0 for performance...I wanted to keep that because in addition to my development machines I wanted to be able to run my web site off the machine," added Bogue.

Therefore, Bogue decided to use VMware Infrastructure (ESX 3.5) to host his virtual machines. "It was ideal for VMware because it had plenty of processing and memory, however, my internal drive options were limited because the server is a 1U Dell. Plus, VMware only supports iSCSI," said Bogue. "So, I was looking for a product that would be supportable with VMware and could provide cost effective Tier 2 storage. I'd keep the highest performance stuff locally because my local drives were 146GB SAS 10K drives. I'd move development virtual machines and those with lower performance to secondary storage; in this case I used **Enhance Technology RS8 IP.**"

While Bogue was hosting the virtual machines with the VMware, he didn't know that VMware would only mount 2TB of storage and he used 2.793 TB. "After some more research it became apparent that the LBA64 bit question comes up right at 2TB.

I deleted the array and this time created two volumes and two LUNs. One volume is 1396 GB and the other was 1397. Neither had LBA64 turned on. So, I rescanned from VMware and found both LUNs. I went in and got VMware to add them to the storage and even copied files to them almost immediately. The array was still building in the background, but I copied a non-trivial amount of data over pretty quickly," said Bogue. He then decided to install Windows XP, Windows Vista, Windows Server 2003 R2, Windows Server 2003 R2x64, Windows Server 2008, and Windows Server 2008 x64 on the environment. He says, "In less than 2 hours I had six operating systems installed. I figure most of the reason it took 2 hours I had to remember to check on the installations and press keys. I patched all of those operating systems in the same 2 hours and patched a new installation of XP that can take 2 hours on its own."

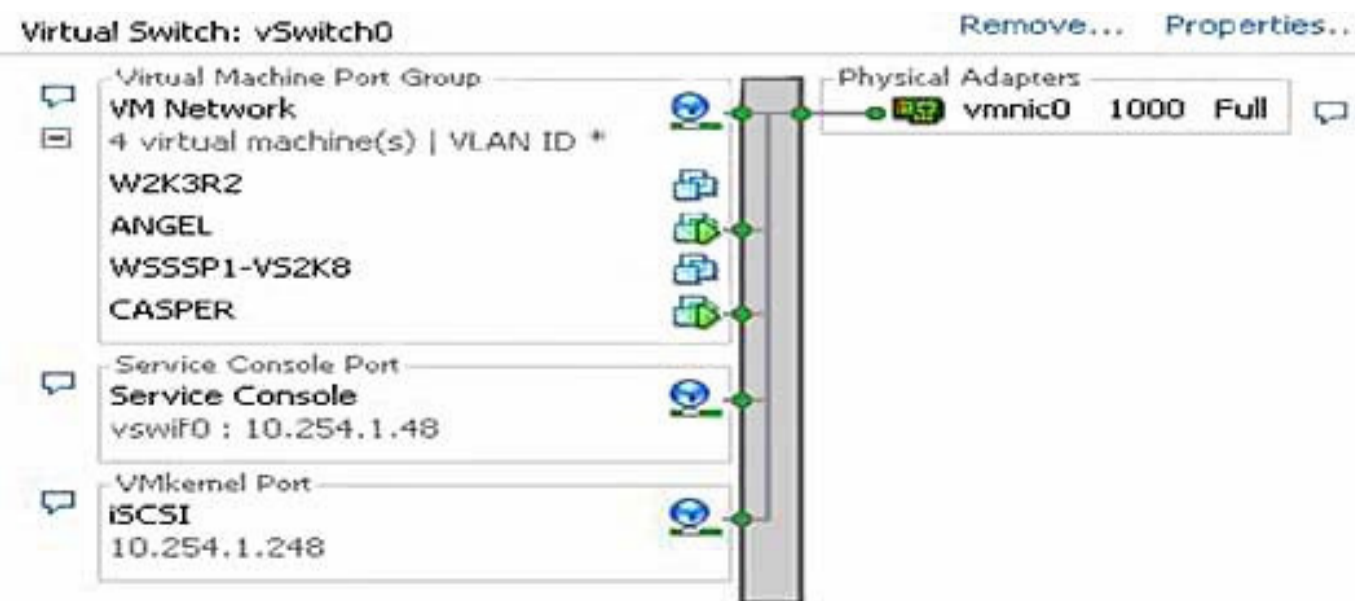
Enhance Technology became part of his solution:

After a relatively exhaustive research, Bogue found Enhance Technology's RS8 IP an effective storage solution. ULTRASTOR™ RS8 IP can hold a total of 8 SATA drives. First, he settled on 4x 1TB Seagate drives. He opted for RAID 5 which left him with a 3TB usable space. "Configuring the RS8 IP was pretty easy, except for some mistakes I made. There's a quick install that can be accessed from the front of the unit. I did that and when I got asked about LBA64 and I said yes. That, I would learn later would be a problem," he says, "I started out trying to figure out how to get VMware to talk to the unit. I got an error message about VMotion and iSCSI having not been licensed...Interesting since the licensing screen said I was licensed for it."

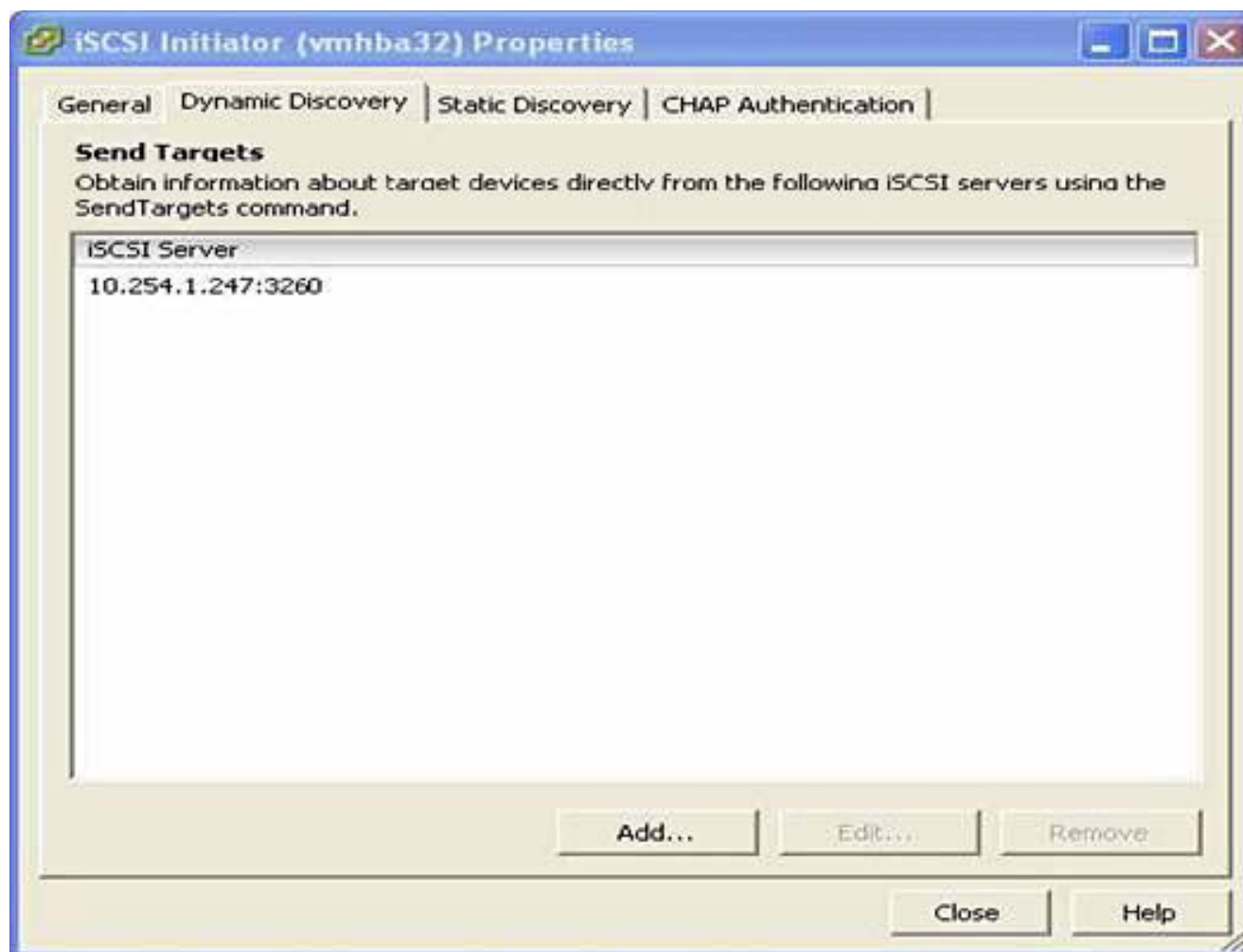
Overall, Bogue says the product worked as planned, even though there were some concerns regarding implementation but once Bogue was able to expose two LUNs, it went smoothly. "The user interface was easy to use. I was even able to do a quick setup from the LCD panel on the front," said Bogue. **"The price of an iSCSI/ SATA solution seemed to be the best option given on storage capacity and compatibility."**

Here's what it looks like from the VMware Infrastructure client networking page:

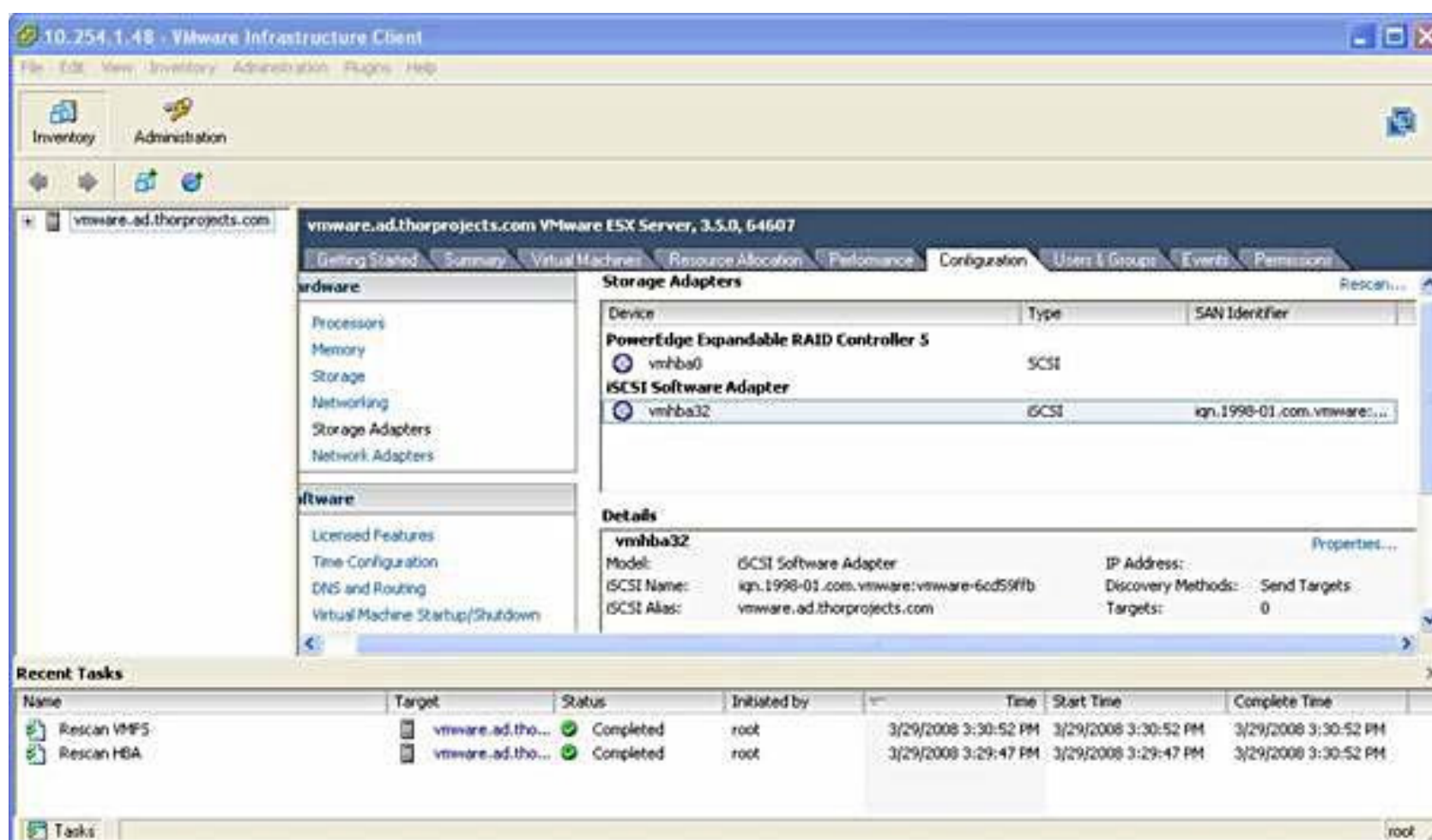
VMware configuration is setup with one virtual switch and one network adapter.



On the storage adapter's page, the RS8IP configured for dynamic discovery as shown in the next capture:



The interface screen after a rescan looks like this:



The Design

ULTRASTOR™ RS8 IP is a 2U, 8 SATA disks that features two GbE ports (iSCSI). “I was quite impressed with the overall appearance. It’s a nice looking unit,” he says, “installing the drives in it was straightforward, and formatting it via the quick install feature from the front panel was a relatively easy experience once I got used to the button presses.”

ULTRASTOR™ RS8 IP is an intelligent iSCSI RAID system and runs 10 times faster than a NAS system. Some of its great features are hybrid Serial ATA disk based storage, compatible 1.5 & 3.0Gbp/s disks, embedded hardware RAID controller with dual GbE port, 2 GbE full iSCSI offload with load-balancing & fail-over, one logic volume shared by as many as 16 hosts, Windows MPIO support, host access control, & CHAP and easy LCD control, Remote monitoring and RAID management over TCP.

Did the product solve your problem? Bogue says, “Yes, I have 3 TB of protected (RAID 5) storage and capacity to double that.”

About Robert Bogue:

Robert Bogue, MCSE (NT4/W2K), MCSA: Security, A+, Network+, Server+, I-Net+, IT Project +, E-Biz+, CDIA+ is the president of Thor Projects LLC. Thor Projects LLC provides SharePoint Consulting services to clients around the country. Robert has contributed to more than 100 book projects and numerous other publishing projects. Robert latest book is The SharePoint Shepherd's Guide for End Users (www.SharePointShepherd.com). Robert Bogue runs the SharePoint Users Group of Indiana (www.spinindiana.com). He’s also a member of the steering committees for the Indiana Windows Users Group and Indianapolis.NET Developer Association.

About ULTRASTOR™ RS8 IP

The RS8 IP, intelligent iSCSI RAID System, has a built-in 64-bit RAID controller for mission critical applications. Utilizing the cost-effective 3Gbps Serial ATA disks, the ULTRASTOR™ RS8 IP offers Enterprise-grade solution for applications that demand nothing short of superior reliability. Designed to meet the challenge of high impact/high volume network storage requirements, the new ULTRASTOR™ RS8 IP can be configured in minutes and is becoming the new standard for simplified SAN storage.



UltraStor RS8 IP iSCSI Features & Benefits:

- Hybrid Serial ATA disk based storage, compatible 1.5 & 3.0Gbp/s disks
- Embedded hardware RAID controller with dual GbE ports
- 2U modular rack design easily integrates into existing storage infrastructures
- 2 GbE full iSCSI offload with load-balancing & fail-over
- One logic volume shared by as many as 16 hosts
- Windows MPIO Certified, host access control, & CHAP
- Easy LCD control, Remote monitoring and RAID management over TCP

