Implementing iSCSI for Exchange Server 2003 with Starwind software

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Abstract

In this article I will show you how to move your Exchange Server 2003 databases to new disc capacity on a file server which storage is published over iSCSI.

Let`s begin

What is ISCSI?

iSCSI is the synonym for Internet Small Computers Standard Interface and transports SCSI commands over TCP/IP. iSCSI is a relative new protocol that extends the SCSI standards by encapsulating SCSI commands in TCP/IP packets. These commands are sent across any TCP/IP network. Servers with an iSCSI Initiator (like the Microsoft iSCSI initiator 2.0) are able to access storage that is located outside machine. With the help of iSCSI it is possible to distribute storage over long distances.
In an iSCSI network, there are three components:

- Target
- Initiator
- Network

You can think that the Target is like a classic direct attached storage. DAS (Direct Attached Storage) devices are hard disks like ATA or SCSI disc. The target offers the discs to the Initiator. The Initiator can be compared with a traditional disk controller. The Initiator uses the Hard Disks hosted by the Target. The TCP/IP network interconnects the Initiator and the Target. The performance of iSCSI depends on many factors. As a minimum network speed it is recommended to use a Gigabit network between the Target and the Initiator.

For our example we are using the Starwind solution from Rocketdivison. You can download a trial version of Starwind from Rocketdivisions website. After downloading and installing the Starwind program, start the Starwind console and connect to the Localhost.
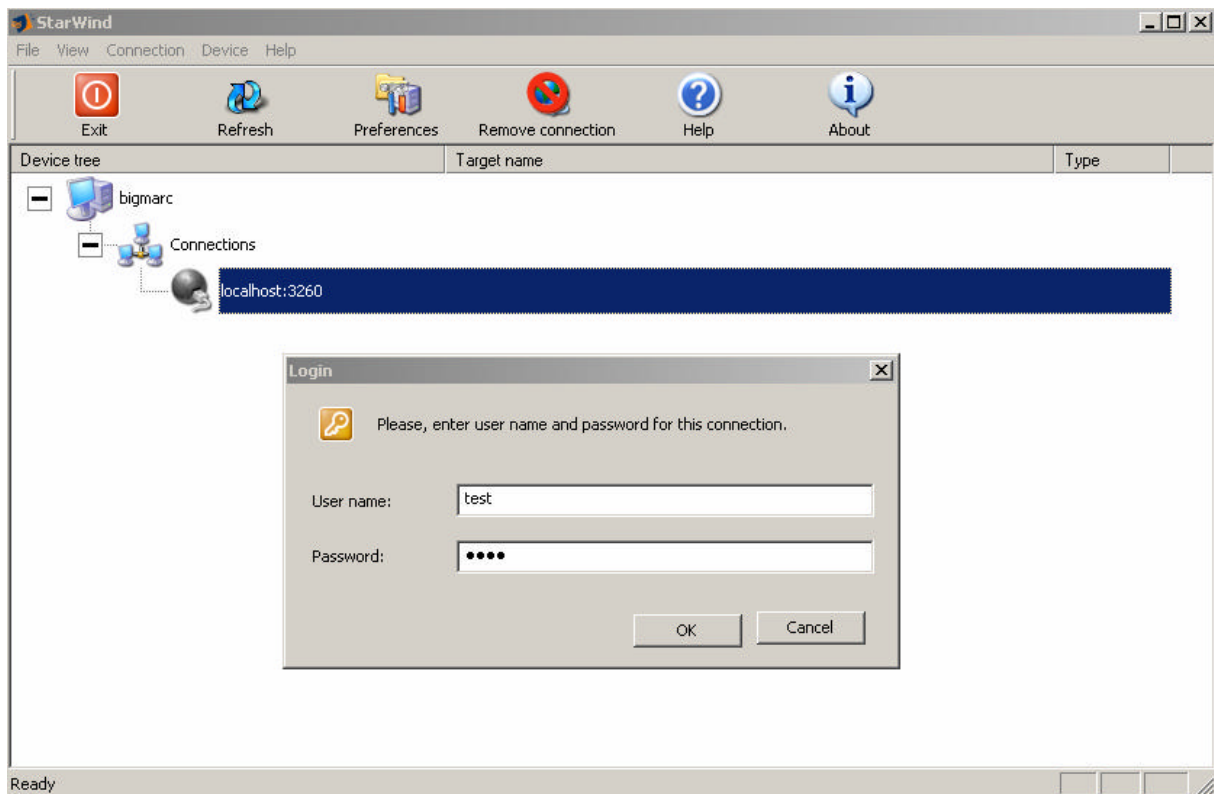
Figure 1: Connect to the Starwind console on the Localhost

The default User name and password is test. You should change the password as soon as possible.

In our example we will would like to create a new SPTI device which will than be accessible on the Exchange 2003 Server.

Select SPTI device. SPTI stands for SCSI Pass Through Interface, so any physical storage device such as local hard disk and CD-ROM can be shared as iSCSI target.
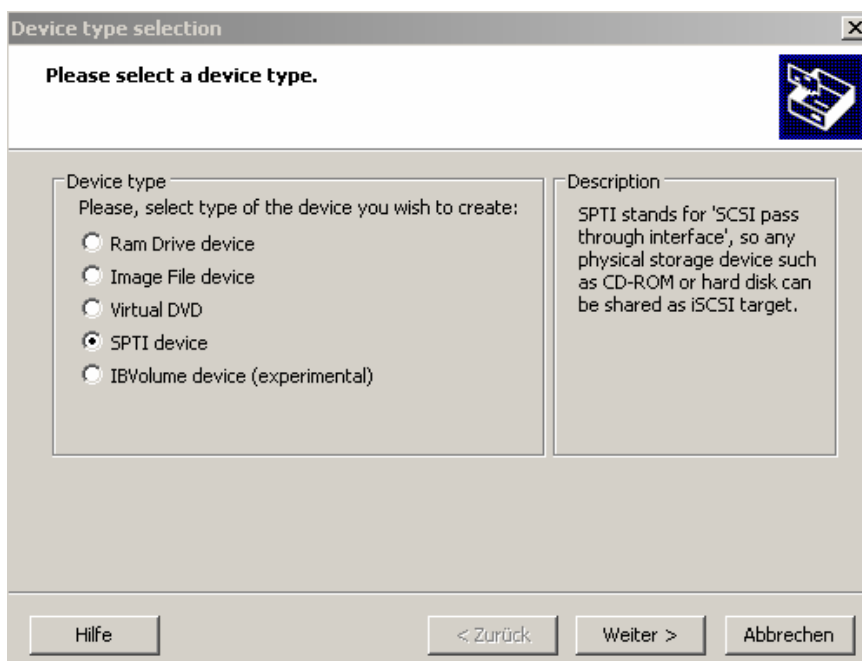

Figure 2: Select SPTI device

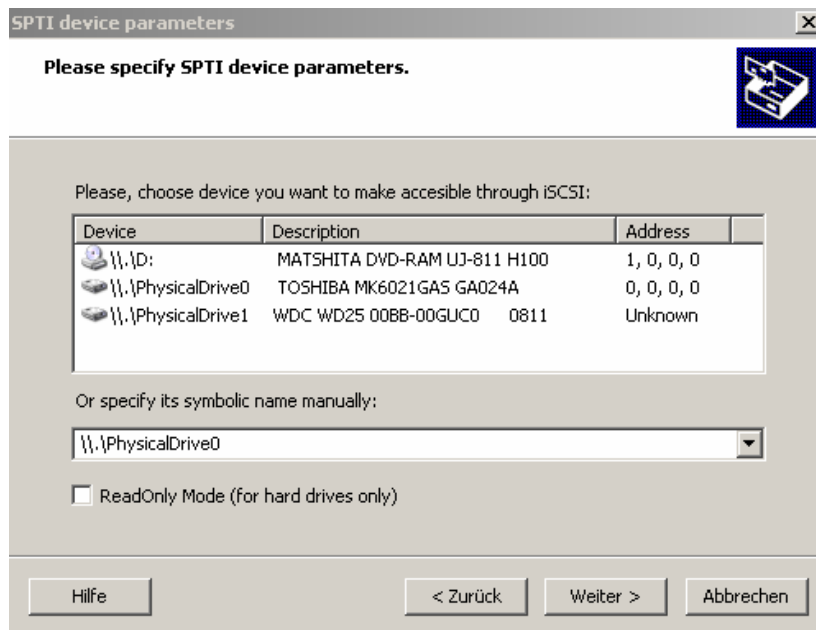After selecting SPTI choose the device you want to make accessible through iSCSI.

Figure 3: Choose the device as a target for iSCI

You have successfully created a new device named *searchexchange*. This device is now possible on the Exchange Server 2003 with the iSCSI Initiator installed
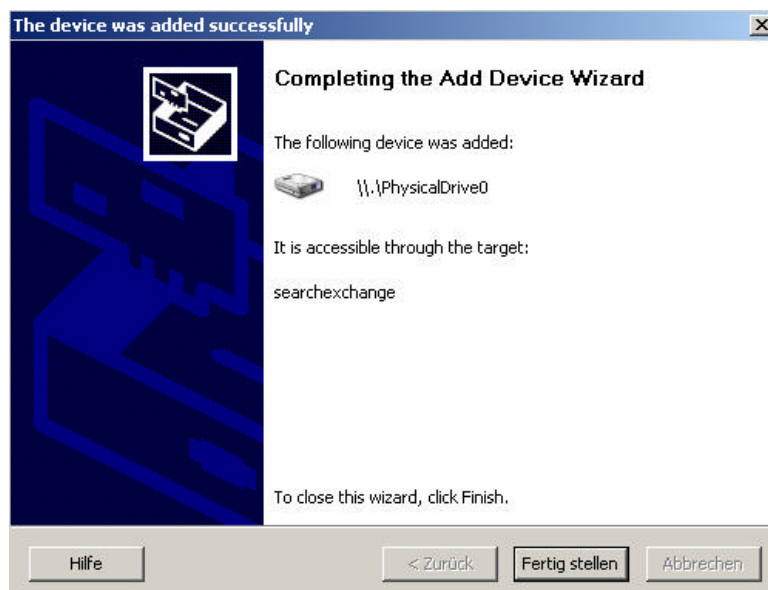

Figure 4: A new created device with Starwind

Now it is time to install the Microsoft iSCSI initiator on the Exchange 2003 Server. You can use the Microsoft iSCSI Initiator 2.0. You can download the program [here]. Start the installation process.
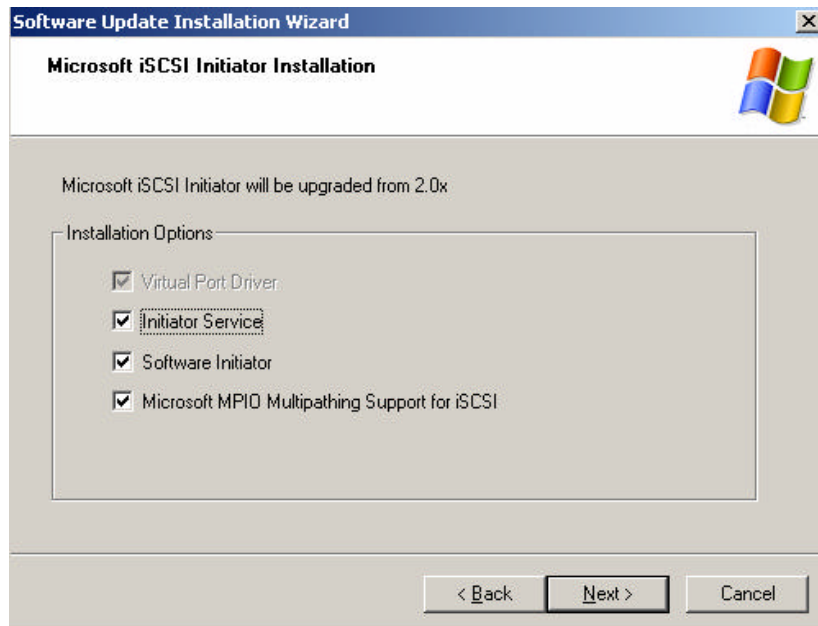

Figure 5: Installation of the iSCSI Initiator 2.0 from Microsoft

After installing the iSCSI Initiator and a possible reboot, start the ISCSI Initiator configuration in control panel, click *Discovery* and click *Add* to add the iSCSI Target.
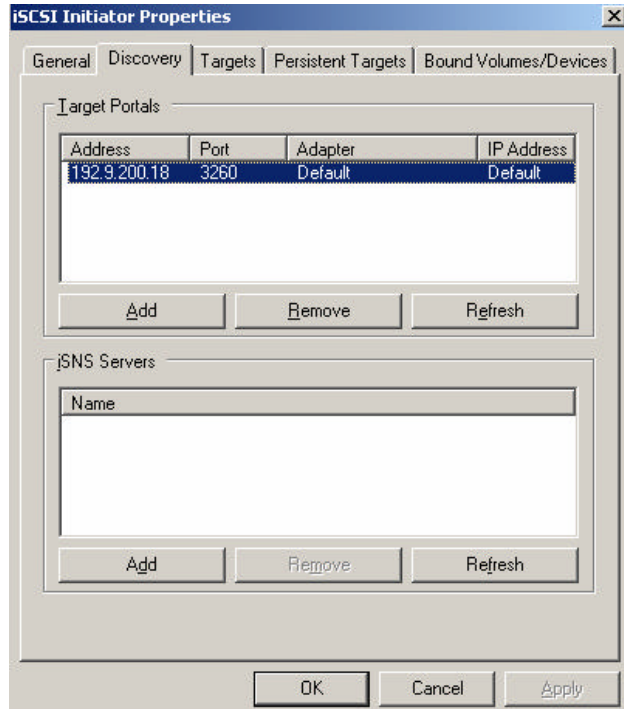

Figure 6: Connect to the iSCSI Server

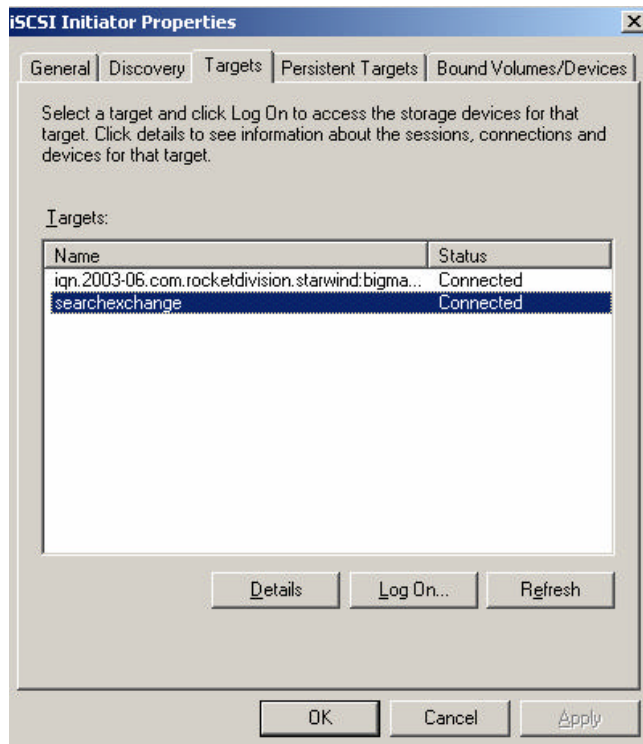Next, click Targets. You will see the published Targets on the iSCSI Target. Click *Log On*.
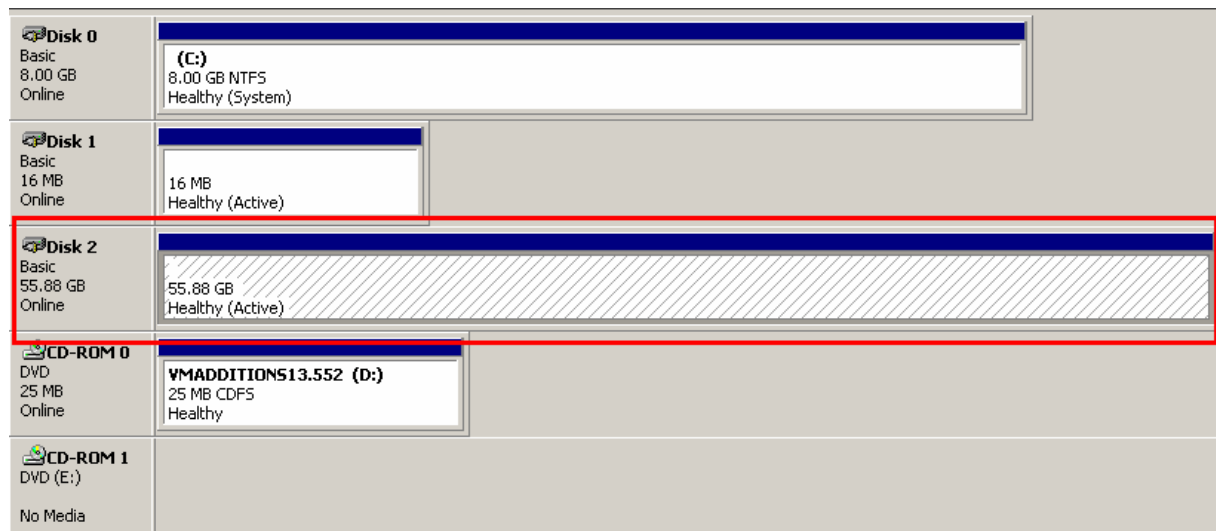

Figure 7: Log On to the iSCSI Target

After connecting to the iSCSI Target, you can use the Disk Management console from Windows Server 2003 to create a new volume on your Windows Server 2003.

After creating and formatting the new volume you can start the Exchange System Manager and move the Exchange databases and/or Transaction logfiles to the new volume.
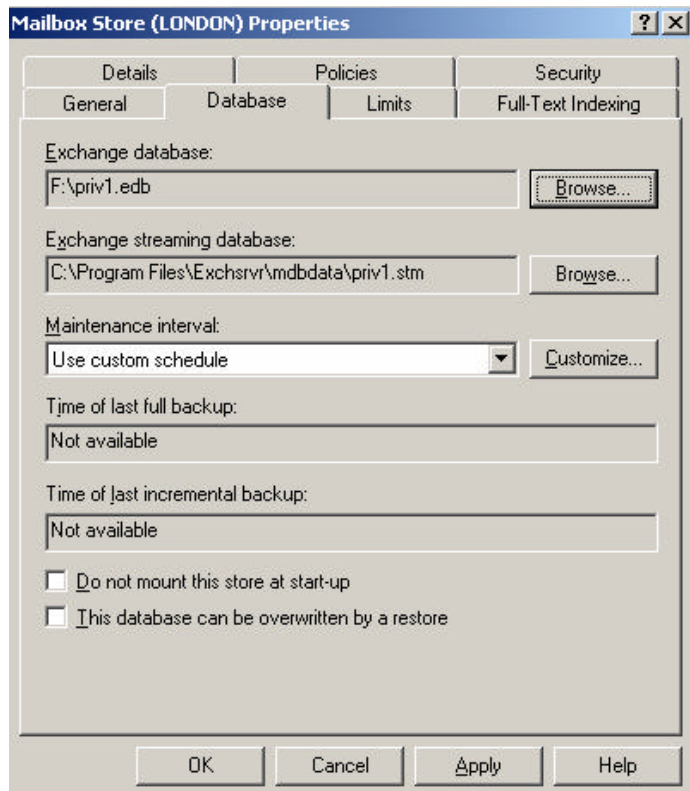

Figure 8: Move the Exchange Database to the new iSCSI Target

Conclusion

Starwind iSCSI is a great solution to extend the storage for Exchange and other servers. iSCSI is a growing alternative to traditional SAN implementations with lower costs and comparable performance with easy advantages over SAN implementations.

Related Links

Starwind iSCSI
http://www.rocketdivision.com/wind.html
Microsoft iSCSI Initiator 2.0
http://www.microsoft.com/downloads/details.aspx?FamilyID=12cb3c1a-15d6-4585-b385-befd1319f825&DisplayLang=en