

DSN-3200/3400

Release 1.0

**xStack Storage™**  
**iSCSI SAN Array**

DSN-3000 Series Managed  
SAN Solutions

 **Quick Install Guide**

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# Package Contents



DSN-3200/3400 xStack Storage  
Area Network (SAN) Array



CD-ROM with User Guide



Keys



Rack mount Rails



Power Cables



Hardware and Screws

If any of the above items are missing, please contact your reseller.

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# System Requirements

## Management Computer Requirements:

- Windows™ XP or 2000
- Two (2) Ethernet Adapters\*
- Internet Explorer version 5.0 or higher
- Java™ Runtime Environment (JRE) Version 1.4.2\_08

\* One Ethernet adapter should be attached to the Internet in order to automatically download Java version 1.4.2\_08. The second Ethernet adapter will be set to IP address 192.168.1.2. This will allow access to the DSN-3000 series management port which is pre-configured at 192.168.1.1. The diagrams on pages 8 and 9 provide a visual overview of the final configuration for the DSN-3200 and DSN-3400 respectively.

**Note:** The management port is not auto-MDI/MDX. You will need a crossover cable if connecting directly to your computer.

## File Server Requirements:

- Windows™ XP or 2003
- Two (2) Ethernet Adapters
  - One adapter must be 1GbE and set to IP address 192.168.2.2.
  - The other adapter should be set to an IP address on the same subnet as your LAN.
- Microsoft iSCSI initiator version 2.0 or higher (can be downloaded from Microsoft's website).

\* One Ethernet adapter should be assigned 192.168.2.2 and connected to the switch that supports the new SAN device, which is configured with an IP address of 192.168.2.1.

The second Ethernet adapter will be used by the server to access your local network (LAN). The diagrams on pages 8 and 9 provide a visual overview of the final configuration for the DSN-3200 and DSN-3400 respectively.

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# Before You Begin

A SAN or Storage Area Network allows you to create a dedicated network that provides storage for your file server(s). The diagrams on pages 8 and 9 are basic diagrams of this concept. The LAN or Local Area Network shown in the lower portion of the diagram is where the user's PCs, print servers, etc. are attached. This is the network you are familiar with. The demarcation point between these two networks is typically the use of two network adapters placed in a file server. One adapter serves the SAN and the other serves the LAN.

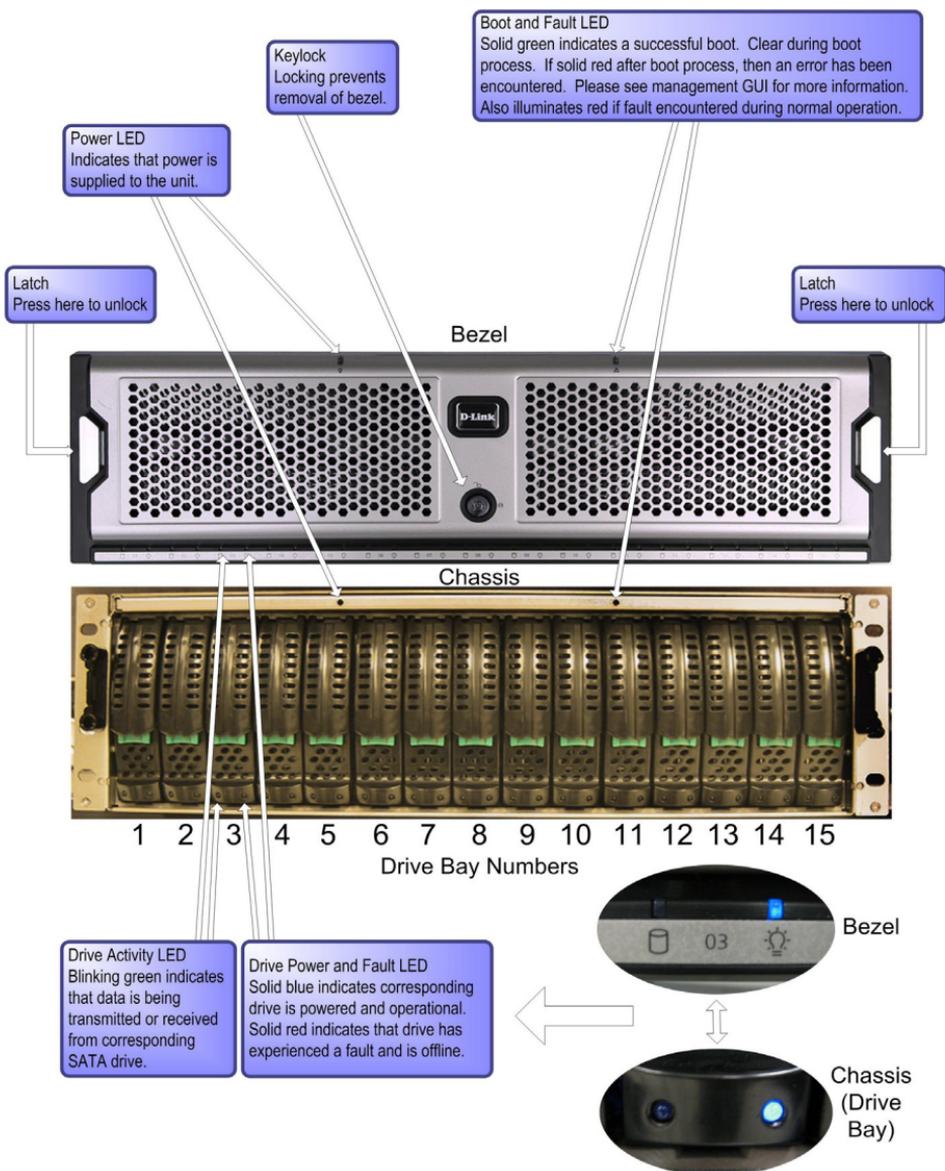
In the upper portion of the diagram appears the SAN which allows file servers to share a storage device(s) like the xStack Storage series of products. This SAN can be composed of standard Ethernet cabling, switches, etc. As you can see, a dedicated network allows the servers to access shared storage devices with high data throughput that will not affect the LAN where user's PCs are located.

Another concept is that of iSCSI (IP Small Computer System Interface). This protocol allows SCSI storage commands to be encapsulated in IP datagrams that can then pass over a standard Ethernet network. This allows file servers to send and receive storage commands with external storage devices like the xStack Storage device.

In iSCSI, the xStack Storage device is known as the "target" and the file server is the "initiator." Specifically, the file server must have a piece of software loaded that provides this initiator functionality. In the case of Microsoft, this initiator software is free and downloadable from their Website. No matter what operating system you are using, an initiator software of some kind must be loaded on your file server.

The goal of this Installation Guide will be to get you up and going with a simple SAN. The xStack Storage device has been preconfigured with IP addresses that are identified in this guide. Once you have built confidence in your understanding of the DSN-3000 series device, the product manual found on the accompanying CD provides details for allowing you to configure the unit to your own specific needs.

# Front View - DSN-3200/3400



# Rear Panel - DSN-3200

## Power Switch

Applies power to the XStack Storage unit. Pressing this switch for longer than 3 seconds removes power from the XStack Storage unit and turns off the unit.

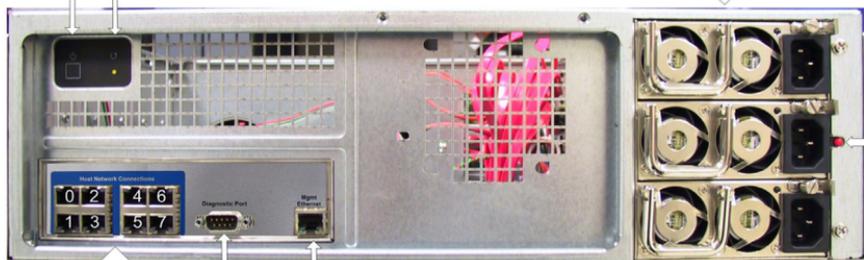
## Reset Button

Resets the XStack Storage unit.

## Power Supply

760 Watt n+1 auto-switching with three hot-swappable modules

Rear View of DSN-3200



**Host Network Connections**  
Eight 1GbE (1 Gigabit Ethernet) RJ-45 host network connections.

**Management Port**  
Lets you configure and manage the Xstack Storage unit.

**Diagnostic Port**  
DB9 RS-232-C

**Power Supply Alarm Mute Button**  
Pressing this silences the audible alarm caused by a failed power supply module.

# Rear Panel - DSN-3400

## Power Switch

Applies power to the XStack Storage unit. Pressing this switch for longer than 3 seconds removes power from the XStack Storage unit and turns off the unit.

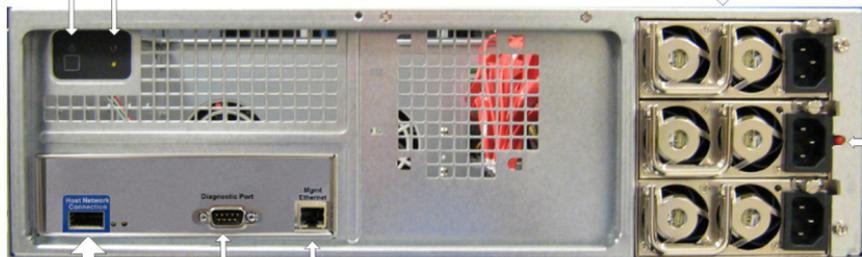
## Reset Button

Resets the XStack Storage unit.

## Power Supply

760 Watt n+1 auto-switching with three hot-swappable modules

## Rear View of DSN-3400



## Host Network Connection

One 10GbE host network connection with XFP transceiver interface.

## Management Port

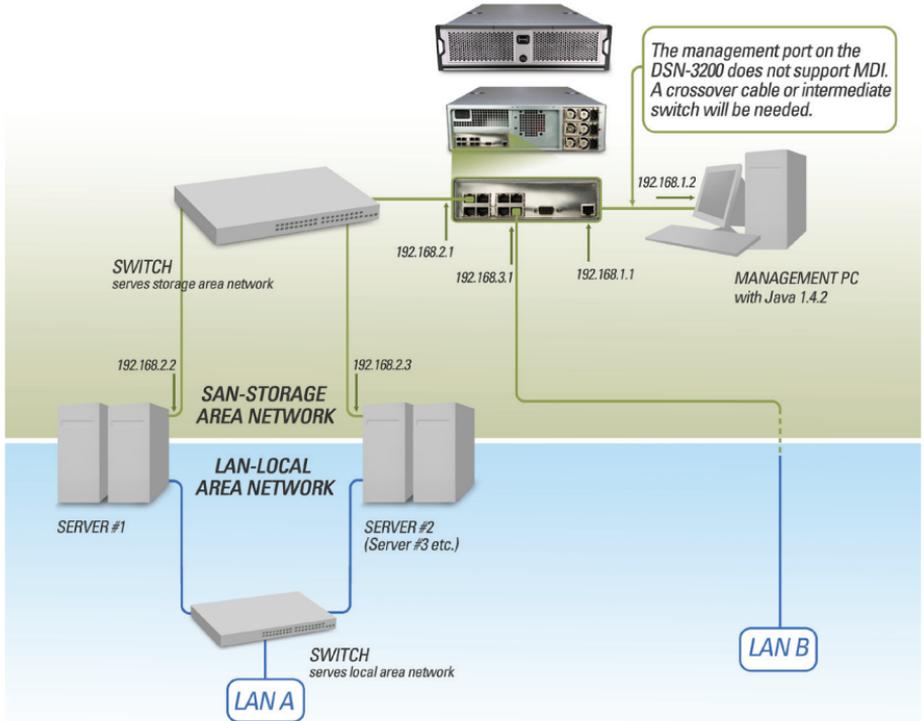
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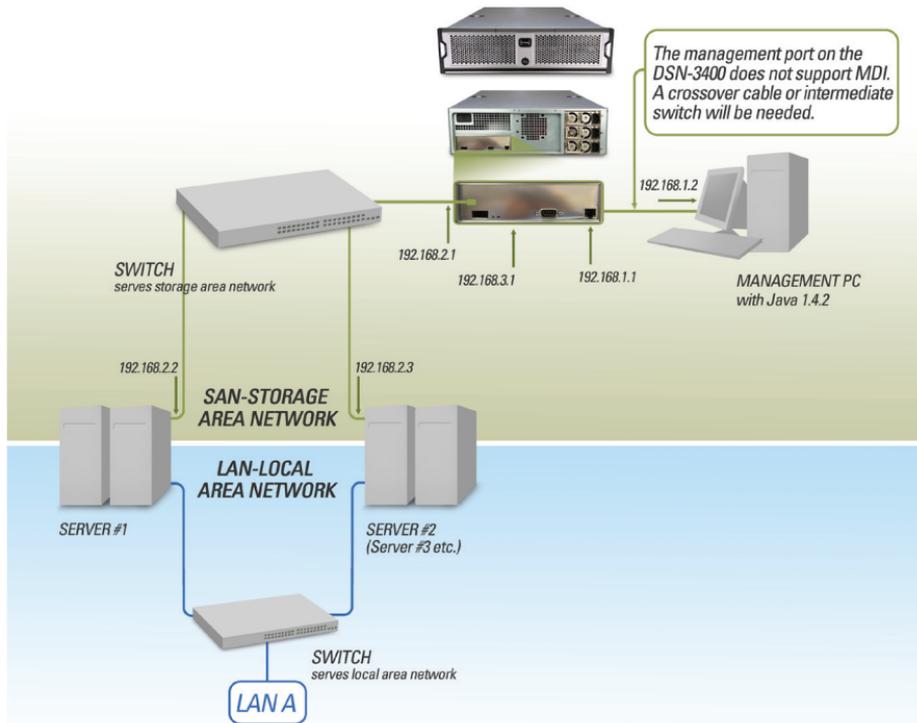
## Power Supply Alarm Mute Button

Pressing this silences the audible alarm caused by a failed power supply module.

# DSN-3200 Network Diagram



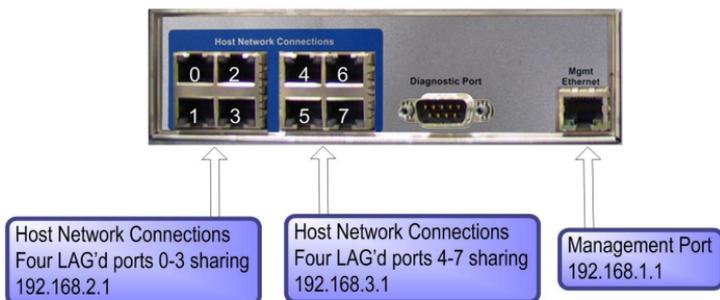
# DSN-3400 Network Diagram



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# IP Addresses

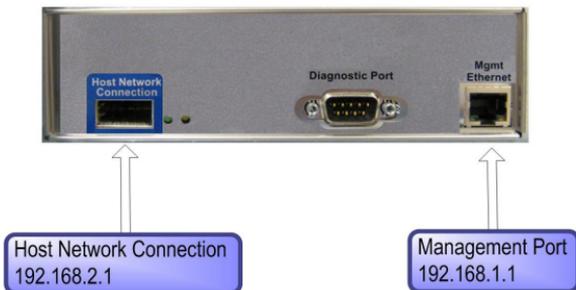
## DSN-3200 External Connections Default IP Addresses



**Note:** The eight host network connections on the DSN-3200 may be LAG'd (Link Aggregate Group) together to form higher speed links. This capability is also known as trunking.

The default configuration of these ports is shown above. Host Network Connections 0 through 3 all share IP address 192.168.2.1. Host Network Ports 4 through 7 share IP address 192.168.3.1. In our example we will only attach to the first group.

## DSN-3400 External Connections Default IP Addresses



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# Installing the DSN-3200

- 1 Insert an Ethernet crossover cable into the management port of the DSN-3000 series and connect the other end to your management system's open Ethernet port (the one set to IP address 192.168.1.2).



**Note:** The management port of the DSN-series does not support MDI and will require a crossover cable. Or if you wish, two standard straightthrough cables may be used with an intermediate switch or hub. The management port is 100MbE.

- 2 Insert an Ethernet cable into Host Network Connection #0 of the DSN-3000 series as identified on page 6 and the other end to a 1GbE port of your SAN network.



- 3 Insert each of the three power cables into the power supply as shown below. Then plug the other end of these power cables into a reliable filtered power source such as a UPS (Uninterruptible Power Supply).



Proceed to Software Installation Overview for the DSN-3000 series.

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# Installing the DSN-3400

- 1 Insert an Ethernet crossover cable into the management port of the DSN-3000 series and connect the other end to your management system's open Ethernet port (the one set to IP address 192.168.1.2).

**Note:** The management port of the DSN-3000 series does not support MDI and will require a crossover cable. Or if you wish, two standard straight-through cables may be used with an intermediate switch or hub. The management port is 100MbE.



- 2 Insert an Ethernet cable into the 10GbE Host Network Connection of the DSN-3000 series as identified on page 7 and the other end to the 10GbE port of your SAN network.



- 3 Insert each of the three power cables into the power supply as shown below. And then plug the other end of these power cables into a reliable filtered power source such as a UPS (Uninterruptible Power Supply).



Proceed to Software Installation Overview for the DSN-3000 series.

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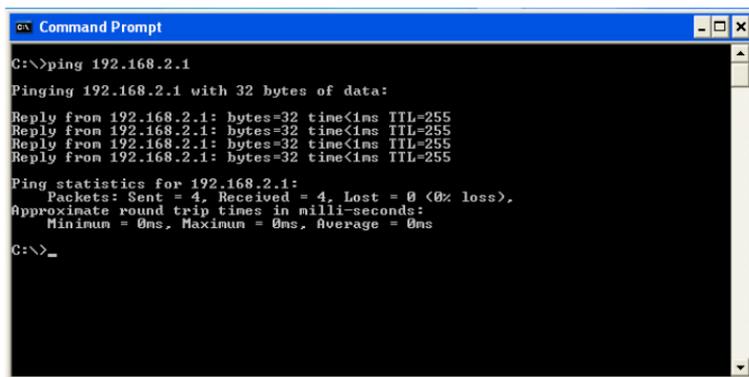
# Software Installation

The goal of this portion of the installation is to create a software connection between the initiator (your file server) and the target (the xStack Storage device). You will power on all of the devices, verify a valid IP connection between the initiator and target and then complete the iSCSI connection. Once this is completed, you can then treat the xStack Storage device like any other hard drive through the disk management utility found in Microsoft Windows.

**Note:** This example uses Microsoft iSCSI Initiator version 2.0.

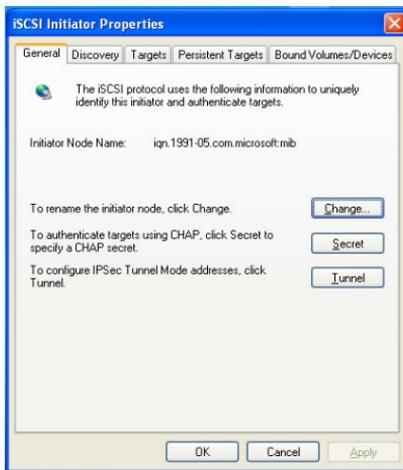
1. Power on the unit by pressing the power switch button identified in figures on page 6 and 7. You will now hear the unit power up and initialize. The initialization process will require five minutes to complete. After waiting, then please proceed with the next step.

2. Validate your connection between the file server and the xStack Storage device. Please open a DOS window or Command Prompt within the Windows operating system of your file server. Use the command “ping 192.168.2.1” to verify that you have a valid connection. Below is an example of a valid connection.

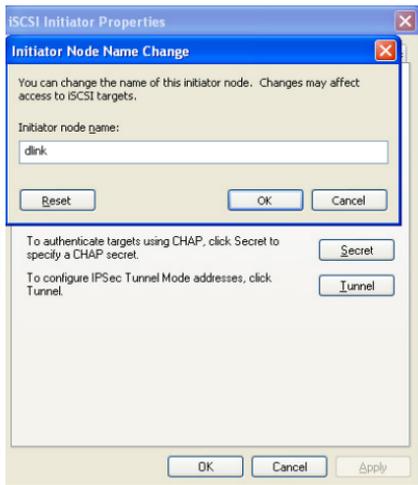


```
Command Prompt
C:\>ping 192.168.2.1
Pinging 192.168.2.1 with 32 bytes of data:
Reply from 192.168.2.1: bytes=32 time<1ms TTL=255
Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>_
```

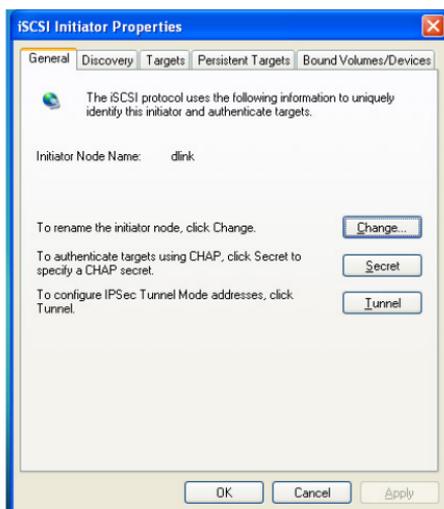
3. Open you iSCSI Initiator software. You should see the iSCSI Initiator Properties screen.



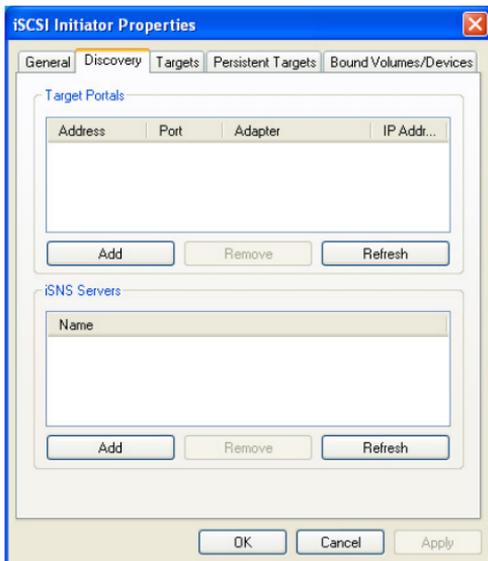
4. The Initiator Node Name is incorrect. It must now be changed to match the default name given to the xStack Storage device (this name is “dlink”). Select the **Change** button shown above and the following screen appears. Type in the name “dlink” (without quotes) in the entry space. Click **OK** to move to the next step.



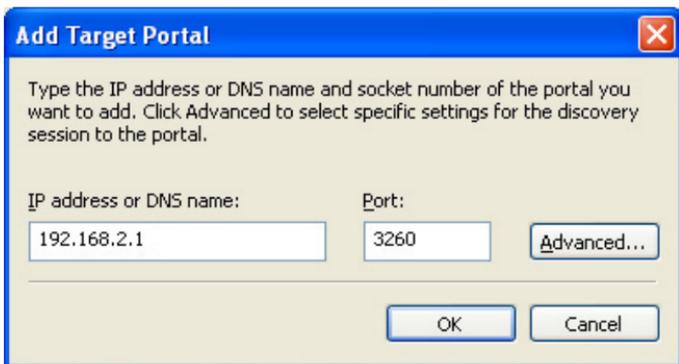
5. Your iSCSI Initiator Properties Screen will now show the *dlink* name as the Initiator Node Name.



6. Select the Discovery tab and the following screen will appear. Initially you will find no addresses in the Target Portals pane.



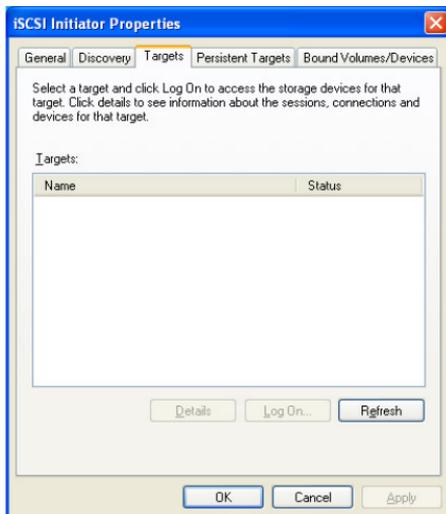
7. Click the **Add** button found under the Target Portals pane. The following screen will appear. Type in the default address of the Host Network Connection on the xStack Storage device (192.168.2.1) and then click **OK**.



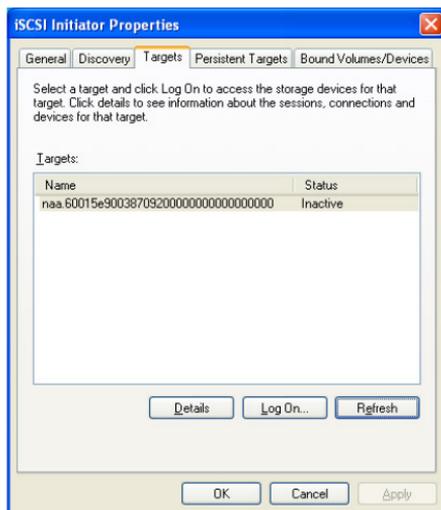
8. The initiator software will now validate the connection between itself and the xStack Storage device. If all is well, then you will see the following screen.



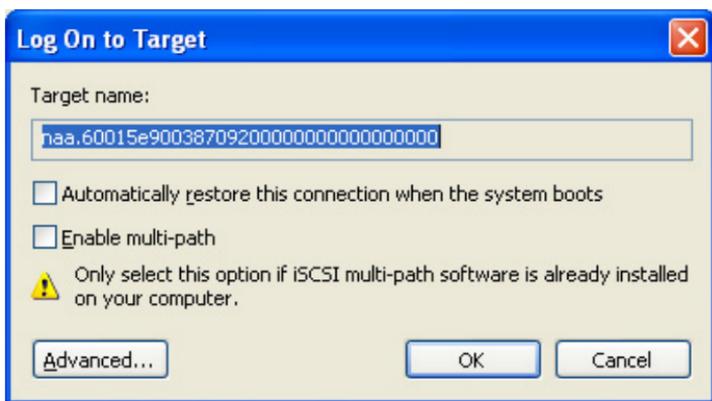
9. Select the **Targets** tab and you will see the following screen. Initially there will be no targets present in the Targets pane.



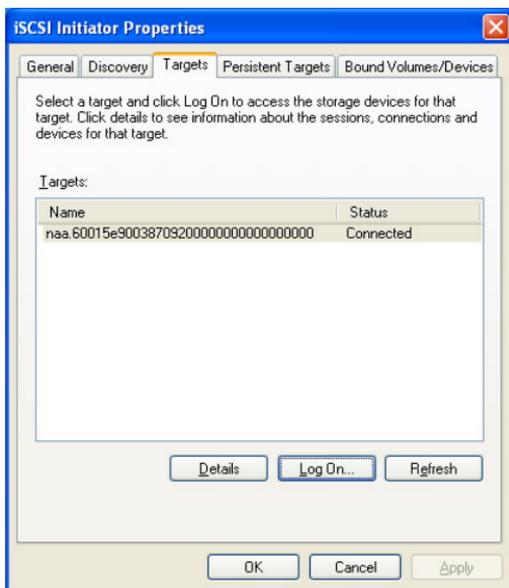
10. Click the **Refresh** button and the following will appear. The long name that you see is the unique name given to the LUN. A LUN is the name given to the connection to the storage device. This LUN is also marked as inactive.



11. Click the **Log On...** button found below the Targets pane. The following Log On to Target window will appear. Click **OK** to log on to this LUN.

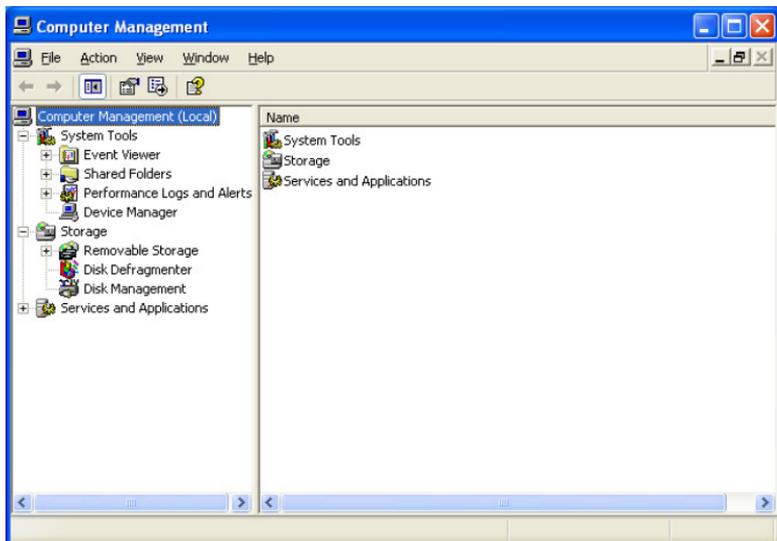


12. You will now see this screen with the LUN marked as Connected.

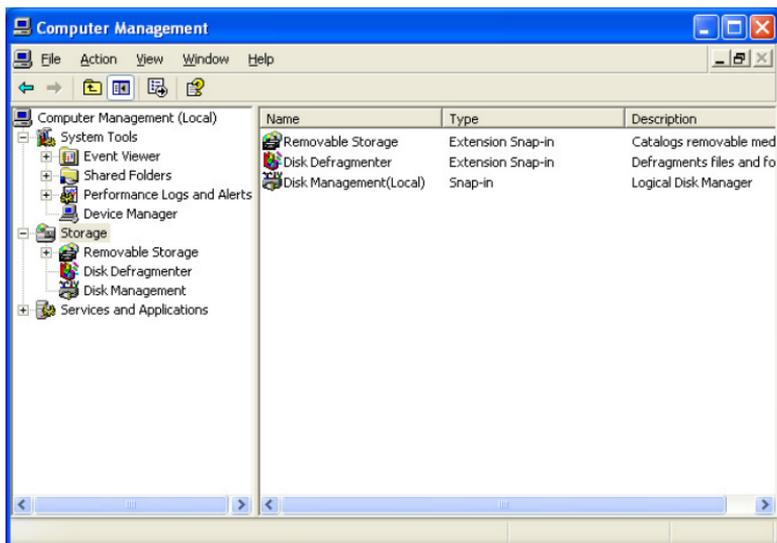


13. Your file server can now see the xStack Storage device as a local hard drive. You may treat it just like any other drive by configuring it using the disk management utility found in Microsoft Windows.

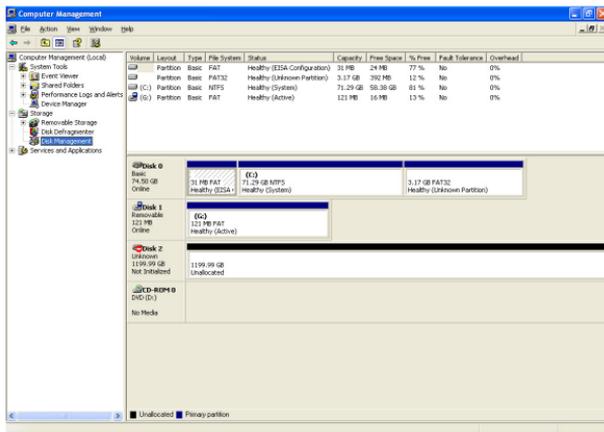
14. Open the Microsoft Windows Computer Management utility and you will see the following screen.



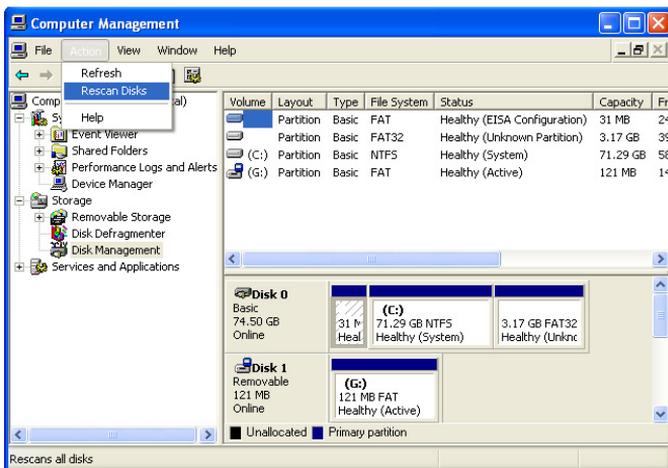
15. Click on **Storage** found under the Name pane. You will see this screen.



16. Select **Disk Management (Local)** under the Name pane. The following will appear. You can see the new volume appear in your list of drives (labeled “Unknown” in our example). If your drive does not appear, then please see step 17. Otherwise, please go to step 18.



17. If the drive does not appear in your list, then please click the **Action** drop-down menu found in the upper portion of the screen and select **Rescan Drives**. Your drive should now appear.



18. Configure your new volume as you would any new local drive. Every time your file server is restarted and the Microsoft iSCSI Initiator software is loaded, the drive will be available.