

StarWind iSCSI Target for Microsoft Windows: Configuring StarWind with a host bus adapter for iSCSI boot

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www.starwindsoftware.com

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Guide

Introduction

In computer hardware, a host controller, host adapter, or host bus adapter (HBA) connects a host system (the computer) to other network and storage devices.

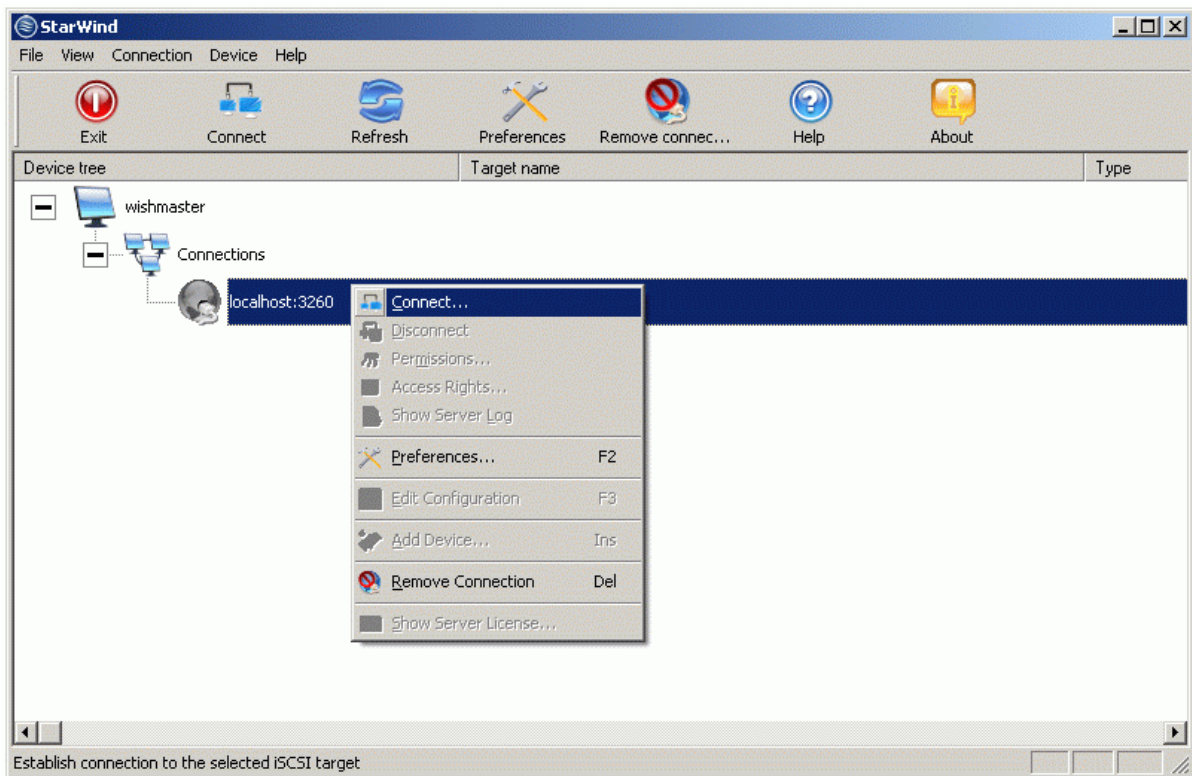
iSCSI provides with the very popular feature – ability to boot devices from SAN.

This document provides step-by-step instructions to configure StarWind to use it with a host bus adapter to enable the iSCSI boot.

Creating a Target to be Used as Boot Device

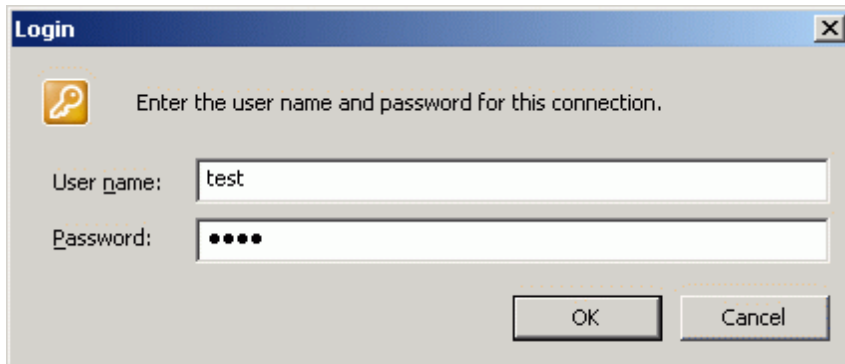
Launch the **StarWind** console selecting **Start -> All Programs -> StarWind Software -> StarWind -> StarWind**. After the console is launched its icon appears in the system tray. Double click the icon with the left mouse button or single click it with the right and select **Start Management** menu item from the pop-up menu.

From the **Connections** tree please select the computer you wish to connect to. By default, there is a single item in the tree (localhost) which represents a loopback connection. Press the right mouse button over the desired host (computer) and select the **Connect...** menu item. You will be prompted to enter the login and password. Default ones are: **test, test**. You can always change them later.



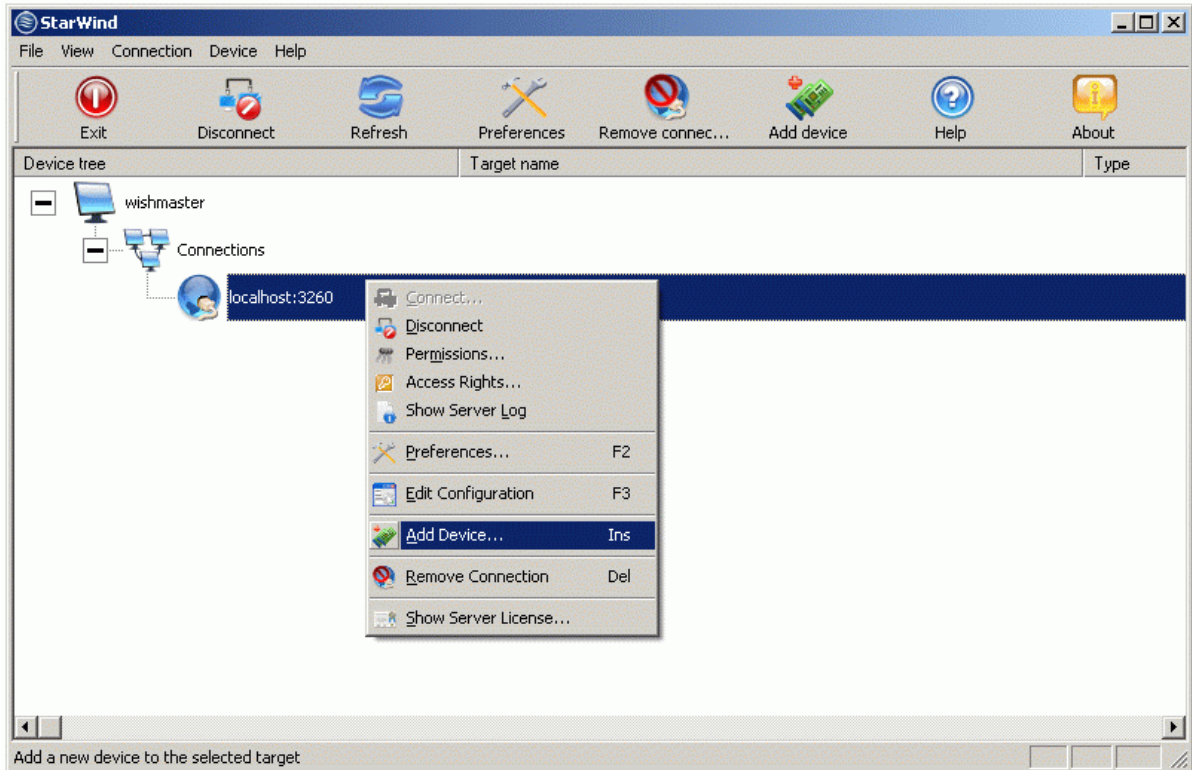
Select **Connect...** menu item to continue.

The Login dialog asking for the **User name** and the **Password** input looks like the one on the image shown below.



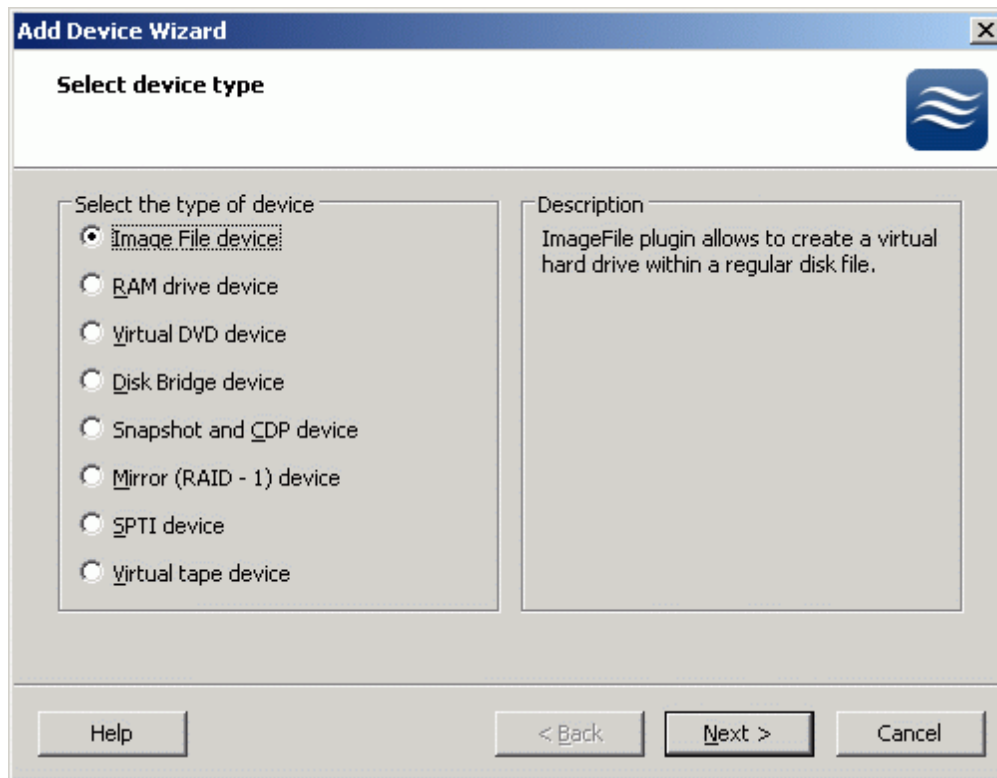
Press the **OK** button to continue.

After you have successfully connected to the **StarWind** service on the remote machine, please click the right mouse button over the desired host (computer).



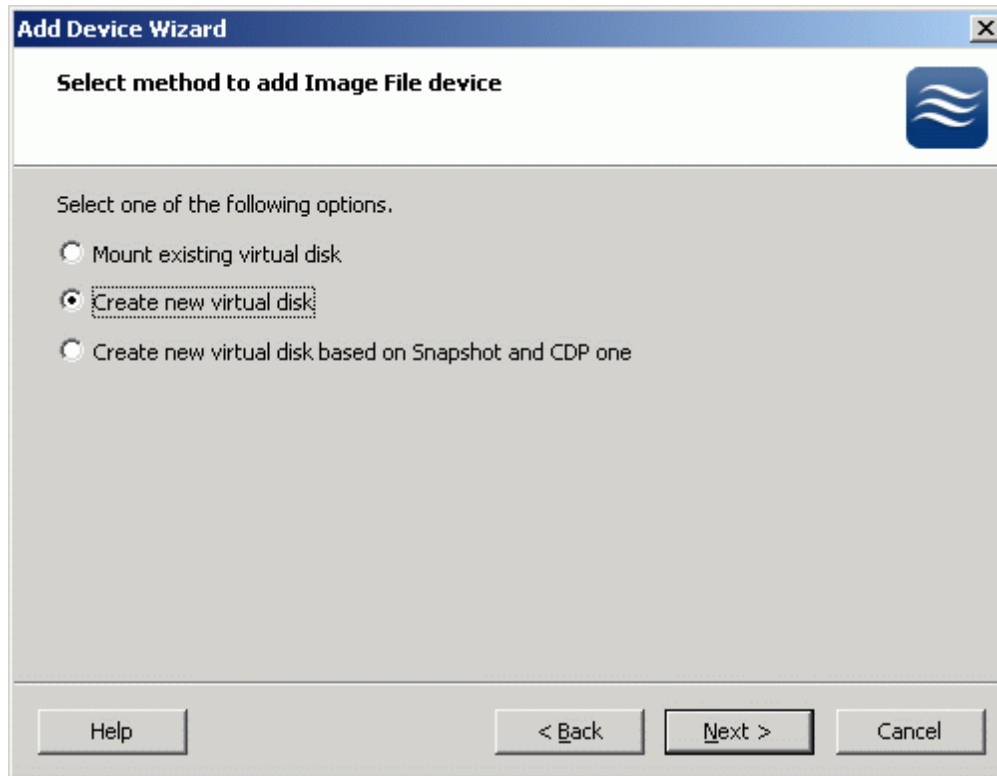
Select the **Add Device...** menu item to continue.

In the wizard that appears, please select **Image File device** (the brief description of each option is displayed in the right area of the wizard window). You can display the online help by pressing the **Help** button.



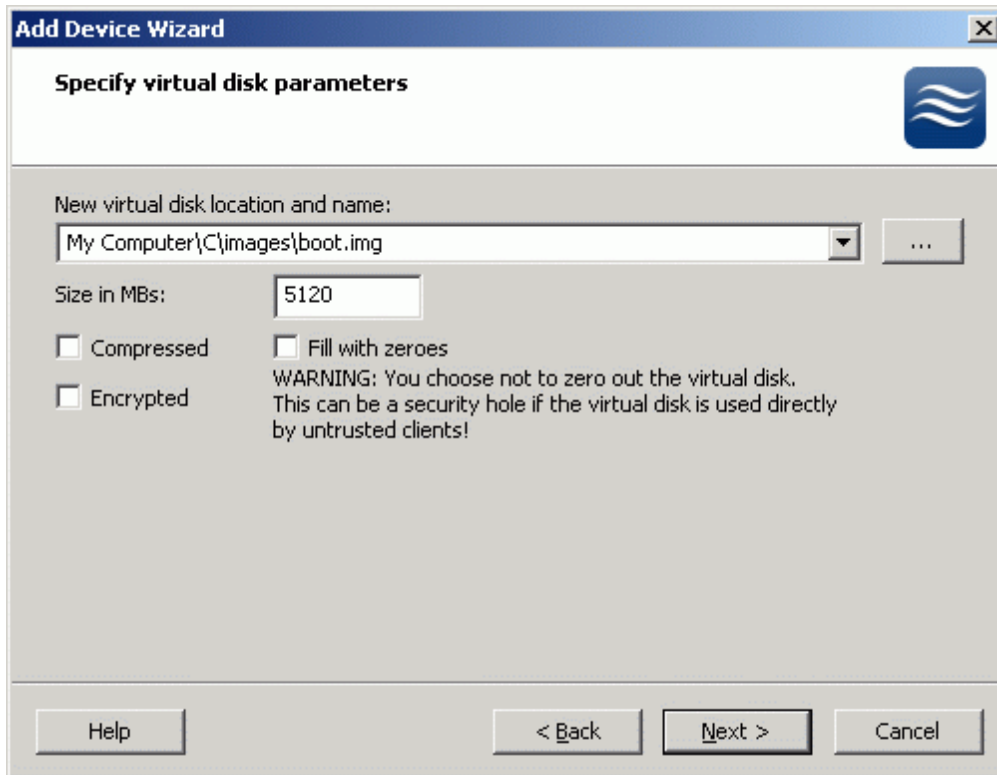
Press the **Next** button to continue.

Select **Create new virtual disk** to create a new virtual hard disk or **Mount existing virtual disk** to mount an existing virtual disk that you've prepared before.



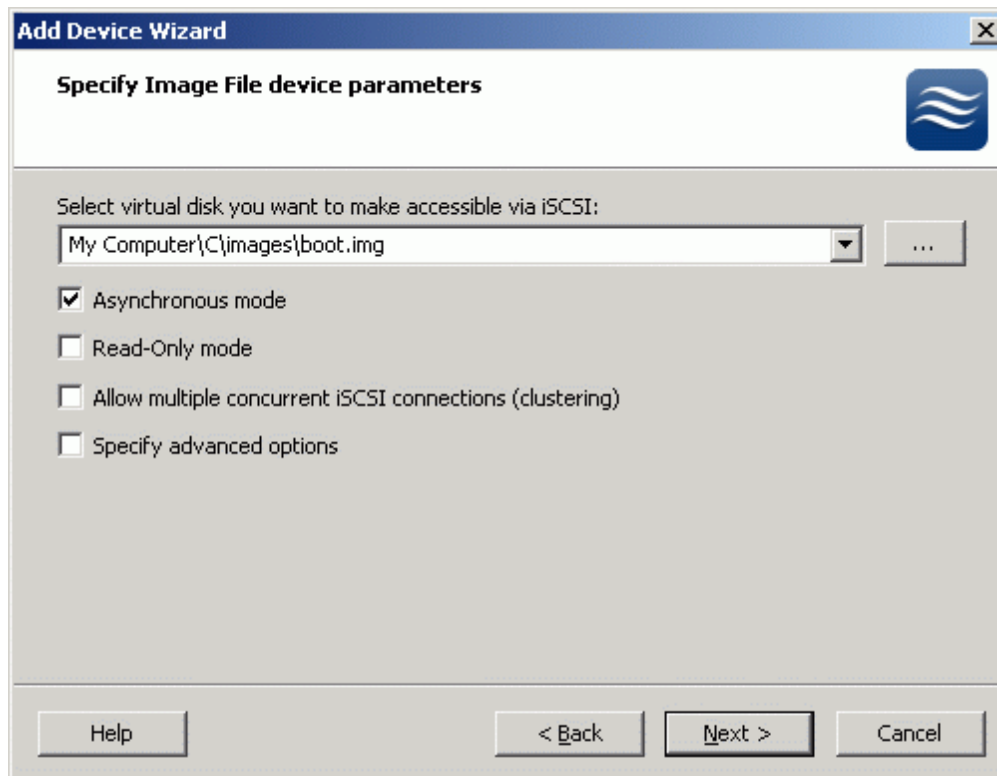
Press the **Next** button to continue.

If you have decided to create a new virtual disk, please specify the location and the name of the virtual disk you wish to be created. Also, you have to provide the virtual disk size in megabytes. Check any additional parameters of the virtual disk you wish to create. Please refer to the online help for details regarding those additional parameters (**Compressed** and **Encrypted**).



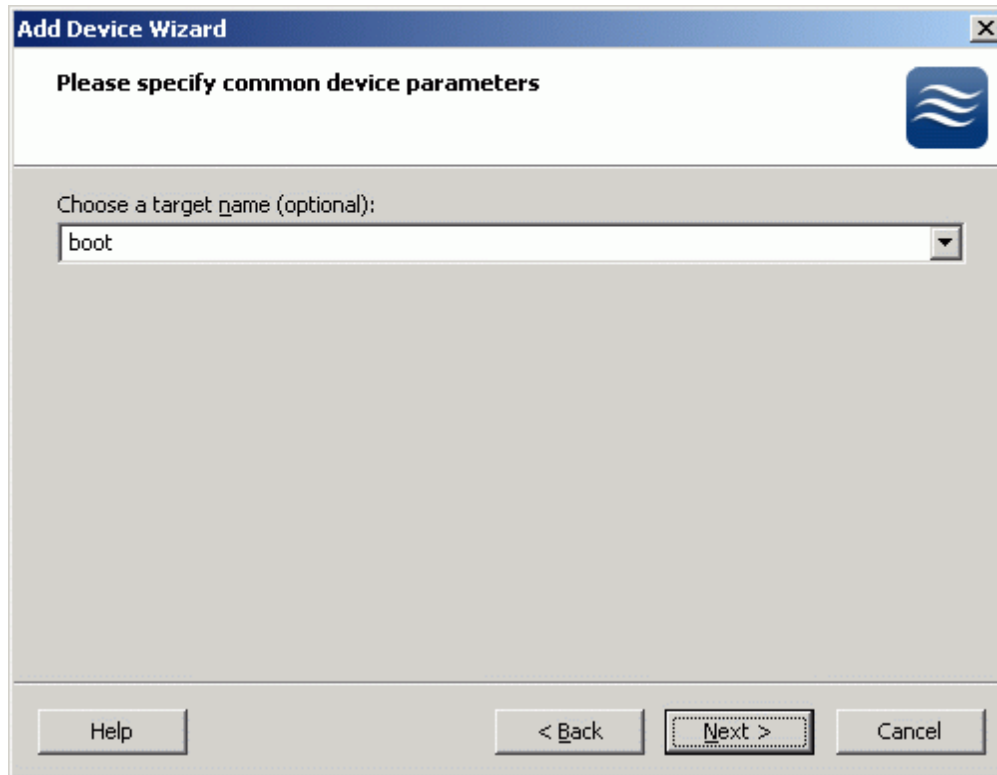
Press the **Next** button to continue.

Image file device has some extra parameters. Please refer to the online help for details regarding those additional parameters (**Asynchronous mode**, **Allow multiple connections (clustering)**, **Read-Only mode** and **Specify advanced options**).



Press the **Next** button to continue.

Select an optional target name. Under this target name, the device will be declared to the iSCSI initiators connecting to the **StarWind** over an IP network.



Press the **Next** button to continue.

Check if all of the device parameters are correct. Press the **Back** button if any changes are required.



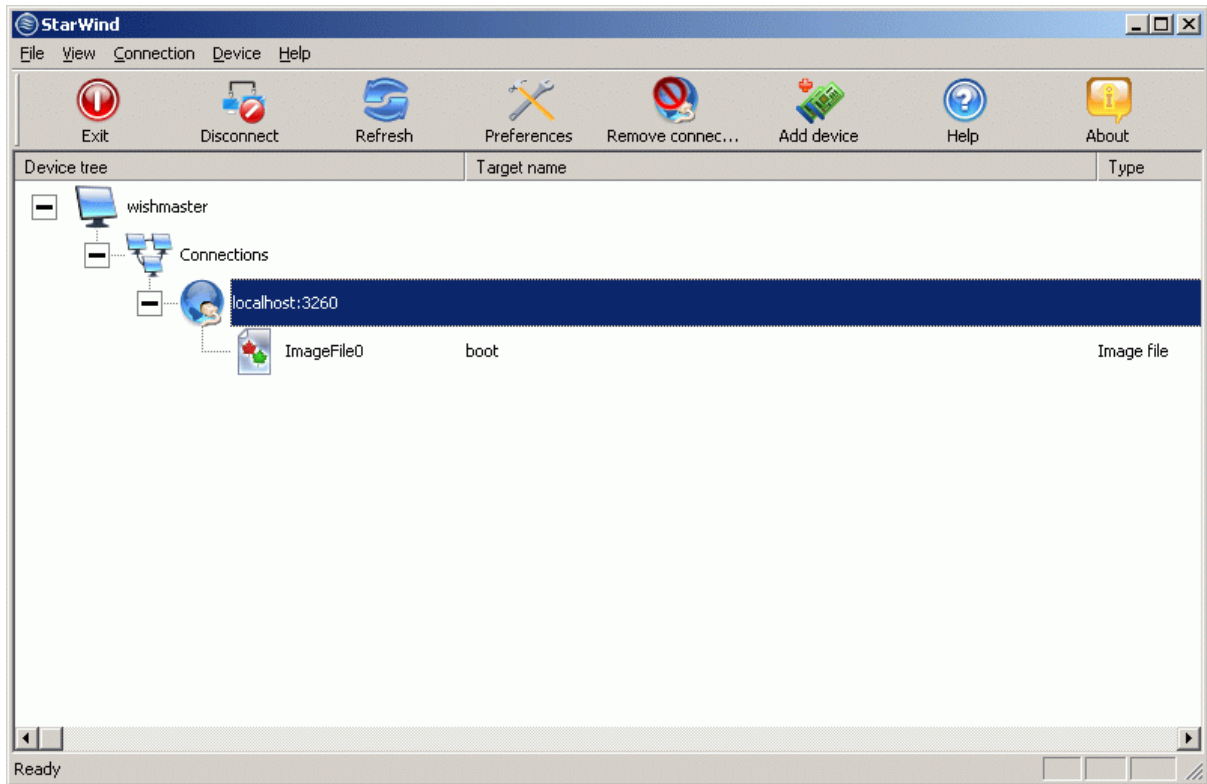
Press the **Next** button to continue.

The information about the recently created device is displayed on the last wizard page (see image below).



Press the **Finish** button to close the wizard.

If everything went fine, the **StarWind** console should look like the sample image provided below.



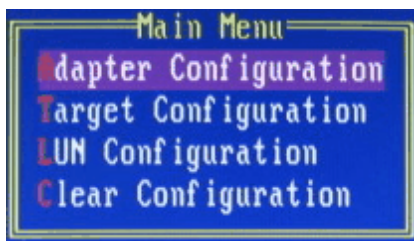
Configuring HBA for iSCSI Boot

Restart the client computer with the Adaptec HBA installed.

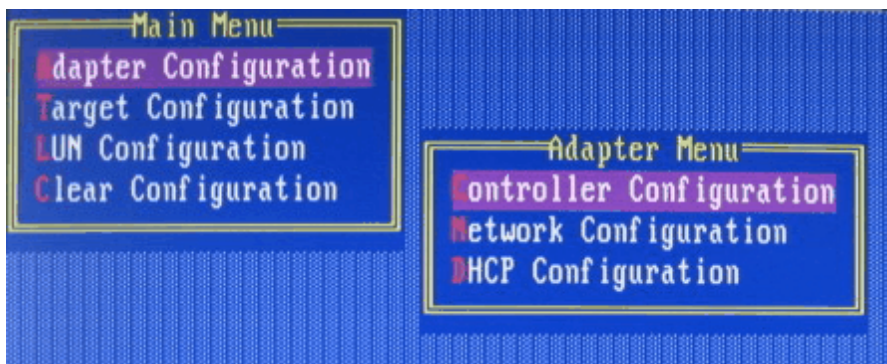
```
Adaptec ASA-7211C/F iSCSI BIOS v1.20.40  
(c) 2004 Adaptec, Inc. All Rights Reserved.  
  
◀◀ Press <Ctrl><A> for iSCSISelect(TM) Utility ▶▶
```

During system boot when the Adaptec information appears hit **Ctrl+A** to enter the **Adaptec iSCSISelect(TM) Utility**.

Select the **Adapter Configuration** from the **Main Menu**.

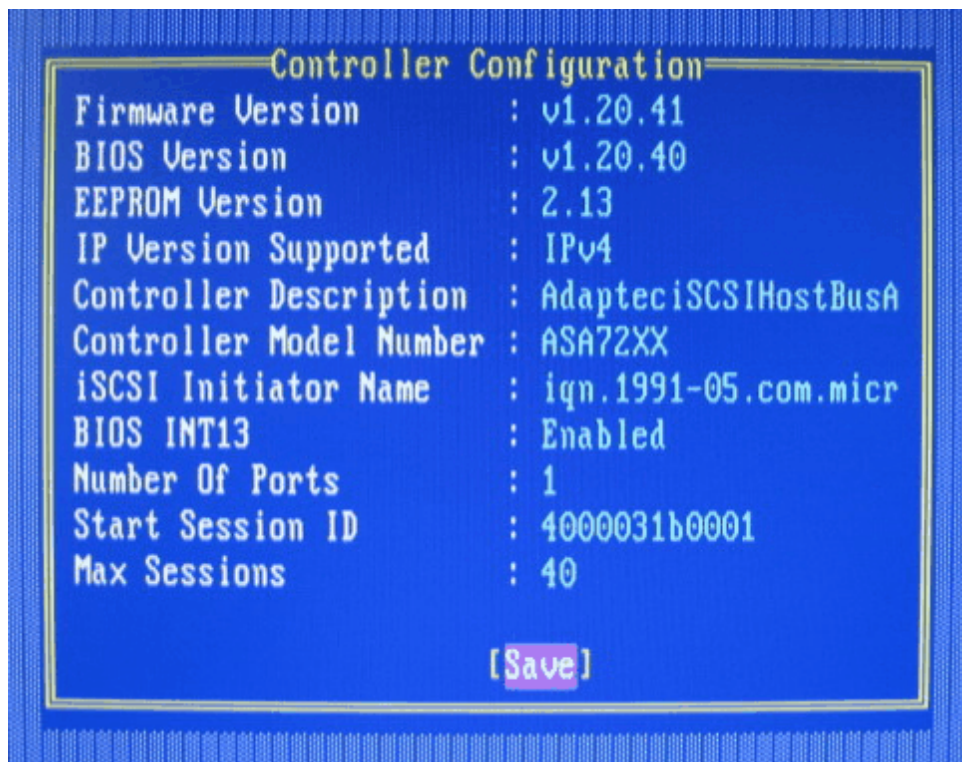


Select the **Controller Configuration** from the **Adapter Configuration Menu**.



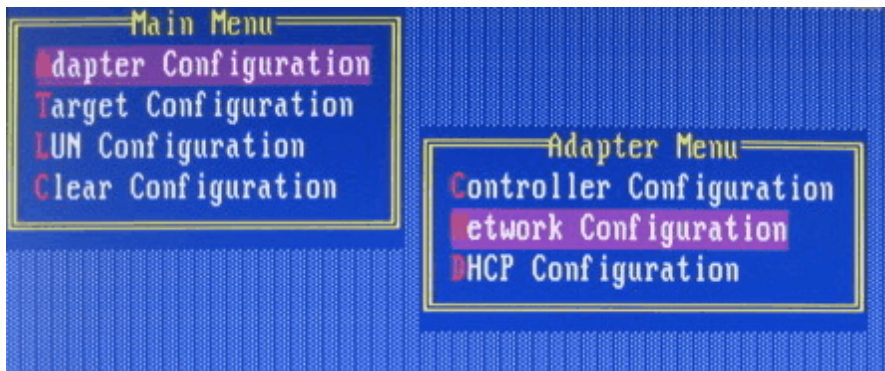
Hit **Enter** to continue.

Optionally specify the **iSCSI Initiator Name**.



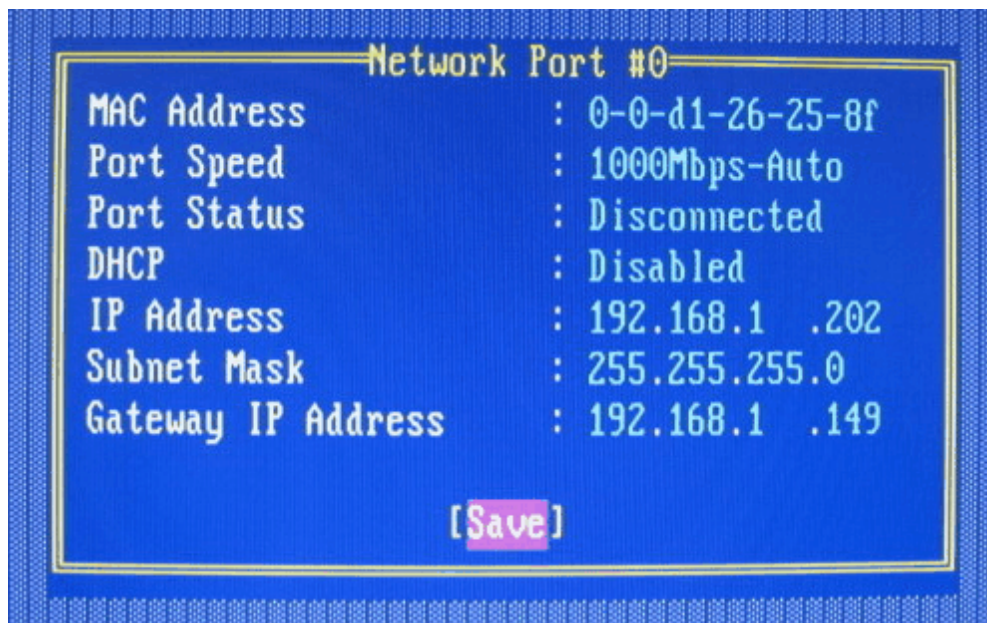
Hit **Esc** to exit out of the **Controller Configuration** screen.

Select **Network Configuration** from the **Adapter Configuration Menu**.



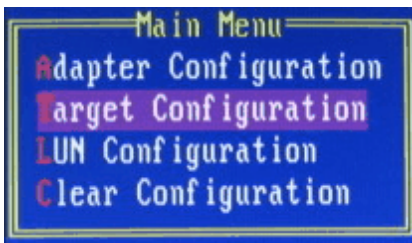
Hit **Enter** to continue.

Configure the adapter to use static **IP addresses**.

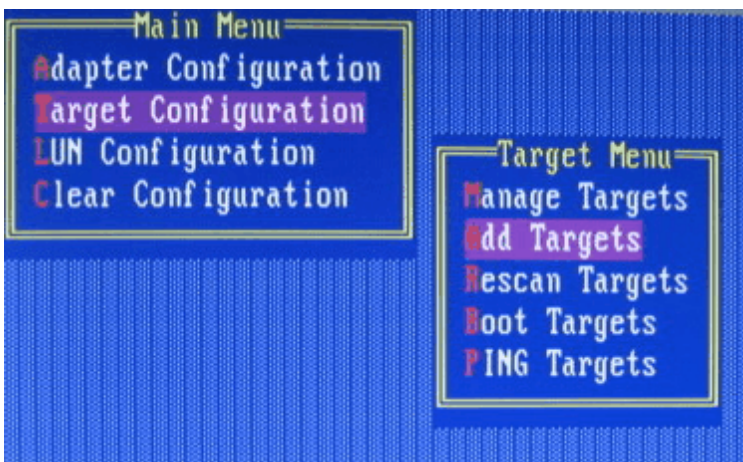


Save the settings and return to the **Main Menu**.

Select **Target Configuration** from the **Main Menu**.



Then select **Add Targets** from the **Target Configuration Menu**.



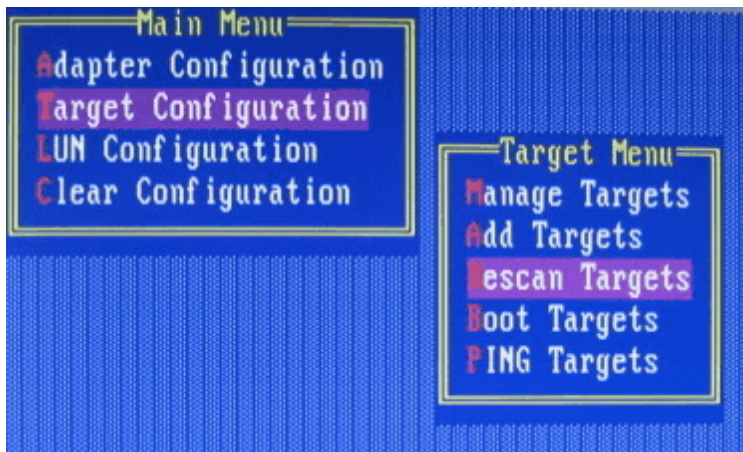
Hit **Enter** to continue.

On the **New Target** screen, enter the **IP address** of the **StarWind** computer. Specify the **Target Name** to connect. If a different iSCSI port is used, update the **Port Number** to reflect the new port number. Ensure that **Available After Reboot** option is set to **Yes**.



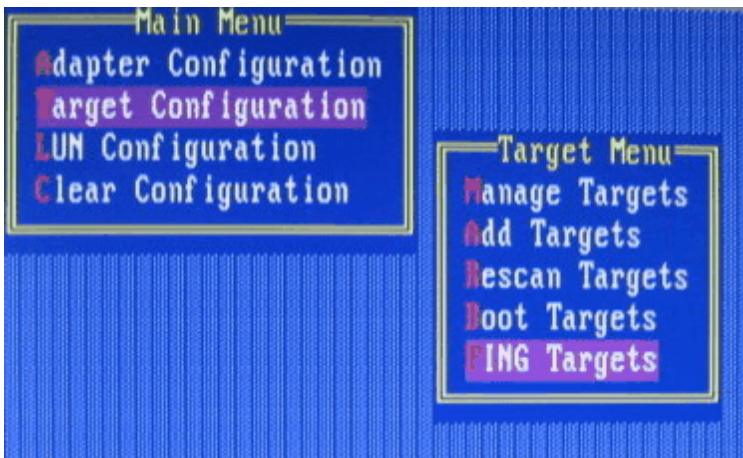
Save the settings and return to the **Target Configuration Menu**.

Select **Rescan Targets**.

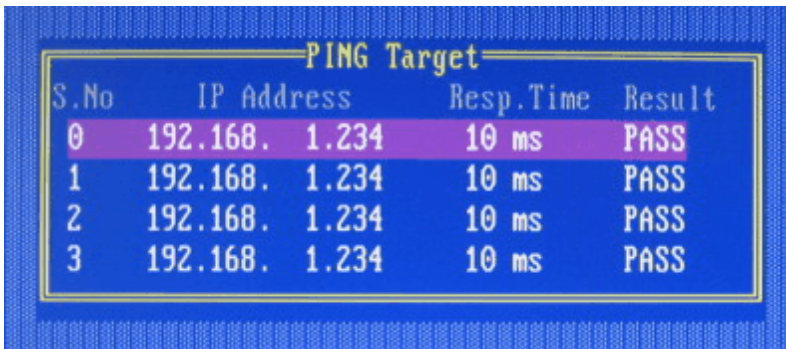


Hit **Enter** to continue.

Select **PING Targets**. Specify IP address of the **StarWind** target server.



Watch the ping statistics. All ping results should be **PASS**.

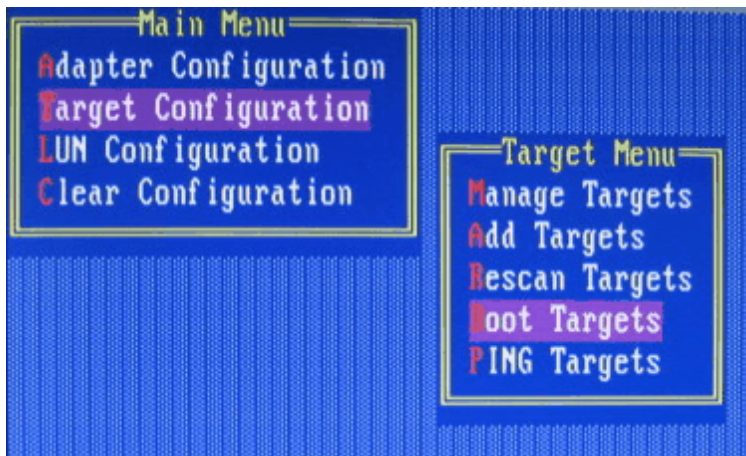


The screenshot shows a table titled 'PING Target' with the following data:

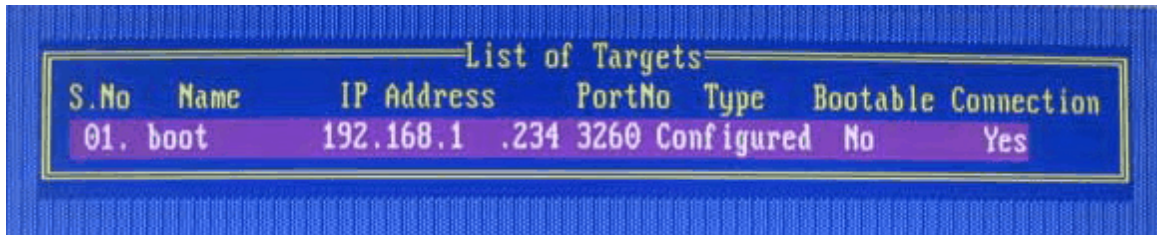
S.No	IP Address	Resp.Time	Result
0	192.168. 1.234	10 ms	PASS
1	192.168. 1.234	10 ms	PASS
2	192.168. 1.234	10 ms	PASS
3	192.168. 1.234	10 ms	PASS

Hit **Esc** to exit out of the **PING Target** screen.

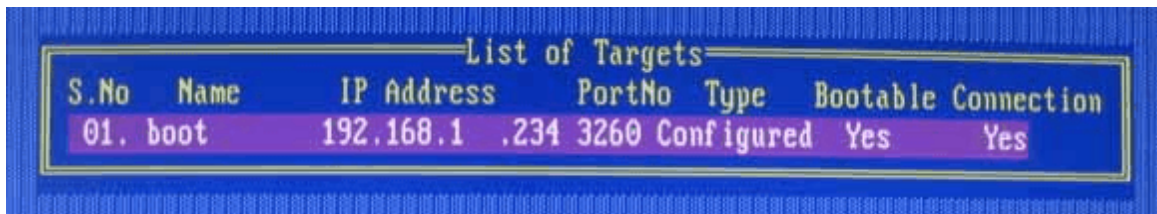
From the **Target Menu** select **Boot Targets**.



On the **List of Targets** page select the target and enable it for booting by hitting the **F4** key. Modify the boot order of the LUN as needed and save the settings.



S.No	Name	IP Address	PortNo	Type	Bootable	Connection
01.	boot	192.168.1	.234 3260	Configured	No	Yes



S.No	Name	IP Address	PortNo	Type	Bootable	Connection
01.	boot	192.168.1	.234 3260	Configured	Yes	Yes

Exit out of the **Adaptec iSCSISelect(TM) Utility** and restart the computer.

```
Adaptec ASA-7211C/F iSCSI BIOS v1.20.40
(c) 2004 Adaptec, Inc. All Rights Reserved.

<<< Press <Ctrl><A> for iSCSISelect(TM) Utility >>>

Controller#0 Base 0xDFC00000 at Bus:05 Dev:01 Fun:01
Drive #0 ROCKET    IMAGEFILE 0      5120 MB

BIOS Installed Sucessfully!.
```

Install the operating system using the adapter. For information on installing the operating system, please see the documentation that comes with the adapter (you need to create floppy disk with Adaptec drivers and during Windows operating system install press F6 and specify that floppy disk).

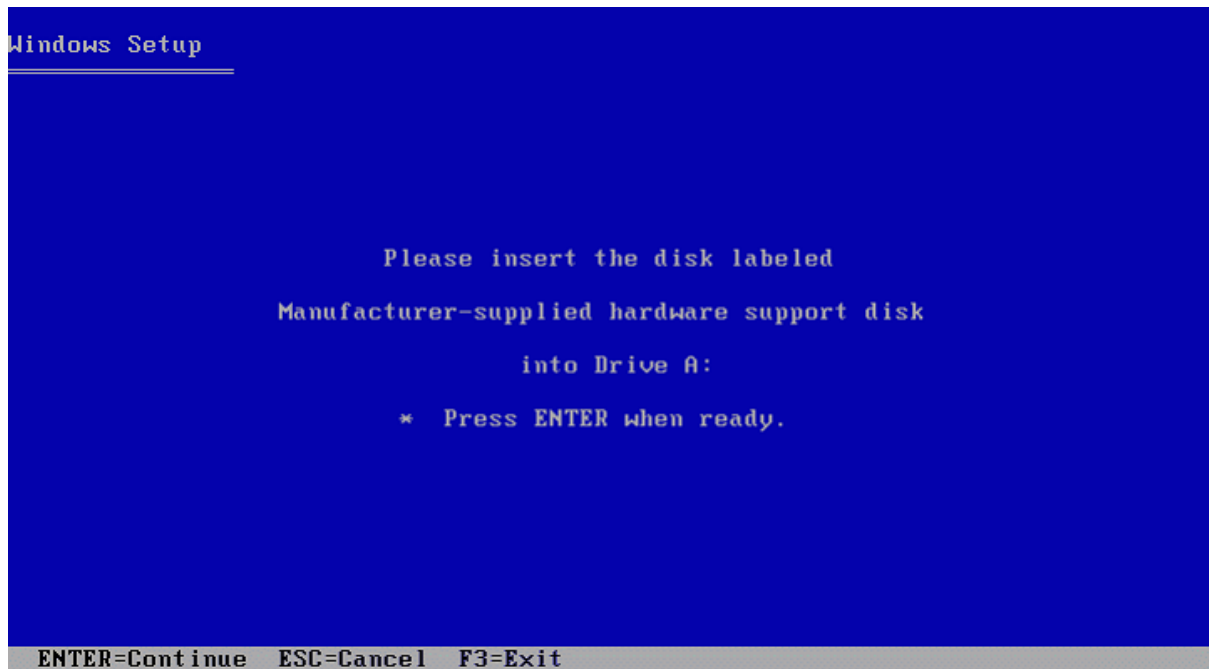
```
Windows Setup
-----
Setup could not determine the type of one or more mass storage devices
installed in your system, or you have chosen to manually specify an adapter.
Currently, Setup will load support for the following mass storage device(s):

<none>

* To specify additional SCSI adapters, CD-ROM drives, or special
  disk controllers for use with Windows, including those for
  which you have a device support disk from a mass storage device
  manufacturer, press S.

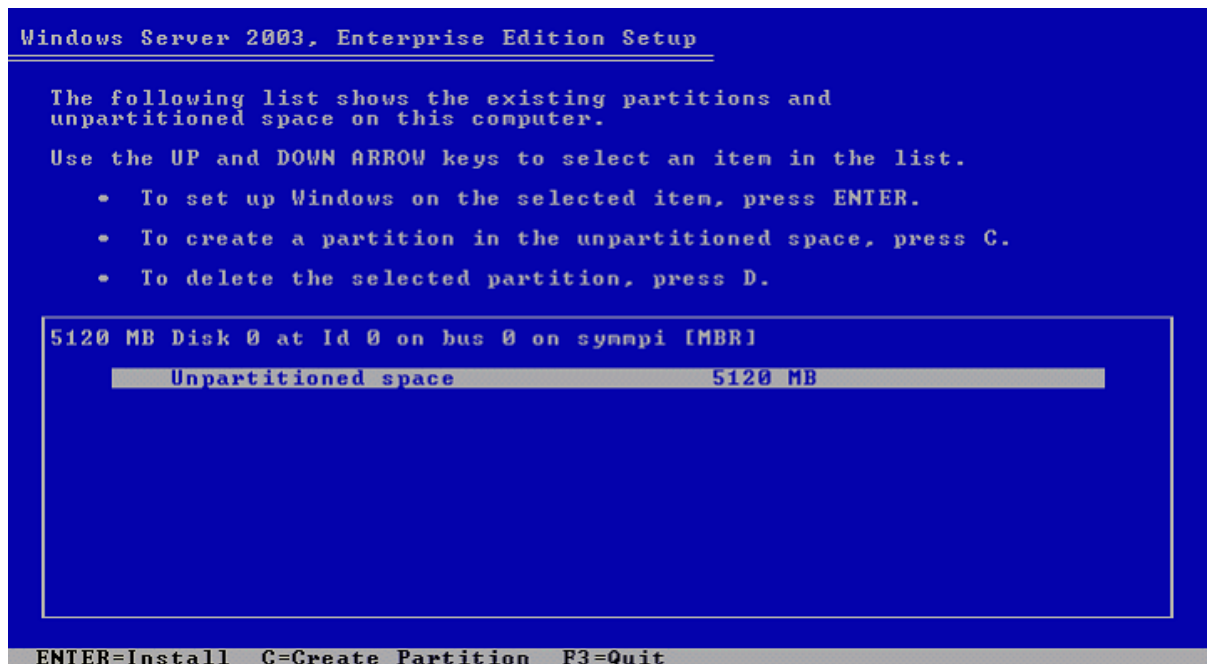
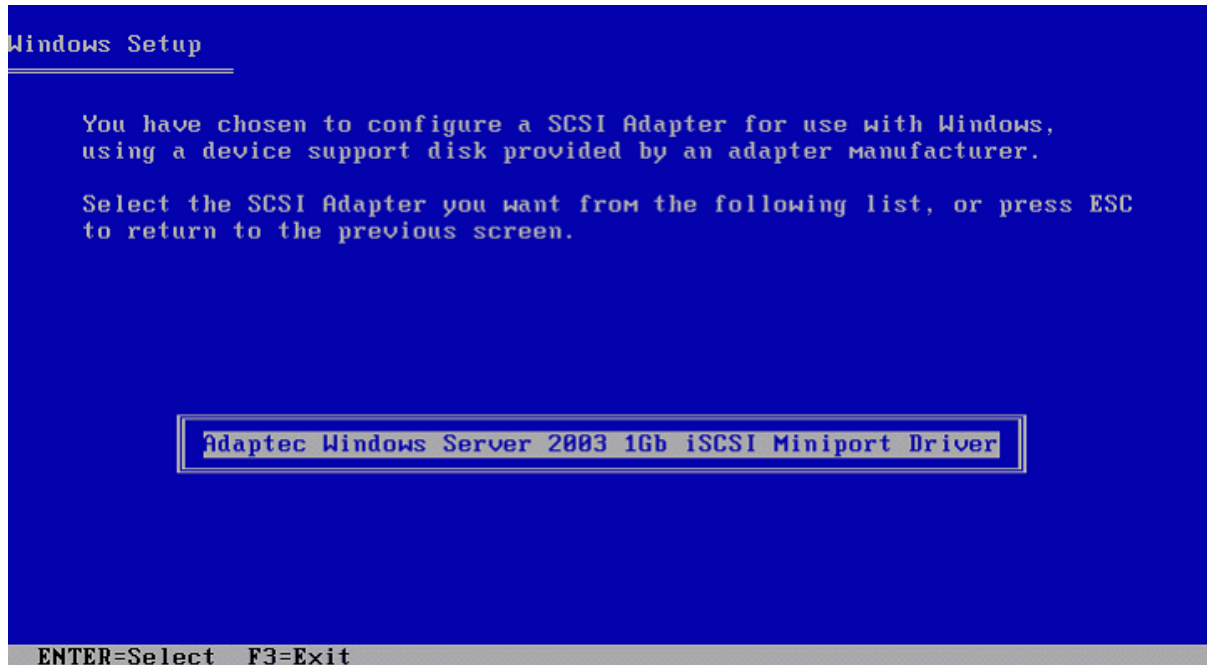
* If you do not have any device support disks from a mass storage
  device manufacturer, or do not want to specify additional
  mass storage devices for use with Windows, press ENTER.

S=Specify Additional Device  ENTER=Continue  F3=Exit
```



Hit **Enter** to continue.

Select the device driver and continue operating system installation in the usual way.



Conclusion

Contacts

Support: www.starwindsoftware.com/support

Support Forum: www.starwindsoftware.com/forums

Sales E-mail: sales@starwindsoftware.com

US Headquarters

Phone: 617-449-7717

Fax: 617-505-5845

EMEA: 1-888-532-2203

StarWind Software Inc.

40 Mall Rd., Burlington

MA 01803, USA

www.starwindsoftware.com