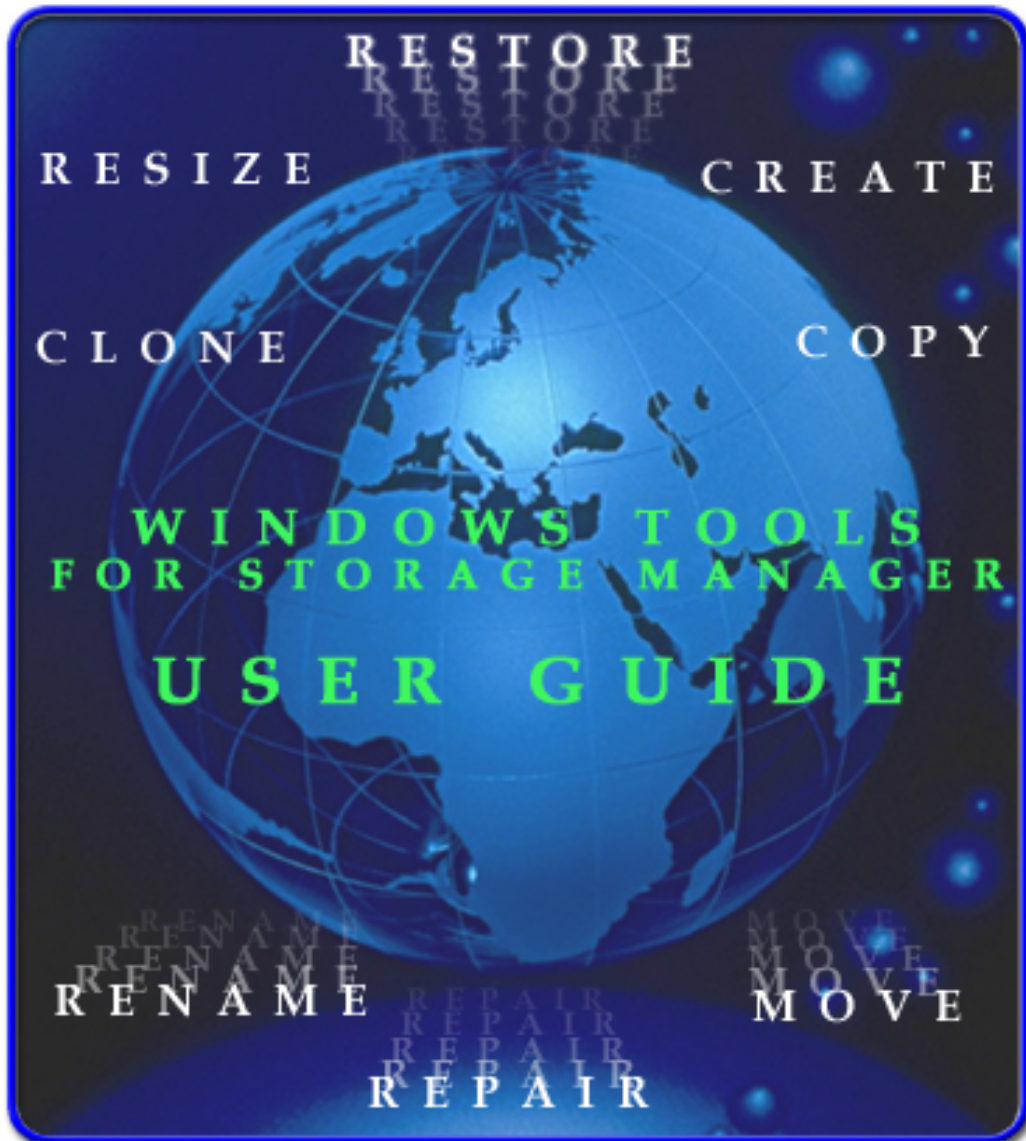


STORAGE MANAGER

ESSENTIAL TOOLS FOR NETWORK



PORTLOCK

WWW.PORTLOCKSOFTWARE.COM

Windows Tools for Storage Manager User Guide

Storage Manager by Portlock Software

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Portlock Software
65 East Broadway • Butte, Montana 59701 • U.S.A.

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Chapter One: Overview

Storage Manager is a software storage management product. Storage Manager is designed to minimize the management, setup, installation and reconfiguration time for Novell NetWare 3.x, 4.x, 5.x and 6.x servers. Copy, create, clone, image, restore, resize NetWare and DOS partitions and volumes including NSS, NSS Storage Groups and NSS Storage Pools. Disaster or quick recovery of failed servers is very fast and dramatically simplified.

Storage Manager supports creating images of NetWare servers. Storage Manager images can be stored on disk files, TCP/IP communication links and SCSI tape drives. Third generation imaging technology supports streaming to the fastest SCSI tape drives using high performance communications over TCP/IP for server to server cloning.

Storage Manager provides full-featured control over the size and layout of DOS and NetWare partitions, volumes, NSS volumes and NSS Storage Pools. Compaq Diagnostic partitions are also supported.

The send.exe and recv.exe modules are command-line tools that run in a DOS box on Windows 95/98/ME/NT/W2K/XP workstations. They are designed to receive/send images to Storage Manager.

1.1 Command Line Options

This version supports a number of command line options that can be used to modify the behavior of the software.

Command Syntax: recv [options] ip_address filename

Command line options:

-help	Displays the help screen. All other options will be ignored.
-autosize=n	Limits created files to n MB
-autoname	Automatically names image files
-config	Displays TCP/IP configuration
-port=<tcpip port number>	Changes the TCP/IP Port number used for TCP/IP communications. By default, Storage Manager uses port 19000. Both the sending and receiving processes must use the same port number.

Command Syntax: recv [options] filename1 filename2 filename3 ...

Command line options:

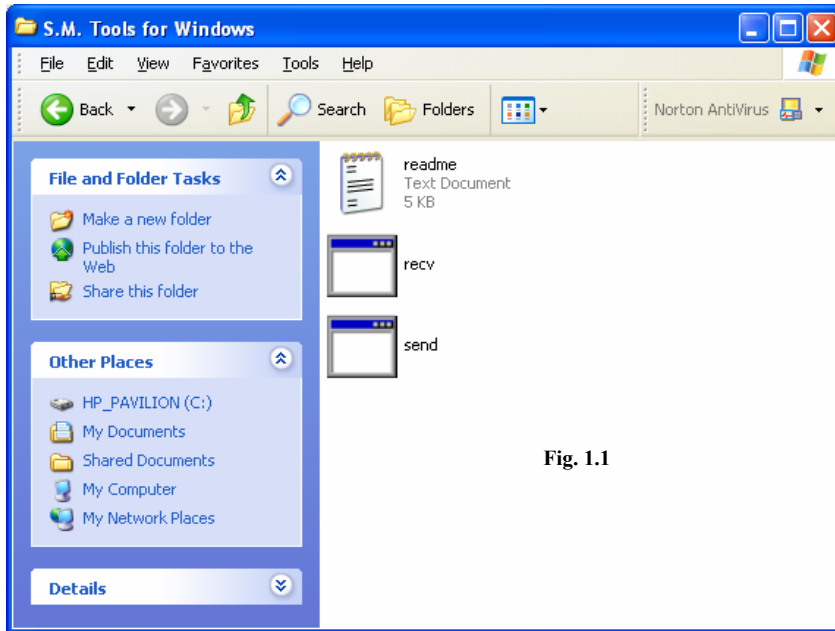
-help	Displays the help screen. All other options will be ignored.
-config	Displays TCP/IP configuration
-pause	Pause before each file to insert new media
-port=<tcpip port number>	Changes the TCP/IP Port number used for TCP/IP communications. By default, Storage Manager uses port 19000. Both the sending and receiving processes must use the same port number.
-readsize=n	Sets the disk read buffer size to n bytes
-sendsize=n	Sets the send buffer size to n bytes

Chapter Two: Receive.exe

2.1 Installation for Windows

This software is packaged as a zip file. Create a temporary directory on your system and unzip the files. This software does not require an installation before use.

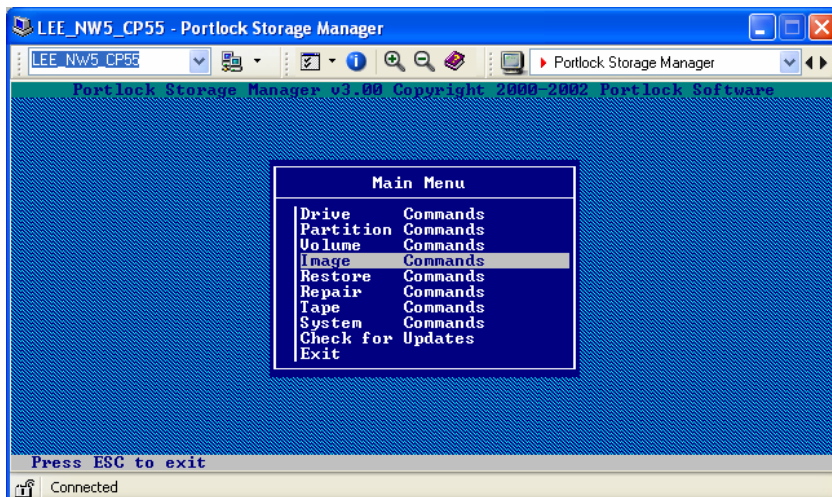
From the Workstation:



Create a temporary directory on your workstation and unzip the Storage Manager Tools for Windows files.

Fig. 1.1

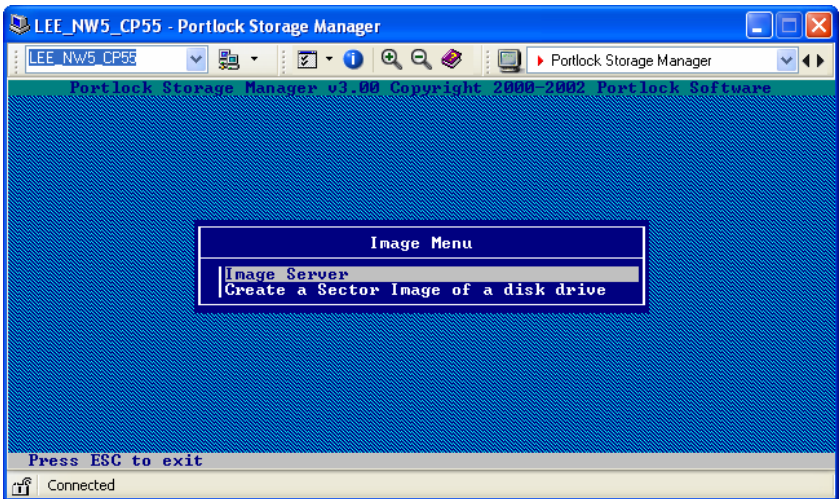
From the Server:



The default installation directory for Storage Manager is "SYS:/STORMGR"

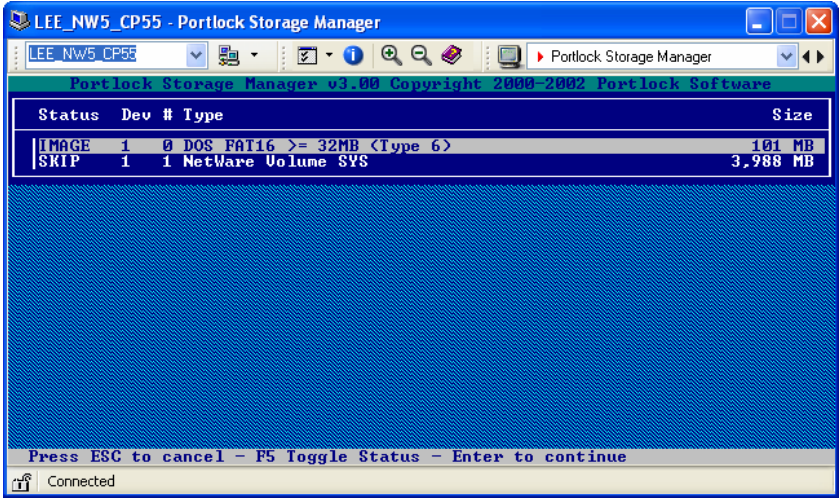
Storage Manager can be executed by typing in "load sys:/stormgr/stormgr" at the server console.

To create an image that will be sent to your workstation, select "Image" from the Main Menu and press [ENTER].



From the **Image Menu**, you have the option to Image Server or Create a sector Image of a disk drive. For this example, **Image Server** will be chosen.

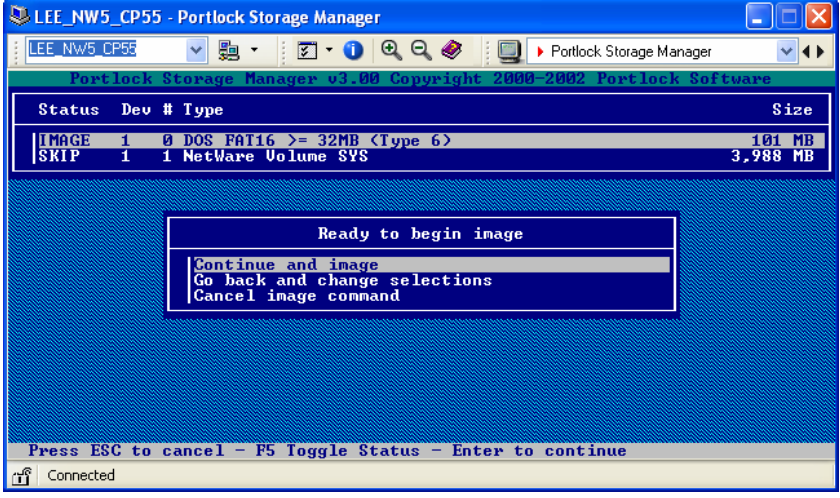
Press [ENTER] to continue.



From the **Image Selection** screen, select what you want to create an image of.

You can toggle the selection's status between "Image" and "Skip" by pressing the [F5] key when the selection is highlighted.

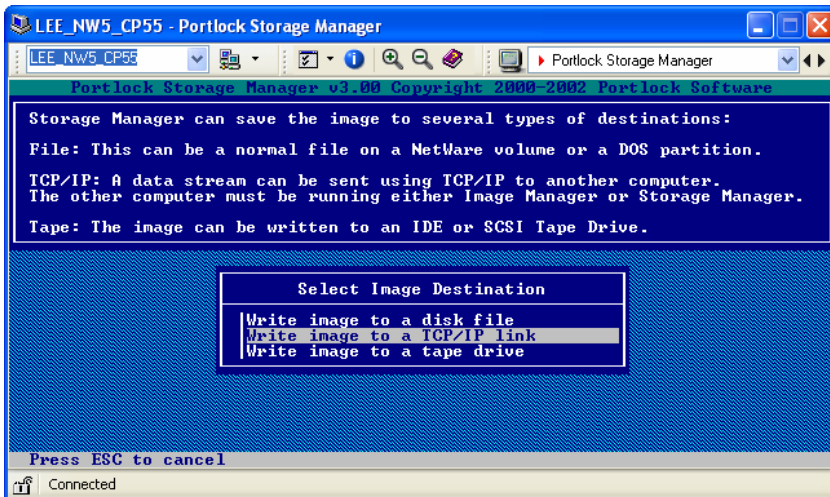
Press [ENTER] to continue.



From the **Ready to begin image** screen, you have the option to Continue and image, Go back and change selections or Cancel the image command. For this example, **Continue and image** has been selected.

Notice in the status section of the screen, the partition we want to image has IMAGE to its left and the others are set to SKIP.

Press [ENTER] to continue.

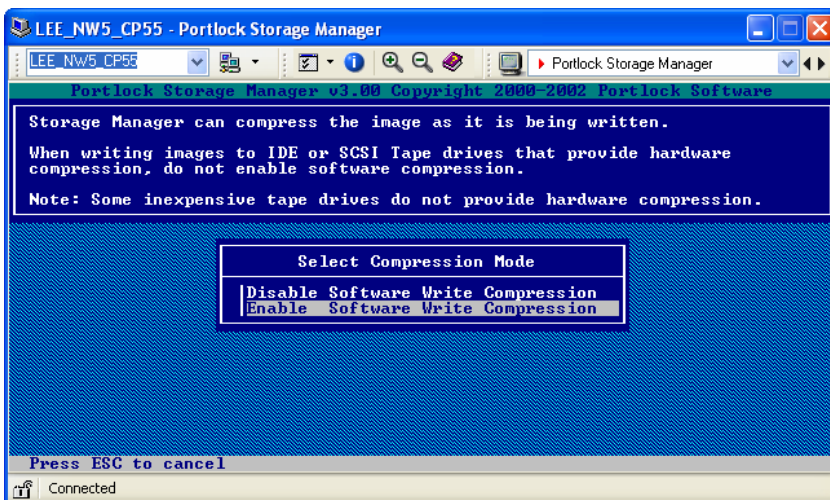


Storage Manager can save the image to several types different destinations. For this particular example, the image will be written to a TCP/IP link.

When transferring an image via TCP/IP, one side needs to be a server, and the other side needs to be a client.

In this case, the TCP/IP link has been chosen because the server will be sending the image, and the workstation will be receiving the image.

Press [ENTER] to continue.

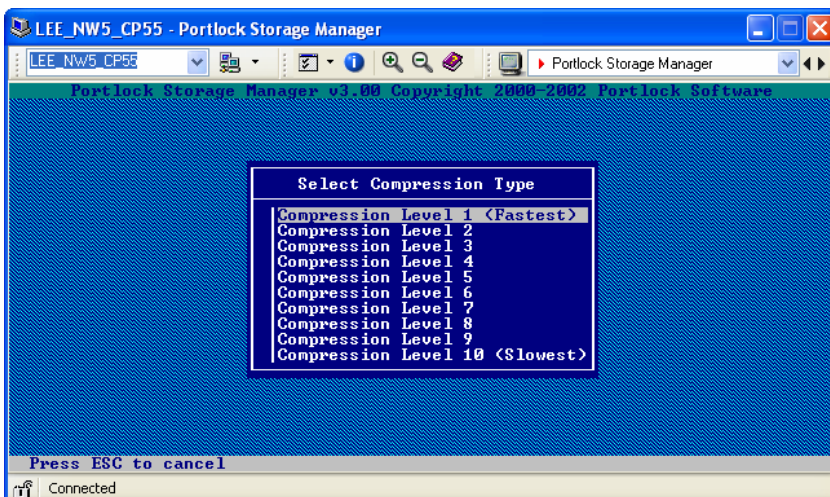


Storage Manager can compress the image as it is being written.

When writing images to IDE or SCSI Tape drives that provide hardware compression, do not enable software compression.

For this example, **Enable Software Write Compression** is selected because the image will be going to a workstation.

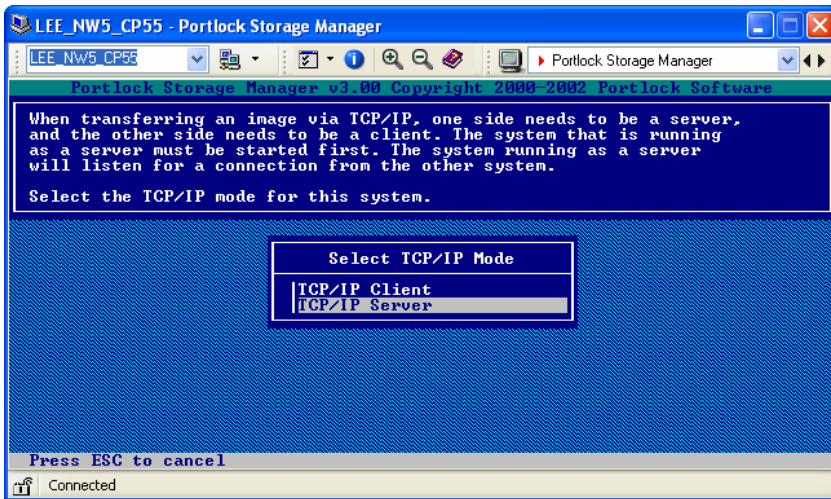
Press [ENTER] to continue.



The compression level screen contains options to select the compression level of the image.

The levels range from 1 – 10. 1 being the fastest and 10 being the slowest.

Select your compression level and press [ENTER] to continue.

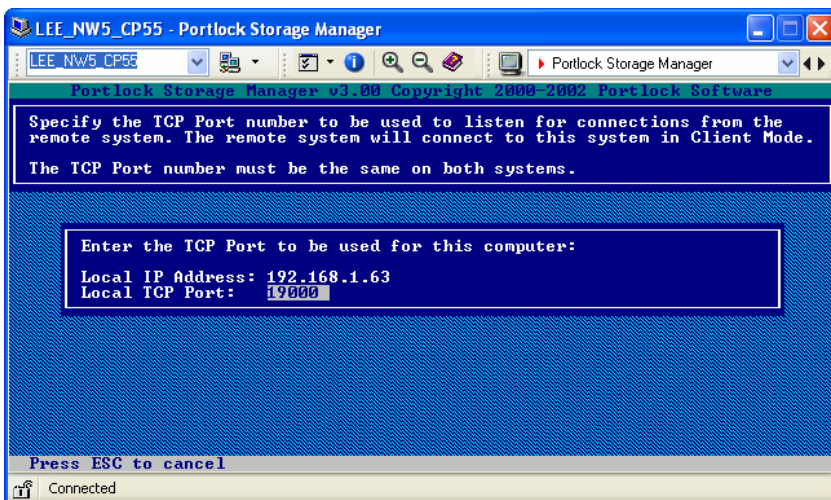


When transferring an image via TCP/IP, one side needs to be a server, and the other side needs to be a client.

The system that is running as a server must be started first. The system running as a server will listen for a connection from the workstation.

Because an image will be created from the server and transferred to a workstation, TCP/IP Server from the Select TCP/IP Mode menu.

Press [ENTER] to continue.

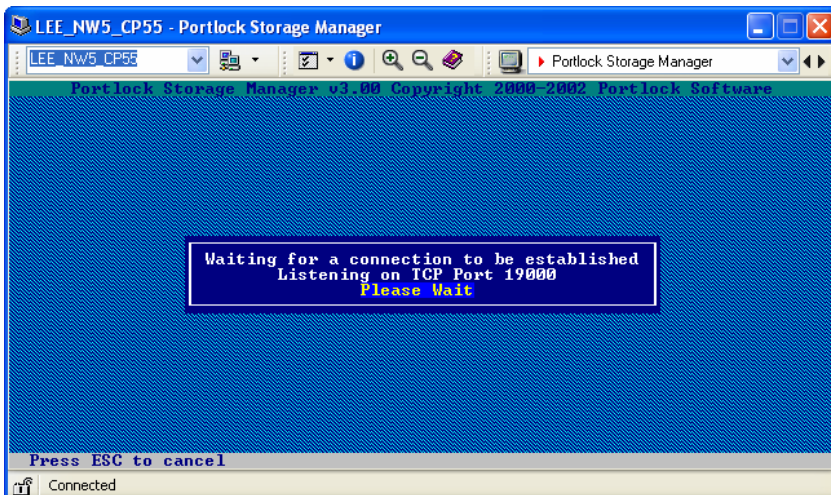


A TCP Port number must be specified in order for the server to listen for connections from the workstation.

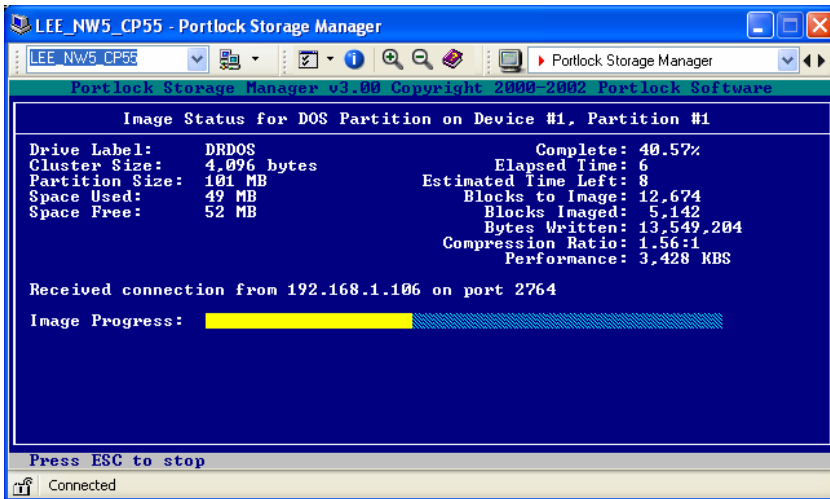
By default, Storage Manager uses Port 19000.

The TCP Port number must be identical on both the server and the workstation in order for a connection to be established.

Press [ENTER] to continue.



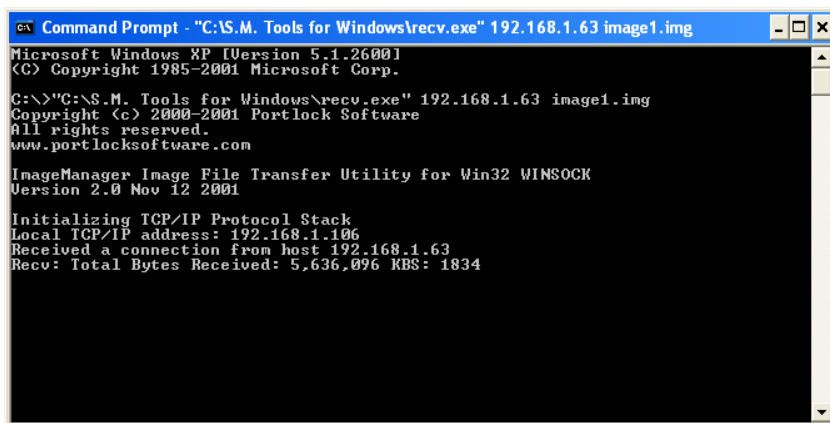
After the Port number and IP Address have been configured, Storage Manager will try to establish a connection with the workstation.



Once a connection has been established, the **Image Progress Screen** will appear and the transfer process will begin.

The transfer can be stopped at anytime by hitting the [ESC] key.

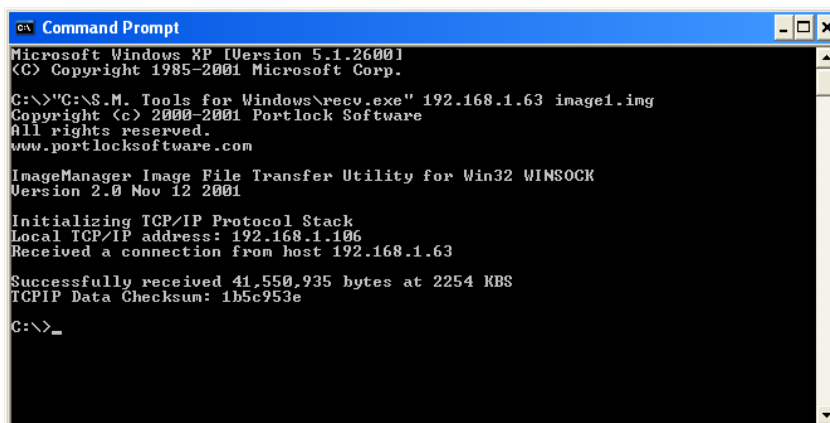
From the Workstation:



Drag recv.exe into the DOS Command Prompt Window and enter the IP address along with the image name you assign.

At this point, Image Manager Image File Transfer Utility will start initializing the TCP/IP Protocol Stack and display information about the image transfer.

Note: Storage Manager must be initialized on the Server first, then recv.exe on the workstation.



When the Image receive is complete, DOS will display information about transfer.

The server will now display an Image Success Screen. Press any key to exit.

Chapter 3: Send.exe

3.1 Installation for Windows

This software is packaged as a zip file. Create a temporary directory on your system and unzip the files. This software does not require an installation before use.

From the Workstation:

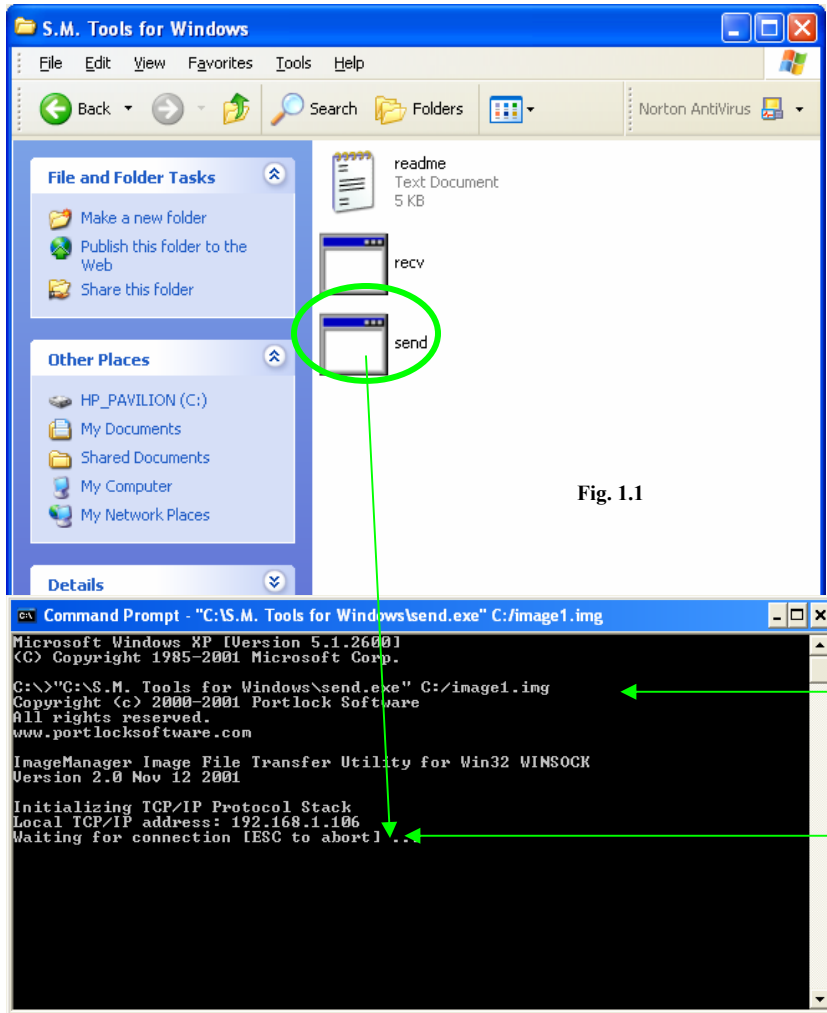


Fig. 1.1

After creating a temporary directory on your system and unzipping the files, click and drag the send.exe module into the DOS Command Prompt window.

By doing this, you will execute the send command as shown in figure 1.2 below.

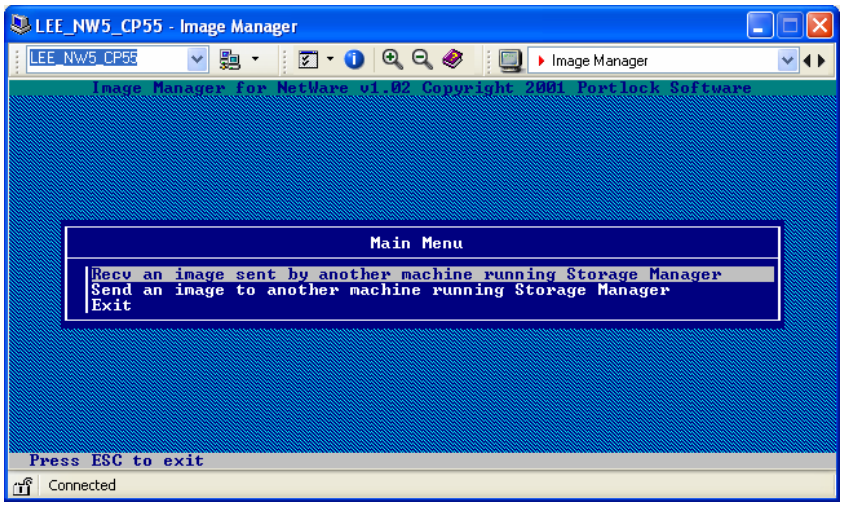
After dragging send.exe into the DOS Command Prompt Window, you will have to type in the path to the image you want to send to your server.

At this point, Image Manager Image File Transfer Utility will start initializing the TCP/IP Protocol Stack.

Note: Send.exe must be initialized on the Workstation first, then Portlock Image Manager on the Server.

Fig. 1.2

From the Server:



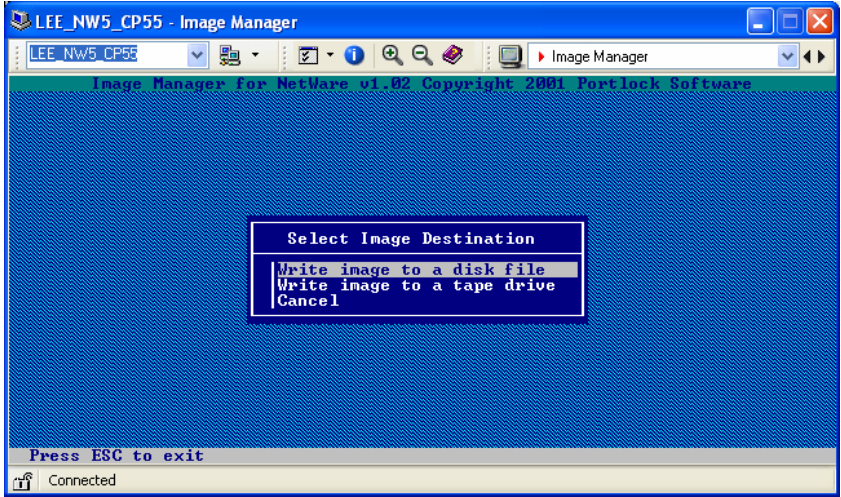
The default installation directory for Image Manager is "SYS:/STORMGR/IMAG EMGR"

Image Manager can be executed by typing in "load sys:/stormgr/imagmgr" at the server console.

To receive an image being sent from your workstation, select "Recv an image sent by another machine running Storage Manager" from the Main Menu and press [ENTER].

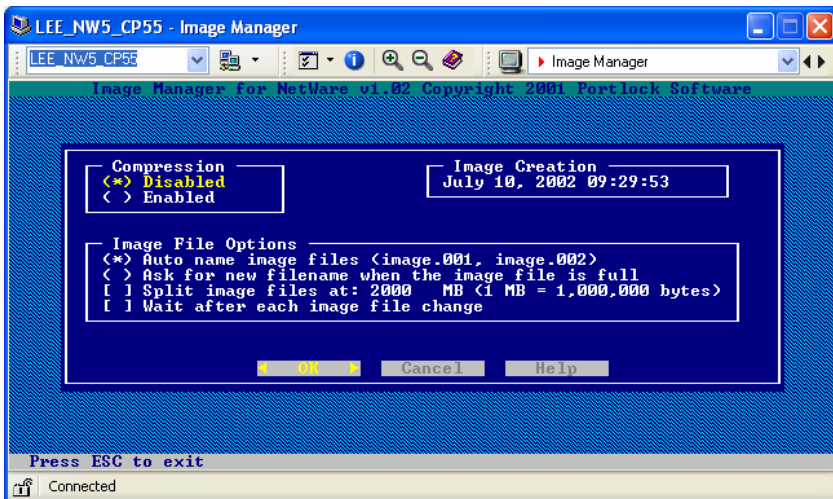
Image Manager is used to receive and send images that are created by Storage Manager using TCP/IP. These images can be received from a remote machine and then written to a disk file on one of the local NetWare volumes or to a local SCSI tape drive.

Images stored on the server can be sent to another server running Storage Manager or to a Windows Workstation using the Send/Receive Tools from Portlock.



From the **Select Image Destination** menu, there are options listed as to where the destination of the image will be written.

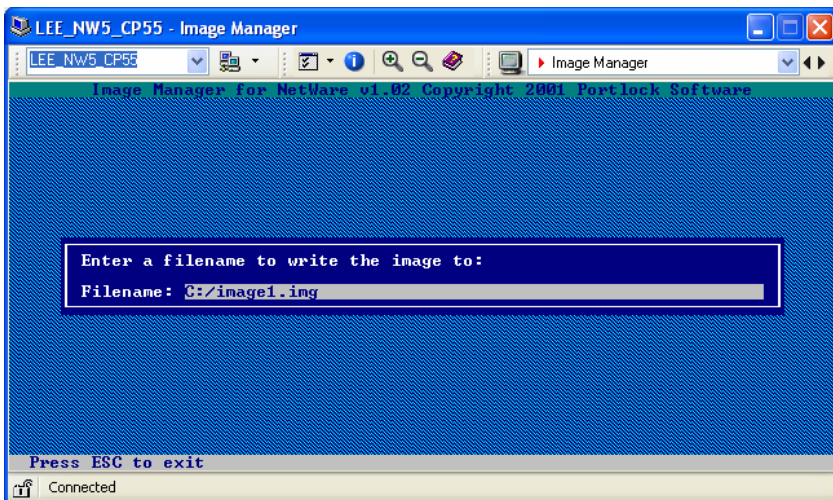
In this example, **Write image to a disk file** will be chosen. Hit [Enter] to continue.



Within the options screen of Image Manager, the user has the ability to choose to Enable or Disable compression, along with several Image file options.

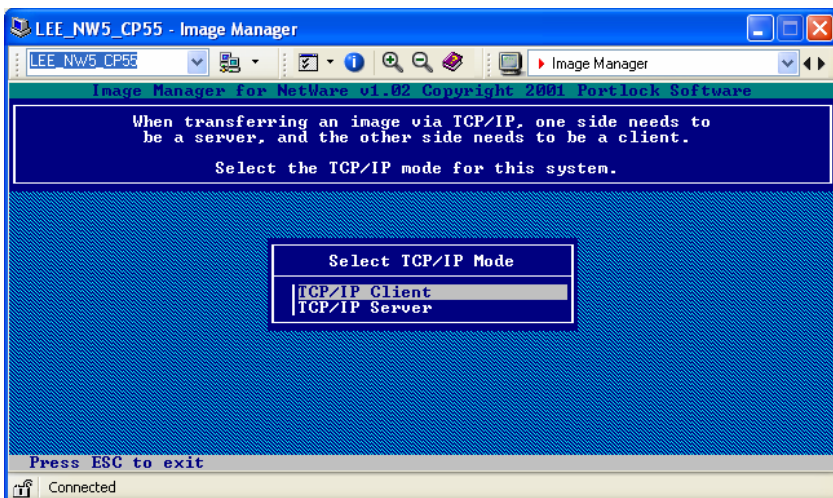
In this example, Compression has been disabled and the Auto name feature has been selected.

Press **[ENTER]** to continue.



To receive an image, a filename must be entered to write the image to.

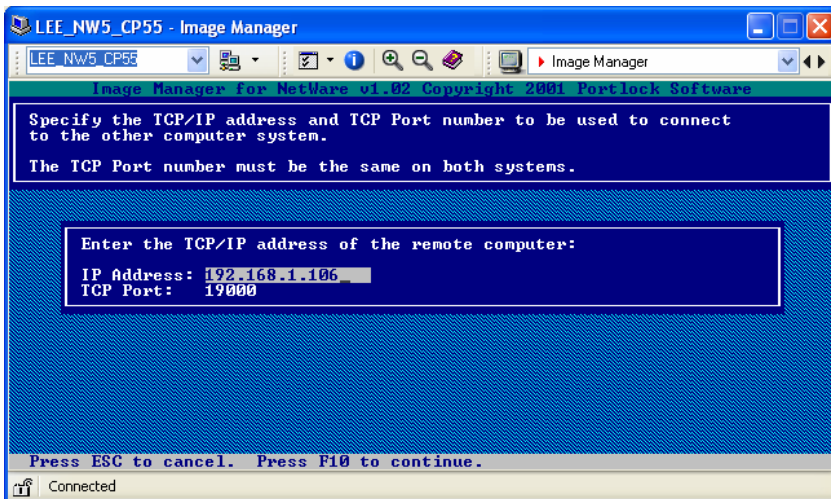
Enter in the correct image name and press **[ENTER]** to continue.



When transferring an image via TCP/IP, one side needs to be a server, and the other side needs to be a client.

In this case, **TCP/IP Client** has been chosen because the server will be receiving the image, and the workstation will be sending the image.

Press **[ENTER]** to continue.

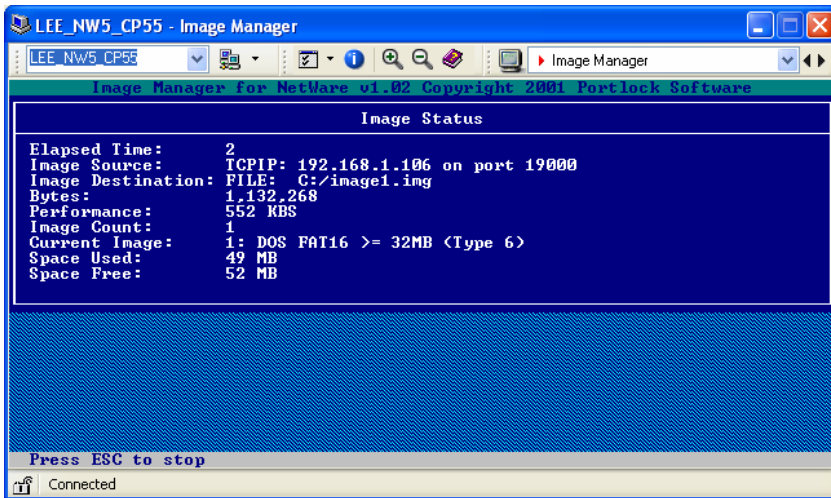


An IP Address and TCP Port must be specified to connect to the workstation.

By default, Storage Manager uses Port 19000.

The TCP Port number must be identical on both the server and the workstation in order for a connection to be established.

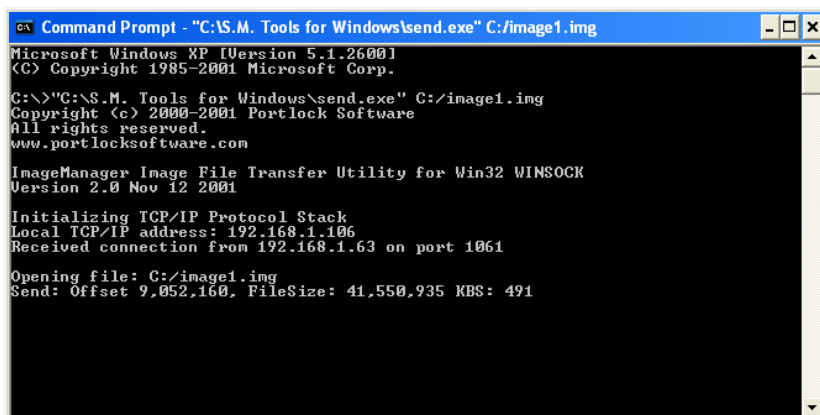
Press **[ENTER]** to continue.



Once the connection has been established and the image destination has been chosen, Image Manager will begin to receive the transfer.

The transfer can be stopped at anytime by pressing the **[ESC]** key.

At the Workstation:



In the DOS Screen located on the Windows workstation, the status of the transfer can be viewed.

```
Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>"C:\S.M. Tools for Windows\send.exe" C:/image1.img
Copyright (c) 2000-2001 Portlock Software
All rights reserved.
www.portlocksoftware.com

ImageManager Image File Transfer Utility for Win32 WINSOCK
Version 2.0 Nov 12 2001

Initializing TCP/IP Protocol Stack
Local TCP/IP address: 192.168.1.106
Received connection from 192.168.1.63 on port 1061

Opening file: C:/image1.img
Successfully sent 41,550,935 bytes at 548 KBS
TCP/IP Data Checksum: 1b5c953e

C:\>_
```

When the Image send is complete, DOS will display information on the send.

At the Server:

```
LEE_NW5_CP55 - Image Manager
LEE_NW5_CP55
Image Manager for NetWare v1.02 Copyright 2001 Portlock Software

Image Status
Elapsed Time: 01:13
Image Source: TCP/IP: 192.168.1.106 on port 19000
Image Destination: FILE: C:/image1.img
Bytes: 41,550,935
Performance: 555 KBS
Image Count: 1
Current Image: 1
Space Used: 4
Space Free: 5 Total Bytes received: 41,550,935

Press ESC to stop
Connected
```

When the server has completed receiving the image, the **Image Status** screen will display information regarding the receive.

Appendix A: Technical Support

Portlock Software is committed to providing support for its products that exceeds the industry standard for software companies. We provide support via our web site, email and the telephone.

Note: *Technical Support is only available in English.*

Before Contacting Technical Support

Verify that you are running the current version of Storage Manager. We update our products very often. The **README** file may indicate that we have already corrected your problem.

Run Storage Manger with the **-logfile** command line option. Technical Support will usually ask for the logfile so that we can see your hardware and software configuration.

Write down any error or warning messages exactly as displayed by Storage Manager. This will often help Technical Support identify the location of the error in the Storage Manger source code. This can greatly speed up resolution of a support issue.

Contacting Technical Support by EMAIL

When sending email to Technical Support support@portlocksoftware.com, please include the following information when possible:

- Detailed description of the problem including warning or error information
- The logfile created by Storage Manager
- NetWare version and Service Pack
- Hardware make and model
- Details about the storage devices
- Other information that might help us understand the issue

You can expect a reply from our Technical Support within **ONE** business day.

Contacting Technical Support by Telephone

If you are reporting a problem with Storage Manager, our preferred support contact is by email. However, sometimes you just want to ask a simple question to clarify how to best use Storage Manager. Give us a call, we will try our best to help you best use Storage Manager.

- When calling Technical support prepare the following information before calling:
- Detailed description of the problem including warning or error information
- The logfile created by Storage Manager
- NetWare version and Service Pack
- Hardware make and model
- Details about the storage devices
- Other information that might help us understand the issue

Corporate Web Site

The Portlock Software web site www.portlocksoftware.com includes documents, technical support information, answers to frequently asked questions, tips and techniques, and newsletters that may help you better understand and use Storage Manager.