neoware

User Manual for Neoware Thin Clients with Microsoft® Windows® XP Embedded Operating System

Release 1.4

Microsoft® Windows® xp Embedded™

© 2006 by Neoware, Inc.
3200 Horizon Drive,
King of Prussia, PA 19406 USA
Tel.: +1-610-277-8300
Fax: +1-610-771-4200

Email: info@neoware.com

Web: **http://www.neoware.com**

This manual is copyrighted by Neoware, Inc. All rights are reserved. This document may not, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without prior consent, in writing, from Neoware, Inc.

Neoware, Capio, Eon, ThinSTAR, TeemTalk and ezRemote Manager are trademarks or registered trademarks of Neoware, Inc. Microsoft and Windows are registered trademarks of Microsoft Corporation. MetaFrame, WinFrame, and ICA are registered trademarks of Citrix Systems, Inc. Other trademarks used in this manual are the property of their respective owners.

Disclaimer: The information provided in this manual is intended for instructional purposes only and is subject to change without notice. Neoware, Inc., accepts no responsibility or liability for errors, omissions, or misleading information that may be contained in this manual.

April 2006

FCC Regulatory & Safety Information

FCC regulatory and safety information can be found in the Quick-Start Guide that came with your thin client, and on the Support section of the Neoware website which can be found at:

http://www.neoware.com/support.html

CANADA ICES/NMB-003 Class/Classe (B)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conform à la norme NMB-003 du Canada.

Neoware Hardware Warranty

Neoware hardware warranties can be found in the Quick-Start Guide that came with your thin client, and on the Support section of the Neoware website which can be found at:

http://www.neoware.com/support.html

Microsoft End User License Agreement (“EULA”)

END USER LICENSE AGREEMENT FOR MICROSOFT EMBEDDED SYSTEMS

You have acquired a device (“DEVICE”) that includes software licensed by NEOWARE, INC. (“NEOWARE”) from Microsoft Licensing Inc. or its affiliates (“MS”). Those installed software products of MS origin, as well as associated media, printed materials, and “online” or electronic documentation (“SOFTWARE”) are protected by international intellectual property laws and treaties. The SOFTWARE is licensed, not sold. All rights reserved.

IF YOU DO NOT AGREE TO THIS END USER LICENSE AGREEMENT (“EULA”), DO NOT USE THE DEVICE OR COPY THE SOFTWARE. INSTEAD, PROMPTLY CONTACT NEOWARE FOR INSTRUCTIONS ON RETURN OF THE UNUSED DEVICE(S) FOR A REFUND. **ANY USE OF THE SOFTWARE, INCLUDING BUT NOT LIMITED TO USE ON THE DEVICE, WILL CONSTITUTE YOUR AGREEMENT TO THIS EULA (OR RATIFICATION OF ANY PREVIOUS CONSENT).**

GRANT OF SOFTWARE LICENSE. This EULA grants you the following license:

- You may use the SOFTWARE only on the DEVICE.
- **NOT FAULT TOLERANT**. THE SOFTWARE IS NOT FAULT TOLERANT. NEOWARE HAS INDEPENDENTLY DETERMINED HOW TO USE THE SOFTWARE IN THE DEVICE, AND MS HAS RELIED UPON NEOWARE TO CONDUCT SUFFICIENT TESTING TO DETERMINE THAT THE SOFTWARE IS SUITABLE FOR SUCH USE.

- NO WARRANTIES FOR THE SOFTWARE. **THE SOFTWARE is provided "AS IS" and with all faults. THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, ACCURACY, AND EFFORT (INCLUDING LACK OF NEGLIGENCE) IS WITH YOU. ALSO, THERE IS NO WARRANTY AGAINST INTERFERENCE WITH YOUR ENJOYMENT OF THE SOFTWARE OR AGAINST INFRINGEMENT.** IF YOU HAVE RECEIVED ANY WARRANTIES REGARDING THE DEVICE OR THE SOFTWARE, THOSE WARRANTIES DO NOT ORIGINATE FROM, AND ARE NOT BINDING ON, MS.

- **Note on Java Support.** The SOFTWARE may contain support for programs written in Java. Java technology is not fault tolerant and is not designed, manufactured, or intended for use or resale as online control equipment in hazardous environments requiring fail-safe performance, such as in the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, direct life support machines, or weapons systems, in which the failure of Java technology could lead directly to death, personal injury, or severe physical or environmental damage. Sun Microsystems, Inc. has contractually obligated MS to make this disclaimer.

- No Liability for Certain Damages. **EXCEPT AS PROHIBITED BY LAW, MS SHALL HAVE NO LIABILITY FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE SOFTWARE. THIS LIMITATION SHALL APPLY EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE. IN NO EVENT SHALL MS BE LIABLE FOR ANY AMOUNT IN EXCESS OF U.S. TWO HUNDRED FIFTY DOLLARS (U.S.$250.00).**

- **Limitations on Reverse Engineering, Decompilation, and Disassembly.** You may not reverse engineer, decompile, or disassemble the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.

- **SOFTWARE TRANSFER ALLOWED BUT WITH RESTRICTIONS.** You may permanently transfer rights under this EULA only as part of a permanent sale or transfer of the Device, and only if the recipient agrees to this EULA.

- **EXPORT RESTRICTIONS.** You acknowledge that SOFTWARE is subject to U.S. export jurisdiction. You agree to comply with all applicable international and national laws that apply to the SOFTWARE, including the U.S. Export Administration Regulations, as well as end-user, end-use and destination restrictions issued by U.S. and other governments. For additional information see http://www.microsoft.com/exporting/.

Lead-Content Warning

Many PC products and accessories contain cords, cables or wires, such as power cords or cords to connect the accessory to a PC. If this product has such a cord, cable or wire, then the following warning applies:

WARNING: Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling.

Safety Instructions

Please read these safety instruction carefully and keep this user's manual for later reference.

1. **Before removing the outer case from the thin client, always disconnect the AC power cord to prevent the possibility of dangerous electrical shock.**
2. **Before cleaning, disconnect the thin client from AC power. Do not use liquid or sprayed cleaning products to clean the unit. Instead, use a moistened sheet or cloth for cleaning.**
3. **Do not expose the thin client to excessive humidity.**
4. **Be sure to install the thin client on a secure surface. A falling device could cause injury.**
5. **Place the power cord in such a way to avoid people stepping on it. Do not place anything over the power cord.**
6. **Be sure to note all cautions and warnings on the thin client.**
7. **If the thin client is not used for a long period of time, disconnect the AC power to avoid damage caused by voltage transients.**
8. **Never pour any liquid into any thin client openings: This could cause fire or electrical shock.**
9. **If one of the following situation occurs, be sure to get the thin client checked by a qualified service technician:**
   - a. **The power cord or plug is damaged.**
   - b. **Liquid penetrates the thin client case.**
   - c. **The thin client is exposed to moisture.**
   - d. **The thin client does not work well or you cannot get it to work according to the user's manual.**
   - e. **The thin client has been dropped or damaged.**
   - f. **If the thin client has obvious signs of breakage.**
10. **The thin client should be stored and used only in temperature and humidity controlled environments. Storing thin clients below -20°C (-4°F) or above 60°C (140°F) may cause damage.**
11. **The sound pressure level at the operators position according to IEC 704-1:1982 is equal or less to 70dB(A).**
12. **The input power cord shall be minimum H05VV-F, 3G, 0.75mm², rate minimum 6A.**
13. **The thin client should be used only where ambient air temperatures are maintained below 40°C.**

Table of Contents

Introduction

This introduction describes the purpose and structure of this manual, as well as other sources of information.

Overview

Purpose & Intended Readers

This manual explains how to use Neoware thin clients that are powered by Neoware software, incorporating the Microsoft® Windows® XP Embedded (XPe) operating system. The intended audience is system administrators and end users.

Organization

Neoware recommends that you read the chapters of this manual in order. The main topics covered are:

- Unpacking and setting up your thin client.
- Logging on to your thin client and configuring Logon accounts.
- Details of the pre-installed software applications on your thin client.
- Technical notes
- Setting up an automatic software and configuration update (“ezUpdate”) server

This manual does not explain how to use the Windows desktop or Windows-based applications. For information concerning Windows, read the documentation provided with the applications.

What is a Neoware XPe Thin Client?

The Neoware XPe thin client harnesses the power of Microsoft's Windows XP Embedded in an intelligent, customizable, and easily manageable computing device without hard drive, fan, or other moving parts for completely silent, long-lasting operation.

Neoware's XPe thin clients run Microsoft's industry-standard XPe operating system. Neoware's open approach to XPe allows you to customize our XPe thin clients to fit virtually any computing environment. In addition, Neoware has added its ezFeatures which include:

- ezManage – Full remote management capabilities built into every version of Neoware software. With Neoware's remote management software suite — ezRemote Manager — customers can update and configure Neoware thin clients without ever visiting the desktop. ezRemote Manager software provides administrators with complete central management including: device discovery, asset management, remote configuration, remote software updates, and installation of additional software components (via Neoware's ezSnap technology). Also, by using ezRemote Manager, administrators can copy a customized configuration from one XPe thin client to another, or to thousands of others.
- ezSecure – ezSecure enables system administrators to completely lock down Neoware software from unauthorized user intervention.
- ezSnap – ezSnap permits you to add new functionality, update existing software, or modify configurations in your Neoware thin clients, without having to upload or download an entire software image.

Neoware XPe thin clients can connect to servers running Microsoft® Windows® Server 2003, Microsoft Windows 2000 Server (as well as Advanced Server and Datacenter Server versions), Microsoft Windows NT 4.0 Server, Terminal Server Edition (TSE), and to servers that are running Citrix MetaFrame® and WinFrame®. Neoware XPe thin clients can also connect to XP Professional desktops. Using Neoware's TeemTalk terminal emulation suite (optional), you can also connect to mainframes and midrange computers. Your XPe thin client also comes fully configured to communicate with USB, serial, and parallel devices, and (depending on the hardware series) may include a PCI/ISA or PCMCIA slot for expandability. These features allow you to connect printers, modems, bar code scanners, and other peripheral devices to your thin client.

Neoware thin clients aren't difficult to use. If you know how to use a personal computer, or even if you don't, you can use a Neoware thin client.

Getting More Information

The Internet

Current and archival information about Neoware products, including the latest software updates, is available at:

http://www.neoware.com

In addition, this user manual and other Neoware documentation are available at the Neoware Web site for browsing or downloading.

Technical Support

For technical support regarding Neoware products, call Neoware at +1.610.277.8300 or request support using the form at:

http://www.neoware.com/support/support_request.html

CHAPTER 1 *Setting Up Your Neoware Thin Client*

This chapter describes how to set up your thin client.

Unpacking Your Neoware Thin Client

Packaging Contents

Your Neoware-powered thin client typically is shipped in cartons containing the items listed below. Depending on the shipping configuration, one or more of the items may be contained in separate shipping cartons (such as a monitor, keyboard, and mouse):

Thin Client

- A keyboard with cable attached.
- A mouse with cable attached.
- A power cable.
- Stabilizing feet or stand for using the thin client in a vertical orientation.

Monitor

- A monitor power cable (attached to some monitors).
- A monitor video cable (attached to most monitors).
- A tilt/swivel base, attached or unattached.

To unpack your Neoware thin client, open the cartons and remove the components carefully. Save the packing materials in case you need to repack them.

Connecting the Components

Back Panel Connectors

The following is an explanation of the different connections that can be found on Neoware thin clients. (Not all hardware platforms have the same number or type of back panel connectors. This listing is provided for general information about potential uses of these connectors.)

FYI

The serial and parallel ports can be used with ICA, RDP (Windows Server 2003), and terminal emulation connections.

- MOUSE is a PS/2-type mouse port (green-colored connector marked with the word “MOUSE” or with the icon displayed here).
- KEYBOARD is a PS/2-type keyboard port (purple-colored connector marked with the word “KEYBOARD” or with the icon displayed here).
- LAN is an RJ-45 jack. The thin client automatically detects and connects to either 10BaseT or 100BaseT (twisted-pair) Ethernet.
- PARALLEL is a standard DB-25 parallel port for local printers.
- COM 1 and COM 2 are DB-9, RS-232 serial ports. Depending on which software version is loaded in the thin client, serial ports may be used for peripheral devices such as modems, personal digital assistants (PDAs), and bar code scanners.
- USB ports (two Type A USB ports).
- MIC is a 3.5 mm microphone jack.
- LINE IN is a 3.5 mm line audio input jack.
- LINE OUT is a 3.5 mm audio output jack.
- MONITOR is a standard DB-15, high-density, VGA-type monitor connector.

- The power supply connects through the supplied power cable. It automatically detects and accepts either 120 VAC or 240 VAC line voltage.

Connecting the Cables

Power must not be applied until all connections have been made. Power cables should be connected last.

1. **Arrange the thin client and monitor in your work area.**
2. **Connect the monitor video cable to the MONITOR port.**

   Do not overtighten the screws. The video cable connection to the monitor varies. Some monitors have attached video cables.
3. **Connect the keyboard cable to the KEYBOARD (purple) port.**
4. **Connect the mouse cable to the MOUSE (green) port.**
5. **Connect a twisted-pair, 10BaseT or 100BaseT Ethernet cable into the LAN jack.**
6. **Connect any other peripheral devices that you require, such as a printer (see the following section for details).**
7. **Connect the monitor power cable to a power outlet.**
8. **Connect the power cable from the thin client to a power outlet.**
9. **Turn on your thin client and the monitor, then any peripheral devices.**

Connecting Parallel & Serial Peripheral Devices

You can connect a modem, printer, bar code scanner, and other peripheral devices to your thin client.

1. **If your thin client is turned on, log off all its open connections, and then turn off the thin client.**
2. **If you have a local printer, connect its cable to the PARALLEL port.** You can also attach local serial printers to either serial port: COM 1 or COM 2.

3 **If you have an external modem, bar code scanner, or other serial device, connect its cable to a serial port (COM 1 or COM 2).** Which serial port devices will work with your thin client depends on the software version loaded in the device. Not all software versions support all serial devices.

4 **Turn on your thin client and then the peripheral device.**

Shutting Down Your Thin Client

Pressing and releasing the power button will shut down the Windows operating system then power-off the unit.

Arranging Your Work Area

These tips will help reduce eye strain and body fatigue when using your Neoware thin client:

- Adjust your chair seat level so that your feet are flat on the floor, your legs form a right angle with the floor, your knees are free of the chair seat, and your lower back is fully supported.
- Adjust the chair height the keyboard and mouse are at elbow height so your wrists are straight and supported.
- Maintain a neutral neck posture with the top of the monitor no higher than your eye level.
- Adjust the monitor and lighting to reduce glare on the screen and to place the monitor at a correct distance for your vision.
- Take periodic breaks to stretch your arms and wrists and rest your eyes.

CHAPTER 2 *Logging On*

This chapter describes how to initially log on to your Neoware XPe thin client, and how to set up user accounts.

Preconfigured Logon Accounts

Neoware Default Logon Accounts

Neoware ships XPe thin clients with two preconfigured logon accounts: **Administrator** and **User**.

Logging on using the default **Administrator** logon account allows the user to configure every aspect of the XPe thin client.

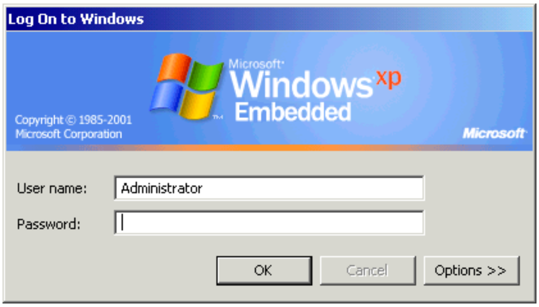
Logging on using the default **User** logon account allows the user to use the pre-installed software but not to make configuration changes to the XPe thin client. The User account is also configured with constraints designed to improve overall security. These User account limitations lock down the operating system so as to prevent unauthorized changes that could impair the function of the thin client, and reduce the exposure to viruses and other unintentional software installations.

Logging On Using Default Logon Accounts

After powering up your XPe thin client for the first time, you can logon to the thin client using one of the two preconfigured logon accounts. The logon information for these two accounts is (the passwords are case-sensitive):

Account	User Name	Password
Administrator	`Administrator`	`Administrator`
User	`User`	`User`

In the **Log On** dialog, enter a user name and password to logon to your thin client.


Log On to Windows
Microsoft Windows xp Embedded
Copyright © 1985-2001 Microsoft Corporation
Microsoft
OK
Cancel
Options >>

User name: Administrator

Password:

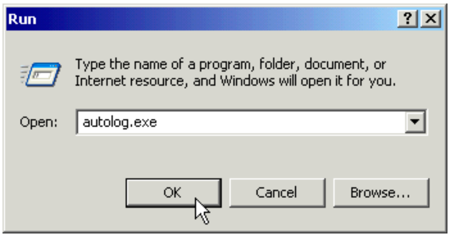
Note: The preconfigured logon account user names and passwords are case sensitive. In addition, network administrators should immediately change the password for the default Administrator account as a security precaution. To work best with Neoware's ezRemote Manager thin client remote administration suite, Neoware recommends that all thin clients (or at least all those in a group or location) be assigned the same Administrator password.

Automatic Logon

Enabling automatic logon causes your thin client to logon using a specified (thin client) user account following a power cycle (*i.e.*, when powered on or after a restart).

Enabling Auto Logon

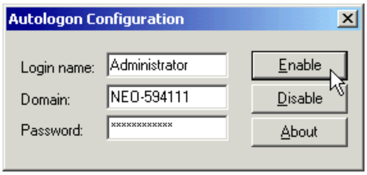
1. Logon to the thin client as Administrator.
2. Click the **Start** button.
3. Click **Run**.
4. In the Run dialog box type ***autolog.exe*** in the Open field. When finished, click **OK**.


Run

Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.

Open: autolog.exe

5 When the Autologon Configuration dialog opens, specify the logon account to be used by entering the Login Name, Password, and Domain (if applicable).


Autologon Configuration

Login name: Administrator
Domain: NEO-594111
Password: ************

6 Click the **Enable** button.

Disabling Auto Logon

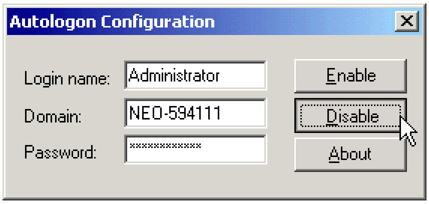
1 Logon to the thin client as Administrator.

2 Click the **Start** button.

3 Click **Run**.

4 In the Run dialog box, type ***autolog.exe*** in the Open field. When finished, click **OK**.

5 When the Autologon Configuration dialog opens click the **Disable** button.


Autologon Configuration

Login name: Administrator
Domain: NEO-594111
Password: ************

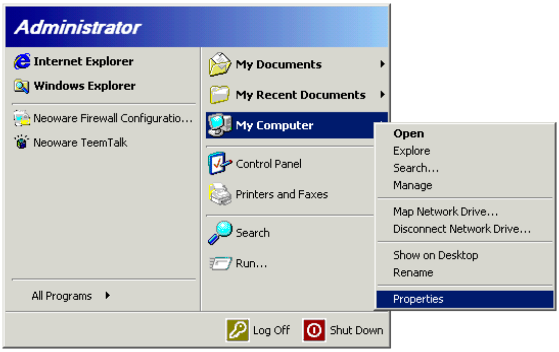
Note: If you have Auto Logon configured to log in as a user account without administrator privileges, you may need to hold down the **Shift** key during the bootup cycle to force the appearance of the logon screen.

Domain Logon

Enabling domain logon allows the user to logon to their XPe thin client using their network credentials. If you do not have network administrator rights, then have your administrator create a machine account in the domain before proceeding with the following instructions.

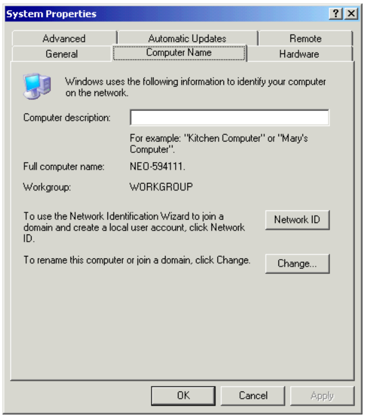
Enabling Domain Logon

1. Logon to the thin client as Administrator.
2. Click the **Start** menu on your taskbar.
3. **Right click** on the My Computer menu item.



4. Select **Properties** from the drop-down menu.

5 In the System Properties dialog, click the **Computer Name** tab.



Windows uses the following information to identify your computer on the network.

Computer description:

For example: "Kitchen Computer" or "Mary's Computer".

Full computer name: NEO-594111.

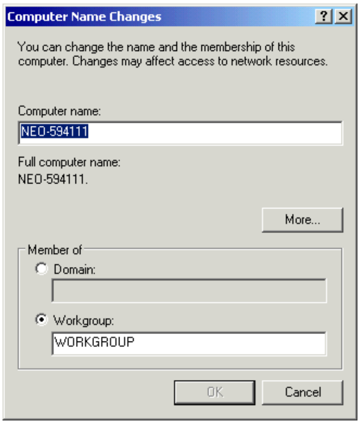
Workgroup: WORKGROUP

To use the Network Identification Wizard to join a domain and create a local user account, click Network ID.

To rename this computer or join a domain, click Change.

6 Click the **Change** button.

7 Enter the information in the Computer Name Changes dialog box. Also, when the domain membership changes, you can change the primary Domain Name System (DNS) suffix by clicking **More**.



You can change the name and the membership of this computer. Changes may affect access to network resources.

Computer name: NEO-594111

Full computer name: NEO-594111.

Member of

○ Domain:

● Workgroup: WORKGROUP

Note: If you are unfamiliar or uncertain about performing these tasks, you can use the Network Identification (ID) Wizard to help you.

8 Click **OK**.

9 When the Domain Welcome dialog appears, click **OK**.

10 Click **Yes** when asked to reboot your thin client.

NOTE: If you configure Domain logon and use roaming profiles, you need to ensure that the local copy of the profile is not written to the Flash disk. For more information about roaming profiles, See “Roaming Profiles” on page 25.

CHAPTER 3 Applications

This chapter introduces the software applications that are pre-installed and configured on your Neoware XPe thin client.

Overview

Pre-installed Applications & Available Snap-ins

Neoware ships Windows XPe thin clients with a host of software applications. These applications expand the functionality of your thin client and allow users to access software on servers. Depending on the model you have, the following applications are pre-installed:

Microsoft RDP v5.2
Citrix ICA v9.150
Internet Explorer v6
Neoware TeemTalk v5.0.1 Secure
Windows Media Player v10
Acrobat Reader v7
Macromedia Flash v7
Sun Java2RE v1.4.1_05
Neoware USB Wireless Adaptor Support
WMI
Neoware Firewall
Windows Firewall
LPD Printing Service
.NET Framework v1.1
SMS
Dual-Head PCI Video Card

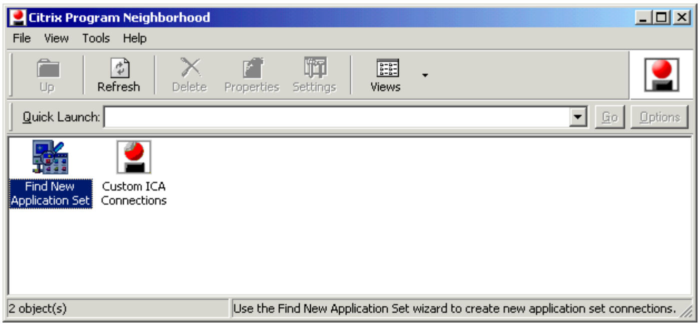
The following snap-ins are available:

Adobe Acrobat Reader v7 (English, French or German)
Media Player v10
ThinPrint v5.5
Sun J2SE Runtime Environment 5.0
Linksys Wireless Adaptor WMP54G Support
Allied Telesys AT-2700FTX Fiber Adaptor Support
User Interface in English, French, German, Spanish or Japanese
East Asian Language Support
Locales: Arabic, Czech, Greek, Hebrew,
Hungarian, Polish, Russian, Thai and Turkish
Security Updates

Citrix Program Neighborhood

Citrix Program Neighborhood is a utility that allows administrators and users to create server connections using the Citrix ICA Client.

Citrix Independent Computing Architecture (ICA®) is a network protocol that allows the remote display of and interaction with applications running on Microsoft Windows Server 2003, Microsoft Windows 2000 Server (as well as Advanced Server and Datacenter Server versions), Microsoft Windows NT 4 Server, Terminal Server Edition (TSE), and to servers that are running Citrix MetaFrame®, or WinFrame®. Neoware's XPe thin clients contain version 9 of the Citrix ICA® client.



2 object(s)

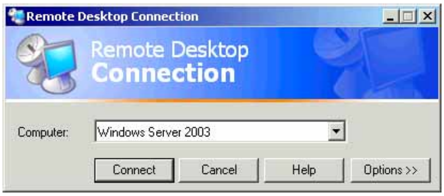
Use the Find New Application Set wizard to create new application set connections.

Microsoft Remote Desktop Connection

Microsoft's Remote Desktop Connection software enables you to access applications or data stored on a remote computer over a network connection using Microsoft's Remote Desktop Protocol (RDP).

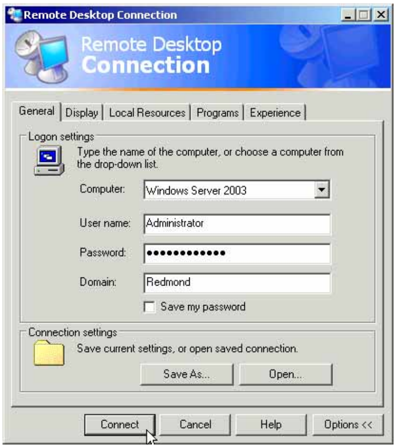
Neoware's XPe thin clients contain version 5.2 of the Microsoft RDP client.

To access the Remote Desktop Connection software, click on the **Start** taskbar button and select **All Programs | Accessories | Communications | Remote Desktop Connection**. The default dialog contains a field for entering the name of the Windows server to which you wish to connect.



Computer: Windows Server 2003

Click on **Options** for an extended choice of settings.



Logon settings

Type the name of the computer, or choose a computer from the drop-down list.

Computer: Windows Server 2003

User name: Administrator

Password: •••••••••••••

Domain: Redmond

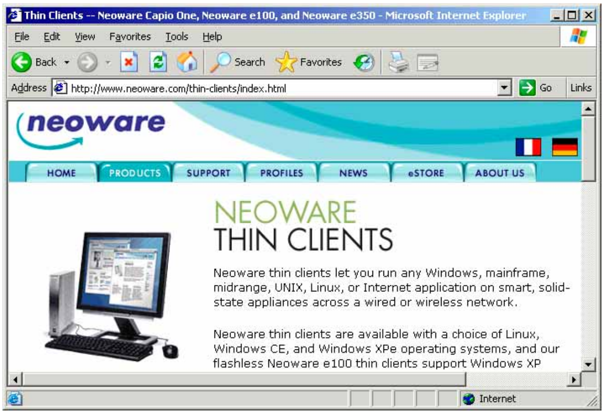
☐ Save my password

Connection settings

Save current settings, or open saved connection.

Microsoft Internet Explorer 6.0

Microsoft Windows XPe includes Internet Explorer Web browser, version 6.0. By default, this program is available to be used by both the Administrator and the User accounts. Administrator has full, unrestricted access to IE 6.0 menus and functionality. User has restricted access to IE 6.0, without access to File menu functions, and restricted access to configurations.



Thin Clients -- Neoware Capio One, Neoware e100, and Neoware e350 - Microsoft Internet Explorer
File
Edit
View
Favorites
Tools
Help
Back
Search
Favorites
Address
http://www.neoware.com/thin-clients/index.html
Go
Links
neoware
HOME
PRODUCTS
SUPPORT
PROFILES
NEWS
eSTORE
ABOUT US
Internet

NEOWARE
THIN CLIENTS

Neoware thin clients let you run any Windows, mainframe, midrange, UNIX, Linux, or Internet application on smart, solid-state appliances across a wired or wireless network.

Neoware thin clients are available with a choice of Linux, Windows CE, and Windows XPe operating systems, and our flashless Neoware e100 thin clients support Windows XP

Neoware TeemTalk XPe

Neoware's TeemTalk XPe terminal emulation suite provides access to applications running on UNIX and LINUX servers as well as on mainframes and midrange computers.

Supported Emulations

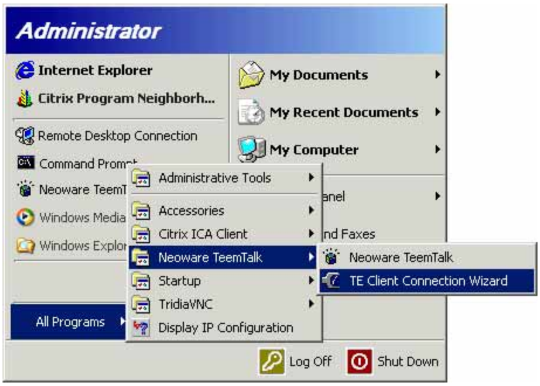
- ADDS A2
- AIX Term
- ANSI BBS
- AT 386
- BQ 3107
- DG 410
- HP 700-92/96

- HZ 1500
- IBM 3151
- IBM 3270
- IBM 5250
- MDI P12/P8
- MDI Prism-9
- SCO Console
- Stratus V102
- Siemens 97801
- TA 6530
- TVI 910, 920, 925, 950, 955
- Unisys T27
- Viewdata 40, 80, Split
- VT 52, 100, 500 7-bit, 500 8-bit, PC Term
- Wyse 50, 50+, 60, PC Term

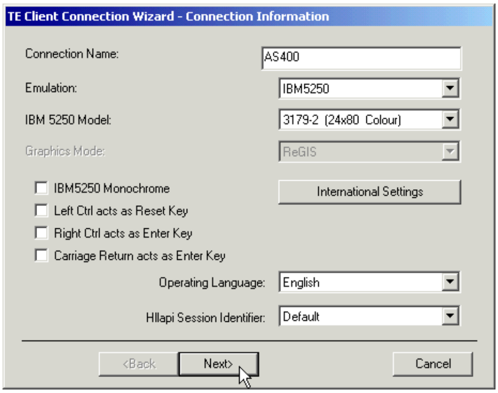
Setting Up TeemTalk XPe Connections

To set up Neoware TeemTalk XPe connections:

As Administrator: From the **Start** taskbar button, select **All Programs | Neoware TeemTalk | TE Client Connection Wizard.**



The TE Client Connection Wizard allows the Administrator to create shortcuts to networked computers. The resulting desktop icon can be copied to Start menus for users.



TE Client Connection Wizard - Connection Information

Connection Name: AS400

Emulation: IBM5250

IBM 5250 Model: 3179-2 (24x80 Colour)

Graphics Mode: ReGIS

□ IBM5250 Monochrome

□ Left Ctrl acts as Reset Key

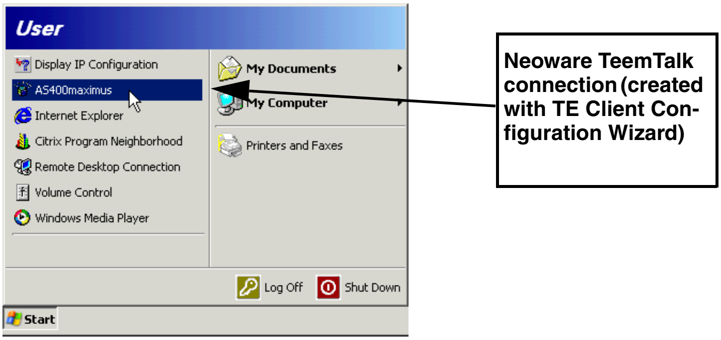
□ Right Ctrl acts as Enter Key

□ Carriage Return acts as Enter Key

Operating Language: English

Hllapi Session Identifier: Default

As User: Either click on the Neoware TeemTalk icon on the Start menu, or click on icons for pre-configured connections created by your Administrator (such as the highlighted menu item in the following illustration).



Neoware TeemTalk connection (created with TE Client Configuration Wizard)

Sun Java

Sun Java provides the ability to execute Java applets that are embedded on HTML pages.

Adobe® Acrobat® Reader Plug-In

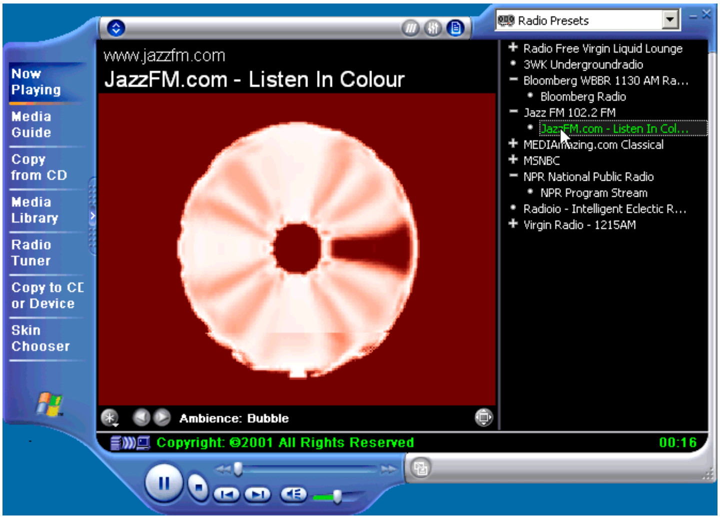
Adobe® Acrobat® Reader™ software lets you view and print Adobe Portable Document Format (PDF) files, as well as fill in and submit Adobe PDF forms online.

Macromedia Flash™ Plug-In

The Macromedia Flash Plug-In allows users to seamlessly view and interact with vector-based animated content created with Macromedia Flash software.

Microsoft Windows Media Player

Microsoft Windows Media Player is installed as both a freestanding application, and also as a plug-in for Internet Explorer 6.0. Media Player allows you to play audio and video files and data streams from Web sites.


Now Playing
Media Guide
Copy from CD
Media Library
Radio Tuner
Copy to CD or Device
Skin Chooser
www.jazzfm.com
JazzFM.com - Listen In Colour
Ambience: Bubble
Copyright: ©2001 All Rights Reserved
00:16
Radio Presets
Radio Free Virgin Liquid Lounge
3WK Undergroundradio
Bloomberg WBBR 1130 AM Ra...
Bloomberg Radio
Jazz FM 102.2 FM
JazzFM.com - Listen In Col...
MEDIAmazing.com Classical
MSNBC
NPR National Public Radio
NPR Program Stream
Radioio - Intelligent Eclectic R...
Virgin Radio - 1215AM

CHAPTER 4 Technical Notes

This chapter provides information about the configuration of Neoware Windows XPe thin clients.

File Storage Configuration

Flash Disk

Neoware Windows XPe thin clients contain a Flash memory-based file system where the operating system and local application files are stored. The Flash disk is divided into two partitions. These partitions are drive C:, where the main operating system software is stored, and drive D:, where files necessary to update your thin client are stored. The D: drive always contains the boot files ntldir, boot.ini and ntdetect.com. The unit will not boot without these files, so do NOT delete them. The D: drive is also used to store temporary files during a system update.

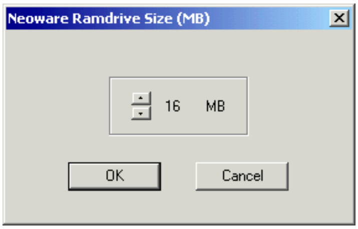
Note: It is recommended that you save files on a server and not on the flash storage in your thin client. If the unused space on drive C: is reduced to 3 megabytes or less the thin client may become unstable. If the unused space on drive C: is reduced to 2MB or less the thin client may become inoperable. In addition, do not delete, remove, or alter any files in drive D: or your thin client may not perform properly.

Temporary RAM Drive

Neoware Windows XPe thin clients use a virtual disk which utilizes a portion of the system memory. This virtual drive is labeled Z: and is used to store temporary data. However, this storage is volatile and will be erased when the thin client is shut down or rebooted. Therefore, any files that you want to keep and use again should not be stored on drive Z:.

Drive Z: is a good location for storing session-specific files that should not be permanently stored in the Flash disk. These types of files include: software temp files, temporary Internet cache, spooled print jobs, and roaming user profile files.

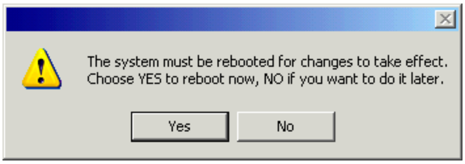
The RAM drive can be resized if necessary through the **Control Panel | RAMDrive** applet.



Neoware Ramdrive Size (MB)

16 MB

The size of the RAM drive is determined by the amount of free physical RAM in the unit, the maximum is 64MB. The default size is 16 MB. The thin client must reboot before the RAM drive size change takes place. You will be prompted to reboot now or later when you click **OK** after changing the RAM drive size.



The system must be rebooted for changes to take effect.
Choose YES to reboot now, NO if you want to do it later.

Changes made to the RAM drive size are among the configuration items cloned to other Neoware XPe thin clients when using ezRemote Manager.

Mapping Network Drives

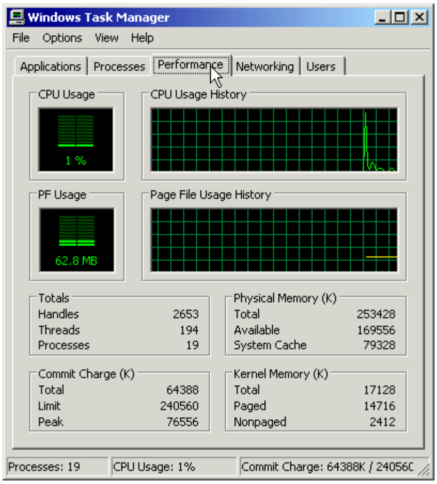
To map network drives, it is necessary to be logged in using the Administrator account or any account with administrator privileges. Drive mappings will stay on the thin client if they are defined as persistent.

Roaming Profiles

To avoid corrupting the Flash disk, roaming profiles should be written to drive Z:. Due to the limited size of drive Z:, the roaming profiles should be kept to a minimum size.

Task Manager

To access and use the Task Manager, it is necessary to be logged in using the Administrator account or any account with Administrator privileges. For greater detail concerning the Task Manager and its use, please consult the Microsoft Windows XP documentation.



Totals	
Handles	2653
Threads	194
Processes	19

Physical Memory (K)	
Total	253428
Available	169556
System Cache	79328

Commit Charge (K)	
Total	64388
Limit	240560
Peak	76556

Kernel Memory (K)	
Total	17128
Paged	14716
Nonpaged	2412

Processes: 19 | CPU Usage: 1% | Commit Charge: 64388K / 24056C

USB Device Support

Neoware's version of Microsoft Windows XP Embedded includes USB support for a number of common external devices such as keyboards, mice, and printers, as well as external drives (Zip, CD-ROM, Floppy, and SuperDisk). Following is a list of devices tested and known to work with Neoware XPe thin clients, as an example:

- Logitech USB wheel mouse
- IBM USB keyboard
- Iomega 100 MB & 250 MB USB external Zip drives
- Archos USB MiniCD CD-ROM external drive
- Epson USB printer
- TEAC 1.44 MB USB external floppy drive
- Imation 120 MB USB external SuperDisk drive
- Iomega external 40GB hard drive

Remote Management & Configuration

ezRemote Manager

Neoware's remote management software, ezRemote Manager, is a server-based application that provides sophisticated centralized administration capabilities for the full line of Neoware thin clients.

Note that for XPe 1.3 the minimum version of ezRemote Manager that is required is 3.0.3. This version is not supported by the Neoware hardware platforms G200, WN3, WN6 and WN6b.

With ezRemote Manager, you can:

- Locate and view the specifications of Windows XPe thin clients on your network.
- Select, group, and print lists of your Windows XPe thin clients for easy management.
- Centrally update the Windows XPe system software of your thin clients.

- Copy and save as a configuration file, or "clone" the system software and its entire configuration including server connections, security settings, and installed software from one thin client to other thin clients.
- View the progress of your updates as they occur, and schedule your updates for the most convenient date and time.
- Remotely control and configure XPe thin clients using ezAnywhere shadowing. ezAnywhere can also be used for help desk functions.
- Apply Snap-In upgrades to the XPe software (for example, Adobe Acrobat Reader plug-in, Macromedia Flash plug-in, etc.). For more information about available Snap-In upgrades, see “Pre-installed Applications & Available Snap-ins” on page 15.

Downloading ezRemote Manager

ezRemote Manager may be downloaded from http://www.neoware.com/downloads/ in two versions: ezRemote Manager Enterprise Edition, and ezRemote Manager Limited Edition. Most Neoware XPe thin clients are sold with the Enterprise Edition license (as part of Full Advantage support), and customers are entitled to download the software and install it.

The *ezRemote Manager User Manual* is downloadable (in Adobe Acrobat PDF format) from the same location.

Neoware Language Pack Installer

The Neoware Language Pack Installer enables you to install a different language to that displayed by default on XPe thin clients containing a software image size of 512 MB. The Installer also enables you to delete a language, thus freeing up Flash disk space.

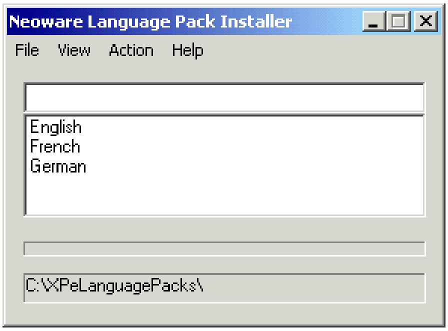
Note that if there are no languages available, a snap-in can be obtained to provide the required language(s). Languages provided as a snap-in do not require installation using the Neoware Language Pack Installer.

Be advised that when changing the default language, the best practice is to use the Neoware Language Pack Installer to effect the change. By using this control panel applet, the Administrator, User, and any other accounts will change the user interface to the selected language. Note that the default keyboard, locale, and standards and formats need to be set using the Regional and Language Options control panel applet. Those settings are per user and are locale specific.

Installing or Deleting Language Packs

To install or delete a language pack:

1. Logon as Administrator.
2. If the Enhanced Write Filter is ON, it must be disabled before continuing.
3. Click on the **Start** taskbar button and select **Control Panel | Neoware Language Pack Installer**.

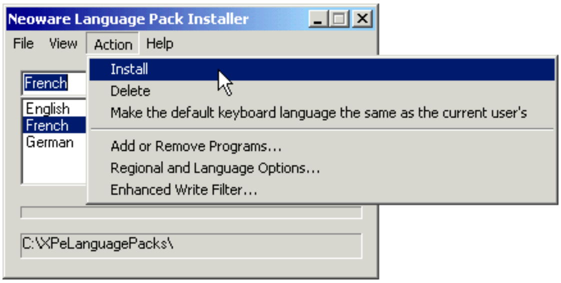


English
French
German

C:\XPeLanguagePacks\

A list of available language packs should appear. Thin clients with 512 MB or larger flash are supplied with French and German user interface language packs for installation. By default these are disabled and the English user interface is used.

4 Select the language to install or delete from the list, then click on **Action** and select **Install** or **Delete** from the drop-down menu.


Neoware Language Pack Installer
File
View
Action
Help
French
English
French
German
Install
Delete
Make the default keyboard language the same as the current user's
Add or Remove Programs...
Regional and Language Options...
Enhanced Write Filter...
C:\XPeLanguagePacks\

5 If deleting, the language pack directory will be completely removed from the Flash, returning that disk space for other applications to use.

When installing a language pack, you will be prompted sequentially for each snapin that has to be installed to complete the language pack. The MUI (Multi-language User Interface) snapin is the one that actually changes the displayed language. You could choose not to install other snapins (i.e. If Citrix ICA is not needed, then just skip it).

Be aware that there could be other MUI snapins already installed taking up space. You should first use the **Add/Remove Programs** Control Panel applet to check for and remove them before continuing. The **Add/Remove Programs**, **Regional and Language Options**, and **Enhanced Write Filter** Control Panel applets are included in the Neoware Language Pack Installer **Action** menu to facilitate making other system changes.

6 When installation has been completed the thin client will need to be rebooted in order for the changes to take effect. You will be prompted to reboot now or later.

CHAPTER 5

The Enhanced Write Filter

This chapter describes how to use the Enhanced Write Filter security features to protect your Neoware XPe thin client.

Enhanced Write Filter Operations

Overview

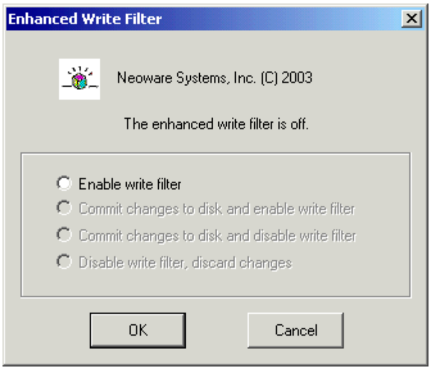
Microsoft's Enhanced Write Filter is a file system utility that can be set to take all disk write activity that would normally go to the C: drive (a Flash disk in Neoware thin clients) and redirect them to a RAM cache, instead. Disk reads come from the Flash disk and RAM cache.

When an Enhanced Write Filter protected thin client restarts, the original contents of the disk reappear, unchanged. With Enhanced Write Filter engaged, the integrity of the original disk's contents is protected. Enhanced Write Filter is ideal for point-of-sale, kiosk, or any application that could be adversely effected by inadvertently installed software (such as Internet Explorer plug-ins or cookies), as well as making a protected thin client less susceptible to virus infection.

Note that the Registry Filter enables Microsoft Licensing and Domain Machine password synchronization to be saved even when Enhanced Write Filter is enabled.

Accessing Enhanced Write Filter

The **Control Panel | Enhanced Write Filter** applet controls the behaviour of the Enhanced Write Filter. By default, this applet is available only to the Administrator account.



Enhanced Write Filter

Neoware Systems, Inc. (C) 2003

The enhanced write filter is off.

○ Enable write filter
○ Commit changes to disk and enable write filter
○ Commit changes to disk and disable write filter
○ Disable write filter, discard changes

Enhanced Write Filter Options

The Enhanced Write Filter contains an indication of the current status of the utility.

Only a single selection may be made on the Enhanced Write Filter dialog. The available setting selections vary depending on the current state of the Enhanced Write Filter (on or off).

Enable Write Filter

This radio button is inactive if Enhanced Write Filter is currently operating.

Select this radio button and click **OK** to turn on Enhanced Write Filter. The thin client will reboot in order to turn write filtering on.

Commit Changes to Disk and enable Write Filter

This radio button is inactive if Enhanced Write Filter is currently disabled.

Select this radio button and click **OK** to save the current operational state of the thin client (all registry and file writes that have been cached in memory) onto the Flash disk. This choice allows the administrator to save a snapshot of the current operating configuration from the temporary memory cache to the thin client permanent memory. The thin client will reboot. The enhanced write filter will continue to function after the reboot, since it was not turned off.

Commit changes to disk and disable Write filter

This radio button is inactive if Enhanced Write Filter is currently disabled.

Select this radio button and click **OK** to disable (turn off) Enhanced Write Filter.

Changes made to the configuration of the thin client before turning off the Enhanced Write Filter will be committed (saved) to the Flash disk. After the thin client reboots, the Enhance Write Filter will be off. Subsequent changes to the thin client's configuration and file system will go directly to the Flash disk.

Disable Write Filter, discard changes

This radio button is inactive if Enhanced Write Filter is currently disabled. Changes made to the configuration of the thin client before turning off the Enhanced Write Filter will be not be saved to the Flash disk. After the thin client reboots, the Enhance Write Filter will be off. Subsequent changes to the thin client's configuration and file system will go directly to the Flash disk.

This option initiates a two-step process:

1. The thin client will reboot. After Windows starts, all changes previously made will have been cleared (by rebooting).
2. The thin client will reboot again. The Enhanced Write Filter is now turned off.

CHAPTER 6 Using Neoware Firewall

This chapter describes how to configure Neoware Firewall to provide the level of protection required for your thin client.

Introduction

What is Neoware Firewall?

Neoware Firewall is a utility to assist in the configuration of IP security policies to protect your thin client by establishing a local firewall. This powerful utility can be used to create static ingress and egress rules by port, protocol, source, and destination.

Neoware Firewall provides a user-friendly interface for easy configuration of the firewall. It also provides a set of predefined security rules and an export option to clone a customized configuration to other thin clients.

Neoware Firewall & Windows Firewall

Microsoft Windows Firewall may also be included with XPe thin clients in addition to Neoware Firewall. Note that Microsoft Windows Firewall only handles inbound traffic, whereas Neoware Firewall handles both inbound and outbound traffic.

If Microsoft Windows Firewall is included, it may be enabled by default. The Administrator can decide whether the Windows Firewall should be left turned on, or to only rely on Neoware Firewall once it is configured and enabled. Note that Neoware Firewall does not require the Windows Firewall, and Neoware Firewall can functionally replace the Windows Firewall for incoming traffic.

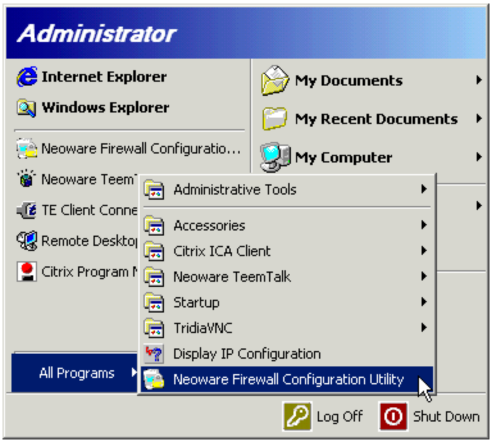
Configuring Neoware Firewall

Introduction

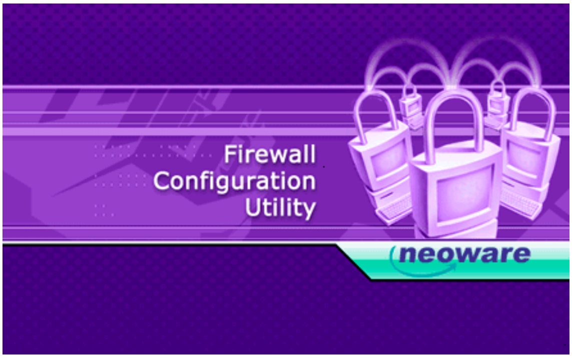
Neoware Firewall is disabled by default. If you are using ezUpdate and have configured your FTP server to use passive data connections, you will need to configure Neoware Firewall for passive FTP before enabling it. Since passive FTP servers may be configured to use a range of ports anywhere between 1024 and 65535, there is no way of pre-configuring these ports in Neoware Firewall without making the firewall essentially ineffective. Enabling Neoware Firewall without configuring it for passive FTP will make ezUpdate fail for those networks using passive FTP.

Starting the Configuration Utility

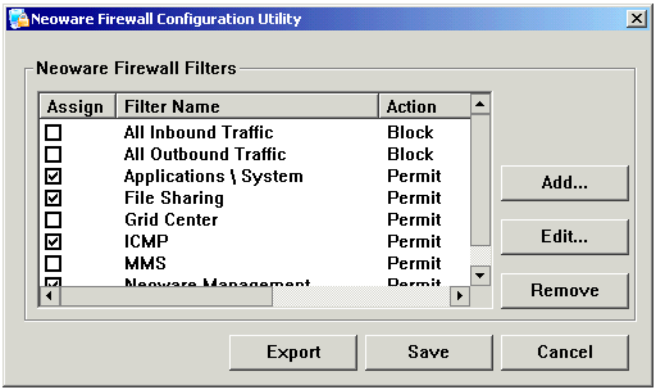
Neoware Firewall is configured using a utility that is accessed from the **Start** menu. To run the utility, select **Start** > **All Programs** > **Neoware Firewall Configuration Utility**.



The utility will display an introductory screen then a dialog listing all the currently defined firewall filters.



Currently Defined Firewall Filters



Neoware Firewall Configuration Utility

Neoware Firewall Filters

Assign	Filter Name	Action
□	All Inbound Traffic	Block
□	All Outbound Traffic	Block
☑	Applications \ System	Permit
☑	File Sharing	Permit
□	Grid Center	Permit
☑	ICMP	Permit
□	MMS	Permit
☑	Neoware Management	Permit

The main dialog of the Neoware Firewall configuration utility shows a list of all the currently defined firewall filters, together with some descriptive information.

Neoware Firewall provides a default set of predefined firewall filters so that you can use the firewall immediately. For a list of all the predefined filters and their functions, refer to the section “Default Neoware Firewall Rules” on page 44.

The list of firewall filters includes the following information:

Assign A check box indicating the status of the filter (assigned or unassigned).

Filter Name The name of the firewall filter.

Action Indicates whether the filter **Block**s or **Permit**s data flow.

Description Provides a description of what the filter does.

Changing the Filter Assignment

To change the assignment of a filter:

1 Click the check box next to any of the listed filters to change its status (assigned or unassigned).

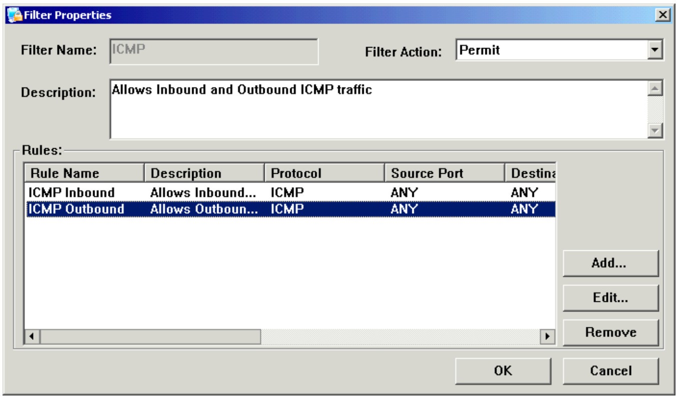
2 Click the **Save** button to make the changed setting take immediate effect.

Editing a Filter

To edit a currently defined filter:

1 Select the filter to edit by clicking on the filter line in the list of defined filters.

2 Click the **Edit** button to display the **Filter Properties** dialog.



Filter Name: ICMP

Filter Action: Permit

Description: Allows Inbound and Outbound ICMP traffic

Rules:

Rule Name	Description	Protocol	Source Port	Destina
ICMP Inbound	Allows Inbound...	ICMP	ANY	ANY
ICMP Outbound	Allows Outboun...	ICMP	ANY	ANY

This is almost the same as the **Add a Filter** dialog (which is described in the section “Adding a New Filter” on page 39), except that you cannot change the filter’s name or description.

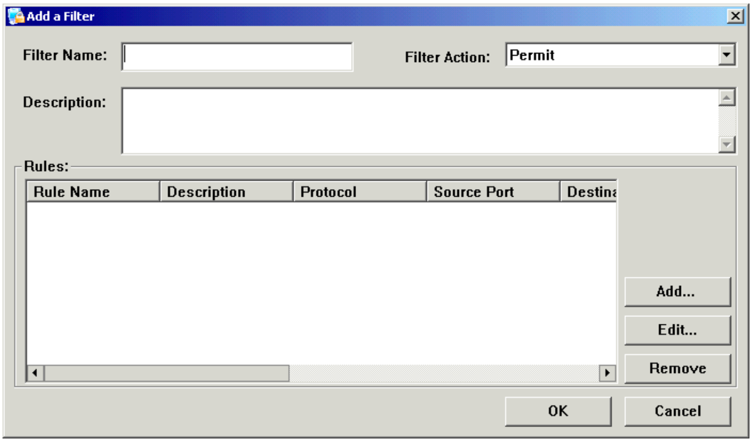
Removing a Filter

To remove a filter:

1. Select the filter to remove by clicking on the filter line in the list of defined filters.
2. Click the **Remove** button.
3. Click the **Save** button to make the change take effect.

Adding a New Filter

To add a new firewall filter, click the **Add** button to display the **Add a Filter** dialog.



Add a Filter

Filter Name:

Filter Action: Permit

Description:

This dialog enables you to enter all the necessary information for your filter.

You must enter a name for your filter in the **Filter Name** field, and specify the **Filter Action** by selecting either **Permit** traffic or **Block** traffic.

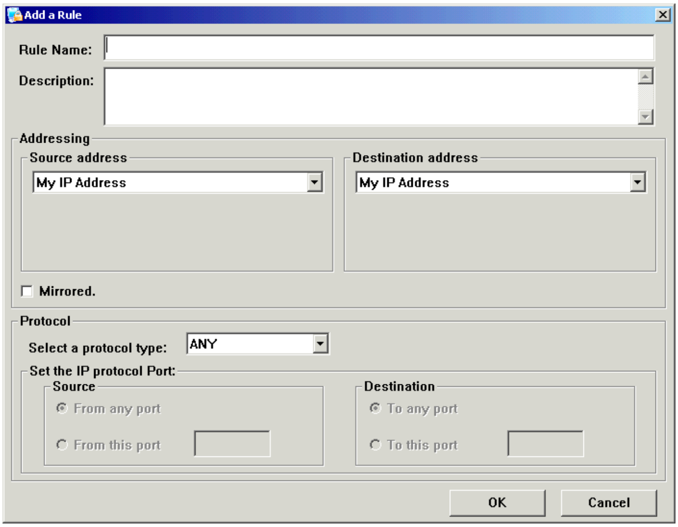
You can enter a **Description** for this new filter so that you can quickly discover what it does.

Defining Filter Rules

You must define the **Rules** used by the filter. Rules include protocols, ports, and source/destination addresses.

Important: *Rules are applied from most specific to least specific. For example, a rule to "permit TCP port 21" would be applied over a rule to "block all TCP packets". For the firewall to function properly, the first rules written should block all inbound and outbound traffic, then individual rules should be written to permit necessary traffic.*

To add a rule, click the **Add** button (in the **Add a Filter** dialog) to display the **Add a Rule** dialog.



Add a Rule

Rule Name:

Description:

Addressing

Source address: My IP Address

Destination address: My IP Address

□ Mirrored.

Protocol

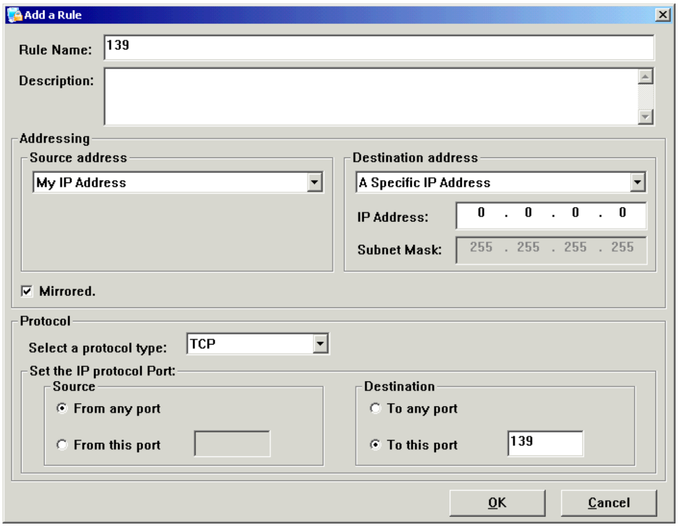
Select a protocol type: ANY

Set the IP protocol Port:

Source: ● From any port ○ From this port

Destination: ● To any port ○ To this port

In this dialog, enter a **Rule Name**, provide a **Description**, and specify the rule details.



Add a Rule

Rule Name: 139

Description:

Addressing

Source address: My IP Address

Destination address: A Specific IP Address

IP Address: 0 . 0 . 0 . 0

Subnet Mask: 255 . 255 . 255 . 255

☑ Mirrored.

Protocol

Select a protocol type: TCP

Set the IP protocol Port:

Source

● From any port

○ From this port

Destination

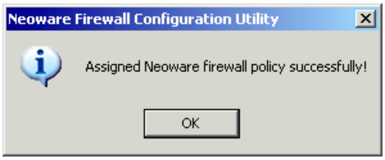
○ To any port

● To this port 139

After adding a rule, click **OK** to save the current settings to that rule.

Saving & Applying the Firewall Configuration

When you have finished making changes to the firewall configuration, click the **Save** button in the main **Neoware Firewall Configuration Utility** dialog to save the settings and make the new security policy take effect. A message will be displayed indicating that the firewall policy has been assigned.



Neoware Firewall Configuration Utility

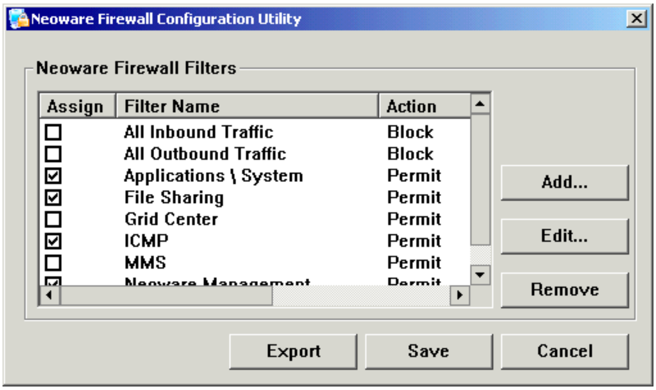
Assigned Neoware firewall policy successfully!

Your configuration is now active.

Exporting the Firewall Configuration File

Once you have defined and saved your security policy configuration, you may also want to apply the same configuration to other thin clients. This can be achieved very easily and quickly.

To export your current firewall configuration, simply click the **Export** button in the main **Neoware Firewall Configuration Utility** dialog.

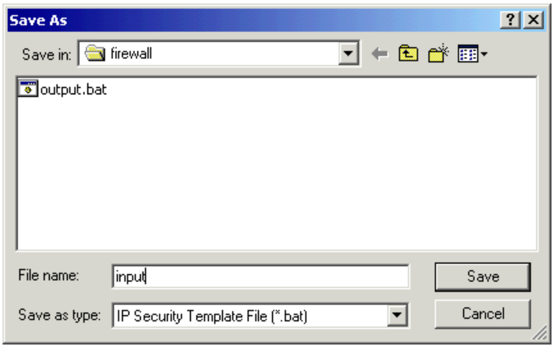


Neoware Firewall Configuration Utility

Neoware Firewall Filters

Assign	Filter Name	Action
□	All Inbound Traffic	Block
□	All Outbound Traffic	Block
☑	Applications \ System	Permit
☑	File Sharing	Permit
□	Grid Center	Permit
☑	ICMP	Permit
□	MMS	Permit
☑	Neoware Management	Permit

A dialog will be displayed asking you to specify a name and destination directory for the export (IP Security Template) file.



Save As

Save in: firewall

output.bat

File name: input

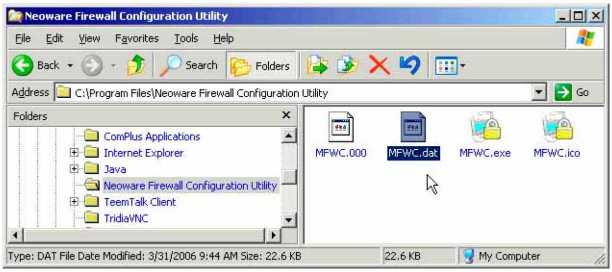
Save as type: IP Security Template File (*.bat)

Clicking **Save** will create an executable batch file which you can send to other thin clients, either manually or by using Neoware's ezRemote Manager.

Exporting Displayed Data

The Neoware Firewall Configuration Utility saves the display data and export configuration separately. If you want to copy the display data to other thin clients as well as the export file, you need to do the following:

1. In the **Neoware Firewall Configuration Utility** dialog, click the **Save** button to save the current configuration.
2. Click **Export** to save the firewall configuration as a batch file.
3. Locate the file **MFWC.DAT** in the Neoware Firewall program directory (default: **C:\Program Files\Neoware Firewall Configuration Utility**).



Address: C:\Program Files\Neoware Firewall Configuration Utility

Type: DAT File Date Modified: 3/31/2006 9:44 AM Size: 22.6 KB 22.6 KB

4. Apply the exported template batch file on the target thin client.
5. Overwrite the **MFWC.DAT** file on the target thin client with the **MFWC.DAT** file from the source of the exported batch file.

Default Neoware Firewall Rules

This section describes all the standard filters provided with Neoware Firewall, and their default settings. Each filter description includes the rules and settings associated with them.

All Inbound Traffic

Assigned: No
Action: Block

Blocks all inbound traffic.

Rule Name: **Inbound**
Any protocol, any source port, any destination port, source address any IP address, destination address my IP address, not mirrored.

All Outbound Traffic

Assigned: No
Action: Block

Blocks all outbound traffic.

Rule Name: **Outbound**
Any protocol, any source port, any destination port, source address my IP address, destination address any IP address, not mirrored.

Applications \ System

Assigned: Yes
Action: Permit

Ports required for specific applications and services.

Rule Name: **BootPS\DHCP**
Allows DHCP requests/renewals. UDP protocol, any source port, destination port 67, source address my IP address, destination address any IP address, mirrored.

Rule Name: **DNS (TCP)**
Allows connections to DNS servers via TCP. TCP protocol, any source port, destination port 53, source address my IP address, destination address any IP address, mirrored.

Rule Name: **DNS (UDP)**
Allows connections to DNS servers via UDP. UDP protocol, any source port, destination port 53, source address my IP address, destination address any IP address, mirrored.

Rule Name: **FTP**
Allows connections to FTP servers. TCP protocol, any source port, destination port 21, source address my IP address, destination address any IP address, mirrored.

Rule Name: **FTP Data**
Allows file transfers with FTP servers. TCP protocol, any source port, destination port 20, source address my IP address, destination address any IP address, mirrored.

Rule Name: **HTTP**
Allows connections to Web servers. TCP protocol, any source port, destination port 80, source address my IP address, destination address any IP address, mirrored.

Rule Name: **HTTPS**
Allows secure connections to Web servers. TCP protocol, any source port, destination port 443, source address my IP address, destination address any IP address, mirrored.

Rule Name: **ICA**
Allows connections to Terminal Servers via ICA. TCP protocol, any source port, destination port 1494, source address my IP address, destination address any IP address, mirrored.

Rule Name: **ICA Browser**
Allows locating Citrix ICA servers. UDP protocol, any source port, destination port 1604, source address my IP address, destination address any IP address, mirrored.

Rule Name: **IP Print (0)**
Allows printing via IP Print servers. TCP protocol, any source port, destination port 9100, source address my IP address, destination address any IP address, mirrored.

Rule Name: **IP Print (1)**
Allows printing via multiport IP Print servers. TCP protocol, any source port, destination port 9101, source address my IP address, destination address any IP address, mirrored.

Rule Name: **IP Print (2)**
Allows printing via multiport IP Print servers. TCP protocol, any source port, destination port 9102, source address my IP address, destination address any IP address, mirrored.

Rule Name: **LPD (TCP)**
Allows printing to LPD servers via TCP. TCP protocol, any source port, destination port 515, source address my IP address, destination address any IP address, mirrored.

Rule Name: **LPD (UDP)**
Allows printing to LPD servers via UDP. UDP protocol, any source port, destination port 515, source address my IP address, destination address any IP address, mirrored.

Rule Name: **NTP**
Allows local time synchronization with time servers. UDP protocol, any source port, destination port 123, source address my IP address, destination address any IP address, mirrored.

Rule Name: **RDP**
Allows connections to terminal servers via RDP. TCP protocol, any source port, destination port 3389, source address my IP address, destination address any IP address, mirrored.

Rule Name: **SSH**
Allows Secure Shell remote logons to hosts. TCP protocol, any source port, destination port 22, source address my IP address, destination address any IP address, mirrored.

Rule Name: **Telnet**
Allows Telnet connections to hosts. TCP protocol, any source port, destination port 23, source address my IP address, destination address any IP address, mirrored.

Rule Name: **ThinPrint**
Allows printing via ThinPrint. TCP protocol, source port 4000, any destination port, source address my IP address, destination address any IP address, mirrored.

Rule Name: **WINS (TCP)**
Allows connections to WINS servers via TCP. TCP protocol, any source port, destination port 42, source address my IP address, destination address any IP address, mirrored.

Rule Name: **WINS (UDP)**
Allows connections to WINS servers via UDP. UDP protocol, any source port, destination port 42, source address my IP address, destination address any IP address, mirrored.

Rule Name: **WINS (TCP)**
Allows connections to WINS servers via TCP on an alternate port. TCP protocol, any source port, destination port 1512, source address my IP address, destination address any IP address, mirrored.

Rule Name: **WINS (UDP)**
Allows connections to WINS servers via UDP on an alternate port. UDP protocol, any source port, destination port 1512, source address my IP address, destination address any IP address, mirrored.

File Sharing

Assigned: Yes
Action: Permit

Ports required to allow sharing files across the network.

Rule Name: **Epmap Inbound**
DCE Endpoint Resolution. TCP protocol, any source port, destination port 135, source address any IP address, destination address my IP address, mirrored.

Rule Name: **Epmap Outbound**
DCE Endpoint Resolution. TCP protocol, any source port, destination port 135, source address my IP address, destination address any IP address, mirrored.

Rule Name: **Microsoft-ds Inbound**
Microsoft Directory Services. TCP protocol, any source port, destination port 445, source address any IP address, destination address my IP address, mirrored.

Rule Name: **Microsoft-ds Outbound**
Microsoft Directory Services. TCP protocol, any source port, destination port 445, source address my IP address, destination address any IP address, mirrored.

Rule Name: **Netbios-dgm Inbound**
Netbios Datagram Service. UDP protocol, any source port, destination port 138, source address any IP address, destination address my IP address, mirrored.

Rule Name: **Netbios-dgm Outbound**
Netbios Datagram Service. UDP protocol, any source port, destination port 138, source address my IP address, destination address any IP address, mirrored.

Rule Name: **Netbios-ns Inbound**
Netbios Name Service. UDP protocol, any source port, destination port 137, source address any IP address, destination address my IP address, mirrored.

Rule Name: **Netbios-ns Outbound**
Netbios Name Service. UDP protocol, any source port, destination port 137, source address my IP address, destination address any IP address, mirrored.

Rule Name: **Netbios-ssn Inbound**
Netbios Session Service. TCP protocol, any source port, destination port 139, source address any IP address, destination address my IP address, mirrored.

Rule Name: **Netbios-ssn Outbound**
Netbios Session Service. TCP protocol, any source port, destination port 139, source address my IP address, destination address any IP address, mirrored.

Grid Center

Assigned: No
Action: Permit

Ports required by CCT Grid Center.

Rule Name: **137**
Grid Center. TCP protocol, any source port, destination port 137, source address any IP address, destination address my IP address, mirrored.

Rule Name: **4001**
Grid Center. UDP protocol, any source port, destination port 4001, source address any IP address, destination address my IP address, mirrored.

Rule Name: **9000**
Grid Center. TCP protocol, any source port, destination port 9000, source address any IP address, destination address my IP address, mirrored.

ICMP

Assigned: Yes
Action: Permit

Allows Inbound and Outbound ICMP traffic.

Rule Name: **ICMP Inbound**
Allows Inbound ICMP traffic. ICMP protocol, any source port, any destination port, source address any IP address, destination address my IP address, not mirrored.

Rule Name: **ICMP Outbound**
Allows Outbound ICMP traffic. ICMP protocol, any source port, any destination port, source address my IP address, destination address any IP address, not mirrored.

MMS

Assigned: No
Action: Permit

Ports required by MMS.

Rule Name: **40000**
MMS Agent. UDP protocol, any source port, destination port 40000, source address my IP address, destination address any IP address, mirrored.

Rule Name: **40001**
MMS Gateway. TCP protocol, any source port, destination port 40000, source address any IP address, destination address my IP address, mirrored.

Rule Name: **40002**
MMS Gateway. TCP protocol, any source port, destination port 40000, source address any IP address, destination address my IP address, mirrored.

Rule Name: **40003**
MMS Agent. TCP protocol, any source port, destination port 40000, source address my IP address, destination address any IP address, mirrored.

Neoware Management

Assigned: Yes
Action: Permit

Ports required by Neoware ezRemote Manager.

Rule Name: **ezRM Locate**
Allus units to be located with ezRemote Manager. UDP protocol, any source port, destination port 161, source address any IP address, destination address my IP address, mirrored.

Rule Name: **ezRM Manage**
Allus units to be managed with ezRemote Manager. TCP protocol, any source port, destination port 512, source address any IP address, destination address my IP address, mirrored.

Rule Name: **ezRM Shadow**
Allus units to be shadowed with ezRemote Manager. TCP protocol, any source port, destination port 5900, source address any IP address, destination address my IP address, mirrored.

CHAPTER 7 *ezUpdate for XPe*

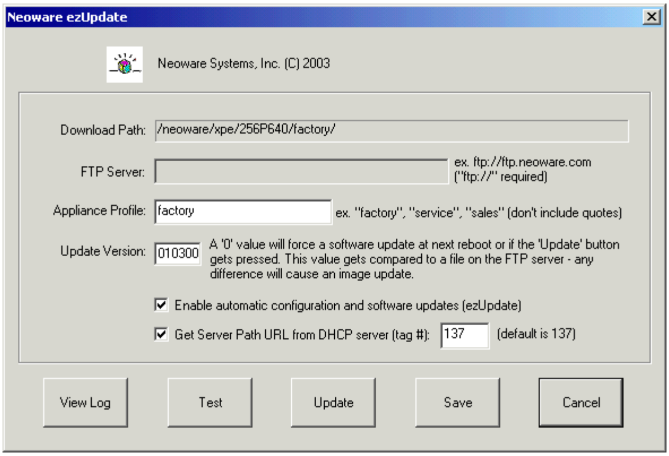
This chapter describes Neoware's ezUpdate automatic configuration and software update tool for Windows XPe thin clients.

ezUpdate Settings in the Thin Client

ezUpdate for XPe provides a mechanism for distributing full image and modular software updates, as well as standardized configurations from FTP servers (ezUpdate servers). By strategic placement of ezUpdate servers, ezUpdate can provide bandwidth-friendly thin client management that is completely scalable.

ezUpdate Control Panel

Client settings affecting ezUpdate can be modified or viewed through the **Control Panel | ezUpdate** applet.



Neoware ezUpdate

Neoware Systems, Inc. (C) 2003

Download Path: /neoware/xpe/256P640/factory/

FTP Server: ex. ftp://ftp.neoware.com ("ftp://" required)

Appliance Profile: factory ex. "factory", "service", "sales" (don't include quotes)

Update Version: 010300 A '0' value will force a software update at next reboot or if the 'Update' button gets pressed. This value gets compared to a file on the FTP server - any difference will cause an image update.

☑ Enable automatic configuration and software updates (ezUpdate)

☑ Get Server Path URL from DHCP server (tag #): 137 (default is 137)

Download Path

A non-editable box displaying the path (fully-qualified path) that the thin client will use to find its ezUpdate image on the server. The download path is dynamically constructed from:

- The FTP Server Path (see description below)
- A path structure pre-set for the thin client's specific software build (for example: "`/neoware/xpe/256P640/`")
- And the Appliance Profile name (see description below)

FTP Server Path

The fully-qualified path (not a name relative to another folder) to the location of your ezUpdate server. It must begin with `ftp://` and can be configured using the server name or its IP address. This field is disabled if the 'Get Server Path URL from DHCP server (tag #)' checkbox (see description below) is checked.

Examples:

```
ftp://ftp.mycompany.com
ftp://198.168.5.1
```

Appliance Profile field

The Appliance Profile field identifies which image on the server to use in the event an update is necessary. The default profile name is "factory."

Examples:

```
factory
sales
support
```

Update Version

The Update Version field identifies the software image version currently running on the local thin client. This value is used to check the version for the configured profile on your ezUpdate server. If the local and server versions match, no update is performed. A value of

“0” will force an update. The XPe 1.3 factory images provided by Neoware have a version of “010300”.

Checkbox: Enable automatic configuration and software updates

The Enable automatic configuration and software updates (ezUpdate) checkbox toggles the Neoware ezUpdate service between Automatic and Disabled. If you do not intend to use ezUpdate, uncheck this box.

Checkbox: Get Server Path URL from DHCP server (tag #)

The Get Server Path URL from DHCP server (tag #) checkbox determines whether ezUpdate should use the information provided by your DHCP server for the FTP Server Path, or use the value in the registry (see FTP Server Path, above).

DHCP Tag field

The DHCP tag field determines which DHCP Option tag to query - the default is 137. This field is disabled if the ‘Get Server Path URL from DHCP server (tag #)’ checkbox is unchecked.

View Log button

The View Log button will open `Z:\ezupdate.log` in Notepad. This log gives details on the client, networking details, the starting/ stopping of the service, success/failure in loading images/snap-ins, etc.

Test button

The Test button causes the local thin client to attempt to contact the full server/path displayed in the Download Path field. This tests that the local thin client can access the server/path displayed in the Download Path field.

Update button

The Update button will execute the script used by the ezUpdate service. It will first ensure successful communication with the Download Path. If that is successful, it will ask for confirmation before beginning the update check.

Save button

The Save button commits the values in the applet to the registry.

Cancel button

The Cancel button discards changes to the applet and exits.

FTP Server Setup

Obtaining the Windows XPe ezUpdate FTP Server Package

The ezUpdate FTP server package can be downloaded from http://www.neoware.com/downloads/

The server package is contained in a self-extracting InstallShield file and requires a license key for installation. You will be e-mailed a license key after registering for the software download.

Installing the ezUpdate FTP Server Package

Install the ezUpdate FTP server package in the root directory of your FTP server. The InstallShield installation package installs by default to `C:\Inetpub\ftproot\`.

ezUpdate FTP Server Package Contents

The FTP server package contains the following directories and files:

`\neoware\xpe\256P640\factory\`

The “256” in this example refers to the size (in MB) of Flash disk installed on the Windows XPe thin client. "P640" indicates the thin client model. This allows different models to be configured differently. The same directory and file structure is replicated for each Flash disk size. Simply replace “256P640” in the example above with “256FP” for the Neoware e350 XPe, ‘512’, etc.

`103000`

This file is the version file. Just the name is important – it can be a 0K (empty) file. Do not use “0” as your version filename, since the ezUpdate client software uses “0” to force an image update.

snapins.txt

This file contains the directory name of the snap-in(s) you wish to install. For example “Citrix ICA Client v9” (no quotes). This entry in the `snapins.txt` file would require the existence of “\neoware\xpe\shared\snapins\Citrix ICA Client v9” on your FTP server.

Snap-ins should be named one-per-line.

image.dd (not included in ezUpdate server package)

This is the image to be used for this profile when a full image update is requested. The image.dd file is not included as part of the ezUpdate server setup package. Download the operating system update package(s) needed from *http://www.neoware.com/downloads/*, install the update package(s) on your ezRemote Manager server, and then copy the correct `image.dd` file to the appropriate ezUpdate directory.

Note: When copying the image file to the ezUpdate directory, make sure that you place it into the correct Flash disk size location.

\neoware\xpe\shared\

d_drive\

This directory contains the scripts used when performing full image updates.

snapins\

This directory contains the snap-ins, each in their own directory. No snap-ins are included as part of the server setup package. Simply download the package(s) needed from *http://www.neoware.com/downloads*, install on your server, and copy the appropriate directories to the ezUpdate `\shared\snapins` directory.

Adding Additional Profiles

Additional profiles can be added by creating additional subdirectories, such as `\Neoware\xpe\256P640\sales\`. The same files discussed above must be included in each new profile directory (`103000`, `snapins.txt`, `image.dd`).

Snap-ins can be downloaded from http://www.neoware.com/downloads, and installed in `\neoware\xpe\shared\snapins`. If developing your own snap-ins, it is crucial the Uninstall DisplayName is set and matches the snap-in directory, or you may put your client(s) in an infinite snap-in install loop. For ezUpdate, commas are illegal characters in the Uninstall DisplayName field.

ezUpdate Process Flow Notes

- When an ezUpdate-enabled Windows XPe thin client boots, the ezUpdate service runs. No user interaction is required. No user is required to log in.
- If ezUpdate is configured to do so, the ezUpdate server name is retrieved from DHCP.
- Temporary environment variables are setup with ezUpdate information. These variables are released when ezUpdate is complete.
- The local ezUpdate image version string is compared to the version filename on the server. If they do not match, a full image update is initiated. If they do match, snap-in versions are checked.
- When checking to see if any snap-ins need to be installed/updated, the server's snapins.txt file is compared to the thin client's registry containing Uninstall information, specifically the DisplayName key. If `snapins.txt` contains new or updated items, ezUpdate will install the required snap-in(s). If any of the snap-ins require a reboot, ezUpdate will wait until all requested snap-ins are installed before rebooting. If Enhanced Write Filter is enabled on the thin client(s), the changes will be committed prior to rebooting.
- When ezUpdate determines the image and snap-ins are up-to-date, the service turns itself off to conserve resources. The service can be started manually or the unit can be rebooted to check for additional updates.

- When installing images on the ezUpdate server, make sure that the filename is `image.dd` and it is placed in the appropriate size/profile directory. It is also critical to ensure the ezUpdate version string in the registry of `image.dd` matches the version filename in the same directory – otherwise the unit(s) will continue to update on each running of the ezUpdate service.

Index