NCD ThinSTAR

ThinSTAR™

Software

NCD

NCD ThinSTAR
Terminal User's Guide

Revision History

June 2001. NCD ThinSTAR Terminal User's Guide.

Software Version

NCD ThinSTAR Operating Software 2.20.
NCD ThinSTAR Operating Software 2.30.

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About This Guide

This user's guide follows the *NCD ThinSTAR Operating Software and NCD ThinPATH Manager Installation Guide*. It describes NCD's thin client computing and explains how to set up individual NCD ThinSTAR desktops.

If your site plans to implement centralized configuration through the optional NCD ThinPATH Manager product, use the *NCD ThinPATH Manager Centralized Startup Guide* instead.

Audience

This guide is for users or system administrators who:

■   set up individual NCD ThinSTAR desktops

■   configure NCD ThinSTAR terminals

■   manage terminal connections including Microsoft Terminal Server (RDP) connections, Citrix ICA connections, and Internet Explorer browser connections.

Organization

This guide is organized as follows:

■   About This Guide
    Describes the contents of this guide.

■   Setting Up NCD ThinSTAR Desktops
    Describes NCD's thin client computing and explains how to set up individual NCD ThinSTAR desktops.

■   Configuring Terminal Properties
    Introduces and describes the terminal properties, tab by tab.

■   Managing a Terminal's Connections

Provides reference information for managing a terminals connections, including Microsoft Terminal Server (RDP) connections and Citrix ICA connections.

■ Navigation Paths and Special Key Sequences
Summarizes movement between tools and the use of special key sequences.

Documentation

Documentation is available online in PDF format or on the NCD website at:

www.ncd.com

For most online documents, select: Start\Programs\Administrative Tools (Common) and then:

■ NCD ThinSTAR OS\Online Documentation for:

Installation Guide	Software installation for NCD ThinSTAR Operating Software and NCD ThinPATH Manager.
Terminal User's Guide	Information on individual terminal setup; description of terminal properties; and information on creating and managing connections.
Terminal Administration Guide	Automatic updating and recovery of NCD ThinSTAR terminals with the ThinSTAR Operating Software, troubleshooting and a glossary.
User's Guide	Description of the setup wizard with brief introduction to terminal properties and connections.
Release Notes	Release-specific details and last-minute information.

or

■ NCD ThinPATH Manager\Online Documentation for:

Centralized Startup Guide	Terminal setup from a central location, configuring terminal properties and connections for groups of terminals.

Manager Reference   Information about NCD ThinPATH Manager tools with a section on troubleshooting and a glossary.

Release Notes   Release-specific details and last-minute information.

Setting Up NCD ThinSTAR Desktops

The following sections describe NCD's thin client computing and explains how to set up individual NCD ThinSTAR desktops.

If your site plans to implement centralized configuration through the optional NCD ThinPATH Manager product, use the *NCD ThinPATH Manager Centralized Startup Guide* instead.

NCD Thin Client Computing

With the NCD ThinSTAR product, users at NCD ThinSTAR terminals run Windows applications on servers with Microsoft Windows 2000 with Terminal Services, Microsoft Windows NT 4.0, Terminal Server Edition, the Citrix MetaFrame software for Terminal Server, or the Citrix WinFrame operating system. Additional NCD products extend access to UNIX hosts and to other hosts through terminal emulation.

Users do not run applications stored on their local terminals; they see application screens on their desktops, but the applications are running on servers.

Windows Terminal Server **NCD ThinSTAR**

Many applications run on the server.

Multiple users connect to the server.

User files are stored in the server's file system.

Users see applications screens.

PC
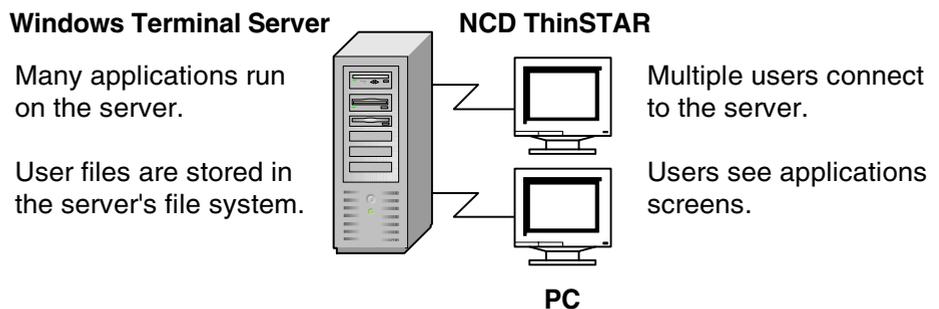
When you first start a terminal, you complete a setup wizard to set terminal properties and create an initial connection. Later, you can

change terminal properties with Terminal Properties software and you can add connections.

Introduction to Terminal Setup

Terminal setup involves going from terminal to terminal and completing the following processes:

■ Completing initial terminal setup

■ Creating connections

■ Configuring terminal properties

Once you complete these steps, the user can connect to a Windows Terminal Server and run applications that are on the server.

In preparation for setting up terminals, you may want to print the *NCD ThinSTAR Terminal Administrator's Guide*, which is in PDF form. This document is on the product CD and is installed online. To reach the online documents, select Start\Programs\Administrative Tools (Common), then select NCD ThinPATH Manager\OnLine Documentation or NCD ThinSTAR OS\OnLine Documentation. You can also locate the documentation on the NCD website at:

www.ncd.com

Completing Initial Terminal Setup

This section explains how to do initial terminal setup, which includes starting an NCD ThinSTAR terminal and completing setup wizards for the terminal and for printing. For information on configuring terminal properties, see *Configuring Terminal Properties* on page 25.

To start terminals and complete the setup wizards:

1. Start the terminal.

2. Click Next when the Welcome appears.

3. Click Accept at the License Agreement to acknowledge acceptance of the legal terms governing product use.

4. Select the network connection type, then click Next.

    The terminal can connect to a server through the LAN or by dialing in over a modem.

5. Select a default client, then click Next.

    The default can be the Microsoft Terminal Server client or the Citrix ICA client. The NCD dial-up client is not a protocol client. It creates a network connection via modem for protocol clients.

6. Enable or disable dynamic assignment of IP addresses, then click Next. For dial-up clients, IP addresses are not requested; go to Step 9 on page 9.

    Choose an addressing option:

    — Yes, use the IP information supplied by DHCP.

        A network with DHCP can provide the IP address. A terminal gets its address and other network identifiers through the DHCP service by default if it is properly connected to the network and DHCP service is available and configured. Go to Step 9 on page 9.

— No, I will enter static IP information.

You can have a specific IP address for the terminal. This is selected automatically if the network does not have DHCP or the terminal is not properly connected to the network.

If this is selected automatically in a network with DHCP configured and running, the terminal cannot get its IP address and communicate on the network. Verify that the terminal is properly connected to the network, then restart the terminal. The setup wizard should detect the DHCP server and select the DHCP option.

7. If you chose static IP addressing, enter settings, then click Next.

— IP Address

Required. The IP address for the terminal.

— Subnet Mask

Required. The subnet mask for the network subnet class. If the network is subnetted, enter the mask for the terminal's subnet.

— Gateway

Optional. The address of the device that the subnet uses to communicate with another network.

8. If you chose static addressing, enable or disable DNS or WINS name resolution services and provide network information, then click Next.

Windows hosts support both WINS and DNS name resolution services. The DNS server can be a Windows server or a UNIX host. The selected services must be properly configured and available on the network. Select either or both services:

— Enable DNS

— Enable WINS

Provide the following network information:

— Default Domain Name (DNS only)

The TCP/IP domain for the DNS server. If you specify a default domain name and a primary server IP address, users can identify a server by its host name.

— Primary Server IP Address

The IP address of the DNS or WINS server that resolves device names.

— Secondary Server IP Address

The IP address of the DNS or WINS server that resolves device names if the primary server cannot resolve them.

9. Choose a display resolution and click Test to check it. When it is acceptable, click Next.

You can use almost any monitor with the terminal. Newer monitors support the DDC (Display Data Channel) protocol, version 2.0, that lets a computer's video chip query monitors and adjust video settings to get the best desktop area and refresh rate the monitor supports. The screen flickers less with a higher refresh rate; you should specify at least 70 Hz.

With the default option, Best Available Using DDC, the terminal checks for a DDC 2.0 compliant monitor.

If the monitor is DDC 2.0 compliant, the terminal sets the display to the best resolution the monitor supports. NCD ThinSTAR terminals support the following resolutions, all at an 85 Hz refresh rate:

NCD ThinSTAR 200 terminals	Up to 1024 x 786
NCD ThinSTAR 232 terminals	Up to 1600 x 1200
NCD ThinSTAR 300 terminals	Up to 1600 x 1200
NCD ThinSTAR 300 TR terminals	Up to 1600 x 1200
NCD ThinSTAR 332 terminals	Up to 1280 x 1024
NCD ThinSTAR 400 series terminals	Up to 1600 x 1200
NCD ThinSTAR 500 terminals	Up to 1280 x 1024

If the monitor is DDC 2.0 compliant, but you want a specific resolution, select and test the resolution.

Note   The NCD ThinSTAR 500 and 332 terminals are DDC 1.0 and 2.0 compliant.

If you select Best Available Using DDC and the monitor is not DDC 2.0 compliant or cannot be identified, the terminal uses 800 x 600 and 75 Hz, but continues to display Best Available using DDC as the setting.

If you get the default 800 x 600 desktop, the monitor may still support a better resolution. To check and select a higher resolution, see *Display Properties* on page 30. If the test pattern, a bordered rectangular grid, is not distorted or skewed, the monitor supports the resolution.

After completing the setup and connection wizards, check the Inventory > Graphics tab as shown on page 67 to see which resolution DDC selects.

10. Assign a name to identify your terminal.

If you have NCD ThinPATH Manager, an optional product, you can use the name with the Configuration Tool and the Remote Restart Tool. The name is an identifier; it is not a network address.

Note   Some ThinPATH software products (ThinPATH Plus, for example) may treat the terminal name as a network name.

11. If a printer is attached to your terminal and you want to use it with Microsoft Terminal Server Client connections to Windows 2000 servers, click Yes (otherwise, click No), then click Next.

If configuring the printer:

— Select the port the printer is to use, then click Next.

— Select the printer manufacturer and model, then click Next.

— Enter a printer name to identify the printer, then click Next.

— Choose whether to make this the default printer, then click Next.

— Choose whether to configure another printer, then click Next.

12. To review or change previous settings, click Back, then click Finish to apply the settings. The terminal restarts, if necessary.

After initial setup, you can use Terminal Properties to change the configuration, as described in *Configuring Terminal Properties* on page 25.

The setup wizard does not reappear unless the terminal performs a software recovery or you reset the terminal to factory defaults as described in on page 23.

Introduction to Connections

Terminals can connect to a Windows Terminal Server through LAN connections and modem connections.

Three clients, each with its own communication protocol, provide those connections:

■ Microsoft Terminal Server client connections

The Microsoft Terminal Server client uses the RDP protocol to connect to a Windows Terminal Server.

■ Citrix ICA connections

The Citrix ICA client uses the ICA protocol to connect to a server running Citrix WinFrame or to a Windows Terminal Server running Citrix MetaFrame.

■ Microsoft Internet Explorer connection

Terminals can connect to the internet using the Microsoft Internet Explorer browser.

A fourth client, the NCD dial-up client, provides network access for an RDP or ICA session over a modem. There is optional connection software to access mainframes or UNIX systems that you can purchase through NCD.

Creating Connections

You create Microsoft Terminal Server and Citrix ICA connections with connection wizards and administer them with the Connection Manager. You create a web connection using Terminal Properties.

After terminal setup, the connection wizard for the default client starts. If the default is a dial-up connection, the dial-up connection wizard starts after the client connection wizard. For information about these wizards see *Managing Terminal Connections* on page 70.

If connections exist, the NCD ThinSTAR Connection Manager appears instead of a connection wizard.

Going to the Connection Manager

If you are not at the Connection Manager, press Ctrl+Alt+End to go there.

Using the Connection Manager

The Connection Manager has a Connections tab for starting or ending sessions and a Configure tab for configuring connections. By default, the Configure tab is enabled so that you can add, change, and delete connections. However, you can disable the tab through Terminal Properties to protect the configuration from changes. This is explained in *Clients* on page 53.

Note   For information on adding, editing, deleting or stopping a connection, see
Managing Terminal Connections on page 70.

In the following example, the Configure tab is enabled.
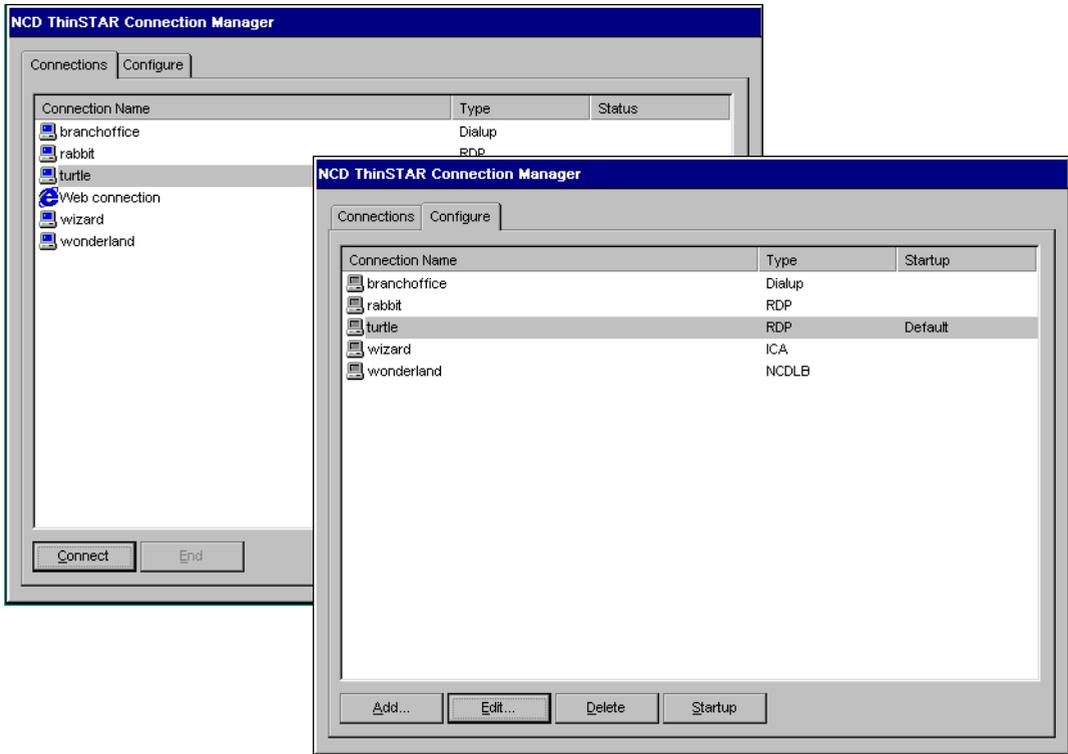
Verifying Network Connectivity

After completing the setup wizard and connection wizard, you can run diagnostics to verify network integrity to the host in the unlikely event that you are having problems.

To verify the connection:

1. Press F2 to go to Terminal Properties, then select Management > Network > Diagnostics.

2. Enter the connection's name (by IP address or host name, if the network has a name resolution service) and click Ping.

Introduction to the Citrix ICA Client

Overview

The Citrix ICA Client lets you make an ICA connection to a Citrix server. Once the ICA connection to the Citrix server is established, you can access applications and work with files as if you were working at the Citrix server itself.

Features

The Citrix ICA Client has the following features:

■ TCP/IP+HTTP browsing

■ PNLite Mode

■ SpeedScreen

■ Enhanced resolution and color depth

■ Basic and strong encryption

■ Auto-reconnect to disconnected sessions

■ Client device mapping

— Client printer mapping

— Client com port mapping

■ Sound support

■ Data compression

■ ICA Client hotkeys

■ Transparent clipboard access

■ Application publishing support

■ Business Recovery

Some client features are available only when connecting to MetaFrame for Windows and MetaFrame for Windows 2000 servers.

TCP/IP+HTTP Browsing

This feature enables retrieval of Citrix server and published application information across network configurations that restrict broadcast packets or the UDP protocol. Very simply, the method used to obtain a list of published applications has been enhanced to allow the ICA client to obtain published application information from Citrix servers located behind firewalls.

PN Lite Mode

PNLite is a connection mode that allows you to connect to an NFuse enabled Citrix server and obtain a list of published applications that you can connect to. In this mode, you do not have to manually configure each ICA connection, but a list of published applications will be 'pushed' (made available) to your client device. Connect to any published application in that list by double-clicking on an entry.

SpeedScreen Latency Reduction

SpeedScreen latency reduction enhances the user's experience on slower network connections. SpeedScreen latency reduction functionality includes:

■ Local Text Echo

This ICA Client option accelerates the display of the input text on the client device.

■ Mouse Click Feedback

This ICA Client option provides visual feedback for mouse clicks to show that the user's input is being processed.

SpeedScreen latency reduction is only available when it is supported and enabled on the Citrix server to which you are connecting.

Enhanced Color Depth

The ICA client now enables you to configure higher color depth. Depending on the NCD ThinSTAR's display setting, you can

configure the connection to use 16, 256, or thousands of colors.

Secure ICA

The Citrix ICA client now supports encryption using Citrix SecureICA Services. The default encryption level is Basic. Strong encryption using the RC5 algorithm is available with SecureICA Services. SecureICA Services enables RSA RC5 encryption with 40, 56, or 128-bit session keys.

Auto-reconnect to disconnected sessions

If for some reason, such as a network error, your ICA connection is dropped, the ICA client gives you the option of reconnecting to the disconnected session.

Client Device Mapping

Client device mapping allows a remote application running on the Citrix server to access printers and devices attached to the NCD ThinSTAR.

Client Printer Mapping

Client printer mapping lets users access printers attached to the NCD ThinSTAR from applications running in an ICA session. When a Citrix server is configured to allow client printer mapping, applications running remotely on the Citrix server can print to local printers.

Client COM Port Mapping

Client COM port mapping is similar to printer mapping. It allows users to access serial devices on the NCD ThinSTAR as if they were connected to the Citrix server.

Note that client COM Port mapping is not supported when connecting to MetaFrame for UNIX Operating Systems 1.0 and 1.1 servers.

Sound Support

Sound support allows your NCD ThinSTAR to play sounds generated by applications running on the Citrix server. Sound support can be configured to use one of three different compression schemes. Each scheme provides different sound quality and bandwidth usage. This feature is not available when connecting to MetaFrame for UNIX 1.0 and 1.1 servers.

Data Compression

Data Compression can increase performance over low speed asynchronous and WAN connections by reducing the amount of data sent over the communications link to the client computer.

ICA Client Hotkeys

The Citrix ICA Client provides hotkeys that can be used to control various functions while in an ICA session. Some hotkeys control the behavior of the ICA Client itself while others emulate standard Windows hotkeys.

Transparent Clipboard Access

You can cut and paste objects between ICA sessions and applications running locally. Access to the local clipboard requires no special configuration or procedures. Use the familiar cut, copy, and paste commands to transfer text, pictures, and other objects between local and remote applications.

Published Application Support

You can create a remote application entry to connect to a Citrix server or to a published application that contains all of the information necessary to launch a user session or an application.

Business Recovery

The Citrix ICA Client includes the additional intelligence to support

multiple server sites (such as primary and hot backup) with different addresses for the same published application name. This feature provides consistent connections to published applications in the event of a primary server disruption.

Introduction to Terminal Properties

Terminal properties are the configuration values for NCD ThinSTAR terminals. You define terminal properties when you configure the terminal with the setup wizard. After setup, you can view and modify settings through Terminal Properties, as described in this section. Property descriptions are in *Configuring Terminal Properties* on page 25.

Terminal Properties software presents all configuration values and hardware, software, and network inventory details in one place. The information is organized on the following tabs:

■ General — identifies the product and provides an option for resetting all configured values to factory defaults.

■ Input — has settings for the keyboard and the mouse.

■ Display — has settings for the monitor, including resolution, refresh rate, and a screen saver.

■ Network — has basic settings for network addresses.

■ Security —provides password protection.

■ Management — has tabs with settings for pointer speed, audio, touchscreen (available on supported terminals), the Management Server, hotkeys, network, monitor power, and clients. The network information on the Management tab provides additional networking options and includes diagnostics.

■ Extensions — lists additional terminal options, including identification and wireless options and configuration options for the Microsoft Internet Explorer browser.

■ Inventory — has tabs with information about hardware, software, the network, and graphics.

Access to Terminal Properties

If you are at the Connection Manager, press F2 to start Terminal Properties. If you are not at the Connection Manager, press Ctrl+Alt+End to go there, then press F2 to go to Terminal Properties.

Ctrl+Alt+End

NCD ThinSTAR Connection Manager

Connections | Configure

Connection Name	Type	Status
Point of Sale Server	RDP	
VendorList Server	RDP	

F2 Key

NCD ThinSTAR Terminal Properties

General | Input | Display | Network | Security | Management | Extensions | Inventory

NCD ThinSTAR

Network Computing Devices, Inc.
NCD ThinSTAR 450
Website: www.ncd.com

Microsoft Windows-based Terminal
Microsoft Windows CE

☐ Reset the terminal to factory-default property settings.

Connect | End

OK | Cancel | Apply

Access to Terminal Properties may be disabled through NCD ThinPATH Manager, an optional product.

Password Protection

You can protect the terminal configuration with a password. If a password exists, terminal properties are visible, but you must enter the password to change properties except those on the following tabs:

> — Input
>
> — Display
>
> — Management > Pointer
>
> — Management > Audio
>
> — Management > Power
>
> — Management > Touchscreen

Saving or Ignoring Changes and Exiting

After viewing or modifying configuration settings, you can save or cancel changes and exit.

The Apply button, the OK button, and the Cancel button perform these functions, as follows:

Button	Result
Apply	Saves changes and remains in Terminal Properties.
OK	Saves changes and closes Terminal Properties, then returns to the Connection Manager.
Cancel	Closes Terminal Properties. Any changes that you did not apply are lost.

Use the Apply button to apply changes on each tab, then to use the OK button when you are ready to exit Terminal Properties.

Assigning a Management Server to a Terminal

A Management Server is an NCD utility that runs on a Windows server and can be configured to automatically replace outdated or corrupt Operating Software. You can run a management server on the local subnet or on a remote subnet.

Note   By default, terminals broadcast for the Management Server on their local subnet. If you have one Management Server for each subnet, you do not need to assign a Management Server.

To assign a Management Server to a terminal:

1. In Terminal Properties, select Management > Server and enter the IP address of the Management Server.

2. Restart the terminal.

Multiple Management Servers on One Subnet

It is possible to have multiple installations of NCD ThinSTAR Operating Software on the same subnet, but NCD does not recommend this type of installation.

If you feel that multiple Management Servers are needed on the same subnet, please contact NCD Technical Support. They can assist you with planning and implementing the installation.

Keyboard Navigation

You can use the keyboard to navigate within Terminal Properties. When you are on a tab, you can use the Alt key with an underlined letter to go to a property and change its value.

Going to a Property or Button

■   Going to a slider moves the cursor one unit lower or higher. For example, in the Management > Audio tab, for Volume, Alt+L moves the cursor one unit lower and Alt+H moves the cursor one unit higher.

■   Going to a checkbox toggles its value. For example, if the Enable box is checked, using Alt+E disables the property.

■   Going to a button activates the button. For example, Alt+A goes to the Apply button and applies changes.

NCD ThinSTAR Terminal Properties   ✕

General | Input | Display | Network | Security | Management | Extensions | Inventory

Pointer | Audio | Touchscreen | Server | Hotkeys | Network | Power | Clients

┌─Speaker───┐
│   Volume: │
│   │
│   ◀))/   Low ──────────────────────────────⎕ High   │
│   │
│   ☐ Mute   [Test   ]   │
│   │
└──┘

┌─Microphone──┐
│   │
│   ☐ Enable   │
│   │
└──┘

   [OK   ]   [Cancel   ]   [Apply]
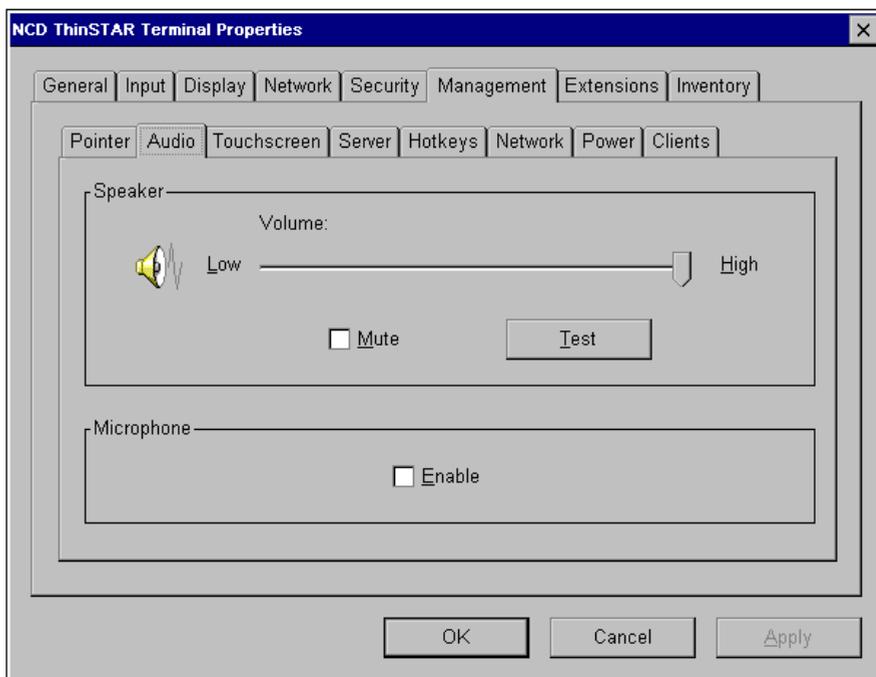
Once in a property, you can use the underlined letter without Alt to go to properties or buttons on the same tab. For example, in Volume, you can press T to activate the Test button. This shortcut is not available for list boxes or fields that allow you to edit information.

Cycling Through Tabs, Properties, and Buttons

Press the Tab key to cycle down through a main property tab and its contents or press the Shift+Tab key to go in reverse tab order.

For example, from the Management > Audio tab, you can press Tab to go through rows of tabs, properties, and buttons as follows: Audio tab, Volume field, Mute button, Test button, Enable button, OK button, Cancel button, Apply button (if you made any changes). After cycling down, you start back up at the Management tab.
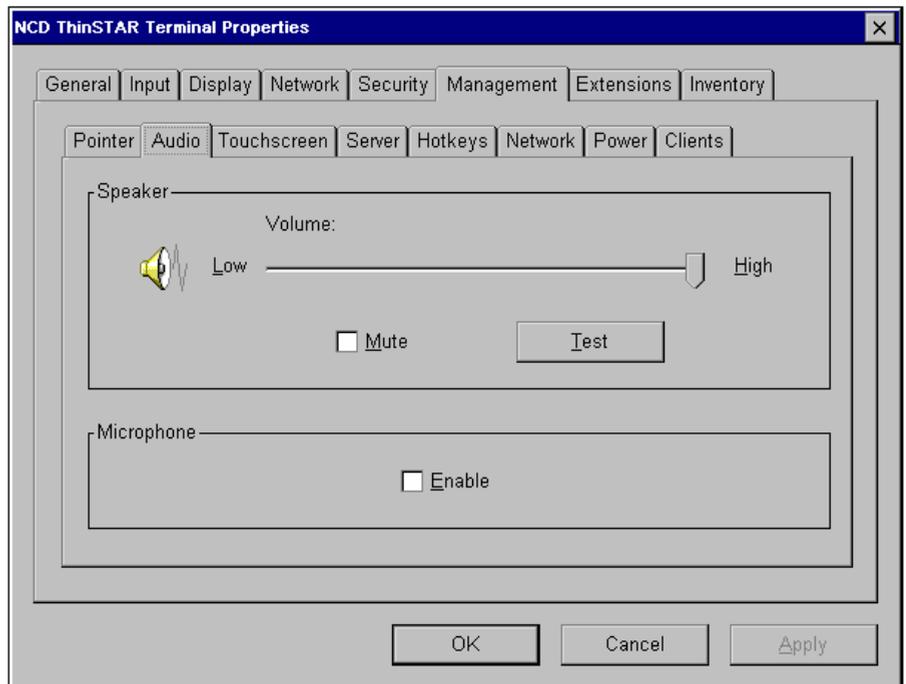
Configuring Terminal Properties

The following sections are intended for administrators or users who configure NCD ThinSTAR terminals.

The configuration values are called terminal properties, and they are presented on a series of tabs named as follows: General, Input, Display, Network, Security, Management, Extensions, and Inventory.

General Properties

The General tab identifies the product and provides an option for resetting all configured values to factory defaults.

Resetting the defaults does the following:

■ Deletes all connection information and clients other than the Microsoft Terminal Server Client and the Citrix ICA Client.

■ Resets terminal property settings to their factory values.

■ Starts the setup wizard.

Resetting Values to Factory Defaults

NCD has set default configuration values for a terminal, and you can restore them. Any connections that you have created are lost.

To reset factory default values:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select General.

3. Check Reset the terminal to factory-default property settings.

4. Answer Yes when asked about restarting the terminal.

    Restarting the terminal starts the setup wizard.

Factory Default System Settings

The factory default system settings are as follows.

■   All defined connections are removed.

■   All optional software is removed.

■   SNMP is in read-only mode.

Factory Default Property Settings

The factory default property settings are as follows

| Factory Default Property Settings		
Tab	**Attribute**	**Default Setting**
Input	Keyboard	English (United States).
	Mouse	Right-handed.
	Character Repeat	The shortest delay; midway between the fastest and slowest rate.
Display	Desktop Area and Refresh Frequency	Best Available Using DDC.
	Screen Saver	Enabled, with a timeout of 20 minutes.
	HighColor	Disabled.
Network	IP Address	Get an address from a DHCP server. Existing IP address entries are removed.
Advanced Network	Enable DNS	Filled with data from DHCP.
	Enable WINS	Filled with data from DHCP.
Security	Password	No password.

Factory Default Property Settings *(continued)*		
Tab	**Attribute**	**Default Setting**
Management	Pointer Speed	Four units above slow.
	Audio	High volume. Microphone disabled (microphone not available on NCD ThinSTAR 200).
	Touchscreen	Disabled.
	Server	Undefined.
	Hotkeys	Enabled.
	Network	LAN connection; network speed sensed automatically. DHCP timeout of 60 seconds. Management Server timeout of 5 seconds. Host resolution timeout of 5 seconds. Send count of 5.
	Power	No settings.
	Clients	Microsoft Terminal Server Client. English (United States) locale. **Configure** tab of Connection Manager enabled.
Extensions[*]	Terminal identification	Unique ID based on MAC address.
	Wireless Network	DHCP
	IE Browser	Disabled.
Inventory	Network information	Reports IP address changes caused by reset to defaults on **Network** tab and **Display** tab.

*Note   Your list may vary depending on the terminal model.

Input Properties

On the Input tab, you can select a keyboard locale, modify mouse button actions, and set character repeat options.
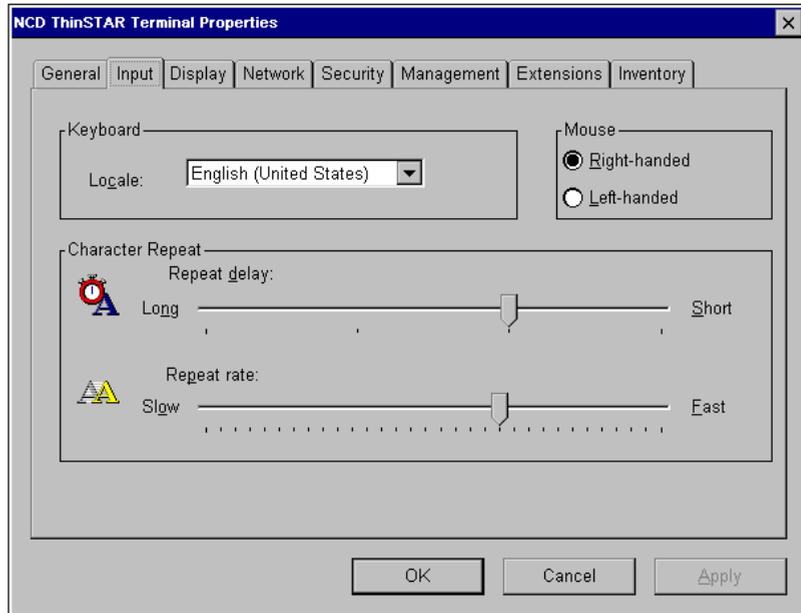
To set input properties:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Input.

3. Modify properties as desired, then click OK or Apply to put them into effect.

    — Keyboard

    Select a keyboard type from the list of locales.

    — Mouse

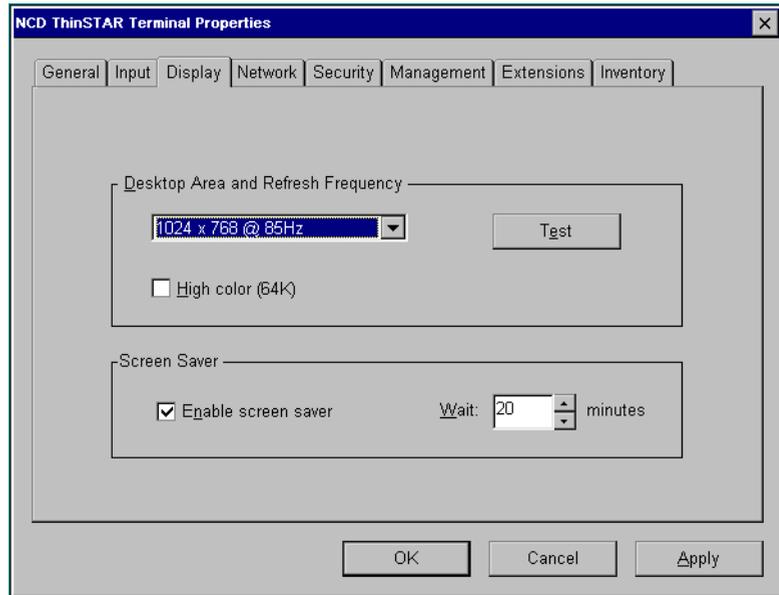   Select Right-handed or Left-handed.

— Character Repeat

Move the sliders. Repeat delay tells how long to wait before a pressed key starts repeating. Repeat rate specifies how quickly the character repeats after a key is pressed.

Display Properties

Display properties include screen resolution and the screen saver.

If you restart the terminal and the screen goes blank after the logo, settings are incorrect. See the troubleshooting information in *Unreadable Display* on page 13 of the NCD ThinSTAR Terminal Administration Guide.

Properties defined on the **Management > Power** tab and discussed on page 52, can reduce power use even more than the screen saver.

NCD ThinSTAR Terminal Properties ☒

| General | Input | Display | Network | Security | Management | Extensions | Inventory |

Desktop Area and Refresh Frequency

1024 x 768 @ 85Hz ▼   [Test]

☐ High color (64K)

Screen Saver

☑ Enable screen saver   Wait: 20 ▲▼ minutes

[OK]   [Cancel]   [Apply]

To set display properties:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Display.

3. Modify attributes as desired, then click OK or Apply.

— Desktop Area and Refresh Frequency

The default, Best Available Using DDC, automatically establishes the optimal setting. For another setting, click Test to check it. If the grid is not displayed or is distorted, click No

when asked, then try another setting. When the grid is acceptable, click Yes.

— HighColor

Provides 16-bit color for those sessions that support it. Both ICA and Microsoft Internet Explorer support HighColor. HighColor is available for a subset of Desktop Area and Refresh Frequencys listed. You should select the Desktop Area and Refresh Frequency, and, if available, HighColor. Not all resolutions are supported in 16-bit color mode.

— Enable Screen Saver

By default, the monitor displays a blank screen saver after the terminal is idle for a set time. You can enable this or disable it.

— Wait *n* Minutes

The number of minutes the terminal is idle before the screen saver is used. The default is 20; the maximum is 300.

Network Properties

Every terminal needs a valid IP address to identify itself to the network. NCD ThinSTAR terminals support dynamic IP assignment through DHCP or manual assignment of a static IP address.
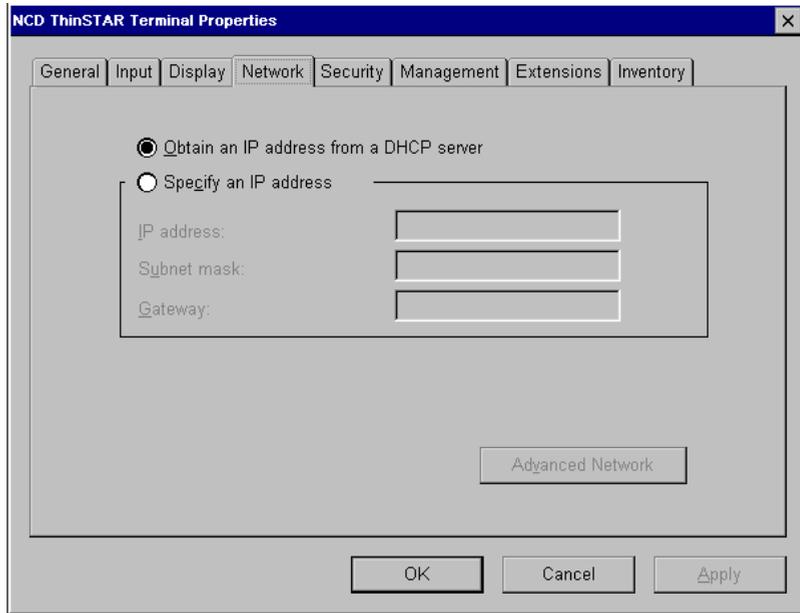
If you choose static addresses, you can make name resolution choices as well.

With name resolution services, you can identify a server by its host name instead of its IP address when you create a connection. Terminal Server hosts and NCD ThinSTAR terminals support two name resolution services, DNS and WINS, to map host names to IP addresses.

You can enable terminals to use DNS, or WINS, or both.

■ **DNS**

You need DNS (Domain Name System) to resolve host names across the world-wide web. You can set up DNS service on any Windows server or UNIX-based server in the network.

■ **WINS**

WINS (Windows Internet naming Service) detects devices' current IP addresses and automatically updates its database. Using WINS with DHCP fully automates IP assignment and name resolution. You can set up WINS on any Windows server.

■ **DNS and WINS**

A network can use both DNS servers and WINS servers to resolve host names.

If a terminal starts a connection and both services are on the network, the host name first goes to the DNS server to be resolved to an IP address. If the DNS server cannot resolve it, the name goes to the WINS server.

The following are general guidelines for choosing a service:

Use	If …	Additional Options
DNS	You have a UNIX or mixed-platform environment or you need to create connections across subnets.	May also use WINS, if desired.
WINS	All networked devices are based on Microsoft Windows and are in the same subnet.	May also use DNS, if desired.

If the terminal is in dial-up mode, IP information comes from the dial-up connection, so you cannot select DHCP or enter static IP addresses. However, any settings you make when the terminal is in LAN mode are preserved. (To change the network connection mode, see *Network* on page 49.)

If the terminal uses DHCP, you cannot change values that DHCP supplies, but you can change other values.

To choose an addressing mode:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Network.

3. Select an addressing mode and provide information as needed, then click Apply or OK.

— Obtain an IP address from a DHCP server

DHCP is enabled by default and provides an IP address each time the terminal starts.
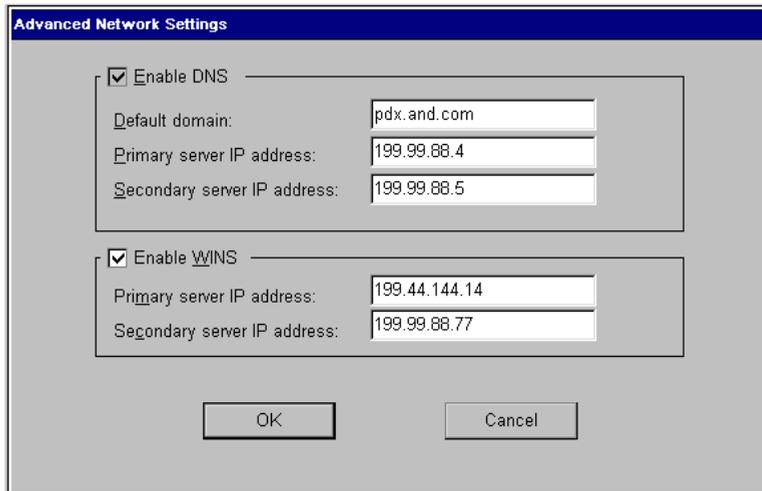
— Specify an IP address

As an alternative to DHCP, you can assign the terminal's IP address and other addresses.

IP Address. Required. Identifies the terminal.

Subnet Mask. Required. Identifies the range of addresses that belong to the subnet.

Gateway. Optional. The machine a subnet uses to communicate with another network.

If you specify an IP address, the Advanced Network button is enabled and you can specify how the system resolves host names to IP addresses for a connection. If you want to do this, click the button and provide information for either or both services, then click OK.

Advanced Network Settings

☑ Enable DNS

Default domain:	pdx.and.com
Primary server IP address:	199.99.88.4
Secondary server IP address:	199.99.88.5

☑ Enable WINS

| Primary server IP address: | 199.44.144.14 |
| Secondary server IP address: | 199.99.88.77 |

OK   Cancel

Enable DNS. Use the Domain Name System to resolve host names. If DHCP provides IP addresses, it also provides DNS

information. Enable DNS only if you know that your network provides it and you have the DNS servers' IP addresses. The DNS servers can be either Windows or UNIX hosts.

Enable WINS. Use the Windows Internet Naming Service (WINS) to resolve host names. If DHCP provides IP information, it also provides WINS information.

Provide information for these services as follows:

Default Domain. This applies only to DNS and shows which TCP/IP domain the DNS server resides in.

Primary Server IP Address. The IP address of the DNS or WINS server that is to resolve device names.

Secondary Server IP Address. The IP address of the DNS or WINS server that is to resolve a device name if the primary server cannot resolve it.

Security

To increase security, you can require a password to change properties and define which tabs and properties can be changed.

Password Security

You can create a password to restrict access to terminal properties, then change it as needed.

Create a Password

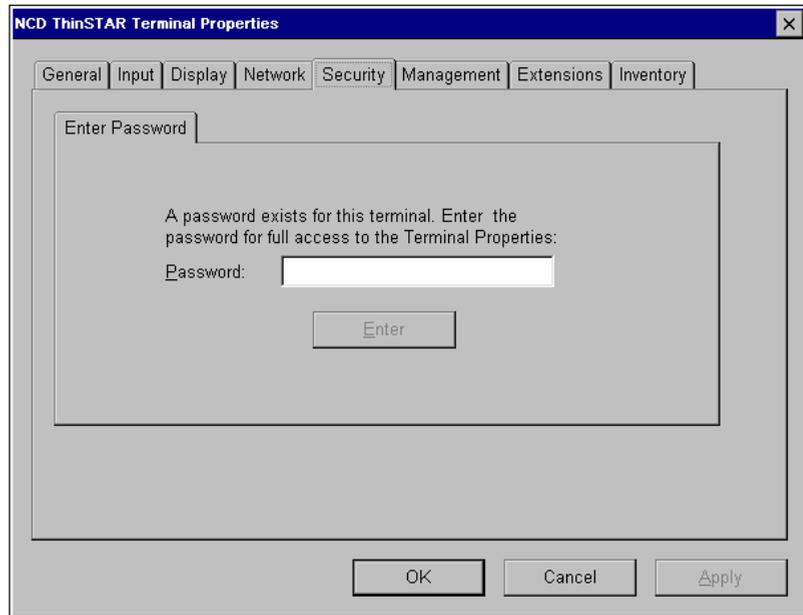You create a password on the following screen.

To create a password:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Security. If no password exists, this tab contains the Create Password tab.

3. Enter the password in the Password field. Enter it exactly in the Confirm password field and press Enter or click Create. The password exists; you do not need to click OK or Apply to save it.

    When you create the password, the Create Password tab is replaced by the Change Password and Terminal Properties Access tabs.

    If you start to enter a password, then leave the tab, the terminal warns you when you try to exit Terminal Properties.

Enter the Password

If a password exists, the Security tab displays the Enter Password tab.
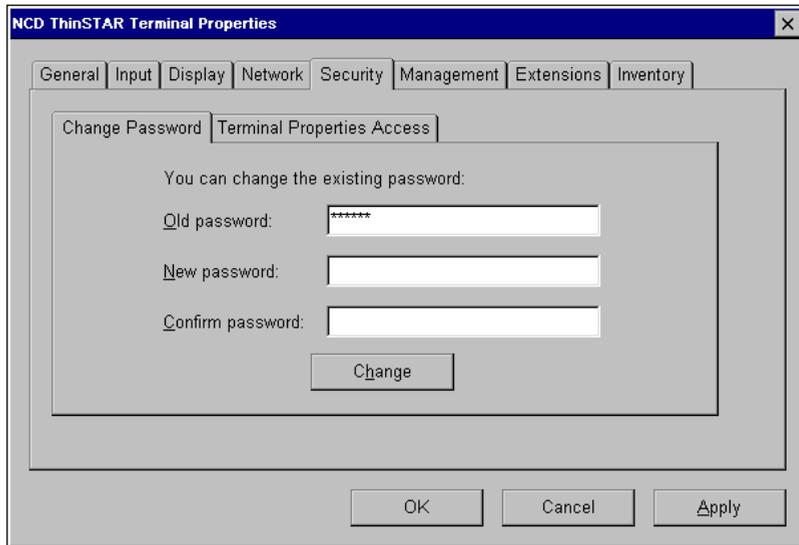
To enter the password:

1. Type the password in the Password field.

2. Click the Enter button or press Enter.

    The Security tab now displays the Change Password tab and Terminal Properties Access tab. You can change the password, if desired, or go to another tab.

Change the Password

You change the password on the following screen:

To change the current password:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Security > Enter Password and enter the password.

   After you enter the password, the Change Password tab and the Terminal Properties Access tab replace the Enter Password tab.

3. If the Old password field is blank, enter the old password and press Enter. The Old password field is filled in (and displays asterisks) if you have just created a new password.

   Enter a new password in the New password field and press Enter. (If you enter characters in the New password field, then leave the tab without completing the process, the terminal warns you when you try to exit Terminal Properties.)

4. Enter the same password exactly in the Confirm password field and press Enter.

5. Click Change or press Enter.

   A message lets you know that the password was changed.

Delete the Password

To delete the current password:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Security > Enter Password and enter the password.

    After you enter the password, the Change Password tab and the Terminal Properties Access tab replace the Enter Password tab.

3. Enter the current password in the Old Password field and leave the other fields blank.

4. Click Change.

    When the password is deleted, the screen displays the Create Password tab. At this point, you can go to another tab or click OK to exit Terminal Properties.

Define Access to Individual Tabs and Properties

Using the Terminal Properties password, you can protect fields and tabs from changes. By default, if you create a password and the user does not enter it, the user can change only the fields on these tabs:

■   The Input tab

■   The Display tab

■   The Management > Pointer tab

■   The Management > Audio tab

■   The Management > Touchscreen tab

    Note   Touchscreen is not available on the ThinSTAR 200 terminal.

■   The Management > Power tab

A user can always change fields after entering the password.

You can change the defaults through the Management > Terminal Properties Access tab, which appears if you are using a password.
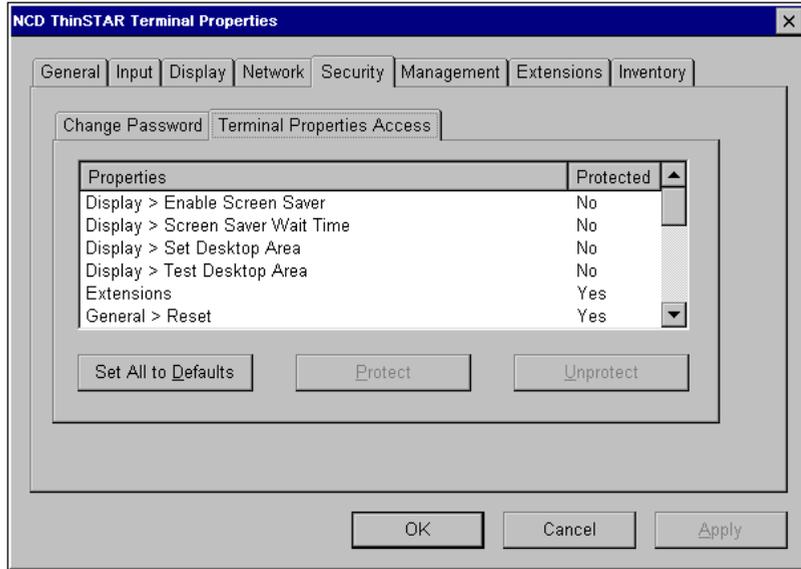
To configure access to fields and tabs:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Create a password as described on page 35 or enter the password as described on page 36.

3. Select Security > Terminal Properties Access.

4. Set access properties, then click OK or Apply.

   Each line in the Properties list identifies a field or tab and shows its protection status.

   — If the Protected status for a field or tab is set to Yes, a user must enter the password to access it; if the user does not enter the password, the field is grayed out.

   — If the Protected status is No, the user has access to the field or tab without entering a password.

To change protection status, select one or more items and click Protect or Unprotect. To reset all fields to their default protection status, click Set All to Defaults.
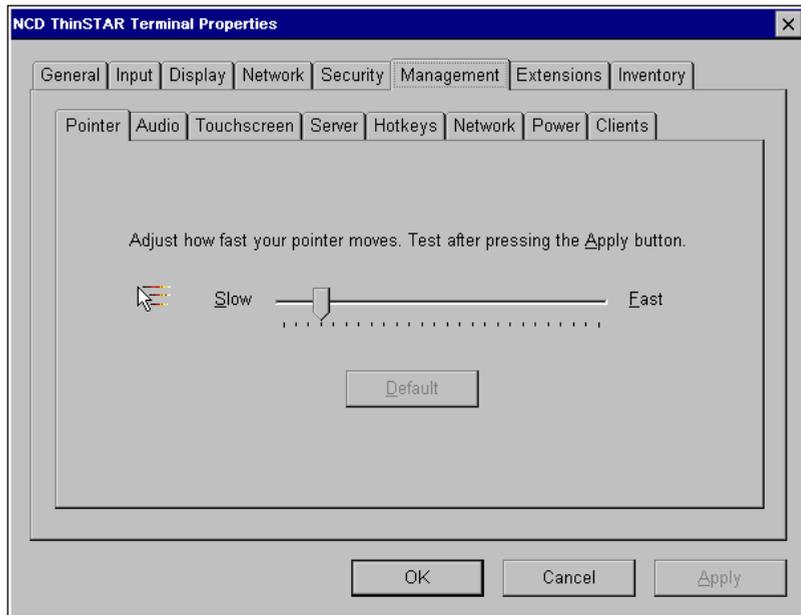
Management Properties

The Management tab is organized into a series of tabs that you can use to set properties and perform actions such as tests:

Management Properties	
Main Tab	**Properties/Functionality**
Pointer	Adjust the speed of the pointer.
Audio	Set the volume level or choose to mute sounds.
	Test the volume.
	Enable the microphone for terminals that support it. It is not available on NCD ThinSTAR 200 terminals.
Touchscreen	Enable touchscreen, for monitors that support it. It is not available on NCD ThinSTAR 200 terminals.
	Identify the port for the touchscreen monitor.
	Calibrate the screen.
Server	Select a Management Server to provide updates to the terminal.
Hotkeys	Enable hotkeys to cycle through connections.
Network	Specify the type (LAN or dial-up) and speed.
	Set timeouts for DHCP and the Management Server.
	Perform diagnostics.
Power	Provide power information for monitors.

Management Properties	
Main Tab	**Properties/Functionality**
Clients	Set a default client.
	Configure a client, including printers for RDP connections.
	Choose a terminal locale.
	Enable or disable the Configure tab in the Connection Manager.

Pointer

You can change how fast the mouse pointer moves on the desktop when you move the mouse.
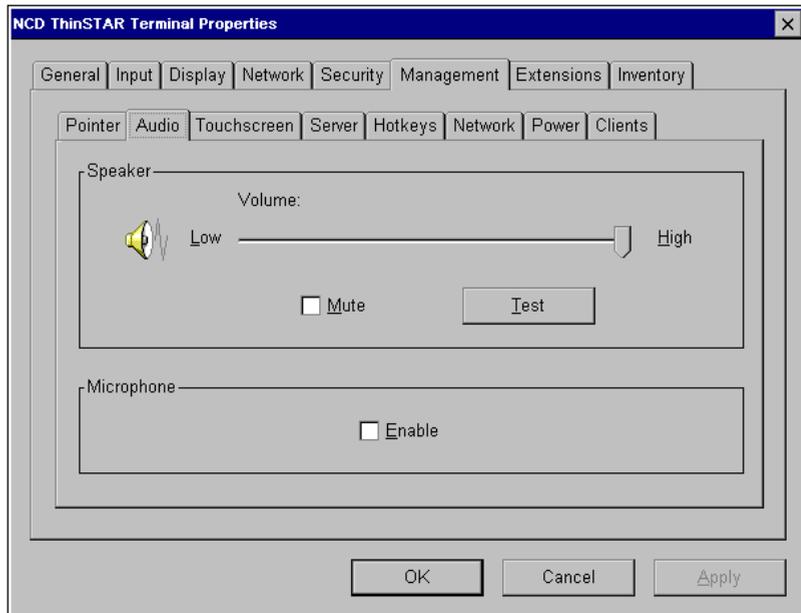

To set the pointer speed:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Pointer.

3. Use the slider to select a speed, then click Apply and move the mouse to test the speed, If you want to return to the default speed (the fourth mark), click Default, then click OK or Apply.

Audio

The Audio tab has options for terminal speakers and microphone input.

To configure audio:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Audio.

3. Set properties, then click OK or Apply.

    — Speaker Volume

      Use the slider to set the volume of the speakers, then click Test to hear the volume at that setting.
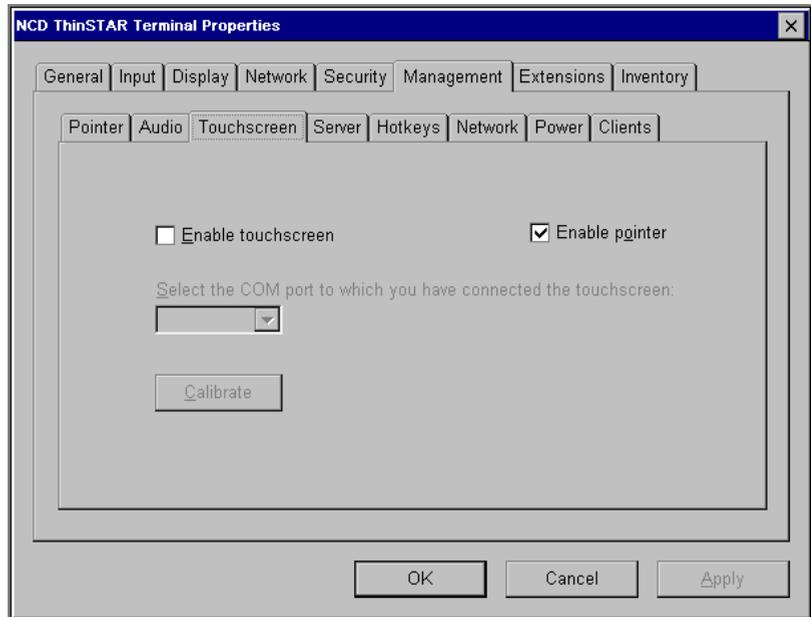
    — Speaker Mute

Mute turns audio on or off.

— Microphone Enable

Enable enables or disables microphone input. By default, the microphone is disabled. (This is not available for NCD ThinSTAR 200 terminals.)

Touchscreen

If your monitor supports touch input, you can enable touchscreen. This disables mouse input and removes mouse and pointer options from the Input and Pointer tabs. The NCD ThinSTAR 200 terminals do not support touchscreen.

If you enable touchscreen and do not have a touchscreen monitor or enter the wrong COM port, see *Touchscreen Troubleshooting* on page 45.

NCD ThinSTAR Terminal Properties ☒

General | Input | Display | Network | Security | Management | Extensions | Inventory

Pointer | Audio | Touchscreen | Server | Hotkeys | Network | Power | Clients

☐ Enable touchscreen   ☑ Enable pointer

Select the COM port to which you have connected the touchscreen:

[_____ ▼]

[Calibrate]

[OK]   [Cancel]   [Apply]

To set touchscreen properties:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Touchscreen.

3. Set properties, then click OK or Apply.

— Enable

You can enable or disable touchscreen.

— Select COM port to which you have connected the touchscreen

If you enable touchscreen, specify the communications (COM) port. The touchscreen must be connected to the port with a serial cable. A touchscreen monitor detects which port it is on and makes it the default.

4. Restart the terminal to put touchscreen into effect.

When the terminal restarts, the calibration program runs if you have not yet calibrated for the current display resolution. Follow instructions presented to define the corners of your screen.

5. Return to the Management > Touchscreen tab and click Calibrate to calibrate the touchscreen. Follow instructions presented to define the corners of your screen.

If you selected the wrong port or switched from a touchscreen to a non-touchscreen monitor, see recovery procedures in *Touchscreen Troubleshooting* on page 45.

Touchscreen Troubleshooting

In touchscreen mode, the calibration program runs when a new display resolution is selected and the terminal restarts. Two errors may cause the touchscreen calibration program to time out.

No Touchscreen Monitor

If you switch from a touchscreen to a non-touchscreen monitor, the calibration program times out after 30 seconds.

To correct this:

— You can wait for the calibration timeout or press Esc to cancel the calibration program.

— When the calibration program ends, press F2 to return to Terminal Properties.

— Use the right arrow key to move to the Management tab, then press Tab to go to the Pointer tab. Use the right arrow key to move to the Touchscreen tab.

— Press Alt+E to disable touchscreen.

— Press Alt+A to apply the changes.

— Restart the terminal.

Wrong COM Port

If you have the wrong COM port:

— If the physical connection is wrong, connect the serial cable to the other COM port on the terminal.

— You can wait for the calibration timeout or press Esc to cancel the calibration program.

— When the calibration program ends, press F2 to return to Terminal Properties.

— Use the right arrow key to move to the Management tab, then press Tab to go to the Pointer tab. Use the right arrow key to move to the Touchscreen tab.

— Press Alt+S to go to the list of COM ports, then use the up or down arrow to select another port.

— Press Alt+A to apply the changes.

— Restart the terminal.

Server

The NCD ThinSTAR Management Service (TMS), automatically updates NCD ThinSTAR Operating Software on terminals. It can be installed on any Windows server in the network. By default, the terminal broadcasts on the terminal's subnet to locate the Management Server. However, you may want to use a specific Management Server on a different subnet.
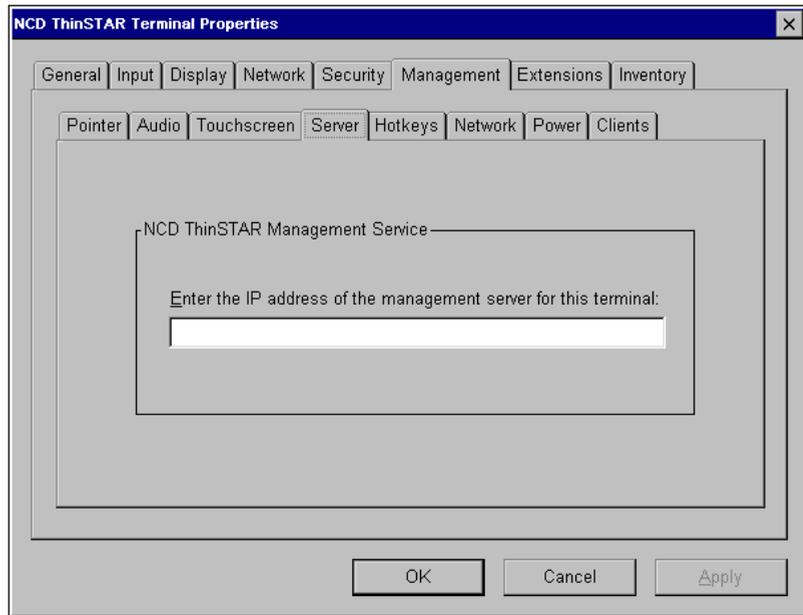
To choose a Management Server for software updates:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Server.

3. Enter the IP address of the Management Server that is to update the Operating Software on this terminal, then click Apply or OK.

    If name resolution service is available, you can use the host name. If you have specified a gateway, you can specify a Management Server on a different subnet.

Hotkeys

You can enable hotkeys so that users can use the following key sequences to switch connections during a running session.

Hot Key	Use
Ctrl+Alt+↑	Cycle up through active connections in the Connection Manager.
Ctrl+Alt+↓	Cycle down through active connections in the Connection Manager.
Ctrl+Alt+Home	Go to the default connection. The connection is started if it is not already active.

You set hotkeys on the Hotkeys tab.
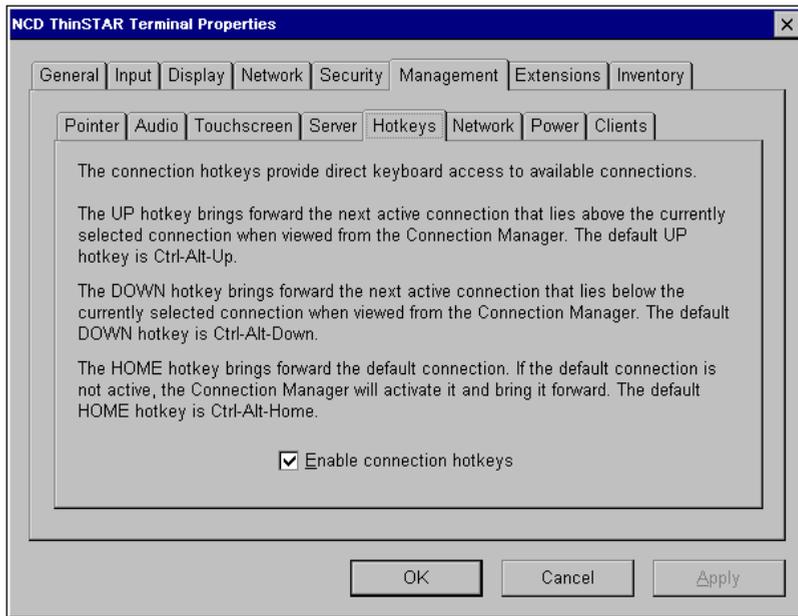
To enable connection hot keys:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Hotkeys.

3. Select Enable Connection Hotkeys, then click Apply or OK.

Network

The terminal can communicate over a modem or a LAN. For a LAN, you can specify the network speed or have the terminal sense it.

Network Connection Type

You set the network connection type on the Type tab.
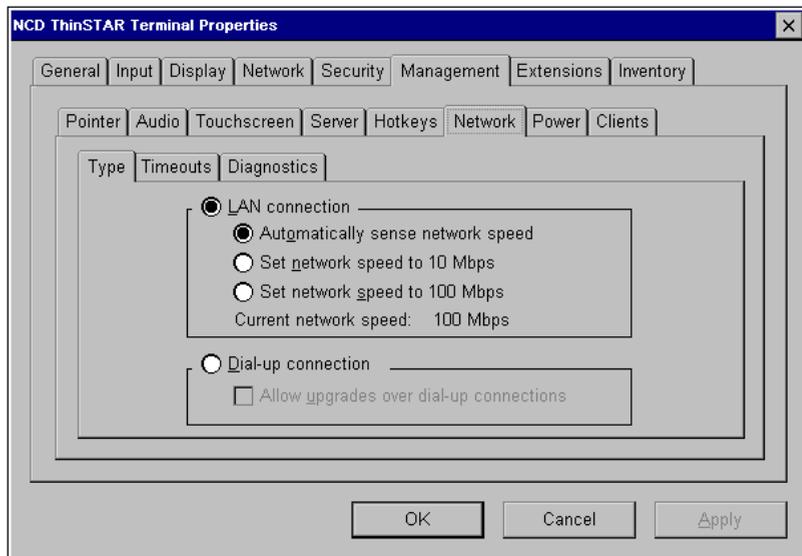
To set the network connection type and options:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Network > Type.

3. Select a type and provide information, then click OK or Apply.

— LAN Connection

Select a network speed. NCD recommends Automatically Sense Network Speed. (100 Mbps is unavailable on NCD ThinSTAR 200 terminals.)

— Dial-Up Connection

You can allow software upgrades over the modem, but it may not be desirable because of the download time.

4. Restart the terminal to apply these changes.

Set Timeouts

Timeouts define how long the terminal waits for information from the DHCP or Management Server. Switched networks with a spanning tree protocol may need longer timeouts.

Default restores the default value, 60 seconds.

Default restores the default value, 5 seconds.
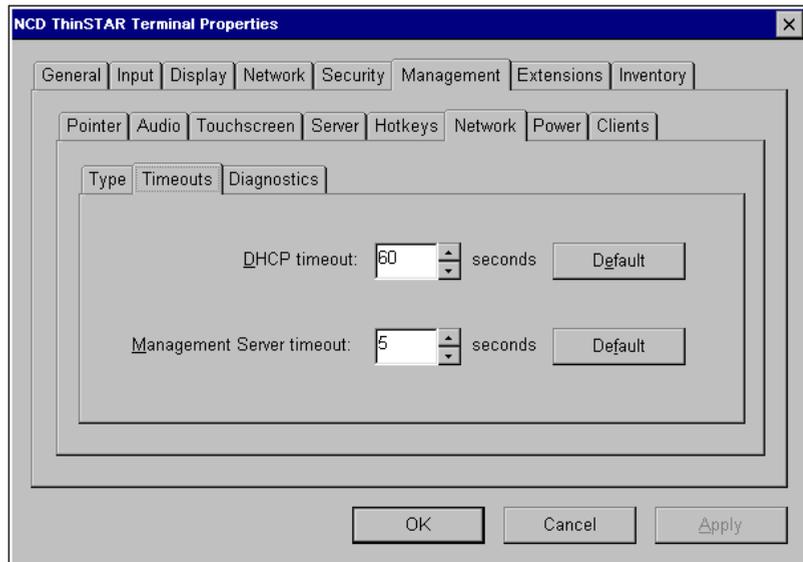
To specify timeouts:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Network > Timeouts.

3. Enter timeout information, then click Apply or OK.

— DHCP Timeout

The default is 60 seconds. If the terminal restarts in DHCP network mode and DHCP information is not available, a timer counts down from the timeout value until the server responds or you click Cancel.

— Management Server Timeout

The default is 5 seconds. If the timeout value is more than 5 seconds and the restarted terminal cannot contact the Management Server, a timer counts down from the timeout value until the server responds or you click Cancel.

Test Network Connections

From the Diagnostics tab, you can test a network connection.
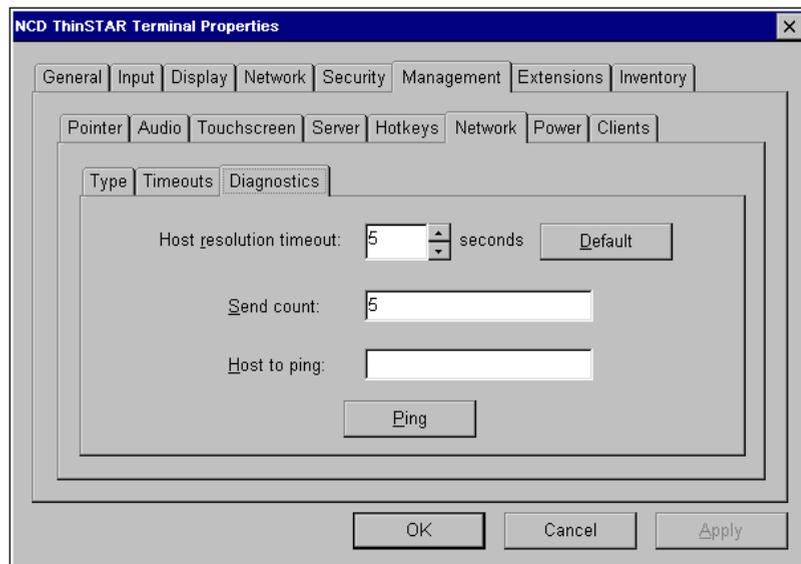
To test the connection:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Network > Diagnostics.

3. Enter diagnostic information, then click Ping:

   — Host Resolution Timeout

      Specify how long to wait for host resolution after you click Ping. The default is 5 seconds.

   — Send Count

      Enter the number of times to ping the host.
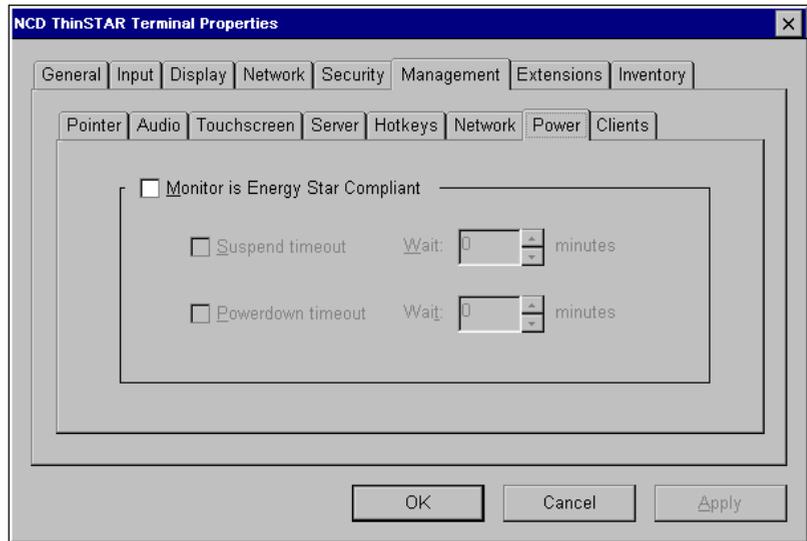
   — Host to Ping

      Enter the host name or IP address.

      Status information includes a Cancel button you can click to end the test. The host replies or error messages appear.

4. Click OK or Apply.

Power

Screen savers reduce power use. Power settings go further.

The screen saver timeout cannot exceed the suspend timeout and the suspend timeout cannot exceed the powerdown timeout.

To make power settings:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Power.

3. Enter power information, then click OK or Apply.

   — Monitor is Energy Star compliant

     For a DDC monitor, the terminal sets this and you cannot
     change it. For other monitors, specify whether it is Energy
     Star compliant. You can set timeouts for an Energy Star
   compliant monitor, using the following formula:

     Screen Saver Timeout <= Suspend Timeout <= Powerdown Timeout

   — Suspend Timeout. Turns off some power, but lets you activate
     the screen quickly. Give the number of minutes before the
     suspend state begins.

   — Powerdown Timeout. Turns off most power, but leaves the
     mouse and keyboard active. Give the number of minutes
     before powerdown begins. It takes several seconds longer to
     return from powerdown state than from suspend state.

Clients

On the Clients tab, you can set a default client, configure some
clients, set the terminal locale, and enable connection configuration.

Properties for some
clients can be set
through Terminal
Properties. If you can set
global options for the
client here, the
**Configure Client** button
is available.
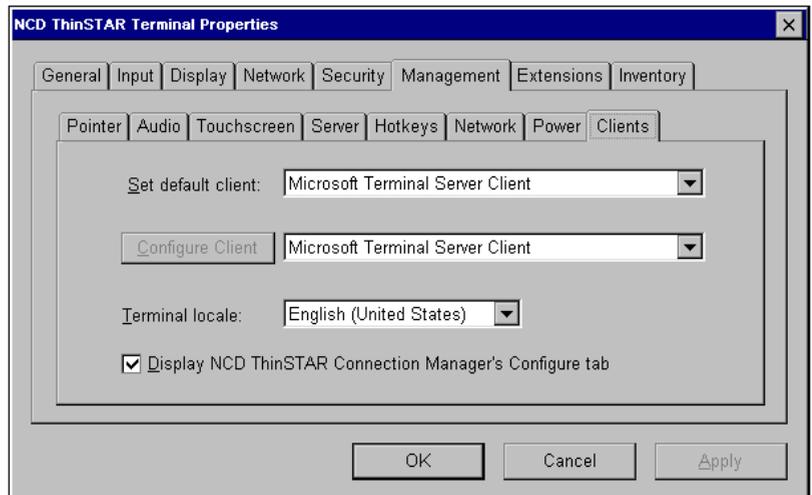
To set client properties:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Management > Clients.

3. Enter information, then click OK or Apply.

   — Set Default Client

   The Connection Manager lists this client first in add mode.

   — Configure Client

   If this is available, you can set options. For Citrix ICA settings, see *ICA Connections* on page 76; for RDP printers, see *RDP Connections* on page 71.

   — Terminal Locale

   The language your terminal uses to communicate with the Windows Terminal Server.

   — Display Connection Manager's Configure Tab

   By default, the Configure tab of the Connection Manager is visible so you can set up connections, but you can hide it.

Extension Properties

The Extensions tab lists additional terminal configuration options.
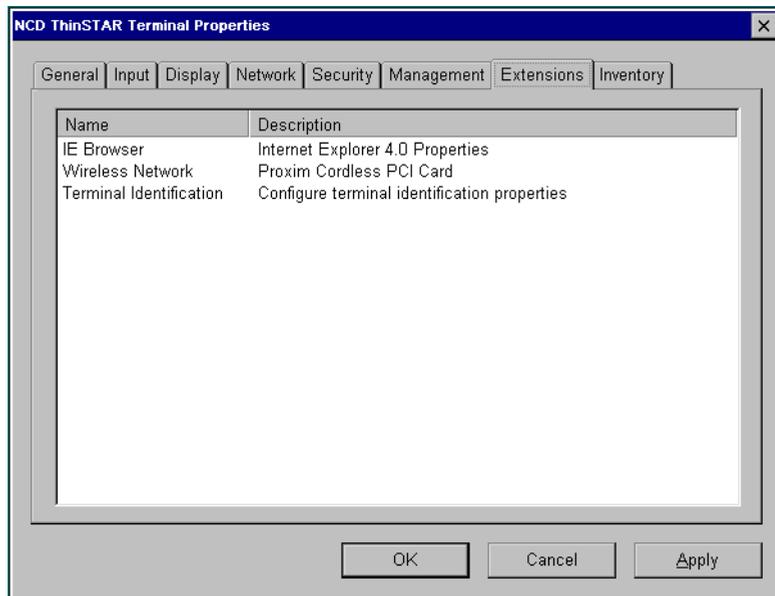
To display properties for an extended option, double click it or highlight it and press Enter or the spacebar key.

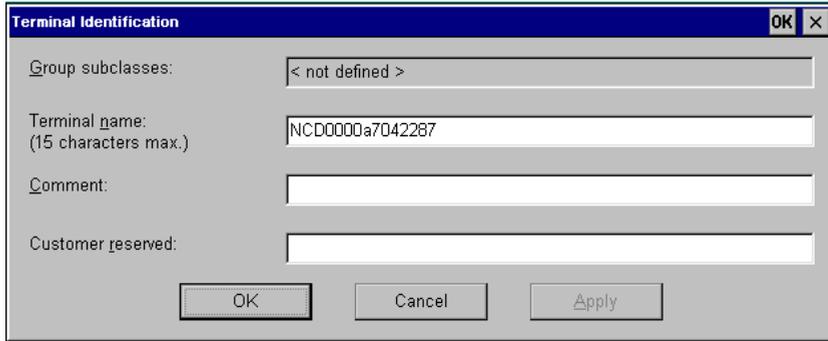## Wireless Network Properties

Wireless networking is supported on a number of NCD ThinSTAR terminals. You can maintain properties for both Ethernet and wireless connections, but only one type of connection can be active at a time. If the Ethernet cable is attached to the terminal, then the terminal uses that wired network to communicate. If the network cable is not attached to the terminal, then the terminal uses the wireless network to communicate.

For wireless connections, there are properties for addresses, name services, and Proxim cards.

Terminal Identification Properties

You can identify a terminal by name. This is especially useful if you have NCD ThinPATH Manager, which manages multiple terminals.

The **Group subclasses** field is for information only; the NCD ThinPATH Manager Configuration Tool can set the value.

Terminal Identification	OK ✕
Group subclasses:	< not defined >
Terminal name: (15 characters max.)	NCD0000a7042287
Comment:	
Customer reserved:	

OK   Cancel   Apply

To set terminal identification properties:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Extensions, then select Terminal Identification.

3. Enter a terminal name. You cannot exceed 15 characters.

4. If desired, add information about the terminal in the Comment and Customer reserved fields. These fields can extend beyond the length of the white box.

Configuring Internet Explorer

To allow an Internet Explorer session on a terminal:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Extensions and then double-click IE Browser.

3. Click Enable Web Connection. Once selected, a Web connection appears in the NCD ThinSTAR Connection Manager. Only one Web connection per terminal is allowed.

   Note   This is the only mandatory browser configuration item. Changing other browser configuration items is optional.

4. Change browser preferences as appropriate. See Browser Options for explanations of available options.

Note   To delete the web connection from the Connection Manager, deselect the Enable Web Connection checkbox.

Browser Options

Configurable browser items include:

Internet Explorer 4.0 Properties	Option	Default Option
Home page	The internet address for the current home page. The home (start) page is the page you see each time you start Internet Explorer. You can return to the home page at any time by clicking the Home button on the toolbar.	http://www.ncd.com
Search page	The Internet address for common searches. You can return to the search page by clicking the Search button on the toolbar.	http://www.msn.com
Persistent browser cache	Stores History and Cookies portions of the browser cache across Web sessions. Note The browser cache is not retained when the terminal powers off.	Selected
Enable Favorites	Stores Favorite information across Web sessions.	Selected

Preferences	Options	Default Option
When do you want the browser to underline hyperlinks?	■ Never – Hyperlinks on a page are not highlighted. ■ Always – Hyperlinks on a page are always highlighted. ■ Hover – Hyperlinks are only highlighted when the mouse is over the link	Never
What size font do you want to use?	■ Very small ■ Small ■ Normal ■ Large ■ Very Large	Normal

Proxy Information	Option	Default Option
Access the Internet using a proxy server.	■ Not selected – No proxy server is used. ■ Selected – Connections go through your local area network's proxy server before reaching the Internet. A proxy server acts as a security barrier between your internal network (intranet) and the Internet.	Not selected – no proxy server is used.
Proxy server name or IP address	■ The IP address of your local area network's proxy server.	No default value.

Proxy Information	Option	Default Option
Port	■ The port number for your local area network's proxy server.	80 – The typical proxy server port.
Bypass proxy server for local (Intranet) addresses	■ Specifies whether you want to use the proxy server for all local (intranet) addresses. You might be able to gain access to local addresses easier and faster if you do not use the proxy server.	Selected – The proxy server is not used for intranet connections.

Advanced Proxy Settings	Options	Default Option
Exceptions	■ Specifies a list of proxy server addresses to be bypassed. The addresses are separated by semicolons.	Undefined.

Configure Startup	Options	Default Option
Make Web Connection your default connection	■ Not selected – The Web connection, in the NCD ThinSTAR Connection Manager, is not the terminal's default connection. ■ Selected – The Web connection, in the NCD ThinSTAR Connection Manager, is the terminal's default connection. Pressing Control+Alt+Home either starts that default connection or transfers control to the already running connection.	Not selected – The Web connection is not the terminal's default connection.

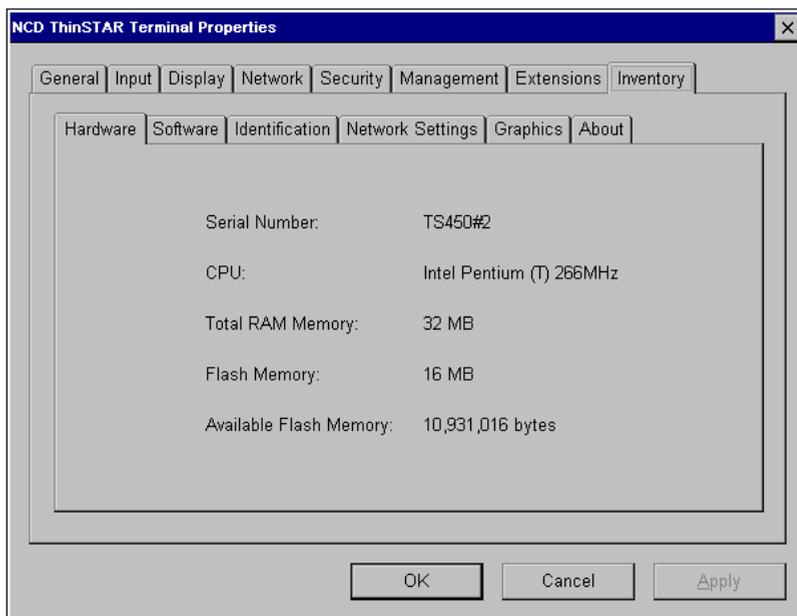| Configure Startup	Options	Default Option
Automatically start the Web connection at startup.	■ Not selected & grayed out – The Web connection is not started when the terminal powers on. Also, the Web connection is not the default connection. ■ Not selected – The Web connection is the terminal's default connection. However, the connection does not automatically start when the terminal powers on. ■ Selected – The Web connection is automatically started when the terminal powers on. Pressing Control+Alt+Home transfers control to the Web connection.	Not selected and grayed out

Inventory Properties

The Inventory tab has additional tabs with information about the terminal's hardware, software, the network, and graphics. It also has an About tab.

To view inventory properties:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Inventory.

    The information on the Inventory tab can be useful for verifying hardware and software versions, confirming a successful software upgrade, and reporting problems to NCD Technical Support.

The Hardware tab has the following information:

```
NCD ThinSTAR Terminal Properties                                    ×

 General | Input | Display | Network | Security | Management | Extensions | Inventory

  Hardware | Software | Identification | Network Settings | Graphics | About


            Serial Number:            TS450#2

            CPU:                      Intel Pentium (T) 266MHz

            Total RAM Memory:         32 MB

            Flash Memory:             16 MB

            Available Flash Memory:   10,931,016 bytes




                            OK          Cancel         Apply
```

The Software tab has tabs for system information and installed software, including optional software such as terminal emulations.
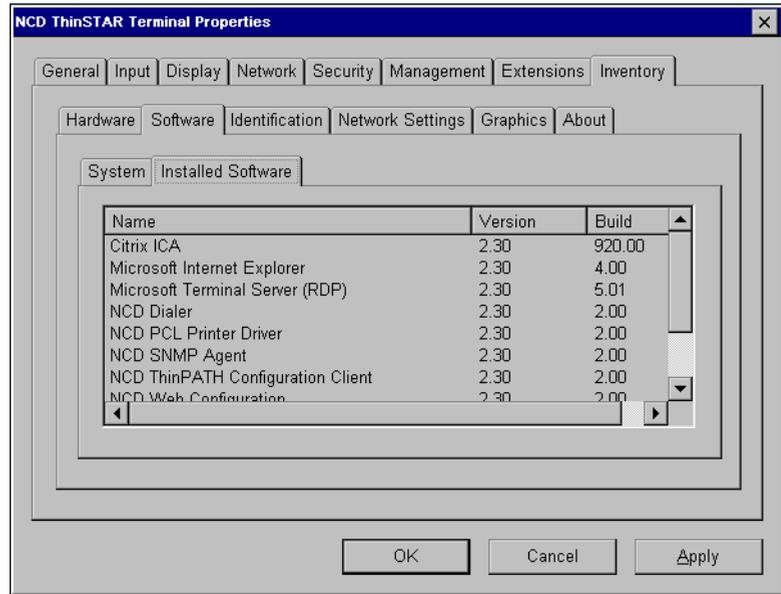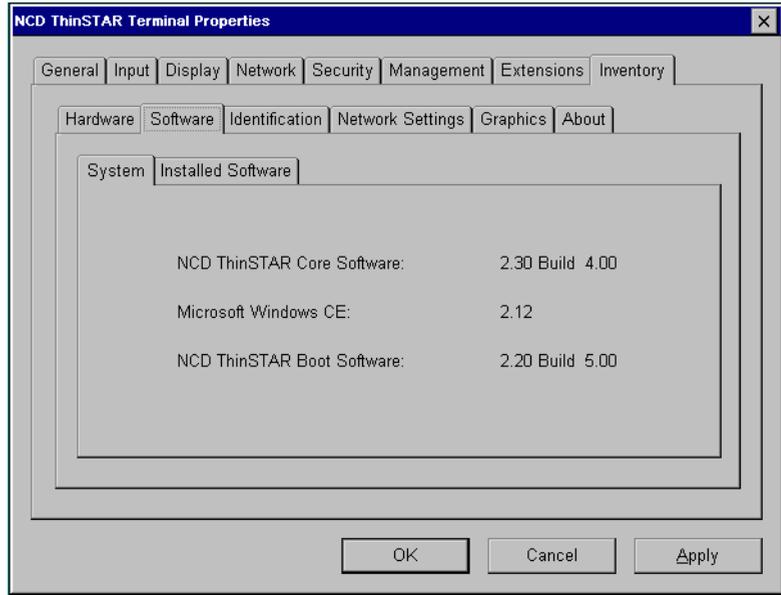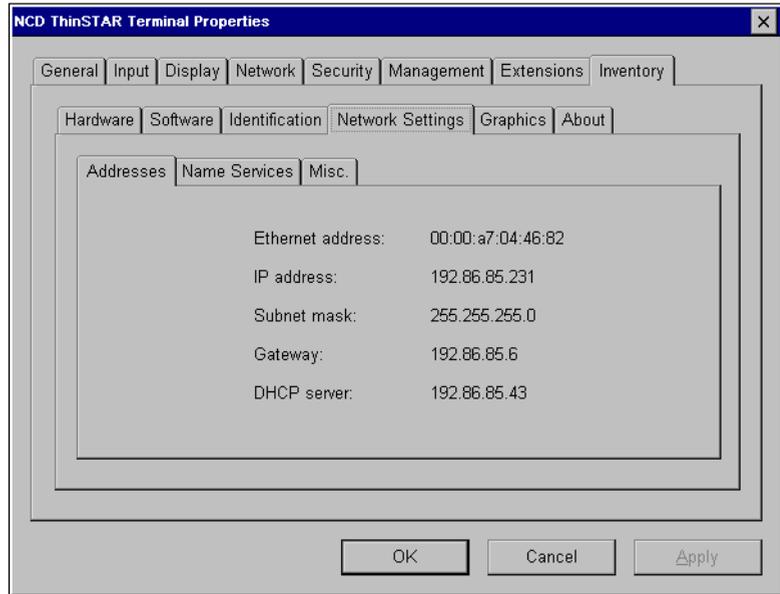
The Identification tab has the name that identifies the terminal. For a long field, use the right arrow to scroll to the right.
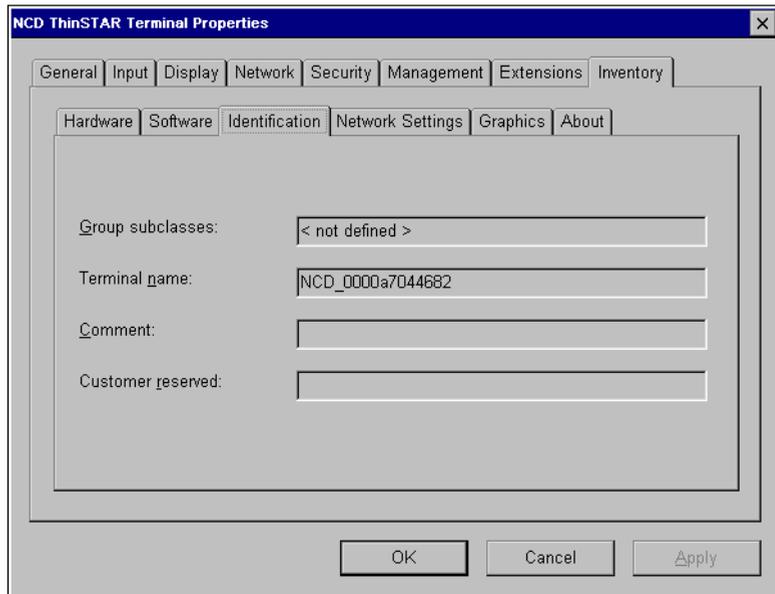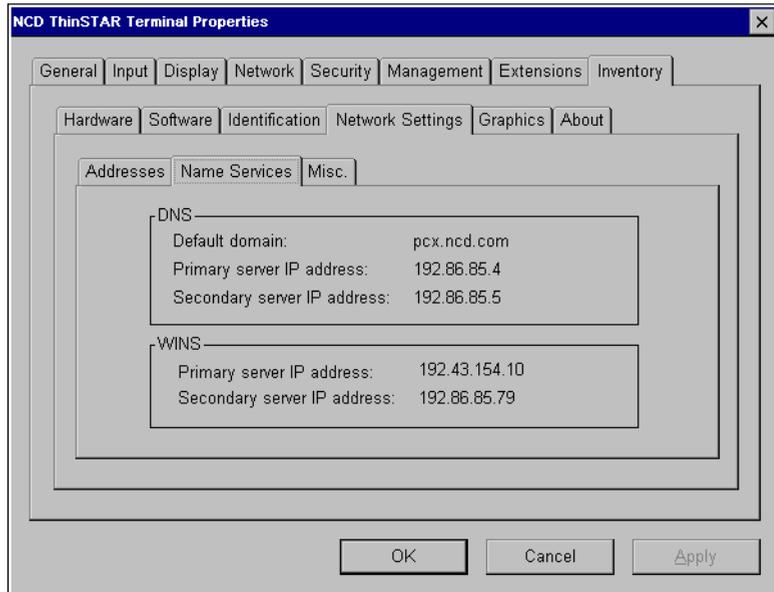
The Network Settings tab has three tabs, showing addresses, name services, and miscellaneous information.

The Addresses tab shows network addresses:

If the terminal is in dial-up mode, the IP address shown is the address returned from the dial-up connection. The dial-up network protocol (PPP or SLIP) supplies this address.
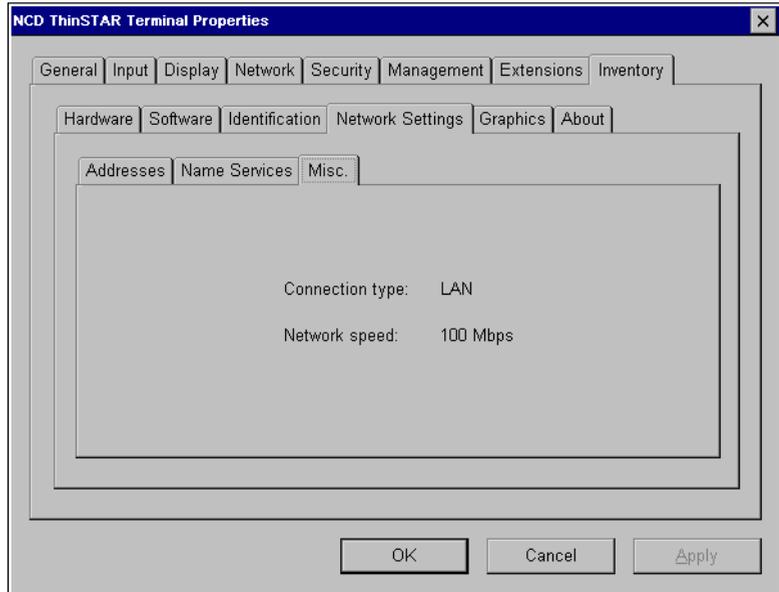
NCD ThinSTAR Terminal Properties	✕

General | Input | Display | Network | Security | Management | Extensions | Inventory

Hardware | Software | Identification | Network Settings | Graphics | About

Addresses | Name Services | Misc.

Ethernet address: 00:00:a7:04:46:82

IP address: 192.86.85.231

Subnet mask: 255.255.255.0

Gateway: 192.86.85.6

DHCP server: 192.86.85.43

OK   Cancel   Apply

The Name Services tab shows which servers provide name resolution service for DNS and WINS name services.

NCD ThinSTAR Terminal Properties	✕

General | Input | Display | Network | Security | Management | Extensions | Inventory

Hardware | Software | Identification | Network Settings | Graphics | About

Addresses | Name Services | Misc.

┌─DNS──────────────────────────────────────
│ Default domain: pcx.ncd.com
│ Primary server IP address: 192.86.85.4
│ Secondary server IP address: 192.86.85.5

┌─WINS─────────────────────────────────────
│ Primary server IP address: 192.43.154.10
│ Secondary server IP address: 192.86.85.79

OK   Cancel   Apply

The Misc. tab shows miscellaneous information, including the connection type and network speed.

Your configuration may differ from what is on this screen to reflect your network environment.

The Graphics tab has the following information.
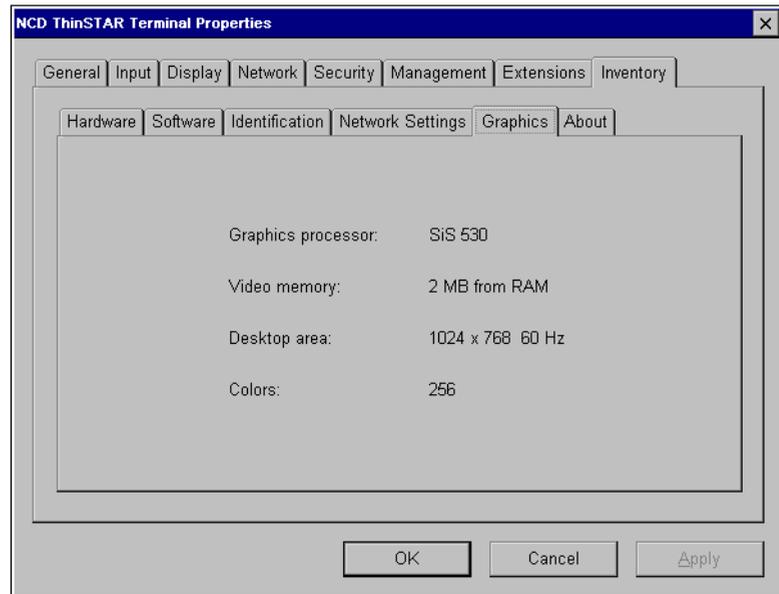
The About tab has information for the NCD ThinSTAR terminal.

NCD ThinSTAR Terminal Properties

General | Input | Display | Network | Security | Management | Extensions | Inventory

Hardware | Software | Identification | Network Settings | Graphics | About

Network Computing Devices, Inc.

Website: www.ncd.com

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Product Name   NCD ThinSTAR 400

NCD ThinSTAR
Operating Software: 2.30 Build 4.00

Microsoft Windows CE: 2.12

Product ID: 69408BCC-8CBA-11D3-A977-0000A7042287

OK   Cancel   Apply

Managing Terminal Connections

The following sections contain reference information for managing a terminal's connections, including Microsoft Terminal Server (RDP) connections and Citrix ICA connections. For introductory information on connections see *Introduction to Connections* on page 11. You create connections with connection wizards and administer them with the Connection Manager.

The Connection Manager has a Connections tab for starting or ending connection sessions and a Configure tab for configuring connections.
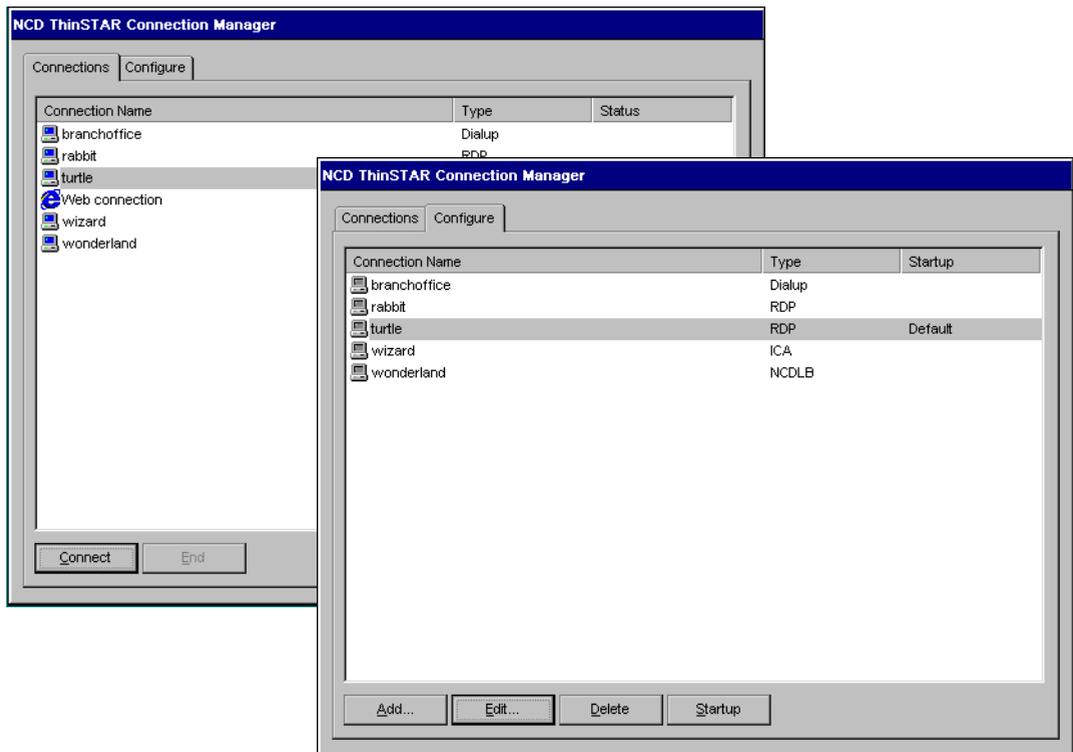
By default, the Configure tab is enabled and configuring connections is allowed. However, it is possible to protect the configuration by disabling the tab, as shown on page 53.

After you set the terminal up with the setup wizard, the connection wizard for your default client starts so that you can define at least one connection.

RDP Connections

The Microsoft Terminal Server client uses the RDP protocol. This section explains how to add and use Microsoft RDP connections.

Adding and Configuring an RDP Connection

To add an RDP connection:

1. Start the WTS (Windows Terminal Server) connection wizard.

    Note   It starts after setup if the default client is Microsoft Terminal Server. Later, you can press Ctrl+Alt+End to display the Connection Manager, then select the Configure tab, click Add, and select the Microsoft Terminal Server client as the type.

2. Specify a connection name and server, then click Next.

    — Name

       The name of the connection, up to 32 characters. Use a name that is descriptive.

    — Server

       The IP address or host name of the Terminal Server to host the connection.

       You can use a host name only if DNS or WINS is enabled, and, for DNS, a default domain was defined through DHCP or during setup.

If there is no default domain or the DNS server and the terminal are in different TCP/IP domains, specify a fully qualified domain name.

A dial-up connection may need the fully qualified domain name or IP address, depending on your PPP service.

— Low Speed Connection

Select this if connecting to the server through a low bandwidth WAN or serial line.

3. Enable or disable automatic user logon, then click Next.

By default, automatic user logon is disabled and users must provide login data when using the connection. Leave this feature disabled if automatic logon poses an unacceptable security risk.

To let a user log on automatically when starting this connection, check Automatic Logon and provide logon information:

— Username

The user ID of a local user on a particular server or a global user on a Domain Controller.

— Password

The password for the user ID; it is kept in encrypted form on the terminal and cannot be displayed.

— Domain

The Windows domain name, if the server belongs to a Windows domain and a Domain Controller authenticates users.

The name of the server if you want it to authenticate users or if it is not a member of a Windows domain.

4. Choose what to display when the connection starts, then click Next.

    — Desktop

    Display the Windows desktop.

    — Application file name

    Do not start with the Windows desktop. Instead, start an application; when the user closes this application, the connection ends.

    Enter the directory path and file name of the application. Use the full path if it is not specified in the user's environment on the Terminal Server host.

    — Working directory

    If you specified an application, you can give the path to a working directory. By default, the application saves data files in that directory.

    If you do not specify a working directory, the application saves data files in the user's home directory on the host.

5. Click Back to review or change previous settings, then return and click Finish to apply the settings.

    The Connection Manager includes the new connection in its list of connections.

    If you have just created the first connection and the terminal is in dial-up mode, the NCD dial-up client's connection wizard starts. See *Adding an NCD Dial-Up Connection* on page 98.

Configuring an RDP Printer in Terminal Properties

When you set properties on the Management > Clients tab of Terminal Properties, you can set some client properties globally. For example, you can configure a printer for RDP connections. To go to Terminal Properties from the Connection Manager, press F2.

To configure a printer for RDP connections:

1. In Terminal Properties, select Management > Clients.

2. Select Microsoft Terminal Server Client and click Configure.

3. Select a printer and click Properties.

4. Enter information:

   — Friendly Name

     Give a name users will recognize.

   — Manufacturers

     Select a manufacturer.

   — Printers

     Select a printer.

5. Choose whether to make the printer the default printer.

Starting an RDP Connection

You start connections from the Connection Manager, which lists all connections on its Connections tab. To display the Connection Manager when you are in a session, press Ctrl+Alt+End.

A terminal must be in the correct mode—LAN or dial-up—to start a connection. To change the mode, see *Network Connection Type* on page 49.

To start an RDP connection:

1. In the Connection Manager, select the Connections tab, then double click the name or select the name and click Connect.
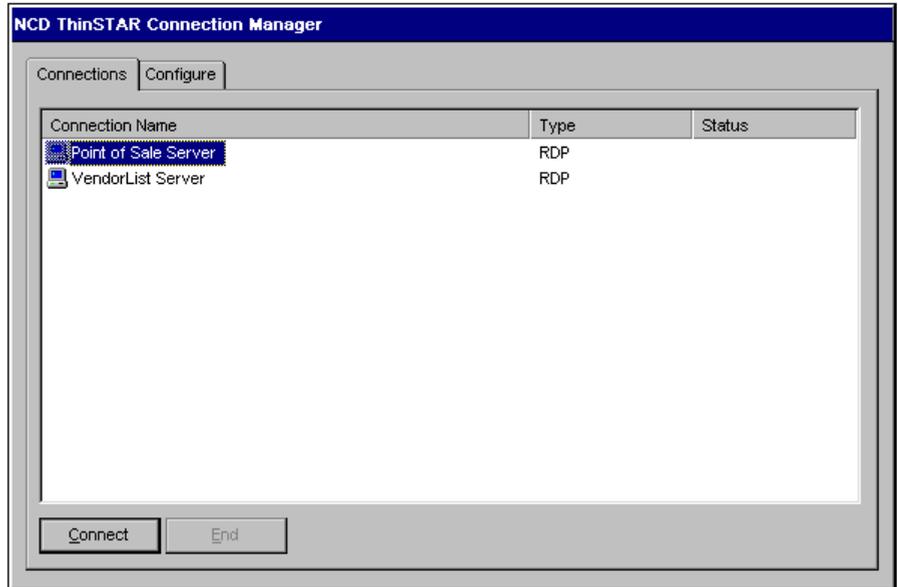
If the connection was correctly defined, and the server is running, the connection starts.

If the terminal cannot connect, select the Configure tab. Correct the server specification for the connection if it is wrong, then try to connect again.

If you have the right server, see whether it is running and check whether the terminal is physically connected to the network. Use the Management > Network > Diagnostics tab in Terminal Properties to do this. For information, see *Test Network Connections* on page 51.

2. Enter logon information—user name, password, and domain—if requested. A connection may require logging on manually or the user information in an automatic logon connection may be wrong or may not be authenticated for that server. The connection starts the specified application or the server's desktop, depending on startup options set in Step 4 on page 73 on page 73.

Stopping an RDP Connection

You can stop connections by logging off the Windows desktop or suspend them by disconnecting the session. A suspended connection or application continues to uses server resources, so some sites discourage disconnecting.

■ **Logging Off**

On the Windows NT desktop, select Start > Logoff to close open applications, log off and end the connection.

On the Windows 2000 desktop, select Start > Shut Down > Logoff to close open applications, log off and end the connection.

■ **Disconnecting**

On the Windows NT desktop, select Start > Disconnect to log off and end the connection, but leave applications running in a suspended state. When you reconnect to the server, the applications are in the same state as when you disconnected. It may be convenient to disconnect, but applications left running may place excessive demands on the server.

On the Windows 2000 desktop, select Start > Shut Down > Disconnect to log off and end the connection, but leave applications running in a suspended state.

ICA Connections

The Citrix ICA client provides both network and dial-in connections using the ICA protocol. It does not support modem callback.

You can run two types of ICA sessions: Citrix server connections and published applications.

■ Citrix server connections allow you to connect to the Windows desktop of a specific Citrix server; you can run any applications available on the desktop, in any order.

■ Published applications are specific applications set up by an administrator for remote users to run. When connected, you are presented with the application itself.

The connection wizard asks for information necessary to create a connection. The screens it displays vary somewhat depending on the version and build of the Citrix ICA client. This section describes the Citrix ICA client, version 6.0. Previous versions of the Citrix ICA client are available on some NCD ThinSTAR terminals.

You can check the version in Terminal Properties. To go to Terminal Properties from the Connection Manager, press F2. To check the version, select Inventory > Software > Installed Software and find Citrix ICA.

Adding and Configuring an ICA Network Connection

To add and configure an ICA network connection:

1. Press Ctrl+Alt+End to display the Connection Manager.

2. From the Connection Manager, select the Configure tab and click Add. The connection wizard displays.

3. Select the Citrix ICA client as the type of connection.

4. Select Network Connection as the connection type and click Next.

5. Select a server or published application and click Next.

   The lists displayed depend on the global ICA client settings in Terminal Properties, as described in *Configuring Global ICA Client Settings* on page 83. By default, they include servers or published applications in the local network.

   The client uses the primary Citrix server to build the lists. To build the first list, it does an auto-locate broadcast and uses the first ICA server browser that responds. If servers or published applications do not appear and you think they should, click Refresh to update the lists. For example, you may need to refresh the lists in the following situations:

   — A server or published application does not appear because the network had a temporary problem or a server was down.

   — You have just added or removed servers.

— You have just added a server on another subnet in one of the server locations.

Addresses on Remote Networks

To list servers and published applications on remote networks, click Server Location and edit the list.

Remote Application Manager uses the information entered in the Server Location screen to help locate available Citrix servers and published applications.

If you are on another network (for example, if you are on the other side of a router, across the Internet, or connected by RAS), click Add to enter the IP address or DNS name of a Citrix server on the network that contains the Citrix server you would like to connect to. The ICA client uses this server to locate the list of available Citrix servers on the network.

If your network configuration cannot propagate UDP traffic (for example, if your firewall restricts UDP broadcasts), click Use HTTP Server location. Make sure that the list contains the IP address or name of a Citrix server running the Citrix XML service on the network that contains the Citrix server you would like to connect to.

The ICA client uses this server to locate the list of available Citrix servers on the network.

— Server Group

If your screen includes a Server Group option, you locate available servers and published applications by group. This selection is used instead of a group defined in global settings for the Citrix ICA client in Terminal Properties.

You can define up to three groups of Citrix servers to which you want to contact a primary and two backups. The client attempts to contact all the servers within the Primary group using directed packets; the first server to respond is then queried for the address of the master ICA Browser. If none of the servers respond, the client attempts to contact all the servers within the Backup 1 group. If there is still no

response, the client attempts to contact all of the servers in the Backup 2 group. This process is repeated each time the user attempts to make an ICA connection.

— Addresses

The default address, Auto-Locate, lists servers and published applications on the local network only.

You can use the following buttons to edit the list:

Add	To include servers and published applications on remote networks, such as those on the other side of a gateway, click **Add**. Enter the name or IP address of a server that tracks servers on the remote network. ICA browsing is not supported in dial-up mode.
Delete	To delete a server from the list, select it and click **Delete**.
Default List	The list saved last is the default list. To replace the current list with the default list, click **Default List**, then click **Yes**.

6. Specify a title for the connection.

   By default, the server or published application name is displayed. To specify a different title, backspace through the default name and type another name.

7. Choose what to display when the connection starts, then click Next.

   To start with the Windows desktop, leave this information blank.

   To start with an application, enter the following information:

   — Command Line

   Enter the path and name of the application. During the session, you can run only this application. When you quit the application, the session ends.

   — Working Directory

   Enter the drive and path of the working directory (optional).

This associates the directory with the application; when you access a file from the application, the application uses the working directory by default. For example, commands in the application's File menu operate, by default, on files in the working directory.

8. Specify logon information, then click Next.

If you enter a valid user name, password, and server domain, it is used for an automatic logon.

If you leave any of these fields blank, the connection prompts for all of the information.

For published applications, the logon information must be valid for the server running the published application. If the connection is to an anonymous published application, the logon information is ignored.

9. Select the number of colors to be displayed. If you select Thousands, be sure that HighColor has been enabled for the desktop or application and that the proper version of Metaframe has been installed. Click Next.

A dial-up connection may be faster with 16 colors.

The default number of colors displayed is affected by the global ICA client settings you can make in Terminal Properties. For more information, see *Configuring Global ICA Client Settings* on page 83.

Note   To verify that HighColor is enabled for the desktop, check the setting on the Display tab in Terminal Properties. See *Display Properties* on page 30 for additional information.

10. Specify compression and sound, then click Next.

Provide information as follows:

— Use Printer Configuration Utility

When this option is enabled, the client can use the printer configuration utility on the Citrix server. If a printer has been defined in Terminal Properties, it is mapped to the client. See

Configuring an RDP Printer in Terminal Properties on page 73.

Disable this option if you want to connect to MetaFrame for Window 1.8 servers where you can map printers manually. See *Mapping Client Printers on MetaFrame for Windows and WINFRAME* on page 91 for details.

— Compress Data Stream

Enable or disable data compression. Enabling compression reduces the amount of data transferred between the terminal and server but increase the load on the server.

Disabling compression reduces the load on the server but transfers more data. With a high speed LAN, compression may be unnecessary.

— Enable Sound

Allows applications to play sound on the terminal.

— Sound Quality

If sound is enabled, set sound quality. The higher the quality level, the greater the bandwidth consumption.

Medium is recommended for LAN-based connections.

Low is recommended for low-bandwidth connections, including modem connections.

— Speed Screen

Speed Screen Latency reduction enhances the session on slower networks. This option is available only when you are connected to a Citrix server where it is both supported and enabled.

— Encryption Level

Encryption increases the security of your ICA connection. By default, basic encryption is enabled on all connections. If the Citrix server you are connecting to supports advanced encryption (e.g., SecureICA Services) you can set a higher level of encryption.

11. Enter firewall information.

    If you are using a SOCKS proxy server to limit access to Citrix servers, you must configure the ICA Client to connect to Citrix servers through a SOCKS proxy server. You can configure a default SOCKS proxy for all connections or use only a SOCKS proxy with a specific connection file.

    To configure a default SOCKS proxy server, select Connect via SOCKS proxy and enter the SOCKS proxy server's IP address and the proxy server's port number (if it is not 1080).

    Note   If you configure a default SOCKS proxy server, you can successfully browse for a server or published application only if you specify at least one server.

    If the terminal is outside a firewall that uses address remapping, you must configure the ICA Client to use the alternate address returned by the master ICA Browser. This is necessary even if you are not using a SOCKS proxy server.

    Note   You must use the ALTADDR utility to manually set the alternate address for each Citrix server. For information, see the Command Reference appendix of your MetaFrame Administrator's Guide or the WINFRAME System Guide.

    Note   If you set alternate address translation for all connection entries, it cannot be disabled for specific connection entries.

12. Click Finish to save the connection.

Adding an ICA Dial-In Connection

For a connection over a modem, you can add an ICA dial-in connection.

This requires configuring the ICA dial-in server. See the WinFrame/ MetaFrame documentation for instructions.

The NCD dial-up client provides an alternative way of adding a connection over a modem. To use this method, identify the ICA

connection as a network connection and set dial-up options as described in *NCD Dial-Up Connections* on page 97.

To create an ICA dial-in connection:

1. Start the connection wizard.

   If the Citrix ICA client is the default client, its connection wizard starts after you set up the terminal so that you can define one connection.

2. After adding the first connection, you can press Ctrl+Alt +End to display the Connection Manager, then start the wizard from it.

   To start the wizard, select the Configure tab, click Add. Select the Citrix ICA client as the type of connection.

3. Select Dial-In Connection as the connection type and click Next.

4. Provide modem information as follows, then click Next.

   — Dial-In Device

      Modem type. Hayes Compatible is the only type supported.

   — Phone Number

      The full phone number (long distance access, country code, area code, and phone number), with or without hyphens.

   Click Configure if you want to configure port settings and call options (see Step 4 on page 99 on page 99 for definitions).

5. Complete the remaining screens. These screens are the same as those for a network connection; explanations for completing them begin with Step 6 on page 79 on page 79.

Configuring Global ICA Client Settings

In Terminal Properties, you can define default settings for all ICA client connections. You can override some of these settings when you create an ICA connection.

The Global ICA Client Settings dialog box contains the following tabs:

■ The Default Hotkeys tab, where you can define alternative key combinations for system hotkeys. See *Hotkeys* on page 84 for additional information.

■ The Preferences tab, where you can control the default window and settings used for new connection entries. See *Preferences* on page 85 for additional information.

■ The Server Location tab, where you can configure Business Recovery options. See *Server Location* on page 86 for additional information.

■ The Firewall Settings tab, where you can configure the client to use a SOCKS proxy and alternate address remapping. See *Firewall Settings* on page 87 for additional information.

■ The PNLite tab, where you can enable and configure PNLite mode. In PNLite mode, a list of available published applications on the network is pushed to the ICA client and displayed in the Connection Manager dialog box. This means the user need not configure each connection entry manually. See *PNLite Mode* on page 88 for additional information.

To set global settings for the ICA client:

1. From the Connection Manager, press F2 to start Terminal Properties.

2. Select Management > Clients.

3. Select the Citrix ICA client beside the Configure Client button, then click the button.

4. Make global ICA client settings on any or all of the following tabs, then click OK to save your changes or click X to cancel them: Hotkeys, Preferences, Server Location, Firewall Settings, PNLite.

Hotkeys

The Citrix ICA client provides hotkeys for basic functions. These affect the ICA client or emulate standard Windows sequences.

Default Values for the ICA Client Hotkeys		
Function	**Default**	**Description**
Status	**Ctrl+6**	Displays the status of the connection.
Close application	**Ctrl+2**	Disconnects the ICA client from the server and closes the client window, but the session still runs on the server. To avoid this, log off instead of using the hotkey.
Toggle title bar	**Ctrl+3**	Hides or displays the window title bar.
Ctrl+Alt+Del	**Ctrl+4**	Sends the standard Windows **Ctrl+Alt+Del** to the server. Displays the Windows Security information.
Ctrl+Esc	**Ctrl+5**	Sends the standard Windows **Ctrl+Esc** to the server. The remote Task List appears on WinFrame servers; the Windows Start menu appears on MetaFrame servers.
Alt+Esc	**Ctrl+7**	Sends the standard Windows **Alt+Esc**. Cycles through minimized icons and open application windows.
Alt+Tab	**Ctrl+8**	Sends the standard Windows **Alt+Tab** to the server. Cycles through open applications, displaying programs.
Alt+Backtab	**Ctrtl+9**	Cycles through open applications in reverse order.

Preferences

Provide data as follows.

— Serial Number

Leave this empty.

— Default Window Colors

Check 16, 256, or Thousands colors if HighColor is enabled. Low-bandwidth connections, such as most modem connections, may perform better with 16 colors.

— Client Name

The terminal name used when a printer is attached to the terminal during an ICA session. For details, see *Configuring ICA Access to Printers* on page 90.

Server Location

The ICA client uses this data to locate servers and published applications when you create or edit an ICA connection.

— use HTTP server location

Uses the HTTP protocol to build a server list across subnets.

— Server Group

If your screen has a Server Group option, a group you select here is used instead of a group defined in global settings for the Citrix ICA client in Terminal Properties.

You can define up to three groups of servers—one primary and two backups. When an ICA connection starts, the client tries to contact servers in the Primary group; if a server responds, it asks for the address of the master ICA Browser. If not, the client tries to contact the servers in Backup 1, and, if necessary, the servers in Backup 2.

— Addresses

Auto-Locate, the default, causes the client to seek only servers and published applications on the local network. You can use the following buttons to edit the list:

Add	To include servers and published applications on a remote network, click **Add**. Give the name or IP address of a server that tracks servers on the remote network and click **OK**. ICA browsing isn't supported for dial-up.
Delete	To delete a server from the list, select it and click **Delete**.
Default List	The list saved last is the default list. To replace the current list with the default list, click **Default List**, then click **Yes**.

— Rename Groups

You can change group names.

Firewall Settings

You can make global firewall settings.
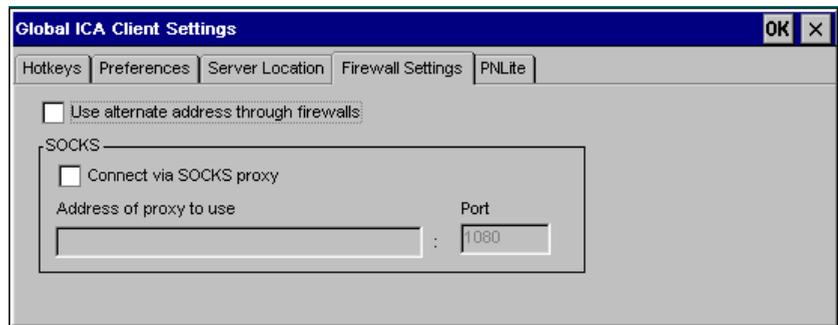
If you are using a SOCKS proxy server to limit server access, you must configure the ICA Client to connect to Citrix servers through a SOCKS proxy server. You can configure a default SOCKS proxy for all connections or use only a SOCKS proxy with a specific connection file.

To configure a default SOCKS proxy server, select Connect via SOCKS proxy and enter the SOCKS proxy server's IP address and the proxy server's port number (if it is not 1080).

Note   If you configure a default SOCKS proxy server, you can successfully browse for a server or published application only if you specify at least one server in Step 5 on page 77.

If the terminal is outside a firewall that uses address remapping, you must configure the ICA Client to use the alternate address returned by the master ICA Browser. This is necessary even if you are not using a SOCKS proxy server.

Note   You must use the ALTADDR utility to manually set the alternate address for each Citrix server. For information, see the Command Reference appendix of your MetaFrame Administrator's Guide or the WINFRAME System Guide.

Note   If you set alternate address translation for all connection
entries, it cannot be disabled for specific connection
entries.

PNLite Mode

PNLite is an ICA connection mode that enables the CE client to
connect to applications available on a Citrix server without
having to configure connections for each published application.

1. Check the Enable PNLite checkbox.

2. Enter the address and port number of the Citrix XML server
    in the Address and port of NFuse server field.

3. Enter your user name, password, and domain in the
    appropriate User Credentials edit fields. Check the Save
    Password box if you want the terminal to remember your
    password.

The list of available applications will now be displayed in the
Connection Manager dialog box.

Starting an ICA Connection

You start connections from the Connection Manager, which lists all
connections on its Connections tab. If the Connection Manager is not
displayed, press Ctrl+Alt+End.

A terminal must be in the correct mode—LAN or dial-up—to start a
connection. To change the mode, see the *Network Connection Type*
on page 49.

1. In the Connection Manager, select the Connections tab, then
    double click the connection or select the connection and click
    Connect.
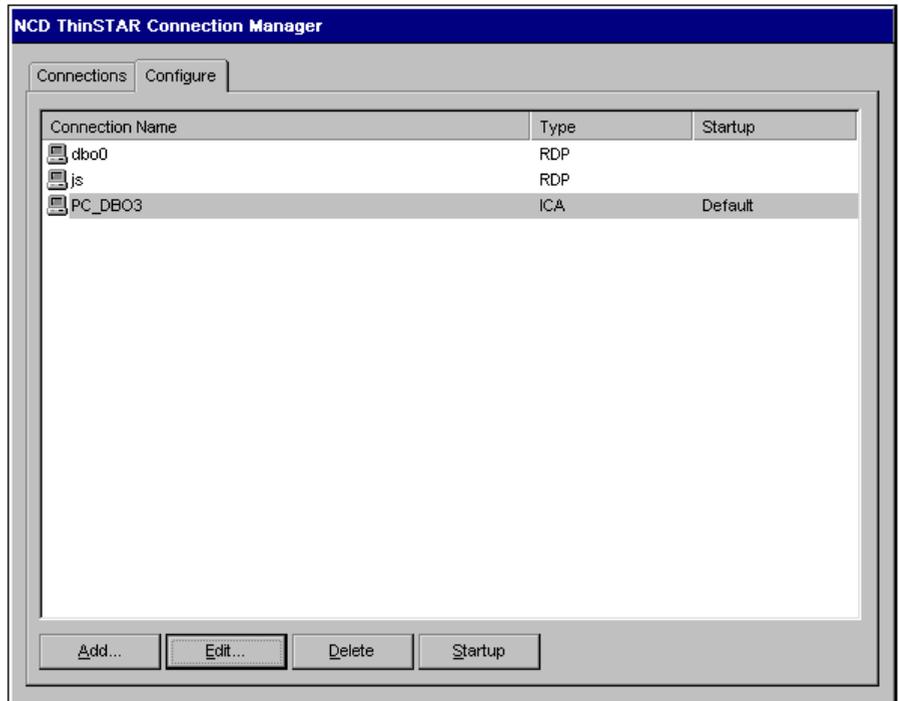
If the connection was correctly defined and the server is running, the connection starts.

If the terminal cannot connect, select the Configure tab. Correct the server specification for the connection if it is wrong, then try to connect again. If you have the right server, see whether it is running and check whether the terminal is physically connected to the network. For more information, see *Test Network Connections* on page 51.

2. Enter logon information—user name, password, and domain—if requested. A connection may need a manual logon or the user information in an automatic logon connection may be wrong or may not be authenticated for that server.

The connection starts the specified application or the server's desktop, depending on startup options set when it was defined.

Stopping an ICA Connection

You can log off or disconnect ICA connections. Disconnecting suspends the connection and leaves it executing on the server; you can reconnect later and resume any tasks left running. Since the connection continues to use server resources even if disconnected, it may be better to log off.

Logging Off

On WinFrame servers, in the Program Manager, select File > Logoff.

On MetaFrame servers, select Start >Logoff.

On MetaFrame Windows 2000 servers select Start > Shutdown > Logoff.

Disconnecting

On WinFrame servers, in the Program Manager, select File > Disconnect.

On MetaFrame servers, select Start >Disconnect.

On MetaFrame Windows 2000 servers select Start > Shutdown > Disconnect.

Configuring ICA Access to Printers

During a Citrix ICA session, a user can print to a printer attached to the serial or parallel port of an NCD ThinSTAR terminal if the server allows client printer mapping and the printer is mapped as explained in the following sections.

It is possible to print to local printers during connections to servers or published applications. In an application's print command, the user selects the local mapped printer from the list of printers.

To map a local printer, you must associate a client name to the terminal. You can change the name on the Preferences tab of Global ICA Client Settings. The default name is the terminal's serial number.

Note   You must configure every Windows server needed for printing.

Mapping Client Printers on MetaFrame for Windows and WINFRAME

To manually map a client printer on a MetaFrame 1.8 or WINFRAME 1.8 server:

1. Log on to the Citrix server.

2. On a MetaFrame server, click Start, Programs, MetaFrame Tools, and then ICA Client Printer Configuration.

    -or-

    On a WINFRAME server, double-click ICA Client Printer Configuration in the Administrative Tools program group of Program Manager.

3. On the Printer menu, click New to display the Add ICA Client Printer wizard. Follow the steps in the wizard to map the client printer.

Note   If you are using a CDS installation, you need to select the Use Printer Configuration Utility setting in the Options tab on the Connection Details dialog. To bring up the Connection Details dialog, in the Connection Manager, select the Configure tab, select the ICA Connection and click Edit.

To manually map a client printer on a MetaFrame 1.0 server:

1. Log on to the MetaFrame server.

2. In the ICA session window, double-click My Computer and then double-click Printers.

3. Double-click Add Printer. Select Network printer server and click Next.

4. In the Shared Printers box, double-click Client Network and then double-click Client.

5. Select *clientname#port*, where *clientname* is the name you assigned to your terminal and *port* is the printer port on your terminal, and then click OK.

6. If you want this printer to be your default printer, click Yes.

7. Click Next and then click Finish.

Note   If you are using a CDS installation, you need to also deselect the Use Printer Configuration Utility setting in the Options tab on the Connection Details dialog to use the mapped printer. To bring up the Connection Details dialog, in the Connection Manager, select the Configure tab, select the ICA Connection and click Edit.

To manually map a client printer on a WINFRAME 1.7 server:

1. Log on to the WINFRAME server.

2. In the ICA session window, double-click Print Manager in the Main program group of Program Manager.

3. On the Printer menu, click Create Printer.

4. In the Shared Printer list, double-click Client.

5. Double-click the required printer.

Note   If you are using a CDS installation, you need to also deselect the Use Printer Configuration Utility setting in the Options tab on the Connection Details dialog to use the mapped printer. To bring up the Connection Details dialog, in the Connection Manager, select the Configure tab, select the ICA Connection and click Edit.

To view mapped client printers when connected to a MetaFrame for Windows server:

While connected to a MetaFrame for Window server, double-click

My Computer on the remote desktop and then double-click Printers. The Printers dialog box appears.

The Printers dialog box displays the mapped local printers along with any other printers available on the MetaFrame for Windows server. The name of the printer is clientname#port, where clientname is the name you have assigned to your ICA Client and port is the printer port on your terminal, for example COMl or LPTl.

To view mapped client printers when connected to a WINFRAME server:

While connected to the WINFRAME server, double-click Print Manager in the Main program group of Program Manager. Print Manager displays the local printers mapped to the ICA session.

The name of the printer is *clientname#port*, where *clientname* is the name you assigned to your terminal and *port* is the printer port on your terminal.

Mapping Client Printers on MetaFrame for UNIX

Before users can print to a client printer from MetaFrame for UNIX, printing must be enabled by the administrator. This section describes how to enable printing on the server. It describes how users can list available client printers and print files from the command line or from applications.

In a UNIX environment, the application performs the print rendering. The printer driver is specified inside the application or, in the case of a desktop utility, raw text is generated.

Note   For further information about printing on MetaFrame for UNIX Operating Systems, see the *MetaFrame 1.1 for Solaris Administrator's Guide* and the manual pages.

Setting up Printing

To check if client printing is currently enabled or disabled:

1. Log on to the MetaFrame server as a Citrix server administrator.

2. At the command prompt, type:

   ctxcfg -p list

To enable or disable client printing:

Log on to the MetaFrame server as a Citrix server administrator. At the command prompt:

To	Use the Command
Enable client printing	ctxcfg -p enable
Disable client printing	ctxcfg -p disable

To display mapped client printers:

At the command prompt, type:

   ctxprinters

A list of printers configured on the client and mapped for use from the ICA session is displayed. (default) is displayed after the printer that is the default. The following information is shown for each printer:

- Printer name or printer port (for example, LPTl). This can be used in the ctxlpr -p command to specify a printer other than the default.

- Printer driver name. This is for information only.

- Printer connection description. This is for information only.

Using Printing

To print a file from an ICA Client session:

1. At the command prompt, type ctxprinters.

2. From the results of ctxprinters, identify the printer or printer port that you want to use. To print to a printer other than the default, note the printer name; the printer name is the first item in the ctxprinters listing.

3. At the command prompt:

To	Use the Command
Print the file named *filename* to the default printer	ctxlpr *filename*

To	Use the Command
Print a series of files to the default printer. Each file is treated as a separate print job.	ctxlpr *filename filename*
Print a file to a printer (or printer port) other than the default. This is the printer name of printer port shown in the first column of the output from ctxprinters.	ctxlpr -P [Printername | Printerport] *filename*
Print a file in the background.	ctxlpr -b *filename*
Print a file only if the printer is not in use. Use this option to stop an application waiting while other printer jobs are handled. If the printer is in use, an error message is displayed.	ctxlpr -n *filename*

To print from applications

The exact configuration of how to set up printing from applications depends on the behavior and user interface of the UNIX application.

If the user interface for an application allows you to specify the actual printer command to use when printing, you can configure client printing by replacing the lpr or lp command with the ctxlpr command.

When a user connects to the server and prints from the application in a session, the server redirects the output to the mapped client printer.

Often, in this type of application, you can also specify the command

line modifiers on a different line. You can use the same switches for ctxlpr as when printing from the command line. For example, use -P with a printer name (or printer port) to print to a printer other than the default; use -b for background printing, and so on.

Note   If the user interface of an application does not allow you to specify the actual printer command to use when printing, determine if the application (or window manager) uses a configuration file where you can replace the lpr command functionality with ctxlpr.

Configuring ICA for MetaFrame for UNIX

For connections to applications published on a MetaFrame for UNIX, two additional utilities provide functionality for configuring session display, and copying and pasting objects between the ICA session and the client device. This section describes how to access and use these tools through the Citrix window manager.

Using the Window Manager

If you are connecting to an application published on a MetaFrame for UNIX server, use the Citrix window manager (ctxwm) to minimize, resize, position, and close windows. This section describes how to use the window manager.

Minimizing, Resizing, Positioning and Closing Windows

When you connect to a published application on a MetaFrame for UNIX server, buttons to minimize, resize, position, and close windows are provided by the Citrix window manager.

Using the Citrix Window Manager Menus

In remote desktop windows, you can use the ctxwm menu system to log off, disconnect, and exit from published applications and connection sessions.

To access the ctxwm menu system:

1. On a blank area of the remote desktop window, click and hold down the left mouse button. The ctxwm menu is displayed.

2. Drag the mouse pointer over Shutdown to display the shutdown options.

To choose an option from the Citrix window manager menu:

Drag the pointer over the required option to highlight it. Release the mouse button to select the option.

To	Choose
Terminate the connection and all running applications.	Logoff
Disconnect the session but leave the application running.	Disconnect
Disconnect the session and terminate the application.	Exit

Note   Your Citrix server may be configured to terminate any applications that are running if a session is disconnected.

NCD Dial-Up Connections

The dial-up client provides a network connection over a modem. Once the connection is established, a protocol client connection (RDP, for example) can start. Therefore, you must configure both a dial-up connection and a connection for an RDP client, ICA client, or an optional installed protocol client.

After you complete the Setup Wizard, the terminal starts the appropriate connection wizard (RDP or ICA) if no connection exists. It then starts the NCD dial-up connection wizard.

Note   The NCD dial-up client does not support modem callback.

If you want to connect to an ICA session over a modem you have two choices:

■   You can create an ICA dial-in connection as described in *Adding an ICA Dial-In Connection* on page 82.

■ You can create an NCD dial-up connection, then create an ICA network connection to use over the dial-up line.

Adding an NCD Dial-Up Connection

This section explains how to create an NCD dial-up connection.

To add an NCD dial-up connection using the NCD dial-up client:

1. Start the connection wizard.

   If you select the dial-up client as the default when configuring the terminal, the dial-up connection wizard starts after you create an RDP or ICA connection so you can configure the dial-up connection.

   If connections exist and you want to add more, go to the Configure tab of the Connection Manager and click Add, then select the NCD dial-up client.

2. Specify the connection name and click Next.

   The name could identify the host or the application. It can have up to 20 characters when you are defining the connection. If you edit the connection from the Connection Manager, the name can be extended to 32 characters.

3. Select a modem.
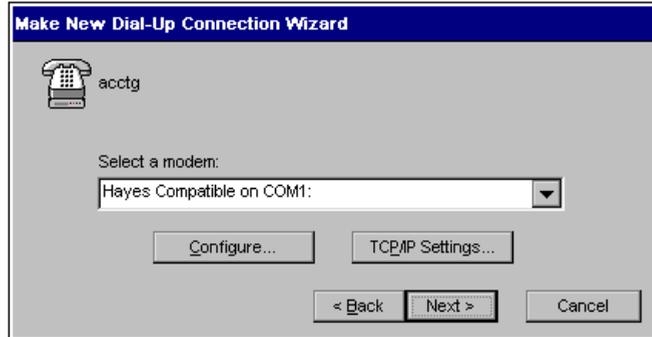
Currently, only Hayes-compatible modems are supported.

4. Click Configure to configure the port settings and call options.
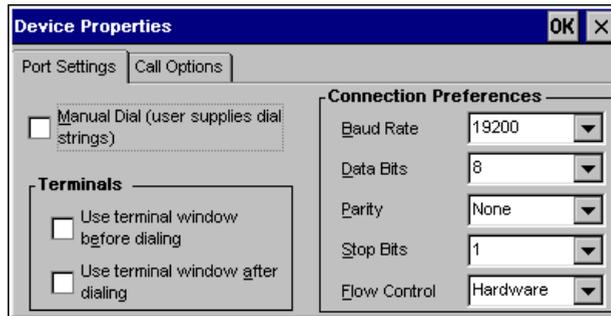
Provide information for Port Settings as follows.

— Manual Dial

If this is enabled, the user can enter data and modem commands in a separate window when dialing. The manual dialing window is provided by the Microsoft Windows RAS/ TAPI subsystem. If manual dialing is disabled, the NCD dial-up client dials the phone number and no window is displayed.

— Terminals

Use terminal window before dialing

If this is enabled, the user can enter modem commands before dialing the host computer.

Use terminal window after dialing

If this is enabled, the user can enter commands to the host computer after dialing is complete.

— Connection Preferences

Choose values as follows.

The following serial port parameters (baud rate, data bits, parity, and stop bits) determine the characteristics of the connection between the terminal and the modem and are automatically sensed by the modem. The modem uses these parameters to define the format of the data that it sends to the host and expects from the host.

Baud Rate—Determines the upper limit of the speed of the connection between the modem and the host. Select the highest speed available on the terminal's modem; the modem does not negotiate a connection higher than the baud rate you specify.

Data Bits—The number of data bits generated by the terminal and expected by the host.

Parity—The type of parity generated by the terminal and expected by the host.

Stop Bits—The number of stop bits generated by the terminal and expected by the host.

Flow Control—The type of flow control handshaking used on the terminal's serial port and expected by the host. You can select one of the following:

If you choose Hardware, hardware handshaking, also called DTR/DSR, is used.

If you choose Software, the terminal sends an XOFF (^S) character when the input buffer space is low and an XON (^Q) character when input buffer space is available. This is *not recommended* because noise on the line can introduce

spurious XOFF characters that can cause the connection to freeze.

If you choose None, there is no flow control handshaking.

Provide information for Call Options as follows.
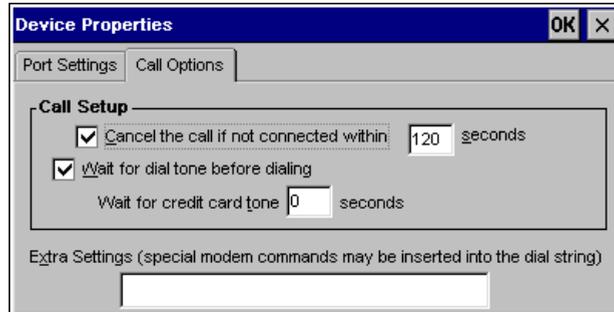
— Call Setup

Use these options as follows.

Cancel the call if not connected within *seconds*—This option cancels the call if it is not completed within the specified time. Set this to the amount of time you are willing to wait for the connection to occur.

Wait for dial tone before dialing—When this is enabled, the call does not go through until there is a dial tone. Disable this if you are making a direct serial connection between two modems and not using the phone line. With such a connection, there is never a dial tone.

Wait for credit card tone *seconds*—This option waits for the specified time before continuing the call to allow time for entering a credit card number.

— Extra Settings

You can enter modem commands here to override the default settings; for example, to turn on local echo, enter 'E1'.

5. Click TCP/IP Settings to configure TCP/IP. The following dialog displays.
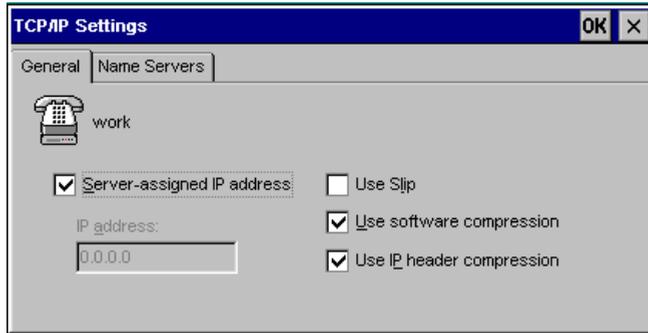
Supply information on the General tab as follows:

— Server-assigned address

Select this item if your dial-in host supplies the terminal with an IP address. Uncheck this box and fill in the IP address field if the host does not supply an IP address. You may want to assign an address (if allowed by the server) for long-term, dedicated dial-up connections.

— Use SLIP

Enable this option if the dial-up server does not support the default protocol, PPP.

— Use software compression

Compression speeds up data transmission; however, it can only be used if the terminal and the host use compatible compression methods. It should not be necessary to disable this option.

— Use IP header compression

Compression speeds up data transmission; however, it can only be used if the terminal and the host use compatible compression methods. It should not be necessary to disable this option.

Supply information on the Name Servers tab as follows:
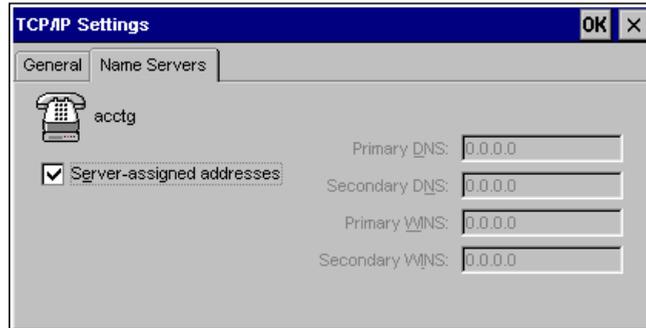
— Server-assigned addresses

Causes the dial-up client to accept from the dial-in server the IP addresses of the hosts providing name service.

Select this option if your dial-in host gives the terminal name resolution parameters. Disable this option and enter the DNS and/or WINS name server host addresses if the PPP host does not give name server information or if you want to use different name server hosts.

— Primary and Secondary DNS

The IP address of the first DNS server to resolve device names and the IP address of the DNS server to resolve device names if the primary server cannot.

— Primary and Secondary WINS

The IP address of the first WINS server to resolve device names and the IP address of the WINS server to resolve device names routed if the primary server cannot.

6. Click Next.

7. Specify the telephone number to dial and click Next.

Type the complete phone number of the modem on the dial-in server; using up to 128 characters. For example:

9-1-650-555-1212

Note   Hyphens are not required. Remove them, if necessary, to remain within the 128-character limit.

Selecting a Startup Session for an NCD Dial-Up Connection

A connection can start automatically once the dial-up network connection is established. The list shows your protocol connections (RDP or ICA). If no protocol session is selected, selection occurs after the dial-up connection is started from the Connection Manager.

To specify the protocol connection to start and other options:

1. Select a protocol connection or <none>.

2. To automatically close the dial-up connection when the user logs off or disconnects from the protocol session, enable Close dial-up connection at session end. Otherwise, the dial-up connection remains open and the user can select another protocol session.

3. To erase the saved user name and password, click Forget Password.

   When the connection is first created, this option is not available. The user can enable it by saving the user name and password after starting the connection. For more information about saving the user name and password, see *Starting an NCD Dial-Up Connection* on page 105. Depending on your environment, saving the password may be an unacceptable security risk.

4. Click Next.

5. To review or change settings, click Back. To apply the settings, click Finish. The new connection is included in the list of connections in the Connection Manager.

Starting an NCD Dial-Up Connection

The terminal must be in dial-up mode as described in *Network Connection Type* on page 49.

To start a dial-up connection, using the NCD dial-up client:

1. Press Ctrl+Alt+End to display the Connection Manager.

2. On the Connections tab of the Connection Manager, double click the connection name or select the connection and click Connect.

   If the connection was correctly defined, and the server is running, the connection starts.

   If the terminal cannot connect, select the Configure tab. Correct the dialing specification for the connection if it is wrong, then try to connect again.

3. The first time you use a dial-up connection, you must log in. Click Save Password if you do not want to enter it the next time you start the connection.

Note   If saving the password introduces an unacceptable security risk, you can edit the dial-up connection and enable Forget Password. See Step 3 of *Selecting a Startup Session for an NCD Dial-Up Connection* on page 104 for more information.

4. Begin a protocol connection session.

   If a startup session is defined for the connection, it starts automatically.

   If none is defined, press Ctrl+Alt+End to display the Connection Manager, select a protocol connection, and click Connect.

5. Enter logon information—user name, password, and domain—if requested.

   A connection may require logging on manually or the user information in an automatic logon connection may be wrong or may not be authenticated for that server.

   The connection starts the specified application or the server's desktop, depending on startup options.

Stopping an NCD Dial-Up Connection

How you stop the dial-up connection depends on how it is configured.

Configuration Setup	How you stop
Close dial-up connection at session end is enabled.	Log off or disconnect from the application host. The connection stops automatically, then the dial-up session ends.

Configuration Setup	How you stop
Close dial-up connection at session end is disabled or no startup session was selected.	Log off or disconnect from the application host, then click Disconnect to stop the dial-up connection when prompted.

You can also highlight the active dial-up session in the Connection Manager and click End. |

Microsoft Internet Explorer Browser

Configuring Internet Explorer

To allow an Internet Explorer session on a terminal:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Extensions and then double-click IE Browser.

3. Click Enable Web Connection. Once selected, a Web connection appears in the NCD ThinSTAR Connection Manager. Only one Web connection per terminal is allowed.

   Note   This is the only mandatory browser configuration item. Changing other browser configuration items is optional.

4. Change browser preferences as appropriate. See *Browser Options* on page 57 for explanations of available options.

   Note   To delete the web connection from the Connection Manager, deselect the Enable Web Connection checkbox.

Starting Internet Explorer

Be sure that you have configured the browser in the Terminal Properties Extension tab. Once you have configured the browser, a *Web connection* appears in the NCD ThinSTAR Connection Manager. To start the browser, double-click the *Web connection.*

Stopping Internet Explorer

To end your browser session, press Control+Alt+End and then click End in the NCD ThinSTAR Connection Manager.

Managing Connections

The Configure tab of the Connection Manager has options for performing the following functions:

- Adding connections
- Editing connections
- Deleting connections
- Stopping connections
- Setting a connection as the default or setting it to start automatically

The Connection Manager is on the terminal screen when no connection is running. To display it when a connection is running, press Ctrl+Alt+End.

The Configure tab is available, making it easy to set up connections on a terminal. After you have created connections, you can hide the Configure tab to preserve the connections. Instructions are on page 53.

Adding a Connection in the Connection Manager

After you have created one connection as part of the startup process, you can use the Connection Manager to create new connections.

To add connections:

1. On the Configure tab of the Connection Manager, click Add.

NCD ThinSTAR Connection Manager

Connection Name	Type	Startup
Point of Sale Server	RDP	Default
VendorList Server	RDP	

Connections | Configure

[Add...] [Edit...] [Delete] [Startup...]
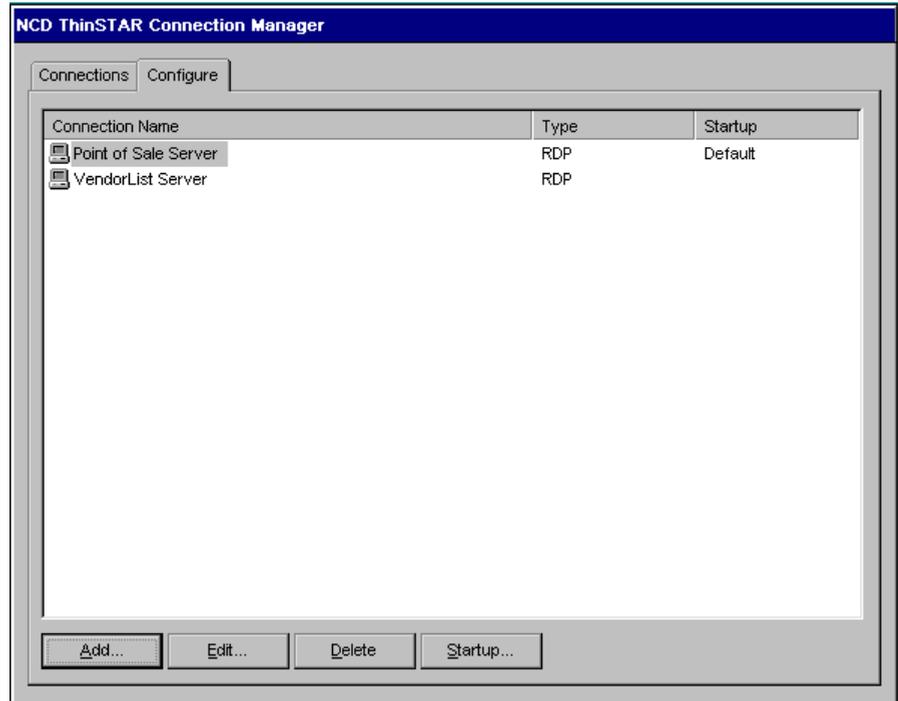
2. Select the type of connection. The list includes optional clients that you have installed.

3. If the client software provides a wizard or utility for defining a new connection, it starts now.

   For the Microsoft Terminal Server client, see page 71. For the Citrix ICA client, see page 76. For an NCD dial-up client, see page 96. For Internet Explorer connections, see page 56.

Editing a Connection in the Connection Manager

To modify the properties of a connection:

1. On the Configure tab of the Connection Manager, select the desired connection.

2. Click Edit and make changes.

Edit mode and the connection wizard may present information differently. For example, properties for an RDP connection appear as follows:

Properties	×
Net Connections | Application	

Connection
- Name: Point of Sale Server
- Server: azure

☑ Automatic Logon
- Username: janes
- Password: ******
- Domain: beaverton

Connection Speed
- ☐ Low Speed Connection

[OK] [Cancel] [Apply]

Properties	×
Net Connections | Application	

Application to run
- ⦿ Desktop
- ◯ File name:
  - Desktop
- Working Directory:

[OK] [Cancel] [Apply]
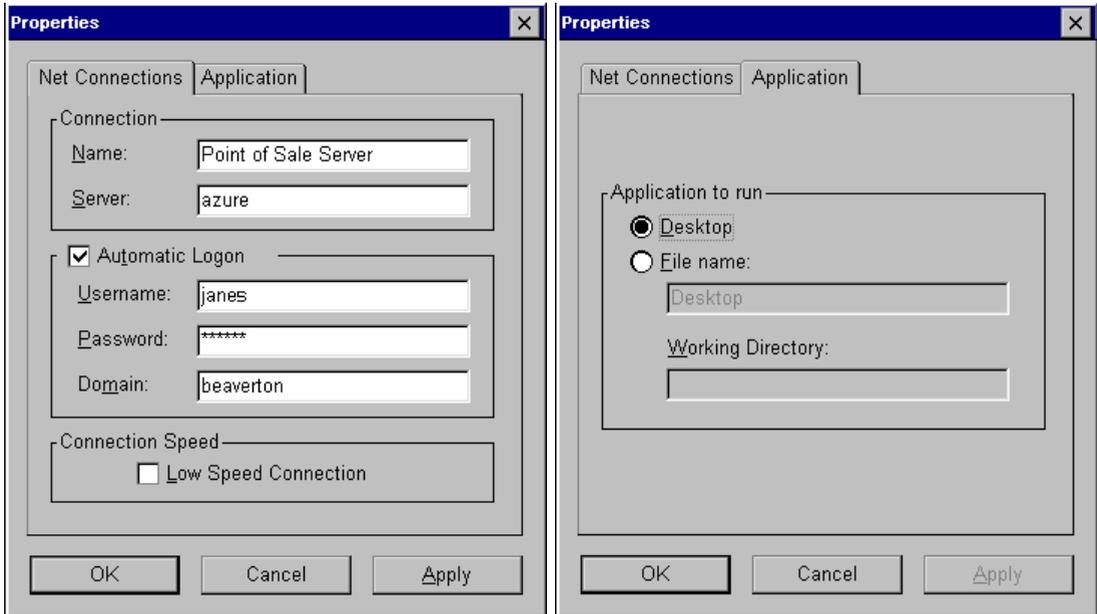
Refer to the following pages for an explanation of the information presented: Microsoft Terminal Server on page 71; Citrix ICA on page 76; NCD dial-up on page 96; Internet Explorer on page 56.

Deleting a Connection in the Connection Manager

To delete an existing connection:

1. On the Configure tab of the Connection Manager, select the connection you want to delete.

2. Click Delete and confirm that you want to delete the connection.

To delete a Web Connection:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Extensions and then double-click IE Browser.

3. Deselect the Enable Web Connection checkbox. Once deselected, a Web connection does not appear in the NCD ThinSTAR Connection Manager.

Stopping a Connection from the Connection Manager

It is best to disconnect or log off from the host desktop or application, but you can also stop a connection from the Connection Manager.

Note   To disconnect or log off, see *Stopping an RDP Connection* on page 76, *Stopping an ICA Connection* on page 90, *Stopping an NCD Dial-Up Connection* on page 106 or *Configuring Internet Explorer* on page 56.

1. Select the Connections tab of the Connection Manager.

The connection that is running has active status.

The **End** button disconnects (suspends) connections, but may leave them running on the server, using resources. For this reason, administrators often prefer to have users log off.
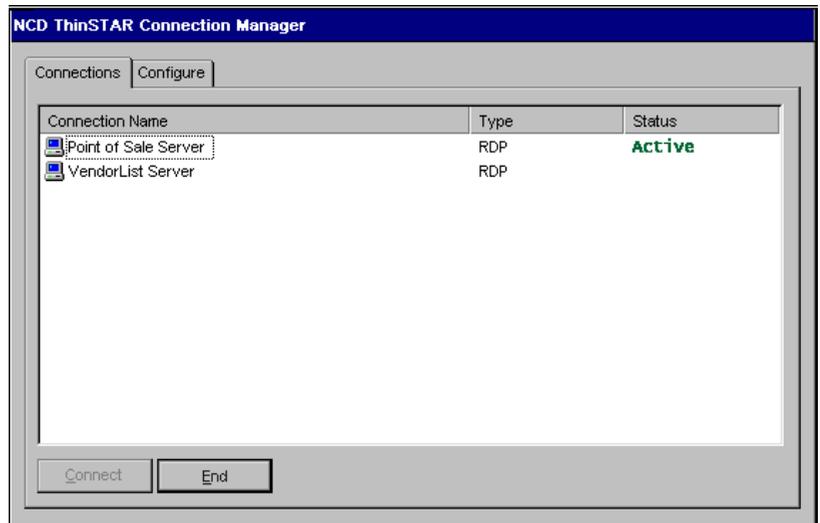
2. Select the active connection and click End, then click OK when prompted to confirm that you want to disconnect.

If you do not respond or have a problem with the session, click End Task when prompted to terminate immediately.

Setting Startup Options in the Connection Manager

You can select one connection as the default connection or as an autostart connection.

Setting a Default Connection

The default connection is the one highlighted when you display the Connection Manager. You can start the default connection, or switch to it, by pressing Ctrl+Alt+Home. One connection can be the default connection. If you set a connection as an autostart connection, it automatically becomes the default.

To set a connection as the default:

1. On the Configure tab of the Connection Manager, select the connection you want to have as the default and click Startup.

2. Select Make the selected connection your default connection.
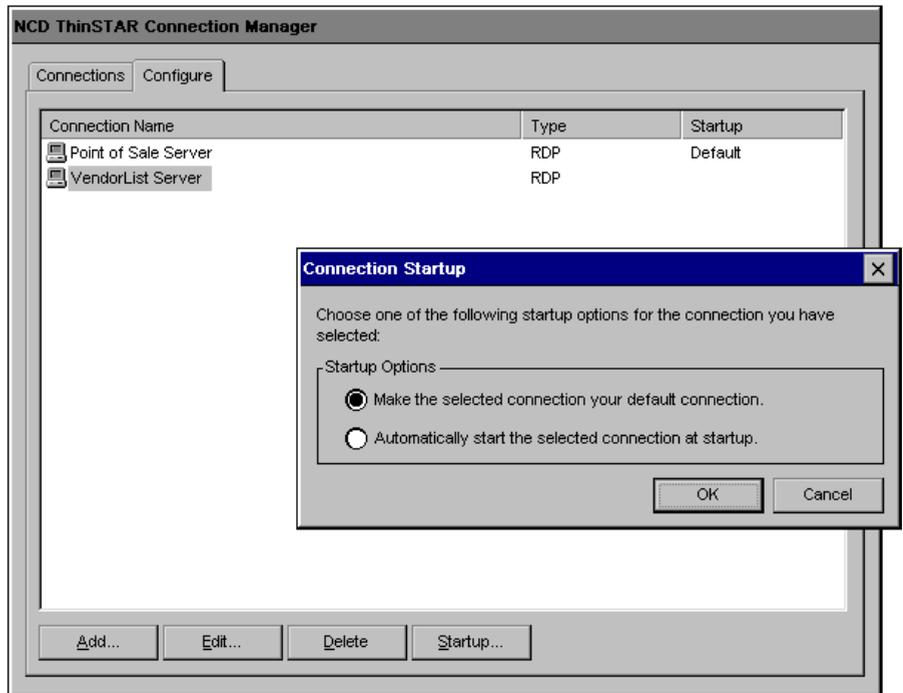
Setting the IE Browser as the Default Connection

To make the IE browser your default connection:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Extensions and then double-click IE Browser.

3. Select the Enable Web Connection checkbox. Once selected, a Web connection appears in the NCD ThinSTAR Connection Manager. Only one web connection per terminal is allowed.

4. Double-click Configure Startup and select the Make the Web Connection your default connection checkbox.

Setting an Autostart Connection

You can configure a connection to start automatically when you restart the terminal.

When you log off, the autostart connection restarts immediately. If this happens and you want to stop it, see *Stopping an Autostart Connection* on page 116.

A dial-up connection must specify a protocol connection as well for true automated startup, or it is necessary to start the protocol connection manually at logon.

Configuring a connection to start automatically makes it the default connection. If you later make another connection the default, the original autostart connection no longer starts automatically.

To configure a connection to start automatically:

1. On the Configure tab of the Connection Manager, select the connection you want to start automatically.

2. Click Startup, then select Automatically start the selected connection at startup.
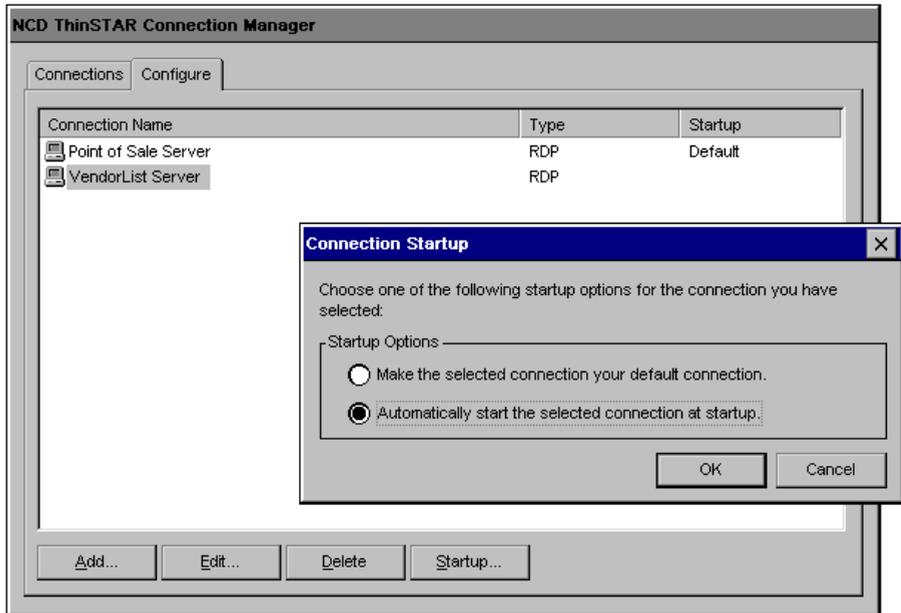
The autostart connection fails unless it corresponds to the terminal's network connection mode—LAN or dial-up. If you need to change the mode, see *Network Connection Type* on page 49.

Setting the IE Browser as an Autostart Connection

To configure the IE browser as an Autostart Connection:

1. From the NCD ThinSTAR Connection Manager, press F2 to enter Terminal Properties.

2. Select Extensions and then double-click IE Browser.

3. Select the Enable Web Connection checkbox.

4. Double-click Configure Startup. In the Web Connection Startup dialog, select the Make the Web connection your default connection checkbox.

5. Select the Automatically start the Web connection at startup checkbox.
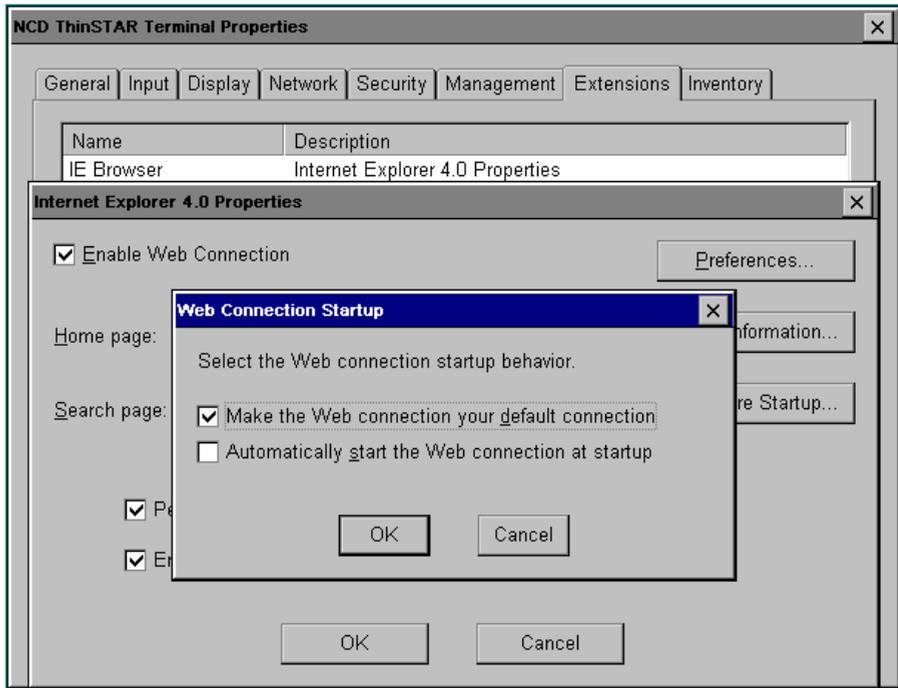
Stopping an Autostart Connection

An autostart connection restarts as soon as you close the Windows desktop or log off. To prevent this, set the connection as the default connection rather than the autostart connection.

To stop the autostart connection:

1. While the autostart connection is active, press Ctrl+Alt+End to go to the Connection Manager.

2. Select the Configure tab.

3. Click Startup.

4. Select Make the selected connection your default connection.

5. To return to your running connection, select the Connections tab and select the active connection.

6. Click Connect.

Navigation Paths and Special Key Sequences

After initial setup, which involves setup and connection wizards, the Connection Manager and Terminal Properties are the main tools you use to administer NCD ThinSTAR terminals. This section summarizes movement between tools and use of special key sequences.

Navigation Paths

In the Connection Manager, press F2 to go to Terminal Properties.

In Terminal Properties, you can click OK to save and close Terminal Properties and return to the Connection Manager, or click Cancel to return to the Connection Manager without saving changes.

When you are in a communication session, you can log off, disconnect, or press Ctrl+Alt+End to display the Connection Manager. Pressing Ctrl+Alt+End leaves the connection active on the terminal. Disconnecting ends the connection on the terminal but leaves the session active on the server.

OK — Saves properties and closes

Cancel — Discards changes and closes

```
                    ┌──────────────┐        ┌──────────────┐
┌──────────────┐    │              │        │              │
│              │←───│  Connection  │──F2──→ │  Terminal    │
│   Session    │Connect  Manager   │        │  Properties  │
│              │    │              │        │              │
└──────────────┘    └──────────────┘        └──────────────┘
```

Log Off — Closes session on server and terminal

Disconnect — Closes session on terminal and leaves it open on server to reconnect later

Ctrl+Alt+End — Leaves session connection active on server
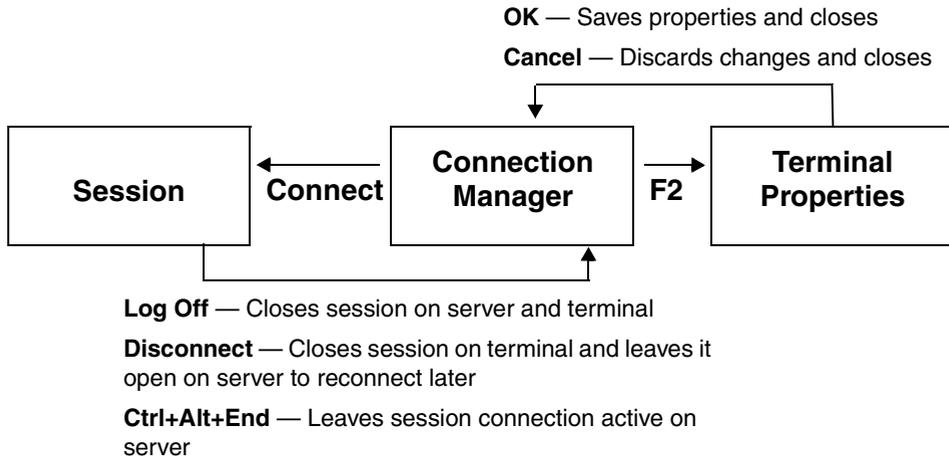
Summary of Special Key Sequences

Special keys for NCD ThinSTAR terminals are as follows:

Special Key Sequences		
Key Sequence	**When to Press**	**Result**
F5	During progress bar	The terminal starts in safe boot mode, using 640 x 480 resolution.
Shift+F5	During progress bar	The terminal provides diagnostic tools, including hardware tests and **ping** to check for connections. Typically this is not used because diagnostics are available in Terminal Properties. The path is **Management > Network > Diagnostics**.
Shift+F11	During progress bar	The terminal goes into a forced recovery, which rebuilds flash memory. This is available only if you installed NCD ThinSTAR Operating Software on a Management Server.

Special Key Sequences *(continued)*		
Key Sequence	**When to Press**	**Result**
Ctrl+Alt+End	When you want to start the Connection Manager	The terminal displays the Connection Manager with a list of configured connections.
F2	When you can see the Connection Manager	The terminal displays Terminal Properties so you can view or change configuration settings.
Ctrl+Alt+↑	During a session	The terminal cycles up through active connections in the Connection Manager.
Ctrl+Alt+↓	During a session	The terminal cycles down through active connections in the Connection Manager.
Ctrl+Alt+Home	During a session or before the first session starts	The terminal goes to the default connection.The connection is started if it is not already active.

Glossary

Boot ROM   See NCD ThinSTAR boot software.

client   A device or software on a network that accesses services, applications, or data provided by a server. See also thin client.

connection   A communication session between a client device and a server by means of a session protocol. An NCD ThinSTAR terminal communicates with a Terminal Server by means of the RDP protocol or the Citrix ICA protocol. You can define any number of connections on an NCD ThinSTAR terminal.

DDC   Display Data Channel. DDC allows a display monitor to inform the host system about its identity and communicate additional levels of display capabilities.

DHCP   Dynamic Host Configuration Protocol. A network service that dynamically assigns valid IP addresses to network devices as they start up. DHCP can also provide machines with valid subnet mask values, the IP addresses of gateway devices, DNS servers, and WINS server IDs. See also subnet mask and DNS.

DNS   Domain Name System. A distributed database and utilities for defining TCP/IP domains and mapping domain names to IP addresses. See also domain and fully qualified domain name.

domain	A set of network devices that are managed together. NCD networking involves DNS domains and Windows domains.
	A DNS domain is a TCP/IP construct that defines hierarchical groups of devices on the Internet. It is a segment of the Internet and is given a unique, official name by InterNIC, the organization that administers Internet names and IP addresses.
	A Microsoft Windows domain is a unique group of Windows Servers and workstations that the network administrator defines for centralized administration.
	See also domain controller, DNS, and fully qualified domain name.
domain controller	A Windows server maintains the master database for a Microsoft domain (see domain). The database identifies users and systems, both of which may be members of the domain. The domain controller authenticates domain logons and maintains the Windows domain's security policy.
fully qualified domain name	A name for a network device that combines its hostname and its DNS domain name. For example, suppose that the domain acctg.biggcorp.com has a device whose hostname is SaleServer. The device's fully qualified domain name is SaleServer.acctg.biggcorp.com. See also DNS and domain.
FQDN	See fully qualified domain name.
HighColor	Provides 16-bit color for those sessions that support it. Both ICA and Microsoft Internet Explorer support HighColor.
ICA	Independent Computing Architecture. A remote session protocol developed by Citrix Systems for communication between terminals and servers running Citrix WinFrame or Citrix MetaFrame.

Internet	The collection of networks and gateways that use the TCP/IP protocol family and function as a single, cooperative virtual network that connects many businesses, universities, and government facilities.
LAN	Local Area Network. A network that connects devices over relatively short distances, typically within a building or campus.
MetaFrame	Server software from Citrix Systems that provides connectivity for NCD ThinSTAR terminals through the ICA protocol.
Microsoft Terminal Server Client	An implementation of Microsoft's RDP remote session protocol. It enables terminals and Terminal Servers to exchange graphical application input and output. See also client and Terminal Server.
Microsoft Windows CE	A compact Microsoft operating system, originally developed for handheld devices, that has been adapted for use in thin client devices. See also thin client.
NCD ThinSTAR	NCD Windows-based terminal.
name server	A host that provides translation between network hostnames and IP addresses. See also DNS.
NCD ThinSTAR boot software	Low-level code that initiates the startup process of an NCD ThinSTAR terminal when it is powered up or restarted.
NCD ThinSTAR Management Service (TMS)	An NCD utility that runs on a Windows server. Can be configured to automatically replace outdated or corrupt Operating Software on terminals.

NetBIOS	A communication protocol developed for networks of Microsoft platforms. NetBIOS identifies devices by the ID number of their NICs (Network Interface Cards). A device's hostname is mapped to its NIC IDs.
	The WINS name resolution service can map NetBIOS hostnames to IP addresses so that Microsoft platforms can communicate over TCP/IP networks.
network server	See Windows server.
PPP	Point-to-Point Protocol. The NCD dial-up client uses this protocol to establish a connection with a network server over a modem.
PPPD	Point-to-Point Protocol Daemon. A service that the PPP client communicates with.
Primary Domain Controller	See domain controller.
published application	An application configured by the system administrator for remote users. With published applications, the user accesses only the specified application and does not need to know the address of a specific server to create a connection.
RAS	Remote Access Service. A service on Windows hosts that enables users to dial into a Windows network with a modem.
RDP	Remote Desktop Protocol, a proprietary communication protocol that Microsoft Corporation developed so that Windows-based Terminals, such as the NCD ThinSTAR terminal, could communicate with Terminal Servers.

SNMP agent	Software on a terminal that reports terminal settings to the SNMP manager (if it is installed). The SNMP agent is read-only by default. The full list of SNMP values is in the NCD-THINSTAR.MIB.txt file, which is installed by default in \Program Files\NCD\ThinSTAR Management.
	You need the NCD ThinPATH Manager Configuration Tool to enable SNMP to write and change terminal settings.
subnet	A physical network within a larger IP network. Allows a site to use a single Internet network for multiple physical networks.
subnet mask	The format of an IP address that shows which part of the address identifies the subnet and which part identifies a particular machine.
TCP/IP	Transmission Control Protocol/Internet Protocol. A common name for the Internet protocol family.
terminal	A set of input and output devices, such as a monitor and keyboard, that access data and/or computing services on a server across a network.
Terminal Server	A server running the Microsoft Windows NT Server 4.0, Terminal Server Edition operating system. It allows Windows-based terminals like the NCD ThinSTARs to run Windows applications remotely.
Terminal Server host	A computer running the Microsoft 2000 operating system or the Microsoft Windows NT Server 4.0, Terminal Server Edition operating system. See also Terminal Server.
thin client	Terminal software that manages input and output between a user's input/output devices (keyboard, mouse, and monitor) and a server using a remote session protocol. See thin client device.

thin client device	Hardware that runs thin client software. See thin client.
ThinSTAR	See NCD ThinSTAR.
TMS	See NCD ThinSTAR Management Service (TMS).

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