ACP

ThinManager 3.0
Help Manual

By the ACP Technical Staff

Contents

Introduction

ACP ThinManager

ThinManager is a server-side configuration, management, and hardware enabling software for Terminal Services based thin client systems.

ThinManager is a software program that allows ACP Enabled, ThinManager Ready Thin Clients to boot, receive a configuration, and connect to a terminal server. ThinManager provides terminal configuration, session management, and session status monitoring. ACP ThinManager provides quick replacement of terminals and an almost seamless switch from terminal server to terminal server in case of terminal server failure.

A thin client is a device that connects to a server, logs onto a separate independent session, and runs its applications on the server and not locally on the thin client. **ThinManager Ready Thin Clients** first connect to a ThinManager Server where it receives its configuration. This configuration sends the terminal to a terminal server where it logs in.

Note: The terms **Thin Client** and **Terminal** are used interchangeably in this document.

The keystrokes and mouse movements from the thin client are sent to the terminal server. The terminal server session determines the response and sends the screen display back to the terminal. This simplifies maintenance and management by eliminating the need to install and configure operating systems and applications on the thin client. All configuration, management, installation and applications are on the server, not the thin client.

What's New in ThinManager 3.0

New - Clear Terminal ID Button

The Terminal Hardware Page of the Terminal Configuration Wizard has a button that will remove a Terminal ID from a configuration. This allows a terminal to be reassigned from one configuration to another without requiring the deletion and recreation of the terminal configuration.

See Terminal Hardware Page for details.

New - Disable a Terminal Server

A Terminal Server can be disabled from ThinManager. Any terminals currently connected to the terminal server will disconnect. This feature allows terminal server maintenance to be performed without having to power off the terminals.

See Disable Terminals for details.

New - Dynamic ThinManager Synchronization

A backup ThinManager Server can be configured to automatically maintain synchronization with a primary ThinManager Server. No manual synchronization is required.

See Synchronization for details.

New - Event Logging

ThinManager 3.0 has an Event Log tab on the Details pane. It can log Terminal Server events, Terminal events, Terminal configuration changes, and/or, User configuration changes.

See Event Logging for details.

New - Historical Logging

ThinManager 3.0 can log the terminal server CPU and memory usage into a historical log.

See Historical Logging for details.

New - Multilevel Groups in Tree

The ThinManager tree now allows nesting of Terminal Groups, creating a multi-level hierarchy for organization.

See Tree Pane for details.

New - Screen Edge Group Selector

Users can switch sessions by moving the mouse to the right or left edge of the screen.

See Terminal Interface Options for details.

New - Send Message to a Terminal

ThinManager 3.0 allows a message to be sent to a terminal or terminal group from ThinManager. The message does not get sent to the user session, but to the terminal itself.

See Send Message for details.

New - Shadow Function

ThinManager 3.0 not only allows the shadowing of thin clients to be Allowed/Disallowed, but also has a setting to ask a user if it can be shadowed, warn a user that shadowing will take place, or allow shadowing to take place without notification.

See Shadowing for details.

New - SmartSession Functionality

When a user connects to a Terminal Server Group that is using SmartSession, ThinManager will send them to the terminal server with the lightest load. If that user reconnects using SmartSession, ThinManager will send the user to resume the already open session instead of sending it to start a new session on a different terminal server.

New - Terminal Effects

Sliding window effects can be used when changing MultiSession groups, when the Group Selector becomes auto-hidden, and when terminal messages removed from view.

See Terminal Interface Options for details.

New - Terminal Scheduler and User Scheduler

ThinManager 3.0 contains a Terminal Scheduler that will allow you to Disable, Enable, Reboot, or Reset a terminal or TermSecure User at a regular time.

See Terminal Schedule for details.

New - Terminal Server Group Selector

ThinManager 3.0 has added features to the Group Selector allowing size change and auto-hide.

See Terminal Interface Options for details.

New - TermSecure

ThinManager 3.0 introduces a series of security features under the TermSecure name. These features include:

- **Access Groups:** Access Groups to be created and applied to Terminals, Terminal Groups, Terminal Server Groups, TermSecure Users and TermSecure User Groups. A user will be able to access a Terminal Server Group only if they are a member of the same Access Group.
  See Creating Permission Groups for details.
- **TermSecure Users:** User profiles can be created and configured with their own Terminal Server Groups and Access Groups. When a TermSecure User logs in to a terminal using TermSecure, they will be allowed access to their own Terminal Server Groups and any of the terminal sessions that they share membership with.
  See TermSecure User Configuration Wizard for details.
- **Terminal Main Menu:** TermSecure provides a Terminal Main Menu that allows TermSecure Users to login or switch users on the terminal.
  See TermSecure Menu for details.
- **User ID Device:** TermSecure allows the TermSecure User login to be initiated by an Access Control Card or USB Flash Drive.
  See Card and Badge Configuration for a TermSecure User for details.

New - TermSecure User Profiles in Tree

ThinManager allows the creation of TermSecure User profiles that can be assigned to specific Terminal Server Groups. If this user logs into a terminal, these user-specific Terminal Server Groups will be available.

See Tree Icons for details.

New - ThinServer and Database Upgrade

ThinManager has a new database engine and internal structure to improve scalability and power. A **`thinmanager.db`** file replaces the **`thinmanager.cfg`** file for storing the configuration.

New - Virtual Keyboard

ThinManager 3.0 allows a virtual keyboard to be displayed on the thin client screen during TermSecure log on for users without an attached keyboard.

See Main Menu Configuration - Terminal Configuration Wizard for details.

Improved - Faster Boot Time

Reduced terminal firmware size allows for faster downloading of the firmware.

Improved - Inheritance of Terminal Group Properties

Early versions of ThinManager allowed Group properties to be configured, and any terminal added to the Group would inherit the Group properties. Each of these settings could be changed to allow the thin client to have a different setting than the Group. Because of the new nested Multilevel Groups in ThinManager 3.0, all Group properties now use a forced inheritance. Once a setting has been selected as a Group property, every Group and terminal beneath it will use that setting.

Improved - Restart The Terminal Without Having To Reboot

A **Restart** function has been added.
Rebooting a terminal from ThinManager will cycle power to the terminal so that it will reload the firmware and configuration.
Restarting a terminal will load configuration changes with the least amount of impact to the terminal. If only the configuration has changed, the terminal will reload the configuration without a complete reboot and reload of firmware. If, however, the firmware has changed, a Restart will reload the firmware also.

See Restart and Reboot for details.

Improved - ThinManager Tree Pane Editing

ThinManager now uses a drop-down box to show which ThinManager Server is being displayed in the tree pane. This allows each tree element to be active. Right-clicking on a branch, like Terminal Servers or Terminal Server Groups, will launch the configuration wizard for that component. Double-clicking on a terminal server or terminal server group will launch the wizard for that unit.

See Tree Pane for details.

Improved - Touch Screen Calibration

A check is performed at the end of the calibration process to validate the calibration points. If a point is not valid, the user is prompted to perform the calibration again.

See Calibrate Touch Screen for details.

Replaced - Classic Mode

The original Classic Mode of terminal configuration introduced in ThinManager 1.0 has been eliminated. The Wizard Mode is used for all configurations.

Twenty Things that Sound Alike, But Aren't

Terminals

Terminal: The individual client device, like a ThinManager Ready thin client, that relies on a server for operations.

Terminal Group: A group of Terminals that can be managed together or share a common configuration (was just "Group" in ThinManager 2.x).

Terminal Server: The Windows server that is configured to allow multiple logins.

Terminal Server Group: A collection of Windows Terminal Servers that ThinManager can use interchangeably for logins and applications.

Terminal Session: The Windows session that the terminal starts when it connects to a Windows Terminal Server. This is where the desktop and applications run.

Servers

Terminal Server: The Windows server that is configured to allow multiple logins.

ThinManager Server: A computer with running ThinManager and ThinServer that communicates and controls ThinManager Ready thin clients.

ThinServer: The engine component of ThinManager that does the work.

ThinManager: The graphic user interface of ThinManager that allows the data from ThinServer to be displayed and used.

Users

User: An account created in Windows that allows a login to a Windows computer.

Windows User: A more accurate name for Users.

Windows User Group: A more accurate name for User Group:

ThinManager User: A Windows User that has been added to a ThinManager Security Group to regulate their access to ThinManager.

TermSecure User: A user configured in ThinManager that can log into terminals using TermSecure.

Groups

Groups: Either (A), a collection of Windows Users with common access levels (also referred to as "User Groups").

Or (B), a group of Terminals (now referred to as "Terminal Group")

User Group: A collection of Windows Users that share the same level of access in Windows.

Windows User Group: A more accurate name for User Group:

Terminal Group: A group of Terminals that can be managed together or share a common configuration (was just "Group" in ThinManager 2.x).

Terminal Server Group: A collection of Windows Terminal Servers that ThinManager can use interchangeably for logins and applications.

TermSecure User Group: a collection of TermSecure Users that share a common configuration.

ThinManager Security Group: A Windows User Group that ThinManager uses to regulate access to ThinManager functions.

Quick Start, Components, and System Configuration

Quick Start Checklist

1. **Build a terminal server** whose operating system is either:

- Microsoft Windows 2000 Server with Terminal Services enabled.
- Microsoft Windows 2003 Server with Terminal Services enabled.

2. **Create a Licensing Server and add a TS CAL** (Terminal Server Client Access License) for each thin client.

   See Microsoft Terminal Services Licensing Activation.

3. **Install ACP ThinManager software** onto a computer to create a ThinManager Server.

Note: The ThinManager Server can be a terminal server, but doesn't have to be. It can be a Windows 2000 or XP Workstation. The clients will connect to the ThinManager Server and download the firmware and configuration.

   See ThinManager Installation.

4. **Install a ThinManager License** for each ThinManager Ready thin client.

   See ThinManager Licensing.

5. **Select a Client-Communication protocol.** The default RDP Client-Communication Protocol installs with Terminal Services. If using Citrix MetaFrame, available separately, install and license on each terminal server.

Note: Citrix no longer licenses Citrix Device Services. ThinManager will connect to terminal servers with existing Device Services licenses, but no new ones can be created.

   See Client Communication Protocol.

6. **Create a Microsoft user profile** for each user on the terminal server or the domain.

   See Creating Microsoft User Profiles.

7. **Apply appropriate security** to each user profile using the standard Microsoft techniques.
8. **Establish the IP addressing scheme** for the thin clients, using either DHCP or Static IP.

If using DHCP, configure Option 066 to list the IP address of the ThinManager Server and configure 067 to list "firmware.acp" as the bootfile name.

See IP Address Assignment.

9. Attach the terminals to ThinManager by either:

- Turning on the terminal and selecting the "Create New Terminal" option when the unit boots.
- Pre-creating the terminals in ThinManager and selecting the proper terminal name when the terminal is turned on and offline terminals are listed.

  See Adding Thin Client Hardware.

Required Components

ThinManager Ready Thin Clients require a number of components to function properly. These include:

- Terminal Services from Microsoft
- Client Communication Protocol, either RDP or Citrix ICA
- ACP ThinManager software
- ThinManager Ready Thin Client Hardware
- Standard TCP/IP network infrastructure

Windows Terminal Server Operating System

The first component is the Terminal Server. This is a computer with a version of Microsoft's Windows 2000 Server or 2003 Server that have the Terminal Services functionality activated. The operating system allows multiple users to log into the server and run independent, isolated sessions. The operating system controls the server, provides security, controls user access, and runs the applications.

The terminal server needs Windows 2000 and 2003 Server with **Terminal Services** enabled and TS CALs added.

See Microsoft TS CALs for details.

Client Communication Protocol

The second component is the Client Communication Protocol. This can be either the ICA protocol available from Citrix or the RDP protocol that is installed by default with any Windows Terminal Server operating systems.

The **Client Communication Protocol** is the protocol used for client-to-server communications in the Terminal Services Environment. The protocol handles all video, information, and user input such as keyboard and mouse input.

The **RDP (Remote Desktop Protocol)** is the Client-Communication Protocol that is included with Microsoft Terminal Services and can be used by ThinManager Ready Thin Clients to connect to Windows 2000 Terminal Servers and Windows 2003 Terminal Servers. The RDP connection to a Windows 2000 Terminal Server is limited to a 256-color depth (8-bit) while the Windows 2003 Server connection can be made at a higher color depth.

The **ICA (Independent Computer Architecture) Protocol** is available by installing **Citrix MetaFrame** on the Terminal Servers.

ThinManager Administrative Software

The third component is **ACP ThinManager** software from Automation Control Products. ThinManager is used to configure, manage, and control the ThinManager thin clients. Although ThinManager is treated as a single entity, it really has two main components, the ThinManager interface and the ThinServer service.

- **ThinServer** is a service that is the engine of the program. It starts automatically and runs in the background and provides essential functions to control the thin clients. ThinServer is installed during ThinManager installation if selected.
- **ThinManager** is the administrative software that facilitates the configuration and organization of the thin clients. This is the visible component of the ThinManager software. ThinManager displays information generated by ThinServer. ThinManager can be installed on any computer on the network, including the terminal server.

Note: ThinManager Server is used to describe a computer running ThinManager and ThinServer that provides control and configuration to ThinManager Ready Thin Clients, even if the computer is a workstation.

One instance of ThinManager can provide client connection to several terminal servers. The thin clients would boot from the ThinManager server, but could be assigned to any of several terminal servers.

ThinManager Ready Thin Client Hardware

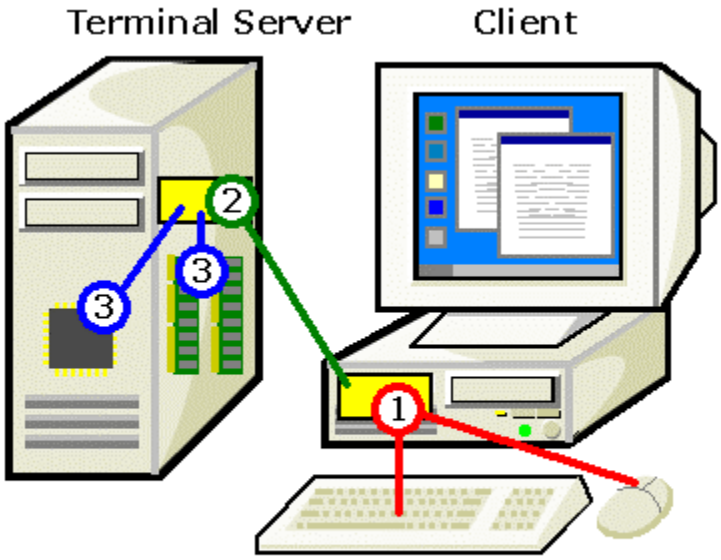
ACP ThinManager is designed to control and configure ACP Enabled Thin clients. These are ThinManager Ready thin clients produced by a variety of manufacturing partners and display the ThinManager Ready sticker. The ACP website (http://www.thinmanager.com) has links to the ACP Partners.

ThinManager Ready Logos

ThinManager Enabled thin clients should display a ThinManager Ready Logo.

Client/Server Architecture

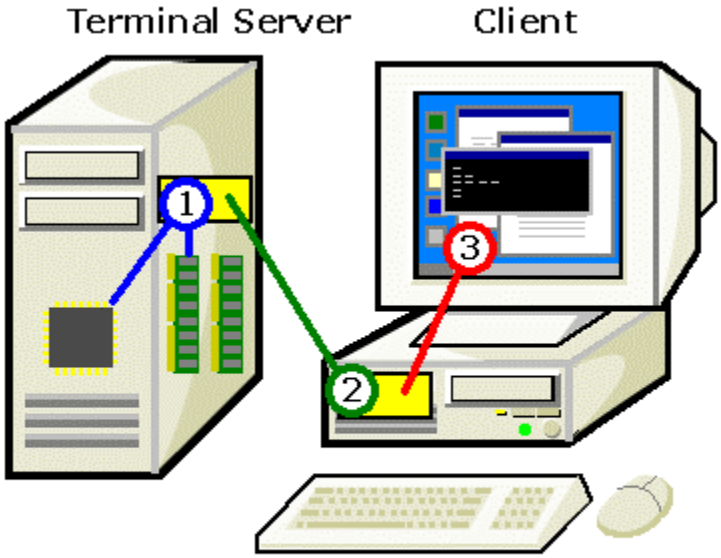
In terminal services, the client connects to a terminal server, logs in, and starts a session on the terminal server. The client uses a client communication protocol to send mouse and keyboard events to the terminal server for processing. Once the input is processed, the terminal server generates the video output and sends it to the client for display.
Although the user is typing on the client and sees the results on the client's monitor, the actual processing takes place on the terminal server.



1 - Mouse and keystrokes sent to client-side program
2 - Input sent to server-side program on terminal server
3 - Input processed by terminal server

Client to Server Communications

Input from the client is sent to the terminal for processing.



1 - CPU generates graphics from input
2 - Graphics commands are sent to client-side program
3 - Client displays new screen graphics

Server to Client Communications

Output from the Terminal Server is sent to the client for display.

Network Overview

Standard TCP/IP Network Infrastructure

ThinManager Ready Thin Clients use a standard TCP/IP network. This can include hubs, routers, gateways, cables, and wireless components. ThinManager Ready thin clients behave on a network as a PC would, but because the thin clients are connected to a terminal server where the actually processing takes place, thin clients are more sensitive to poorly deployed networks.

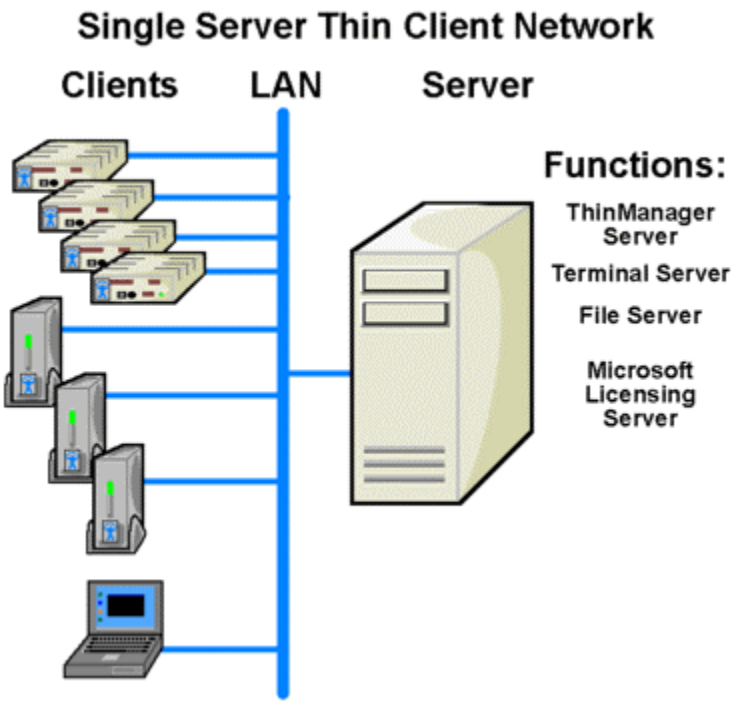
The simplest thin client network consists of a single computer, configured as a terminal server, with the TS CALs, ThinManager, ThinServer, and the applications installed on it. All the ThinManager Ready thin clients connect to this single computer.

A more common scenario includes the use of multiple computers. These might be additional terminal servers for failover functionality, additional terminal servers for increased capacity, domain controllers, e-mail servers, file servers, database servers, and workstations. One of the strengths of ThinManager and ThinManager Ready Thin Clients is their versatility in networking. They do not demand a rigid proprietary network configuration, but have the flexibility to run in almost any network configuration.

ACP Networks require:

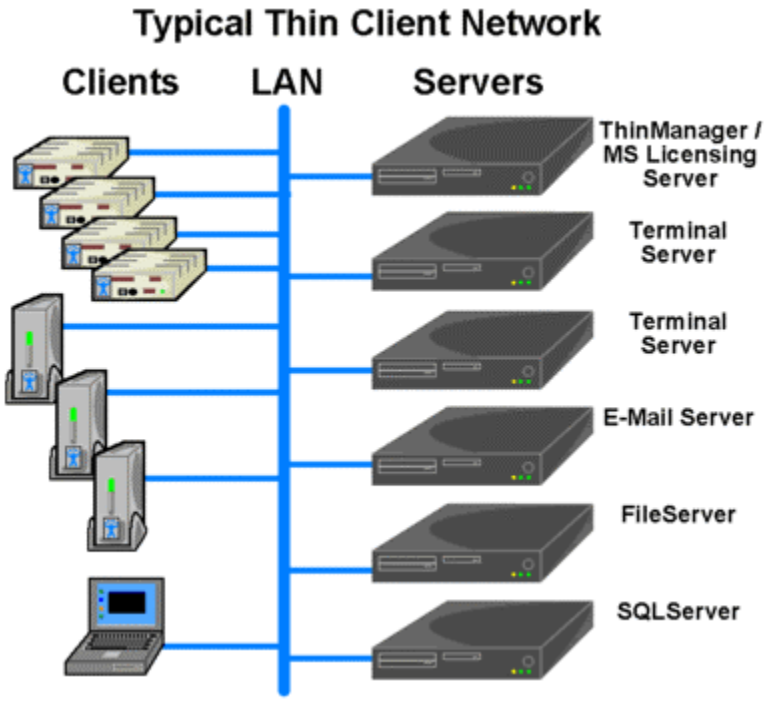
- **A ThinManager Server**, that is, a computer running ThinManager. This does not have to be a "server", but can be any Windows computer, including a workstation.
- **A Microsoft Terminal Server** with a Client Communication Protocol and all desired applications. This computer may also be the ThinManager Server.
- **A Microsoft Terminal Server Licensing Server** for the TS CALs (Microsoft Terminal Server Client Access Licenses). This does not need to be a separate computer, but can run on a terminal server or a domain controller.
- A DHCP Server or Static IP addresses for the thin clients.
- ThinManager Ready Thin Client hardware.
- A standard **Ethernet** network.

Note: ThinManager does not have to be installed on a terminal server, but can be installed on a workstation.



Sample ACP Thin Client Network – Single Terminal Server

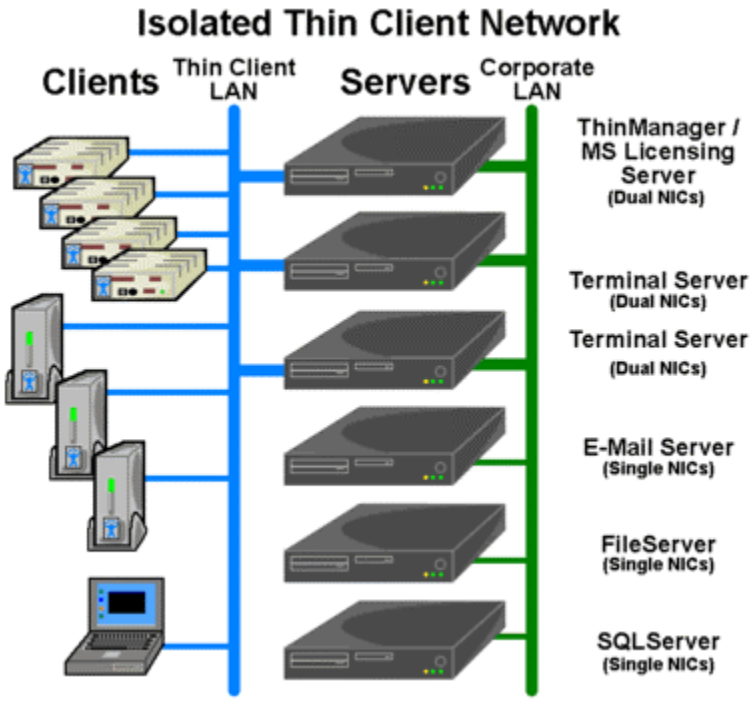
When a single server is used for the ThinManager Ready thin client network, all components need to be installed on the single computer, including ThinManager, Microsoft Terminal Services Licensing, Terminal Services, applications, and a DHCP server, if desired.



Sample ACP Thin Client Network – Multiple Servers

A more common practice is to use several servers with specific functions. In addition to the normal corporate file servers, e-mail servers, and domain controllers, the use of multiple terminal servers allows failover and

redundancy. The ThinManager may be run on a separate computer, but is typically installed on a terminal server, or in conjunction with other server applications like DHCP and Microsoft Licensing.



Sample ACP Thin Client Network – Separate Subnet

The thin clients can be isolated to their own subnet by using a second network interface card (NIC) in the ThinManager Server and terminal servers. The thin clients can reach other servers in the corporate network by using the terminal server as a bridge.

Connection Overview

When a terminal is powered on:

- An IP address is requested from a DHCP server by default. The DHCP server needs to have **Option 066** set to the ThinManager Server IP address and **Option 067** set to `firmware.acp` to specify a ThinManager Server IP address. Units with the ACP BootLoader 5.01 can use DHCP and have the ThinManager Server statically assigned on the unit. See DHCP Server Setup and the Boot Process for details.
- Alternately, the terminal may be assigned a static IP address and the ThinManager Server IP address.
- The terminal connects to the ThinManager Server to download its configuration.
- The ThinManager configuration will tell the terminal which terminal server to login to.
- The terminal will connect to that terminal server and display the Windows login dialog box or will automatically login with help from the ThinManager configuration.
- The terminal will create a session on the terminal server, allowing applications to run.

The ThinManager Ready Thin client can be assigned to a single terminal server, or it can be assigned to multiple terminal servers in case of terminal server failure. Terminal Server Groups are groups of terminal servers that have added functionality for the thin client.

Failover Overview

Server failures in any network or system can disrupt productivity and data management. ACP ThinManager (version 2.3 and later) has a failover capability built into it that allows terminals to connect to a secondary terminal server if the terminal server that they are logged into fails. This will lessen the effect of server failures on the terminal server network. The terminals can detect the server crash, drop the connection to it, and connect to a secondary server in seconds.

To initiate ACP ThinManager Failover protection, four steps are needed.

- **Multiple Servers:** The first step is to have multiple terminal servers, with a Client Communication Protocol and appropriate licenses added.
- **Sufficient Memory:** The second step is to have sufficient memory capacity on the servers to accommodate the addition of terminals during failover. If you do not plan for the extra capacity, the servers can be taxed with the addition of the new terminals.
- **User Permissions:** Each terminal server needs the appropriate Windows 2000/2003 user profiles and permissions. The terminals will not log into a secondary session unless it has a user profile on that server.
- **IP Addressing In ThinManager:** When configuring the terminal, list the terminal servers, in the order of preferred connection, in ThinManager. Upon boot, each terminal will try to connect to the first server in the list (the primary server). If it is not available, it will try the next on the list (a secondary server) until a connection is made

ACP ThinManager allows the use of several terminal servers, defined as the primary and as backups. If the primary terminal server fails, the ThinManager Ready thin client will detect the server failure and will initiate a new session on a backup server. This allows the operator to continue their work and minimize the effect of a server failure.

Instant Failover is an advanced configuration of failover. The terminal will log into two terminal servers and start a session on each one. The primary session will be displayed, with the secondary session cascaded behind it. If the primary terminal server fails, the terminal switched focus to the already initiated secondary session and displays the secondary session, saving the time needed to switch terminal servers and load applications.

See Failover for further details.

Terminal Server Group Overview

Terminal Server Groups are collections of Terminal Servers. A ThinManager Ready thin client can connect to one or more terminal servers that are members of a Terminal Server Group. Instead of specifying individual terminal server that a terminal will connect to a terminal server defined in a terminal server group. The specific terminal server that the terminal connects to is based on the Terminal Server Group configuration and options.

- A **standard Terminal Server Group** has the terminal servers listed in a pre-defined order. The terminal connects to the first available member of the group.
- The **SmartSession** option of Terminal Services Groups provides load balancing by using CPU availability, memory, and the number of sessions on the member terminal servers to determine the resource availability on member terminal servers. A ThinManager Ready thin client connects to the terminal server in the Terminal Server Group with the most available resources.
- The **Instant Failover** option allows a terminal to connect to two terminal servers within a Terminal Server Group. The terminal will have an active session on two terminal servers but will only display one session. If the first terminal server fails, the session of the second terminal server is immediately displayed, eliminating any downtown due to terminal server failure.

- The **AppLink** option provides the Initial Program function to members of a Terminal Server Group. When specifying the Initial Program function, a program is started instead of the desktop. Closing the program will terminate the connection.
- **MultiSession** is a terminal configuration that allows a ThinManager Ready thin client to connect to multiple terminal servers from multiple Terminal Server Groups. The user can switch between groups using an on-screen menu or hot keys. These groups may be standard Terminal Server Groups, Terminal Server Groups with SmartSession, AppLink, and/or Terminal Server Groups with Instant Failover.

These Terminal Server Group options can be combined on the same Terminal Server Group, for example a Terminal Server Group could use SmartSession to choose the server connection order, Instant Failover to maintain a backup, while using AppLink to limit the terminal to a single application. Additionally, a terminal server may be a member of several Terminal Server Groups.

See Terminal Server Groups for details.

TermSecure Overview

TermSecure is a new ThinManager feature that allows users to logon to a ThinManager Ready thin client and access user-specific or terminal-specific Terminal Server Groups. This does not replace the Windows logon, but adds an additional layer of security and control.

Terminals and Terminal Server Groups can be assigned Access Group permissions. A TermSecure User can use those terminals and Terminal Server Groups only if the TermSecure User has been assigned to the same Access Group.

TermSecure has two main attributes:

SecureAccess: Manages user access to terminal servers and sessions through ThinManager authentication and group permissions.

SmartContext: Allows the movement of the display of a TermSecure User's terminal server sessions between multiple ThinManager Ready thin clients; initiated by either manual login or the use of an authentication device. This allows a user to leave one terminal, logon to a different terminal, and reconnect to their session, essentially having the session follow him from terminal to terminal.

TermSecure logins can be initiated by a manual login or by the use of an ID device like USB drives or ProxCards for login.

See TermSecure User Configuration Wizard for details.

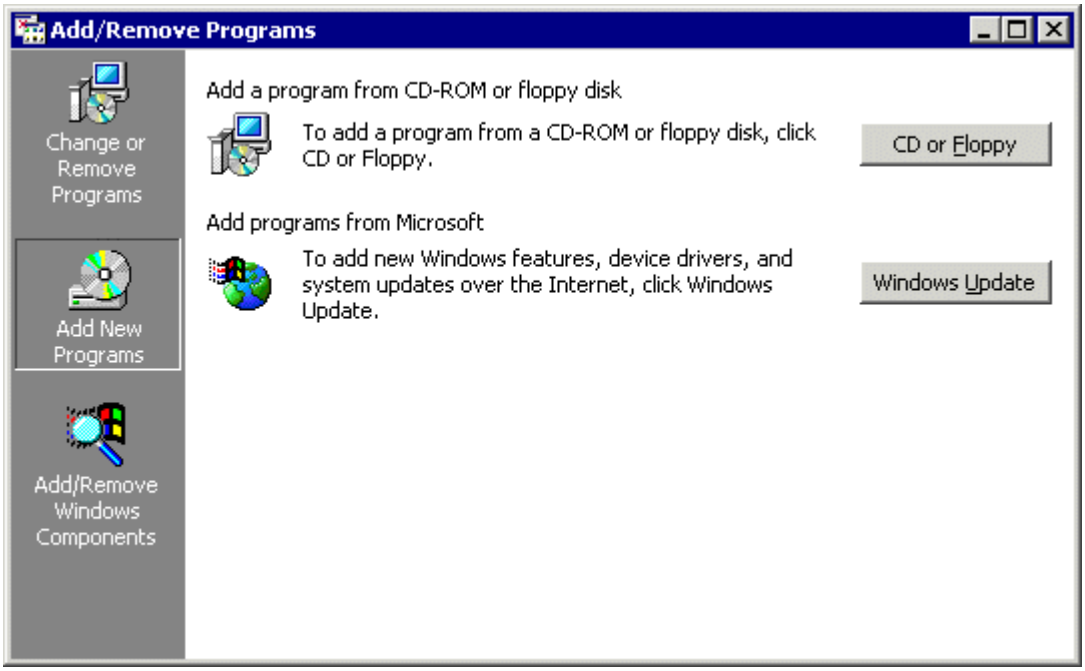
Note: TermSecure requires the usage of Terminal Server Groups instead of using individual terminal servers.

Installation and Licensing of ThinManager

Standard ThinManager Installation On Windows 2000/2003 Server

In Microsoft Windows 2000 and Windows 2003 with Terminal Services enabled, software needs to be added in the **Install Mode** through the ***Control Panel> Add/Remove Programs***. Failure to use the Install Mode can prevent an application from working properly.

Select ***Start>Settings>Control Panel>Add/Remove Programs*** to open the Add/Remove Programs dialog box.



Add/Remove Programs

Select the ***CD or Floppy*** button on the Add/Remove Programs Properties dialog box to open the Installation wizard. The wizard will prompt for the insertion of the ThinManager CD. When the CD is inserted, the wizard

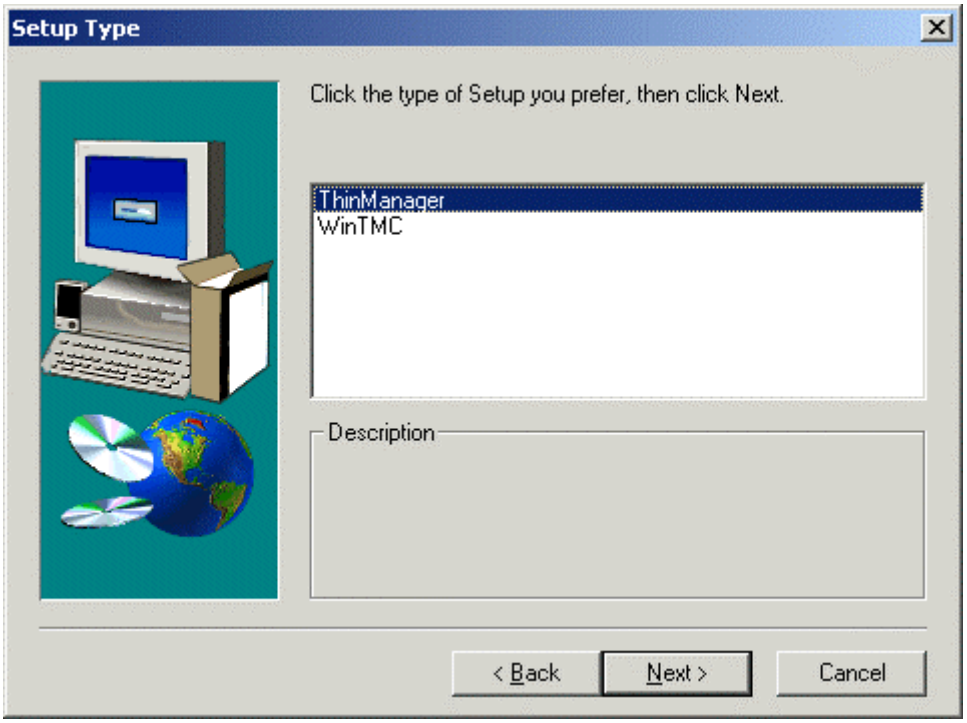
will ask for the path to the setup program. The setup program path is **`X:\setup.exe`**, where "***X***" is the CD-ROM drive that contains ThinManager.

Enter the path, or select the Browse button and select **`setup.exe`** through Explorer, and continue with the wizard.

Note: ThinManager does not need to be reinstalled to add more licenses. Add additional licenses as described in ThinManager Licensing.

ThinManager or WinTMC Installation

The ThinManager Install CD contains the installation for the ThinManager program and the WinTMC fat client. Once the ThinManager installer is launched, the **Setup Type** window allows the user to choose which program to install.



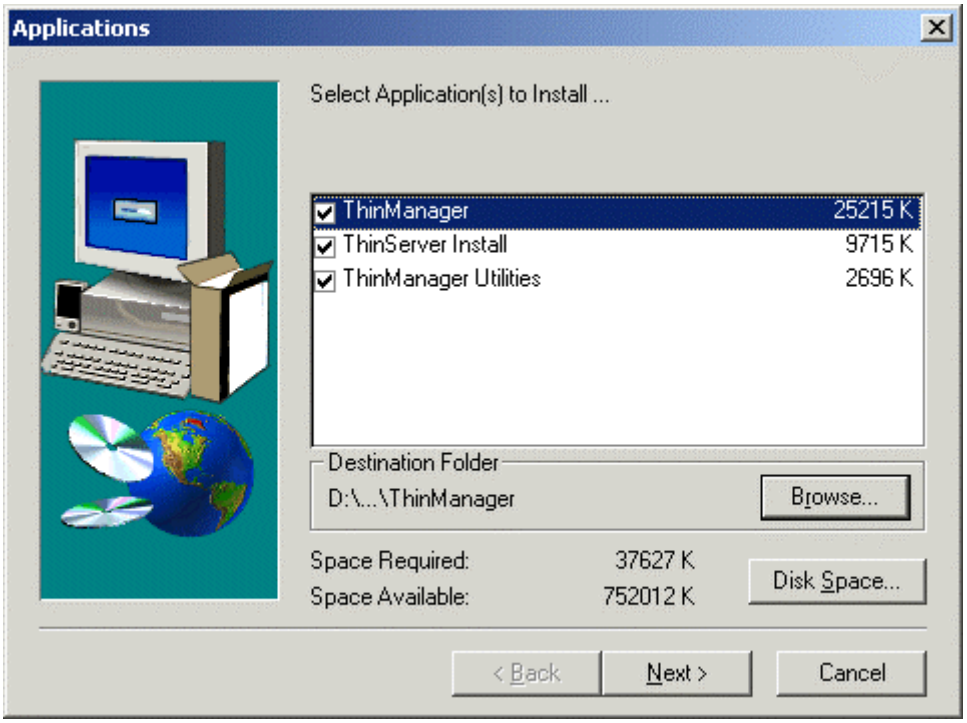
ThinManager Installation – Application Selection

The user can choose either:

- ThinManager - the Thin Client control and management program
- WinTMC - the fat client program that turns PCs into terminals controlled and managed by ThinManager.

If ThinManager is chosen to install ThinManager, an Application dialog box will open that displays the available software programs on the ThinManager CD.

Although ThinManager appears to be a seamless program, it has two major components.



ThinManager Installation – Application Selection

An Application dialog box will open that displays the available software programs on the ThinManager CD.

Although ThinManager appears to be a seamless program, it has two major components.

- **ThinManager** is the graphic user interface. It is installed to view and control the program.
- **ThinServer** is the engine that drives the program. It is a vital component that needs to be installed with ThinManager to allow ThinManager Ready thin clients to boot and be configured. ThinServer is the component that requires licensing. It is separated from ThinManager in the installation to allow additional instances of ThinManager to be installed for remote administration.
- **ThinManager Utilities** includes tools like the touch screen calibration program. These utilities need to be installed on every terminal server that have clients with touch screens connected to them.

Note: If touch screens are being used with ThinManager Ready thin clients, the **ThinManager Utilities** program needs installed on every terminal server to provide the **Calibrate Touch** program for connected thin clients.

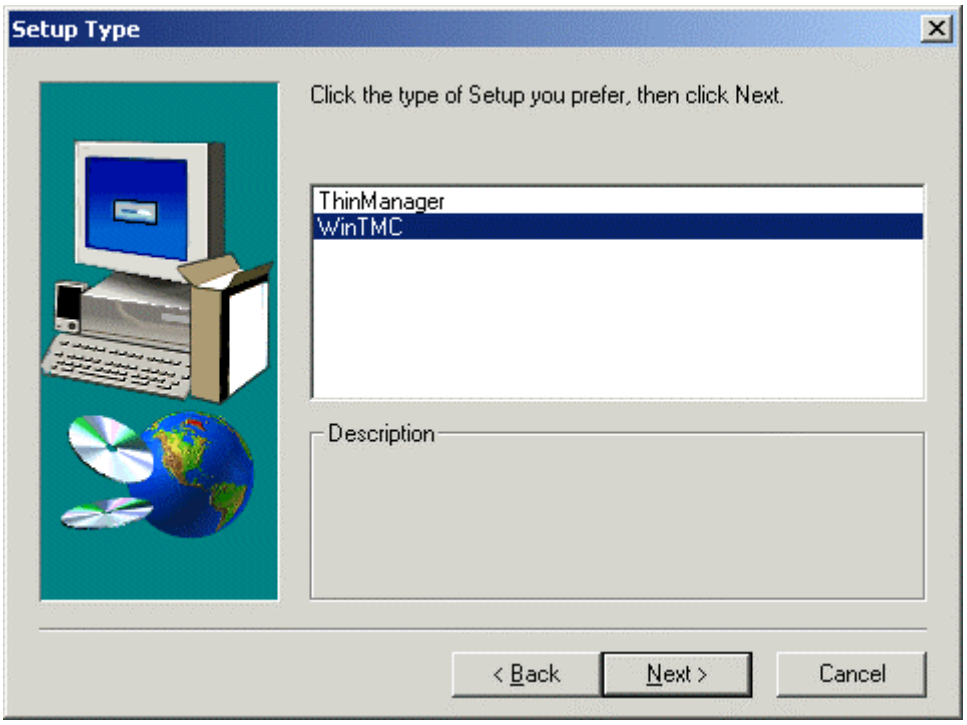
Check the desired components and select ***Next***.

WinTMC Installation

The WinTMC program is a terminal client that is installed on a PC. When the WinTMC client is run it connects to a ThinManager Server, receives its configuration, and then connects to a terminal server and launches a session. The session is then displayed in the WinTMC client as a window or as a full screen, bringing terminal server computing to PCs.

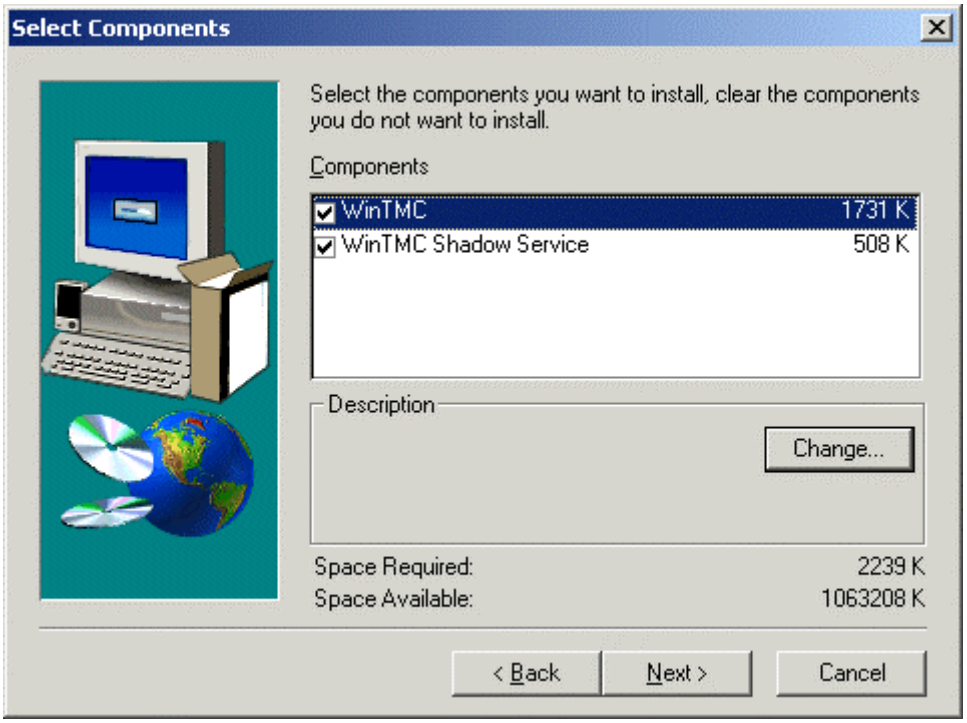
The WinTMC client needs to be installed on each PC that it is run on. Insert the ThinManager CD and launch the setup.exe file.

Note: Although PCs don't have as strict as requirement as terminal servers do, it is a good idea to install the WinTMC client using the Add and Remove Programs feature.



ThinManager Installation – Application Selection

The ThinManager installation provides a choice of programs to install. Choose **WinTMC** and select the ***Next*** button.



WinTMC Components

The WinTMC installation program has two options.

- WinTMC - This is the client application that needs to be installed to use the client.
- WinTMC Shadow Service - This optional program allows the PC to be shadowed from within ThinManager by authorized users. This will work even when the WinTMC isn't active.

Select the ***Next*** button to continue with the WinTMC installation.

Trialware ThinManager Installation

ACP has a demonstration version of ThinManager that provides customers with a 30-day trial. This version is downloaded from the ThinManager web site (www.thinmanager.com) as a self-extracting file.

- A user must register on the ThinManager web site to access the download
- The software must be installed on a computer that hasn't had ThinManager installed before.
- The software can be installed on a workstation or a terminal server. Be sure to install in the **Install Mode** by using the ***Add and Remove Programs*** if the Trialware is installed on a terminal server.
- The software doesn't need license activation and will provide licenses for 30 days.
- The Trialware version won't accept normal ThinManager licenses, but needs replaced with the standard ThinManager version to become a regularly licensed program.

Trialware Download at www.thinmanager.com

ThinManager Licensing

ThinManager will allow a single client to connect without a license as Demo Mode, but will require a ThinManager license for more than one terminal. This license is included with the purchase of ThinManager software. Activation of this license is done within the ThinManager web site at http://www.thinmanager.com.

When an unlicensed copy of ThinManager is run, a message box will appear with notification that a license needs to be installed.

No Valid License Message Box

ThinManager has two licensing modes, Standard and Enterprise. Several Terminal Server Group functions and modules require licenses.

Standard ThinManager licenses are sold per-connection and are available in 5, 10, and 25-user units. These licenses allow any 5, 10 or 25 ThinManager Ready thin clients to boot and connect to terminal servers and terminal server groups. The licenses are pooled and are released once the terminal is turned off.

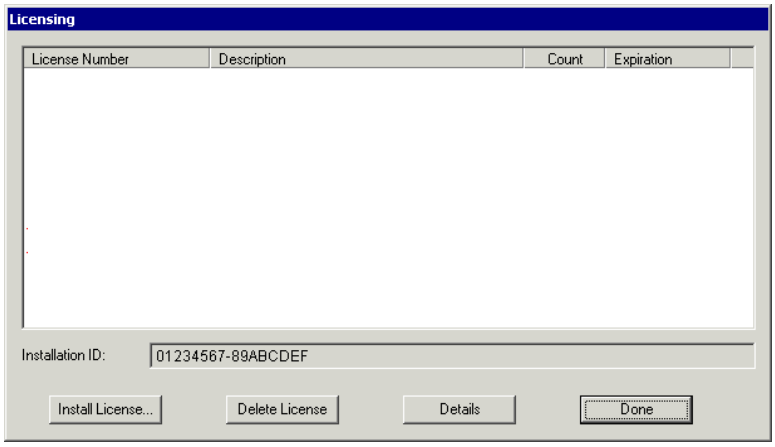
Enterprise Licenses provide unlimited connections and are available as Server, Site, and Global versions.

- **Enterprise Server** includes two license numbers that are installed on two computers to provide redundant ThinManager Servers.
- **Enterprise Site** has a single license number that can be installed on an unlimited number of computers at a single company location to provide redundancy and departmental control. ThinManager Servers using this license will display the licensed company's name and site in the title bar of ThinManager.
- **Enterprise Global** has a single license number that can be installed on an unlimited number of computers at an unlimited number of locations for a single company location to provide redundancy, departmental and site control. ThinManager Servers using this license will display the licensed company's name in the title bar of ThinManager.

Additional Licenses include:

- A **MultiSession Server License** allows a terminal server to be added to a Terminal Server Group that is available for MultiSession. A number of MultiSession Server Licenses are included with Enterprise Licenses or they can be purchased for use with Standard ThinManager licenses.
- A **SmartSession Server License** allows a terminal server to be added to a Terminal Server Group that uses SmartSession. A number of SmartSession Server Licenses are included with Enterprise Licenses or they can be purchased for use with Standard ThinManager licenses.
- The **Instant Failover License** allows a terminal to use the Instant Failover module when using individual terminal servers, or to connect to a Terminal Server Group that is configured to use the Instant Failover option. This is an additional purchase.
- The **Share Keyboard Mouse License** allows a terminal to use the Share Keyboard and Mouse Master module. This is an additional purchase. This license is not required for Share Keyboard and Mouse slave units.

The ThinManager Licensing dialog box shows the available licenses and shows the Installation ID. It is opened by selecting ***ThinManagerServer>Licensing*** from the ThinManager menu bar.



Licensing Dialog box

The Installation ID at the bottom left-hand corner of the screen is used to obtain the License File from ACP.

Note: The **Installation ID** is required for obtaining a **License File**.

ThinManager License File Download

To obtain a license file you need two numbers:

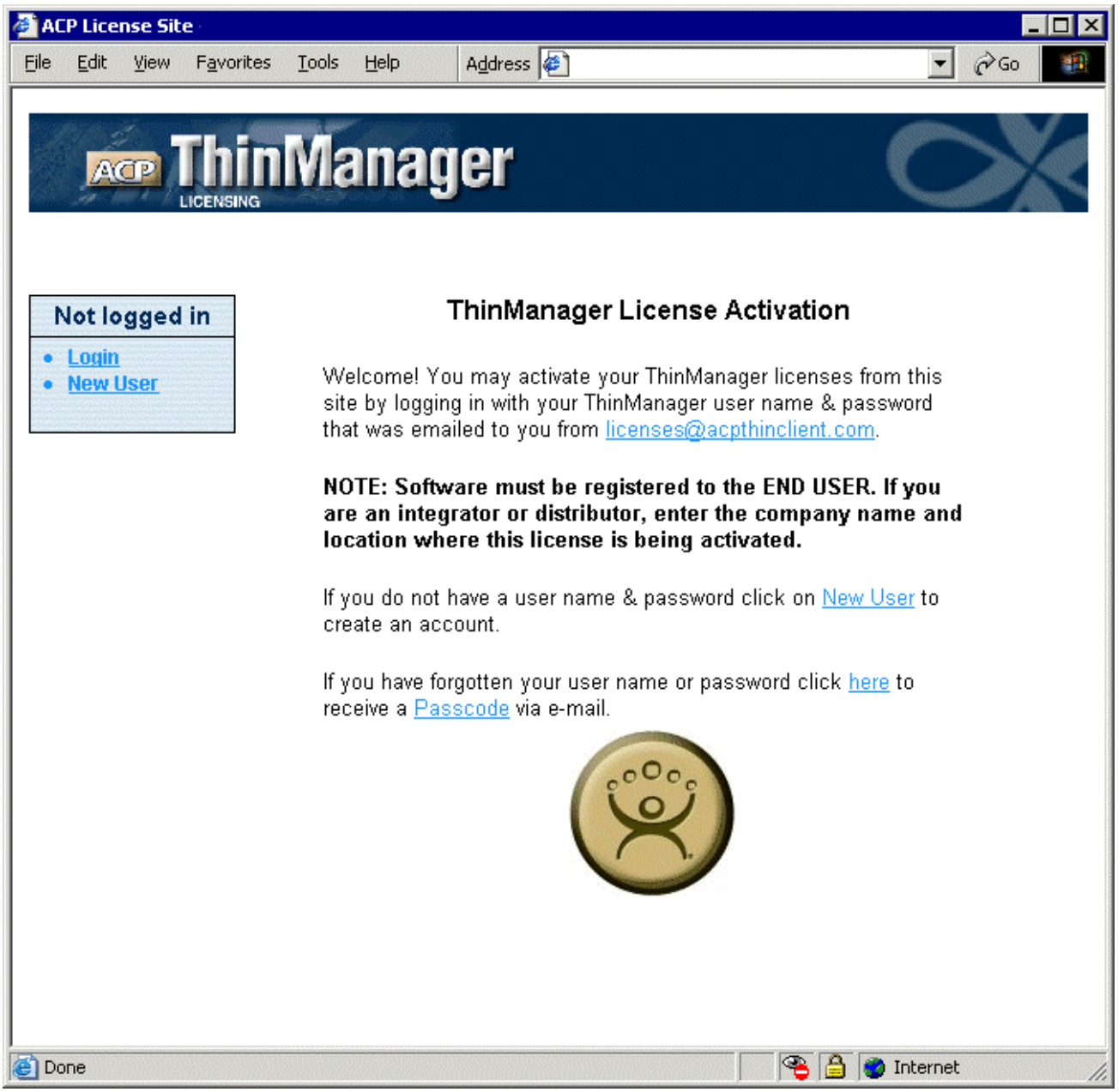
- The **Installation ID** that is generated by ThinManager during installation.
- The **License Number** that is provided with the ACP ThinManager CD.

The License File needed to activate ThinManager is obtained from the ACP web site at www.thinmanager.com or www.acpthinclient.com.

Note: Since web sites are dynamic, the exact layout of the web screens may change, but the functionality should remain the same. If you have problems, please contact your distributor or e-mail support@acpthinclient.com for help.

www.thinmanager.com

Select the ***License Activation*** link in the Licensing section. This will launch the **ThinManager License Site**.



ThinManager License Activation Site

There are three links at the ACP Licensing Site:

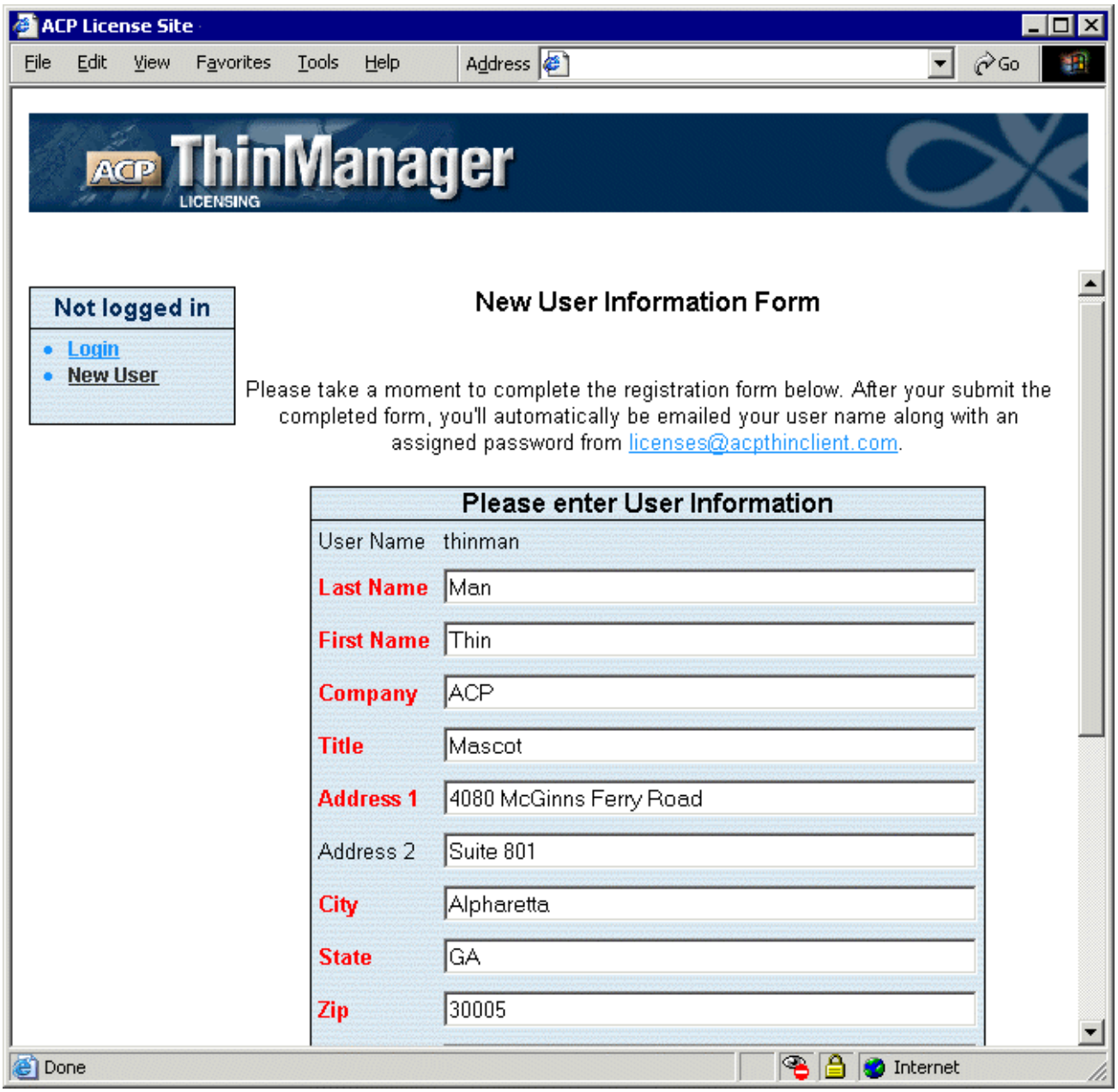
- **Login** - This link allows previously registered users to enter the site.
- **New User** - This link allows a person to become a registered user of the site so that they can activate a license.

If you are a new user, select the ***New User*** link. Previously registered users should login by selecting the ***Login*** link.

Note: The login to the license site is separate from any login to www.thinmanager.com.

New User Login

Enter a name to be your ACP User Name. Select ***Submit*** to continue.



User Information Form

Fill in the User Information form.

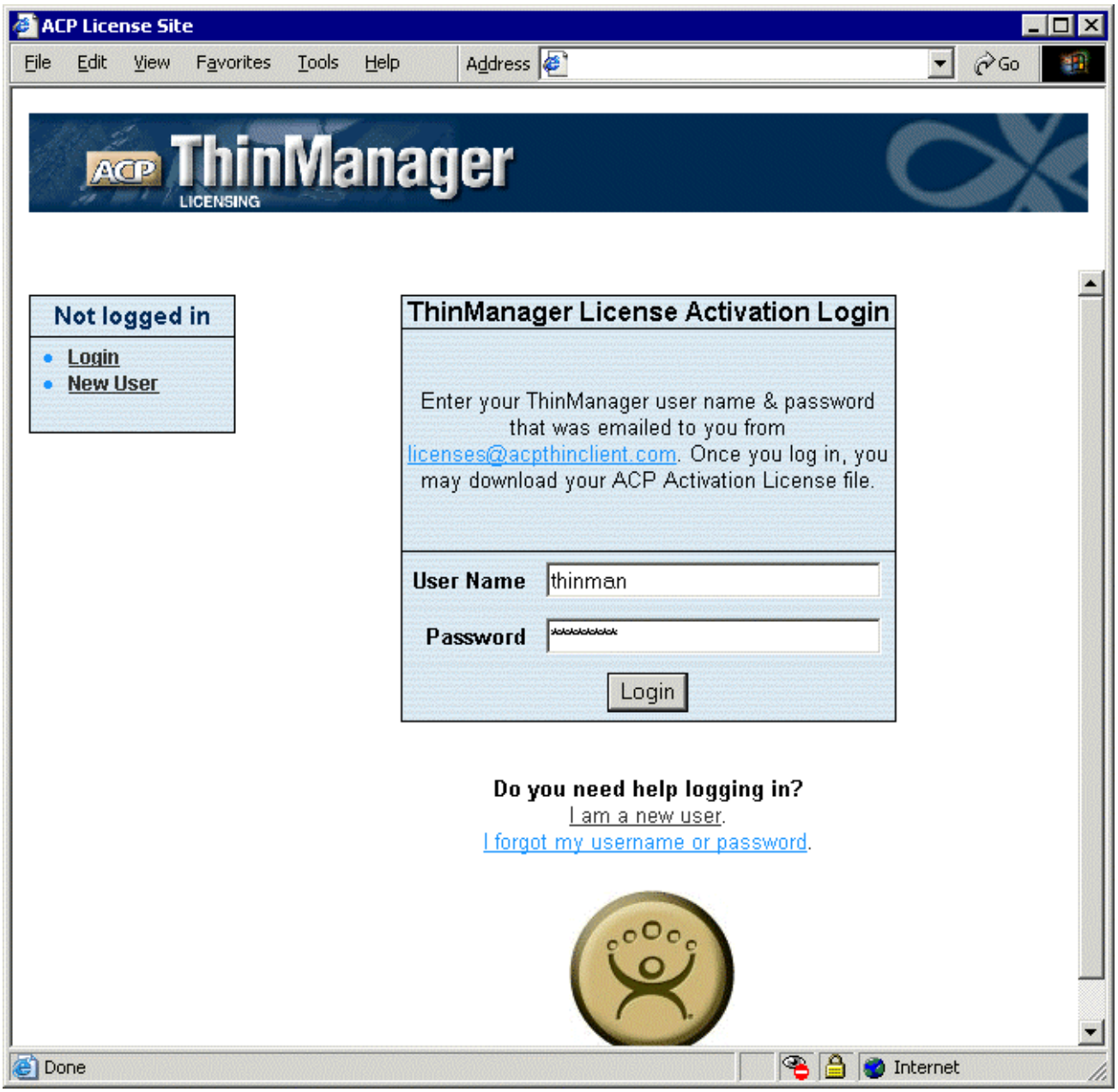
Note: The e-mail address is very important because all correspondence. Your password will be sent to that address.

Select ***Submit*** when finished.

New Account Completion

Your user name and password will be promptly sent to your e-mail address.

Select the ***Login*** link to continue.



Licensing Site Login

Enter the user name and password that you received in your e-mail into the appropriate fields.

Select the ***Login*** button to continue.

ACP Licensing Site

Inside of the ACP Licensing Site are four functions for the registered user.

- **Logout** - This link will allow exiting from the secure site.
- **Manage Account** - This link allows user information to be changed or updated. Passwords are changed here.
- **Activate License** - This link allows the activation of a license and the retrieval of a license file.
- **History** - This link displays past actions for the user account.

Select the ***Activate License*** link to activate a license and retrieve a license file.

Note: The initial password that is sent is complex and hard to remember. Going to ***Manage Account*** will allow the password to be changed to one of your choosing.

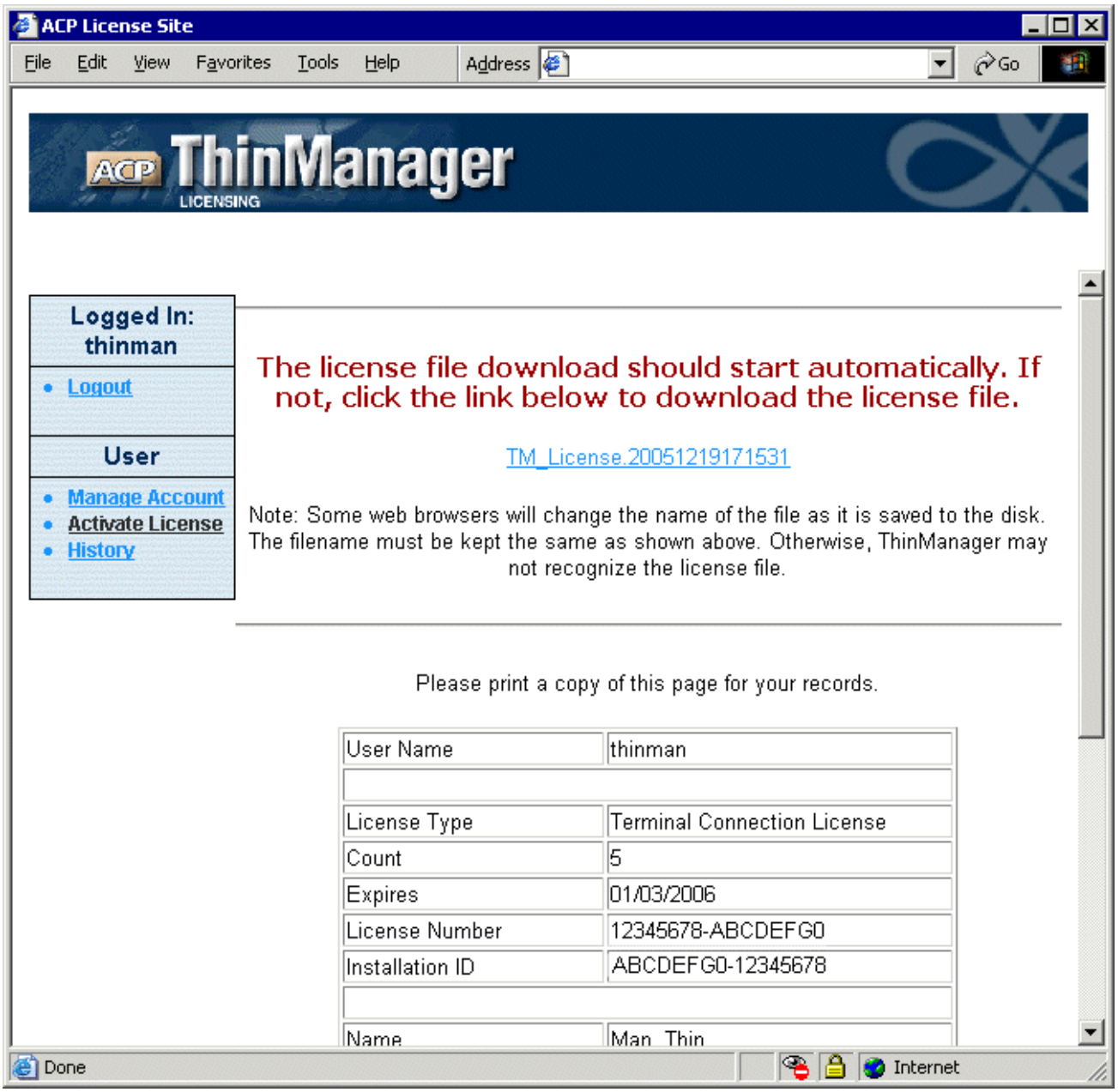
License Request Page

Logging on to the ACP License site and selecting ***Activate License*** will display a **License Activation** page. This web page will have a field for the **License Number** and a field for the **Installation ID**.

Note: The **License Number** is located on a label inside of the ThinManager CD case. The **Installation ID** is on the ThinManager Licensing dialog box that is launched by selecting ***Tools>Licensing*** from the ThinManager menu bar.

Fill in both fields with the correct numbers. These numbers are case sensitive and cannot have extra spaces added.

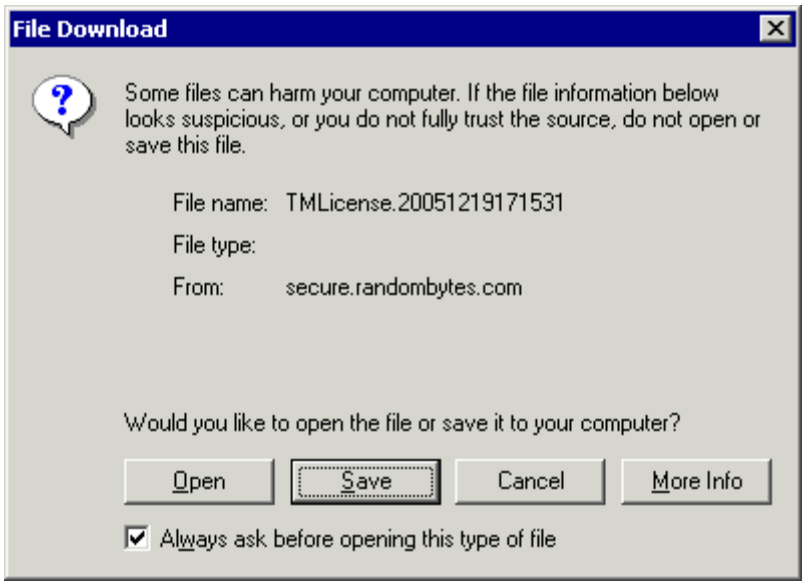
Select the ***Submit*** button to continue.



Download License File

Print a copy of this page for your records.

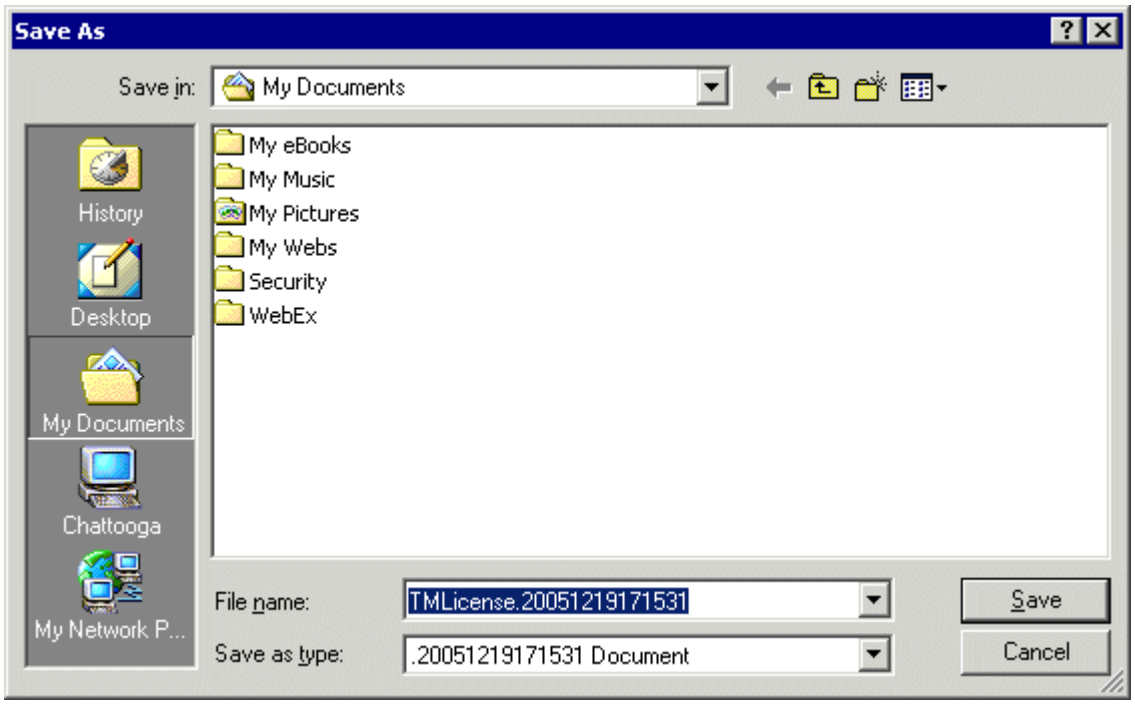
The License File will begin to download. A dialog box will appear that allows the option of opening the file from its current location or saving the file to disk. Saving the file to disk is recommended.



Saving File to Disk

Select ***OK*** to continue.

A dialog box will appear that allows the selection of the download directory.



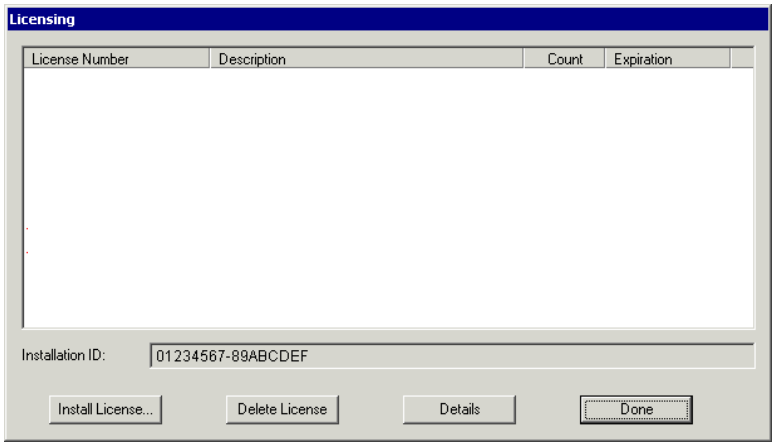
Save As Window

Select a directory or drive to copy the file, and select ***Save***.

The license file is now ready for installation.

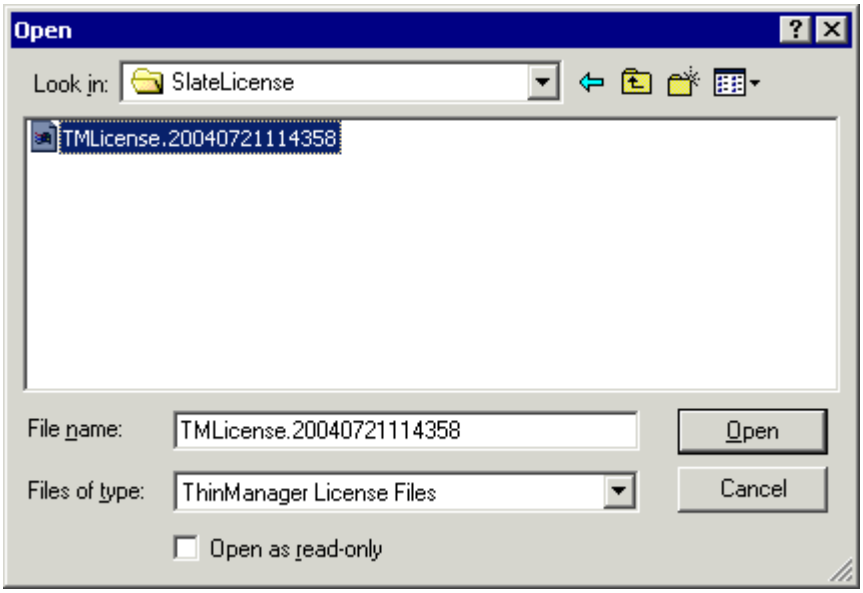
ThinManager License File Installation

Open the Licensing dialog box by selecting ***Tools>Licensing*** from the ThinManager menu bar.



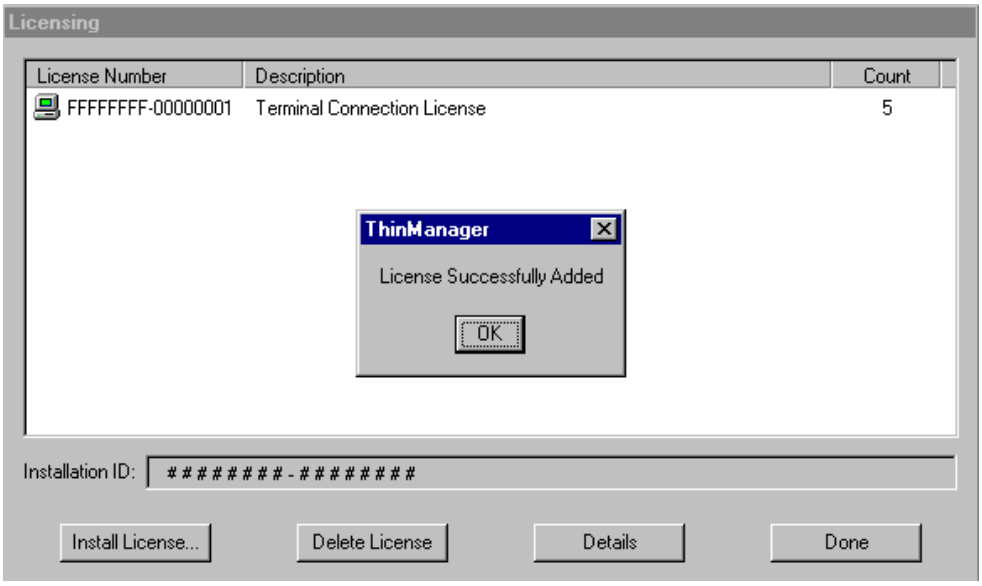
Licensing Dialog Box

Select the ***Install License*** button on the Licensing dialog box. An Open File dialog box will be displayed.



Open License File

Select the License File that was downloaded from the ACP web site and select ***Open***. This will install the License File.



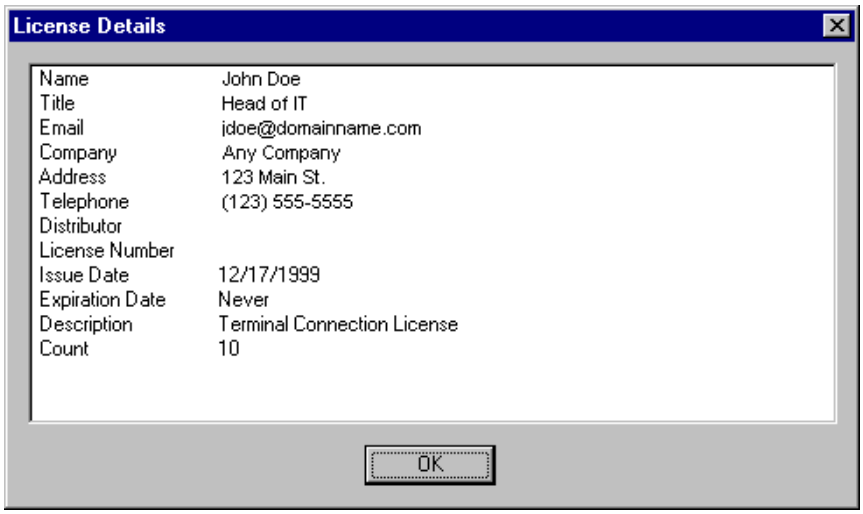
Add License

When the License File has been successfully installed, a message box will appear to confirm it. The License Number and properties will appear in the Licensing dialog box.

Select ***OK*** to close the message box.

Selecting the ***Delete License*** button on the Licensing dialog box will open a message box that will allow the deletion of a selected license.

Selecting the ***Details*** button on the Licensing dialog box when a license is selected will display a window with the details of the selected license.



License Details

Double-clicking a license in the Licensing dialog box can also open this window. Selecting ***OK*** will close the License Details window.

Selecting the ***Done*** button on the Licensing dialog box will close the Licensing dialog box.

ThinManager Module Licensing

Certain modules, like the High Speed Serial Driver, Instant Failover, and the Share Keyboard and Mouse module require an ACP license to activate. These are activated through the ACP web site using the same procedures as the ThinManager license.

See Module Overview for details.

WinTMC Licensing

WinTMC requires a Terminal/WinTMC connection license. Existing Terminal Connection Licenses can be upgraded to support WinTMC connections. For customers using ThinManager Enterprise Class licenses, a WinTMC Connection License is required. These are activated through the ACP web site using the same procedures as the ThinManager license.

TermSecure Licensing

TermSecure requires a TermSecure license for each terminal that will use TermSecure to control access to the terminal. For customers using ThinManager Enterprise Class licenses, a TermSecure License is required. These are activated through the ACP web site using the same procedures as the ThinManager license.

ThinManager Interface

Opening ThinManager

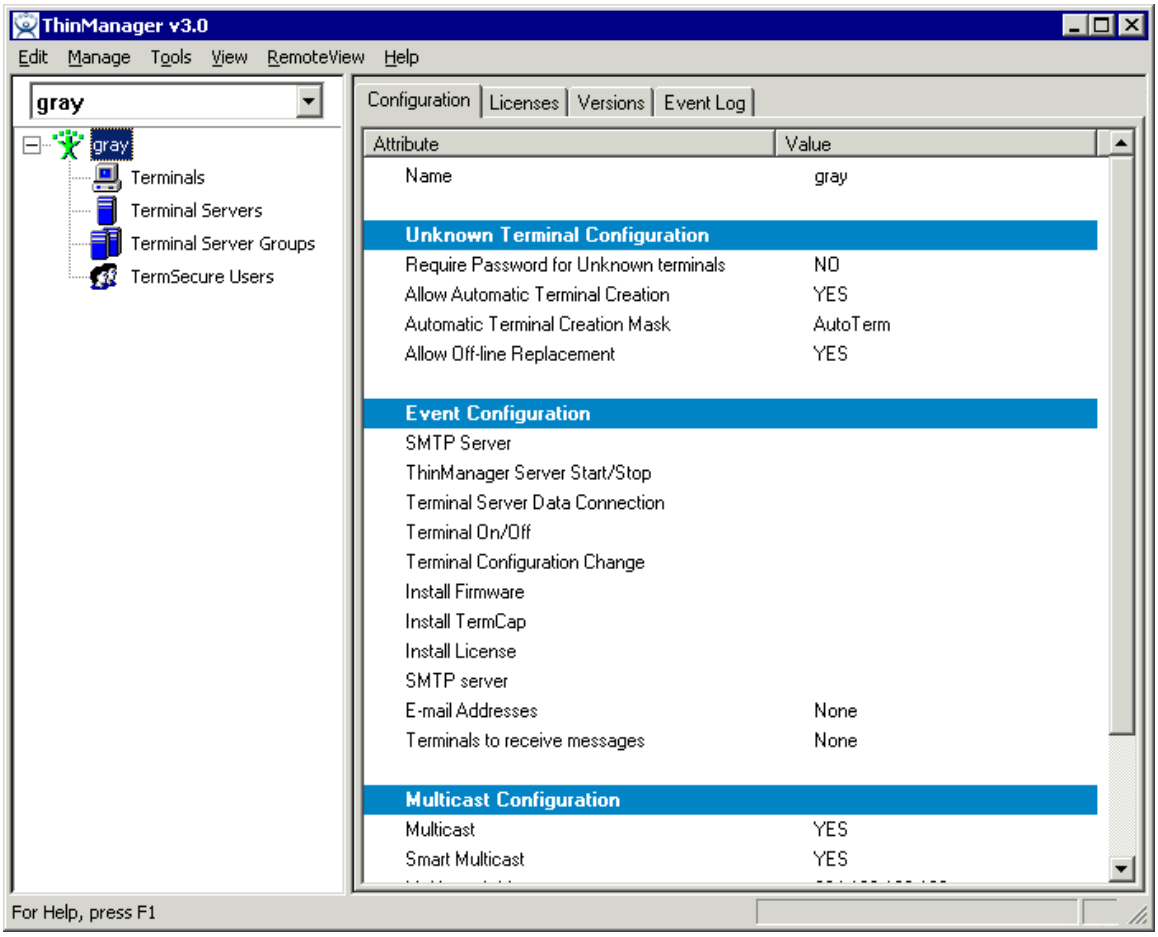
ThinManager is used for the configuration of ThinManager Ready Thin Clients in the ACP thin client environment.

ThinManager can be started using any of the traditional Windows methods, based on the administrator's preference:

- Run from the Start Menu, ***Start>Programs>ACP>ThinManager***.
- Run from the Run line, ***Start>Run> C:\Program Files\Automation Control Products\ThinManager\ThinManager.exe*** (default path).
- Run from a command prompt, ***C:\Program Files\Automation Control Products\ThinManager\ThinManager.exe*** (default path).
- Run from a shortcut on the desktop.
- Run from a ThinManager icon in the system tray, if this option is selected in ***View>Options*** from the menu bar.
- Run from Windows Explorer.

Note: ThinManager can be run on a terminal with full privileges if the user is an administrator or a member of the ThinManager Administrator's group.

ThinManager Graphic User Interface



ACP ThinManager Graphic User Interface

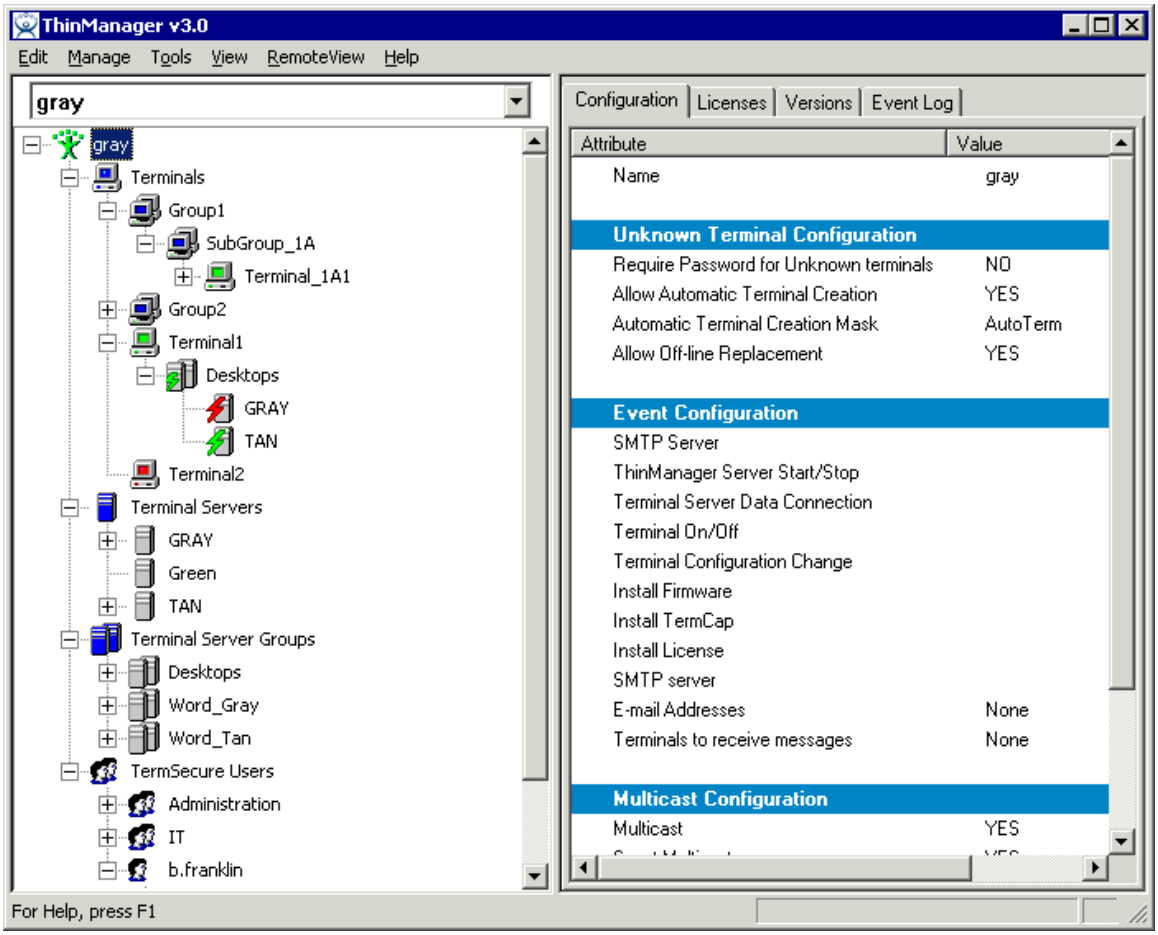
The **ThinManager** administrative interface provides "at-a-glance management". The groups and terminals are displayed in the tree pane. The configuration data is displayed in the detail panel. Color-coded icons in the tree pane show the on-line status of terminals.

The sections of the **ThinManager** interface include:

- A **Title Bar** with the standard Windows Minimize/Maximize/Close shortcut icons.
- A **Menu Bar** with commands.
- A drop-down **ThinManager Server Selector** to pick which ThinManager Server will have its tree displayed.
- A **Tree Pane** with an expandable/collapsible tree showing the Terminals, Groups of terminals, Terminal Servers, Terminal Server Groups, and Users on the ThinManager Server. Terminals that are on-line have a green monitor icon, while stopped or rebooting terminals have a red monitor icon.
- A **Details Pane** with information about settings and configurations. The blue group icon denotes a property that was obtained from the group. The details pane is tabbed for organization. The tabs that are shown depend on the tree item that is highlighted.
- A **Status Bar** that shows advice and tips.
- The **Communication Indicator** shows green when ThinManager is talking to a ThinManager Server. ThinManager will wait until this communication is finished before processing additional requests.

Tree Pane

The tree pane shows the members of the ACP Thin Client Network in an expandable tree.



ACP ThinManager With Tree

The current version of the Tree separates the **Terminals** and nested groups of terminals, **Terminal Servers**, **Terminal Server Groups, and Users**. Although a single computer can be a ThinManager Server, a Terminal Server, and a member of a Terminal Server Group, as shown in the example, these are three distinct functions that are displayed in the tree to reflect its function.

The Terminals branch can be expanded to show the **Groups** and **Terminals** under them. Groups can be expanded to show the Terminals underneath them. ThinManager 3.0 now has a multi-level hierarchy that allows several levels of nested groups. The Terminals can be expanded to show the Terminal Servers or Terminal Server Groups they are assigned to. Terminal Server Groups can be expanded to show the member Terminal Servers.

Icons

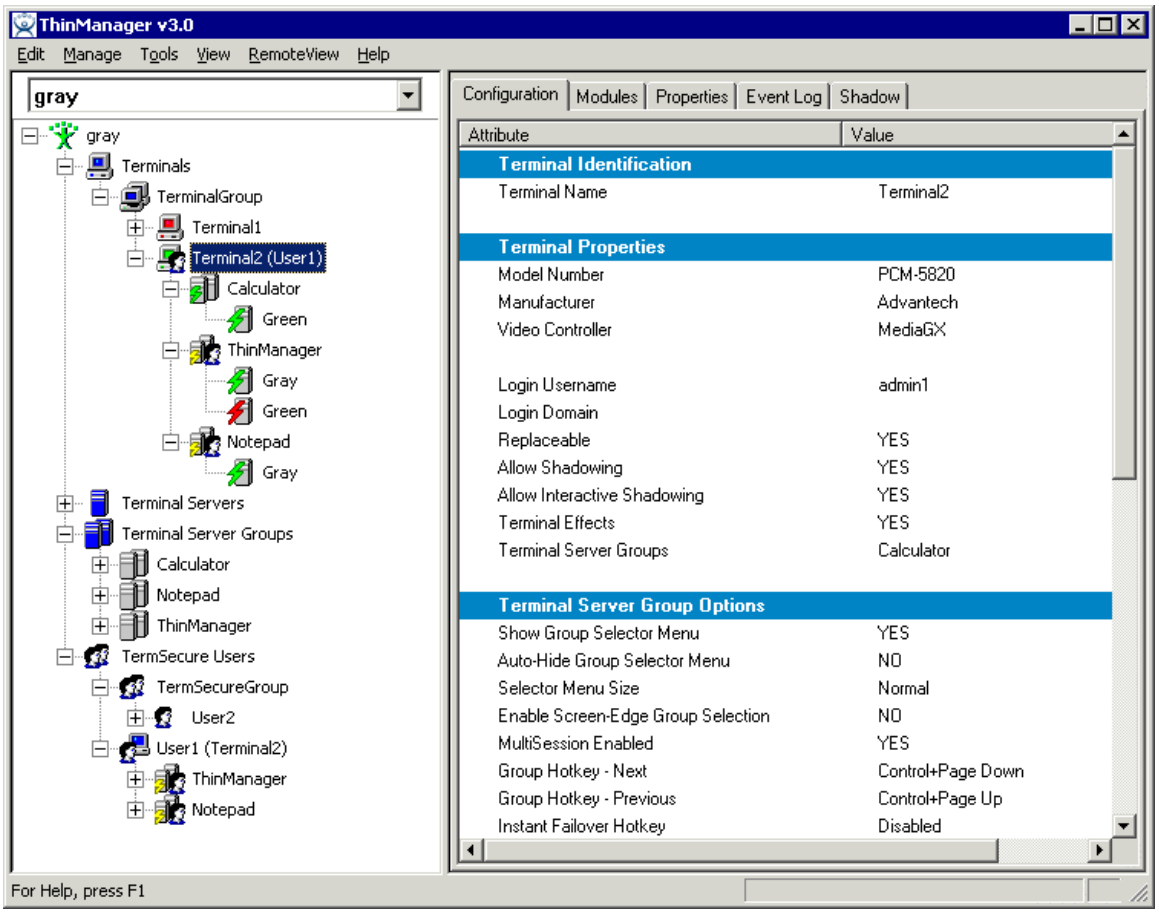
Tree Icons

Several of the menu tools and other features are dependent on what icon is highlighted in the tree.

The tree is divided into four branches, **Terminals**, **Terminal Servers**, **Terminal Server Groups** and **TermSecure Users**.

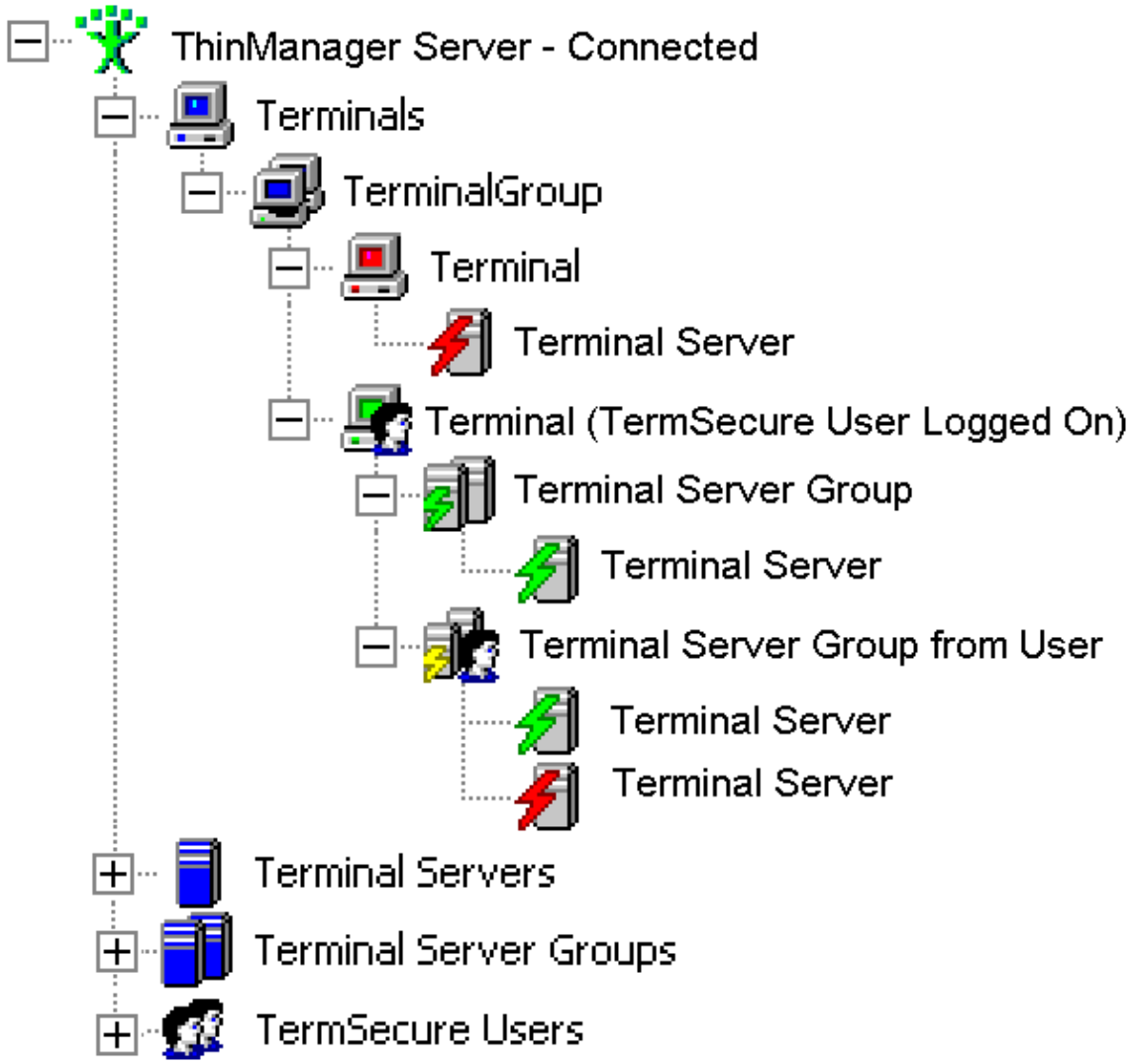
Four Tree Branches

Each of the branches, shown as a blue icon, can be expanded.



Expanded Tree Showing Icon Variety

The tree in the example has been expanded to provide greater detail about the status of the terminals.



Group and Terminal Nesting

Each **Group** can be expanded to show the subgroups and terminals that are members of the group.

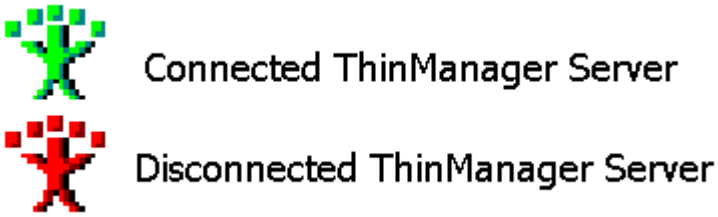
Each **Terminal** can be expanded to show the Terminal Server Groups or Terminal Servers that it is assigned to.

Each **Terminal Server Group** can be expanded to show the Terminal Servers that are assigned to it.

Each **TermSecure User Group** can be expanded to show the TermSecure Users that are members of the group.

Each of the branches of the tree can be expanded.

ThinManager Server Icons



ThinManager Server Icons

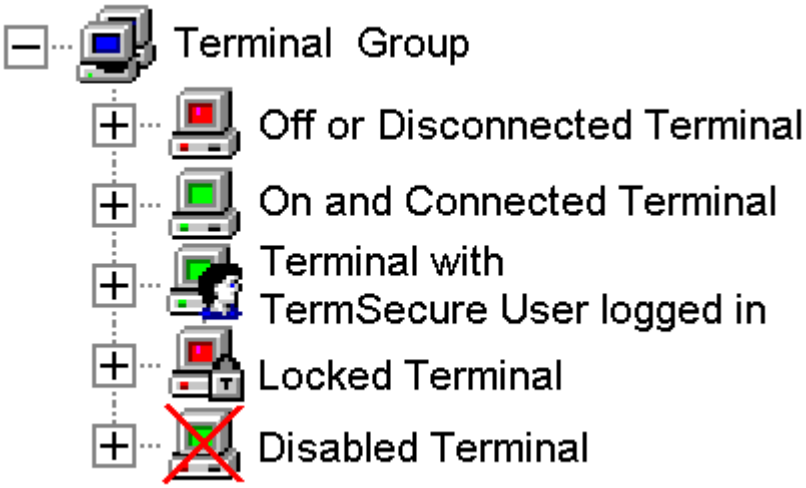
ThinManager can connect to several ThinManager Servers and display their trees, but only one ThinManager Server tree can be displayed at a time. This branch shows the local ThinManager Server by default. Other ThinManager Servers can be added to the ThinManager Server Drop-down box by selecting ***Edit>Add ThinManager Server*** from the menu bar.

A **Green ThinManager Server** icon represents a ThinManager Server that has an active communication link with the program. These can be collapsed or expanded to show the Group and Terminal icons that nest under the ThinManager Server icons.

A **Red ThinManager Server** icon represents a ThinManager Server that is not communicating with the program. Right clicking on a red ThinManager icon and selecting ***Reconnect*** will reinitiate communications to the ThinManager Server.

Terminal Icons

Nested under the ThinManager Server icons are groups and terminals.



Group and Terminal Icons

A **Group** is represented by an icon of two monitors with a blue screen. Subgroups can be nested under Groups.

A **Terminal** is represented by an icon of a single monitor.

A **Red terminal screen** indicates that the Terminal is off or not communicating with the ThinManager Server.

A **Green terminal screen** indicates that the Terminal is on and communicating with the ThinManager Server.

A **Terminal with a Head** indicates that a TermSecure User is logged onto the terminal. The TermSecure User name will be displayed in parentheses.

A **Locked terminal** or group icon means that that terminal or group is being modified and cannot be changed by another user. If the Group or Terminal remains locked after its configuration wizard is closed, it can be unlocked by using ***Edit>Unlock*** from the menu bar.

A **Terminal with a Red Cross** indicated that the terminal has been disabled by an administrator.

If a Group or Terminal is disabled using the ***Tools>Disable*** function, it will be displayed with a red **X** over the terminal icon. An entire ThinManager Server or an entire Group can be disabled, but the ThinManager Server icon and the Group icon will not show an **X**, just the terminal icons.

Disabled Terminal Icons

A **Red terminal screen** with a Red **X** indicates that the Terminal is disabled and is either turned off or rebooted and waiting to be enabled.

A **Green terminal screen** with a Red **X** indicates that the disabling has been applied to terminal that is turned on. The terminal has a disabling screen and is waiting for enabling.

If a Group or Terminal is disabled using the ***Tools>Disable*** function, it will be displayed with a red **X** over the terminal icon. An entire ThinManager Server or an entire Group can be disabled, but the ThinManager Server icon and the Group icon will not show an **X**, just the terminal icons.

Once a terminal is disabled, a disabling screen will appear on the terminal until the terminal has been enabled.

- A **Red terminal screen** with a Red **X** indicates that the Terminal is disabled and is either turned off or rebooted and waiting to be enabled.
- A **Green terminal screen** with a Red **X** indicates that the disabling has been applied to terminal that is turned on. The terminal has a disabling screen and is waiting for enabling.

Disabling Screen

If a terminal is active when it is disabled, it will display the **Disable Screen** with a message indicating the disabled status in the upper left corner.

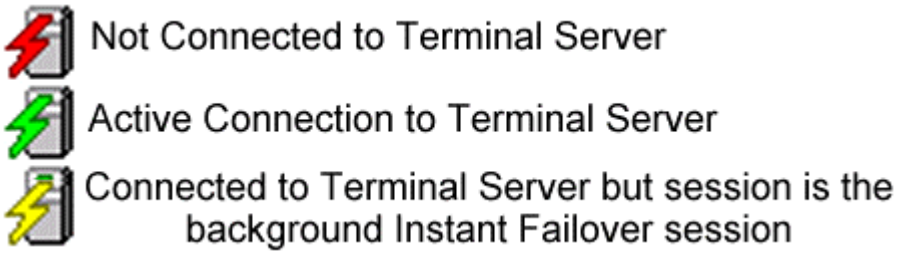
Disabled Terminal

If a terminal is booted when disabled, the boot process will be halted until the terminal is enabled.

See Disable Terminals for details.

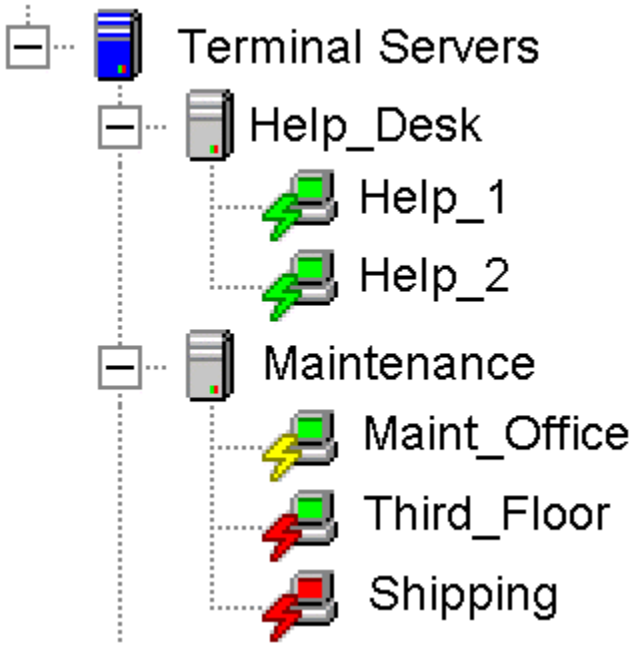
Terminal Server Icons

Under each Terminal are icons representing the Terminal Servers that they connect to. The lightning bolt color indicated the connection status.



Terminal Server Connection Icons

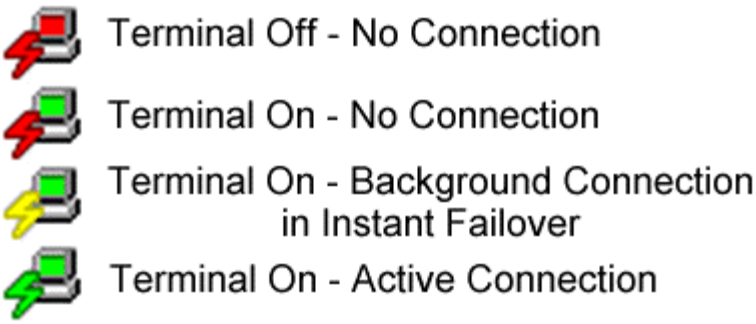
- A **Red lightning bolt** represents a lack of connection to the terminal server.
- A **Green lightning bolt** represents a connection to the terminal server with an active session.
- A **Yellow lightning bolt** represents a connection to the terminal server with an active session that is the backup in Instant Failover mode.



Terminal Server Nesting

The Terminal Server branch can be expanded to show the Terminal Servers that have terminals connected to them. The monitor screen color and the lightning bolt color indicate the terminal's status on the Terminal Server.

The Terminal Server Group branch can be expanded to show the Terminal Server Groups that are configured. The terminal server groups can be expanded to show the member terminal servers. The member terminal servers can be expanded to show the terminals connected to them. The monitor screen color and the lightning bolt color indicate the terminal's status on the Terminal Server.



Terminal Server Connection Icons

The monitor screen color indicates the ThinManager Server connection status. The lightning bolt color indicates the Terminal Server connection status.

- A **Red monitor** screen indicates that the terminal is off or unable to communicate to the ThinManager Server.
- A **Green monitor** screen indicates that the terminal is on and able to communicate to the ThinManager Server.
- A **Red lightning bolt** represents a lack of active connection to the terminal server.
- A **Green lightning bolt** represents a connection to the terminal server with an active session.
- A **Yellow lightning bolt** represents a connection to the terminal server with a session that is the backup session in Instant Failover mode.

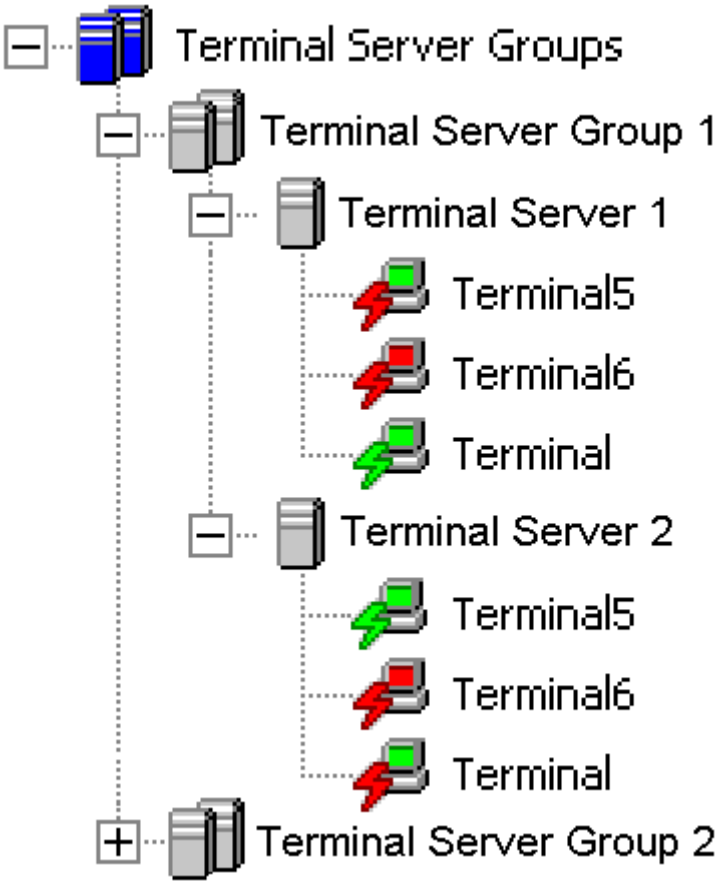
Terminal Server Group Icons

The **Terminal Server Group** branch can be expanded.

A **Two-Server icon** represents a Terminal Server Group. It can be expanded to show member terminal servers.

A **Single-Server icon** represents a terminal server that is a member of the Terminal Server Group. It can be expanded to show terminals assigned to it.

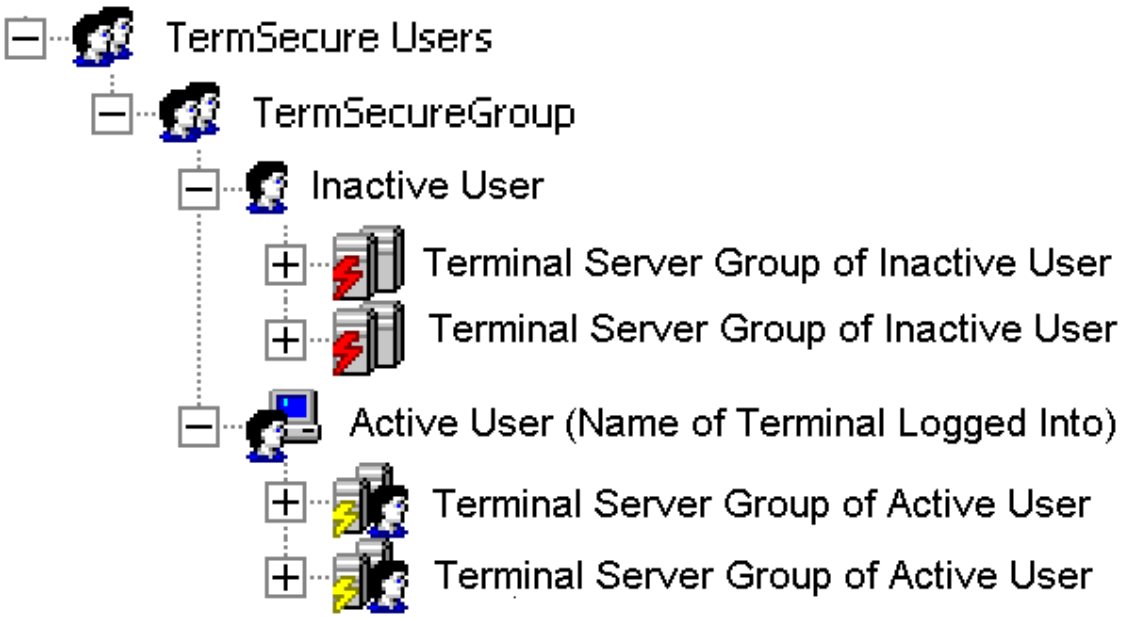
Monitor icons represent terminals that are assigned to the terminal servers. The red/green color of the screen and lightning bolt follow the guidelines from Terminal Server Connection Icons.



Terminal Server Group Icons

TermSecure User Icons

The **TermSecure Users** branch can be expanded.



TermSecure User Tree

The TermSecure User branch expands to show TermSecure User Groups

A **Two-headed icon** represents a TermSecure User Group. This can be expanded to show member TermSecure Users.

A **Single-headed icon** represents a TermSecure User. This can be expanded to show any Terminal Server Groups that are assigned to the TermSecure User.

A **Single-head with Terminal icon** represents a TermSecure User that is logged in on a terminal. The terminal name is shown in parentheses. This can be expanded to show any Terminal Server Groups that are assigned to the TermSecure User.

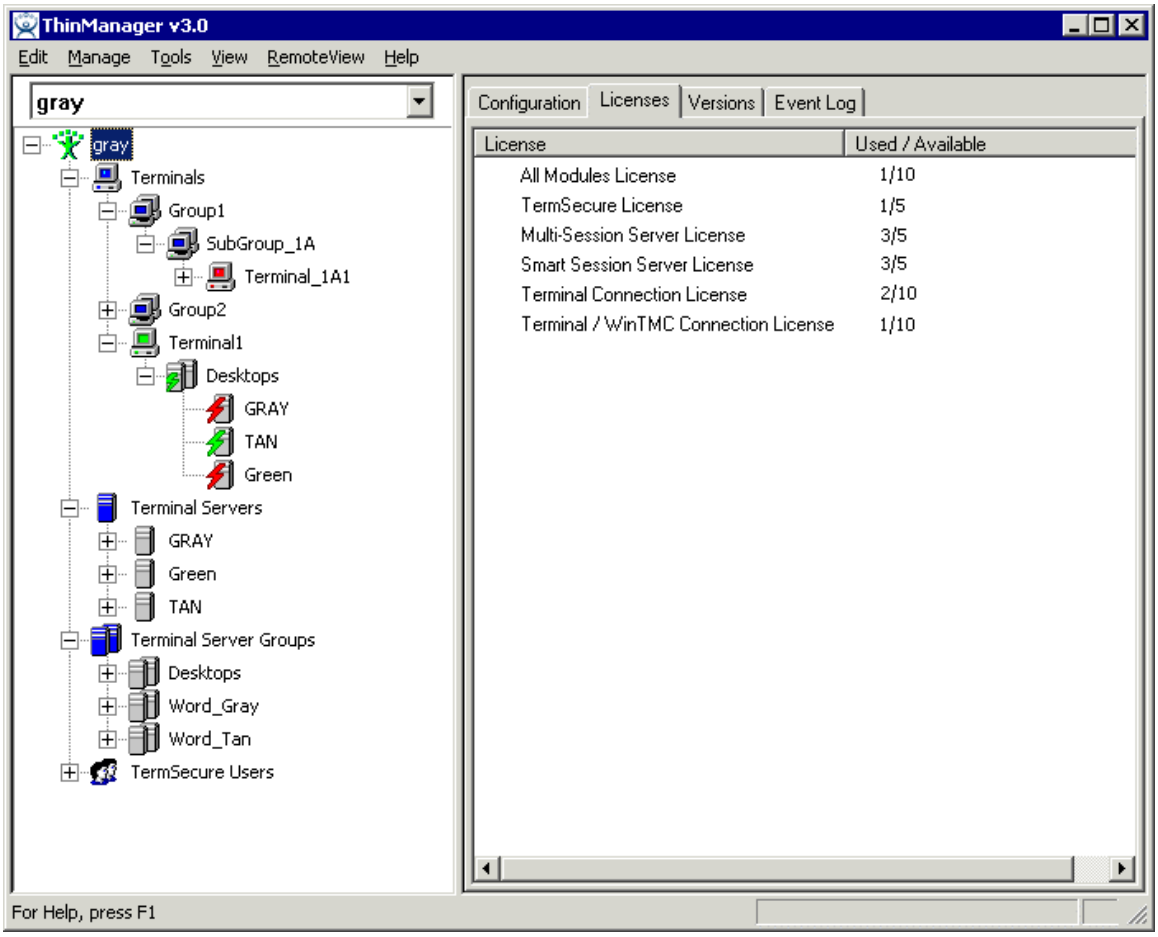
A TermSecure User that is not active or logged into a terminal server will show the normal Terminal Server Group icon of two servers.

A TermSecure User that is active and logged into a terminal server will show an icon of the TermSecure User head with the terminal Server Group icon of two servers.

Details Pane

The Details Pane has been reorganized in ThinManager with tabs to sort information. Highlighting a **ThinManager Server**, **Group**, **Terminal**, **Terminal Server**, or **Terminal Server Group** in the tree will display a different set of tabs and the corresponding set of information.

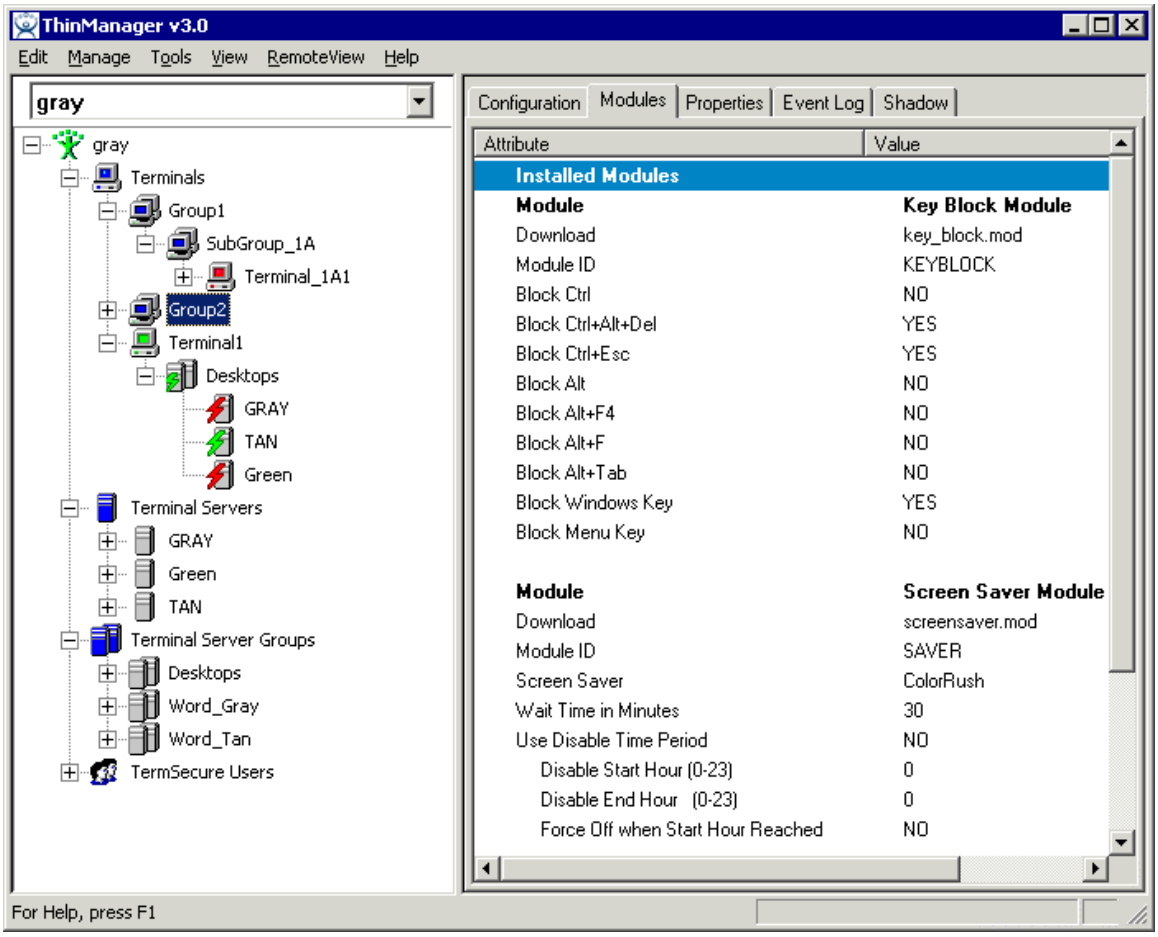
Additional detail is available in the Data Display section.



ThinManager Server Tabs - Licenses

Highlighting the green **ThinManager Server** will show:

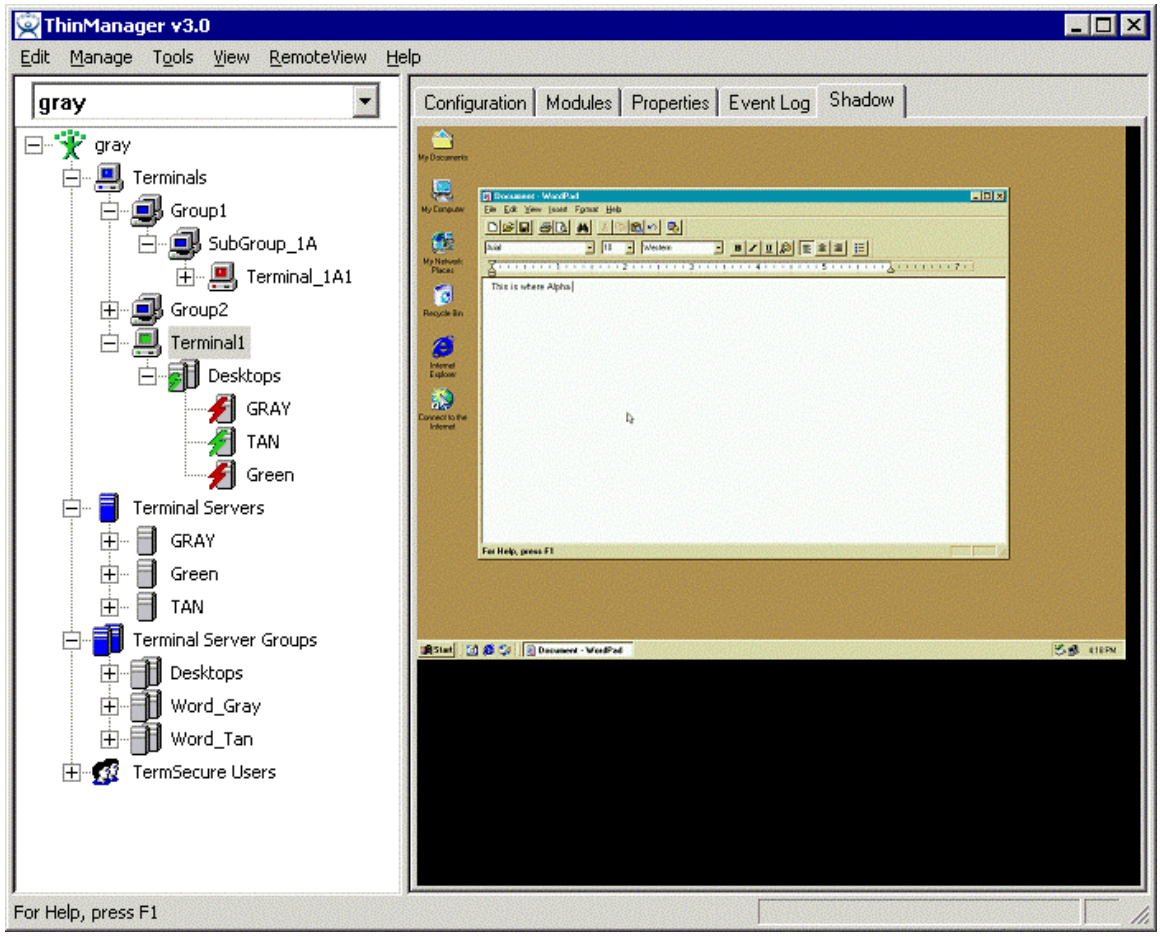
- **Configuration** - These are the configuration parameters set in the ThinManager Server Configuration Wizard and include the Event Messaging summary.
- **Licenses** - This displays the installed licenses, the quantity used and the quantity available.
- **Versions** - This displays the version numbers of ThinManager, the firmware, and the TermCap database.
- **Event Log** - This displays events for the ThinManager Server. The events and duration are configurable in the ThinManager Server Configuration wizard.



Group Tabs - Modules

Highlighting a **Group** will show:

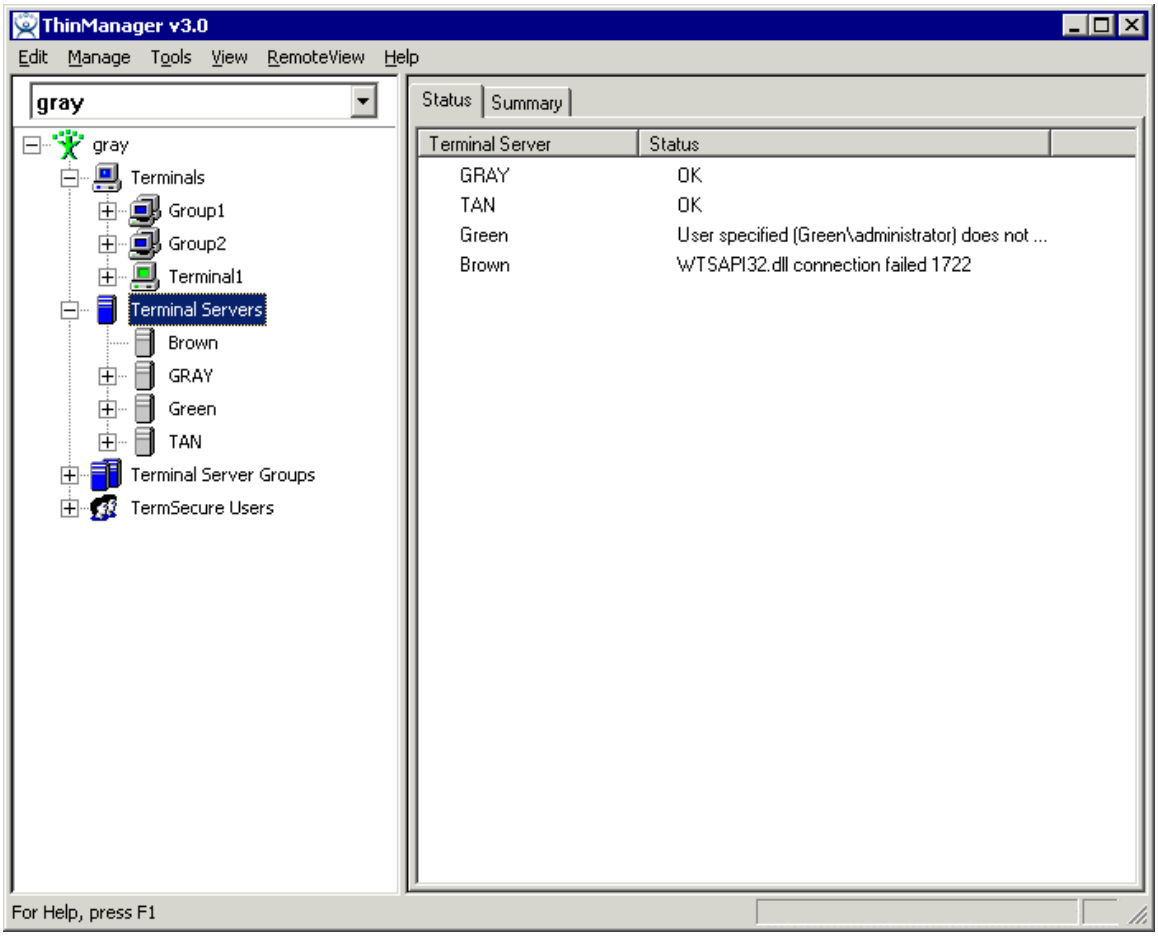
- **Configuration** - These are the configuration parameters set in the Group Configuration Wizard and include Terminal Server assignments, video settings, and monitoring settings.
- **Modules** - This lists the assigned modules and parameters for the Group.
- **Properties** - This is blank for a Group.
- **Event Log** - This is blank for a Group.
- **Shadow** – This is blank for a Group



Terminal Tabs - Shadow

Highlighting a **Terminal** will show:

- **Configuration** - These are the configuration parameters set in the Terminal Configuration Wizard and include Terminal Server assignments, video settings, and monitoring settings.
- **Modules** - This lists the assigned modules and parameters for the Terminal.
- **Properties** - This shows the IP address, firmware version, make and model, CPU, memory usage, Terminal Up Time, CPU load, and BootRom version of the Terminal.
- **Event Log** - This shows the terminal events and terminal configuration events for that terminal, if event logging is enabled in the ThinManager Configuration Wizard.
- **Shadow** – This tab shows what the terminal is displaying on its monitor. Administrators can interact with the session while ThinManager Power Users can view the session, but not control it.



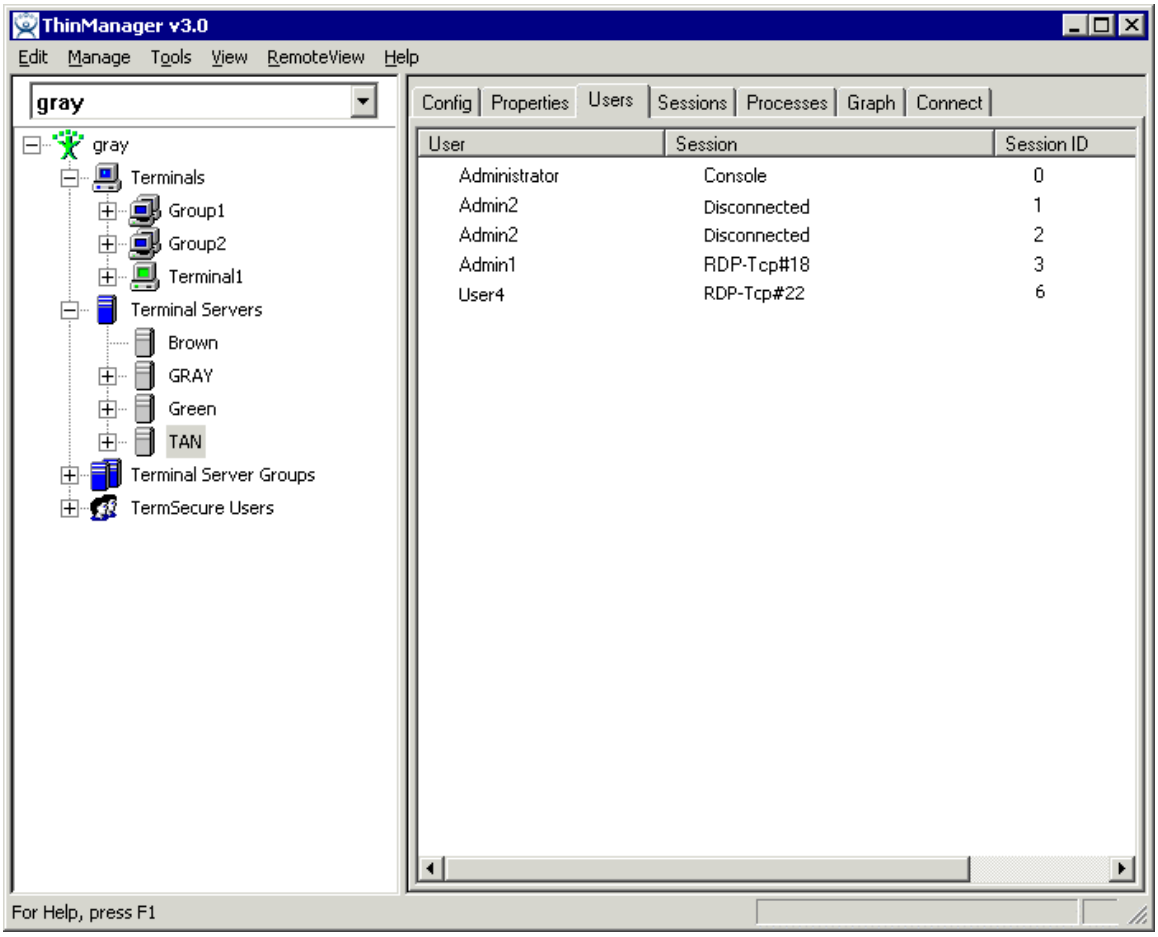
Terminal Servers Tabs - Status

Highlighting the blue **Terminal Server** will show:

- **Status** - This shows the status of the communication connection between the local ThinManager Server and the defined Terminal Servers and ThinManager Servers. This shows whether the local ThinManager Server is able to retrieve the updated resource information used in determining the SmartSession Server Ranking.
- **Summary** - This will report information on the terminal servers like available memory, uptime, CPU utilization, and operating system.

The Connection Status of the Terminal Servers may have different messages:

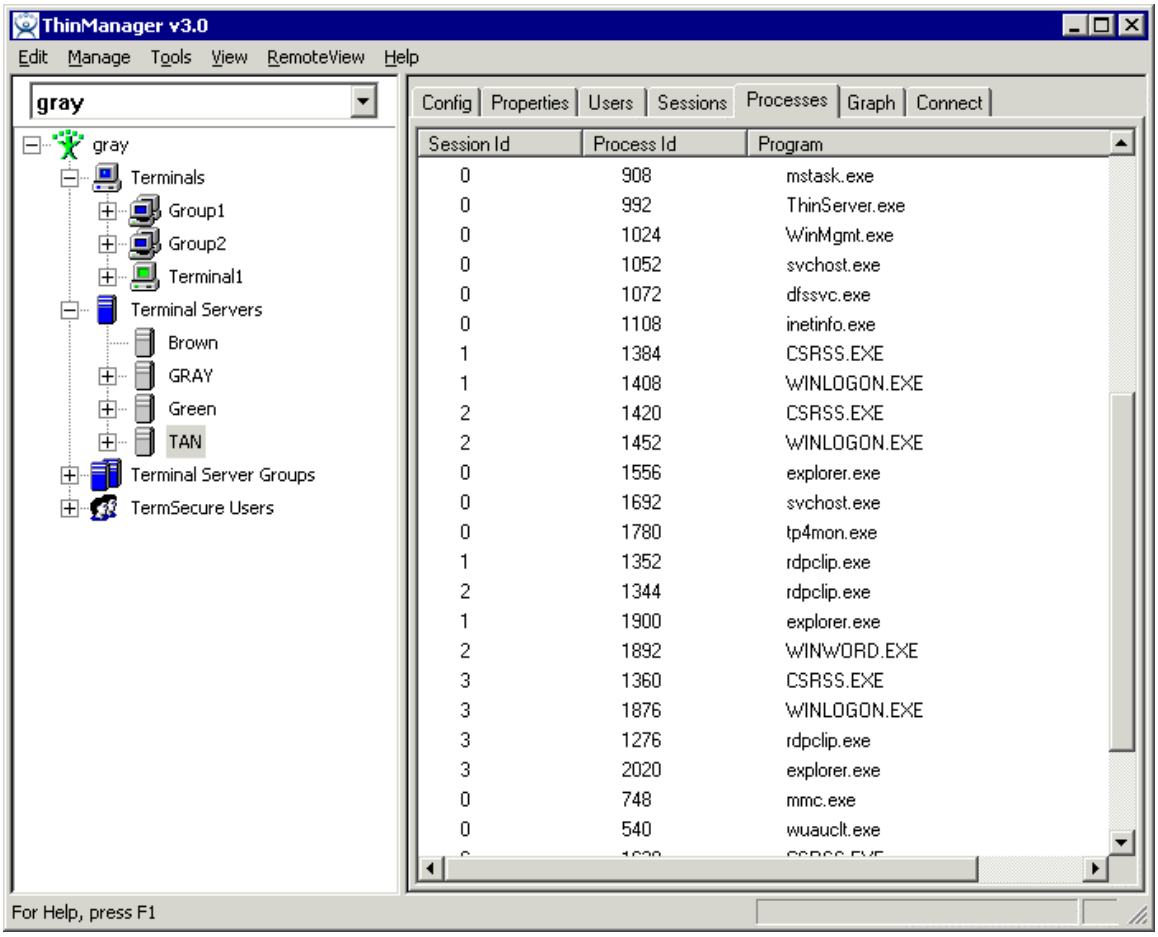
- **OK** indicates a good connection.
- **WTSAPI32.dll connection failed** occurs when the terminal server is off or unreachable.
- **No login information supplied** indicates that the Terminal Server didn't have a username and password added in the Terminal Server List Wizard.
- **User specified does not have permission to connect** indicates that the Terminal Server had an invalid username and password added in the Terminal Server List Wizard.



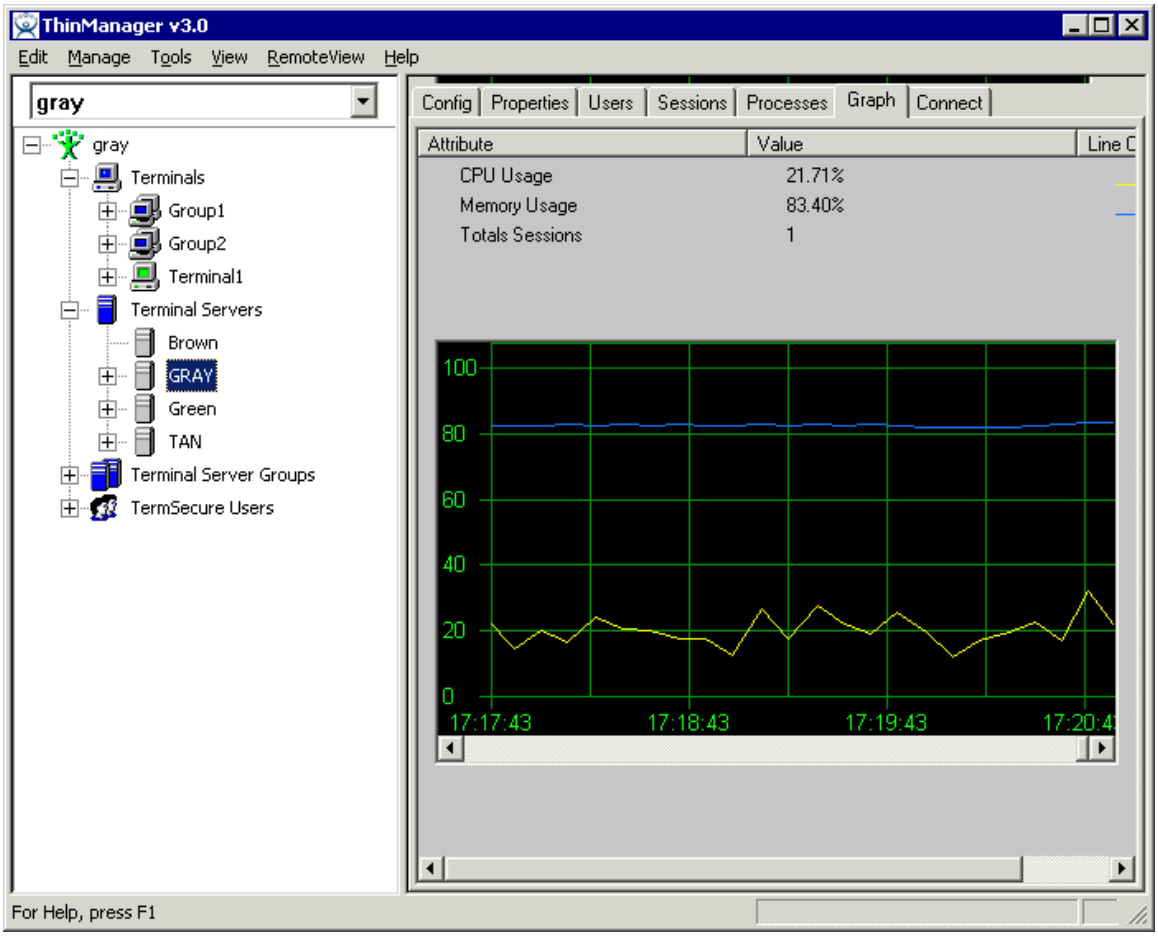
Terminal Server Tabs – Users

Highlighting a **Terminal Server** will show:

- **Configuration** - This shows the installed Client Communication Protocols and the SmartSession settings for the Terminal Server.
- **Properties** – This tab displays the server resource data like total memory, free memory, uptime, and CPU speed.
- **Users** - This tab displays information from the Terminal Services Manager. It shows users that are logged into the Terminal Server. Right clicking on a user will show options that allow the session to be ***Reset*** (logged off), ***Disconnected***, or have a message sent to it.
- **Sessions** - This tab displays information from the Terminal Services Manager. It shows users that are logged into the Terminal Server. Right clicking on a user will show options that allow the session to be ***Reset*** (logged off), ***Disconnected***, or have a message sent to it.
- **Processes** - This tab displays information from the Terminal Services Manager. It shows the processes running on the Terminal Server and can have them sorted by Session ID (users) or Process Name. Right clicking on a process will give the option to kill the process.
- **Graph** – This tab will display the CPU usage and memory usage of the terminal server as a graph. This graph can contain one hour of historical data.
- **Connect –** This tab will open a connection from ThinManager to the terminal server. This session allows administrators to manage the terminal server from within ThinManager.

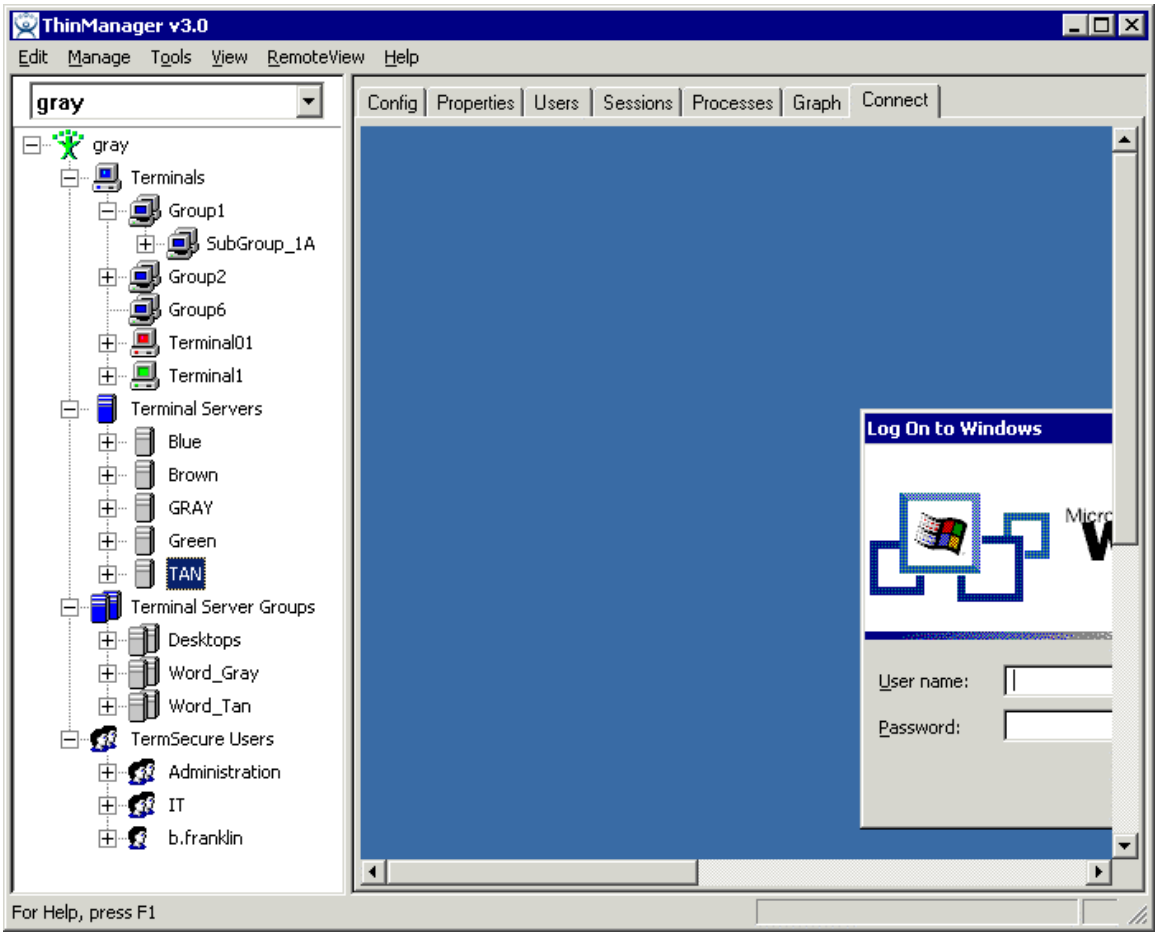


Terminal Server Tabs – Processes



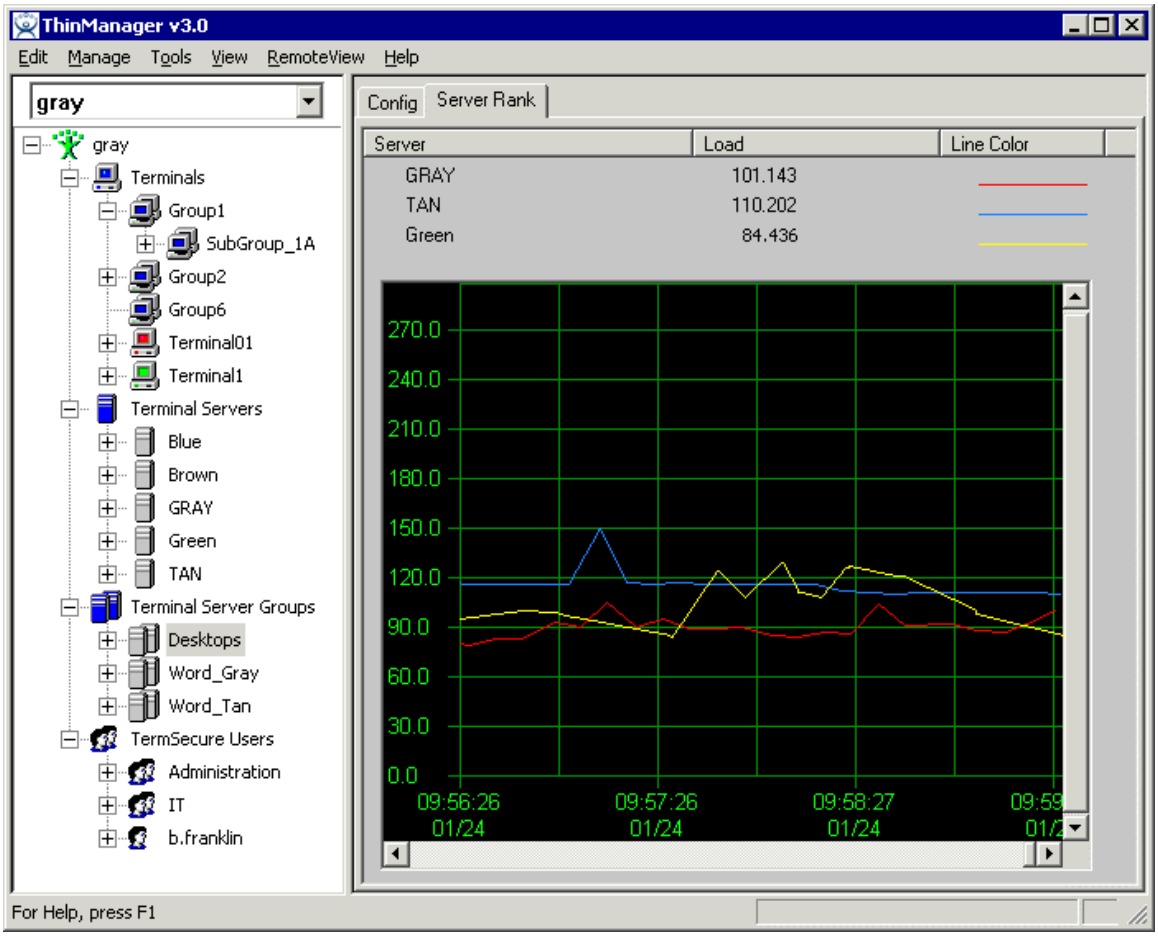
Terminal Server Tabs – Graph

The **Graph** tab will show the memory usage and CPU usage of the selected Terminal Server. The length of time the historical data is stored for each terminal server is configurable in the ThinManager Server Configuration Wizard.



Terminal Server Tabs – Connect

The **Connect** tab allows the ThinManager user to connect to a Terminal Server and start a session for administrative purposes if the user can supply a valid Microsoft username and password.



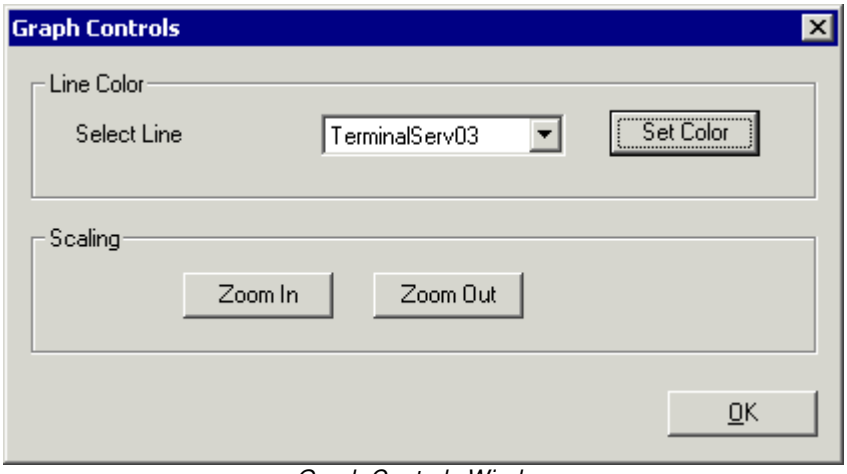
Terminal Server Group Tabs – Server Rank

Highlight the blue **Terminal Server Group.** The icon will show no details.

Highlight a **Terminal Server Group.** It will show:

- **Config** – The Configuration tab will show the members of the Terminal Server Group and details about SmartSession, Multi-Session, and AppLink.
- **Server Rank** - This shows a graph with the SmartSession ranking based on the available resources. The server with the lowest number has the lightest load. The server with the highest ranking has the highest load.

The colors of the graph can be changed by right clicking on the graph.



Graph Controls Window

Right clicking on the graph will launch the **Graph Controls** window. The color of the lines can be changed by selecting a line from the ***Select Line*** drop-down and selecting the ***Set Color*** button to choose a new color.

The Zoom In and Zoom Out buttons control the time intervals displayed on the graph.

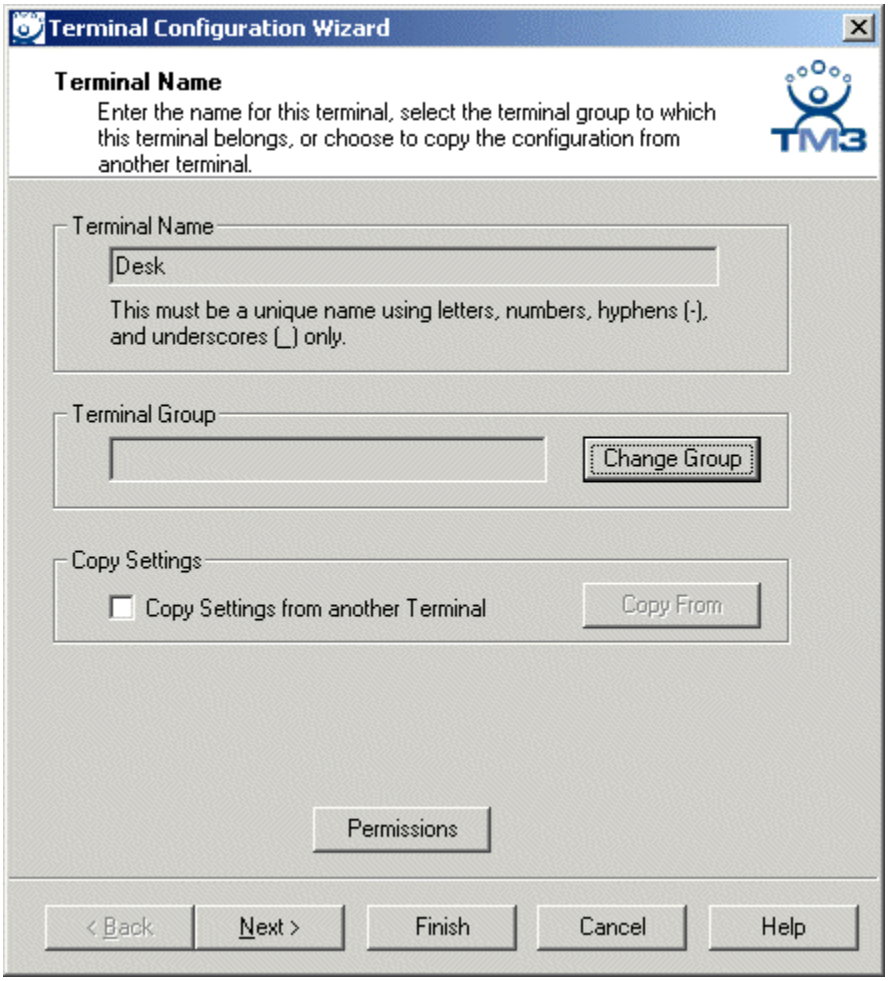
The ***OK*** button accepts the changes and closes the Graph Controls window.

Changing a Terminal's Group

To change the Group membership of a terminal, open the Terminal Configuration Wizard or the Terminal Properties by either:

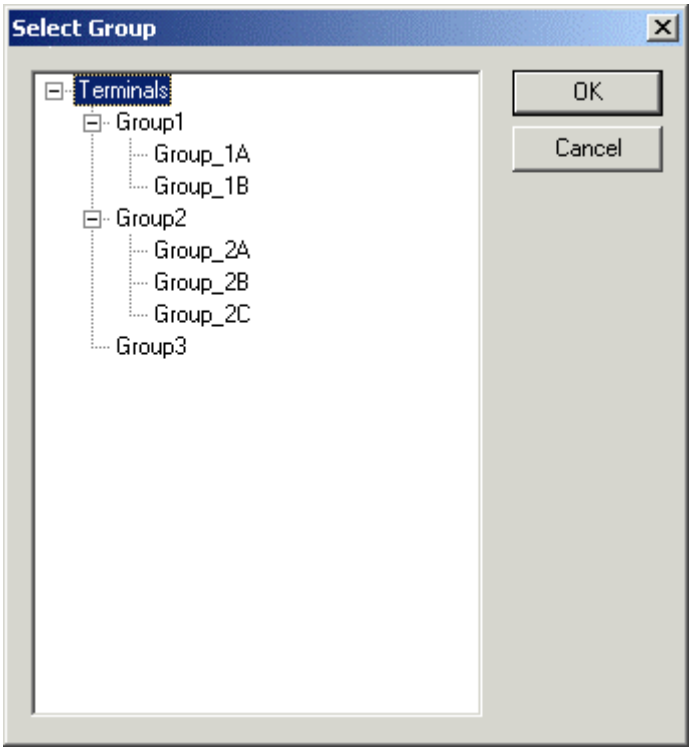
- Highlight the terminal in the **ThinManager** tree pane by clicking on the terminal name or icon and select ***Edit>Modify*** from the **ThinManager** menu bar.
- Right-click on the terminal icon in the **ThinManager** tree pane and select ***Modify***.
- Double-click on a terminal icon in the **ThinManager** tree pane.

This will launch the **Terminal Configuration Wizard**.



Terminal Configuration Wizard - Terminal Name Page

The first page of the wizard, Terminal Name, has a **Change Group** button. Select the **Change Group** button to launch the **Select Group** window.



Select Group Window

The **Select Group** window has a tree of the Terminal Groups. Highlight the desired Terminal Group and select the ***OK*** button.

The ***Cancel*** button will close the **Select Group** window without making changes.

Note: The terminal will need to be restarted for the changes to take effect.

Modifying a Terminal

Modifying a terminal allows you to reconfigure the terminal or change group settings such as touch screen usage, video resolution, or to assign it to a terminal server.

To modify a terminal open the Terminal Configuration Wizard or the Terminal Properties by either:

- Highlight the terminal in the **ThinManager** tree pane by clicking on the terminal name or icon and select ***Edit>Modify*** from the **ThinManager** menu bar.
- Right-click on the terminal icon in the **ThinManager** tree pane and select ***Modify***.
- Double-click on a terminal icon in the **ThinManager** tree pane.

This will launch the **Terminal Configuration Wizard**, allowing changes to be made.

Note: The terminal will need to be restarted for the changes to take effect.

Deleting a Terminal

A terminal can be deleted from the **ThinManager** by:

- Highlighting the terminal in the **ThinManager** tree pane and selecting ***Edit>Delete*** from the **ThinManager** menu bar

- Right-clicking a terminal icon in the tree pane of **ThinManager** and selecting ***Delete Terminal***.

Restarting a Terminal

A restart will reload any changes to a terminal configuration or firmware without a cycling of power.

A terminal or group can be restarted by:

- Selecting ***Tools>Restart Terminal*** from the ThinManager menu bar. This will restart all the terminals on the server if the server is highlighted. If a group is highlighted, all members of the group will be highlighted. If a terminal is highlighted, the terminal is restarted.
- Right-clicking a group icon in the tree pane of ThinManager and selecting ***Restart Terminals***. This will reboot all the terminals in the group.
- Right- clicking a terminal icon in the tree pane of ThinManager and selecting ***Restart Terminal***. This will restart only the highlighted terminal.

Rebooting a Terminal

A reboot will cycle power to the terminal, reloading firmware and configuration.

A terminal or group can be rebooted by:

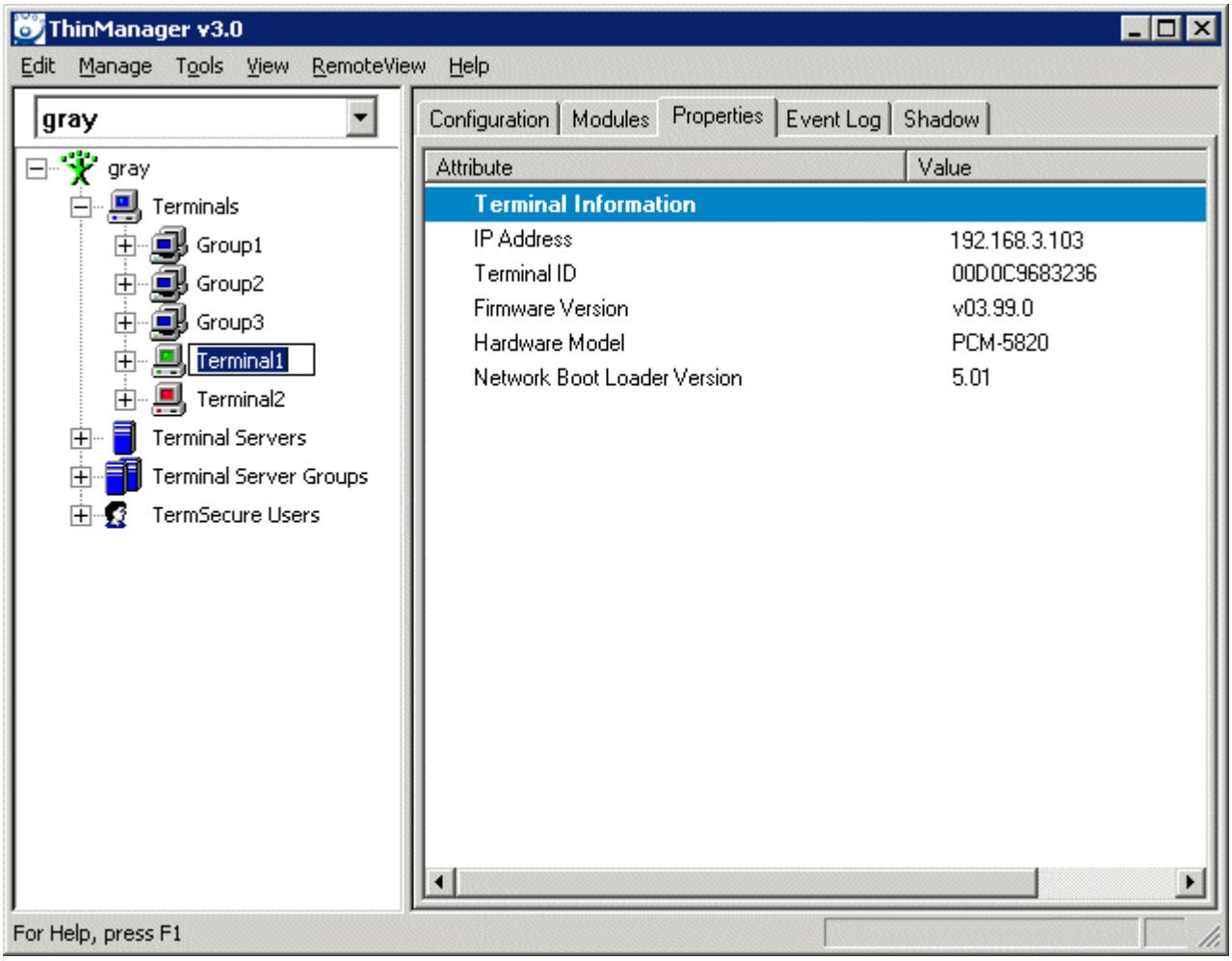
- Selecting ***Tools>Reboot Terminals*** from the ThinManager menu bar. This will reboot all the terminals on the server if the server is highlighted. If a group is highlighted, all members of the group will be highlighted. If a terminal is highlighted, the terminal is rebooted.
- Right-clicking a group icon in the tree pane of ThinManager and selecting ***Reboot Terminals***. This will reboot all the terminals in the group.
- Right-clicking a terminal icon in the tree pane of ThinManager and selecting ***Reboot Terminal***. This will reboot only the highlighted terminal.

Renaming a Terminal

Terminals can be renamed by:

- Highlighting the Terminal and selecting ***Edit>Rename.***
- Right-clicking the Terminal and selecting ***Rename***.

Note: Renaming a terminal can be accomplished the same way that files or directories are renamed in **Windows Explorer**. Single click twice on the terminal name; this will draw a box around the name and highlight it. Type the new terminal name.



Renaming a Terminal

The terminal name should be less than 15 characters because of limitations on the terminal server.

Tip on single clicking twice: Click once to highlight the name, move the mouse slightly and click again. This will prevent Windows from confusing the two single clicks with a double click.

Menu Items

Edit

Edit contains commands for adding, deleting, and changing configurations. The functions listed are dependent on what is highlighted in the tree.

Add Terminal

Edit>Add Terminal will launch the **Terminal Creation Wizard** to start the process of adding a new terminal. This command will be displayed when the ThinManager Server, Terminals branch, or a Terminal Group is highlighted.

See Terminal Configuration Wizard for details.

Add Terminal Group

Edit>Add Terminal Group will launch the **Group Creation Wizard** to start the process of adding a new group of terminals. This command will be displayed when the ThinManager Server, Terminals branch, or a Terminal Group is highlighted.

See Terminal Group Configuration Wizard for details.

Add Terminal Server

Edit>Add Terminal Server will launch the **Terminal Server List Wizard** to start the process of adding a new terminal server. This command will be displayed when the Terminal Servers branch is highlighted.

See Terminal Server List Wizard for details.

Add Terminal Server Group

Edit>Add Terminal Group will launch the **Terminal Server Group List Wizard** to start the process of adding a new Terminal Server Group. This command will be displayed when the Terminal Server Groups branch is highlighted.

See Terminal Server Group List for details.

Add TermSecure User

Edit>Add TermSecure User will launch the **TermSecure User Configuration Wizard** to start the process of adding a new TermSecure User configuration. This command will be displayed when the TermSecure Users branch or a TermSecure Users Group is highlighted.

See TermSecure User Configuration Wizard for details.

Add TermSecure Users Group

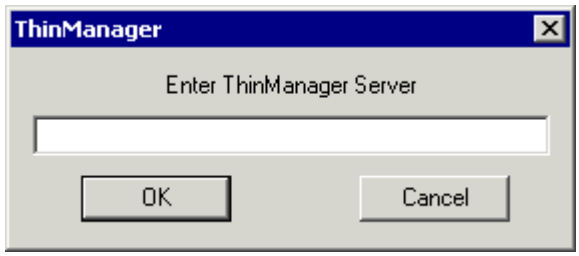
Edit>Add TermSecure User Group will launch the **TermSecure User Group Configuration Wizard** to start the process of adding a new group of TermSecure users. This command will be displayed when the TermSecure Users branch or a TermSecure Users Group is highlighted.

See TermSecure Users Group Configuration Wizard for details.

Add ThinManager Server

Edit>Add ThinManager Server will allow the remote administration of multiple ThinManager Servers by adding an additional ThinManager Server to the ThinManager Server drop-down box above the tree. A user logged in with administrative rights can connect to multiple ThinManager servers for management.

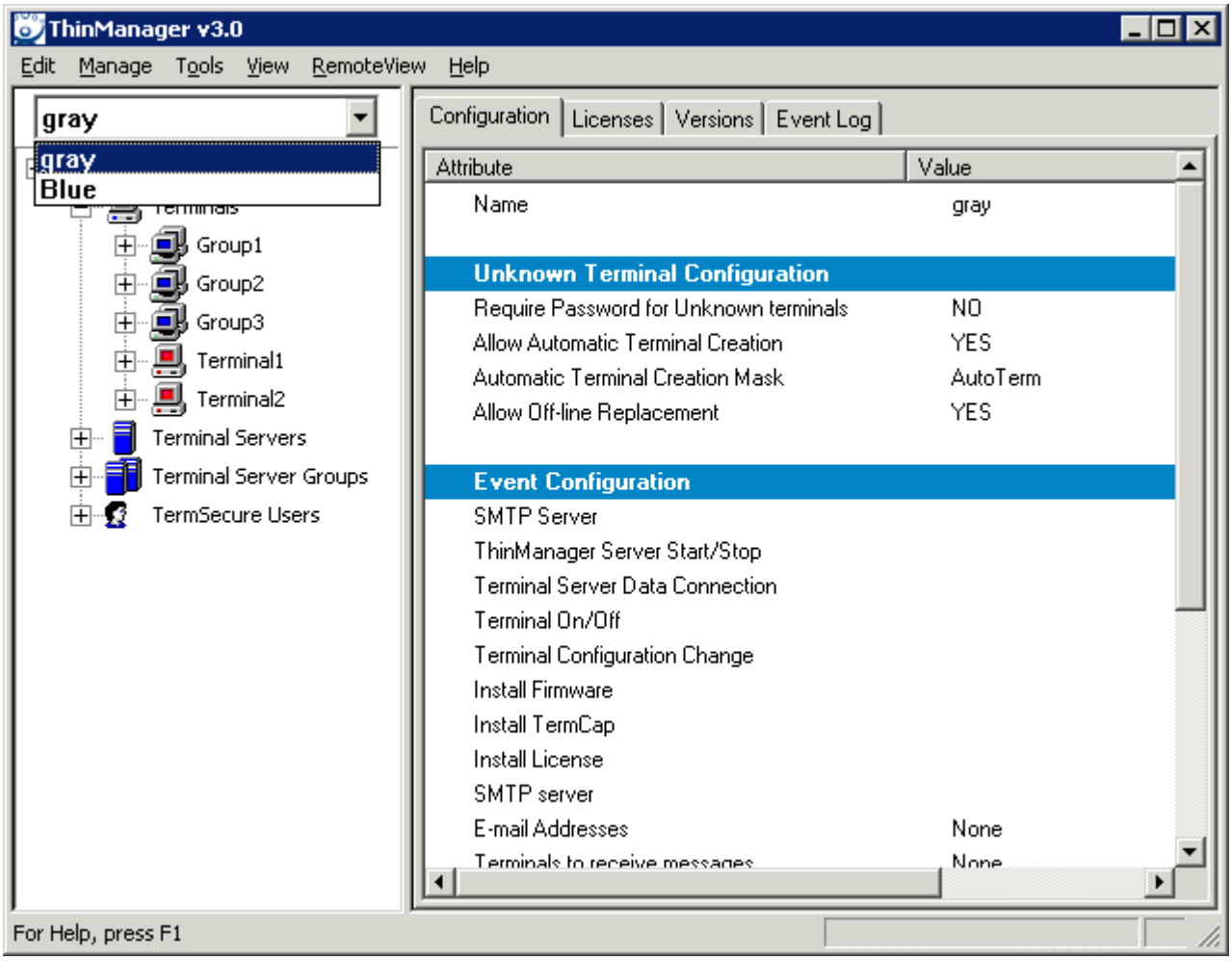
Selecting ***Add ThinManager Server*** will launch a dialog box.



Add ThinManager Server Dialog Box

Enter computer name or the IP address of a ThinManager server. This adds the ThinManager Server to the ThinManager Server drop-down box above the tree pane of the local ThinManager so that the configuration can be displayed in the tree when needed.

Note: The ThinManager Server may need to be defined in the ThinManager Server List Wizard.



ThinManager with a Second Synchronized ThinManager Server Added

The new ThinManager Server will be added to the ThinManager Server drop-down box. Selecting the new ThinManager Server in the drop-down will display the tree for that ThinManager Server.

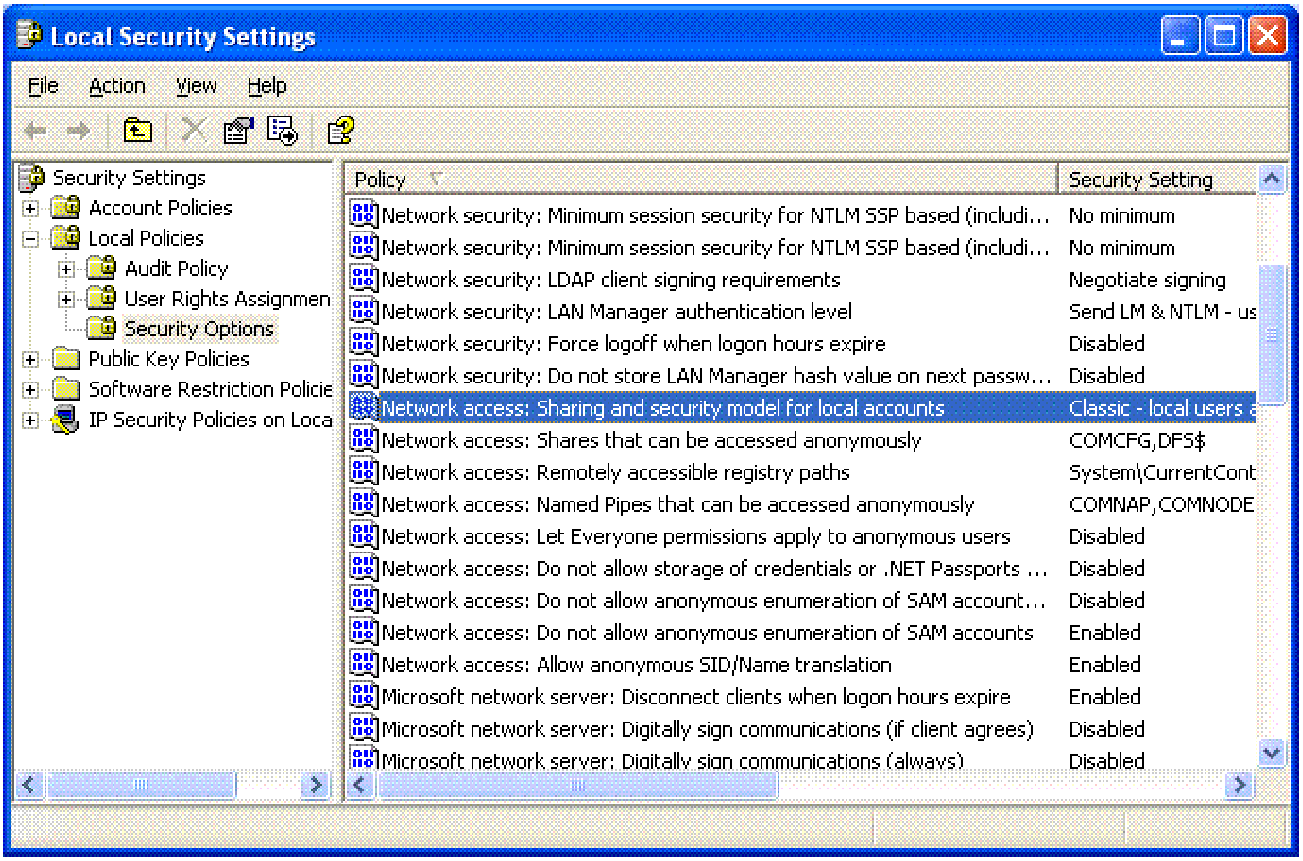
ThinManager no longer displays multiple ThinManager Servers in the tree to allow the right-click function to be active on each of the tree members.

Members of the Administrator group or the ThinManager Administrators group have full control of the remote ThinManager Server and can make changes as needed. Members of the ThinManager Power Users group can monitor the connection.

See ThinManager Security Groups for more details.

If ThinManager is installed on a Windows XP Pro workstation, it cannot be added to a ThinManager on a Windows 2003 unless a security option is changed.

In Windows XP Pro select ***Start > Control Panel > Administrative Tools > Local Security Policy***.

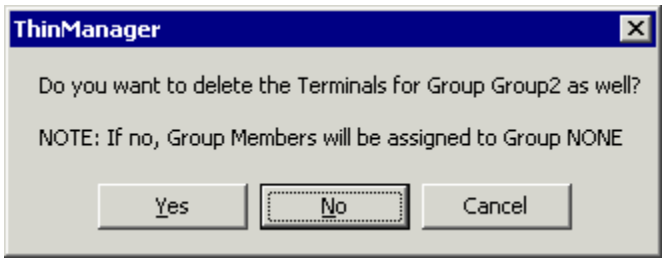


Windows XP Pro – Local Security Settings

Highlight the ***Security Options*** folder in the **Local Security Settings** program. Change the ***Network access: Sharing and Security model for local accounts*** from the default ***Guest Only*** to ***Classic*** to match the setting of the Windows 2003 terminal server.

Delete

Edit>Delete will launch a message box that will remove a highlighted ThinManager Server, group or terminal. Deleting a remote ThinManager Server will remove it from the local list.



Delete Group Message Box

Deleting a group will give the option of deleting the group terminals or moving them under the server without a group.

Modify

The function of ***Edit>Modify*** depends on what tree icon is highlighted when ***Modify*** is selected.

- ***Modify*** will launch the **ThinManager Server Configuration Wizard** for a highlighted ThinManager Server. This allows the ThinManager Server to be configured as described in Settings.
- ***Modify*** will launch the **Terminal Group Creation Wizard** for a highlighted group. Modifications can be made as described in Terminal Group Configuration Wizard.
- ***Modify*** will launch the **Terminal Creation Wizard** for a highlighted terminal. Modifications can be made as described in Terminal Configuration Wizard.
- ***Modify*** will launch the **Terminal Server Group Configuration Wizard** for a highlighted Terminal Server Group. This allows the Terminal Server Group to be configured as described in Terminal Server Group List.
- ***Modify*** will launch the **Terminal Server Configuration Wizard** for a highlighted Terminal Server. This allows the Terminal Server to be configured as described in Terminal Server List Wizard.

Rename

Edit>Rename will allow a highlighted group or terminal to have its name changed in the tree of ThinManager.

Note: The terminal name should be less than 15 characters because of limitations of the terminal server.

Lock

When a group property or a terminal property is opened for modification, the entry in the configuration is automatically locked to prevent two people from making changes at one time.

Edit>Lock will manually lock the configuration of a group or terminal to prevent it from being changed. A lock icon will designate a locked group or terminal.

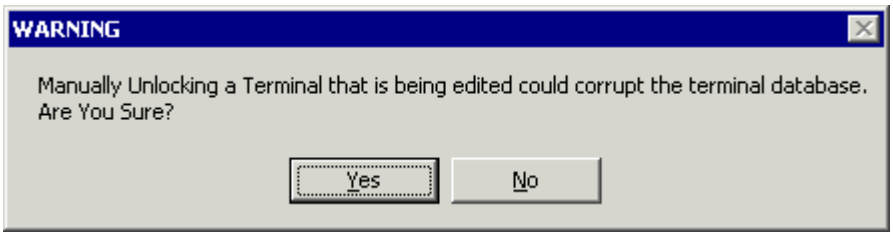
Lock Icons

When a terminal server or terminal server group are being modified, they will also be locked to prevent two people from making changes at the same time

Unlock

Edit>Unlock will manually unlock a terminal or group that was locked while being modified. This is used if the server was shut down while the terminal was locked, preventing the terminal from being unlocked automatically when the modifications are done.

Using the Unlock function will display a warning to alert the user.



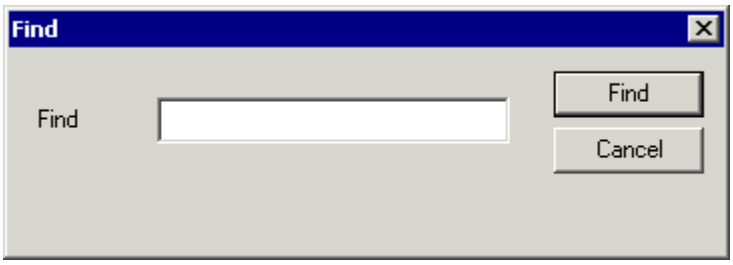
Lock Warning Message

Unlocking a locked unit can cause a loss of configuration data if another user is modifying it.

Note: This tool is to be used only when a terminal remains locked due to an unexpected server shut down while a terminal is being configured. Using this tool while another is configuring that terminal can lead to corruption of the database.

Find

Edit>Find launches a ***Find*** dialog that searches the tree for the item typed into the ***Find*** field.



Find Dialog Box

CTRL+F is the short cut key to launch ***Find***.

Find Next

Edit>Find Next will continue searching the tree for the next instance of the text in the ***Find*** field of the ***Find*** dialog box.

F3 is the shortcut key for this function.

Manage

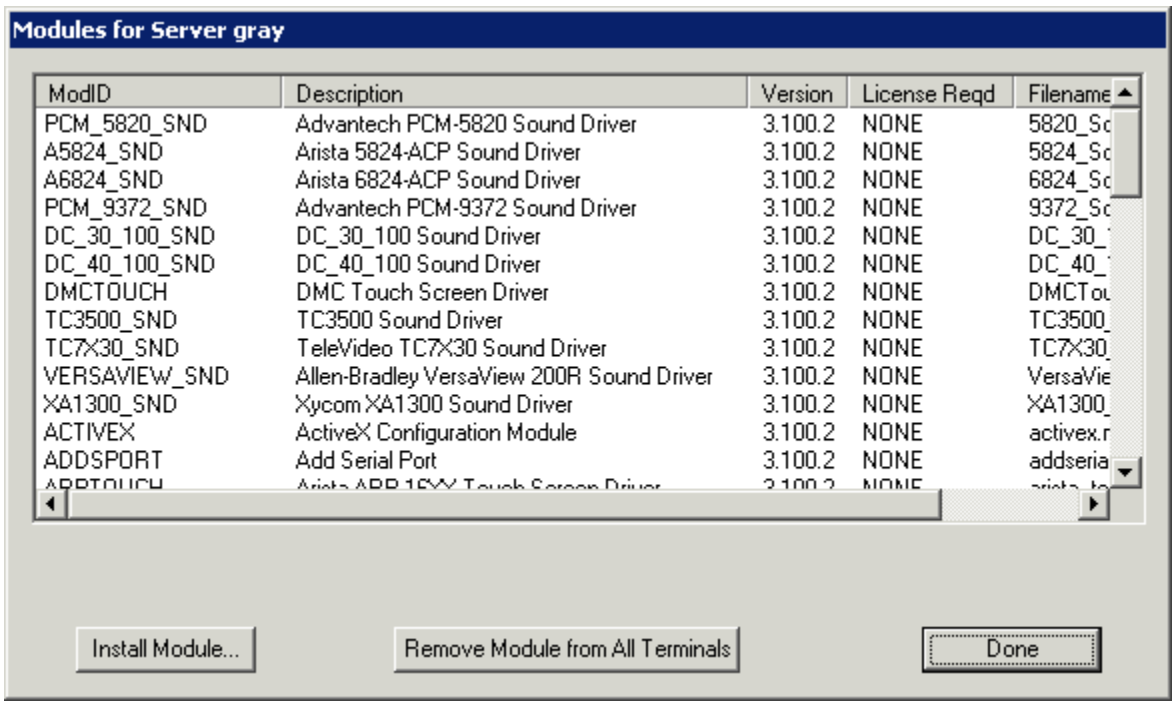
The ***Manage*** contains commands for configuring the ThinManager Server. Because ThinManager 3.0 will display only one ThinManager Server tree at a time, these commands are always available instead of being grayed out when the ThinManager Server is not highlighted in the tree.

Licensing

Manage>Licensing opens up the Licensing dialog box. See ThinManager Licensing for details.

Modules

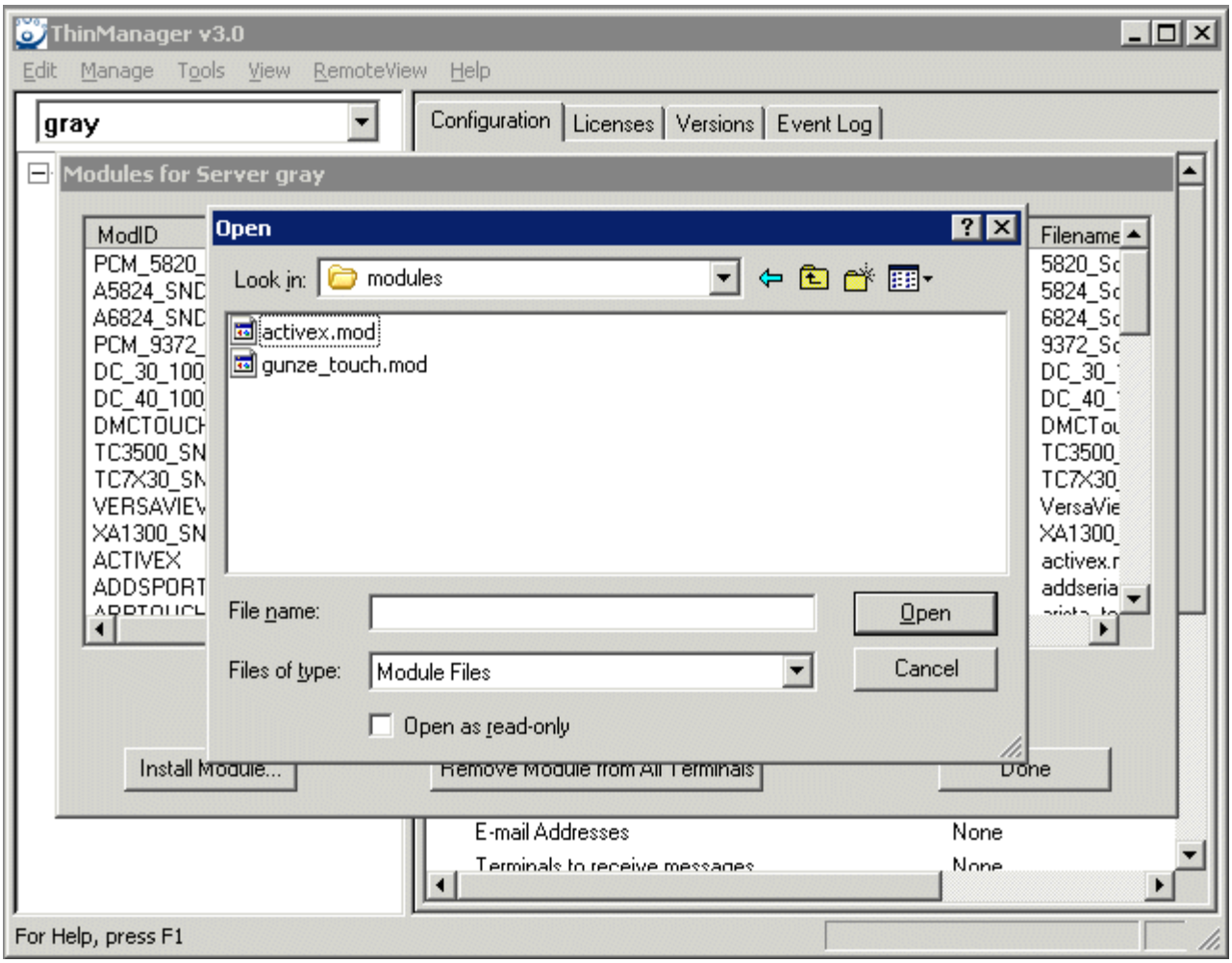
Manage>Modules open the Modules dialog box. This displays the modules that are available to the ACP Enabled thin clients. See Module Overview for details.



Installed Modules Windows

Selecting ***Install Module…*** will launch a dialog box that allows modules files to be selected.

A module can be added to the list of available modules by highlighting the desired module file and selecting ***Open***.

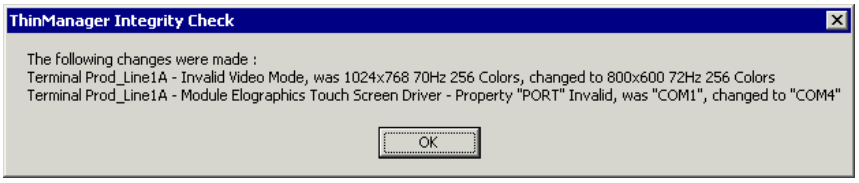


Open Module File

See Module Overview for details

Install New TermCap Database

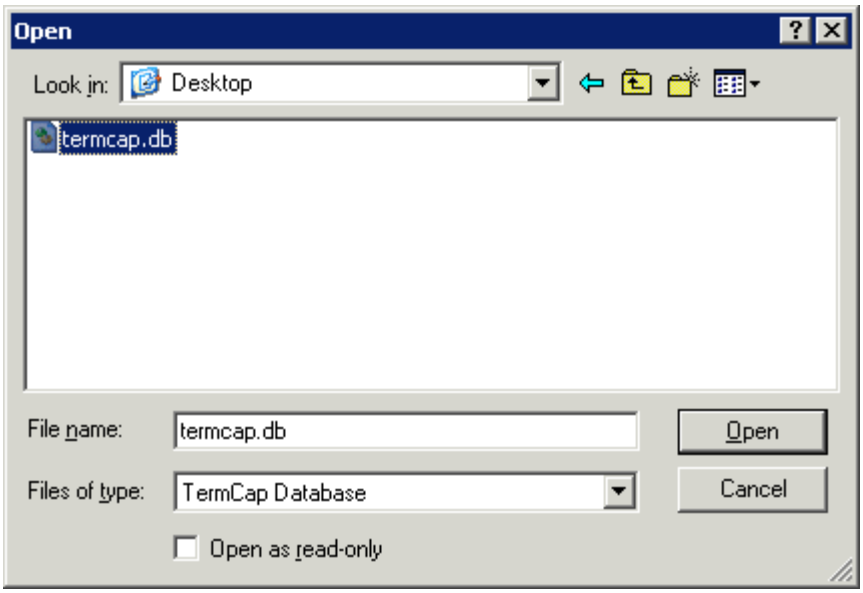
ThinManager has a **Terminal Capability Database** (termcap.db) that provides ThinManager with the configuration parameters for each thin client model. At each terminal connection, the TermCap database is checked and an integrity check is performed. If the configuration does not match the terminal specifications, ThinManager may reconfigure the terminal to acceptable parameters.



Terminal Capabilities Integrity Check

The Terminal Capability database can be updated with the current release from the ThinManager web site (www.thinmanager.com).

To update the Terminal Capabilities Database, select ***Manage>Install New TermCap Database***.



Install New TermCap Database

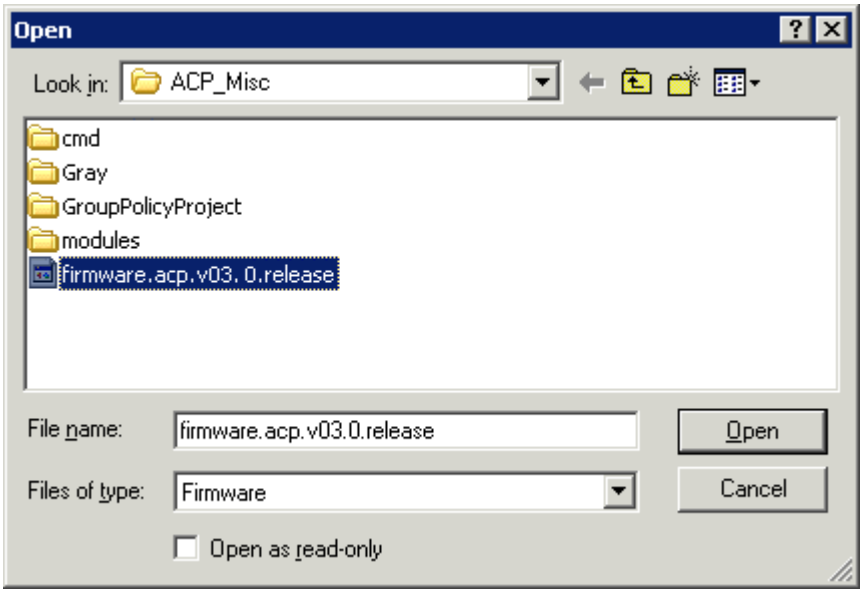
An **Open** dialog box will be launched.

Select the new version of the ***termcap.db*** and select the ***Open*** button. This will install the new version.

Install New Firmware

ThinManager allows the firmware for the ThinManager Ready thin client to be upgraded with the latest version from the ThinManager web site (www.thinmanager.com).

Select ***Manage>Install New Firmware*** to launch a file browser.



Install New Firmware

Select the new version of the **firmware.acp** and select ***Open***. This will install the new version of the firmware.

Server List Management

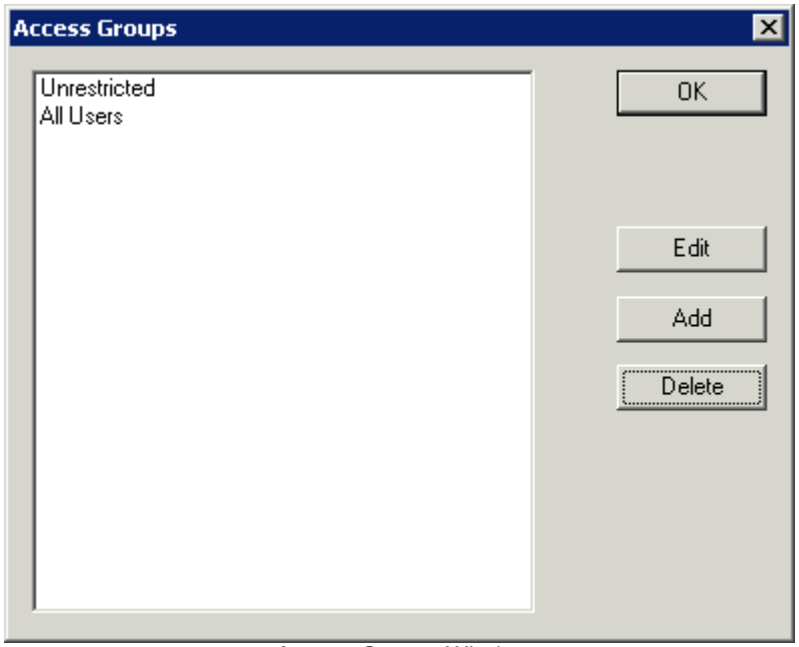
Server List Management is a launching point for the four server wizards. These allow the usage of names to identify the computers during configuration without the need of a DNS Server. These are described in detail in the Wizards Section.

The Server List Wizards are:

- The **Terminal Server List** Wizard - See Terminal Server List Wizard for details.
- The **Terminal Server Group List** Wizard - See Terminal Server Group List for details.
- The **ThinManager List** Wizard - See ThinManager Server List for details.
- The **DNS Configuration** Wizard - See DNS Configuration for details.

TermSecure Access Groups

Selecting ***Manage>TermSecure Access Groups*** will launch the **Access Groups** window.



Access Groups Window

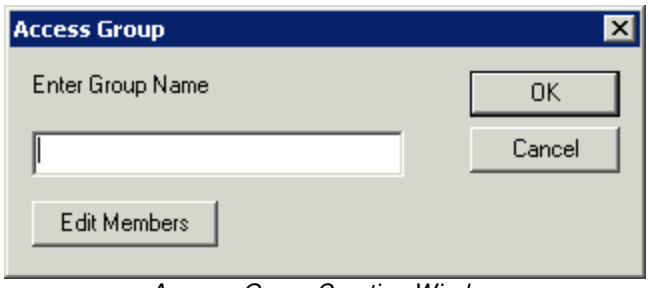
Select the ***OK*** button to accept the changes and close the window.

Select the ***Edit*** button to change the highlighted Access Group.

Select the ***Add*** button to add a new Access Group.

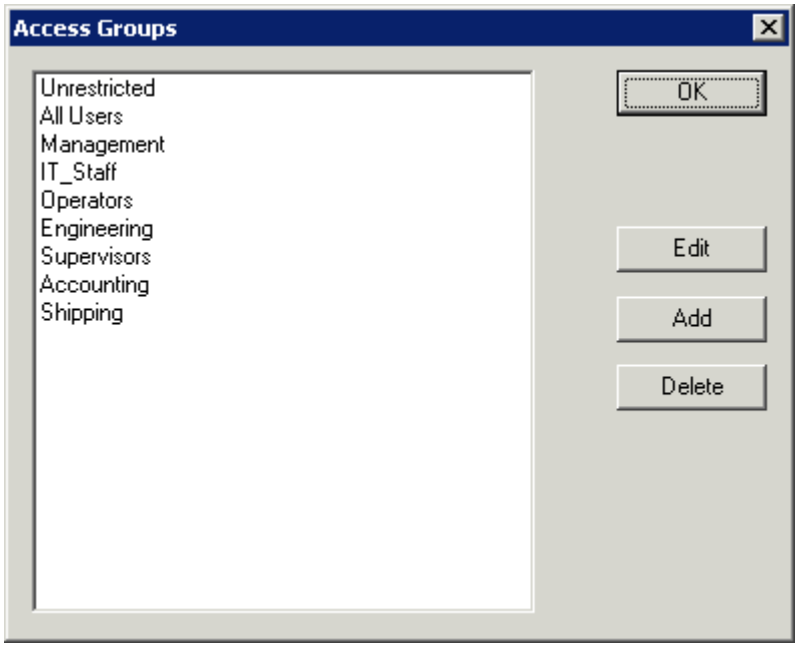
Select the ***Delete*** button to remove the highlighted Access Group.

If the ***Add*** button is selected, an **Access Group Creation** window will be displayed.



Access Group Creation Window

Enter a name for the new Access Group and select ***OK*** to create the group.

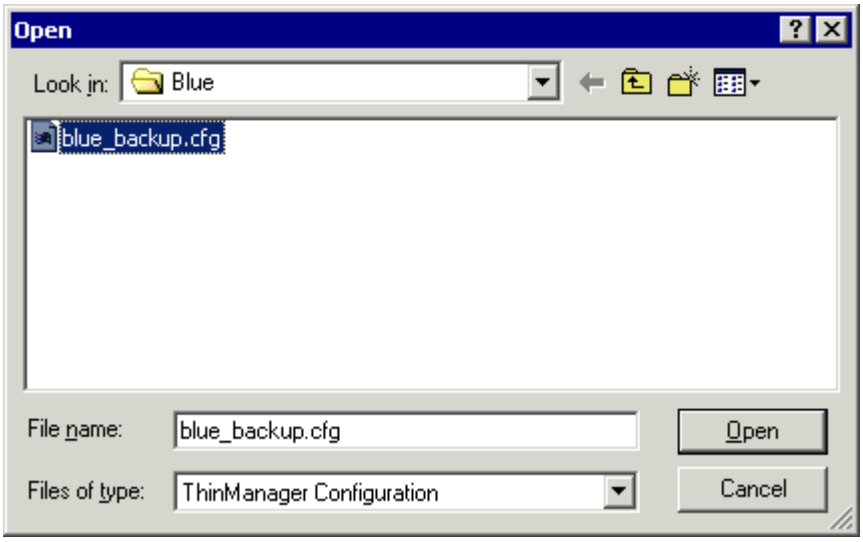


TermSecure Access Groups Added

Defined Access Groups will be displayed in the Access Group Window. See Permissions for more details.

Restore Configuration

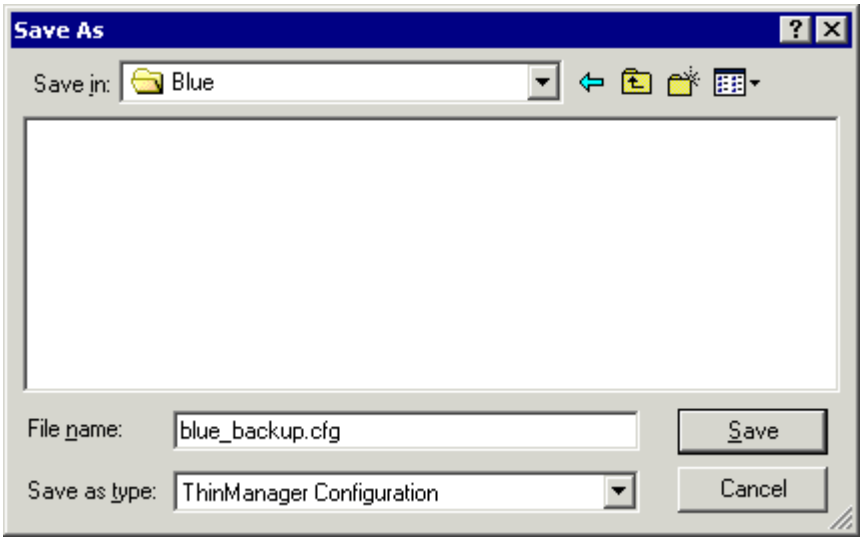
Manage>Restore Configuration will allow a backed up ThinManager configuration to be applied to the ThinManager Server. Select ***Restore Configuration*** to launch the desired ThinManager Configuration file in the browse window and select ***Open***. The backup copy will overwrite the existing configuration.



Restore ThinManager Configuration

Backup Configuration

Manage>Backup Configuration allows the ThinManager Configuration to be saved. Select ***Backup Configuration*** to launch a browse window and select the ***Save*** button to save a backup copy.



Backup ThinManager Configuration

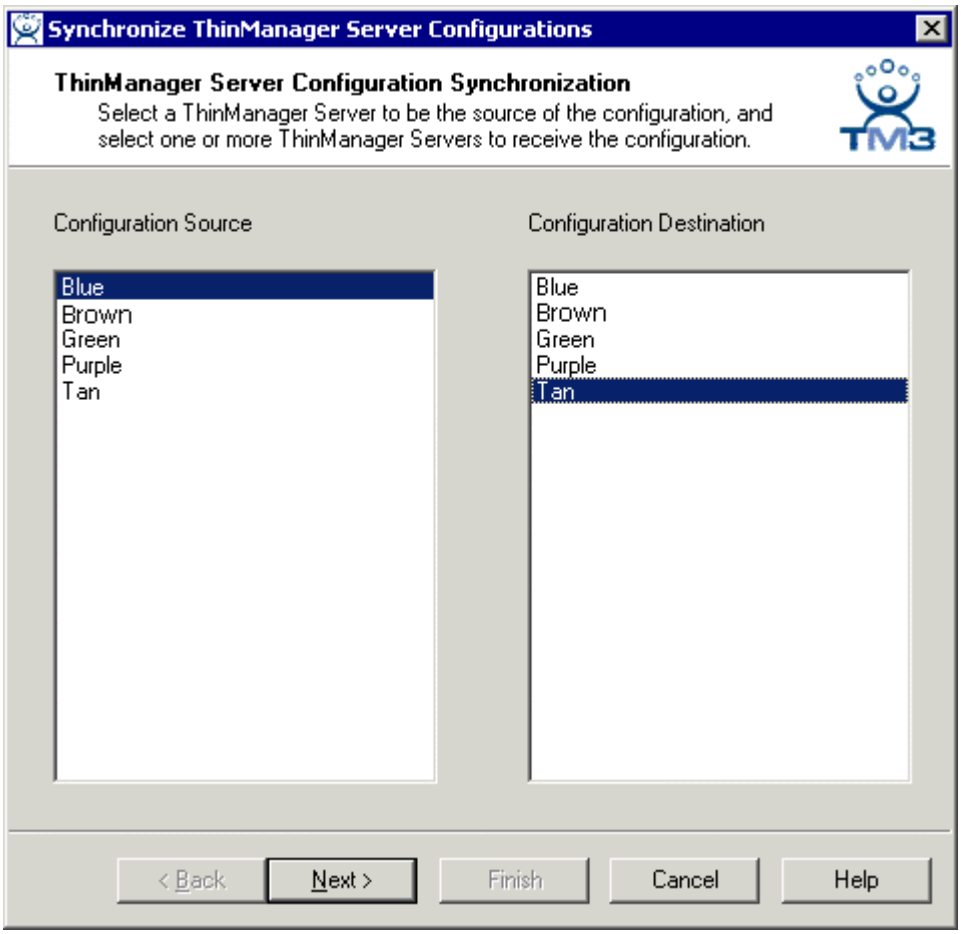
Synchronize Configuration

Manage>Synchronize Configuration allows the configuration of multiple ThinManager Servers to be kept identical so that a terminal will boot with the same configuration regardless of what ThinManager Server the terminal connects to. This is useful for multiple Thin Manager Servers and ThinManager Redundancy.

Selecting ***Synchronize Configuration*** will launch the **Synchronize ThinManager Server Configurations Wizard**.

Note: ThinManager 3.0 has an Automatic Synchronization feature that will keep two ThinManager Server synchronized without requiring a manual input. See ThinManager Server List Page for details.

ThinManager Server Configuration Synchronization Page

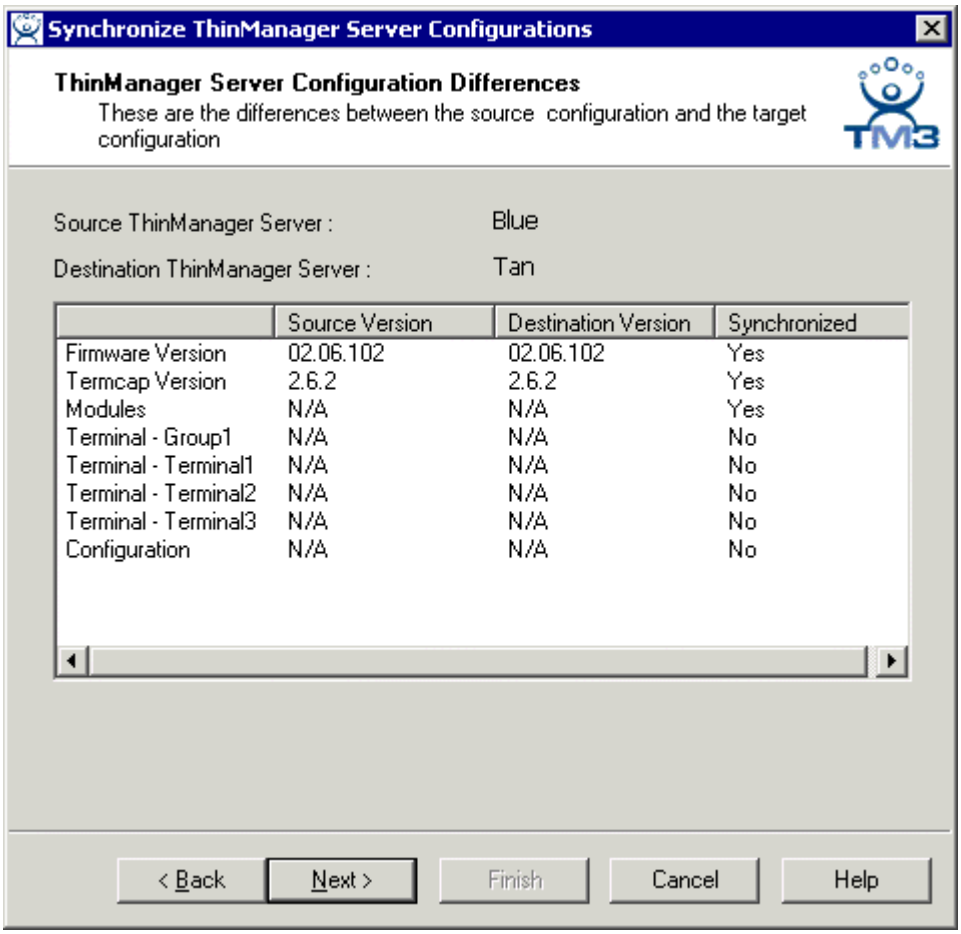


Synchronize ThinManager Server Configuration Wizard

Highlight the ***Configuration Source*** ThinManager Server and the ***Configuration Destination*** ThinManager Server, and select ***Next***.

Note: You may highlight multiple destinations to synchronize multiple ThinManager Servers by holding down the ***CTRL*** key while you select them with a mouse.

ThinManager Server Configuration Differences Page



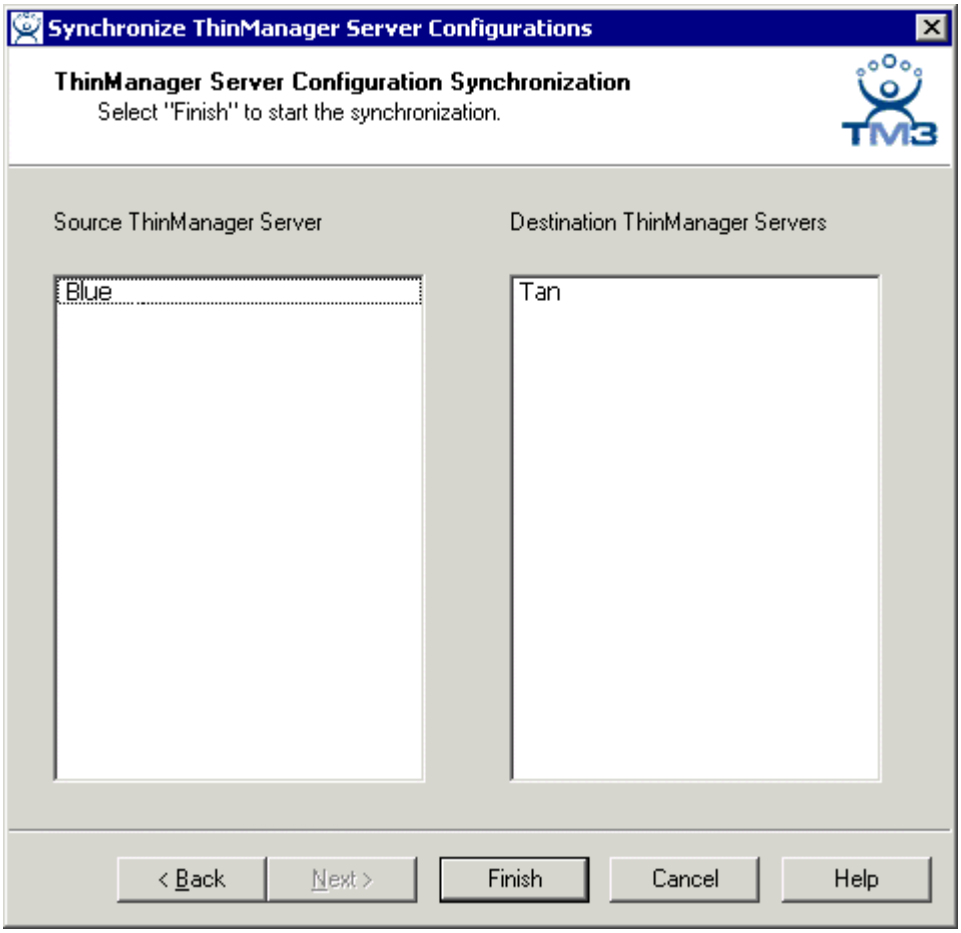
	Source Version	Destination Version	Synchronized
Firmware Version	02.06.102	02.06.102	Yes
Termcap Version	2.6.2	2.6.2	Yes
Modules	N/A	N/A	Yes
Terminal - Group1	N/A	N/A	No
Terminal - Terminal1	N/A	N/A	No
Terminal - Terminal2	N/A	N/A	No
Terminal - Terminal3	N/A	N/A	No
Configuration	N/A	N/A	No

Synchronization Differences

The ThinManager Synchronization Wizard will list the files being updated, including the firmware, TermCap database, modules, and the configuration. It synchronizes everything but the license.

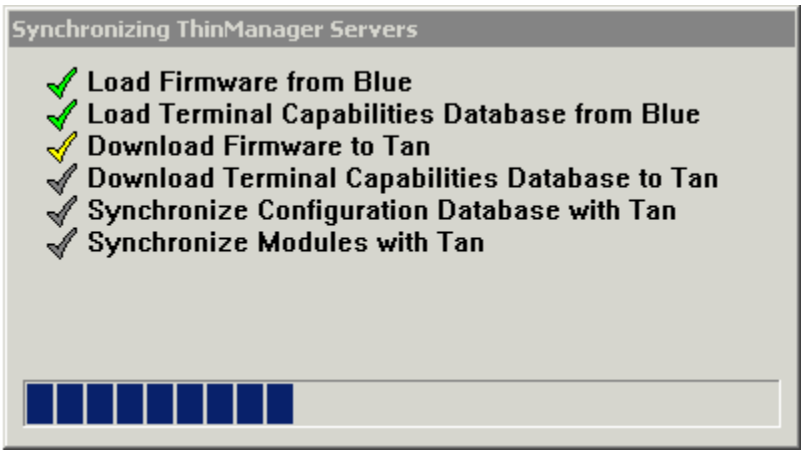
Note: The Synchronization tool does not compare and contrast, then make changes back and forth. Synchronization will take the files and configuration from the source ThinManager Server and overwrite the corresponding files on the destination ThinManager Server.

Select ***Next*** to continue.



ThinManager Server Synchronization Confirmation

The ThinManager Server Configuration Wizard will prompt for a confirmation of the synchronization before proceeding. Select ***Finish*** to finalize the synchronization.



Synchronization Progress Meter

ThinManager will display the progress of the synchronization as it updates the files.

Settings

Manage>Settings will launch the **ThinManager Server Configuration Wizard** that allows the configuration of global ThinManager settings. The ThinManager Server Configuration wizard is also accessible by double-clicking on the ThinManager icon in the tree, or by right clicking the icon and selecting ***Modify***.

The **ThinManager Server Configuration Wizard** allows configuration of ThinManager Security Groups, e-mail messaging, MultiCast loading of firmware, Auto-Creation of terminals, and event logging.

See ThinManager Server Configuration Wizard for details**.**

Configure Default Terminal

Manage>Configure Default Terminal will launch the Terminal Properties for the "Default" terminal. This default terminal is used as a template that terminals created during **Auto-Create** are based on. See Auto-Creation of Terminals for details on Auto-Creation of terminals.

Reconnect

Manage>Reconnect will reinitialize the connection to the selected ThinManager Server.

Disconnect

Manage>Disconnect will stop the connection to the selected ThinManager Server.

Tools

Tools contain commands that affect the terminals.

Restart Terminals

Tools>Restart will perform an intelligent restart of a terminal. It will load any changes to the configuration, modules, firmware, and reconnect them to the terminal server without cycling power to the terminal, unless it is needed to reload the firmware.

Note: Restarting a terminal does not close the session on the terminal server nor does it unlock a frozen session. It reloads changes independent of the session on the terminal server. It will reconnect to the same session without changing the session.

- Highlight a **terminal** in the ThinManager tree pane and select this command to restart a terminal.
- Highlight a **group** in the ThinManager tree pane and select this command to restart all the terminals of the group.
- Highlight a **ThinManager Server** in the ThinManager tree pane and select this command to restart all the terminals on the ThinManager Server.

Reboot Terminals

Tools>Reboot will cycle the power to the terminal, reloading the firmware and configuration, and reconnect it to the terminal server. The function of this command has been largely replaced by the ***Restart Terminal*** command.

Note: Rebooting a terminal does not close the session on the terminal server nor does it unlock a frozen session. It reboots and reloads the firmware and configuration independent of the session on the terminal server. It will reconnect to the same session without changing the session.

- Highlight a **terminal** in the ThinManager tree pane and select this command to reboot a terminal.
- Highlight a **group** in the ThinManager tree pane and select this command to reboot all the terminals of the group.
- Highlight a **ThinManager Server** in the ThinManager tree pane and select this command to reboot all the terminals on the ThinManager Server.

Disable Terminals

The ***Disable Terminal*** command will disable any highlighted Group or Terminal by displaying a lockout screen. The terminal will wait until it is enabled with the ***Tools > Enable Terminal*** function to be functional again. This allows terminals to be locked down for security reasons, or to prevent the terminals from accessing the terminal servers.

Highlighting a ThinManager Server, a Terminal Server, or Group in the ThinManager tree and selecting ***Tools > Disable Terminal*** will disable every terminal assigned to it.

Disabled Terminal Icons

If a Group or Terminal is disabled using the ***Tools>Disable*** function, it will be displayed with a red **X** over the terminal icon. An entire ThinManager Server or an entire Group can be disabled, but only the terminal icons will show the **X**, not the ThinManager Server icon or the Group icons.

- A **Red terminal screen** with a Red **X** indicates that the Terminal is disabled and is either turned off or rebooted and waiting to be enabled.
- A **Green terminal screen** with a Red **X** indicates that the disabling has been applied to a logged on terminal. The terminal has a disabling screen and is waiting for enabling.

Once a terminal is disabled, a disabling screen will appear on the terminal until the terminal has been enabled.

Disabled Screen

A logged on terminal will display a screen indicating that the terminal is disabled.

Disabled Boot Screen

Terminals that are booted while disabled will halt on a blue screen indicating that the terminal is disabled.

Enable Terminals

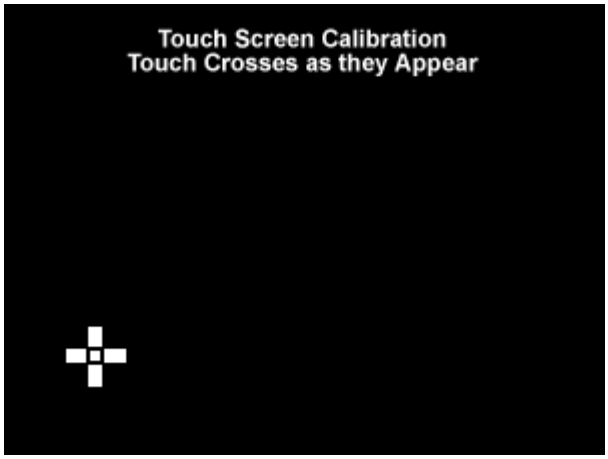
The ***Enable Terminal*** command will remove the disabling and allow a disabled Group or Terminal to continue functioning or resume the boot process.

Calibrate Touch Screen

ThinManager has a touch screen configuration utility that can calibrate a thin client touch screen. The utility can be started two ways:

- On the thin client, select ***Start>Program Files>Automation Control Products>Calibrate Touch Screen*** (or ***Start>Program Files>Acp>CalTouchScreen***). This is useful because it allows the operator to calibrate the touch screen without administrative support.

- On the ThinManager Server, highlight the desired terminal in ThinManager and select ***Tools>Calibrate Touch Screen*** from the menu bar. This will launch the calibration on the selected terminal.



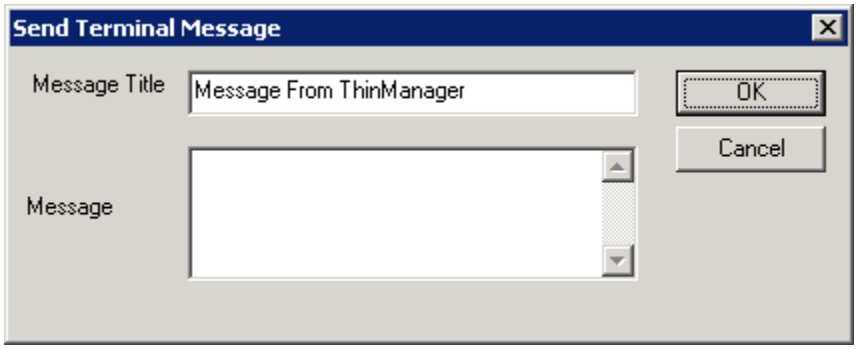
Touch Screen Calibration Screen

A new touch screen calibration program was released with ThinManager 2.6 and is included in the 2.6 and later touch screen modules. When the calibration is run, an **X** appears in the lower left. Touch the center of the **X** and then touch the center of the other four **X**es as they appear. This provides touch screen mapping for the terminal.

Note: The touch screen module must first be added through the Module page in the Terminal Configuration wizard**.**
To launch the calibration program from the ***Start*** menu from within the session requires that the ThinManager Utilities be installed on each terminal server. See Standard ThinManager Install for details.

Send Message

Send Message will send a message to a highlighted terminal



Send Message Window

Enter the message into the Message text box. The ***Message Title*** can be changed, if desired.

Select the ***OK*** button to send or the ***Cancel*** button to cancel.

Send Message Window

When a message is sent, an ACP screen will be displayed with the message until the message is acknowledged.

Clear Event Log

Selecting Clear Event Log will clear the event log. The event log is configured by selecting ***Manage>Settings*** to run the **ThinManager Server Configuration Wizard**.

View

Status Bar

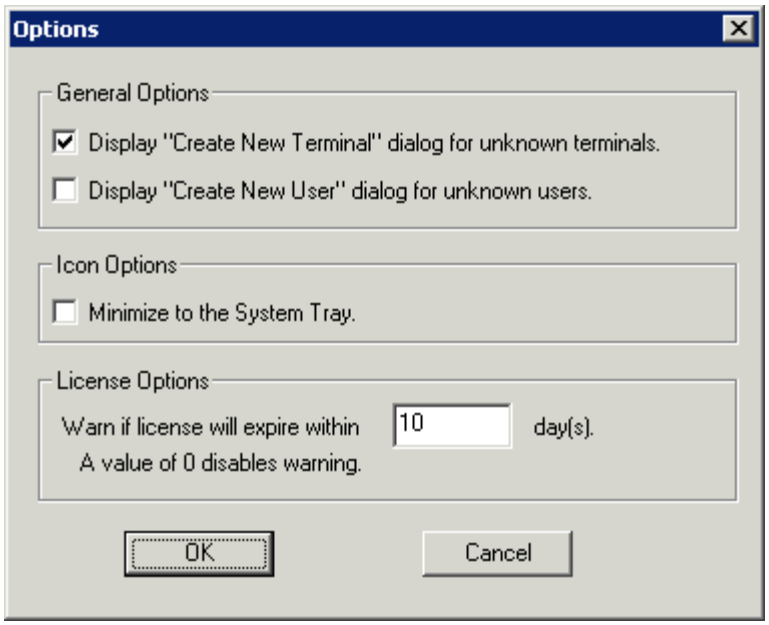
The ***Status Bar*** shows advice and comments on the bottom of the **ThinManager** window. When the ***Status Bar*** command is checked, the ***Status Bar*** text is visible. When the ***Status Bar*** command is unchecked, the ***Status Bar*** text is invisible.

Show Connected Only

If checked, ***Show Connected Only*** will hide any unconnected terminal or Terminal Server Group. This can make the tree easier to read by hiding un-connected terminals.

Options

Selecting ***Options*** will launch the Options dialog box.



Options

The ***Display "Create New Terminal" dialog for unknown terminals*** check box, if selected, will launch the Terminal Configuration wizard on the ThinManager Server when a new terminal is added.

The ***Display "Create New User" dialog for unknown users*** check box, if selected, will launch the TermSecure User Configuration wizard on the ThinManager Server when an unknown ID device (USB key or ID card) is read by a terminal.

The ***Minimize to the System Tray*** checkbox will send the ThinManager icon in the system tray when ThinManager is minimized.

Warn if license will expire within __ day(s) will set the warning period before license expiration. This is useful for time-limited demonstration and Trialware licenses.

RemoteView

Interactive Shadow

Interactive Shadow, if checked, allows Administrators and members of the ThinManager Security Groups that have Iinteractive shadow permissions to interact and control a shadowed terminal session. If this value is unchecked the sessions will be viewable, but observers cannot take control of the session.

Scaled to Window

Scaled to Windows, if checked, will scale the shadowed terminal session to fit the Details pane of ThinManager. If this value is unchecked the session will be viewed regular-sized, requiring the use of scroll bars to view portions of the screen.

Go FullScreen

This allows the Connection from the Connect tab on ThinManager to the terminal server to be displayed full screen instead of in a window in ThinManager. See Remote Connection for details on the Connect tab.

This session can be switched to full-screen by selecting ***RemoteView> Go FullScreen*** in the menu. This changes the appearance from running from within a window to running as a desktop.

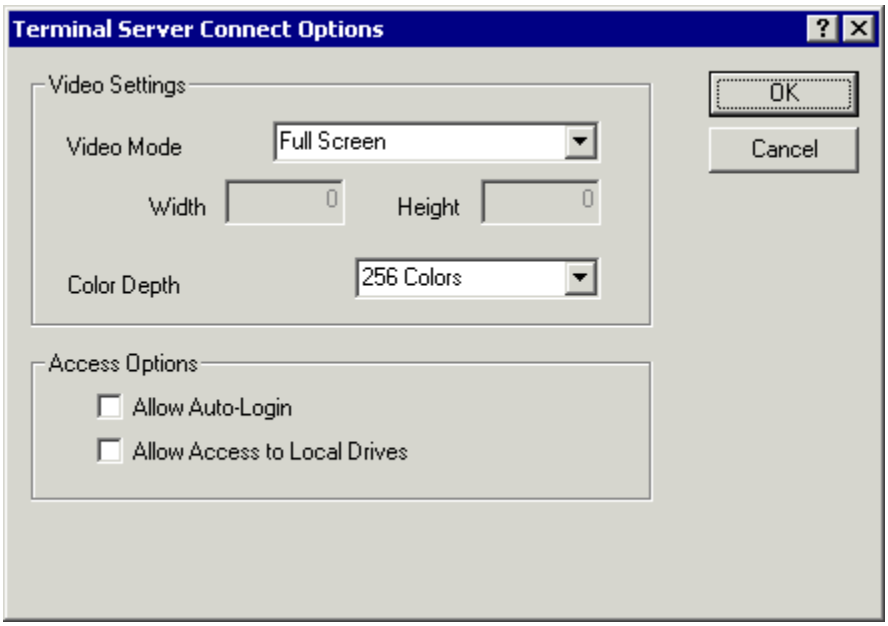
The full screen session will have a tool tab at the top of the screen with controls that allow the window to be switched back to the window or to close the connection.

Remote Session Tool Bar

The standard Minimize, Maximize, and Close icons on the Remote Session Tool Bar allow control over the session.

Connect Options

Selecting ***RemoteView> Connect Options*** will launch the Terminal Server Connect Options window that allows the terminal server **Remote View** connection to be configured.



Terminal Server Connect Options

The settings include:

- ***Video Mode*** – This allows the connection to be displayed at a specific resolution or as full screen.
- ***Width*** – Allows the connection to be displayed at a specific width if the ***Video Mode*** is set to **Custom**.
- **Height** - Allows the connection to be displayed at a specific height if the ***Video Mode*** is set to **Custom**.
- **Color Depth** - This allows the connection to be displayed at a specific color depth. Windows 2003 is required for high-color.
- **Allow Auto-Login** – This checkbox allows the connection to login without prompting when checked.
- **Allow Access to Local Drives** – This checkbox allows the user to access the hard drive on the remote computer from the remote connection.

Send Key

Send Key allows the sending of key commands to the shadowed session that are normally saved for the local machine and don't function in shadowing. These include:

- **CTLL+ALT+DEL**
- **CTL+ESC**
- **ALT+Tab**
- **ALT+Shift+Tab**
- **ALT+ESC**
- **ALT+Space.**

Select ***RemoteView> Send Key*** and the desired key combination to send the key command to the shadowed session.

Note: The Key Block module will block this command if it is used on the terminal. See Key Block Module for details.

Help

Help Topics

Selecting ***Help Topics*** will launch the ThinManager Help file. This file can also be launched by selecting **F1** while using ThinManager.

About ThinManager

Selecting ***About ThinManager*** will display a dialog box with ThinManager version information, copyright information, and contact information for ThinManager.

Right Click Menus in the Tree Pane

Right Click on the ThinManager Server Icon

- **Server List Management** - Expands to show the list of Wizards that can be run.
    - **Terminal Server List** - This launches the wizard that defines terminal servers for use by ThinManager Ready thin clients.
    - **Terminal Server Group List** - This launches the wizard that creates and configures Terminal Server Groups.
    - **ThinManager Server List** - This launches the wizard that defines ThinManager Servers for use by ThinManager Ready thin clients.
    - **DNS Configuration** - This launches the wizard that configures the usage of a Domain Name Server by ThinManager Ready thin clients.

- **Reconnect** - This will cause the ThinServer service to try to reconnect to the highlighted ThinManager Server.
- **Modify** - This launched the **ThinManager Server Configuration Wizard** to configure the highlighted ThinManager Server.
- **Delete** - This will remove the highlighted ThinManager Server from the tree. It does not remove any configuration or uninstall the program.

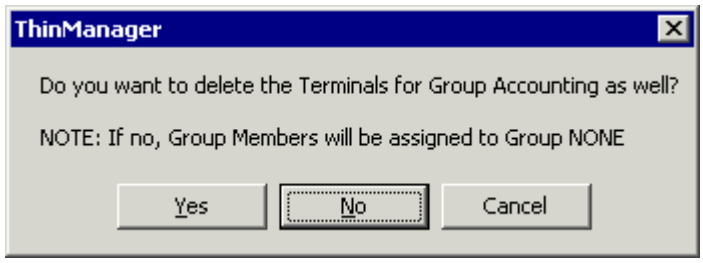
See Add ThinManager Server for details.

Right Click on the Terminals Branch Icon

- **Add Terminal** - This launches the **Terminal Configuration Wizard** to create a terminal in the group.
- **Add Group** - This launches the **Terminal Configuration Wizard** to create a group.
- **Restart Terminals** - This sends a signal to all the terminals under the highlighted icon to reload any changes to it's configuration, modules, or firmware. It will only do a full reboot if needed.

Right Click on a Group Icon

- **Add Terminal** - This launches the Terminal Configuration Wizard to create a terminal in the group.
- **Add Group** - This launches the Terminal Configuration Wizard to create a group.
- **Restart Terminals** - This sends a signal to all the terminals under the highlighted icon to reload any changes to it's configuration, modules, or firmware. It will only do a full reboot if needed.
- **Modify** - This launched the Group Configuration Wizard to configure the highlighted group.
- **Rename** - This allows the Group to be renamed.
- **Delete** - This will remove the Group from the ThinManager configuration. Member terminals can be deleted with the group, or moved out of the group, depending on the choice in the confirmation window.



Delete Group confirmation Window

Selecting ***Yes*** will delete the Group and all member terminals.

Selecting ***No*** will delete only the group. The member terminals will be moved out of the group and retain their configuration as individuals.

Selecting ***Cancel*** will stop the process and allow the group to remain as it is.

Right Click on a Terminal Icon

- **Modify** - This launches the Terminal Configuration Wizard to configure the highlighted terminal.
- **Rename** - This allows the terminal to be renamed.
- **Delete** - This will remove the terminal from the ThinManager configuration.

- **Go to TermSecure User** - This will change the focus of the tree to the TermSecure User that is logged into the terminal.
- **Restart Terminals** - This sends a signal to the terminal to reload any changes to the configuration, modules, or firmware. It will only do a full reboot if needed.

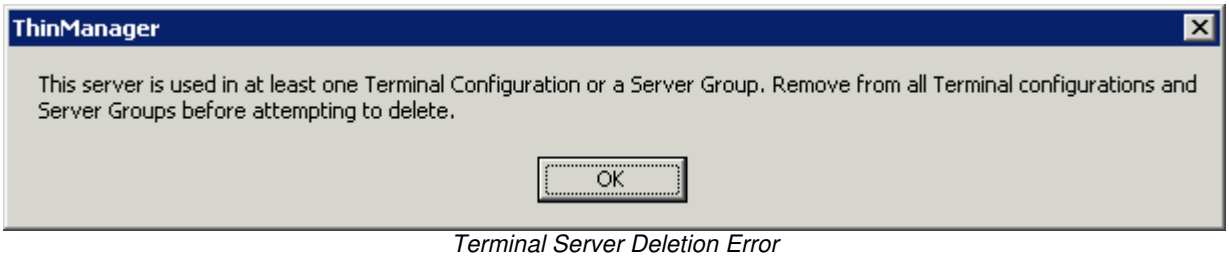
Right Click on the Terminal Server Branch Icon

- **Add Terminal Server** - This launches the **Terminal Server Wizard** to create and configure a new terminal server.
- **Edit Terminal Server** - This launches the **Terminal Server List Wizard** to allow the configuration of an existing terminal server.

See Terminal Server List Wizard for details

Right Click on a Terminal Server Icon

- **Modify** - This launches the **Terminal Server Configuration Wizard** to allow changes to the configuration of the highlighted terminal server.
- **Rename** - This allows the terminal server to be renamed.
- **Delete** - This will remove the terminal from the ThinManager configuration.



Terminal Server Deletion Error

Note: A terminal server cannot be deleted from a configuration if it still has terminals assigned to it.

- **Restart Terminals** - This sends a signal to the terminal to reload any changes to all terminals on the terminal server. It will only do a full reboot if needed.

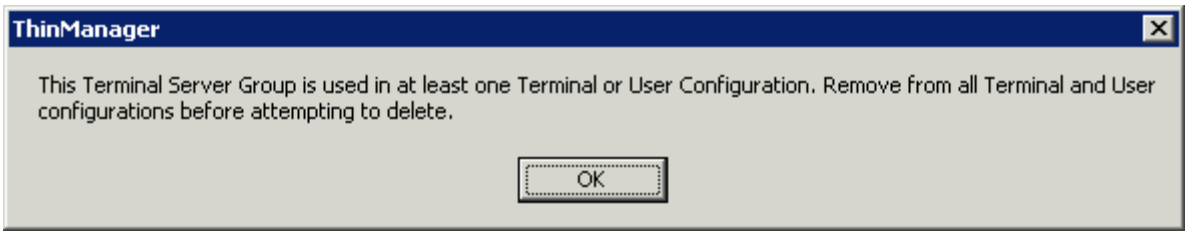
Right Click on the Terminal Server Group Branch Icon

- **Add Terminal Server Group** - This launches the **Terminal Server Group Wizard** to create and configure a new terminal server group.
- **Edit Terminal Server Group** - This launches the **Terminal Server Group List** to allow the configuration of an existing terminal server group.

See Terminal Server Group List for details.

Right Click on a Terminal Server Group Icon

- **Modify** - This launches the **Terminal Server Configuration Wizard** to allow changes to the configuration of the highlighted terminal server.
- **Rename** - This allows the Terminal Server Group to be renamed.
- **Delete** - This will remove the Terminal Server Group from the ThinManager configuration.



Terminal Server Deletion Error

Note: A terminal server group cannot be deleted if it still has terminals using it.

Adding Thin Client Hardware

The Boot Process

There are two methods that an ACP Enabled thin client can use to boot. The standard method is to connect to a ThinManager Server and download the firmware and its configuration across the network. This allows for an easy update of the firmware and ensures that all the terminals share the same firmware. Disk-On-Chip ThinManager Ready thin clients have the firmware embedded in them and boot locally then connect to a ThinManager Server to download its configuration. See Disk-0n-Chip/Compact Flash Update Module for details.

A ThinManager Ready thin client goes through a number of steps from the initial power on to the complete connection to a terminal server. Understanding this process will aid in terminal configuration and troubleshooting.

The steps are:

POST: Once a ThinManager Ready thin client is turned on it begins the **Power On Self-Test** to examine the hardware and to test the memory.

IP Address Assignment: The terminal needs an IP address to connect to the network. By default, it receives an IP Address from a DHCP server, but this can be changed to use an assigned static IP. See IP Address Assignment for details.

ThinManager Server Connection: After receiving an IP address the terminal will connect to the ThinManager Server. This is the Boot Server Host as defined in the DHCP scope Option 066 or the Primary ThinManager Server defined in the static IP address configuration.

Firmware Loading: Next the terminal will download the firmware from the ThinManager Server.

Terminal Configuration Download: Established terminals will receive their configuration and proceed. New terminals will need to be defined on the ThinManager Server, either through the Terminal Configuration Wizard or the Create New Terminal method.

ACP Logo Screen: After the terminal receives its configuration, it will display an ACP splash screen with the ACP logo.

Client Communication Connection: Next the terminal will launch its Client Communication protocol. If using ICA it will display a Citrix splash screen while it makes an ICA connection to the terminal server.

Terminal Server Connection: The thin client will connect to the terminal server(s) that it is assigned to in its configuration.

Windows Login: Next the terminal will display the Windows Login dialog box, prompting for a valid username and password. If these have been entered into the username and password fields on the Sessions tab of

ThinManager, the terminal will login automatically and display the Windows desktop or a defined initial program.

Note: Windows 2000 prevents auto-login with RDP by default. To allow auto-login see Configuring RDP for Auto-Login for details.

Windows Session: The terminal logs onto a session on terminal server. The terminal will pass mouse clicks and keystrokes to the session on the terminal server. The terminal server will process the data and send the graphics back to the terminal for display, giving a full Windows experience to the user.

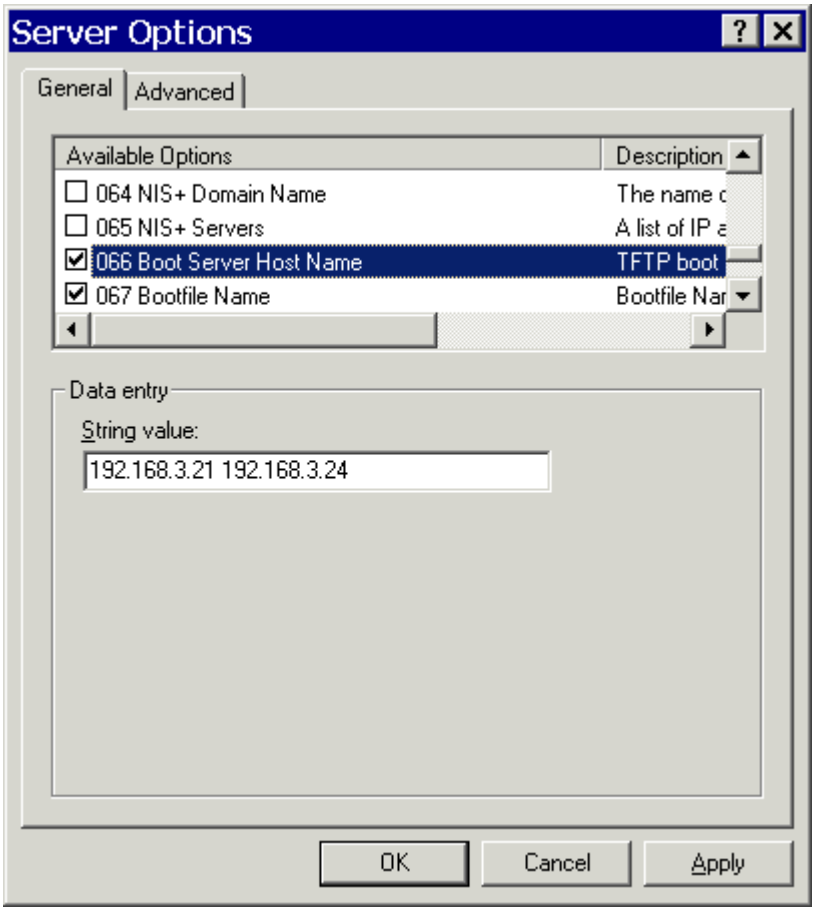
IP Address Assignment

ThinManager Ready thin clients are set by default to automatically receive an IP address from a DHCP server. Most ThinManager Ready thin clients may use a manually assigned Static IP address instead.

Note: The ThinAdapter and ThinAdapter Plus require DHCP.

DHCP

ThinManager Ready thin clients are set to use **DHCP** (Dynamic Host Configuration Protocol) by default. The DHCP Server needs two options configured for ThinManager Ready thin clients.



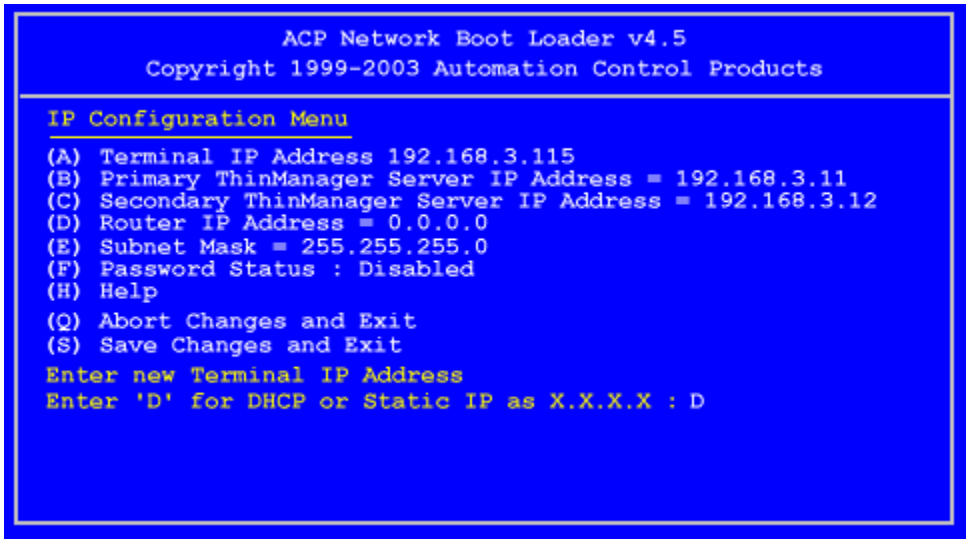
DHCP Options

Option 066 - Boot Server Host Name must be set to the IP address of the ThinManager Server. If redundant ThinManager Servers are being used, the IP addresses of multiple ThinManager Servers can be entered, separated with a space.

Option 067 - Bootfile Name must be set to **`firmware.acp`**.

Details are at DHCP Server Setup for details.

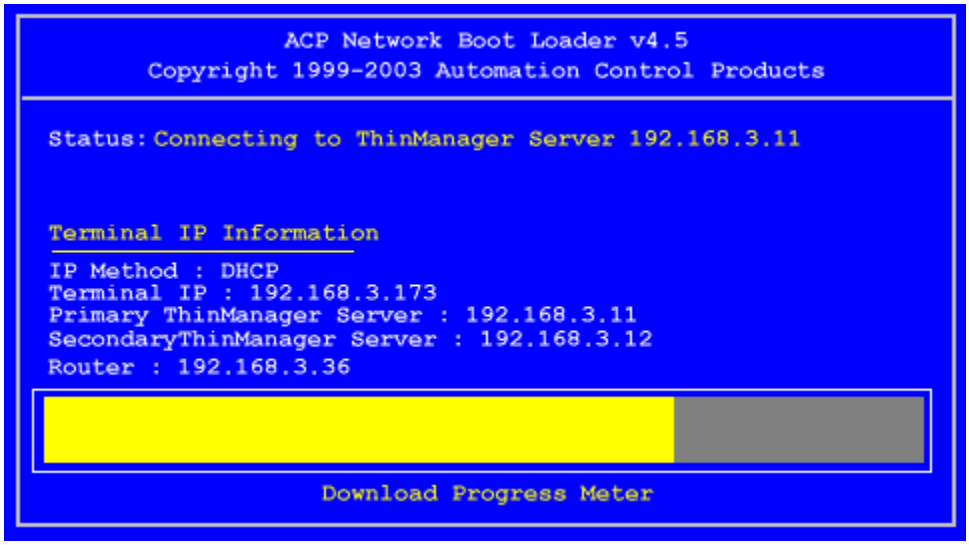
ThinManager Ready thin clients use DHCP (Dynamic Host Configuration Protocol) by default. If they have been set to use a static IP they can be reset to DHCP from static IP by pressing **any key** when prompted during the boot sequence to open the IP Configuration Menu.



IP Configuration Menu - DHCP

Press the ***A*** key to allow a change to DHCP. and enter ***D*** key to set the configuration to DHCP. Press the ***Enter*** key to return to main menu.

Press the **S** key to save the configuration and continue with the boot process.

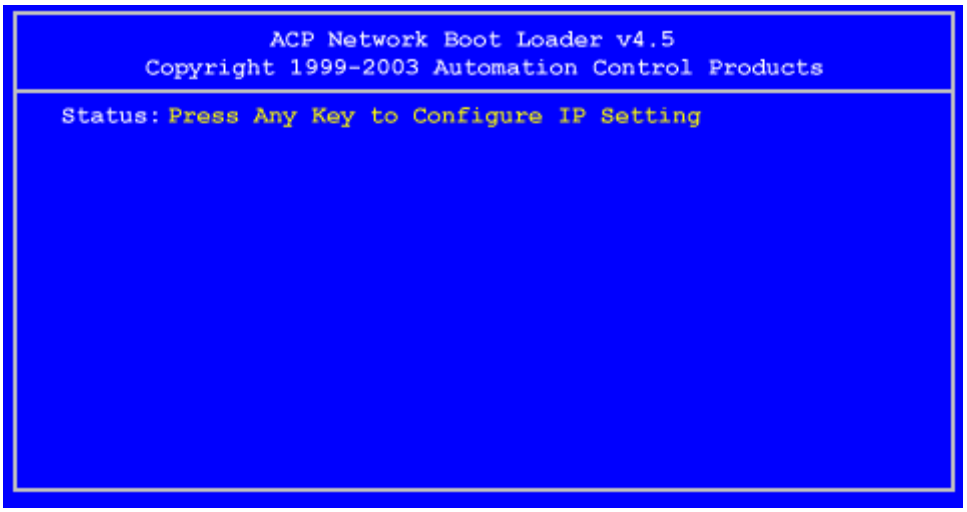


Boot Process - Firmware Download

The terminal will connect to the ThinManager Server and download the firmware.

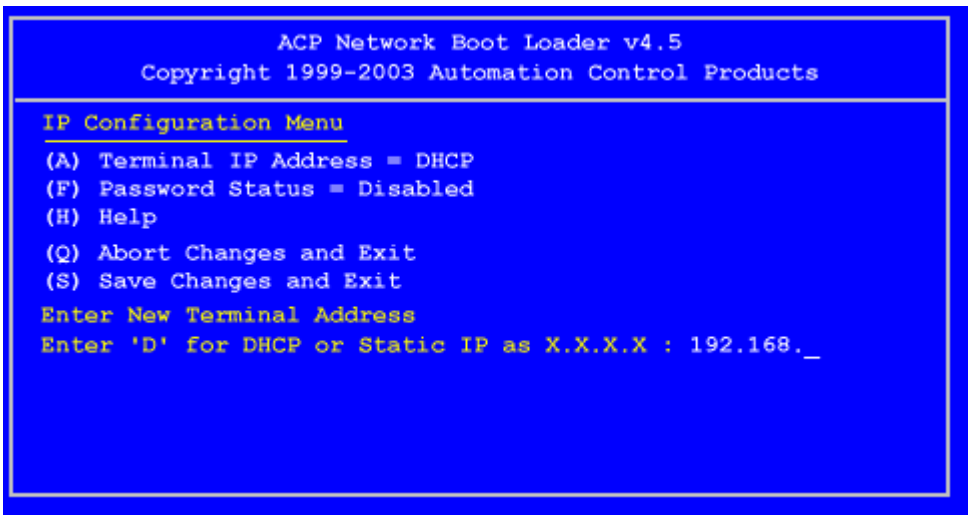
Static IP

Most models of ThinManager Ready thin clients allow the usage of static IPs. These are set by interrupting the boot process to launch the IP Configuration Menu and adding the static IPs.



Boot Process - Press Any Key Prompt

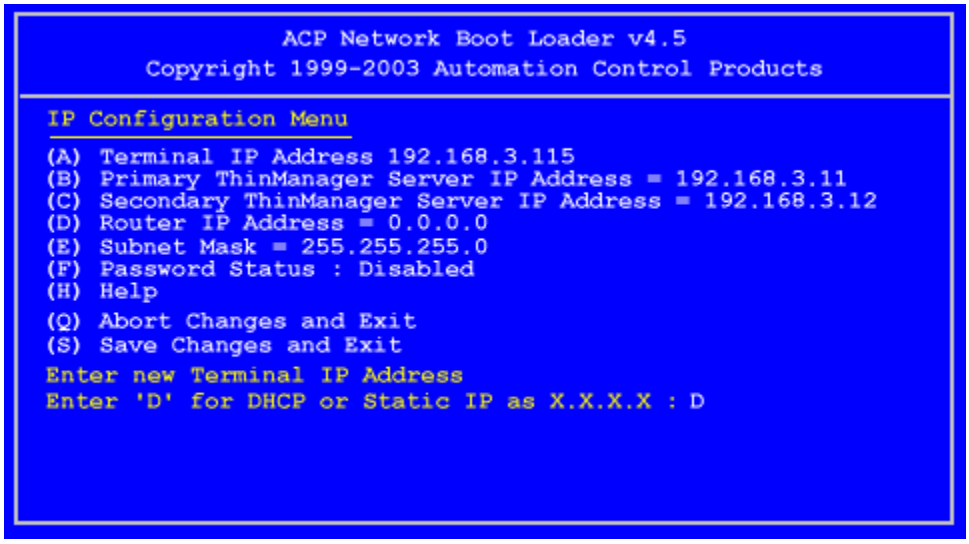
To set the terminal to use a static IP, press ***any key*** at the appropriate moment of the boot sequence.



IP Configuration Menu – Static IP

Press the ***A*** to allow the client IP to change from DHCP.

Type in the static IP address for the client, including the separating periods and press the ***Enter*** key.



IP Configuration Menu - Options

Once the Terminal has a static IP assigned, the IP Configuration Menu will be shown to allow the setting of other values.

- **(A) Terminal IP Address** - This should be a unique address for the terminal.
- **(B) Primary ThinManager Server IP Address** - This should be the unique address for your main ThinManager Server.
- **(C) Secondary ThinManager Server IP Address** - The Secondary ThinManager field allows the terminal to use two ThinManager Servers. If the terminal cannot connect to the Primary ThinManager Server, it will connect to the Secondary ThinManager Server to receive its configuration. If you are not using a Secondary ThinManager Server, set the IP address to 0.0.0.0.
- **(D) Router IP Address** - Fill in the IP address of the router or gateway if one is being used. If not this should be set to 0.0.0.0.
- **(E) Subnet Mask** - Set this to your subnet mask. 255.255.255.0. is a standard setting.
- **(F) Password Status** - Allows a password to be set to prevent unauthorized people from changing the configuration.
- **(H) Help** - Will launch a Help to explain the IP Configuration Menu.
- **(Q) Abort Changes and Exit** - This will cancel any setting changes and let the terminal continue to boot with the old settings.
- **(S) Save Changes and Exit** - This will apply any changes and allow the terminal to continue to boot with the new settings.

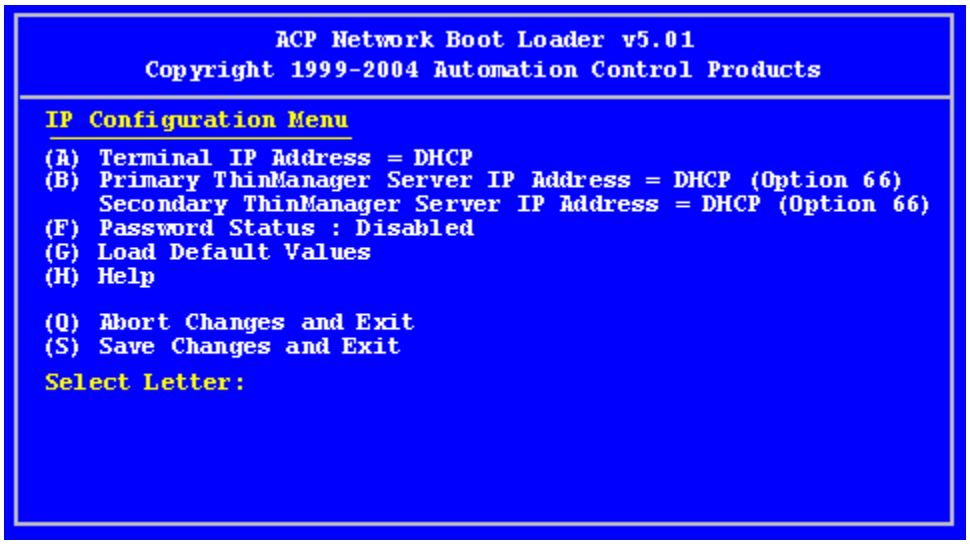
Type the letter of the desired setting and type the IP address, with periods. Press the ***Enter*** key on the keyboard to accept each change.

Once configured the terminal will connect to the ThinManager Server and download the firmware and configuration.

Hybrid IP Addressing

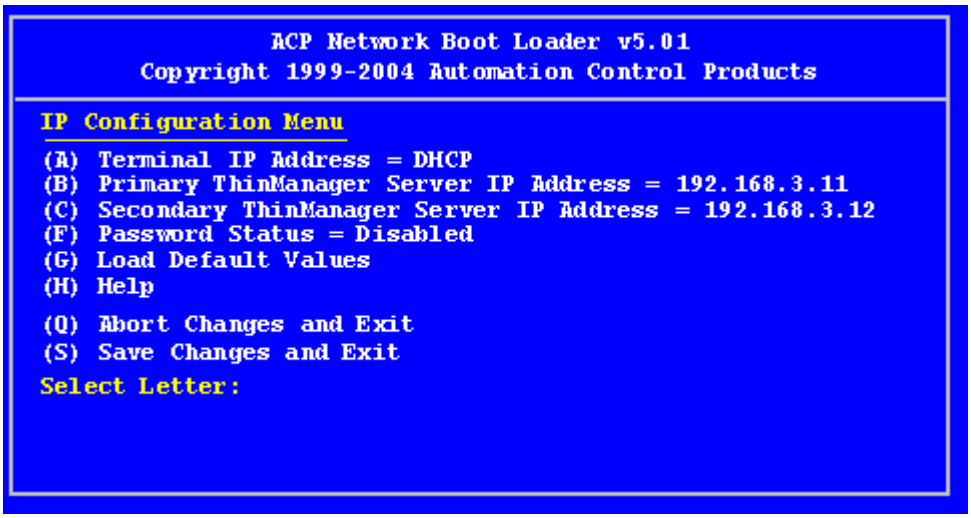
ThinManager Ready thin client that have BootROM version 5.01 have the ability to use DHCP for the client IP address, butr have the ThinManager Server IP addresses entered as static IPs to save having to configure the DHCP server with Option 066.

Selecting any key when prompted during bootup opens the IP Configuration Menu.



Boot Loader v5.01 Default Values

Typing the ***B*** key will allow the configuration of a static IP for the ThinManager Server. Type the numbers and periods for the address.



DHCP with Static ThinManager Server

Once a ThinManager Server is assigned, typing ***C*** will allow a redundant secondary ThinManager Server to be assigned.

Type ***S*** to save the changes and allow the connection to the ThinManager Server. The terminal will now boot using DHCP.

Note: The Escape key will let you exit the entry field and return to the IP Configuration Menu.

Configuring New Hardware

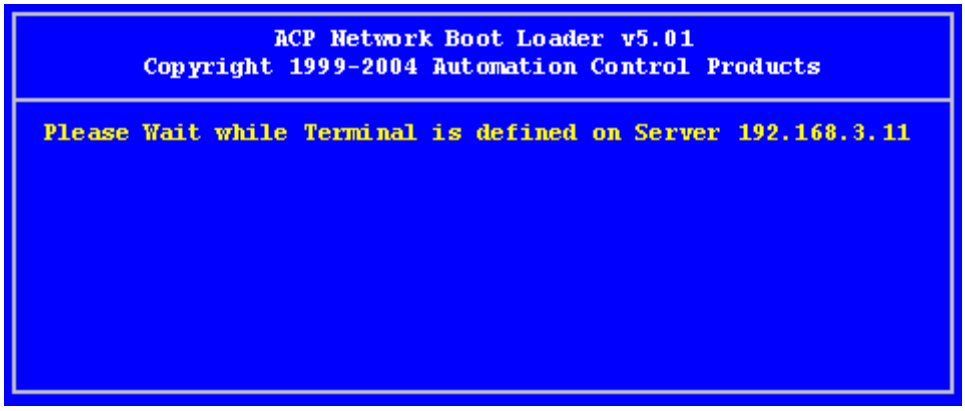
The configuration of terminals is done in ThinManager on the ThinManager Server, and not on each individual terminal. When a new, undefined ThinManager Ready Thin Client is first connected to a ThinManager Server one of three things will happen.

- If the ThinManager Server has no terminals that are configured and offline, then the terminal will go into the **Create New Terminal Mode** and launch the **Terminal Configuration Wizard** on the ThinManager Server. Once the terminal is configured on the ThinManager Server it will automatically download its configuration upon boot up.
- If the ThinManager Server has terminals that are created and offline, the terminal will go into **Replace or Create Mode** and list the offline terminals that are available for selection. Once a configuration is selected, the terminal will take that identity. During any following boot up the terminal will automatically download its configuration.
- A third scenario is to use the **Auto-Create Terminal Mode** to create an array of terminals.

Create New Terminal Mode

Turning on a terminal for the first time will initiate the **Create New Terminal mode** if:

- No terminals are defined in ThinManager, or
- All the defined terminals are currently connected, or
- All the defined terminals that are turned off have the ***Allow This Terminal To Be Replaced If Off Line*** check box unselected.

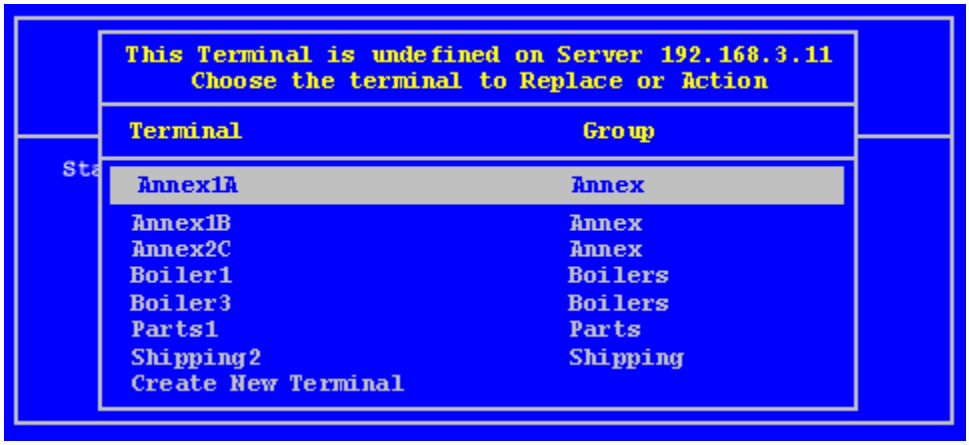


Create New Terminal Mode Screen

When a terminal enters the Create New Terminal Mode, the terminal will launch the Terminal Configuration Wizard on the ThinManager Server. The terminal will display a screen indicating that it will wait until the configuration is finished before progressing further.

Replace or Create New Terminal Mode

Turning on a terminal for the first time will initiate the ***Replace or Create New Terminal Mode*** if one or more of the defined terminals are offline and they have the ***Allow This Terminal To Be Replaced If Off Line*** check box selected.



Replace or Create Mode

The screen will display all the offline terminals that the terminal can replace. Highlight the desired terminal name using the keyboard and press the ***Enter*** button. The terminal will retrieve the selected configuration and assume its identity.

Auto-Creation of Terminals

Auto-Create allows new terminals to be created and configured in an array, using the **Default Terminal** as a template.

Turning on a terminal for the first time will initiate the **Replace or Auto-Create Terminal** mode if:

- The Auto-Create mode is enabled by the selection of the ***Enable AutoCreate*** check box on the **Unknown Terminal** page of the **ThinManager Server Configuration Wizard**.
  The **ThinManager Server Configuration Wizard** is launched by selecting ***Manage>Settings*** from the ThinManager menu.

And

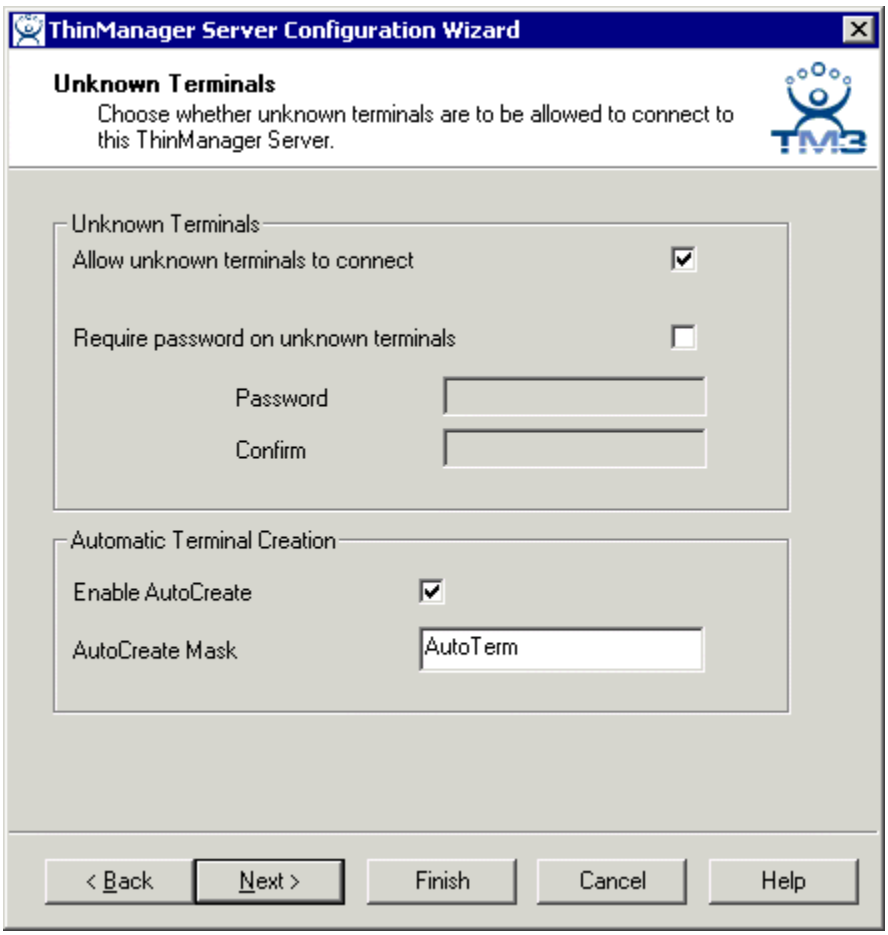
- The ***Default terminal*** is configured as a template for the new terminals.
  This is done by selecting ***Manage >Configure Default Terminal*** on the ThinManager menu.

And

- The user selects ***Auto-Create*** from the **Replace or Action Menu** as the terminal boots and connects. The user can do a replacement instead of an Auto-Create.

Enabling AutoCreate

The terminal will be given the name of the ***Auto-Create Mask*** and a number, starting with "**0**". The Auto-Create Mask is configured in the **ThinManager Server Configuration Wizard**. Open the ThinManager Server Configuration Wizard by right clicking on the ThinManager Server in the tree and selecting ***Modify***, or select ***Manage> Settings*** from the menu.

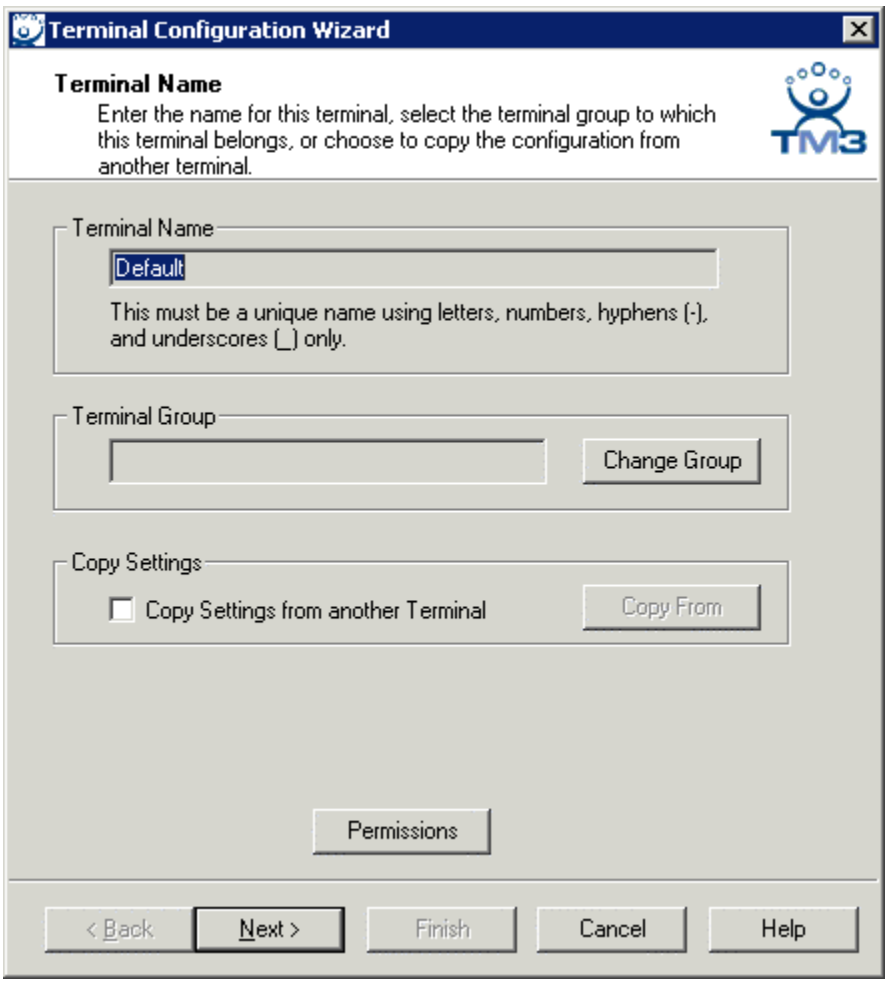


Unknown Terminals

Check the ***Enable AutoCreate*** checkbox and enter an AutoCreate Mask name. This allows new terminals to be added to the system and configured without additional input from the server.

Configuring Default Terminal

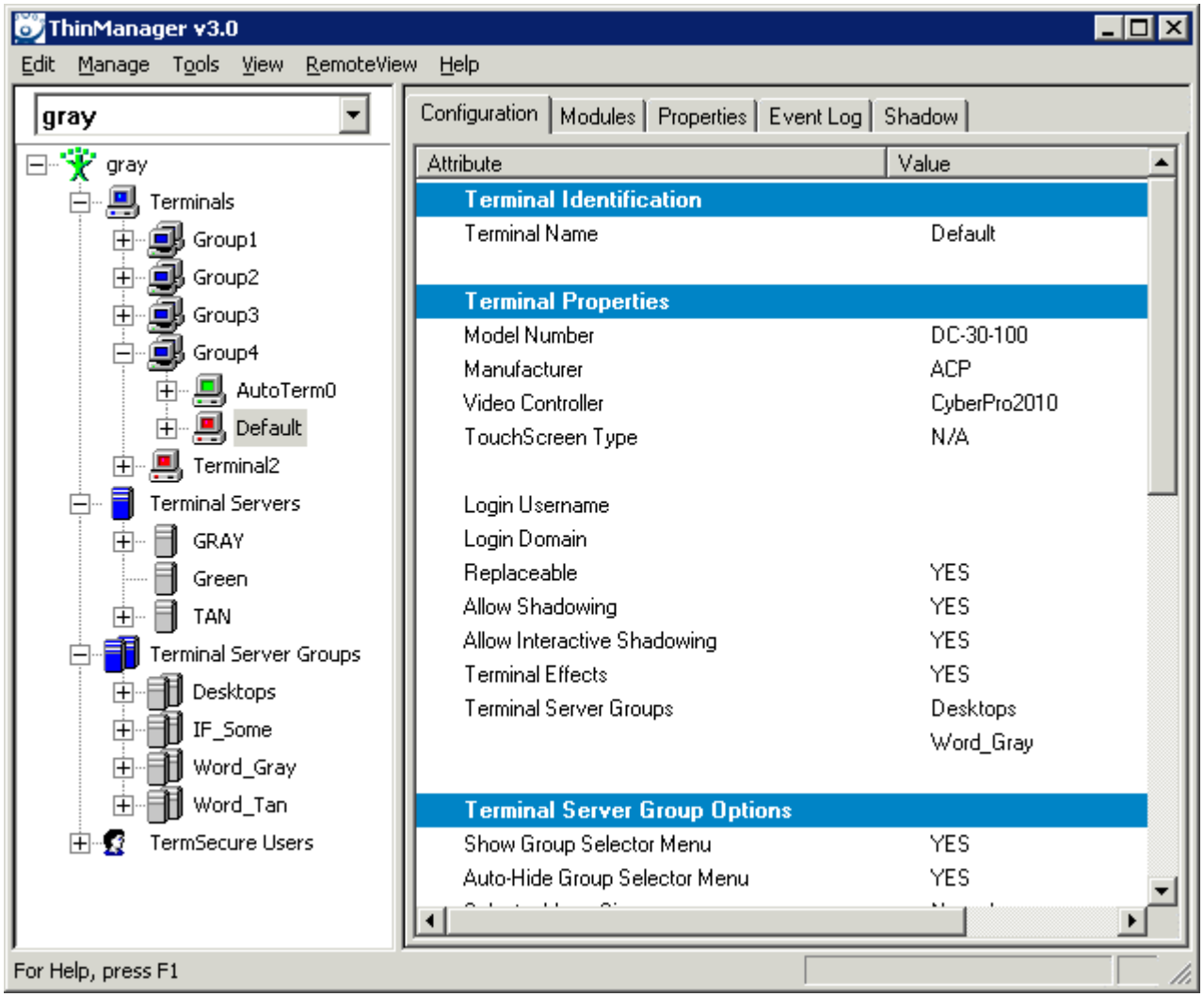
The Default Terminal is created by selecting ***Manage> Configure Default Terminal***. This will launch the **Terminal Configuration Wizard** for a terminal pre-named "**Default**".



Default Terminal Configuration

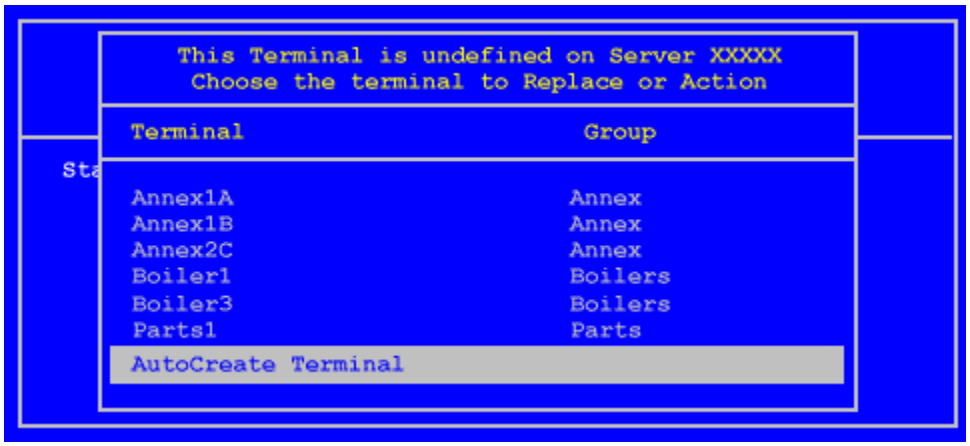
Configure the terminal with the desired settings. The Default terminal can be added to a Group by selecting the ***Change Group*** button.

Once the wizard is finished, the Default terminal will be displayed in the ThinManager Server tree.



ThinManager Tree with Default Terminal

Once the ***Enable AutoCreate*** check box on the Server Properties window is checked and the Default Terminal is created and configured, any new terminal connected to the ThinManager Server will have ***AutoCreate Terminal*** as an option.



Replace or Action Menu

The user needs to scroll to ***AutoCreate Terminal*** and press the ***Enter*** key to automatically create and configure the terminal.

The new terminal will be given the AutoCreate Mask and a number, starting at 0, for its name. This name will also be entered in the ***Username*** field of the **Log In Information** page of the **Terminal Configuration Wizard**.

Configuration Wizards

Introduction to Wizards

ACP ThinManager Version 2.4 introduced Configuration Wizards to simplify the creation and configuration of ACP Enabled Thin Clients. ThinManager 3.0 extends the scope of the wizards to provide more configuration power. **The Classic Mode of ThinManager 1.0 is now eliminated.**

Wizards take two forms.

- ***List Wizards*** associate Terminal Servers and ThinManager Servers with their IP addresses or assign server functions to groups of Terminal Servers.
- ***Configuration Wizards*** set the parameters and options for individual terminals, groups of terminals, TermSecure Users, and TermSecure Server Groups. This is where the terminals and TermSecure Users have their settings defined.

The **List Wizards** can be launched by:

- Selecting ***Manage>Server List Management*** from the ThinManager menu and selecting ***Terminal Server List***, ***Terminal Server Group List***, ***ThinManager Server List***, or ***DNS Configuration.***
- Right clicking on the **ThinManager Server** in the tree, selecting ***Server List Management,*** and selecting ***Terminal Server List***, ***Terminal Server Group List***, ***ThinManager Server List***, or ***DNS Configuration.***
- Right clicking on the **Terminal Server** branch in the tree to launch the option to define a terminal server with the ***Add Terminal Server*** command, or to edit an existing configuration by selecting the ***Edit Terminal Server command***.
- Right clicking on the **Terminal Server Group** branch in the tree to launch the option to define a Terminal Server Group with the ***Add Terminal Server Group*** command, or to edit an existing configuration by selecting the ***Edit Terminal Server Group*** command.

The **Configuration Wizards** can be launched by:

- Selecting ***Edit>Add Terminal*** in the menu to launch the **Terminal Configuration Wizard**.
- Selecting ***Edit>Add Terminal Group*** in the menu to launch the **Group Configuration Wizard**.
- Right clicking on the **Terminals** branch in the tree to launch the option to define a **Terminal** with the ***Add Terminal*** command, or to define a **Group** with the ***Add Group*** command.
- Right clicking on a Terminal Group in the tree to launch the option to define a **Terminal Group** with the ***Add Group*** command, or to define a **Terminal** with the ***Add Terminal*** command. This puts the terminal or group in that group.

- Right clicking on the **TermSecure User** branch in the tree to launch the option to define a **TermSecure User** with the ***Add User*** command, or to define a **TermSecure User Group** with the ***Add Group*** command.
- Right clicking on a **TermSecure User Group** in the tree to launch the option to define a **TermSecure User Group** with the ***Add*** **TermSecure User** ***Group*** command, or to define a **TermSecure User** with the ***Add*** **TermSecure User** command. This puts the TermSecure User or TermSecure User group in that TermSecure User group.

See Terminal Server List Wizard for details.

See Terminal Server Group List for details.

See ThinManager Server List for details.

See DNS Configuration for details.

See Terminal Group Configuration Wizard for details.

See Terminal Configuration Wizard for details.

See TermSecure User Configuration Wizard for details.

See TermSecure Users Group Configuration Wizard for details.

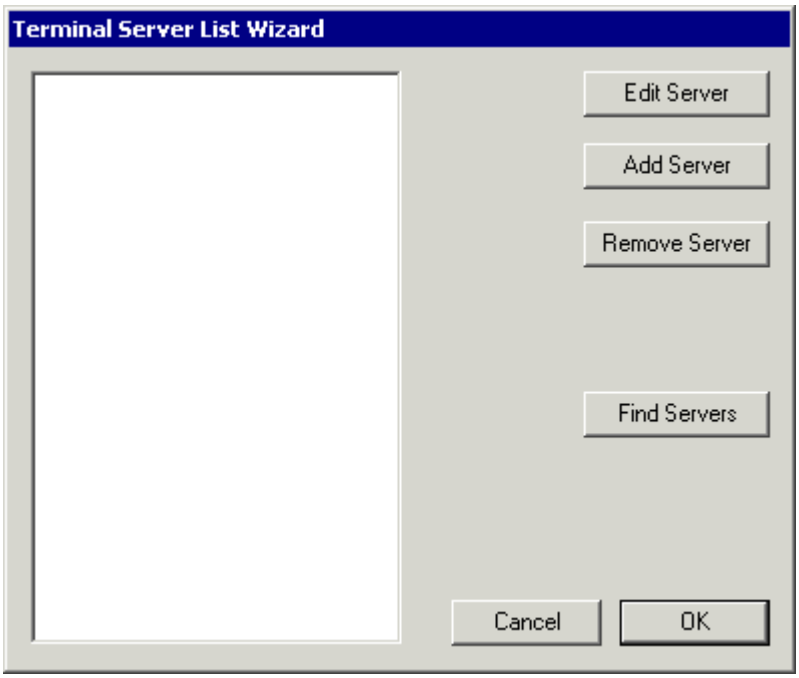
List Wizards

ThinManager has List wizards that allow the names of Terminal Servers, Terminal Server Groups, ThinManager Servers, and Domain Name Servers to be associated with their IP address for easy use. This is similar in function to a host table.

Each of the List Wizards are launched in the appropriate place during group and terminal configuration in the Group Configuration Wizard and Terminal Configuration Wizard, but they can also be run individually to configure and identify the members ahead of time.

Terminal Server List Wizard

The Terminal Server List Wizard ca be launched by selecting ***ThinManagerServer >Server List Management>Terminal Server List*** from the menu***,*** right clicking on the ThinManager Server in the tree and selecting ***Server List Management>_Terminal Server List,*** or by right clicking on the Terminal Server branch and choosing either the ***Add Terminal Server*** command, or the ***Edit Terminal Server*** command.



Terminal Server List Wizard

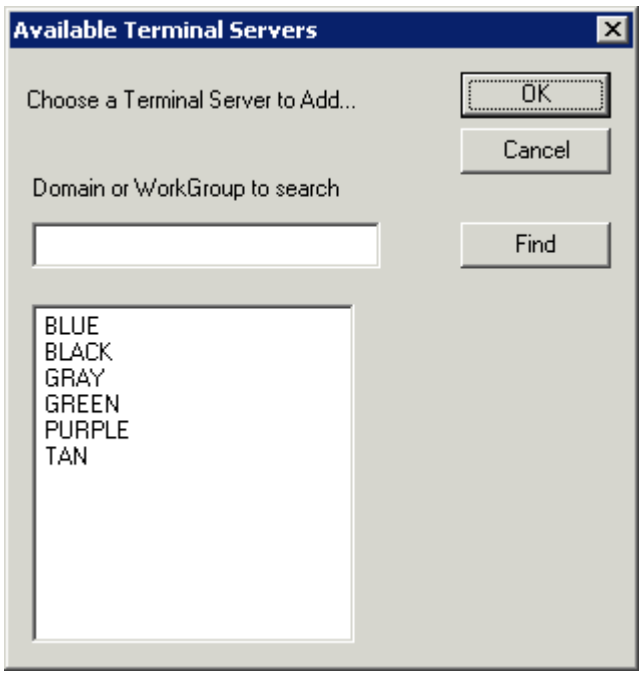
The opening window of the **Terminal Server List Wizard** will show any Terminal Servers that are defined, or will be blank if none have yet been defined.

- ***Edit Server*** will open the properties for a highlighted terminal server in the list.
- ***Add Server*** will allow a new terminal server to be defined.
- ***Remove Server*** will remove a highlighted terminal server from the list.
- ***Find Server*** will launch the **Available Terminal Servers** window for automated terminal server addition.
- ***Cancel*** closes the wizard without action.
- ***OK*** closes the wizard after accepting changes.

Selecting ***Add Server*** will open the ***Terminal Server Wizard Introduction*** page.

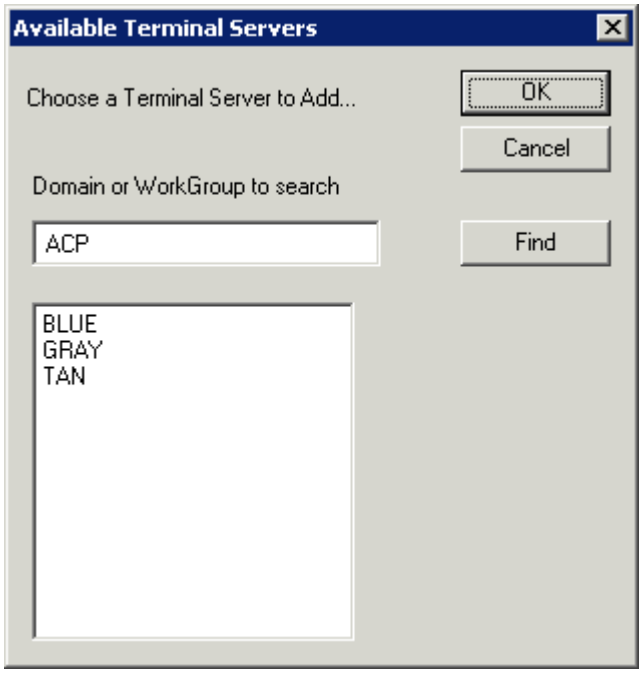
Selecting the ***Find*** button will open the ***Available Terminal Server*** window that lets ThinManager search for terminal servers.

Available Terminal Servers Search



Available Terminal Server Window

The **Available Terminal Servers** window will display any Microsoft terminal servers that are a member of the same domain or workgroup as ThinManager.

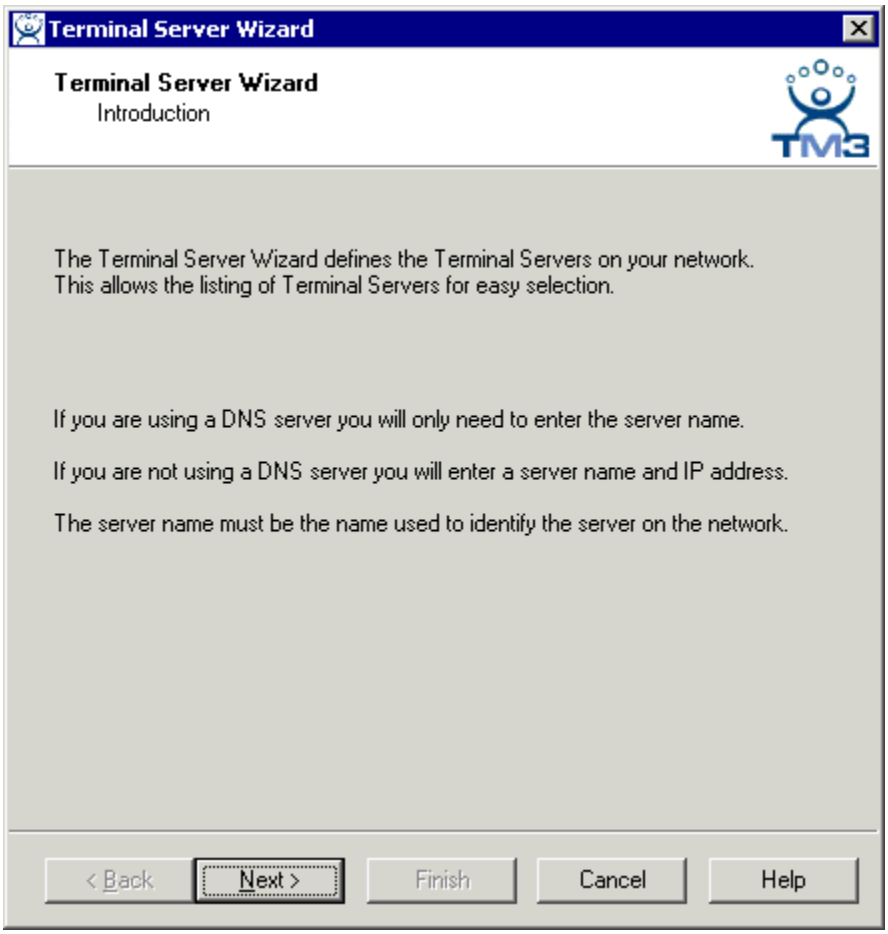


Available Terminal Server Window

The ***Domain or WorkGroup to Search*** field will allow ThinManager to search a different domain or workgroup. Enter the domain of workgroup to search and select the ***Find*** button to display the member servers.

Once the terminal servers are listed, highlight one and select the ***OK*** button to add it to the Terminal Server Configuration Wizard. This will launch the Introduction page of the **Terminal Server Wizard**.

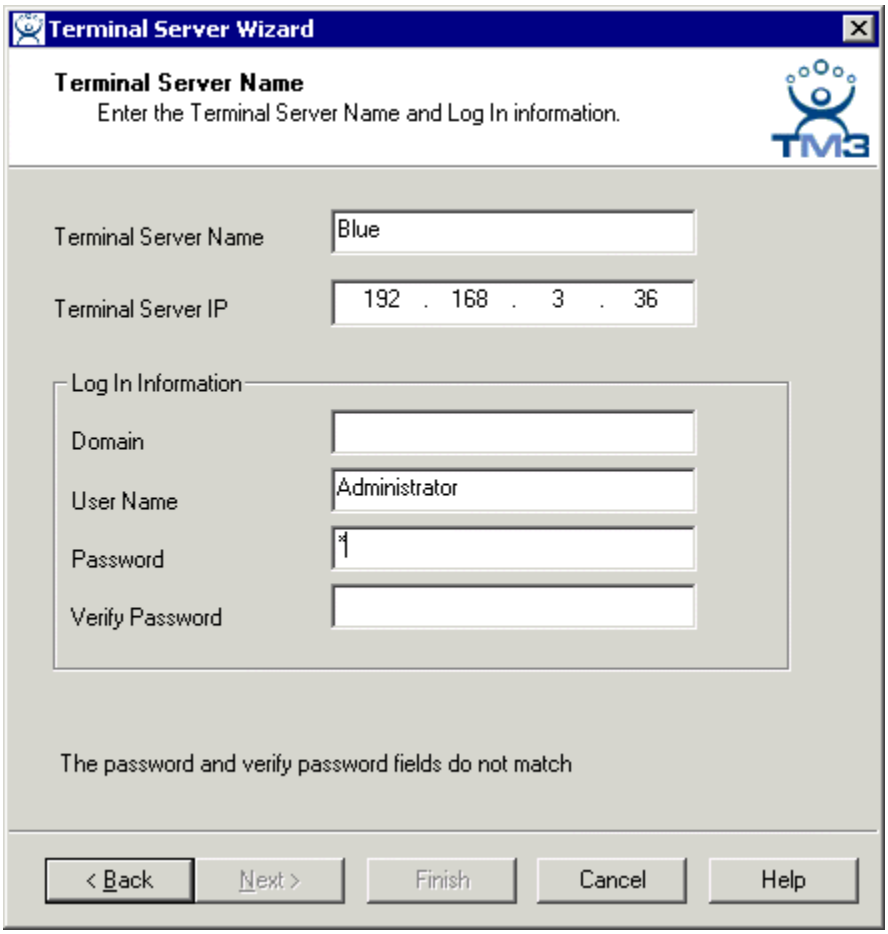
Terminal Server Wizard Introduction Page



Terminal Server List Wizard Introduction

The **Terminal Server List Wizard** starts with an Introduction page with instructions for the wizard. Select ***Next*** to continue.

Terminal Server Name Page



Terminal Server List Wizard – Terminal Server Name

The **Terminal Server Name** page defines the Terminal Server on the network.

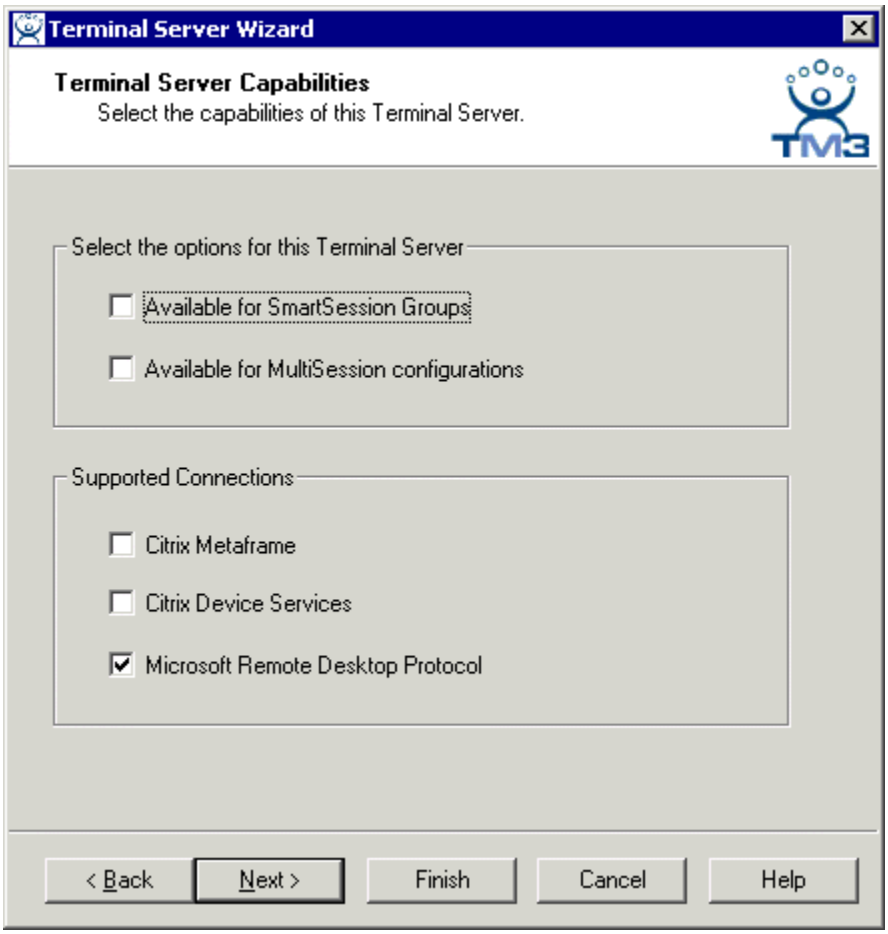
The **Terminal Server Name** fields are:

- **Terminal Server Name** - Enter the computer name as found in the Microsoft System Properties (NetBIOS name). The name will already be entered if the ***Find*** function on the **Available Terminal Servers** window was used.
- **Terminal Server IP** – Entered the IP address of the terminal server.
- **Domain** - Enter the **domain** for the computer, if it is a member of a domain.
- **User Name** - Enter a username with administrative rights if you wish to display data from the terminal server within ThinManager.
- **Password** - Enter the password for the administrative account used in the ***Username*** field.
- **Verify Password** – Re-enter the password for the administrative account used in the username field. Passwords that do not match will be indicated by a warning message on the page.

ThinManager uses a connection to the terminal server to pull the process, user, and session information for the detail pane tabs and to determine the load for SmartSession load balancing. Entering a username and password in the ***User Name*** and ***Password*** fields allows ThinServer to connect to the server for this data.

Select ***Next*** to continue with the **Terminal Server Capabilities** page.

Terminal Server Capabilities Page



Terminal Server Capabilities

The **Terminal Server Capabilities** page determines whether a terminal server is configured for SmartSession and Multi-Session and determines what client communication protocols are used.

- Check the ***Smart Session Server*** checkbox to make the terminal server available for terminal server groups using SmartSession to provide load balancing. See SmartSession for more details.
- Check the ***Make this server available for MultiSession configurations*** checkbox to make the terminal server available for terminal server groups configured for MultiSession. See MultiSession for details.

Note: Configuring a terminal server to use SmartSession uses a SmartSession license. Configuring a terminal server to use MultiSession uses a MultiSession license.

Supported Connections contains a list of the client communication protocols that the terminal server can use to talk to the ThinManager Ready thin client.

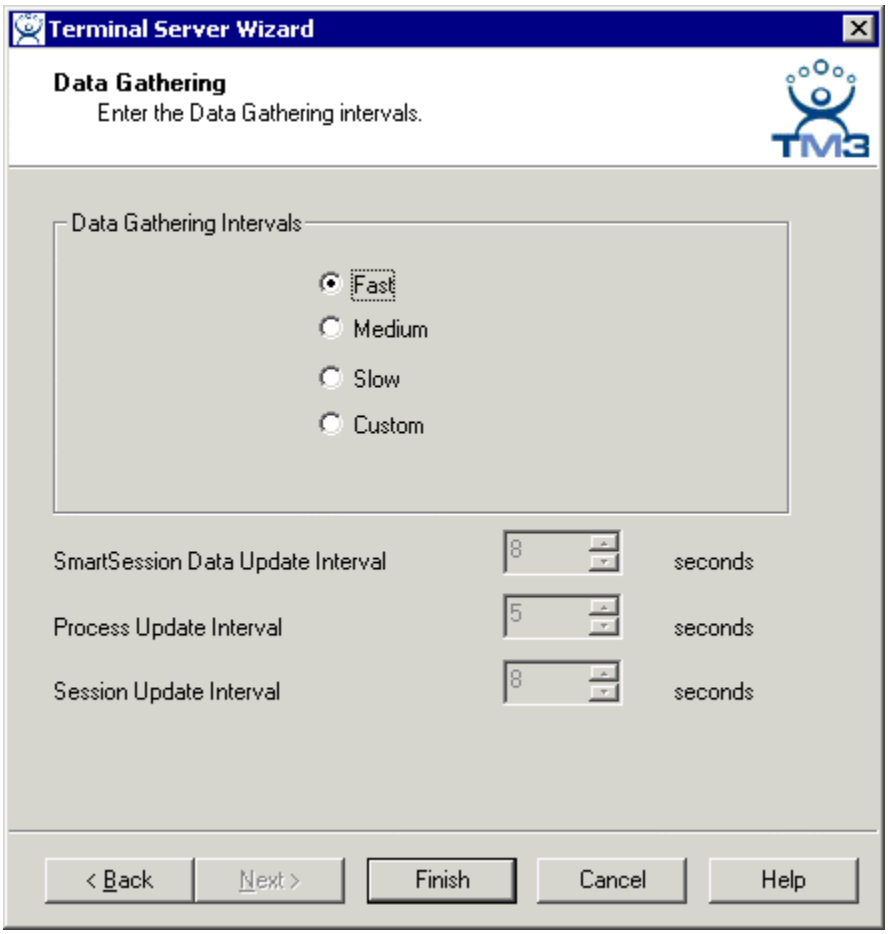
- Check the ***Citrix MetaFrame*** checkbox if that program, or another Citrix server-side program, is installed on the terminal server to provide the ICA protocol. Citrix MetaFrame is an optional program sold by Citrix.
- Check the ***Citrix Device Services*** checkbox if Citrix Device Services is installed and licensed on the terminal server. Citrix Device Services is a legacy deployment of the ICA client but is no

longer supported by Citrix. ThinManager Ready thin clients can still connect to terminal servers with Device Services, but no new Device Services terminal servers can be licensed.

- ***Microsoft Remote Desktop Protocol*** (RDP) is installed by default on Windows Terminal Servers. Uncheck the ***Microsoft Remote Desktop Protocol*** checkbox if you don't want to access to the terminal server with the protocol.

Selecting ***Next*** will open the Data Gathering page.

Data Gathering Page



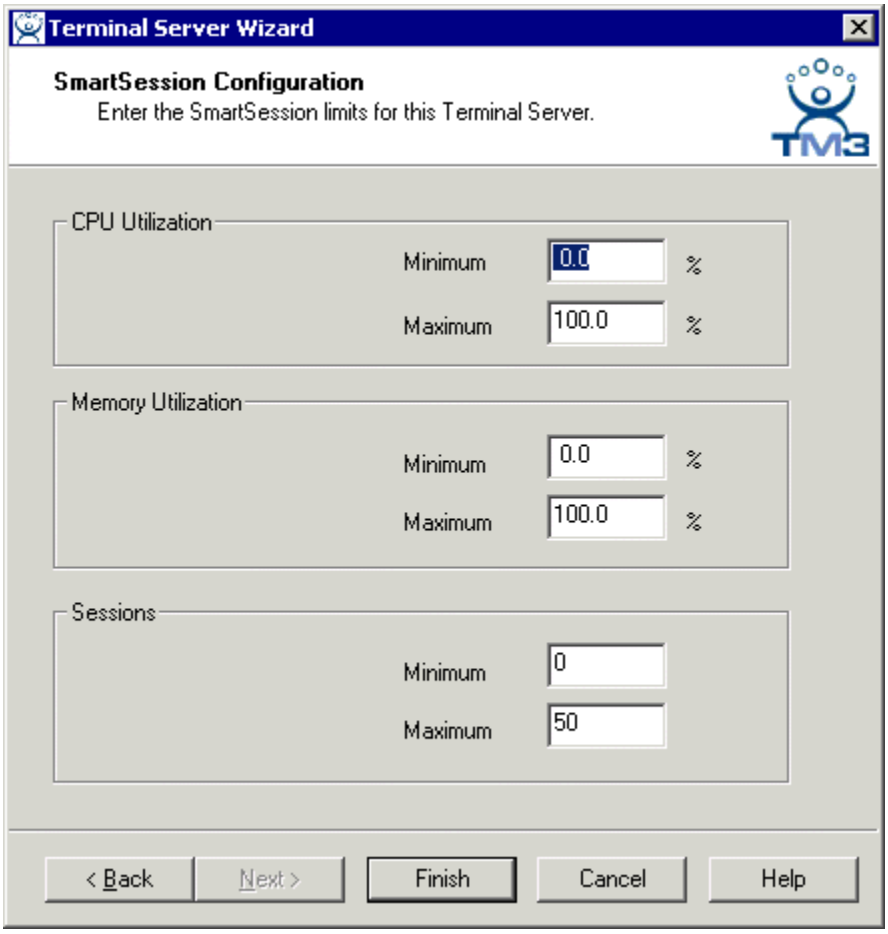
Data Gathering

The **Data Gathering** page allows configuration of the intervals that ThinManager uses to poll data from the terminal server. Preset intervals can be used, or custom intervals can be applied.

- **Smart Session Data Update Interval** is the amount of time between the retrieval of SmartSession data, CPU usage, memory usage, and session count, from the terminal server. This setting affects the update speed of the Server Rankings used in SmartSession load balancing.
- **Process Update Interval** is the amount of time between the retrieval of the process information on the terminal server. This setting affects the speed of the update of the process information on the Processes tab for the terminal server.
- **Session Update Interval** is the amount of time between the retrieval of session data from the terminal server. This setting affects the speed of the update of the user information for the sessions on the Users and Sessions tabs for the terminal server.

If this terminal server is used as a SmartSession server, the ***Next*** button will go to a SmartSession Configuration page. If this terminal server is not configured as a SmartSession server, the ***Next*** button will be grayed out and the ***Finish*** button will close the wizard.

SmartSession Configuration Page



Terminal Server List Wizard - SmartSession Configuration

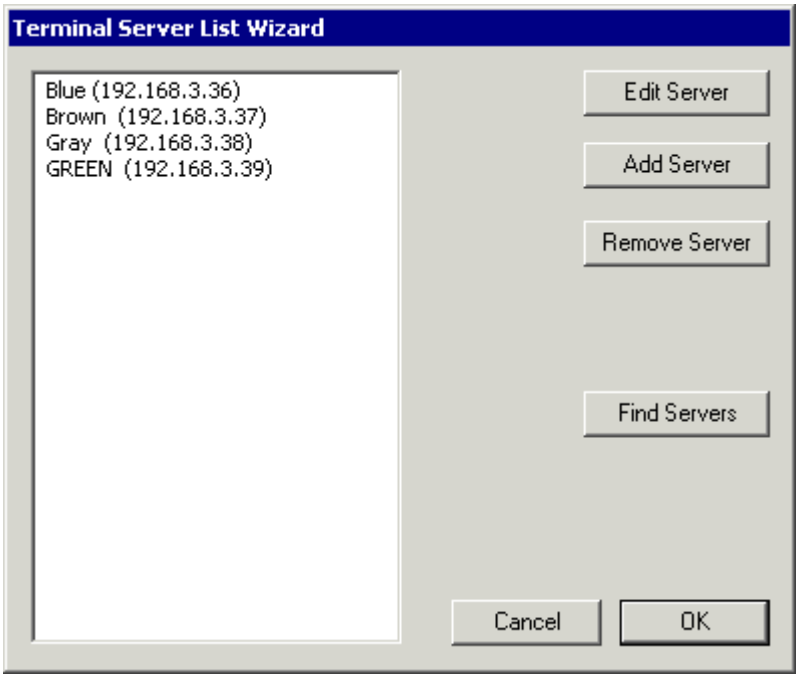
ThinManager uses the **CPU utilization**, **Memory utilization**, and **number of sessions** on the terminal server to define the SmartSession terminal server's available resources. ThinManager uses these resource values to rank the load of the SmartSession servers. ThinManager supplies this load data to the terminals to allow the terminals to connect to the terminal server with the lightest load and greatest available resources.

The **SmartSession Configuration** page allows the configuration of the three parameters that ThinManager uses to determine availability for SmartSession. ThinManager will scale the range between the Minimum field and Maximum field as 100%

- The ***Minimum*** field is the value that ThinManager will use as the starting point of the load. A value below the ***Minimum*** is considered to be unused.
- The ***Maximum*** field is the value that ThinManager will consider the parameter as reaching 100% utilized and is unavailable.

The ***Finish*** button will close the configuration of that terminal server and return to the beginning of the Terminal Server List Wizard for the configuration of other terminal servers.

Terminal Server List Wizard Window

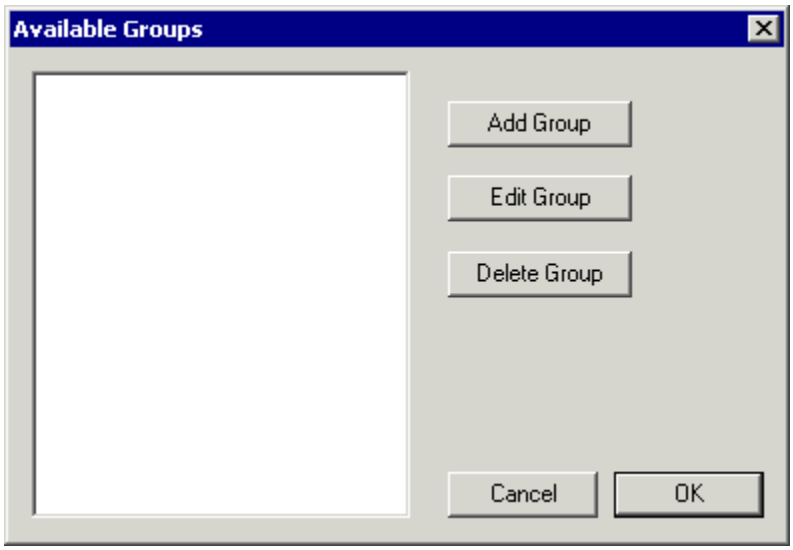


Terminal Server List Wizard

Once all the Terminal Servers are defined and configured in the **Terminal Server List Wizard** it can be closed by selecting the ***OK*** button.

Terminal Server Group List

The **Terminal Server Group List Wizard** can be launched by selecting ***ThinManagerServer >Server List Management>Terminal Server Group List*** from the menu***,*** right clicking on the ThinManager Server in the tree and selecting ***Server List Management>_Terminal Server Group List,*** or by right clicking on the Terminal Server Group branch and choosing either the ***Add Terminal Server Group*** command, or the ***Edit Terminal Server Group*** command.



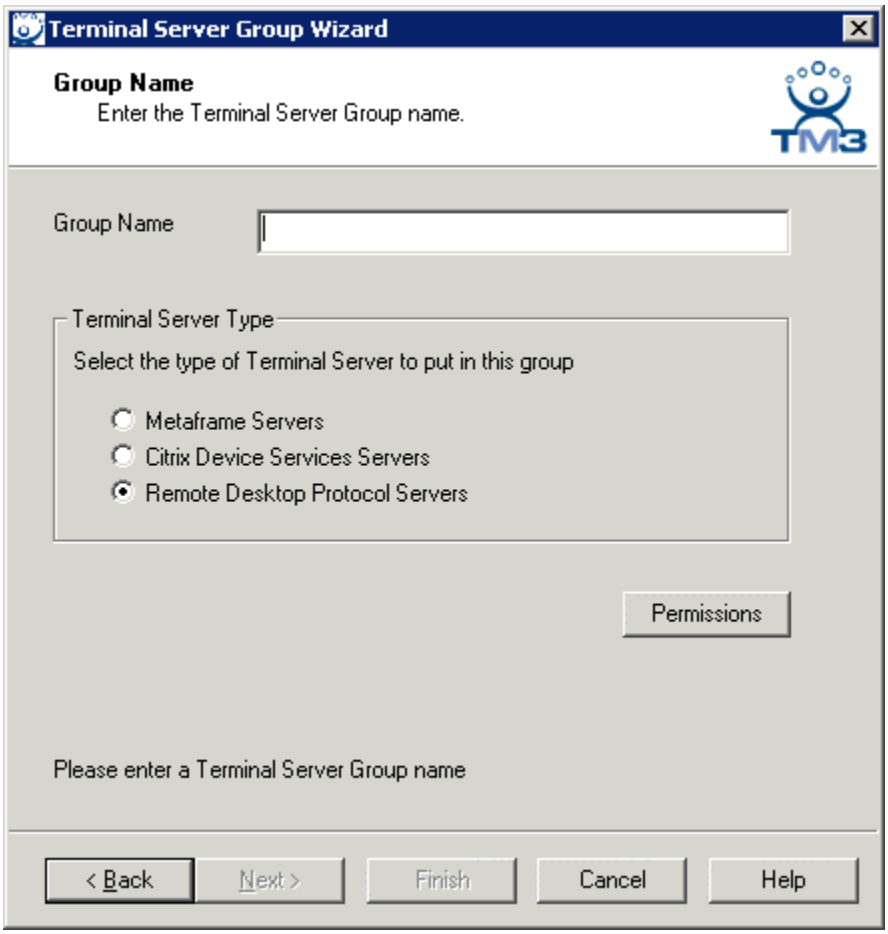
Terminal Server Group List Wizard

The opening window of the **Terminal Server Group List Wizard** will show any Terminal Server Groups that are defined, or will be blank if none have been defined.

- ***Add Group*** will allow a new Terminal Server Group to be defined.
- ***Edit Group*** will open the properties for a highlighted Terminal Server Group in the list.
- ***Delete Group*** will remove a highlighted Terminal Server Group from the list.
- ***Cancel*** closes the wizard without action.
- ***OK*** closes the wizard after accepting changes.

Selecting ***Add Group*** will open the Group Name page.

Terminal Server Group Name Page

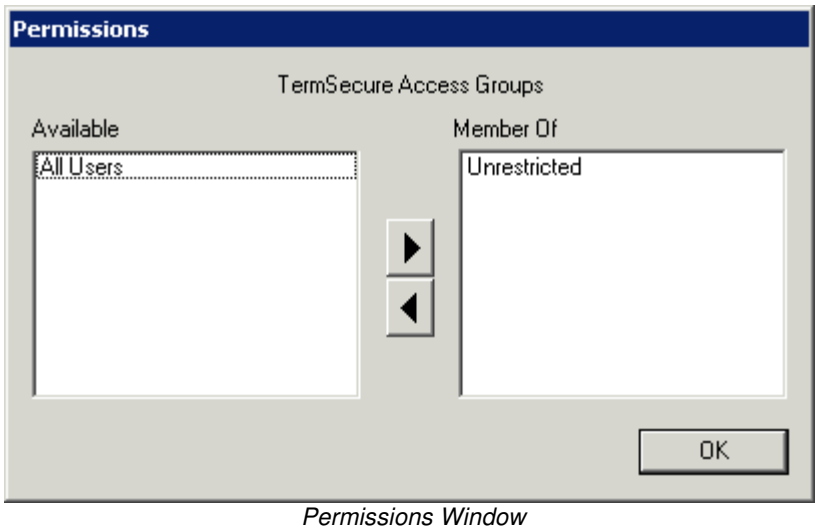


Group Name Page

Enter the desired name of the group in the ***Group Name*** field.

Each group can contain members of one type of Client Communication Protocol. These are configured for the terminal servers during the **Terminal Server Configuration**.

The ***Permissions*** button will launch the **Permissions** window.



Permissions Window

This allows Permission groups to be applied to the Terminal Server Group so that only members of the permission group can access the feature.

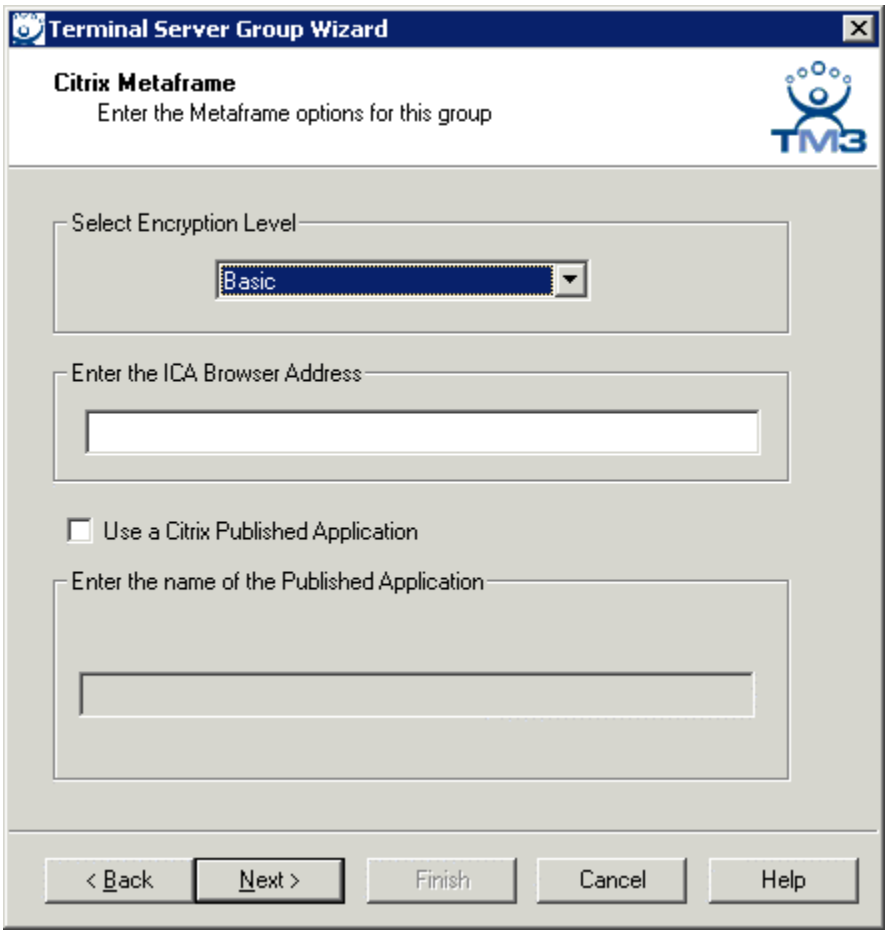
- ***Available Access Groups*** - This lists available Access groups, those pre-created by ThinManager and those created as shown in Creating Permissions Groups.
- ***Selected Access Groups*** - This lists the Access Groups whose members can use this Terminal Server Group.

By default all Terminal Server Groups are assigned to the Unrestricted access group, giving everyone permission to use it. Access can be limited to the Terminal Server Group by moving the **Unrestricted** group into the ***Available Access Groups*** list with the arrow button and replacing it with other Access Groups. Only members of the Access Groups in the ***Selected Access Groups*** list can use the Terminal Server Group.

Note: The ***Selected Access Groups*** list must contain an Access group or the Terminal Server Group will be locked to users.

Once the Permissions are set, select the desired Client Communication Protocol and select ***Next*** to configure the group options.

Terminal Server Group Citrix MetaFrame Page



Citrix MetaFrame Options

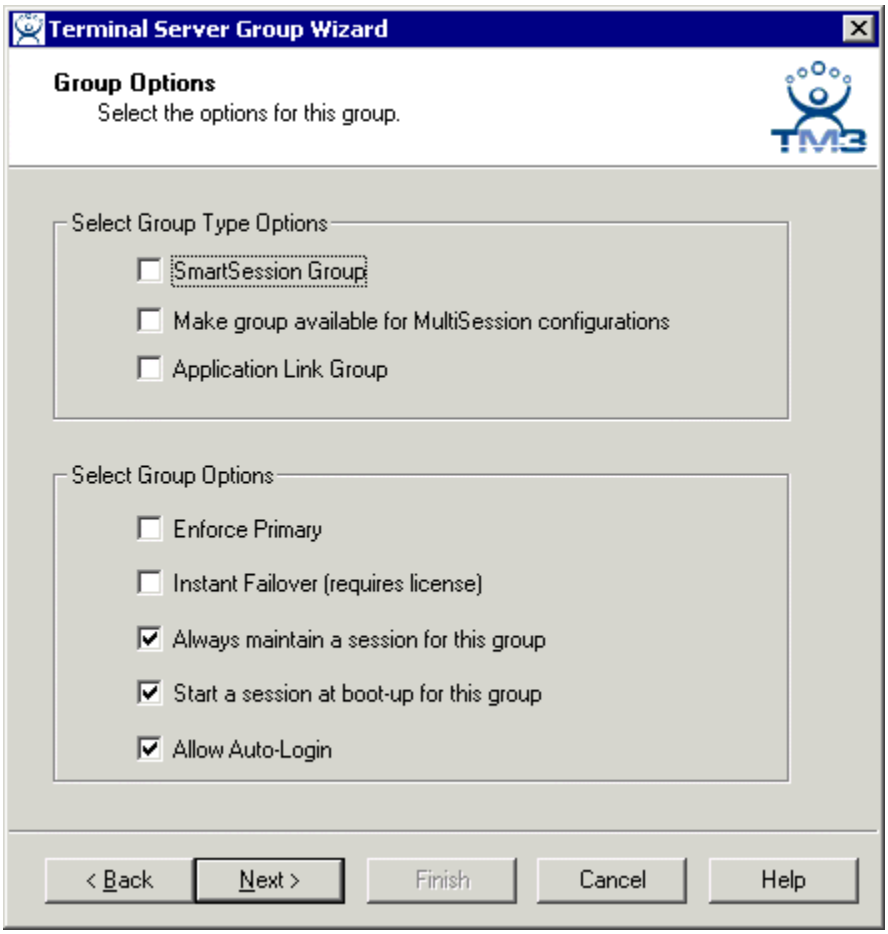
If Citrix MetaFrame is the Client Communication Protocol chosen, the **Citrix MetaFrame** page will be displayed to allow the setting of Citrix options including *Encryption Level* and the use of *Published Applications*. The ***ICA Browser Address*** allows aid in connection across routers, subnets, and domains.

If a published application is used, check the ***Use a Citrix Published Application*** checkbox and enter the published application in the ***Enter the name of a Published Application*** field. This finishes the wizard, graying out the ***Next*** button and activating the ***Finish*** button.

Note: Published Application should have a continuous name and not contain spaces.

Select ***Next*** to continue.

Terminal Server Group - Group Options Page



Group Options

The Group Options allow the configuration of terminal server group parameters.

Group Type Options include:

- ***SmartSession Group*** – Selecting this option allows the terminal server group to provides load balancing by using CPU availability, memory, and the number of sessions on the member terminal servers to determine the availability of resources on member terminal servers. ThinManager Ready thin clients connect to the terminal server in the terminal server group with the most available resources. See SmartSession for details.
- ***Make group available for MultiSession Configurations*** – This allows the terminal server group to be available to ThinManager Ready thin clients that use MultiSession to connect to two or more terminal server groups. See MultiSession for details.
- ***Application Link Group*** – This option, AppLink, provides the Initial Program function to ThinManager Ready thin clients that connect to members of the terminal server group. The Initial Program function launches a program instead of the desktop. Closing the program will end the connection and force a reconnection to a session running the application. See AppLink for details.

Group Options include:

- ***Enforce Primary*** - This allows a ThinManager Ready thin client to connect to its original terminal server if that terminal server has failed and recovered.

Note: Enforce Primary is not available with SmartSession.

- ***Instant Failover*** - Allows a terminal to connect to two terminal servers in the Terminal Server Group. The terminal will have an active session on two terminal servers but will only display one session. If the first terminal server fails, the session of the second terminal server is immediately displayed, eliminating any downtown due to terminal server failure.

Note: A terminal requires an Instant Failover license to use this function.

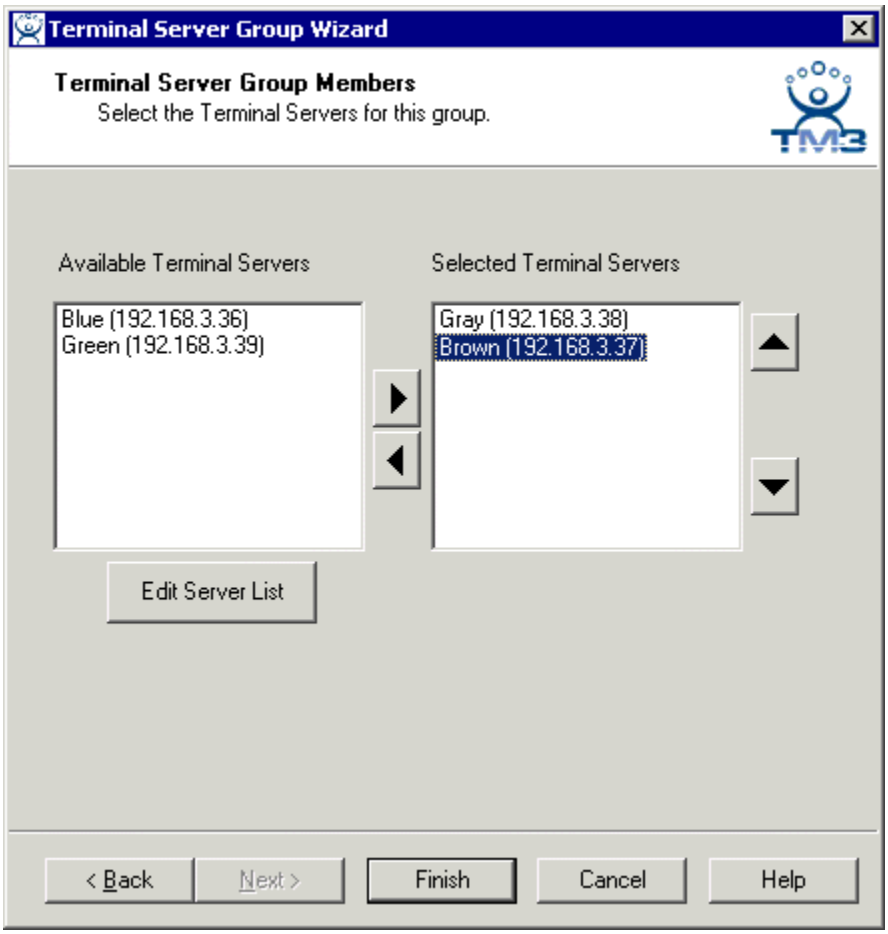
- ***Always maintain a session for this group*** – If checked, if the user closes his session, another session will be started automatically. If unchecked, the user can close a session and another session won't start automatically.
- ***Start a session at boot-up for this group*** – If checked, the terminal will start a session for this terminal server group at boot up. If unchecked, a user action is required to start the session.

Note: The ***Always maintain a session for this group*** and ***Start a session at boot-up for this group*** checkboxes, if unselected, will lower the demand on the terminal servers by allowing sessions to be closed until needed.

- ***Allow Auto-Login*** - If checked, the terminal will use the login information supplied in the terminal configuration to automatically logon to the terminal server. If unchecked, the user will be required to manually login to the terminal server.

Once the Terminal Server Group parameters are configured, select ***Next*** to select the terminal servers for the group.

Terminal Server Group Members Page



Terminal Server Group Members

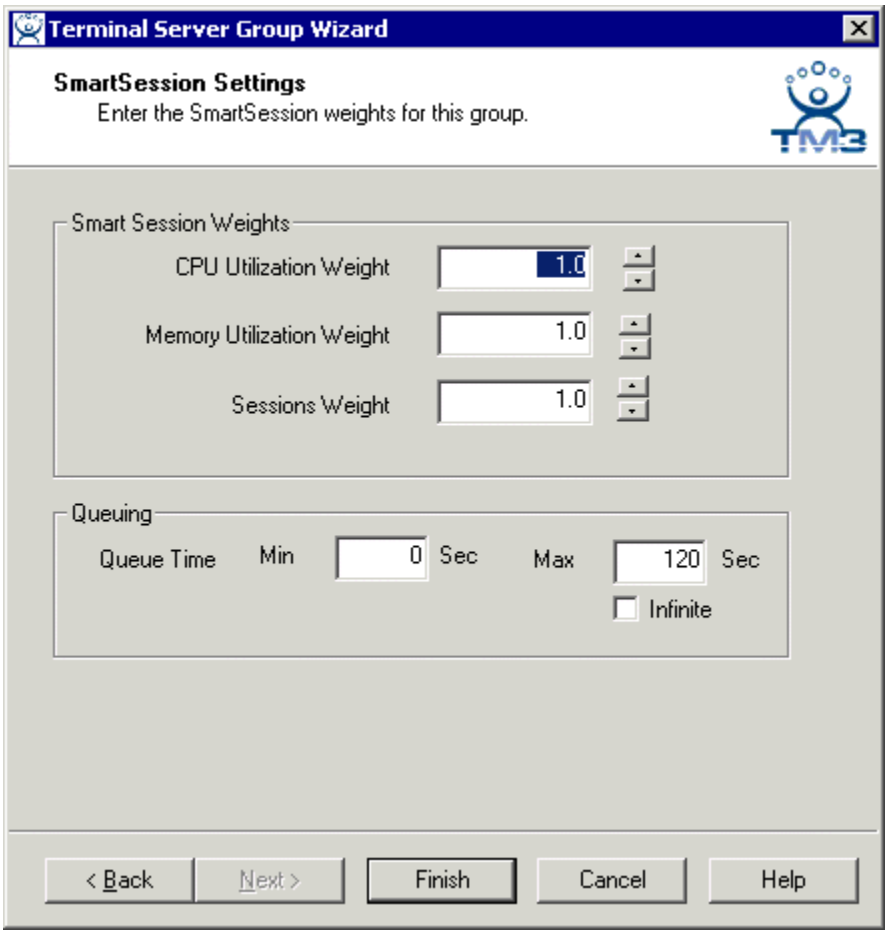
Once the Terminal Server Group is configured, the available Terminal Servers are listed on the **Terminal Server Group Members** page. Highlight the desired terminal server from the left-hand ***Available Terminal Servers*** list and use the arrow to move it into the right-hand ***Selected Terminal Servers*** column. Use the **Up** arrow and **Down** arrow to prioritize the order of connection unless SmartSession is being used.

Select *the* ***Edit Server List*** button to configure additional Terminal Servers.

If the Terminal Server Group is using the SmartSession option, the ***Next*** button will launch the **SmartSession Settings** page.

If the Terminal Server Group is not SmartSession Group the ***Finish*** button will complete the Terminal Server Group configuration.

Terminal Server Group SmartSession Settings Page



Smart Session Settings

The **SmartSession Settings** page sets the weight of the three parameters that ThinManager uses to determine availability for SmartSession.

ThinManager multiplies the CPU utilization, Memory utilization, and number of sessions on the terminal server by the ***Weight*** shown to define the SmartSession terminal server's available resources.

The higher the ***Weight***, relative to the others, the greater the importance of that parameter has in determining the load for SmartSession.

Note: The ***Weighs*** are relative. Increasing all three ***Weights*** from "1" to "10" doesn't change the relative values.

Queuing controls the rate that terminals connect to the terminal servers in the Terminal Server Group to allow processor intensive applications to load one at a time instead of many sessions forming at once, bring the server to a halt. As terminals that use SmartSession Queuing boot, they request their terminal server from ThinManager. ThinManager will send the first terminal to the terminal server with the lightest load and will put the other terminals in a queue for the interval defined in the ***Min _ Sec*** field. This allows the terminal server load to stabilize and allows ThinManager to re-sample the loads and send the terminal to the terminal server with the lowest current load.

- ***Min _ Sec*** is the amount of seconds that a terminal will wait in the queue before being sent to a terminal server that has another terminal connecting. The terminal may wait longer than this value to connect if the CPU of the terminal server exceeds the ***Maximum CPU Utilization*** defined on the

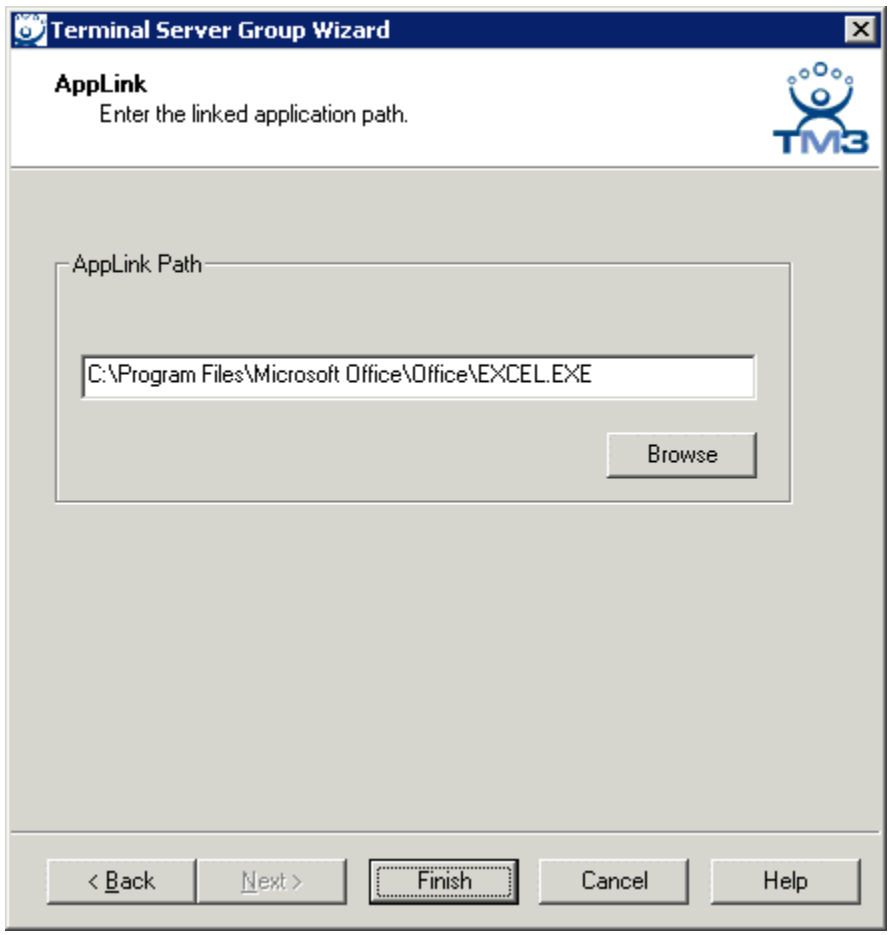
SmartSession Configuration page of the **Terminal Server Configuration** wizard. See SmartSession Configuration Page for details.

- ***Max _ Sec*** is the maximum amount of seconds that a terminal will wait in the queue before being being sent to the terminal server to login, regardless of the load.
- ***Infinite*** - If the ***Infinite*** checkbox is selected, ThinManager will wait until the CPU utilization of the terminal server has regained an acceptable range before sending other terminals to it to login.

The ***Finish*** button will close the configuration of that terminal server and return to the beginning of the Terminal Server List Wizard for the configuration of other terminal servers.

If the Terminal Server Group uses the AppLink option, an **AppLink** page will be displayed by selecting the ***Next*** button.

Terminal Server Group Linked Application Page



AppLink Path

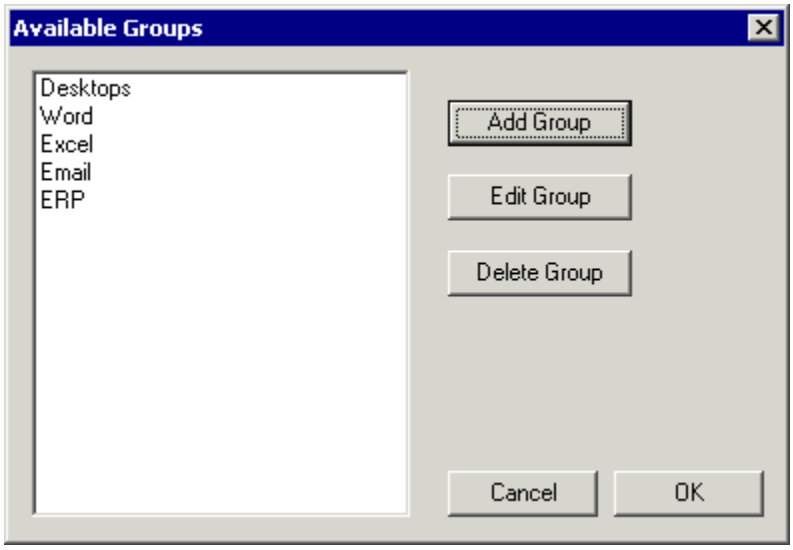
The AppLink page allows a single application to be defined for the AppLink session. Enter the path to the desired application in the ***Enter the path to the Linked Application*** field as shown in the example.

Note: The path used must be valid for each and every terminal server in the AppLink group.

Note: Quotation marks may be needed when there is a space in the path.

Selecting the ***Finish*** button will close the Terminal Server Group List wizard and display the created terminal server groups.

Available Groups Window



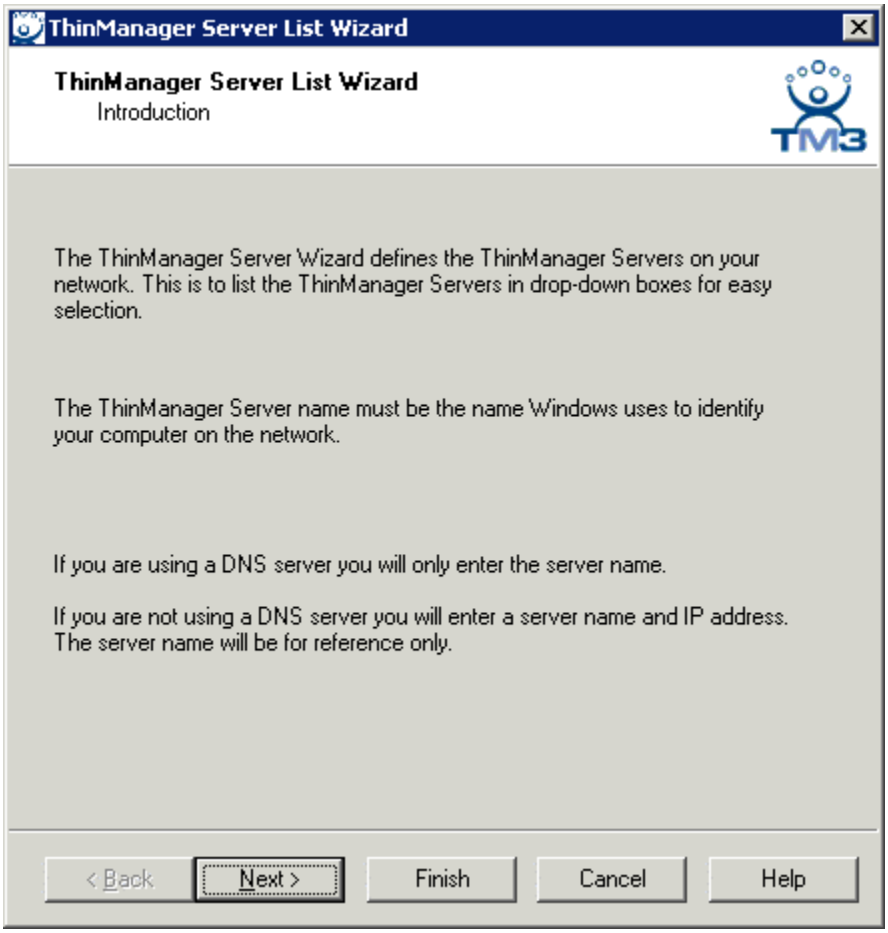
Available Groups

Additional groups can be configured by selecting the ***New Group*** button.

The **Terminal Server Group List** wizard can be closed by selecting ***OK***.

ThinManager Server List

Selecting ***Manage>Server List Management> ThinManager Server List*** or right clicking on a ThinManager Server in the tree and selecting ***Server List Management> ThinManager Server List*** will launch the ThinManager Server List Wizard to allow the definition of ThinManager Servers.

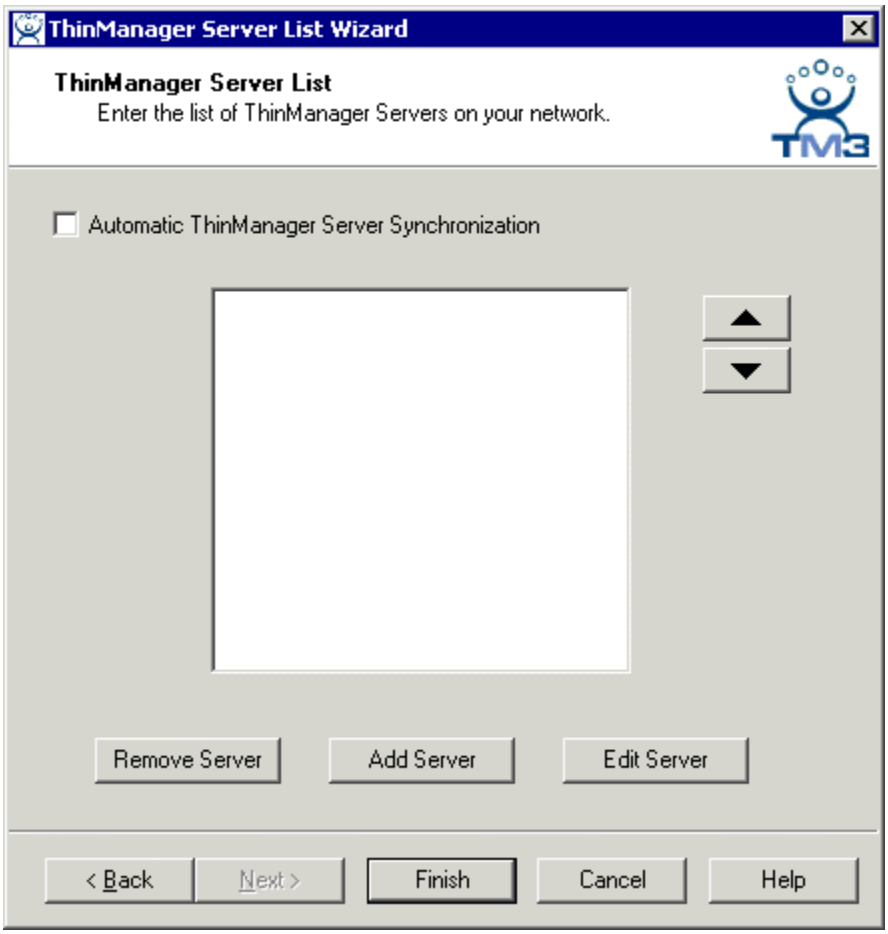


ThinManager Server List Wizard - Introduction

The ***ThinManager Server List Wizard*** begins with an introduction screen.

Select ***Next*** to proceed or click ***Finish*** to close.

ThinManager Server List Page



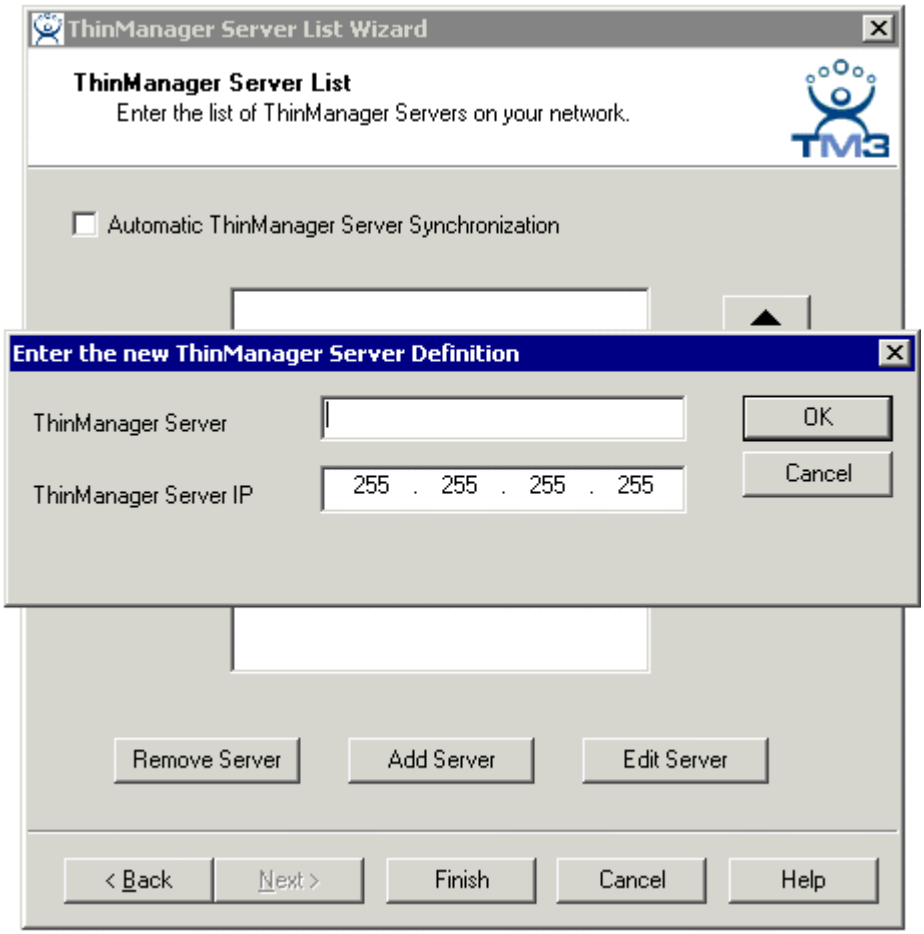
ThinManager Server List Wizard

The ThinManager Server List is the collection of ThinManager Servers on the network. These include ThinManager Servers that the terminal will communicate with to keep the connection status lights in the ThinManager tree updated. It also allows access to remote ThinManager Servers that allow network wide monitoring, control, and management.

- ***Automatic ThinManager Server Synchronization***, if checked, will connect all of the configuration databases on the ThinManager Servers in this list and keep them synchronized so that a change on one is a change on all.
- ***Remove Server*** clears a highlighted ThinManager Server from the list.
- ***Add Server*** will launch a window that allows the entry of a ThinManager Server name and IP address.
- ***Edit Server*** will launch a window that allows the change of a highlighted ThinManager Server name and IP address.

Selecting ***Add Server*** will launch a ThinManager Server Definition window that allows the entry of the ThinManager Server name and IP address.

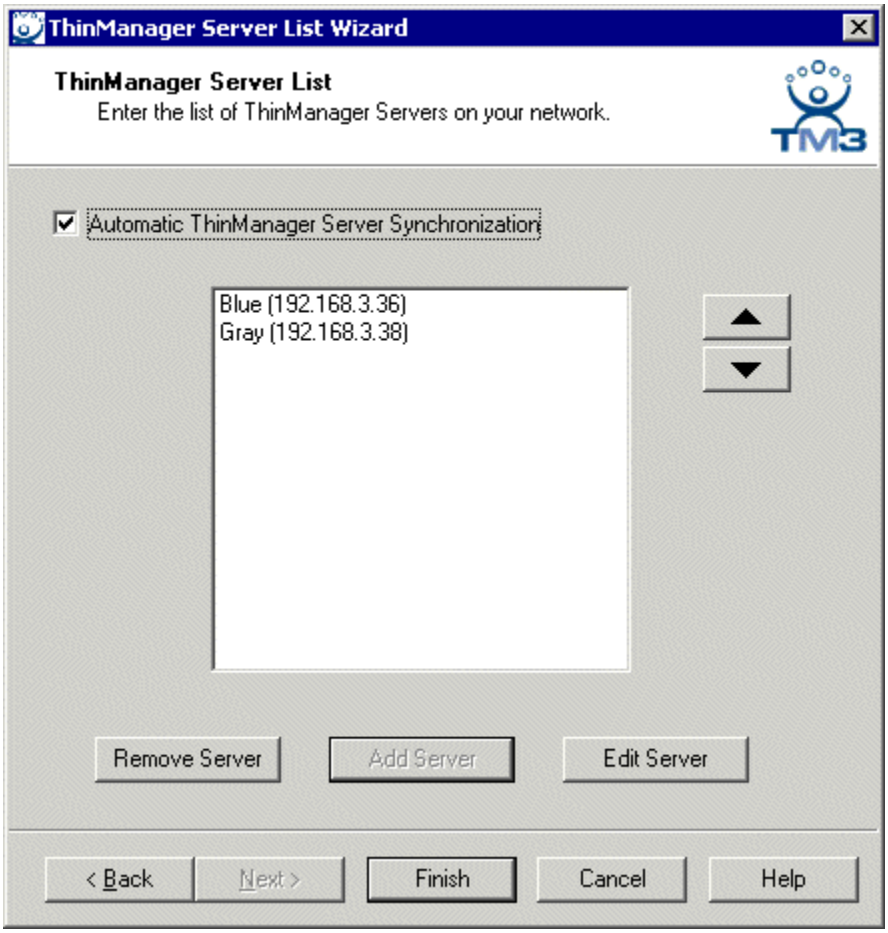
Enter New ThinManager Server Window



ThinManager Server Definition

Entering the network name of the ThinManager Server and its IP address allows the ***ThinManager Servers*** to be tied to a convenient name without the need of a DNS server.

Enter the computer name as found in the Microsoft System Properties in the ***ThinManager Server*** field. Add the IP address of the ThinManager Server in the ***ThinManager Server Address*** field, and select ***OK***. This adds the ThinManager Server to the ThinManager Server list.

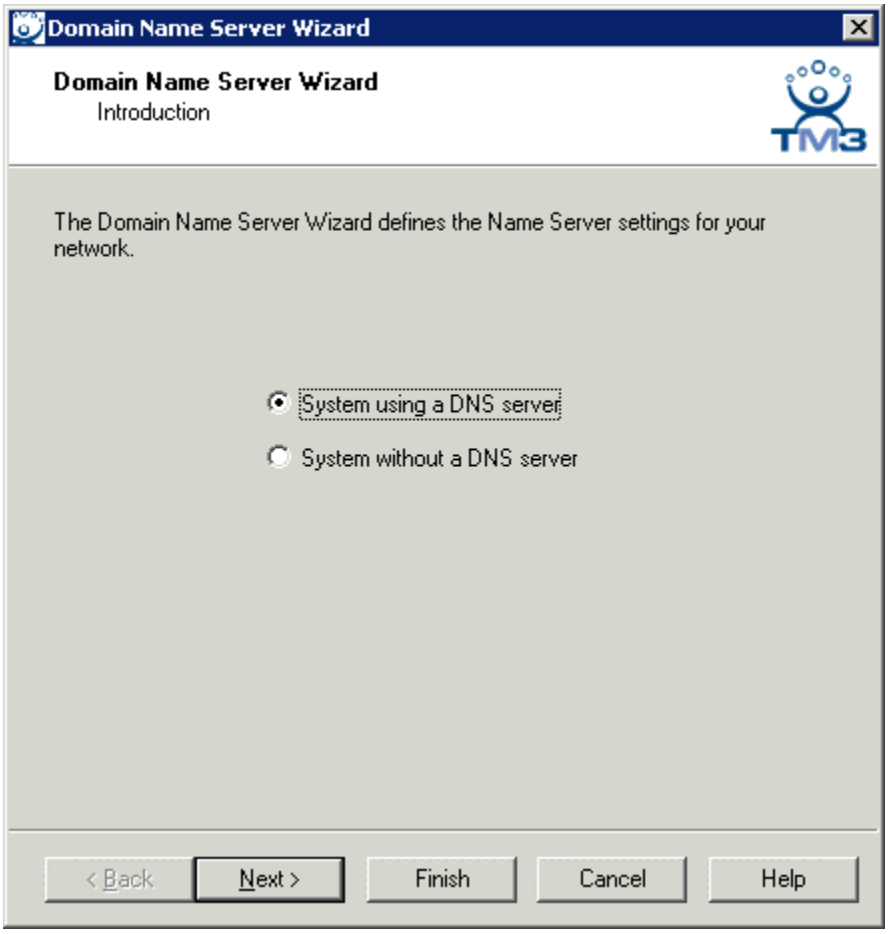


ThinManager Server List

When all of the desired ThinManager Servers are added to the list, select ***Finish*** to close the ThinManager Server List wizard.

DNS Configuration

Selecting ***Manage > Server List Management > DNS Configuration*** or right clicking on the ThinManager Server in the tree and selecting ***Server List Management> DNS Configuration*** will launch the Domain Name Server Wizard to allow the definition of Domain Name Servers.

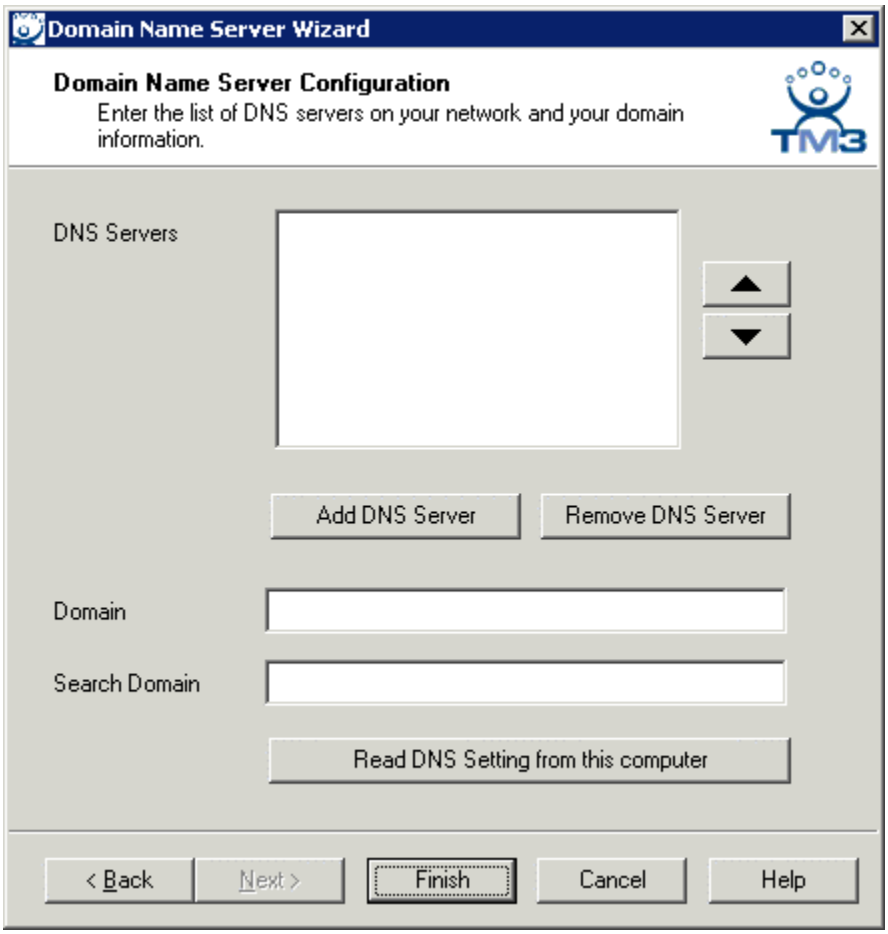


Domain Name Service Wizard - Introduction

The Domain Name Service Wizard Introduction screen will allow the use of DNS if a DNS server is being used.

- If the ***System without a DNS server*** radio button is selected, no configuration is needed. Select the ***Finish*** button to close the wizard.
- If the **System using a DNS server** radio button is selected, the ***Next*** button will launch the ***Domain Name Service Configuration*** screen.

Domain Name Server Configuration Page



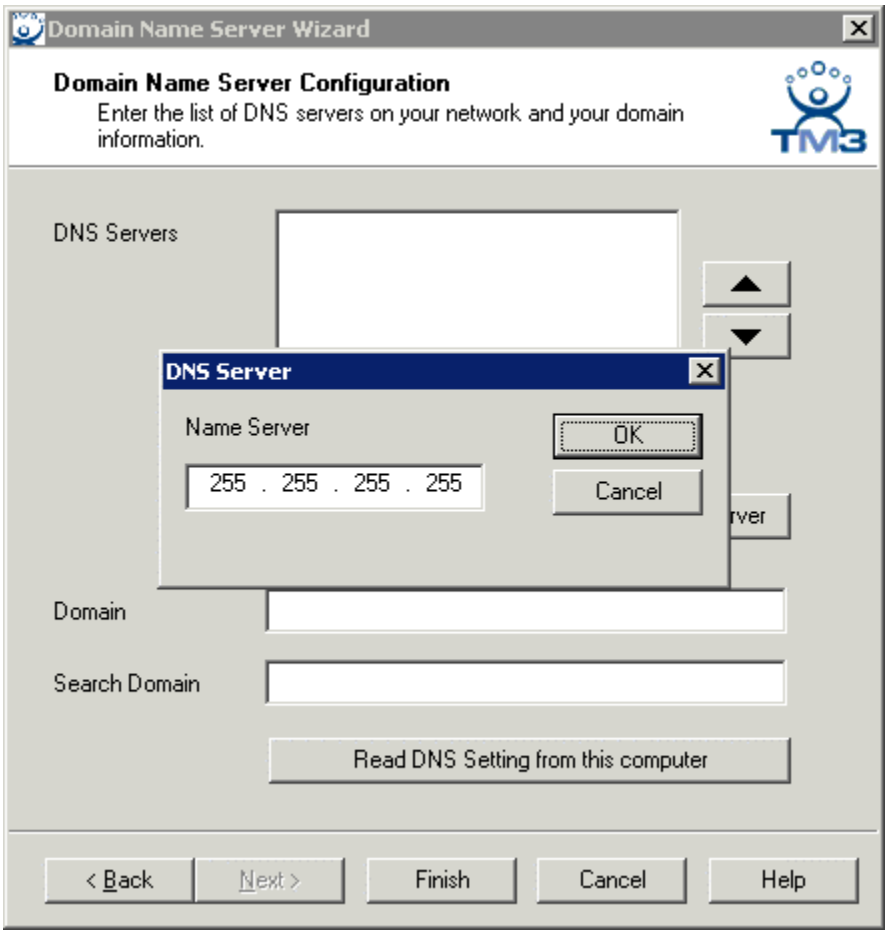
Domain Name Server Configuration

The ***Domain Name Service Configuration*** page allows DNS settings to be configured.

- The ***Add DNS Server*** **button** will launch a dialog box that allows a DNS Server to be added to the list.
- The ***Remove DNS Server*** button will remove a highlighted DNS server from the list.
- The **Up** and **Down** arrow keys will change the order of DNS servers used. Highlight a DNS server in the list and select the appropriate arrow.
- ***Domain*** is a field for the DNS domain name.
- ***Search Domain*** will add the contents of the field as a prefix to any DNS searches.
- Selecting the ***Read DNS Setting from this computer*** button will transfer the DNS settings from the current computer into ThinManager.

Selecting the Add DNS Server button will launch a dialog box that allows the IP address of the DNS server to be entered.

DNS Server Entry Window



Domain Name Server Configuration - Add DNS Server

Add the IP address of the DNS server into the ***DNS Server*** dialog and select **OK**. Additional IP addresses can be listed by selecting the ***Add DNS Server*** button again.

Select the ***Finish*** button when the DNS configuration is done.

Terminal Group Configuration Wizard

Using Terminal Groups allows a configuration to be defined for a group of terminals. Terminals added to a group will inherit the group properties to speed the configuration process. Using Groups can also aid in management because many tasks can be done on the group level instead of repeating them for multiple terminals.

ThinManager 3.0 expands the Group functionality:

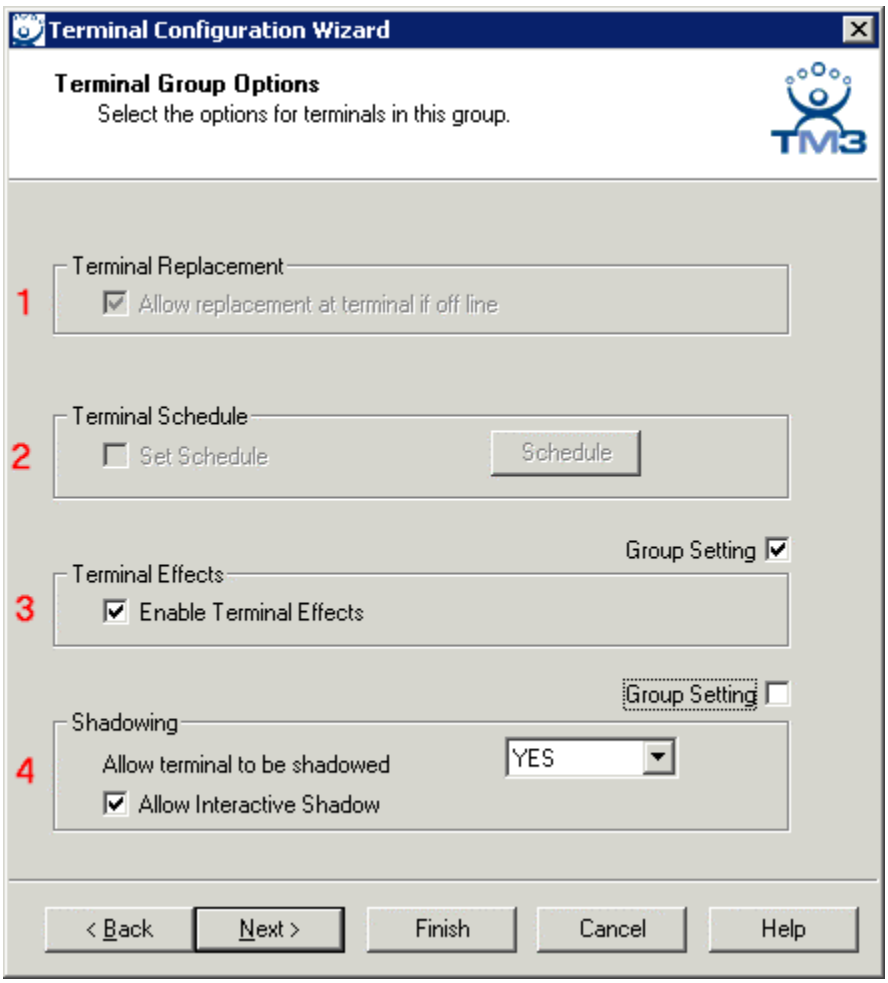
- Groups can be nested within groups, providing deeper levels of organization.
- All Group Settings now use a forced inheritance because of the new nested Groups in ThinManager 3.0. Once a setting has been selected as a group property, every terminal group and terminal beneath it will use that setting.
- Group Settings will be designated on the Configuration and Modules tabs with the Group icon of two blue monitors.

Group Settings Checkbox

The Terminal Group Configuration Wizard establishes the terminal settings for a group of terminals, while the Terminal Configuration Wizard establishes the terminal settings for the individual terminal. The Terminal Configuration Wizard and the Group Configuration Wizard use the same forms so they are very similar, with a few different settings.

The Group wizard will have **Group Setting** checkboxes for each setting. Selecting this checkbox will force that setting to be inherited by nested sub-groups and member terminals. This is a significant difference from previous versions of ThinManager that allowed any **Group Setting** to be un-selected and individually configured for a terminal.

The Group Settings of any sub-group or terminal will be grayed out to prevent changes if the group setting is selected on the parent. Changes need to be made at the Group level.



Group Setting Example

This example shows variations in the use of four ***Group Settings*** on the **Terminal Group Options** page of a nested group.

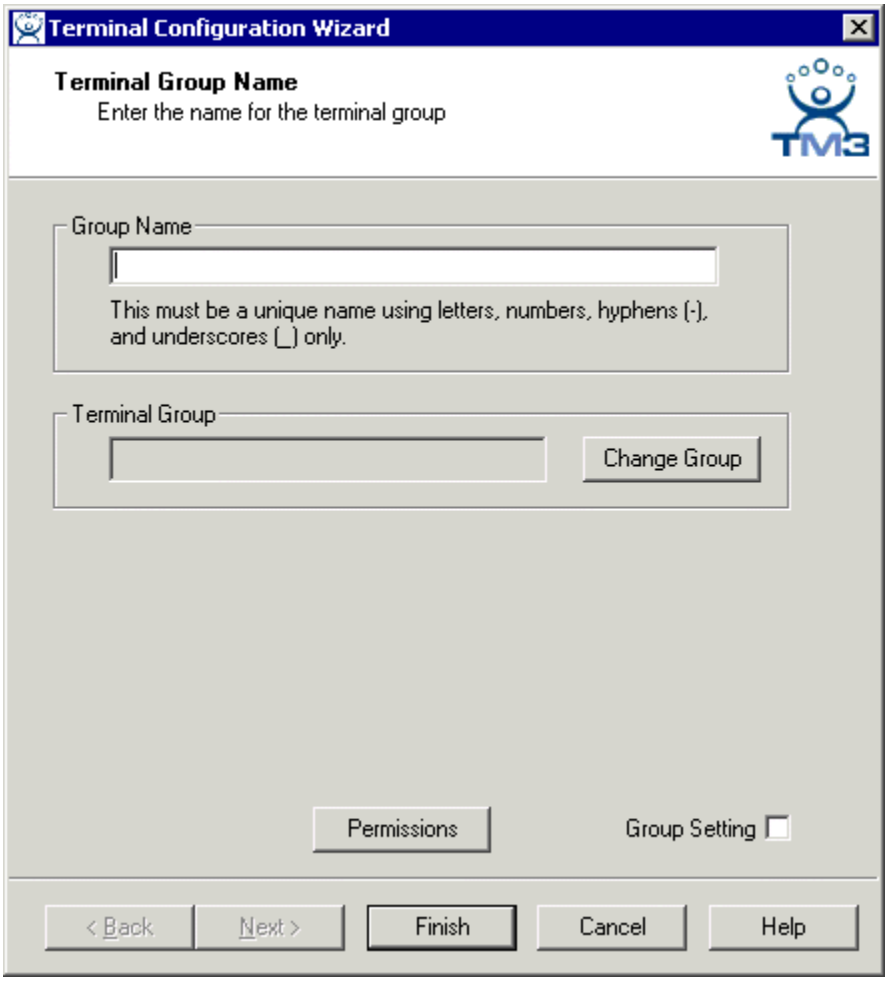
Terminal Replacement (1) and ***Terminal Schedule*** (2) were configured in the parent group and cannot be changed in this child group. ***Terminal Replacement*** (1) was set as checked, while ***Terminal Schedule*** (2) was set as unchecked.

The ***Terminal Effects*** (3) Group Setting is selected for this Group. It will be grayed out in child groups and member terminals.

The ***Shadowing*** (4) Group Setting is unselected, making it available to be set for child groups and member terminals.

Group Name Page

The ***Group Configuration Wizard*** can be launched by selecting ***Edit>Add Terminal Group*** or by or right clicking on the Terminals branch in the tree and selecting ***Add Group***.

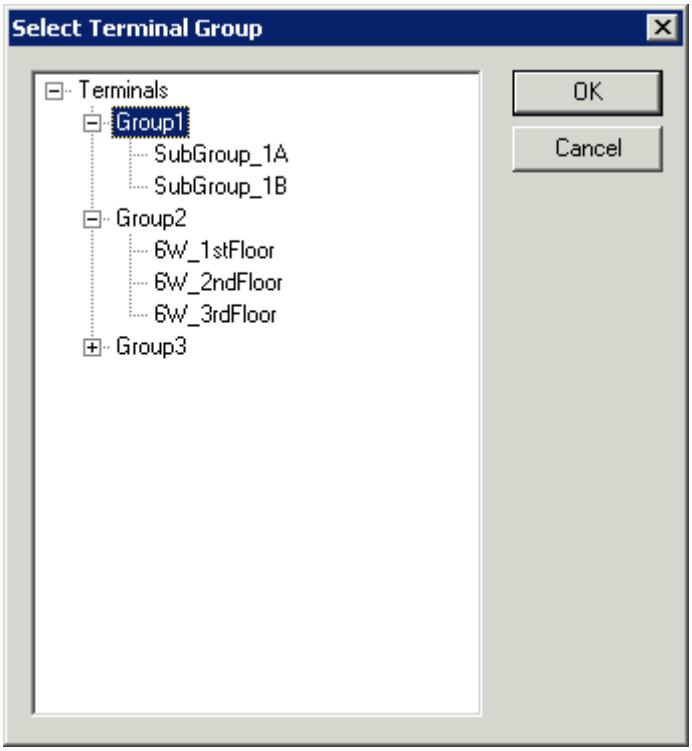


Group Configuration Wizard - Group Name

When a Group is first added, giving it a name is the first priority. Use numbers, letters, hyphens (-) and underscores (_), but don't use spaces or other characters.

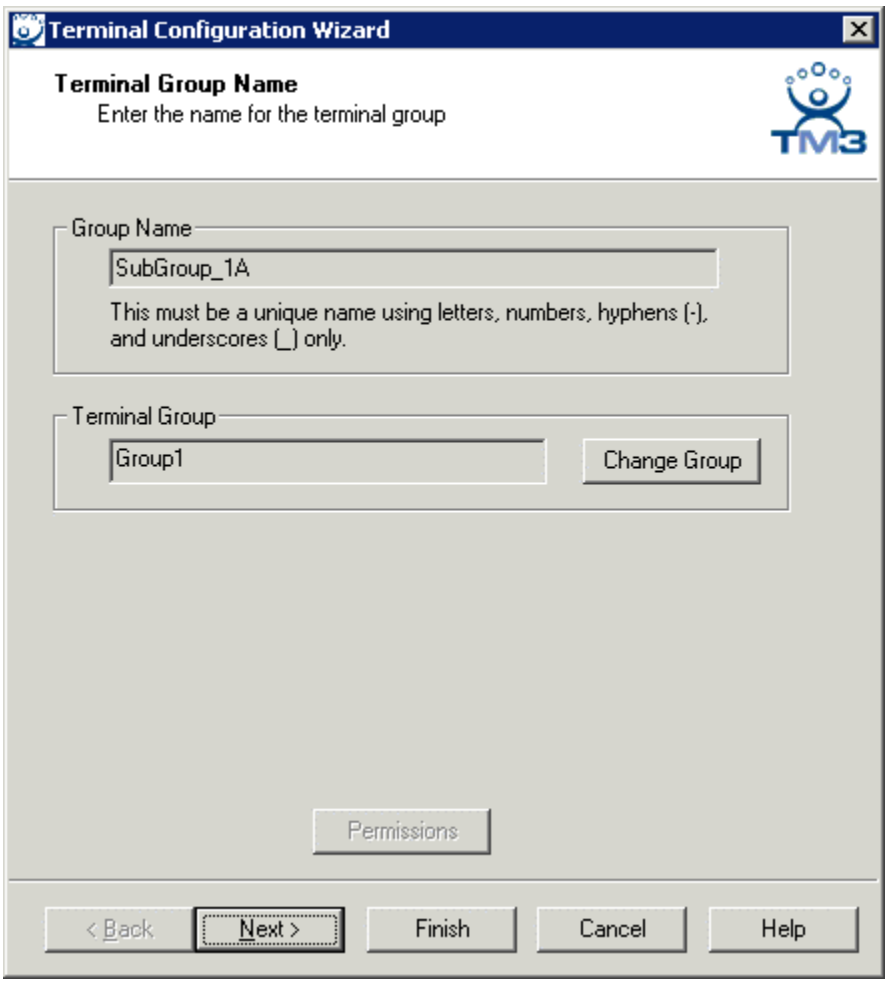
Terminal Groups can be added to Terminal Groups, creating a multi-level hierarchy.

Select the ***Change Group*** button to launch the **Select Group** window.



Select Terminal Group Window

The **Select Group** window will show a tree displaying the group hierarchy. Highlight the Terminal Group that you want to join and select the ***OK*** button to join or select the ***Cancel*** button to quit without joining.



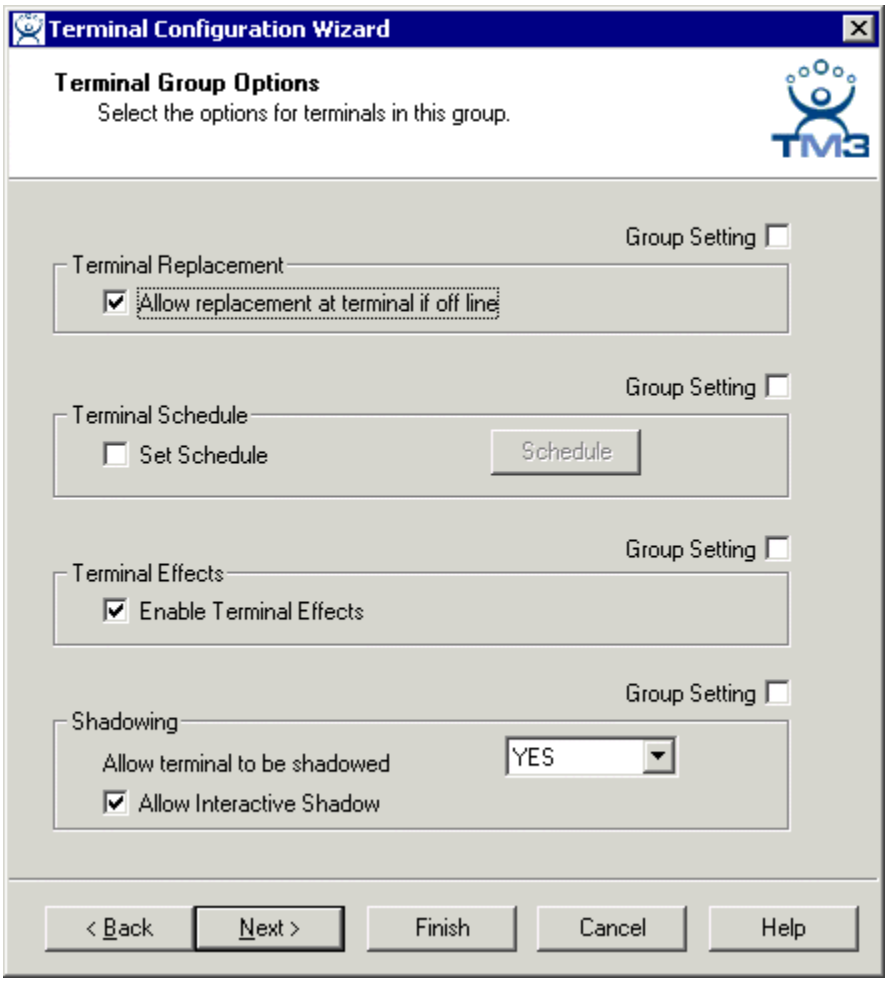
Terminal Group Configuration Wizard - Group Name Page

The parent Terminal Group you joined will be displayed in the ***Group*** field.

The ***Permission*** button allows the Terminal Group to be assigned Access Groups for security. This is a function of TermSecure. See Permissions for details.

Select the Next ***button*** to continue or select the ***Cancel*** button to close the configuration wizard without saving.

Terminal Group Options



Terminal Group Configuration Wizard - Terminal Group Options

Selecting the ***Allow replacement at terminal if offline*** checkbox will allow all members of the group to show up in the replacement list during a new terminal connection. See Replace or Create New Terminal Mode for details.

Set Schedule allows members of the group to be disabled, rebooted, or enabled on a schedule.

Select the ***Set Schedule*** checkbox and click the ***Schedule*** button to launch the **Schedule** window to configure the schedule for members of the group. See Terminal Schedule for details.

Enable Terminal Effects, when selected, will allow the desktops in MultiSession to slide smoothly into the desktop instead of appearing instantaneously.

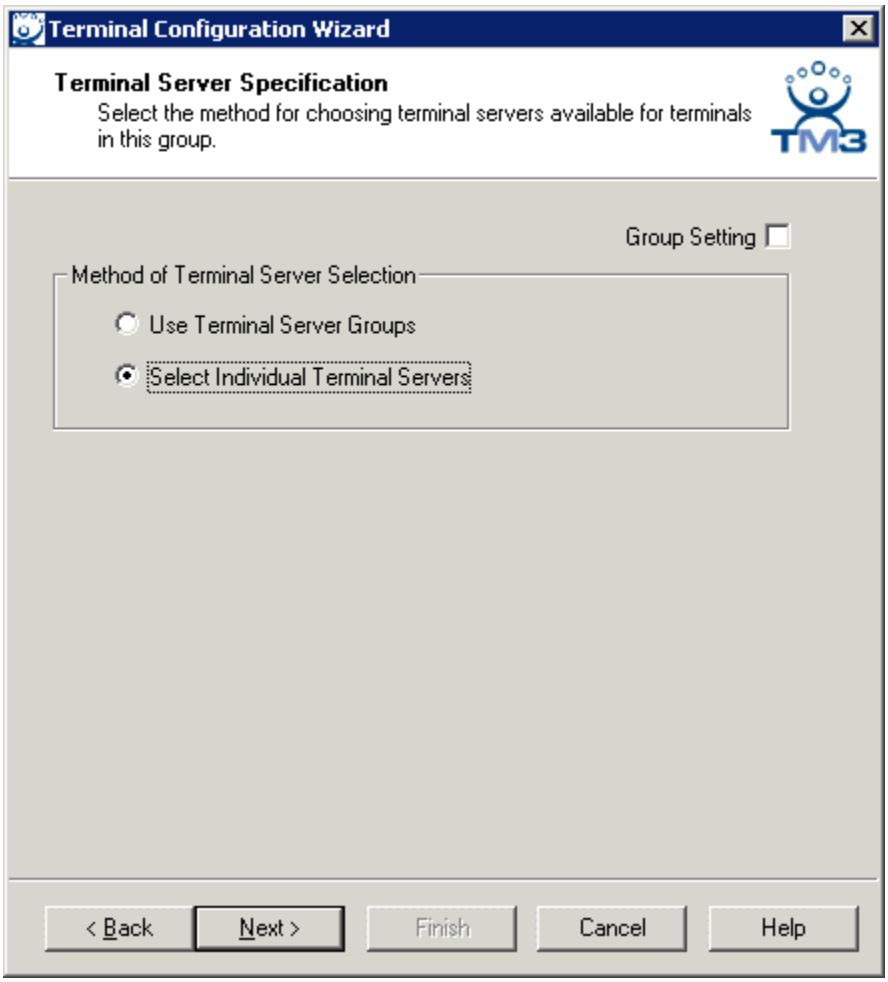
The ***Allow terminal to be shadowed*** drop-down box allows the configuration of Shadowing Options.

- ***No*** - Prevents members of the Group from being shadowed.
- ***Ask*** - Will display a message window that will prompt for a positive response before the shadowing is allowed.
- ***Warn*** - Will display a message window alerting the terminal that it is to be shadowed, but doesn't require a positive response before the shadowing is allowed.
- ***Yes*** - Allows shadowing to occur without warning or recipient input.

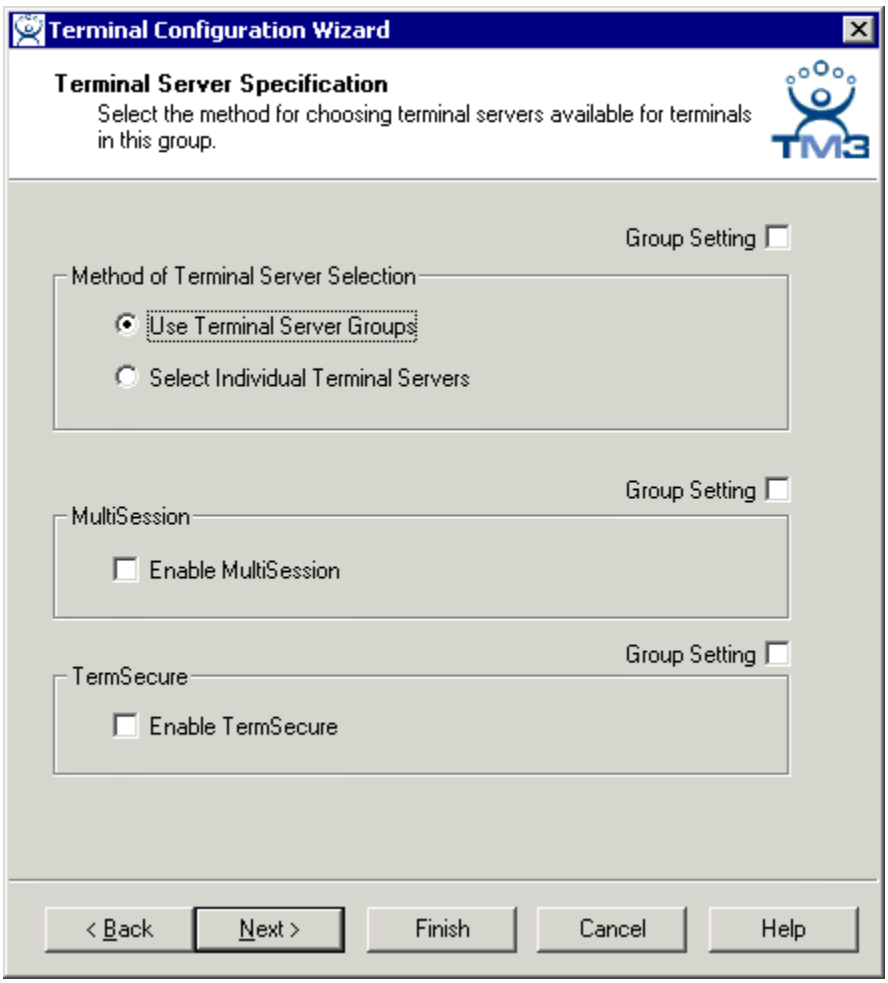
Allow Interactive Shadow will allow members with Interactive Shadow privileges to shadow members of the Group. Shadowing is initiated from the Shadow tab on the Details pane of the ThinManager program. Unselecting this will prevent shadowing from within ThinManager. See Shadowing and ThinManager Security Groups for details.

The ***Group Setting*** checkboxes will lock the settings for the group and all member terminals.

Group Terminal Server Specification Page



Terminal Server Specification - Select Individual Terminal Servers



Terminal Server Specification - Use Terminal Server Groups

The ***Method of Terminal Server Selection*** radio button provides options for terminal server connections.

- ***Use Terminal Server Groups*** will allow terminals to connect to terminal servers in Terminal Server Groups for increased functionality like load balancing. See Terminal Server Groups for details.
- ***Select Individual Terminal Servers*** will allow terminals to connect to a list of terminal servers as it has been traditionally done in earlier versions of ThinManager. When this is chosen, the other options are hidden.

If the Use Terminal Server Groups is selected, two other settings become available.

- The ***Enable MultiSession*** checkbox allows the terminals in the group to use the MultiSession functionality as described in MultiSession. This only available to Groups that use Terminal Server Groups. See MultiSession for details.
- ***Enable TermSecure***, when checked, will enable TermSecure functionality. This is covered in the TermSecure section. See TermSecure for details.

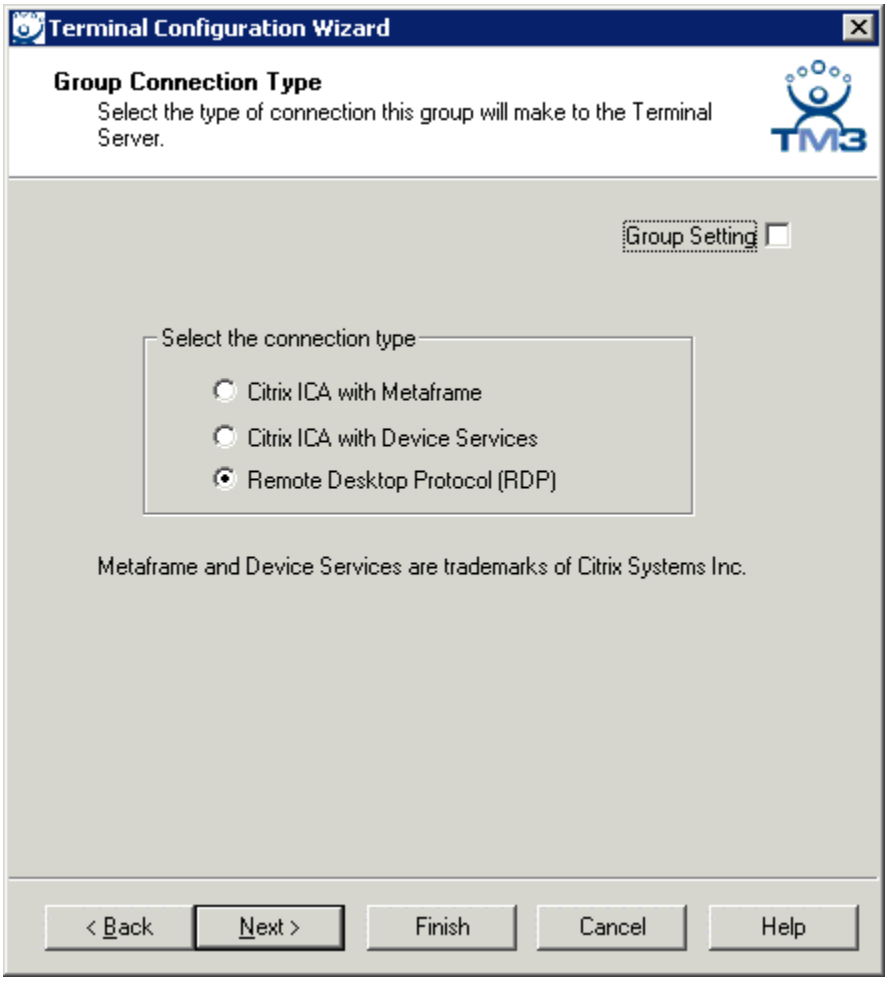
The ***Group Setting*** checkboxes will lock the settings for the group and all member terminals.

Groups Using Individual Terminal Servers

Groups that have the ***Select Individual Terminal Servers*** radio button selected will connect to terminal servers as assigned on the Terminal Server Specification page.

The **Group Connection Type** page is displayed next to allow the selection of the desired Client Communication Protocol.

Group Connection Type Page



Terminal Group Configuration Wizard - Connection Type

Thin clients use a client communication protocol to connect to the Terminal Servers. Select the correct protocol and select the ***Next*** button.

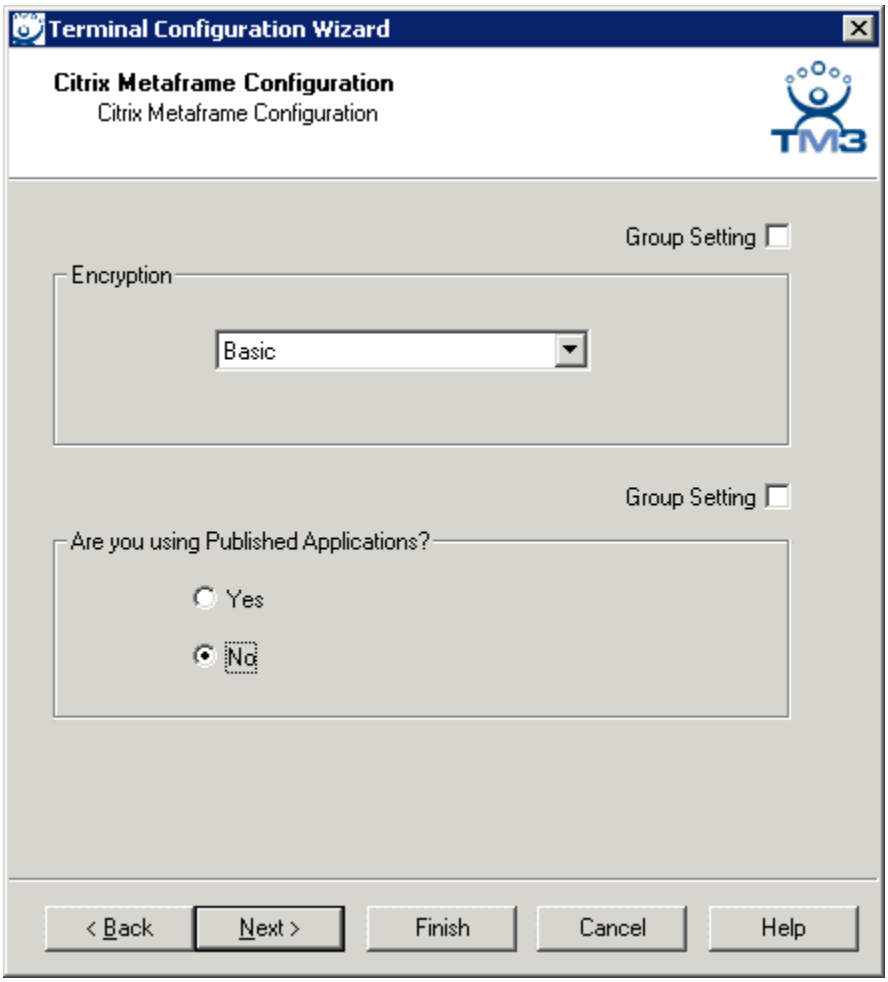
- Select the ***Citrix MetaFrame*** radio button if that program or a similar program is to be used to provide the ICA protocol. Citrix MetaFrame is an optional program sold by Citrix.
- Select the ***Citrix Device Services*** radio button if Citrix Device Services is to be used to provide the ICA protocol. Citrix Device Services is a legacy deployment of ICA for Windows 2000 Terminal Servers but is no longer supported by Citrix. ThinManager Ready thin clients can still connect to terminal servers with Device Services, but no new Device Services terminal servers can be licensed.
- Microsoft Remote Desktop Protocol (RDP) is installed by default on all Windows Terminal Servers. The ***Microsoft Remote Desktop Protocol (RDP)*** radio button is selected by default unless you choose another protocol.

The ***Group Setting*** checkbox will lock the settings for the group and all member terminals.

Selecting ***Citrix ICA with MetaFrame*** offers additional configuration options before displaying the Terminal Server Selection. Selecting ***Citrix ICA with Device Services*** and ***Remote Desktop Protocol (RDP)*** will jump to the Terminal Server Selection.

A Group using Citrix MetaFrame, as its Client Communication Protocol, will be shown additional configuration screens beginning with the **Citrix MetaFrame Configuration** page.

Group Citrix MetaFrame Configuration Page



Terminal Group Configuration Wizard - Citrix MetaFrame Configuration

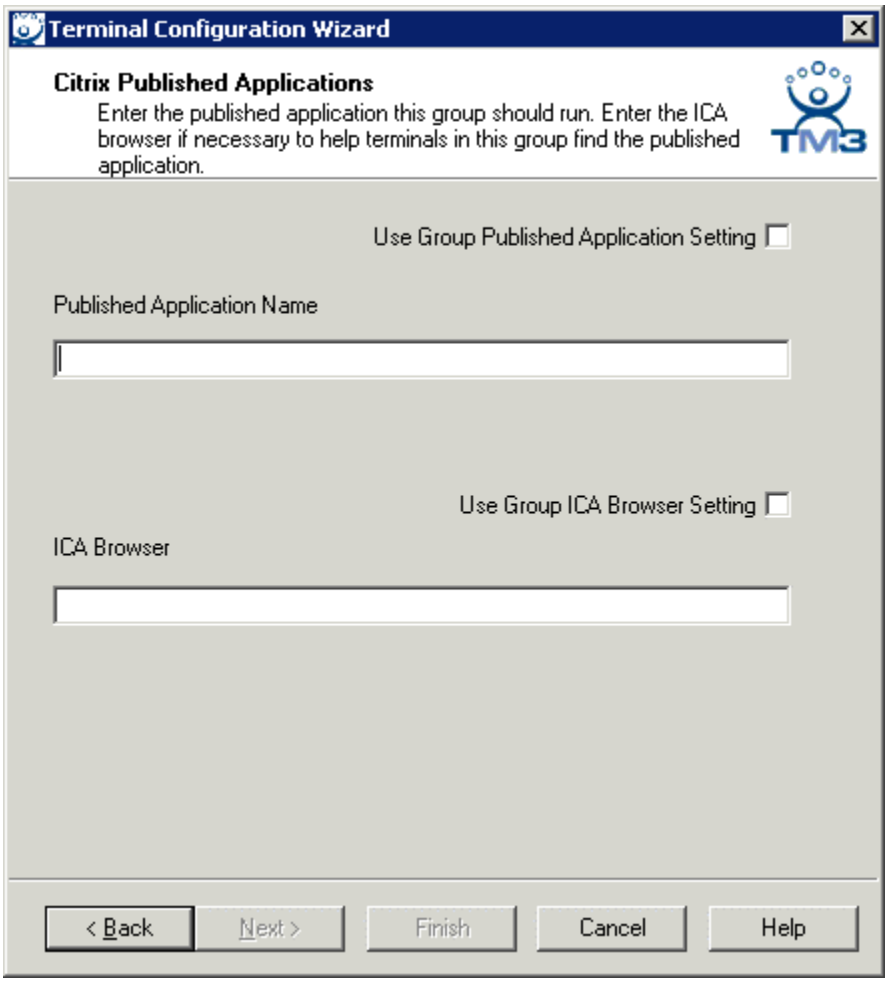
Citrix MetaFrame allows increased encryption in the ICA protocol. Select a level from the ***Encryption*** drop-down box.

Citrix MetaFrame has a feature called **Published Applications**. If you are using Published Applications, select the ***Yes*** radio button, then select the ***Next*** button to continue to the **Citrix Published Application** dialog.

The ***Group Setting*** checkboxes will lock the settings for the group and all member terminals.

If you are not using Published Applications, select the ***No*** radio button, then select the ***Next*** button to continue to the Terminal Server Selection dialog.

Group Citrix Published Applications Page



Terminal Group Configuration Wizard - Citrix Published Applications

Enter the name of the desired Published Applications in the ***Published Applications*** field. Do not use spaces in the name when creating a Published Application for Terminal Services.

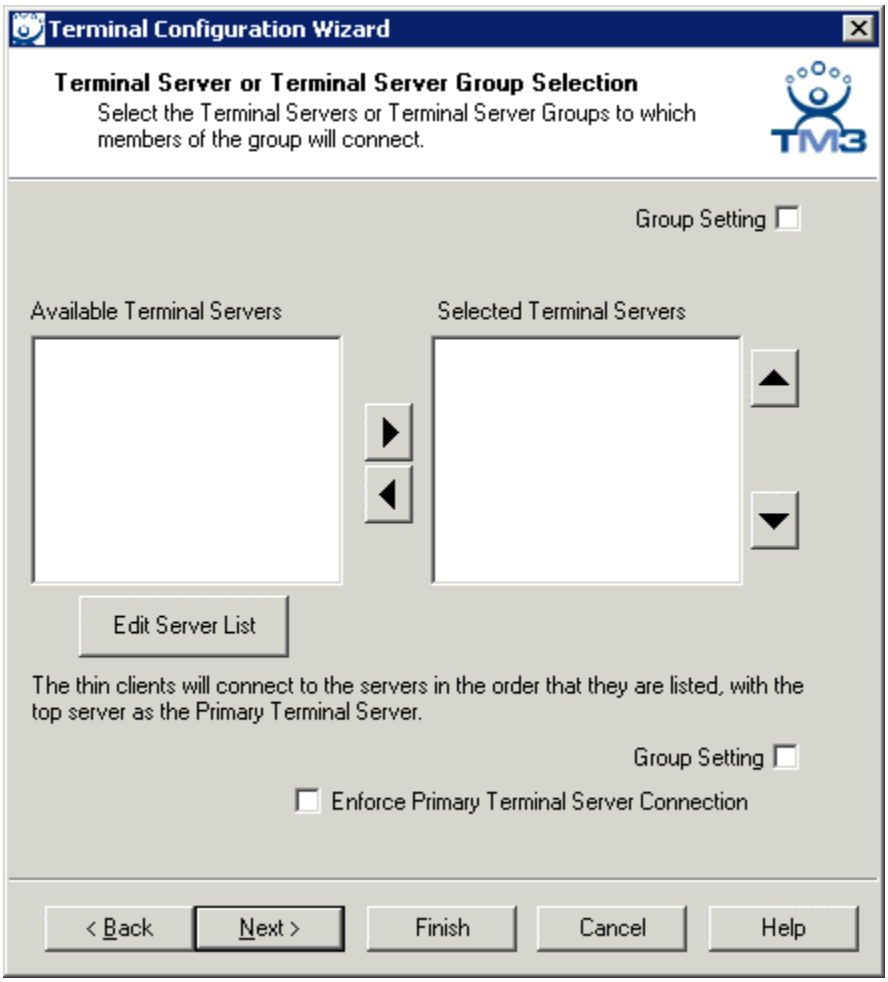
Citrix MetaFrame uses ICA Browsers as part of the system. Because the ICA client may have problems detecting an ICA browser across a router or switch, an ***ICA Browser*** field is provided for entering the name of an ICA browser.

The ***Group Setting*** checkboxes will lock the settings for the group and all member terminals.

Select the ***Finish*** button to create the Group, or select the ***Next*** button to rejoin the main configuration path to configure more options.

Groups using the ***Select Individual Terminal Servers*** will be shown the Group Terminal Server Selection page where the desired terminal servers can be selected.

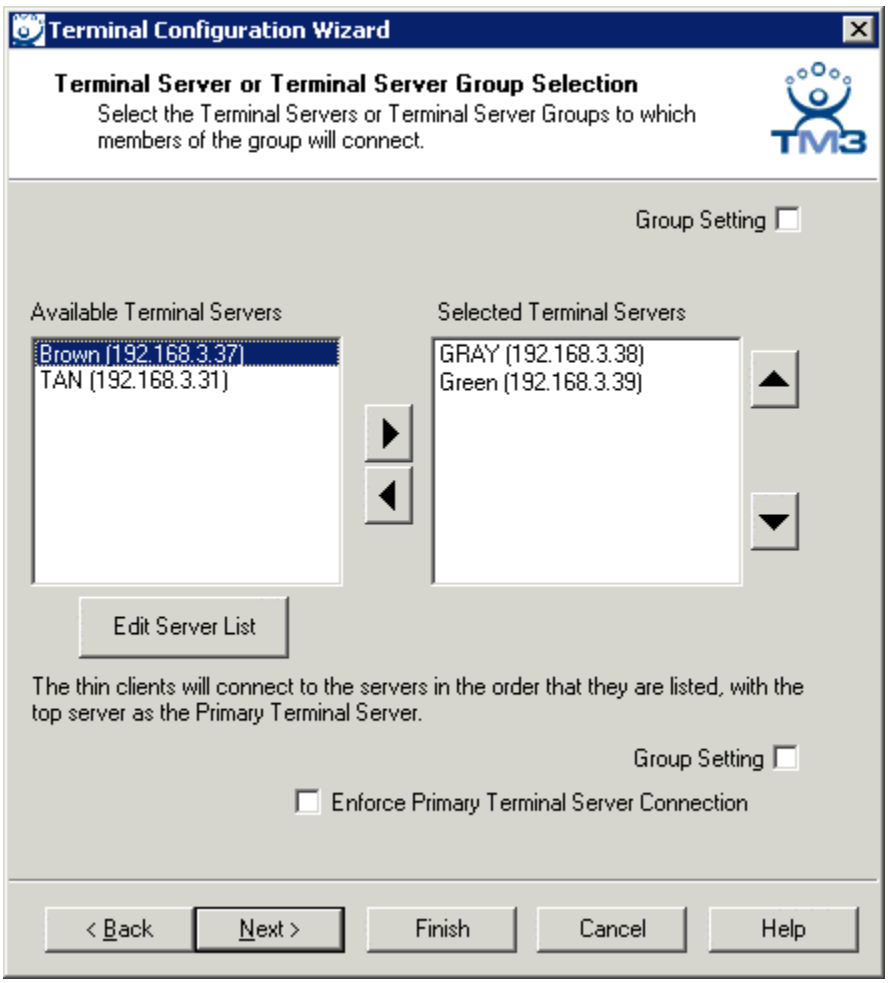
Group Terminal Server Selection Page



Terminal Group Configuration Wizard - Group Terminal Server Selection

If Published Applications or Terminal Server Groups are not being used, the terminal will need to be assigned to a Terminal Server. The Terminal Server is a server that allows a terminal to logon and run applications in an independent session.

If the ***Available Terminal Server*** column is empty, the **Terminal Server List Wizard** needs to be run to add terminal servers to ThinManager. Select the ***Edit Server List*** button to launch the Terminal Server List Wizard as shown in the Terminal Server List Wizard.



Terminal Group Configuration Wizard - Terminal Server Selection

Once the **Terminal Server List** wizard has run, each Terminal Server that is identified in the Terminal Server List Wizard will initially appear in the ***Available Terminal Servers*** box on the left of the Group Terminal Server Selection.

To choose a terminal server for the Group, highlight it in the list on the left and click the ***Right*** arrow button or double click on it. This will put the Terminal Server into the ***Selected Terminal Server*** list on the right. The Group will use all the Selected Terminal Servers as Terminal Servers, in the order listed.

The Terminal Server on the top of the Selected Terminal Server List will be the **Primary Terminal Server**, the first Terminal Server that the terminal will attempt to login to. If the Primary Terminal Server fails, or is unavailable, the terminal will connect to the other terminal servers in the order that they are listed.

To change the order of the Terminal Servers in the Terminal Server Selection list, highlight a Terminal Server and use the ***Up*** arrow button and the ***Down*** arrow button to move it up or down in the list.

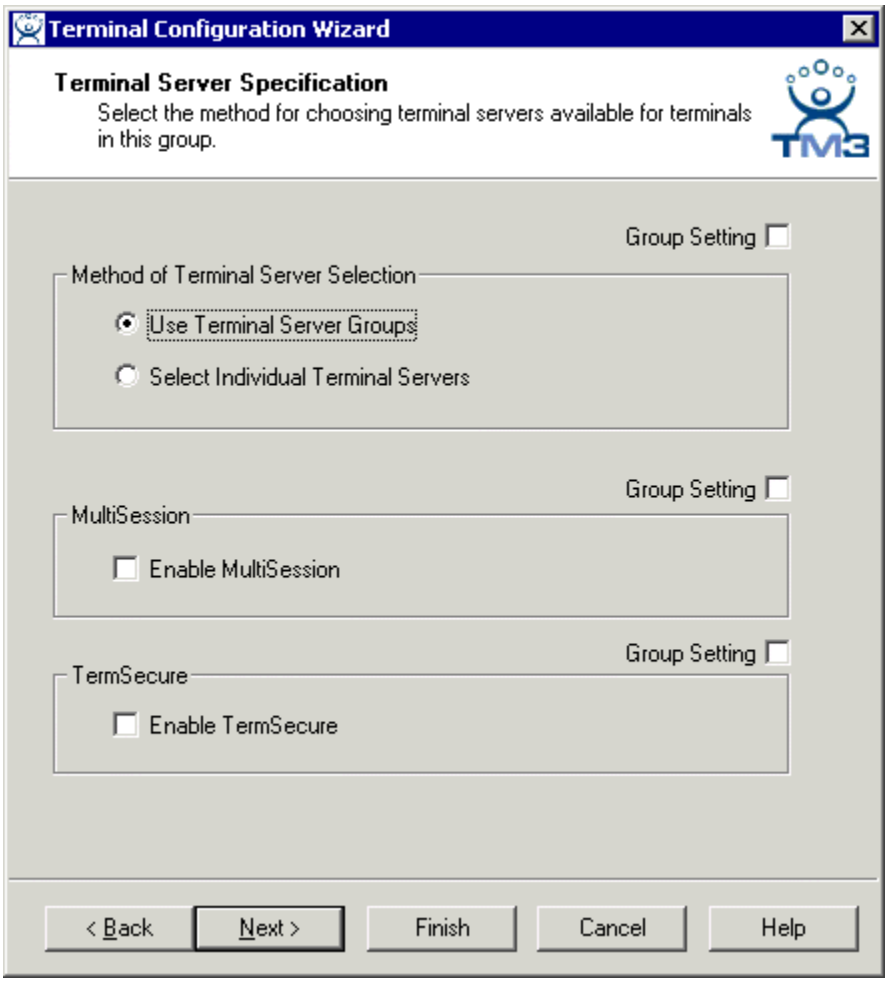
The ***Enforce Primary Terminal Server Connection*** will cause a terminal to return to the primary terminal server whenever that server is available.

The ***Group Setting*** checkbox will lock the settings for the group and all member terminals.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

Groups Using Terminal Server Groups

Members of a Group may connect to Terminal Server Groups by selecting the ***Use Terminal Server Groups*** on the Terminal Server Specification page instead of using the ***Select Individual Terminal Servers*** setting.



Terminal Group Configuration Wizard - Terminal Server Specification

If ***Use Terminal Server Groups*** is selected, an ***Enable MultiSession*** and an ***Enable TermSecure*** checkbox will be displayed.

Check the ***Enable MultiSession*** checkbox to connect to two or more terminal server groups at once. See MultiSession for details.

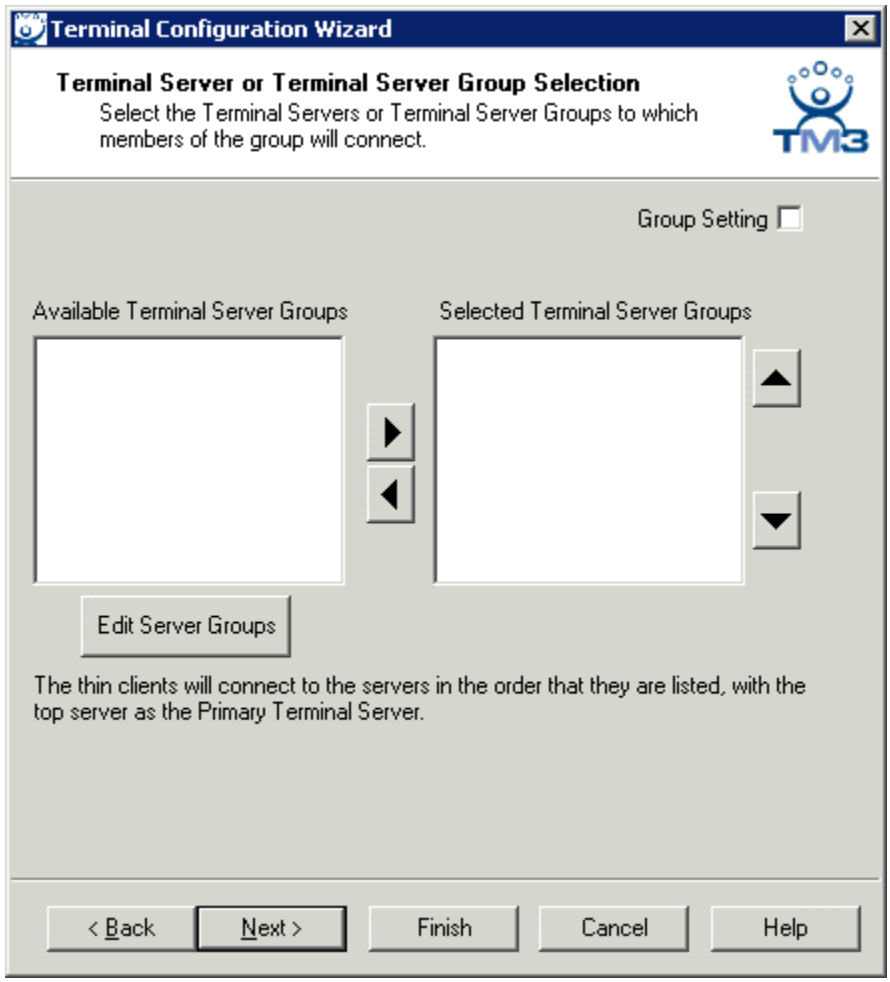
Enable TermSecure, when checked, will enable TermSecure functionality. This is covered in the TermSecure section. See TermSecure for details.

The ***Group Setting*** checkboxes will lock the settings for the group and all member terminals.

Select ***Next*** to continue configuration.

The ***Group Terminal Server Selection*** page is displayed next to allow the selection of the desired Terminal Server Groups.

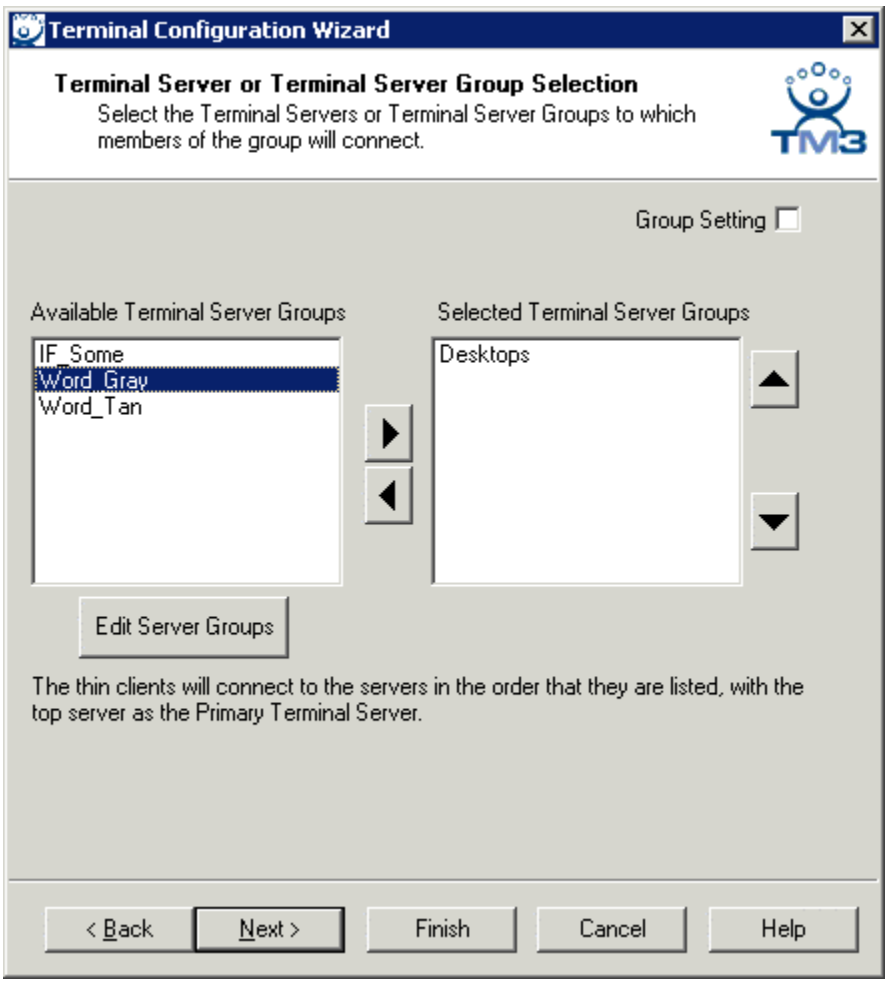
Group Terminal Server Group Selection Page



Terminal Group Configuration Wizard - Group Terminal Server Selection

The Group will need to connect to Terminal Server Groups that contain terminal servers that will host the sessions.

If the **Available Terminal Server Groups** column is empty, the **Terminal Server Groups List** wizard needs to be run to configure Terminal Server Groups. Select the ***Edit Server Groups*** button to launch the **Terminal Server Group Wizard** as shown in Terminal Server Group List.



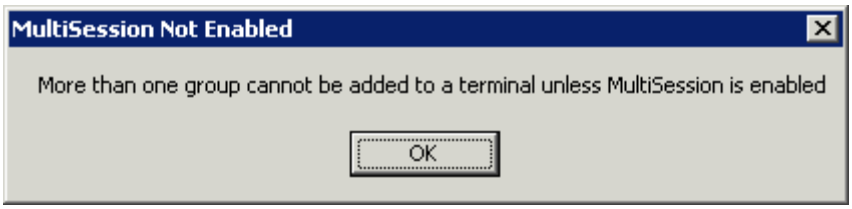
Terminal Group Configuration Wizard - Terminal Server Selection

Once the ***Terminal Server Group*** wizard has run, each Terminal Server Group that is identified in the Terminal Server Group Wizard will initially appear in the ***Available Terminal Server Groups*** box on the left of the **Group Terminal Server Selection** page.

Note: The Available Terminal server Groups will only list Terminal Server Groups that are appropriate. Only RDP Terminal Server Groups will be shown if the Group is using RDP. If the ***Enable MultiSession*** checkbox was selected on the **Terminal Server Specification** page, only Terminal Server Groups with MultiSession capabilities are shown in the ***Available Terminal Server Groups*** list. .

To select a Terminal Server Group for a Group, highlight it in the list on the left and click the right arrow button or double click on it. This will put the Terminal Server Group into the ***Selected Terminal Server*** Group list on the right. The Group will use the ***Selected Terminal Server Groups*** for the terminal servers that it can login to.

Selecting the ***Enable MultiSession*** checkbox on the **Terminal Server Specification** page will allow more than one Terminal Server Group to be selected for use. If it is not selected, an error message will be displayed when a second Terminal Server Group is added.

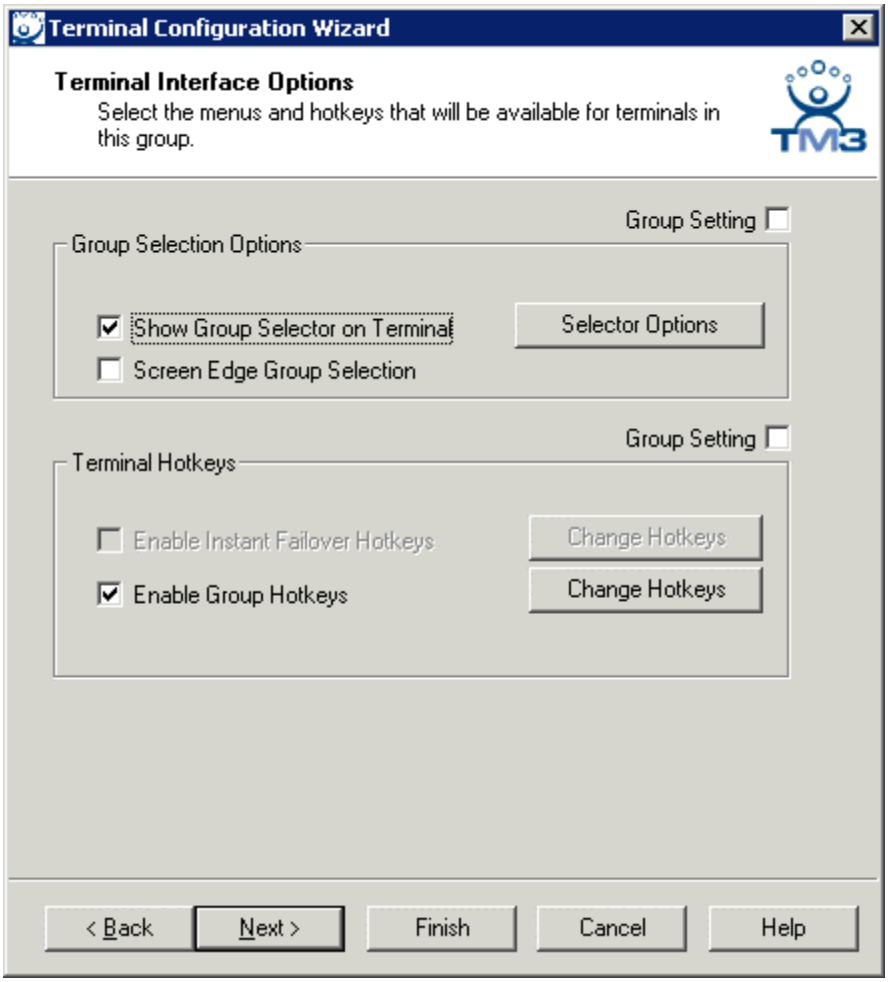


MultiSession Not Enabled Error

The ***Group Setting*** checkbox will lock the settings for the group and all member terminals.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

Group Client Interface Options Page



Terminal Group Configuration Wizard - Client Interface Options

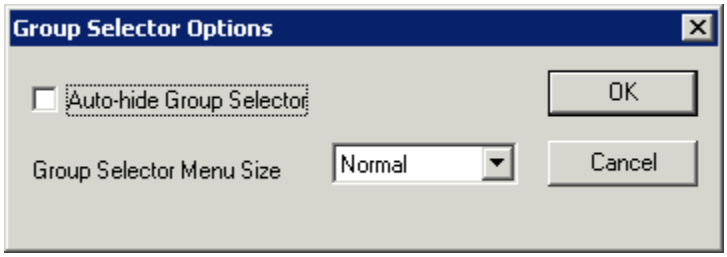
Terminals in a Group using MultiSession will need to have a method to switch between sessions. This is configured on the Group Client Interface Options page.

Group Selector Options allow on-screen switching of sessions.

- ***Show Group Selector on Terminal*** - This checkbox, if selected, will display an on-screen drop-down menu that can be activated by mouse.

- ***Screen Edge Group Selection*** - This checkbox, if selected, will activate a feature that will switch windows if the mouse is moved off screen.

The ***Selector Options*** button will launch **the Group Selector Options** window that allows configuration of the on-screen Group Selector bar.



Group Selector Options Window

The ***Auto-hide Group Selector*** checkbox will hide the Group Selector until the mouse is move to that space.

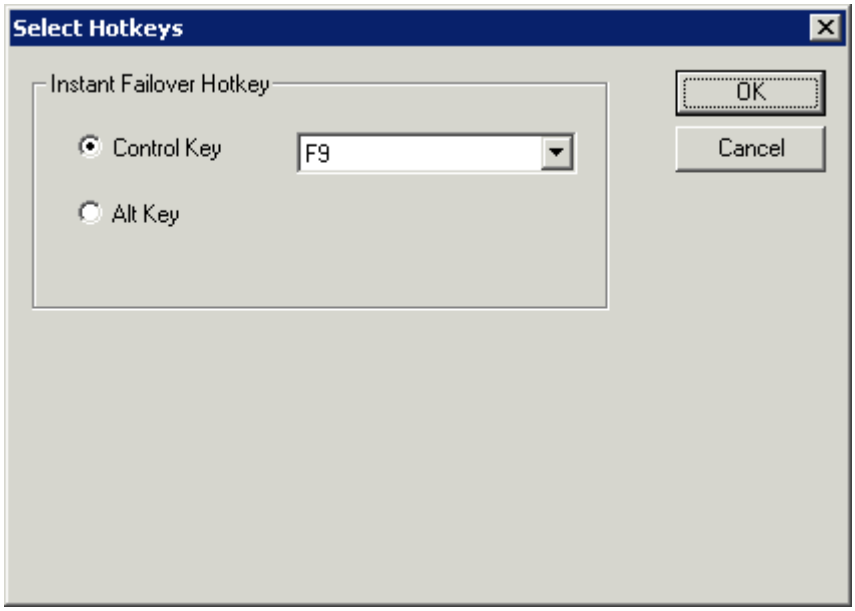
The ***Group Selector Menu Size*** drop-down box allows the setting of the size of the Group Selector font.

Select the ***OK*** button to accept changes or the ***Cancel*** button to close.

Terminal Hotkeys on the Client Interface Options page allows the selection of keyboard combinations that allow switching between sessions.

- ***Enable Instant Failover Hotkeys*** - This checkbox, if selected, allows the hot key switching between the two active sessions of a Terminal Server Group that is using Instant Failover.
- ***Enable Group Hotkeys*** - This checkbox, if selected, allows the hot key switching between different sessions of a terminal using MultiSession.

Selecting the ***Change Hotkeys*** button when the ***Enable Instant Failover Hotkeys*** is checked will allow the hotkeys for switching between Instant Failover sessions to be changed from the default.

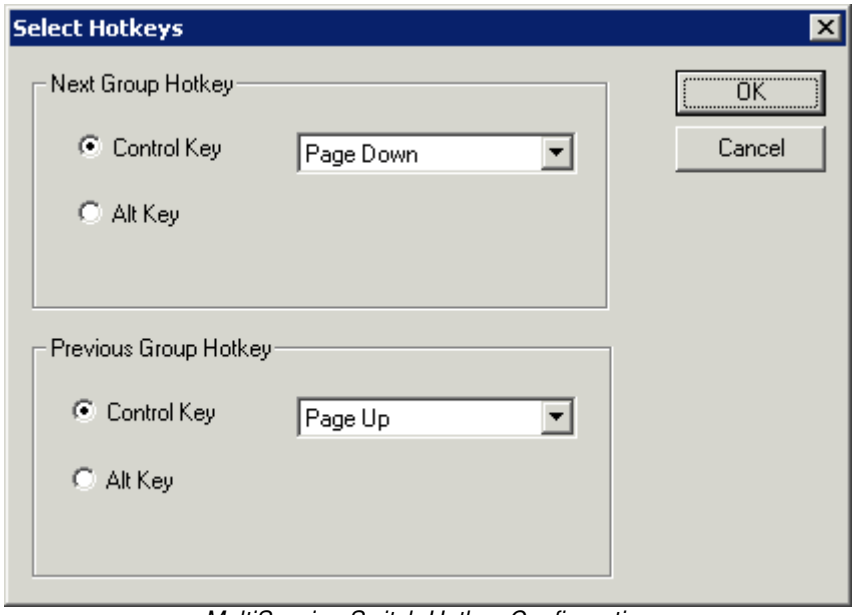


Terminal Server Group Instant Failover Hotkey Configuration

The default hotkey for Instant Failover switching is set to ***Control+F9***. This can be changed using the ***Alt*** key radio button and the dropdown.

See Instant Failover for details.

Selecting the ***Change Hotkeys*** button when the ***Enable Group Hotkeys*** is checked will allow the hotkeys to be changed from the default.



MultiSession Switch Hotkey Configuration

The default hotkey for MultiSession Group switching is set to ***Control+Page Up*** and ***Control+Page Down***.

The hot keys can be changed by using the ***Alt*** radio button and dropdown boxes.

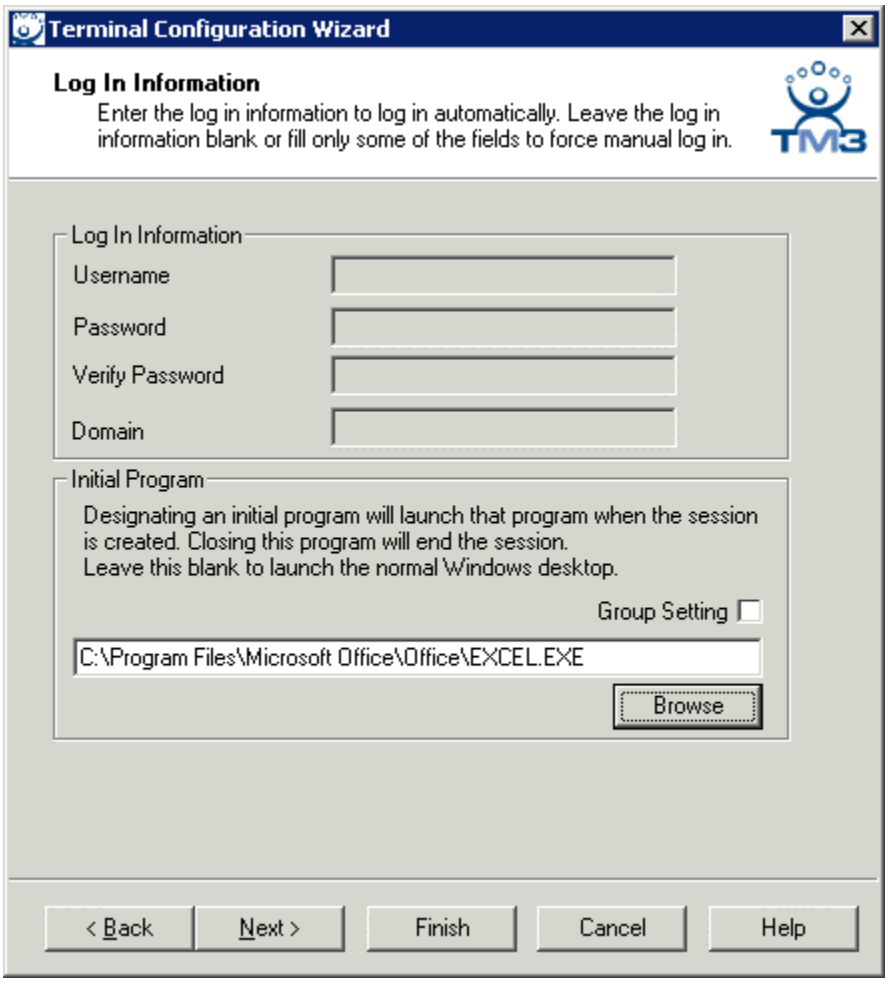
See MultiSession for details.

Select the ***OK* button** to continue or the ***Cancel*** button to close without accepting changes.

Continuation of the Group Configuration

The configuration paths (Independent Terminal Servers vs. Terminal Server Groups, MetaFrame vs. Device Services and RDP) unite at the **Group Login Configuration** page.

Group Login Information Page



Login Information - Select Individual Terminal Servers

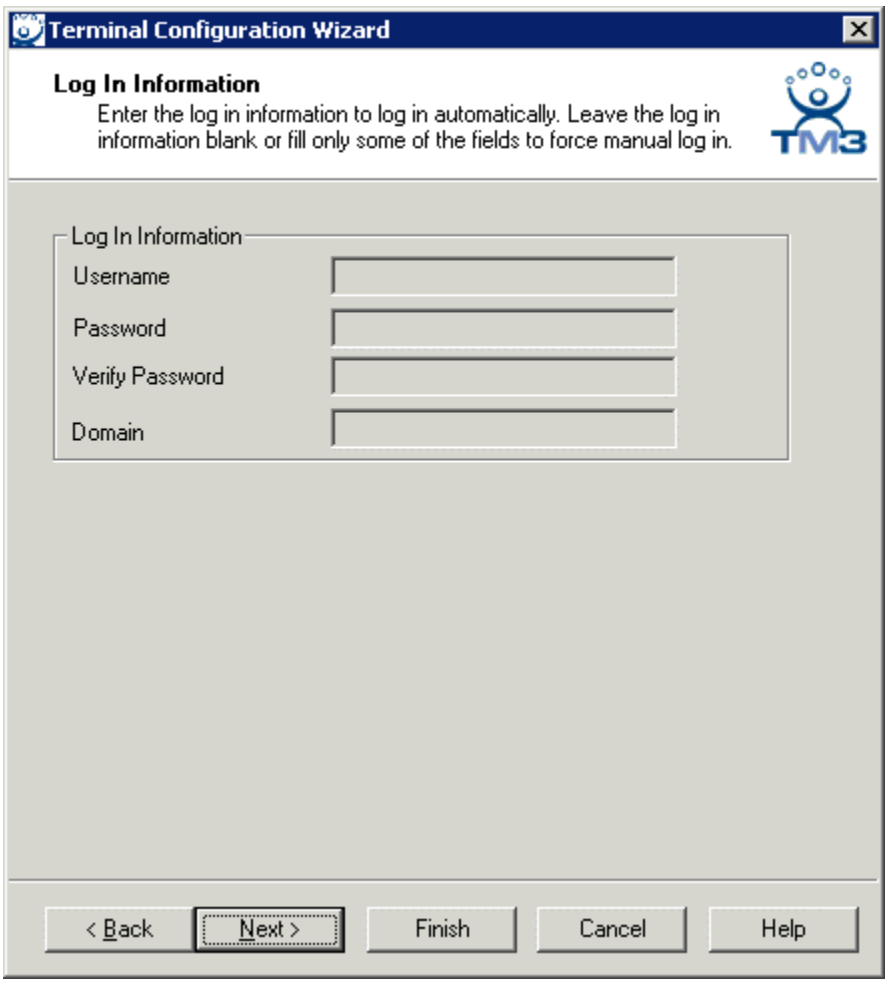
It is recommended that each terminal login to a Terminal Server with a unique profile. For this reason, the Group ***Username***, ***Password***, and ***Domain*** are inactive in the Terminal Group Configuration. These need to be set individually during the Terminal Configuration.

The ***Initial Program*** loads the designated program instead of the Windows desktop when the terminal connects to the Terminal Server. If a program is launched as the initial program, it is the only program that will run. This provides a level of security and control because that program is the only program that will run in that session. If the Initial Program is closed on the terminal, the session on the Terminal Server will close and the ThinManager Ready Thin Client will reconnect to the Terminal Server and re-launch the Initial Program. This effectively makes the Initial Program the only program. See Initial Program for details.

To use the Initial Program, enter the path to the program in the ***Initial Program*** field. The ***Browse*** button will open a file browser to allow program selection.

Note: When using the Initial Program with failover, the path must be identical on all terminal servers. If the path is different, use a batch file to launch the application.

The ***Group Setting*** checkbox will lock the settings for the group and all member terminals.



Login Information - Use Terminal Server Groups

Terminal Groups using Terminal Server Groups do not display the Initial Program field. AppLink instead provides the Initial Program function. See AppLink for details.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

Group Video Resolution Page

Group Configuration Wizard - Video Configuration

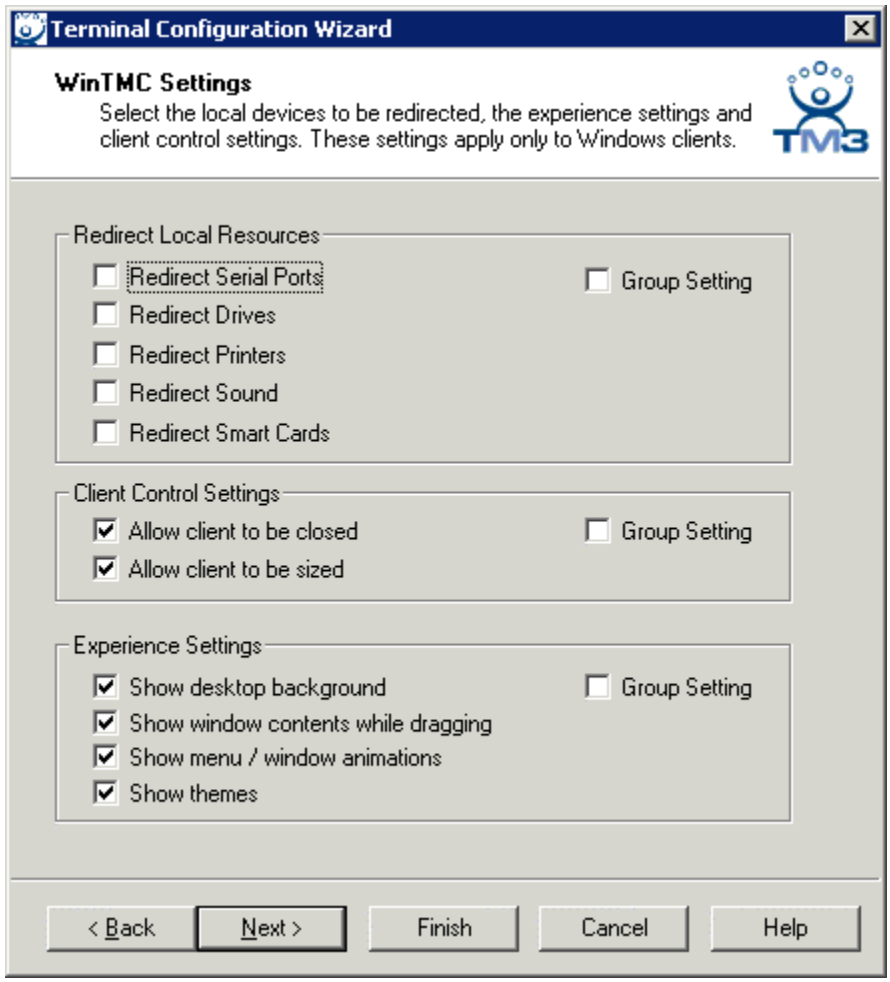
The **Group Video Resolution** page has a drop-down box that allows the video resolution to be set for all members of the Group.

The standard terminal connection uses a 256-color depth. The 64K-color depth is available by using RDP connected to a Windows 2003 Terminal Server, or by using the ICA client with Citrix MetaFrame 1.8 FR1 or greater.

The ***Group Setting*** checkbox will lock the settings for the group and all member terminals.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

Group WinTMC Settings



Group WinTMC Settings Page

WinTMC clients can be configured on the Group WinTMC Settings page. These only apply to connections made by the WinTMC fat client. See WinTMC Fat Client for details about the WinTMC client.

The settings include:

Redirect Local Resources:

- **Redirect Serial Ports** – Enable this setting to make the local PC serial ports available in the WinTMC session. Serial Port redirection does not work when you connect to a terminal server running Windows 2000 or earlier.
- **Redirect Drives** – Enable this setting to make the local drives of the PC available in the session. Drive redirection does not work when you connect to a terminal server running Windows 2000 or earlier.
- **Redirect Printers** – Enable this setting to make a local printer available in the session.
- **Redirect Sound** –Enable this setting to allow audio played in your session to play locally. Sound redirection does not work when you connect to a terminal server running Windows 2000 or earlier.

- **Redirect Smart Cards** – Enable this setting to make your PC smart card available in a session. Smart card redirection does not work when you connect to a terminal server running Windows 2000 or earlier.

Client Control Settings:

- **Allow Client to be closed** – Enable this setting if you want your user to be able to close the client.
- **Allow client to be sized** – Enable this setting if you want your user to be able to resize the client.

Experience Settings:

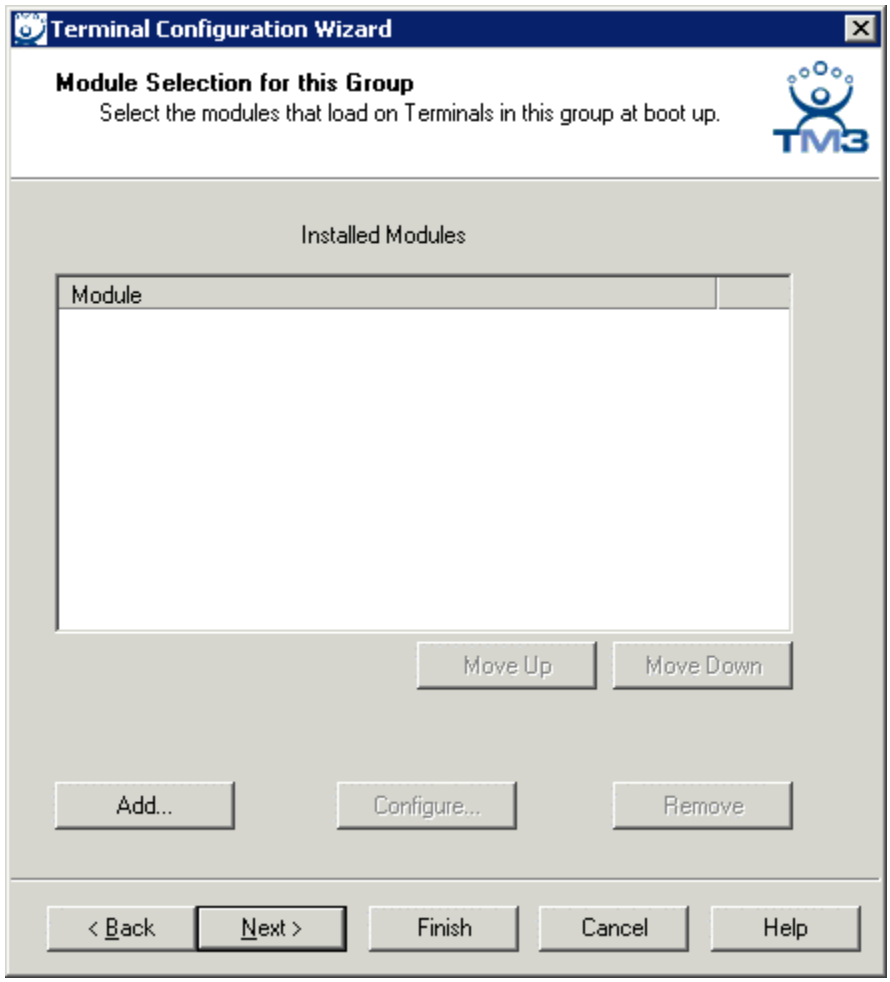
- **Show Desktop Background** – Enable this setting if you want your user to be able to select a Windows Desktop Background instead of a default solid color background.
- **Show window contents while dragging** – Enable this setting if you want the window contents of a window to be shown while the window is being dragged within the session.
- **Show menu/window animations** – Enable this setting if you want menu/window animations to be enabled in the session.
- **Show Themes** – Enable this setting if you want your user to be able to select a Windows Theme for the session.

Note: These functions may be denied by user policies or terminal server configuration. Check the Microsoft Local Policy, Group Policy, and Terminal Services Configuration. See Non-ThinManager Components for details.

The ***Group Setting*** checkbox will lock the settings for the group and all member terminals.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

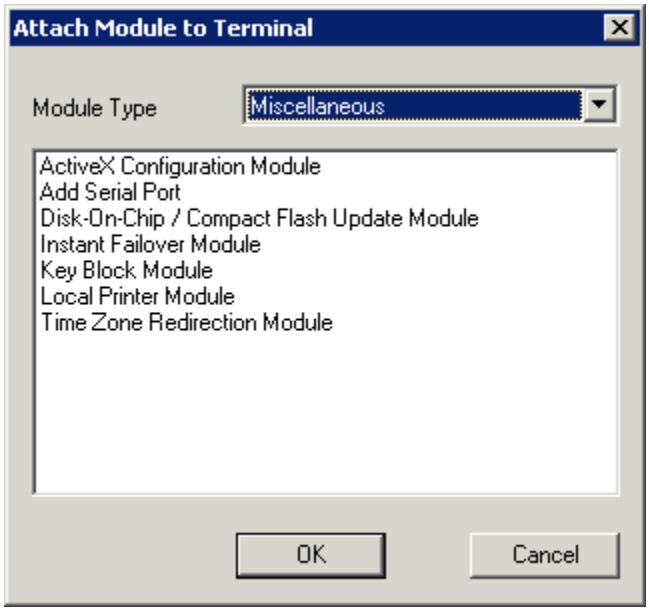
Group Module Selection Page



Group Configuration Wizard - Module Selection

A **Module** is a component of the firmware that is not needed for the basic functionality, but may be desired for advanced functionality. These features include Touch Screen drivers, serial mouse drivers, High Speed Serial drivers, Shared Keyboard and Mouse, USB Memory Card Reader, and Instant Failover. See Module Overview for details.

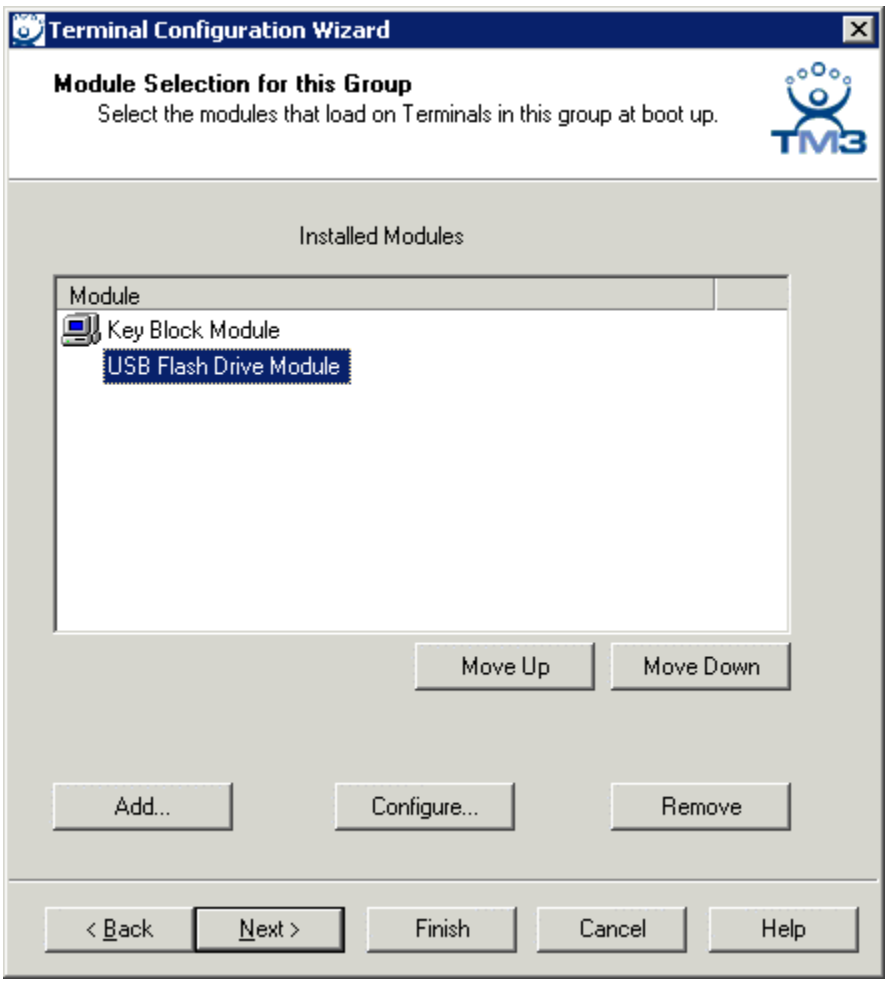
To add a Module to a Terminal Group, select the ***Add…*** button to launch the **Attach Module to Terminal** window.



Attach Module to Terminal

The **Attach Module to Terminal** window will show the modules that are available. The ***Module Type*** drop-down box sorts the modules by categories to make the modules easier to find.

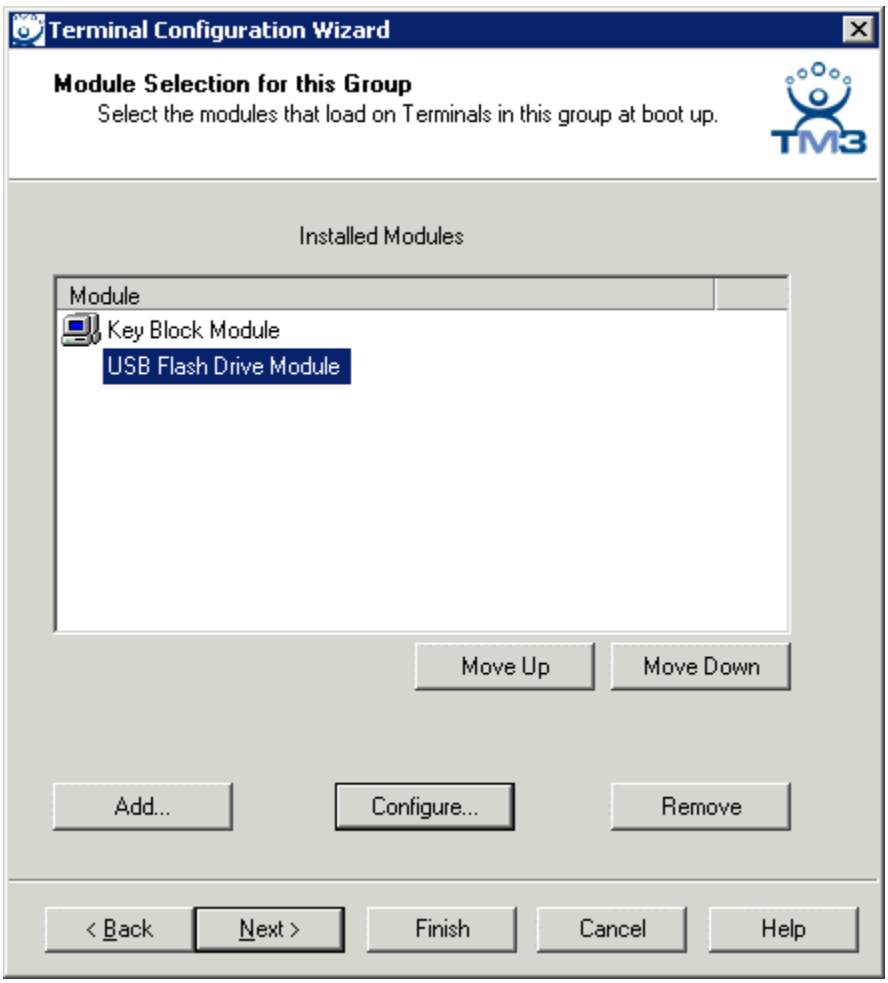
Highlight the desired module and select the ***OK*** button to add the module to the configuration.



Terminal Configuration Wizard - Module Selection

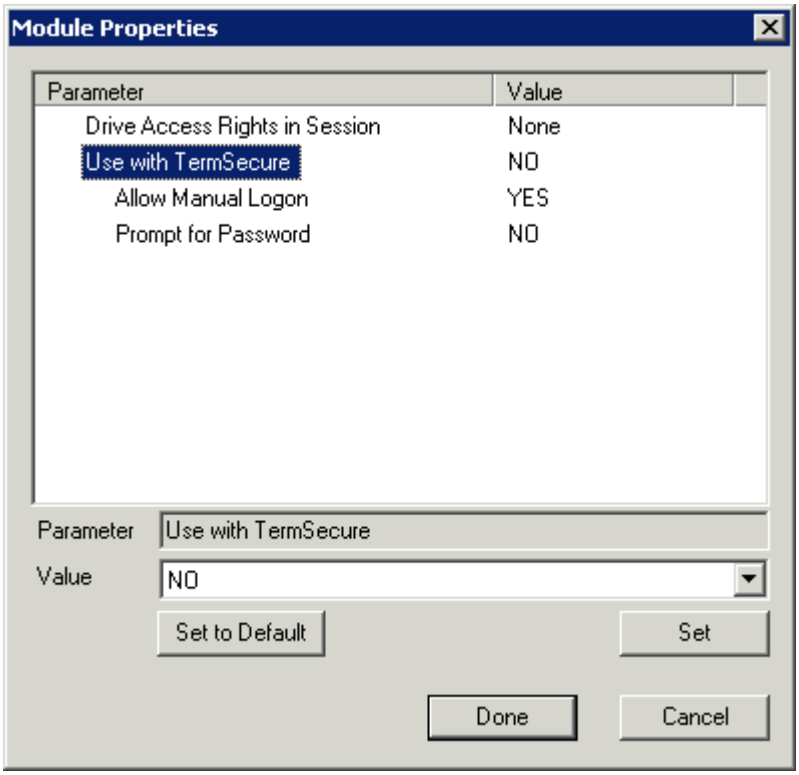
Terminals that are members of a Group may show icons to represent the properties of added modules.

-  The Group icon represents modules assigned to a parent Group.
-  The Group icon with yellow plus sign represents properties that are changed on the terminal from the Group settings. This is limited to touch screen calibration.
- No icon indicates that the module was added to that particular Group or Terminal and not a parent Group.



Module Configuration

Highlighting a module and selecting the ***Configure*** button will open the **Module Properties** window and allow changes to the module configuration.



Module Properties

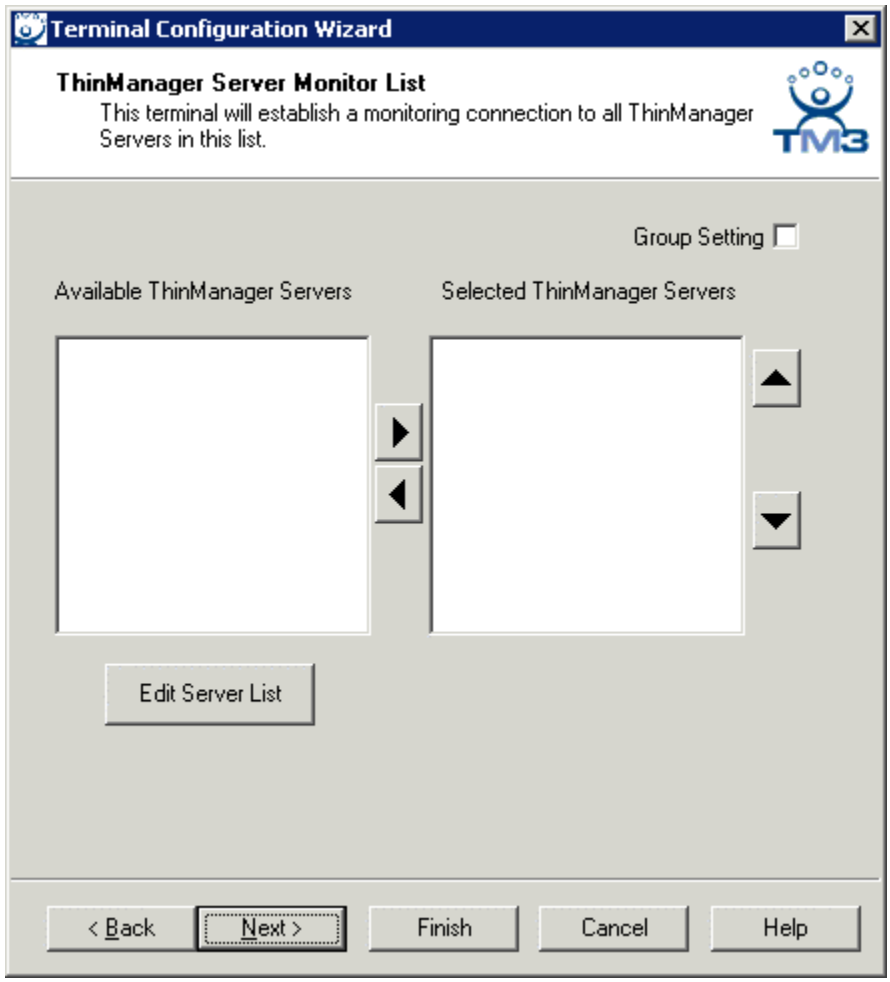
On the Modules Properties window, select the parameter to change, select the new value in the drop-down list, and click the **Set** button. This will change the setting.

The ***Set to Default*** button will restore the module to the default settings.

Select the ***Done*** button to close the **Module Properties** window and to return to the Terminal Group Configuration Wizard.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

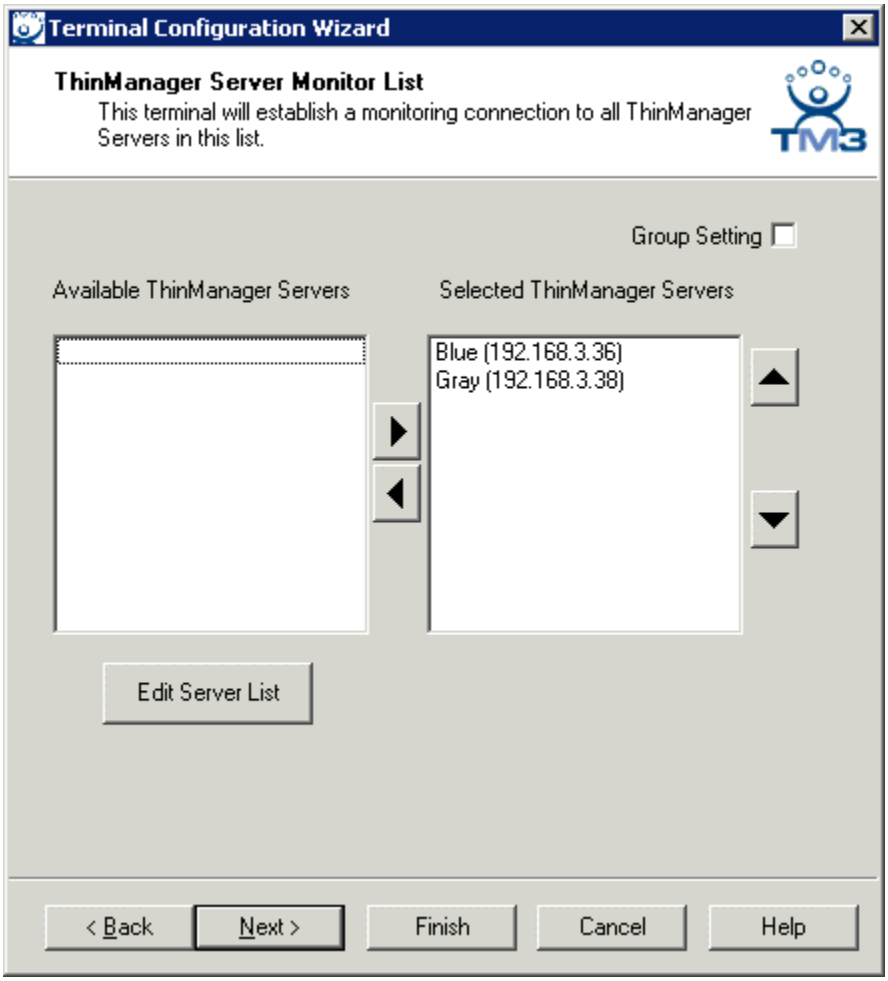
Group ThinManager Server Monitor List Page



Group Configuration Wizard - Monitoring Configuration

The **ThinManager Server Monitor List** defines what Thin Manager Servers the terminal will communicate with to keep monitoring light status current. All ThinManager Servers defined in the ThinManager Server List Wizard will appear in the Available ThinManager Server column.

If the ***Available ThinManager Server*** column is empty, the ***ThinManager Server List* Wizard** needs to be run to define the ThinManager Servers. Select the ***Edit Server List*** button to launch the ***ThinManager Server List Wizard*** as shown in ThinManager Server List Wizard.



Group Configuration Wizard - Monitoring Configuration

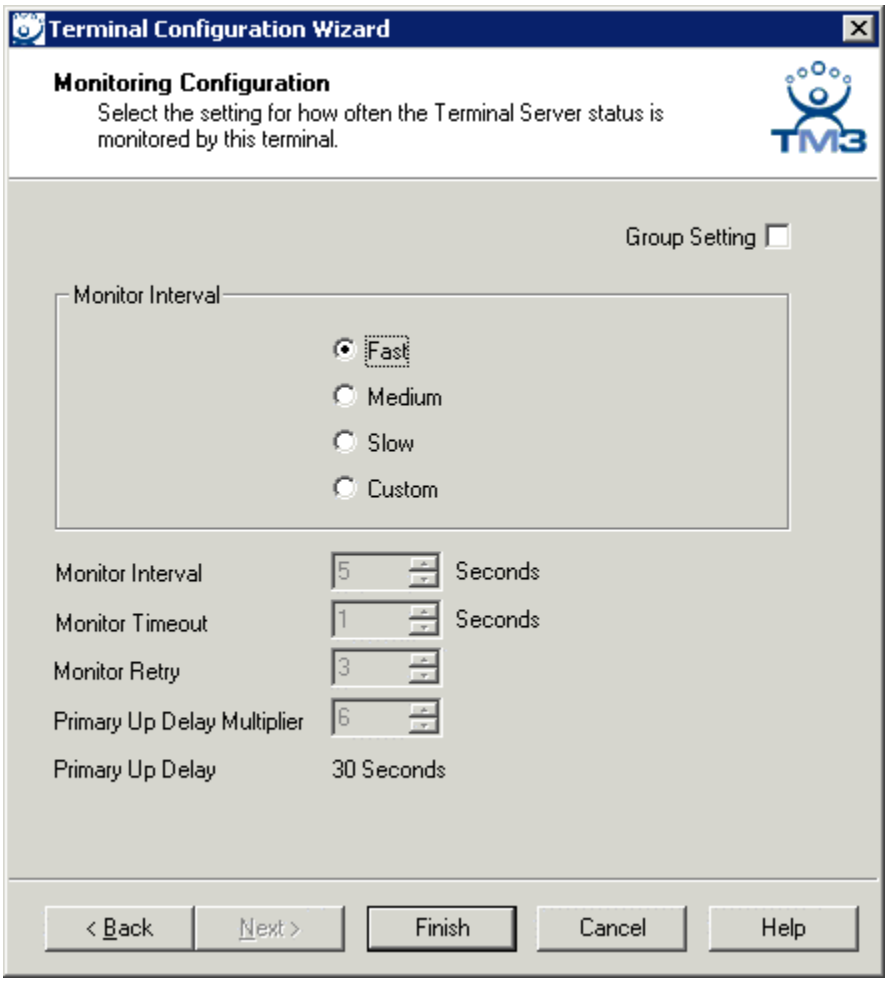
Once the ThinManager Server List wizard has run, each ThinManager Server that is identified in the ThinManager Server List Wizard will initially appear in the ***Available ThinManager Server*** box on the left of the Group Monitoring Configuration page.

To select a ThinManager Server for the Group, highlight it in the ***Available ThinManager Server*** list on the left and click the right arrow button. This will put the ThinManager Server into the ***Selected ThinManager Server*** list on the right. The terminals of the Group will send connection status (red/green icon lights) to all ThinManager Servers in the ***Selected ThinManager Server*** list.

The ***Group Setting*** checkbox will lock the settings for the group and all member terminals.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

Group Monitoring Configuration



Terminal Group Configuration Wizard - Monitoring Configuration

ThinManager Ready Thin Clients continuously monitor the Terminal Server to make sure that it stays online. If the Terminal Server goes offline, the terminal will disconnect and connect to the next Terminal Server in the Group Terminal Server Selection. The Monitoring Connection sets the frequency that the monitor occurs.

Use the ***Monitor Interval*** radio buttons to use a default frequency or select ***Custom*** and choose a setting of your own.

- ***Monitor Interval*** is the interval that the monitor checks occur.
- ***Monitor Timeout*** is the time the terminal will wait for a response from the terminal server.
- ***Monitor Retry*** is the number of times the monitor check will be tried.
- ***Primary Up Delay Multiplier*** is the number that generates the Primary Up Delay time.
- ***Primary Up Delay*** is a delay added (usually set to 30 or 60 seconds) to allow a Terminal Server to become fully booted before the terminal will try to login. This time period is equal to the ***Monitoring Interval*** times the ***Primary Up Delay Multiplier***.

The **Fast** setting of the Monitor Connection will detect Terminal Server failure quickly. However, the faster the setting is, the more sensitive it is and it may drop the Terminal Server when the network is busy and not offline. Setting the Monitoring Connection to a slower setting gives the Terminal Server more time to respond when it is busy.

The ***Group Setting*** checkbox will lock the settings for the group and all member terminals.

Select the ***Finish*** button to complete the Group configuration.

Terminal Configuration Wizard

The Terminal Group Configuration Wizard establishes the terminal settings for a group of terminals, while the Terminal Configuration Wizard establishes the terminal settings for the individual terminal. The Terminal Configuration Wizard and the Group Configuration Wizard are very similar, with few different settings.

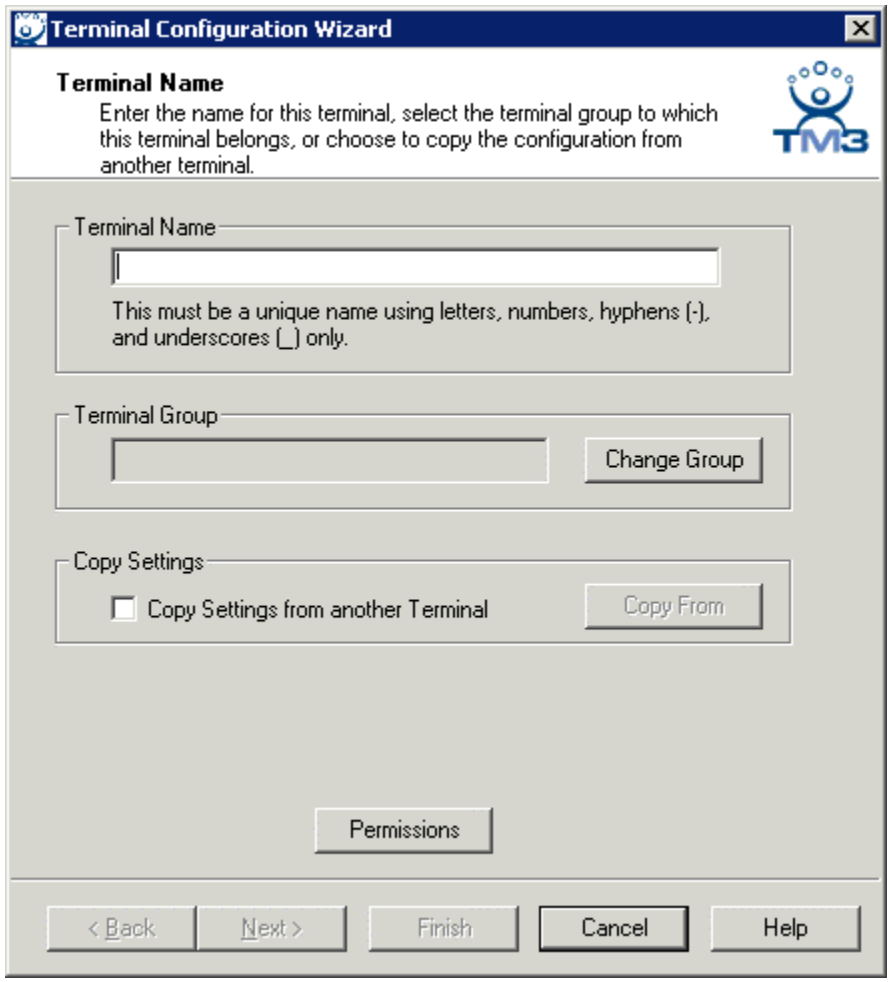
The Group wizard will have Group Setting checkboxes for each setting. Selecting this checkbox will force that setting to be inherited by nested sub-groups and member terminals. This is a significant difference from previous versions of ThinManager that allowed any Group Setting to be un-selected and individually configured for a terminal.

The Group Settings of any sub-group or terminal will be grayed out to prevent changes if the group setting is selected on the parent. Changes need to be made at the Group level.

The Terminal Creation Wizard can be launched by either:

- Selecting the ThinManager Server in the ThinManager tree and selecting ***Edit > Add Terminal*** from the menu bar, or
- Selecting the **Terminals** branch in the ThinManager tree, right-clicking on the Terminals icon, and selecting the ***Add Terminal*** option, or
- Selecting a Group in the ThinManager tree, right-clicking on the Group icon, and selecting the ***Add Terminal*** option. This puts the terminal in that group.

Terminal Name Page



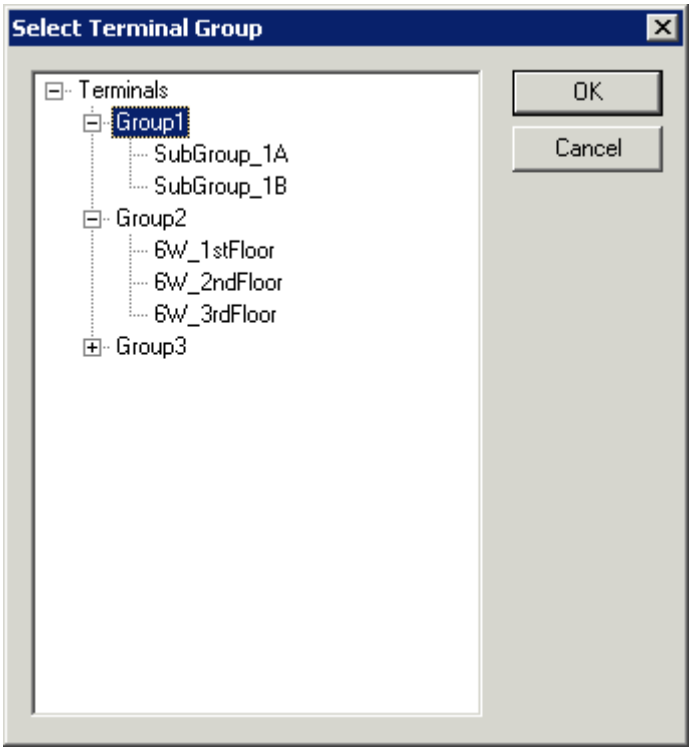
Terminal Configuration Wizard - Terminal Name

When a Terminal is first created, giving it a name is the first priority. Use numbers, letters, hyphens (-), and underscores (_), but don't use spaces or other characters.

Note: The terminal name should be less than 15 characters because of limitations of the terminal server.

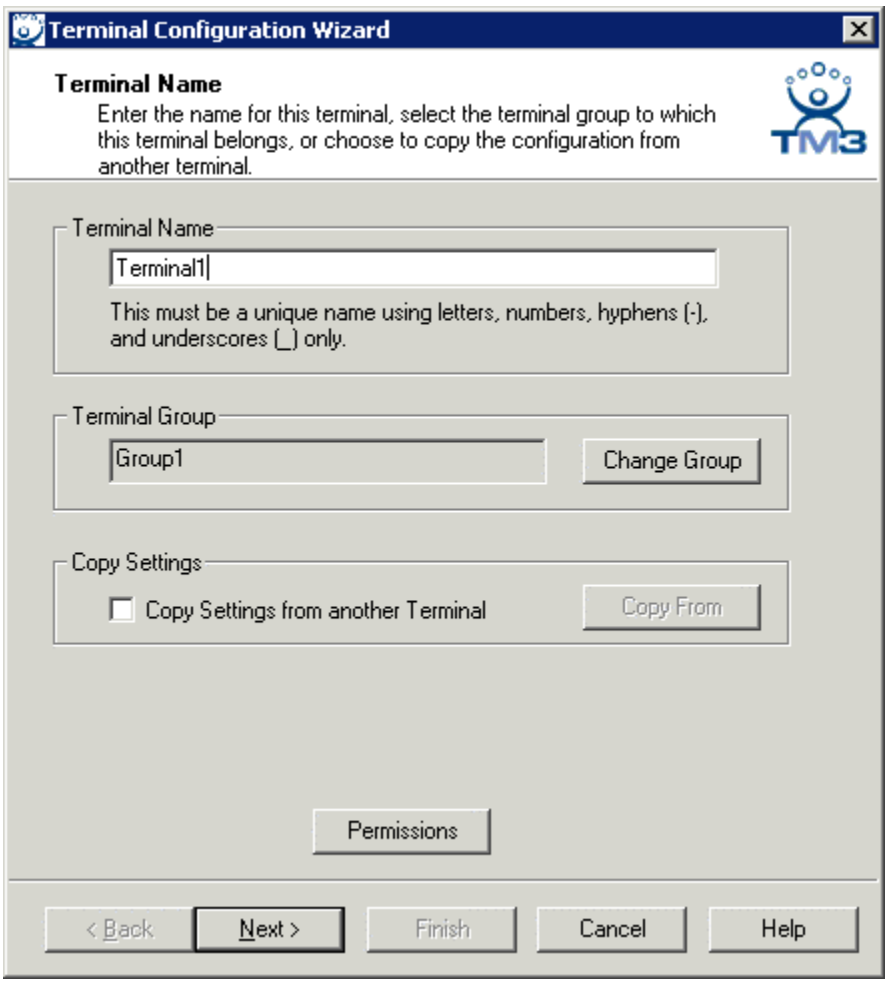
The terminal can be added to a Terminal Group by selecting the Group name in the Group drop-down box. Terminals added to a Group will be assigned the Group properties

The ***Change Group*** button will launch a **Select Group** window.



Select Group Window

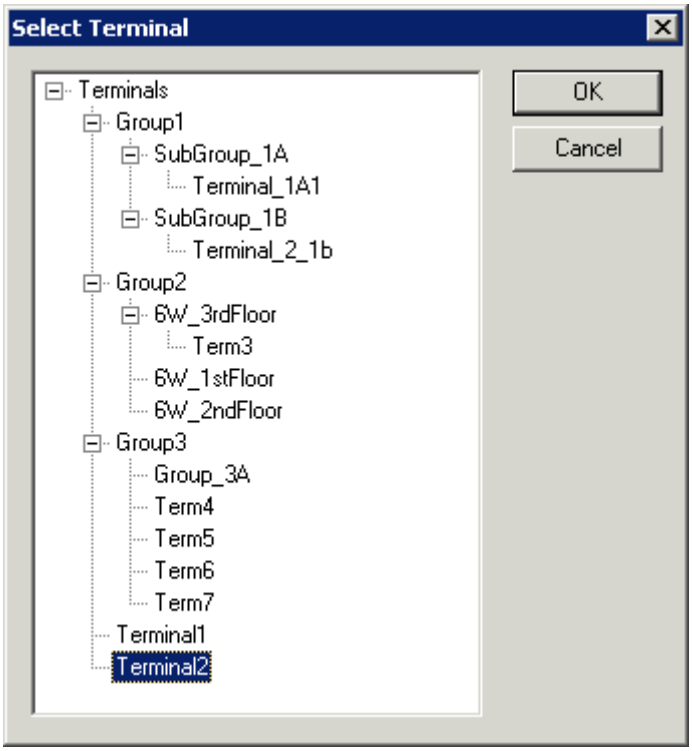
The **Select Group** window will show a tree displaying the group hierarchy. Highlight the Terminal Group that you want to join and select the ***OK*** button to join or select the Cancel button to quit without joining.



Terminal Name Page - Group Membership

The Terminal Group you joined will now be displayed in the ***Group*** field.

The ***Copy Settings from another Terminal*** checkbox will copy an established configuration to the new terminal. Selecting the ***Copy Settings from another Terminal*** checkbox and clicking the ***Copy From*** button will launch the **Select Terminal** window that allows the terminal to copy settings from another terminal.



Select Terminal Window

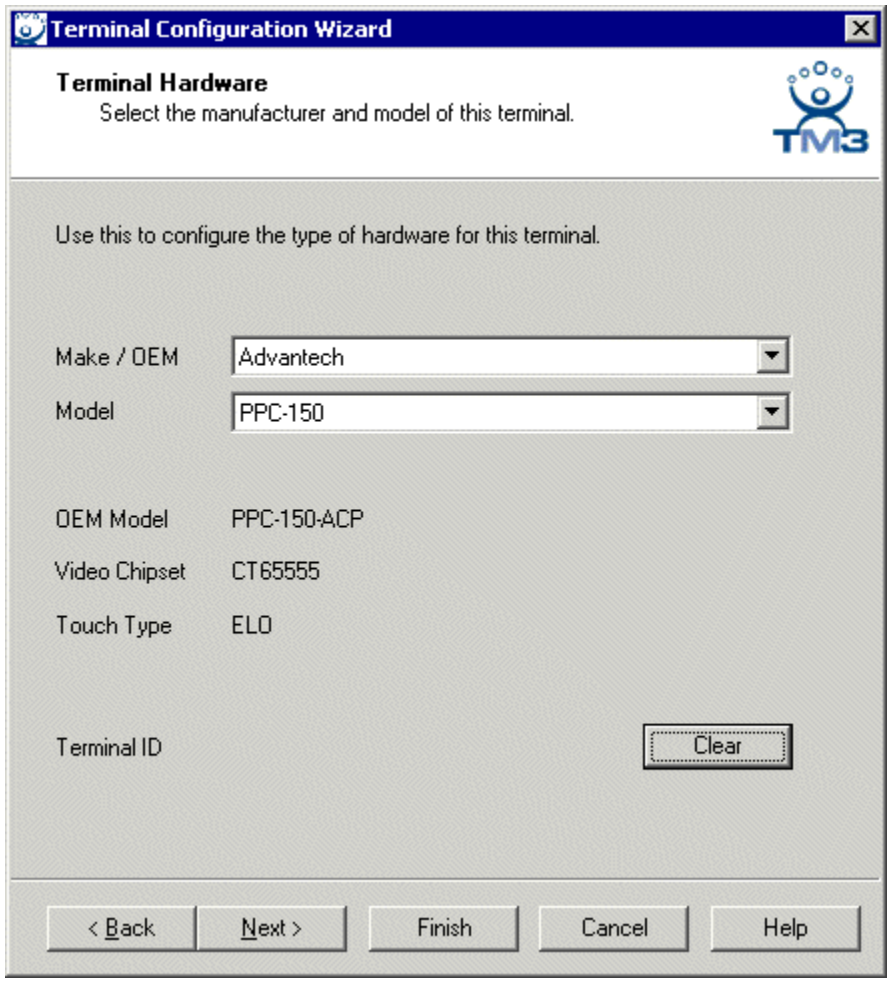
The **Select Terminal** window will show a tree of the configured Terminal Groups and terminals. Highlight the terminal that you wish to copy and select the ***OK*** button to load the settings and return to the Terminal Configuration Wizard.

The Cancel button will close the **Select Terminal** window without making changes.

The ***Permission*** button allows the Terminal Group to be assigned Access Groups for security. This is covered in TermSecure. See TermSecure for details.

Select the ***Next*** button to continue or select the ***Cancel*** button to close the configuration wizard without saving.

Terminal Hardware Page



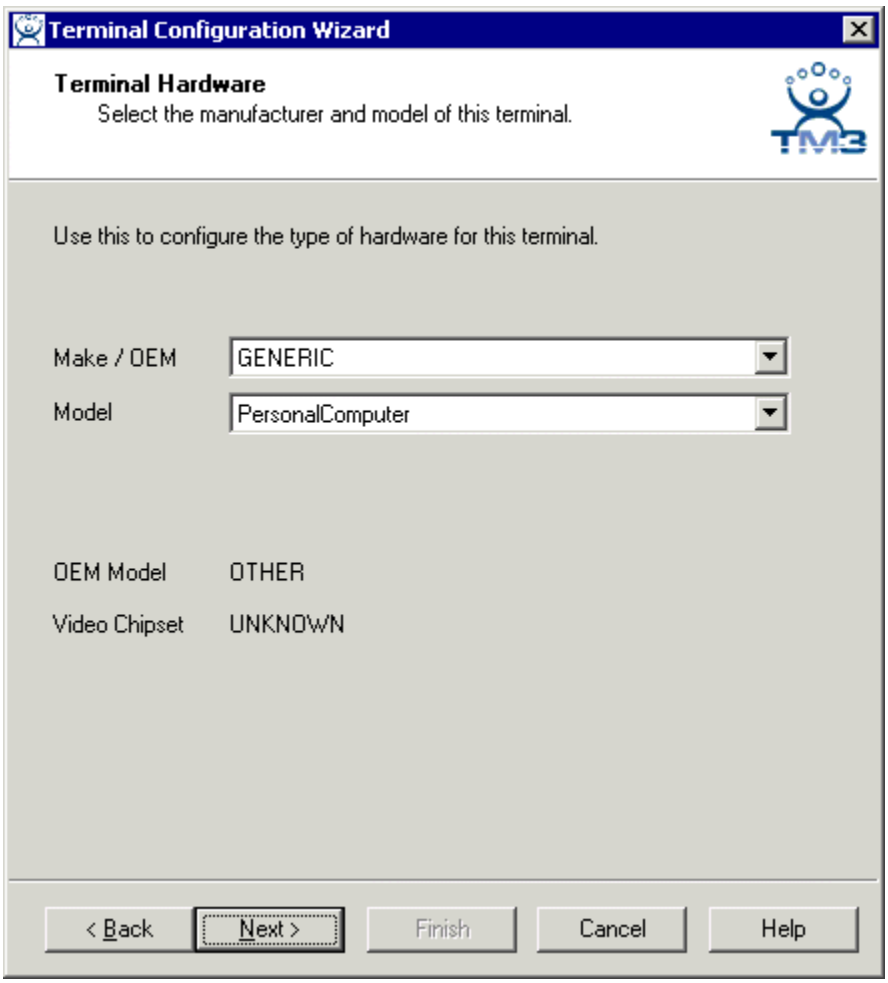
Terminal Configuration Wizard - Hardware Configuration

Select the make and model of the ThinManager Ready Thin Client from the drop-down boxes. These parameters are from the Terminal Capability database (TermCap data base). If the unit has an integrated flat panel, it will display the touch screen controller type.

The ***Clear*** button will remove the Terminal ID identifier from the configuration of an inactive terminal. This will free hardware that has already been tied to a configuration and allow the terminal to be tied to a different configuration, without deleted its original configuration.

If the make and model of your ThinManager Ready thin client does not appear in the list, download a new TermCap Database from www.thinmanager.com. See Install New TermCap Database for details.

If you do not know what model it will be, leave the default setting. When a terminal is connected and receives this configuration, ThinManager will update the hardware settings to match the actual hardware.

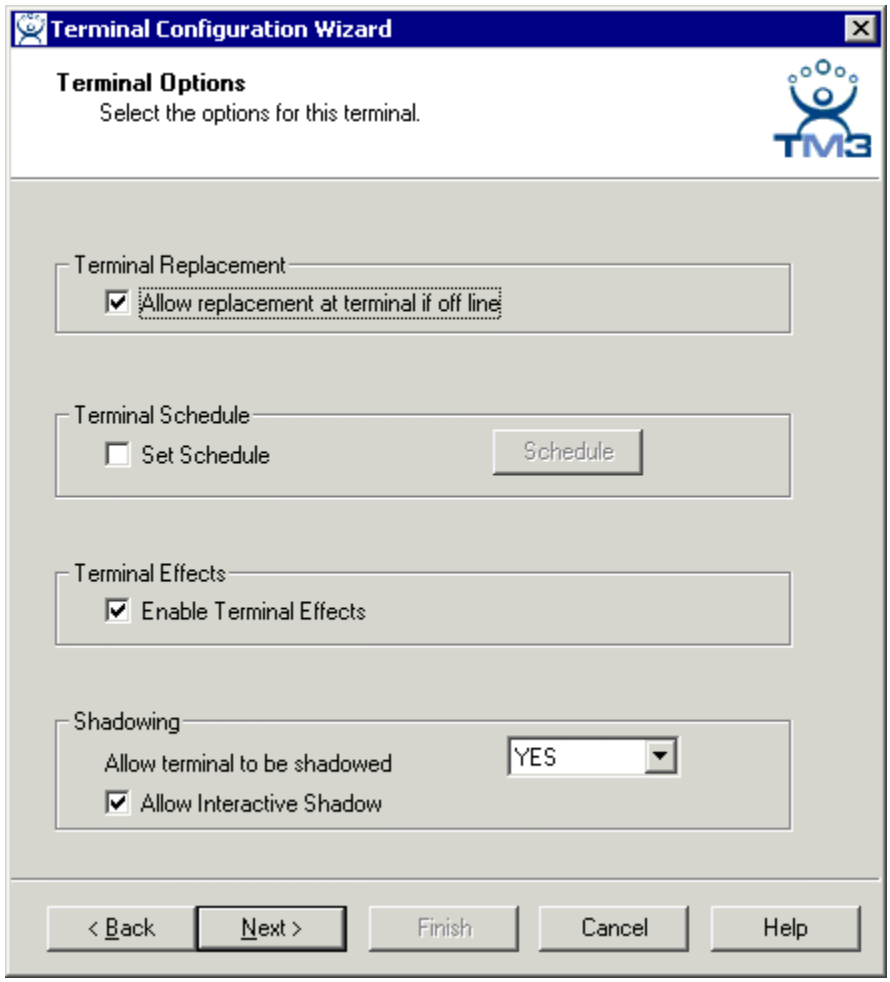


Terminal Configuration Wizard - WinTMC Setup

Note: A **WinTMC** connection needs to be configured as Generic/Personal Computer.

Select ***Next*** to continue.

Terminal Options



Terminal Options Page

Selecting the ***Allow replacement at terminal if offline*** checkbox will allow all members of the group to show up in the replacement list during a new terminal connection. See Replace or Create New Terminal Mode for details.

Set Schedule allows members of the group to be disabled, rebooted, or enabled on a schedule.

Select the ***Set Schedule*** checkbox and click the ***Schedule*** button to launch the **Schedule** window to configure the schedule for members of the group.

See Terminal Schedule for details.

Enable Terminal Effects, when selected, will allow the desktops in MultiSession to slide smoothly into the desktop instead of appearing instantaneously.

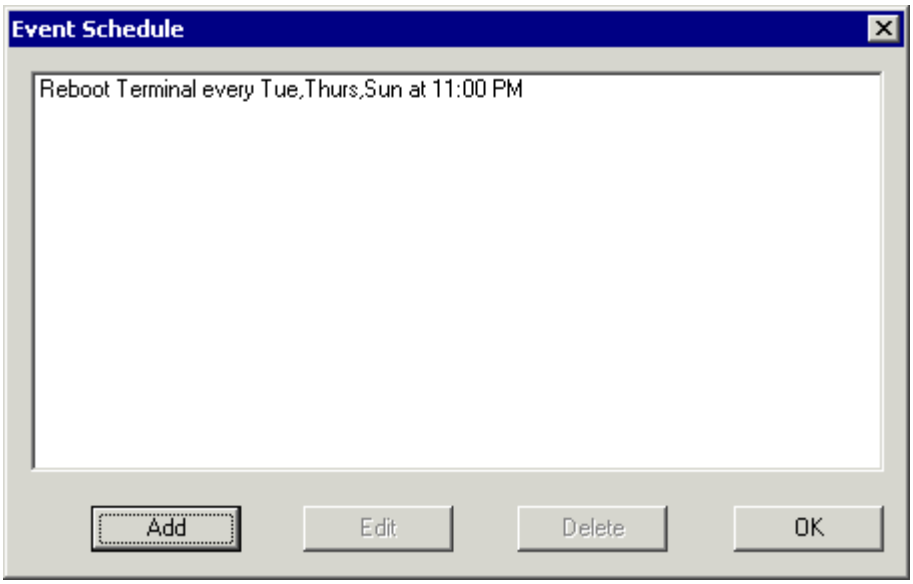
The ***Allow terminal to be shadowed*** drop-down box allows the configuration of Shadowing Options.

- ***No*** - Prevents members of the Group from being shadowed.
- ***Ask*** - Will display a message window that will prompt for a positive response before the shadowing is allowed.
- ***Warn*** - Will display a message window alerting the terminal that it is to be shadowed, but doesn't require a positive response before the shadowing is allowed.
- ***Yes*** - Allows shadowing to occur without warning or recipient input.

Allow Interactive Shadow will allow members with Interactive Shadow privileges to shadow the terminal. Shadowing is initiated from the Shadow tab on the Details pane of the ThinManager program. Unselecting this will prevent shadowing from within ThinManager. See Shadowing and ThinManager Security Groups for details.

Terminal Schedule

Selecting the ***Schedule*** button on the **Terminal Options** page will launch the **Event Schedule** window and allow a schedule to be created for terminal events.

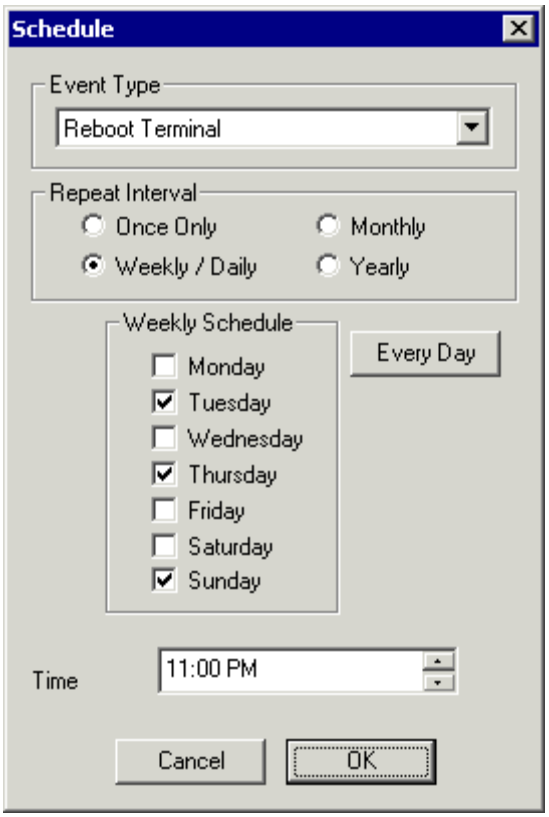


Event Schedule

The Event Schedule will list events for the terminal or group. It has four buttons.

- The ***Add*** button will launch a **Schedule** window to allow an event to be configured.
- The ***Edit*** button will allow a highlighted event to be changed.
- The ***Delete*** button will remove a highlighted event.
- The ***OK*** button will accept changes and close the **Event Schedule** window.

Events can be added by selecting the ***Add*** button to launch the **Schedule** window.



Schedule Window

The **Schedule** window has several configuration settings.

Event Type is a drop-down box that allows event selection:

- ***Disable Terminal*** - This will prevent a terminal from being used, although its terminal server sessions will still be running on the terminal servers.
- ***Enable Terminal*** - This will allow a disabled terminal to become active again.
- ***Reboot Terminal*** - This will cycle power on the terminal and reload its configuration.
- ***Reset Terminal Sessions*** - This will logoff the sessions that the terminal has open on terminal servers.

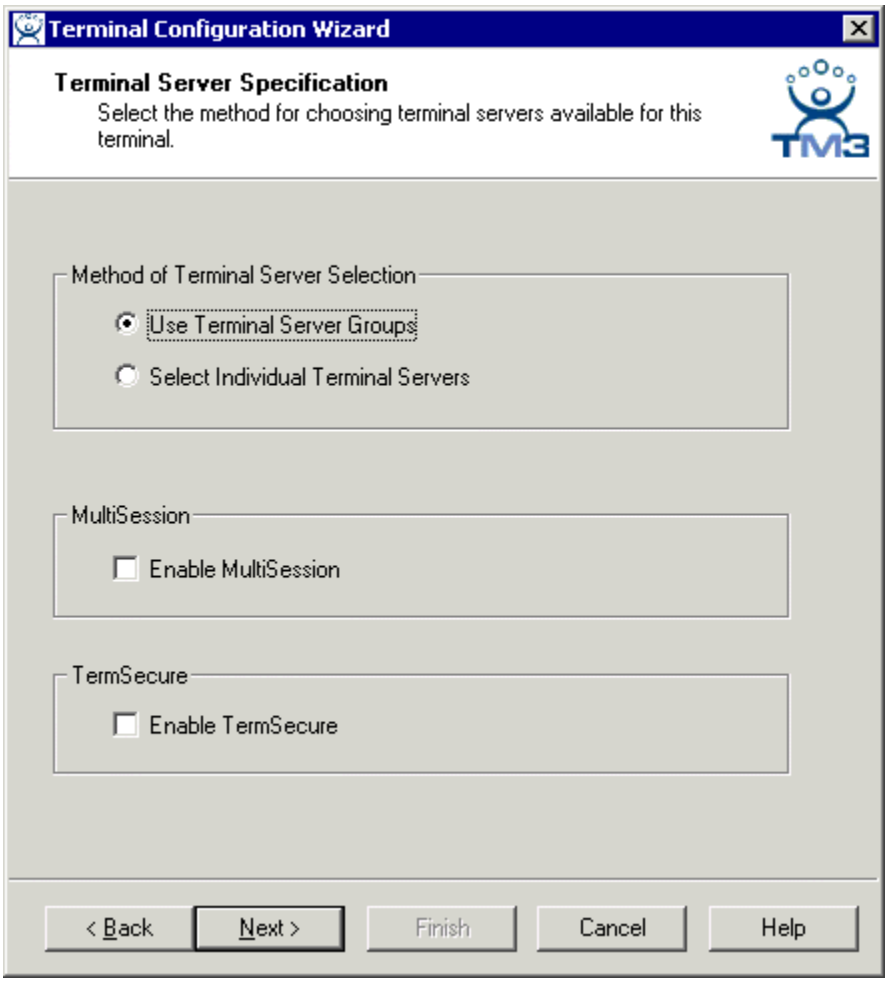
The **Repeat Interval** radio buttons allow the event in the **Event Type** drop-down to be run ***Once Only***, ***Weekly/Daily***, ***Monthly***, or ***Yearly***.

- Selecting ***Once Only*** will show a ***Select Date*** field for the event.
- Selecting ***Weekly/Daily*** will show a **Weekly Schedule** list for the event to run. The ***Every Day*** button will select all the days in the list.
- Selecting ***Monthly*** will show a ***Select Day of Month*** field for the event.
- Selecting ***Yearly*** will show a ***Select Date*** field for the event.

The ***Time*** field allows the selection of the time that the event should occur.

Select the ***OK*** button to close the **Schedule** window. Select ***Add*** to add another event to the **Event Schedule** or select ***OK*** to close the **Event Schedule** window and return to the terminal configuration.

Terminal Server Specification Page



Terminal Server Specification

The ***Method of Terminal Server Selection*** radio button provides options for terminal server connections.

- ***Use Terminal Server Groups*** will allow terminals to connect to terminal servers in Terminal Server Groups for increased functionality like load balancing.
- ***Select Individual Terminal Servers*** will allow terminals to connect to a list of terminal servers as it has been done in earlier versions of ThinManager.

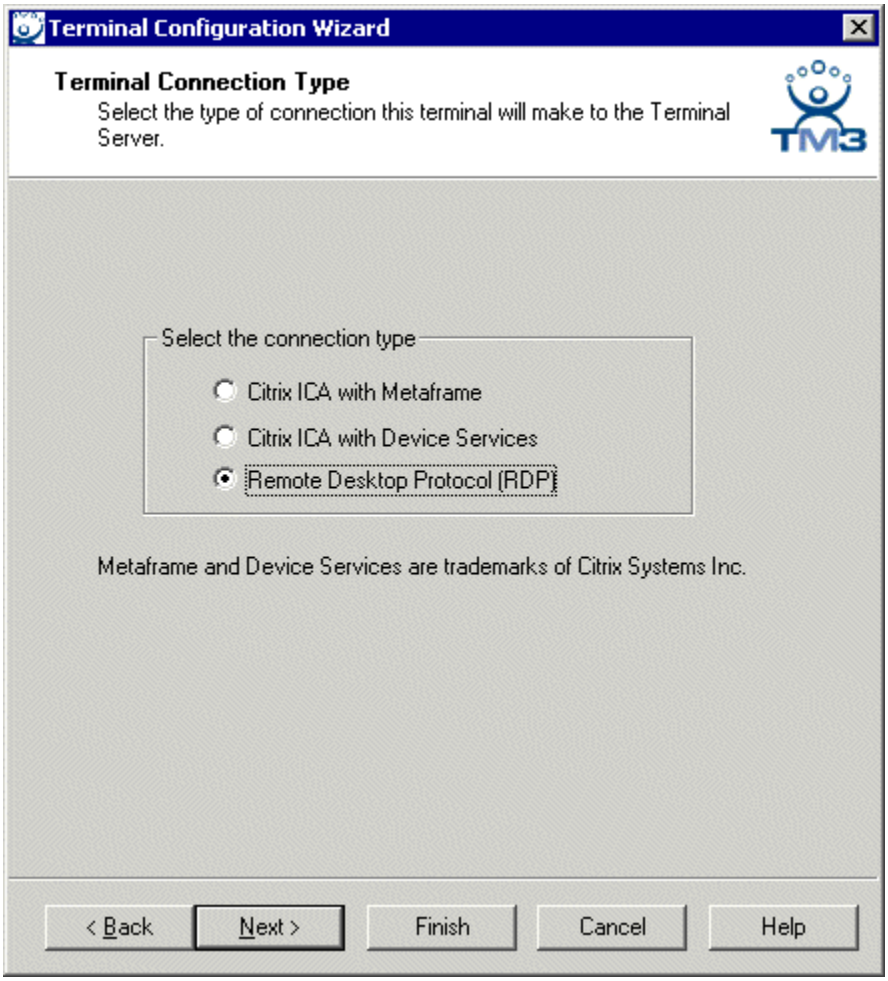
If the ***Use Terminal Server Groups*** is selected, two other settings become available.

- The ***Enable MultiSession*** checkbox allows the terminals in the group to use the MultiSession functionality as described in MultiSession. This only available to Groups that use Terminal Server Groups..
- ***Enable TermSecure***, when checked, will enable TermSecure functionality. This is covered in the TermSecure section. See TermSecure for details.

Terminals Using Individual Terminal Servers

Terminals may connect to a series of individual terminal servers by selecting the ***Select Individual Terminal Servers*** on the Terminal Server Specification page.

The **Terminal Connection Type** page is displayed next to allow the selection of the desired Client Communication Protocol.



Terminal Configuration Wizard - Connection Type

Thin clients use a client communication protocol to connect to the Terminal Servers. Select the correct protocol and select the ***Next*** button.

- Select the ***Citrix MetaFrame*** radio button if that program is to be used to provide the ICA protocol. Citrix MetaFrame is an optional program sold by Citrix.
- Select the ***Citrix Device Services*** radio button if Citrix Device Services is to be used to provide the ICA protocol. Citrix Device Services is a legacy deployment of the ICA client but is no longer supported by Citrix. ThinManager Ready thin clients can still connect to terminal servers with Device Services, but no new Device Services terminal servers can be licensed.
- Microsoft Remote Desktop Protocol (RDP) is installed by default on all Windows Terminal Servers. The ***Microsoft Remote Desktop Protocol (RDP)*** radio button is selected by default unless you choose another protocol.

Selecting ***Citrix ICA with MetaFrame*** offers additional configuration options before displaying the Terminal Server Selection. Selecting ***Citrix ICA with Device Services*** and ***Remote Desktop Protocol (RDP)*** will jump to the Terminal Server Selection.

A Terminal using Citrix MetaFrame as its Client Communication Protocol will be shown additional configuration screens beginning with the **Citrix MetaFrame Configuration** page.

Citrix MetaFrame Configuration Page

Terminal Configuration Wizard - Citrix MetaFrame Configuration

Citrix MetaFrame allows increased encryption in the ICA protocol. Select a level from the ***Encryption*** drop-down box.

Citrix MetaFrame has a feature called Published Applications. If you are using Published Applications, select the ***Yes*** radio button, then select the ***Next*** button to continue to the Citrix Published Application dialog.

If you are not using Published Applications, select the ***No*** radio button, then select the ***Next*** button to continue to the Terminal Server Selection dialog.

Citrix Published Applications Page

Terminal Configuration Wizard - Citrix Published Applications

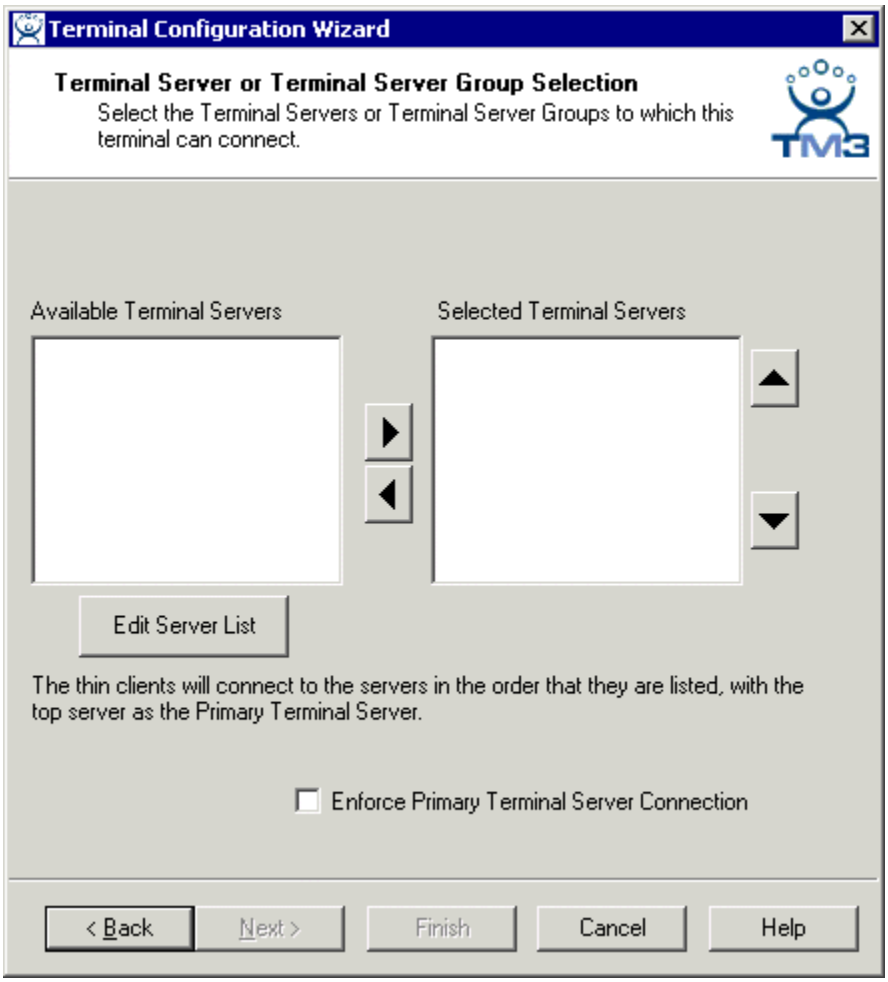
Enter the name of the desired Published Applications in the ***Published Applications Name*** field. Do not use spaces in the name when creating a Published Application for Terminal Services.

Citrix MetaFrame uses ICA Browsers as part of the system. Because the ICA client may have problems detecting an ICA browser across a router or switch, an ***ICA Browser*** field is provided for entering the name of an ICA browser.

Select the ***Finish*** button to create the Terminal, or select the ***Next*** button to rejoin the main configuration path to configure more options.

Terminals using the ***Select Individual Terminal Servers*** will be shown the Terminal Server Selection page where the desired terminal servers can be selected.

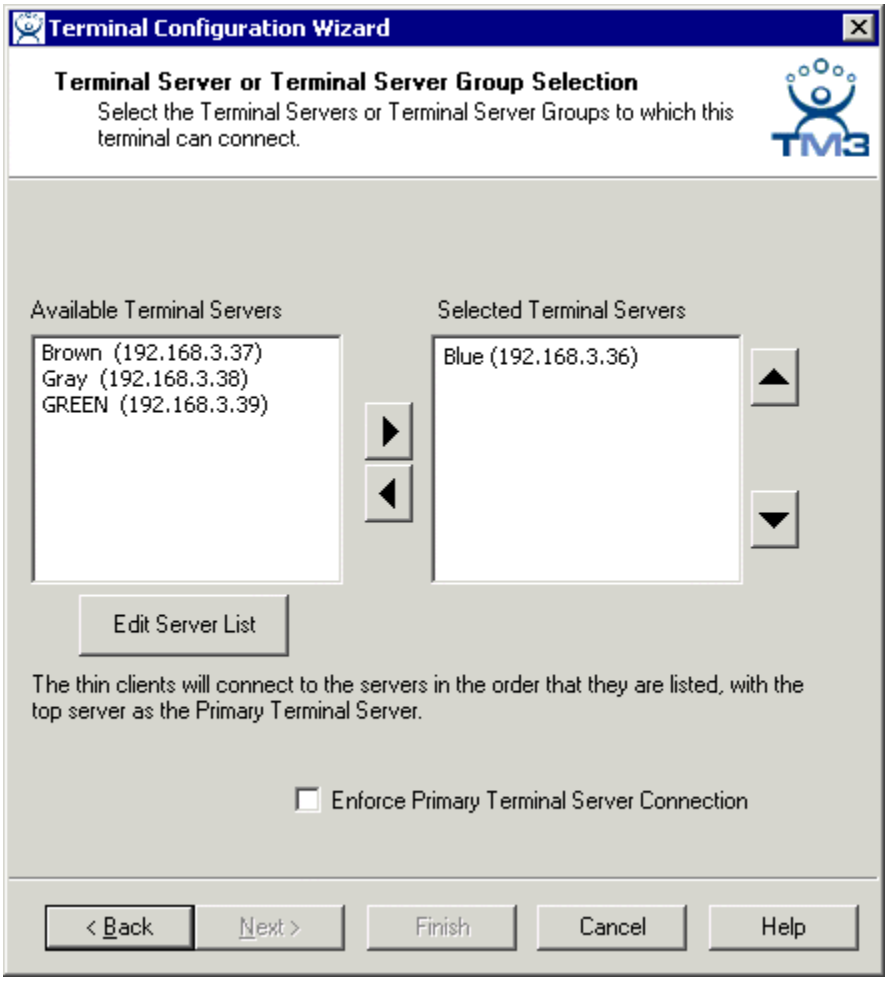
Terminal Server Selection Page



Terminal Configuration Wizard -Terminal Server Selection

If Published Applications or Terminal Server Groups are not being used, the terminal will need to be assigned to a Terminal Server. The Terminal Server is a server that allows a terminal to logon and run applications in an independent session.

If the ***Available Terminal Server*** column is empty, the Terminal Server List wizard needs to be run to add terminal servers to the ThinManager system. Select the ***Edit Server List*** button to launch the Terminal Server List Wizard as shown in Terminal Server List Wizard.



Terminal Configuration Wizard - Terminal Server Selection

Once the Terminal Server List wizard has run, each Terminal Server that is identified in the Terminal Server List Wizard will initially appear in the ***Available Terminal Server*** box on the left side of the Terminal Server Selection page.

To select a Terminal Server for the terminal, highlight it in the list on the left and click the ***Right*** arrow button. This will put the Terminal Server into the ***Selected Terminal Server*** list on the right. The terminal will use all the Selected Terminal Servers as Terminal Servers in the order listed.

The Terminal Server on the top of the Selected Terminal Server List will be the **Primary Terminal Server**, the first Terminal Server that the terminal will attempt to login to. If the Primary Terminal Server fails, or is unavailable, the terminal will connect to the other terminal servers in the order that they are listed.

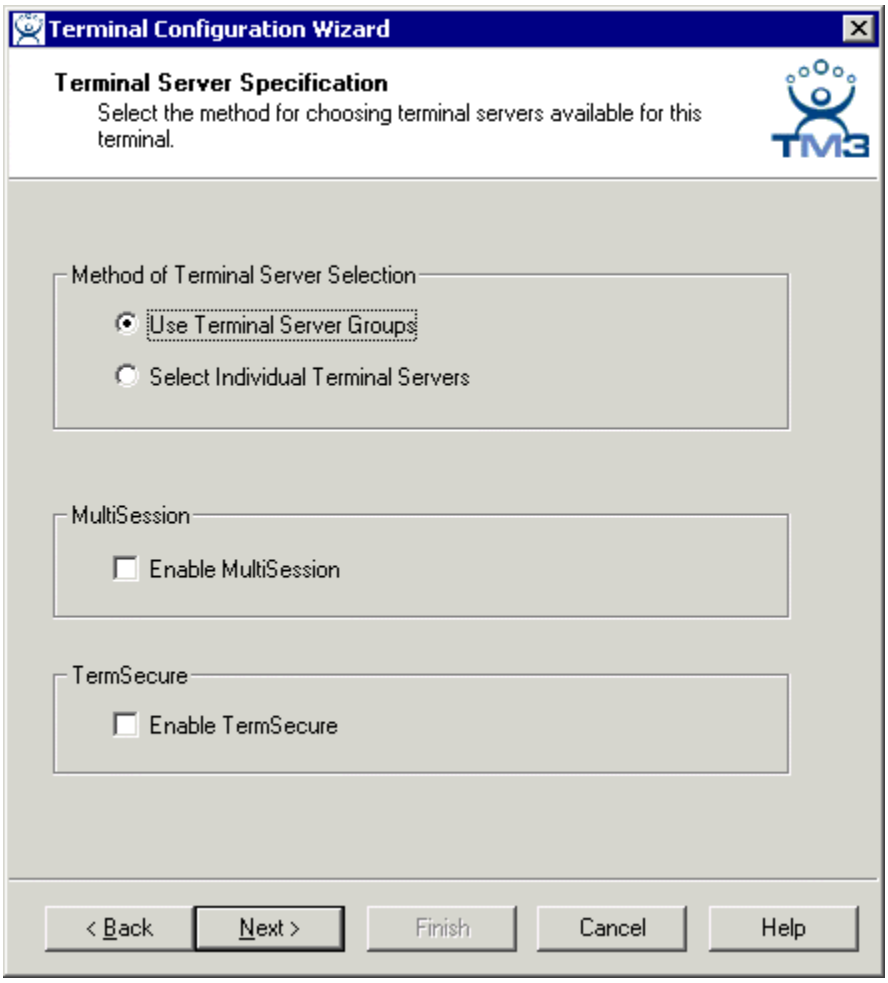
To change the order of the Terminal Servers in the Terminal Server Selection list, highlight a Terminal Server and use the ***Up*** arrow button and the ***Down*** arrow button to move it up or down in the list.

The ***Enforce Primary Terminal Server Connection*** will cause a terminal to return to the primary terminal server whenever that server is available.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the terminal configuration.

Terminals Using Terminal Server Groups

Terminals may connect to Terminal Server Groups by selecting the ***Use Terminal Server Groups*** on the Terminal Server Specification page instead of using the ***Select Individual Terminal Servers*** setting.



Terminal Configuration Wizard - Terminal Server Specification

If ***Use Terminal Server Groups*** is selected, an ***Enable MultiSession*** checkbox will be displayed.

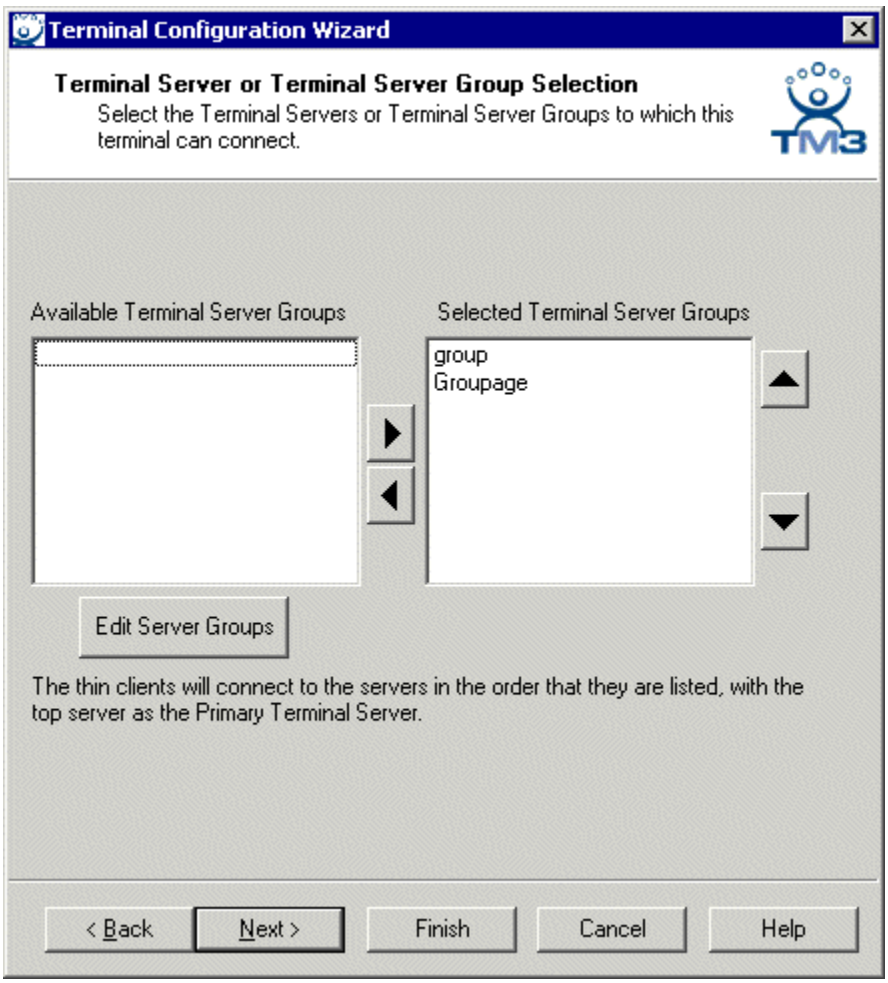
Enable MultiSession checkbox, if selected, will allow the terminal to use Multi-Session. See MultiSession for details.

Enable TermSecure, when checked, will enable TermSecure functionality. This is covered in the TermSecure section. See TermSecure for details.

Select ***Next*** to continue configuration.

Terminal Server Group Selection

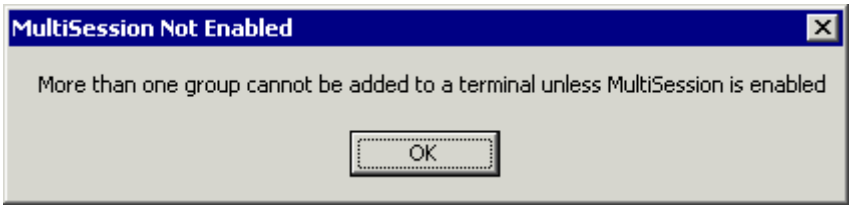
The ***Terminal Server Selection*** page is displayed next to allow the selection of the desired Terminal Server Groups.



Terminal Configuration Wizard - Group Terminal Server Selection

The terminal will need to connect to Terminal Server Groups that contain terminal servers that will host the sessions.

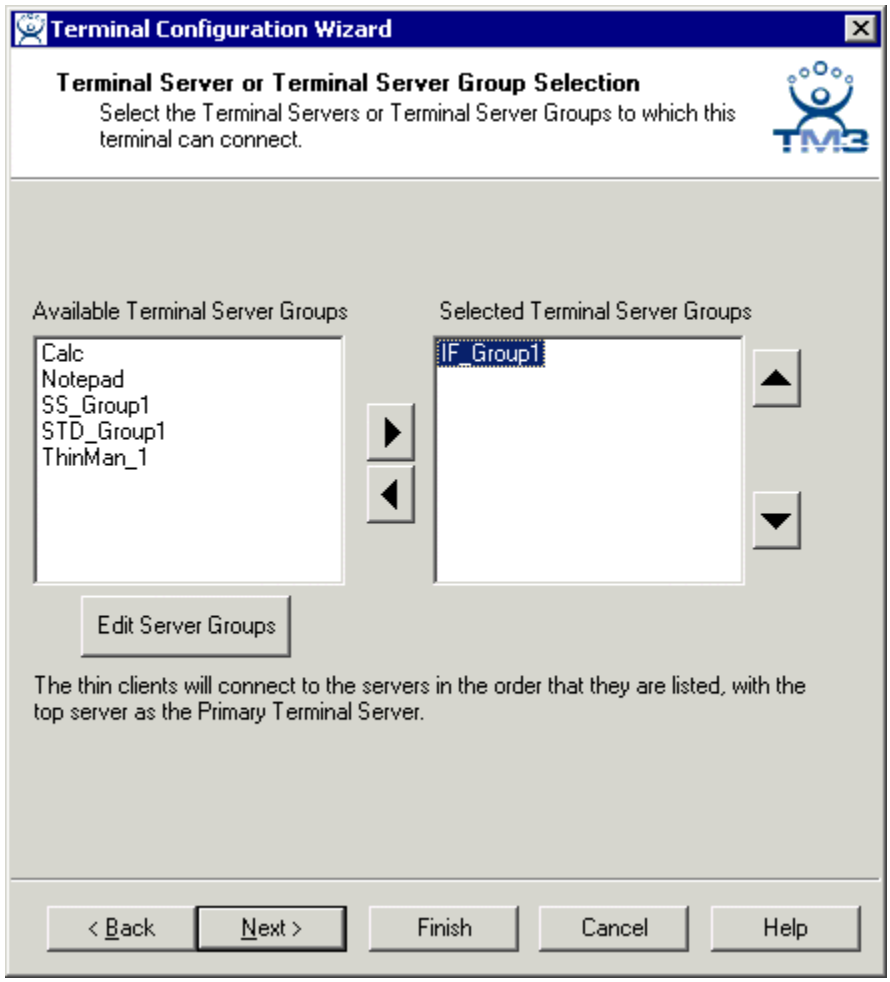
If the ***Available Terminal Server Groups*** column is empty, the **Terminal Server Groups List** wizard needs to be run to configure Terminal Server Groups. Select the ***Edit Server Groups*** button to launch the **Terminal Server Group Wizard** as shown in Terminal Server Group List.



MultiSession Not Enabled Warning

If two Terminal Server Groups are selected without the ***Enable MultiSession*** checkbox on the Terminal Server Specification page selected, a message will be displayed warning that the ***Enable MultiSession*** checkbox needs to be checked to allow the MultiSession.

Terminal Server Groups Selection Page



Terminal Configuration Wizard - Terminal Server Selection

Once the ***Terminal Server Group*** wizard has run, each Terminal Server Group that is identified in the Terminal Server Group Wizard will initially appear in the ***Available Terminal Server Groups*** box on the left of the **Terminal Server Selection** page.

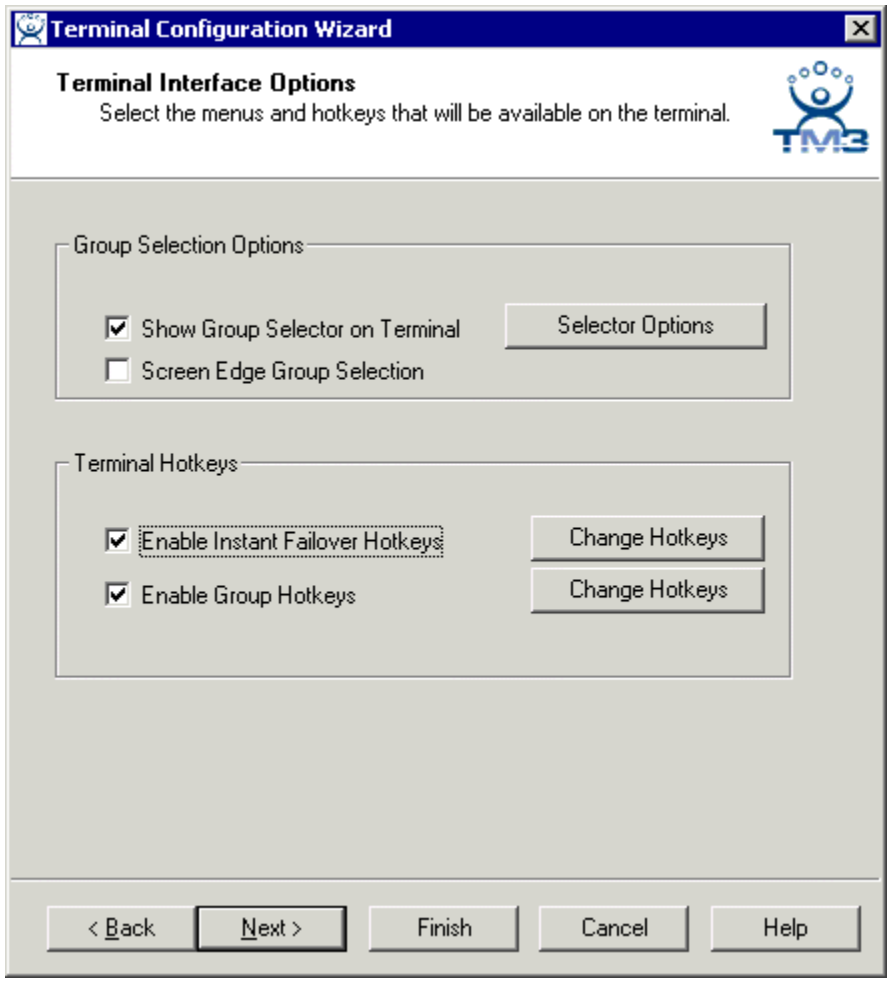
Note: The Available Terminal server Groups will only list Terminal Server Groups that are appropriate. Only RDP Terminal Server Groups will be shown if the terminal is using RDP. If the ***Enable MultiSession*** checkbox was selected on the **Terminal Server Specification** page, only Terminal Server Groups with MultiSession capabilities are shown in the ***Available Terminal Server Groups*** list.

To select a Terminal Server Group for a terminal, highlight it in the list on the left and click the right arrow button. This will put the Terminal Server Group into the ***Selected Terminal Server*** Group list on the right. The Group will use the Selected Terminal Server Groups for the terminal servers that it can login to.

The ***Enforce Primary Terminal Server Connection*** will cause a terminal to return to the primary terminal server whenever that server is available. This is not available with Smart-Session.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

Terminal Interface Options



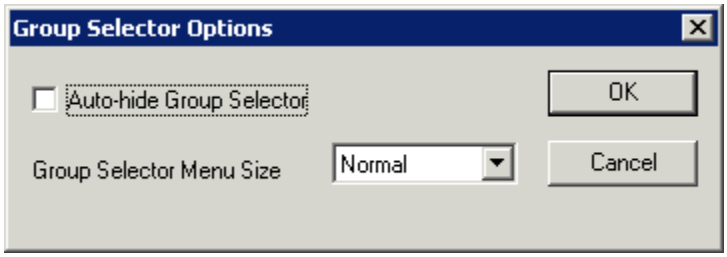
Terminal Configuration Wizard - Terminal Interface Options

A terminal using MultiSession will need to have a method to switch between sessions. This is configured on the Terminal Interface Options page.

Group Selector Options allow on-screen switching of sessions.

- ***Show Group Selector on Terminal*** - This checkbox, if selected, will display an on-screen drop-down menu that can be activated by mouse.
- ***Screen Edge Group Selection*** - This checkbox, if selected, will activate a feature that will switch windows if the mouse is moved off screen.

The ***Selector Options*** button will launch **the Group Selector Options** window that allows configuration of the on-screen Group Selector bar.



Group Selector Options Window

The ***Auto-hide Group Selector*** checkbox will hide the Group Selector until the mouse is move to that space.

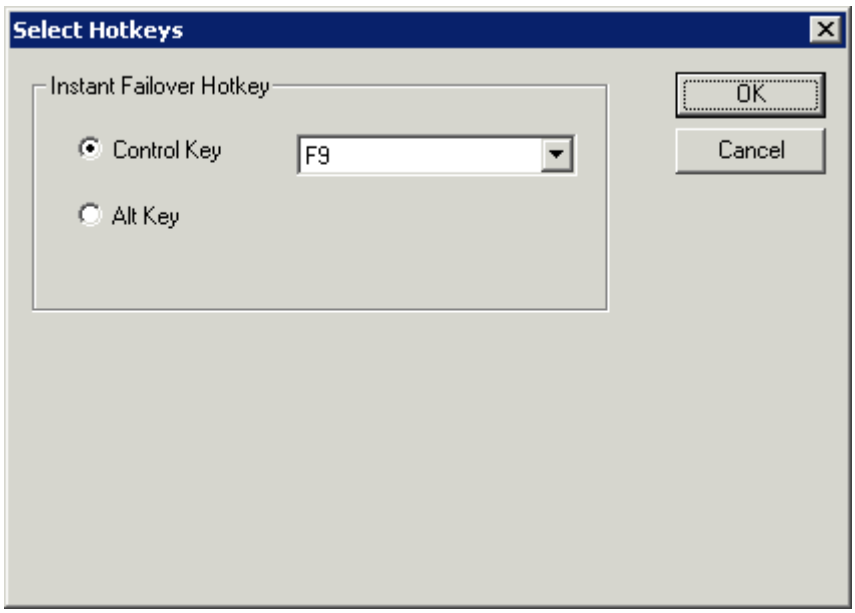
The ***Group Selector Menu Size*** drop-down box allows the setting of the size of the Group Selector font.

Select the ***OK*** button to accept changes or the ***Cancel*** button to close.

Terminal Hotkeys on the **Terminal Interface Options** page allows the selection of keyboard combinations that allow switching between sessions.

- ***Enable Instant Failover Hotkeys*** - This checkbox, if selected, allows the hot key switching between the two active sessions of a Terminal Server Group that is using Instant Failover.
- ***Enable Group Hotkeys*** - This checkbox, if selected, allows the hot key switching between different sessions of a terminal using MultiSession.

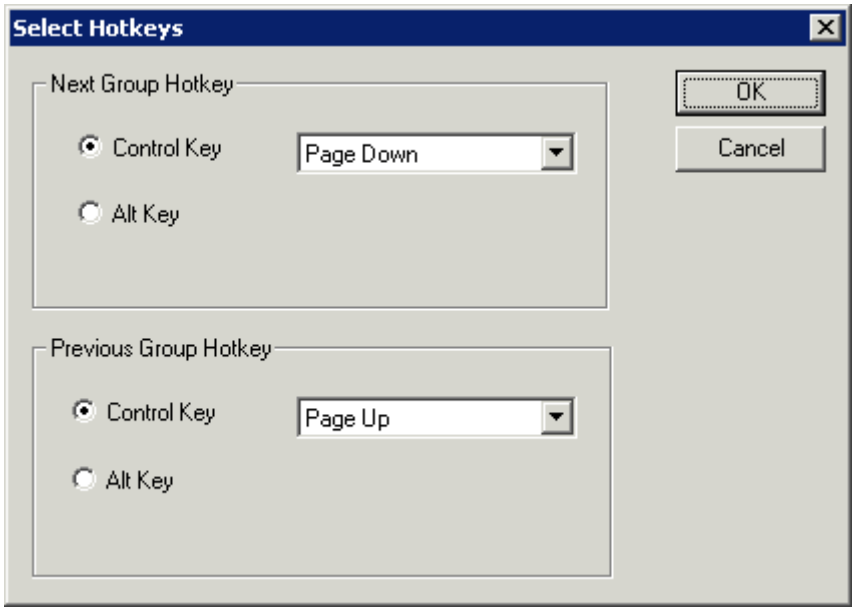
Selecting the ***Change Hotkeys*** button when ***Enable Instant Failover Hotkeys*** is selected will allow the hotkeys to be changed from the default.



Select Instant Failover Hotkeys

The default hotkey for Instant Failover switching is set to ***Control+F9***. This can be changed by selecting the ***Alt Key*** radio button or using the drop-down to select another function key.

Selecting the ***Change Hotkeys*** button when ***Enable Group Hotkeys*** is selected will allow the hotkeys to be changed from the default.



Select MultiSession Switching Hotkeys

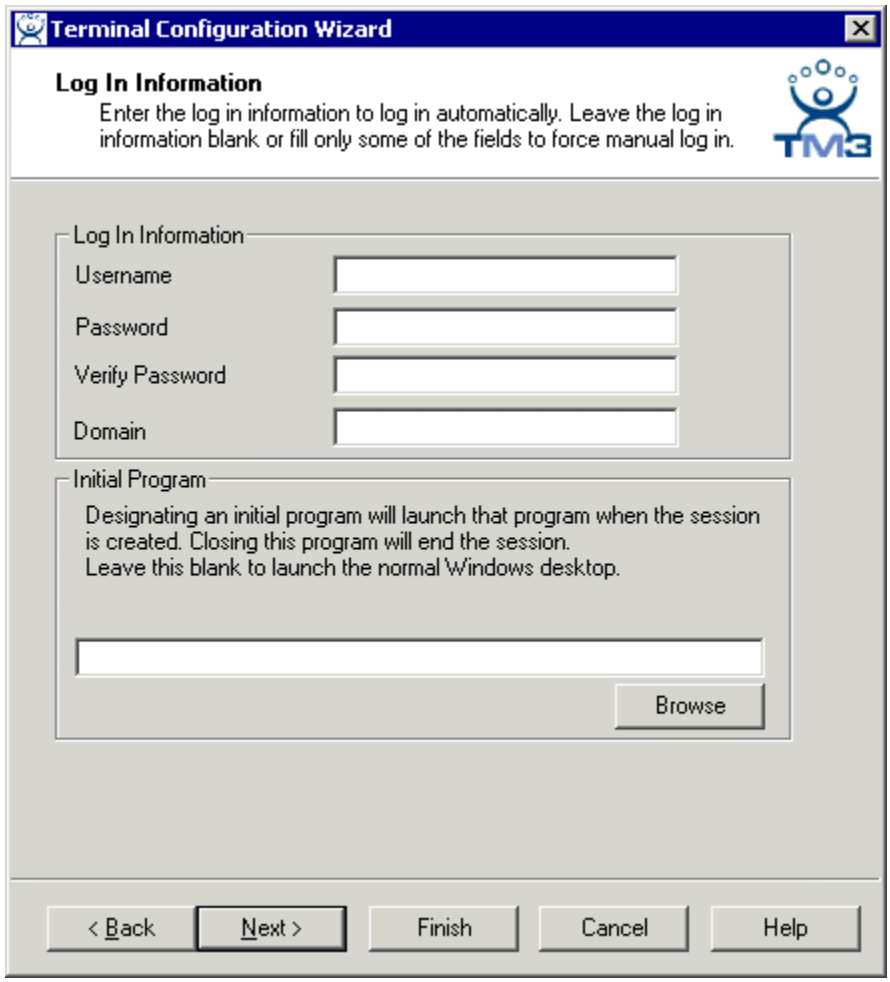
The default hotkey for MultiSession switching is set to ***Control+Page Up*** and ***Control+Page Down***. This can be changed by selecting the ***Alt Key*** radio button or using the drop-down to select another hot key.

Select the ***OK* button** to continue or the ***Cancel*** button to close without accepting changes.

Continuation of the Terminal Configuration

The configuration paths (Independent Terminal Servers vs. Terminal Server Groups, MetaFrame vs. Device Services and RDP) unite at the Login Configuration.

Login Information Page



Terminal Configuration Wizard - Login Information

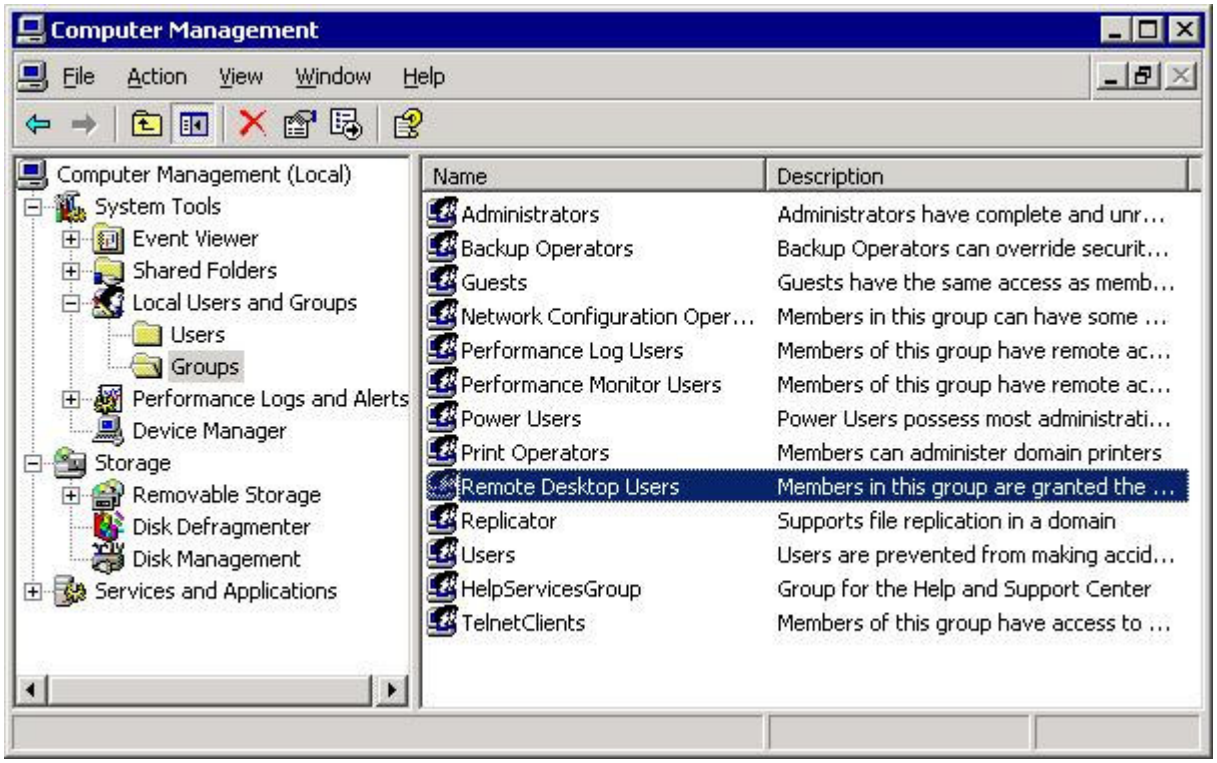
It is recommended that each terminal should login to a Terminal Server with a unique profile.

If the ***Username***, ***Password***, and ***Domain*** fields are filled with a valid Microsoft user account, ThinManager will pass this information to the Microsoft Terminal Server when the ThinManager Ready Thin Client connects, letting the terminal login automatically.

Note: RDP will not allow auto-login by default. See Configuring RDP for Auto-Login for details.

If the ***Username***, **Password**, and ***Domain*** fields are left blank, or are filled with invalid data, the Microsoft Windows login window will be presented on the terminal and the user will need to login manually.

Note: Users may need to be added to Microsoft's Remote Desktop Users Group when connecting to a Windows 2003 terminal server.

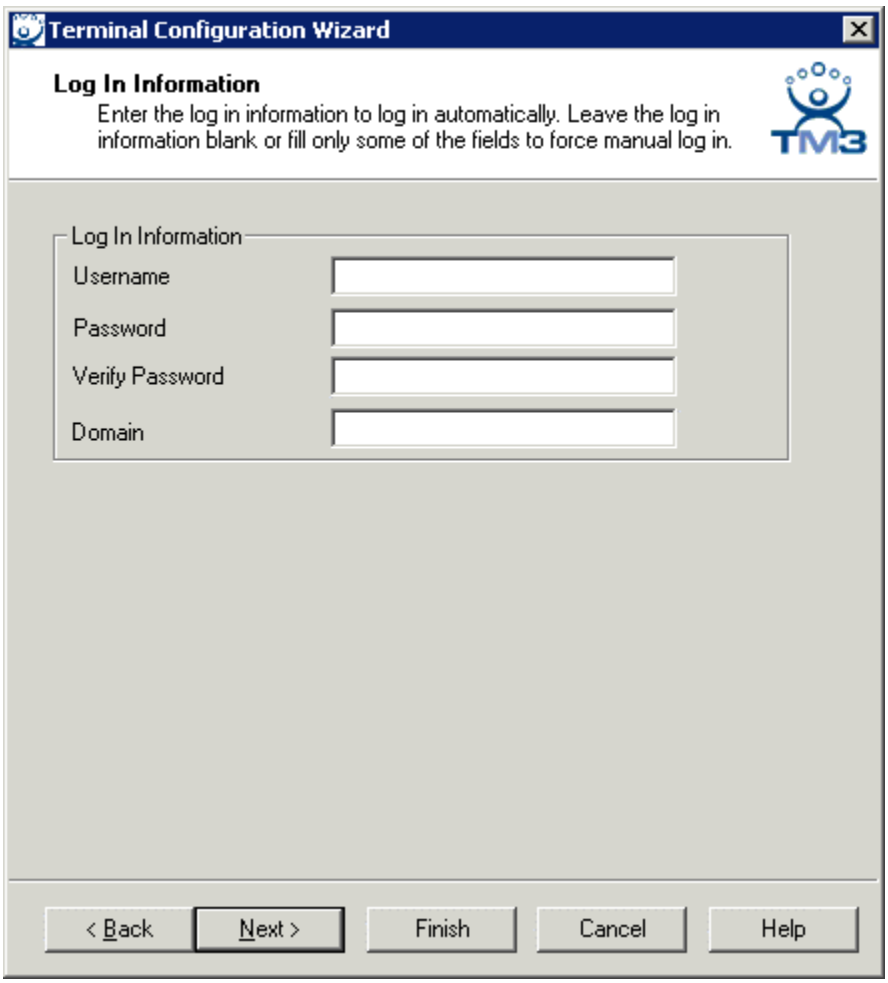


Windows 2003 Computer Management – Local Users and Groups

The ***Initial Program*** loads the designated program instead of the Windows desktop when the terminal connects to the Terminal Server. If a program is launched as the initial program, it is the only program that will run. This provides a level of security and control because that program is the only program that will run in that session. If the Initial Program is closed on the terminal, the session on the Terminal Server will close and the ThinManager Ready Thin Client will reconnect to the Terminal Server and re-launch the Initial Program. This effectively makes the Initial Program the only program. See Initial Program for details.

To use the Initial Program, enter the path to the program in the ***Initial Program*** field as shown in the example.

Note: When using the Initial Program with failover, the path must be identical on all terminal servers. If the path is different,, use a batch file to launch the application

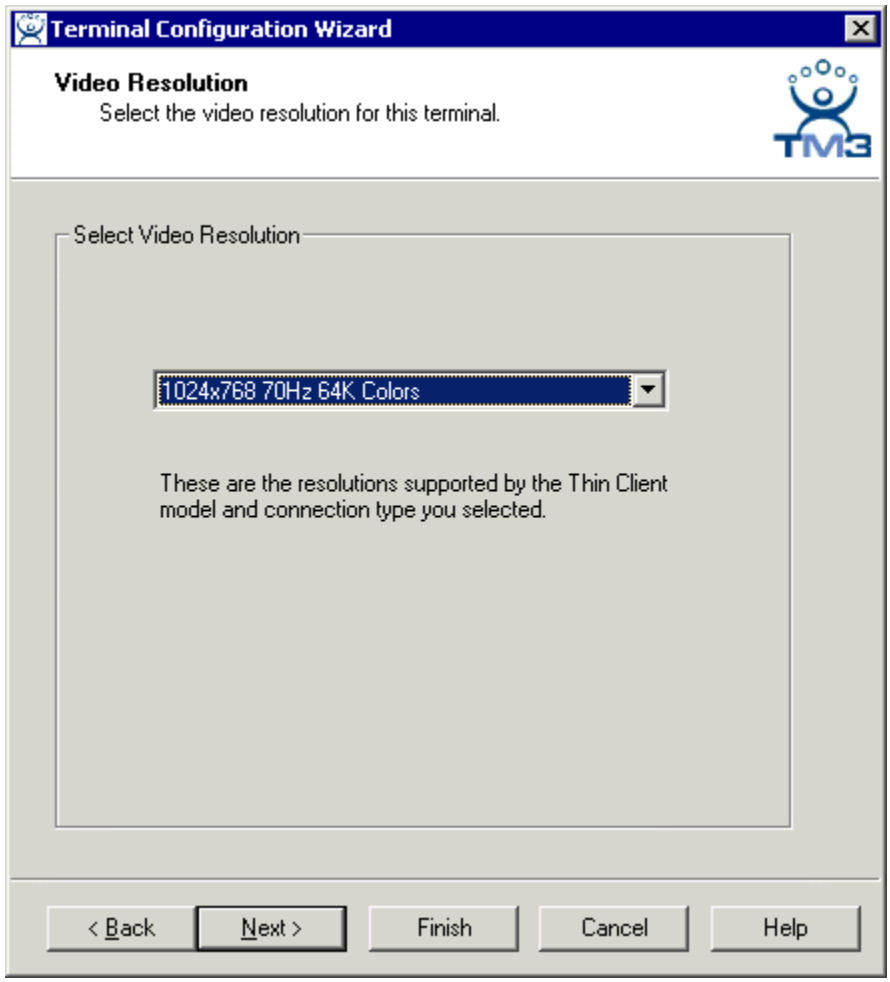


Login Information - Use Terminal Server Groups

Terminals using Terminal Server Groups do not display the Initial Program field. AppLink instead provides the Initial Program function. See AppLink for details.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Terminal configuration.

Video Resolution Page



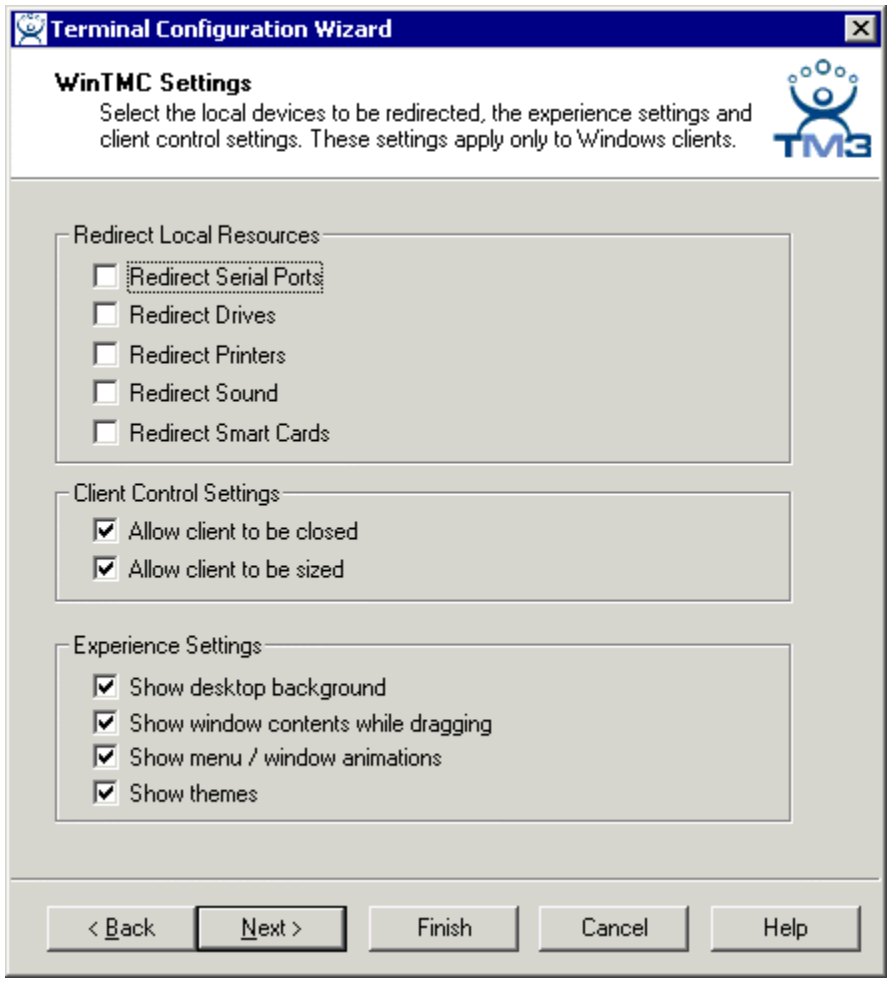
Terminal Configuration Wizard - Video Configuration

The **Video Resolution Configuration** has a drop-down box that allows the video resolution to be set for the terminal.

The standard terminal connection uses a 256-color depth. The 64K-color depth is available by using RDP connected to a Windows 2003 Terminal Server or the ICA client with Citrix MetaFrame 1.8 FR1 or greater.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Terminal configuration.

WinTMC Settings Page



WinTMC Settings

WinTMC clients can be configured on the WinTMC Settings page. These only apply to connections made by the WinTMC fat client.

Note: This page will only be shown if **GENERIC:PersonalComputer** is chosen for the ***Make/OEM*** and ***Model*** on the Terminal Hardware page.
See WinTMC for details.

See WinTMC Fat Client for details on the WinTMC client.

The settings include:

Redirect Local Resources:

- **Redirect Serial Ports** – Enable this setting to make local serial ports available in a session. Serial Port redirection does not work when you connect to a terminal server running Windows 2000 or earlier.
- **Redirect Drives** – Enable this setting to make local drives available in a session. Drive redirection does not work when you connect to a terminal server running Windows 2000 or earlier.
- **Redirect Printers** – Enable this setting to make your local printer available in a session.

- **Redirect Sound** –Enable this setting to allow audio played in your session to play locally. Sound redirection does not work when you connect to a terminal server running Windows 2000 or earlier.
- **Redirect Smart Cards** – Enable this setting to make your smart card available in a session. Smart card redirection does not work when you connect to a terminal server running Windows 2000 or earlier.

Client Control Settings:

- **Allow Client to be closed** – Enable this setting if you want your user to be able to close the client.
- **Allow client to be sized** – Enable this setting if you want your user to be able to resize the client.

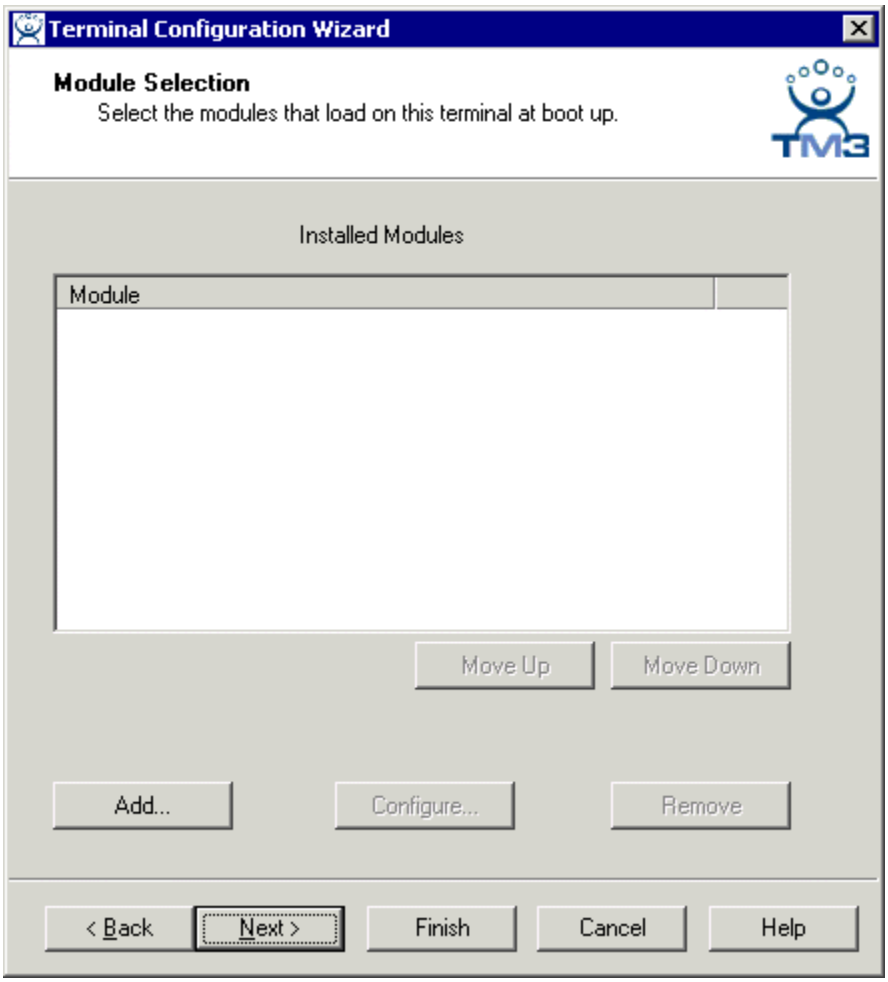
Experience Settings:

- **Show Desktop Background** – Enable this setting if you want your user to be able to select a Windows Desktop Background. If not set, the background will be a solid color.
- **Show window contents while dragging** – Enable this setting if you want the window contents of a window to be shown while the window is being dragged.
- **Show menu/window animations** – Enable this setting if you want menu/window animations to be enabled on the client.
- **Show Themes** – Enable this setting if you want your user to be able to select a Windows Theme.

Note: These functions may be denied by user policies or terminal server configuration. Check the Microsoft Local Policy, Group Policy, and Terminal Services Configuration. See Non-ThinManager Components for details.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

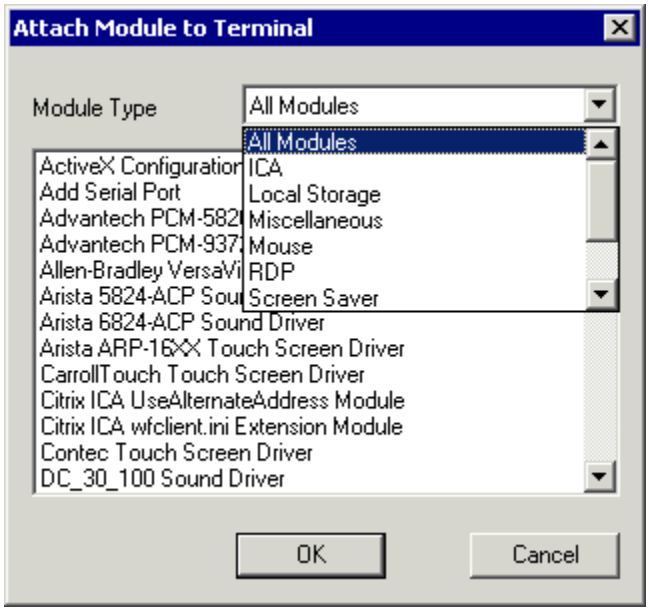
Terminal Module Selection Page



Terminal Configuration Wizard - Module Selection

A **Module** is a component of the firmware that is not needed for the basic functionality, but may be desired for advanced functionality. These features include Touch Screen drivers, serial mouse drivers, High Speed Serial drivers, Shared Keyboard and Mouse, USB Memory Card Reader, and Instant Failover. See Module Overview for details.

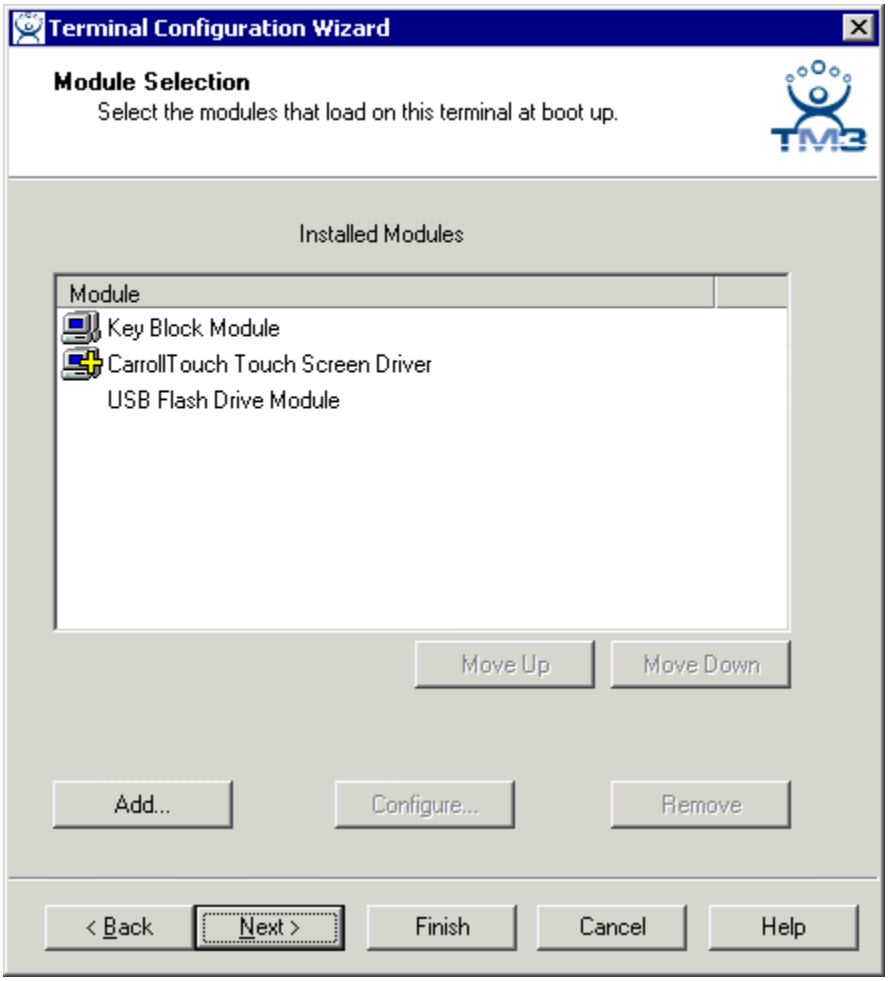
To add a Module to a Terminal, select the ***Add…*** button to launch the **Attach Module to Terminal** window.



Attach Module to Terminal

The **Attach Module to Terminal** window will show the modules that are available to the terminal. The ***Module Type*** drop-down box sorts the modules by categories to make the modules easier to find.

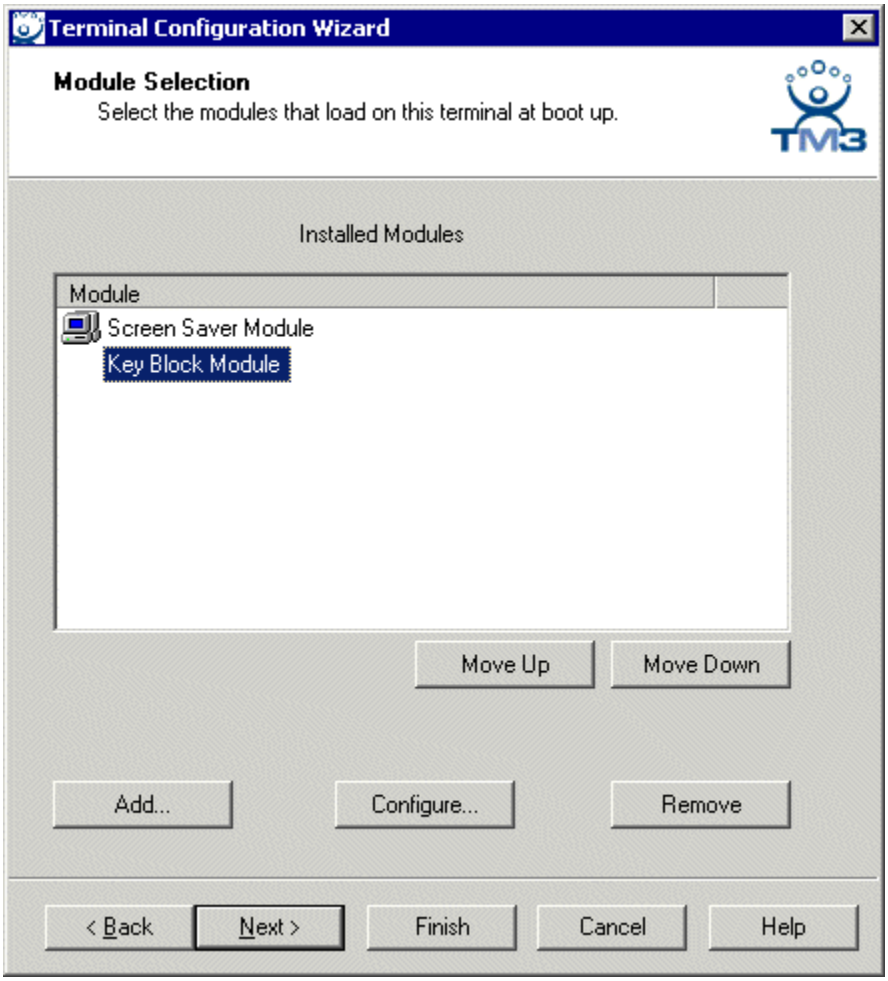
Highlight the desired module and select the ***OK*** button to add the module to the configuration.



Terminal Configuration Wizard - Module Selection

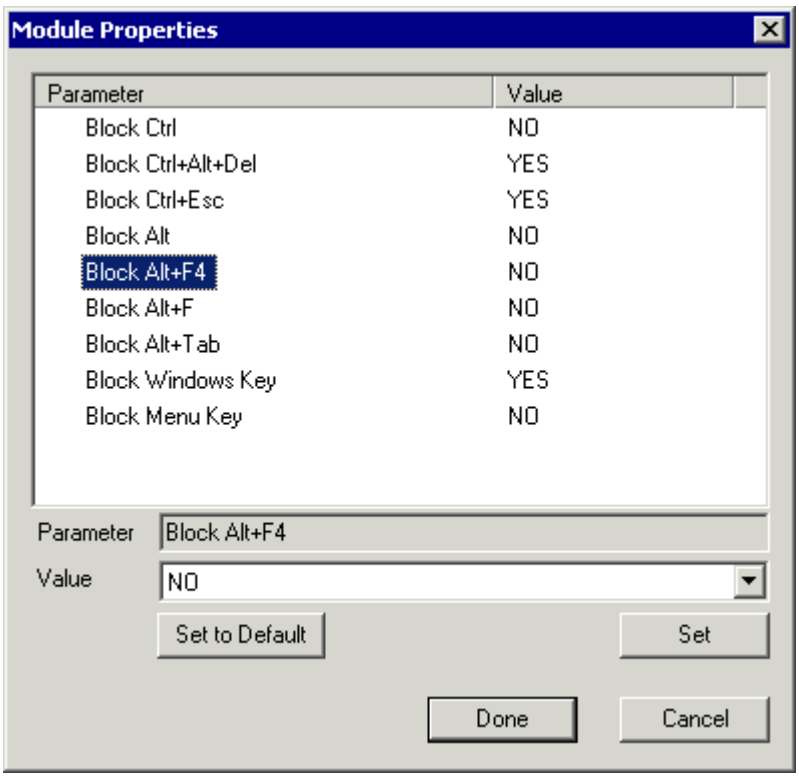
Terminals that are members of a Group may show icons to represent the properties of added modules.

-  The Group icon represents modules assigned to a parent Group.
-  The Group icon with yellow plus sign represents properties that are changed on the terminal from the Group settings. This is now limited to touch screen calibration.
- No icon indicates that the module was added to that particular Group or Terminal and not a parent Group.



Module Configuration

Highlighting a module and selecting the ***Configure*** button will open the **Module Properties** window and allow changes to the module configuration.



Module Properties

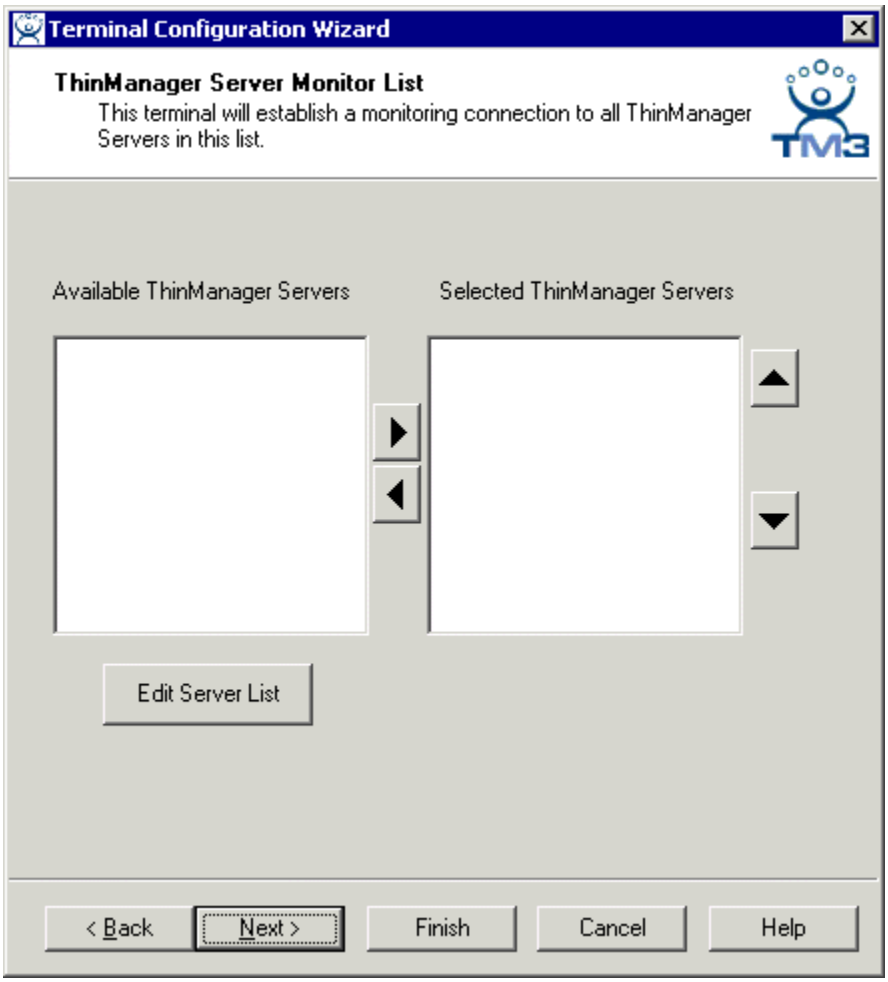
On the Modules Properties window, select the parameter to change, select the new value in the drop-down list, and click the **Set** button. This will change the setting.

The ***Set to Default*** button will restore the module to the default settings.

Select the ***Done*** button to close the **Module Properties** window and to return to the Terminal Configuration Wizard.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Terminal configuration.

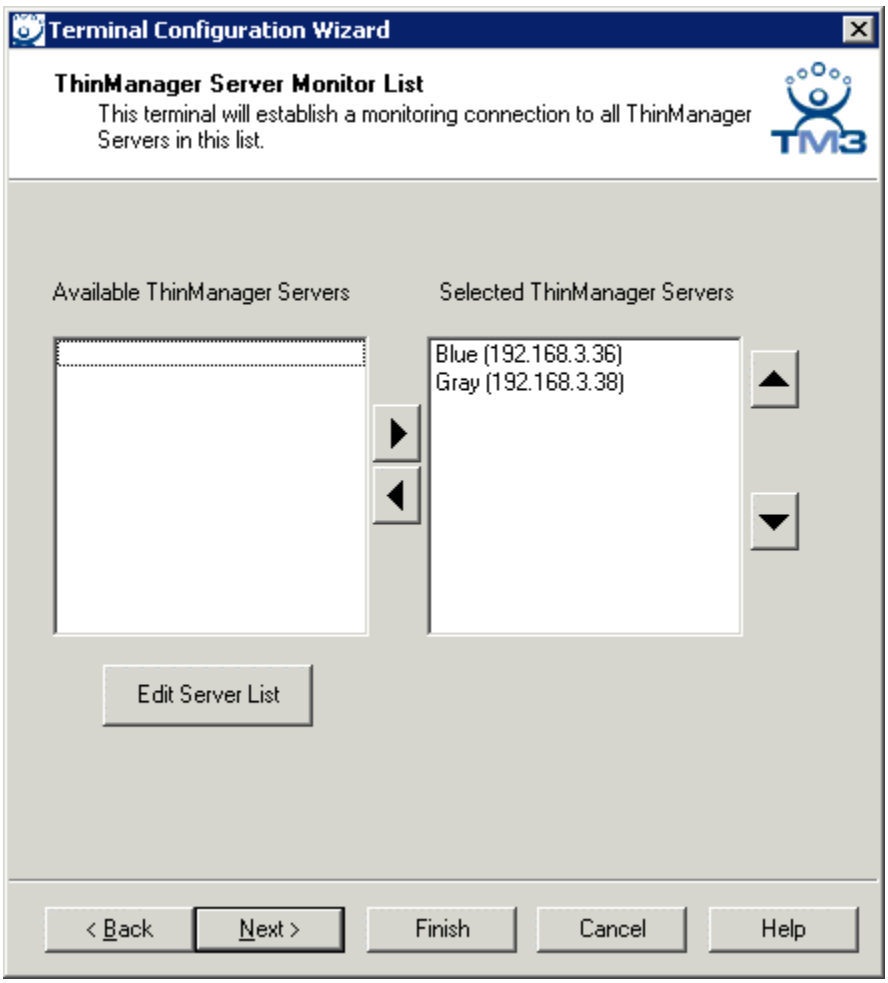
ThinManager Server Monitor List Page



Terminal Configuration Wizard - ThinManager Server Monitor List

The **ThinManager Server Monitor List** defines what Thin Manager Servers the terminal will communicate with to keep monitoring light status current. All ThinManager Servers defined in the ThinManager Server List Wizard will appear in the Available ThinManager Server column.

If the ***Available ThinManager Server*** column is empty, the ***ThinManager Server List* Wizard** needs to be run to define the ThinManager Servers. Select the ***Edit Server List*** button to launch the ***ThinManager Server List Wizard*** as shown in ThinManager Server List Wizard.



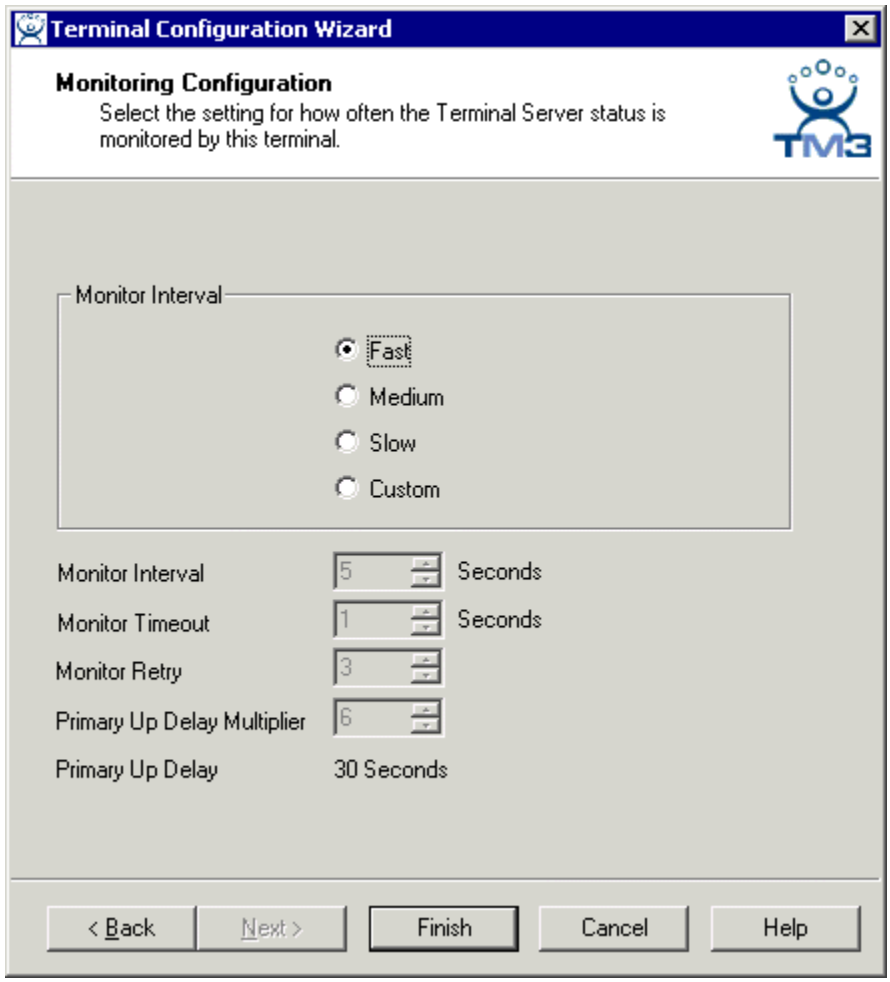
Terminal Configuration Wizard - ThinManager Server Monitor List

Once the ThinManager Server List wizard has run, each ThinManager Server that is identified in the ThinManager Server List Wizard will initially appear in the ***Available ThinManager Server*** box on the left of the Group Monitoring Configuration page.

To select a ThinManager Server for the terminal, highlight it in the ***Available ThinManager Server*** list on the left and click the right arrow button. This will put the ThinManager Server into the ***Selected ThinManager Server*** list on the right. The terminal will send connection status (red/green icon lights) to all ThinManager Servers in the ***Selected ThinManager Server*** list.

Select the ***Next*** button to continue configuration or select the ***Finish*** button to complete the Group configuration.

Monitoring Configuration Page



Terminal Configuration Wizard - Monitoring Configuration

ThinManager Ready Thin Clients continuously monitor the Terminal Server to make sure that it stays online. If the Terminal Server goes offline, the terminal will disconnect and connect to the next Terminal Server in the Group Terminal Server Selection. The Monitoring Connection sets the frequency that the monitor occurs.

Use the ***Monitor Interval*** radio buttons to use a default frequency or select ***Custom*** and choose a setting of your own.

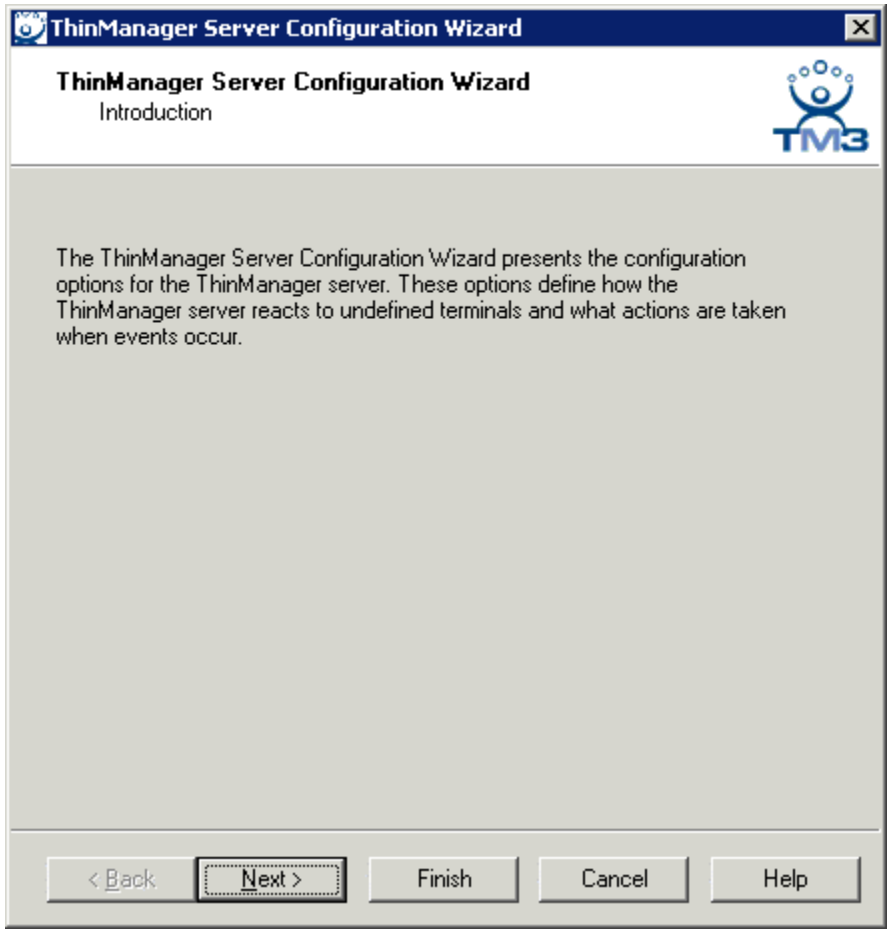
- ***Monitor Interval*** is the interval that the monitor checks occur.
- ***Monitor Timeout*** is the time the terminal will wait for a response from the terminal server.
- ***Monitor Retry*** is the number of times the monitor check will be tried.
- ***Primary Up Delay Multiplier*** is the number that generates the Primary Up Delay time.
- ***Primary Up Delay*** is a delay added (usually set to 30 or 60 seconds) to allow a Terminal Server to get fully booted before the terminal will try to login. This time period is equal to the Monitoring Interval times the Primary Up Delay Multiplier.

A **Fast** setting of the Monitor Connection will detect Terminal Server failure quickly. However, the faster the setting is, the more sensitive it is and it may drop the Terminal Server when the network is busy but not offline. Setting the Monitoring Connection to a slower setting gives the terminal server more time to respond when it is busy.

Select the ***Finish*** button to complete the terminal configuration.

ThinManager Server Configuration Wizard

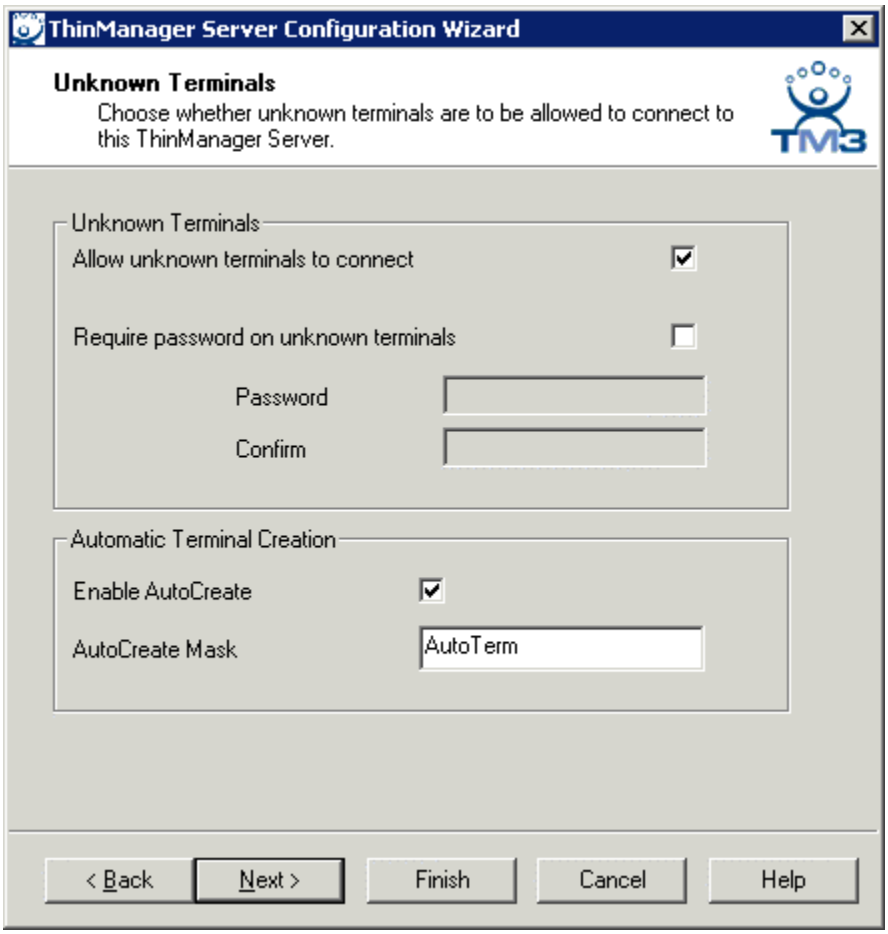
Selecting ***Manage>Settings*** will launch the ThinManager Server Configuration wizard that allows the configuration of global ThinManager settings. The ThinManager Server Configuration wizard is also accessible by double-clicking on the ThinManager icon in the tree, or by right clicking the icon and selecting ***Modify***.



ThinManager Server Configuration Wizard

Select ***Next*** to Configure the ThinManager Server settings.

Unknown Terminals Page

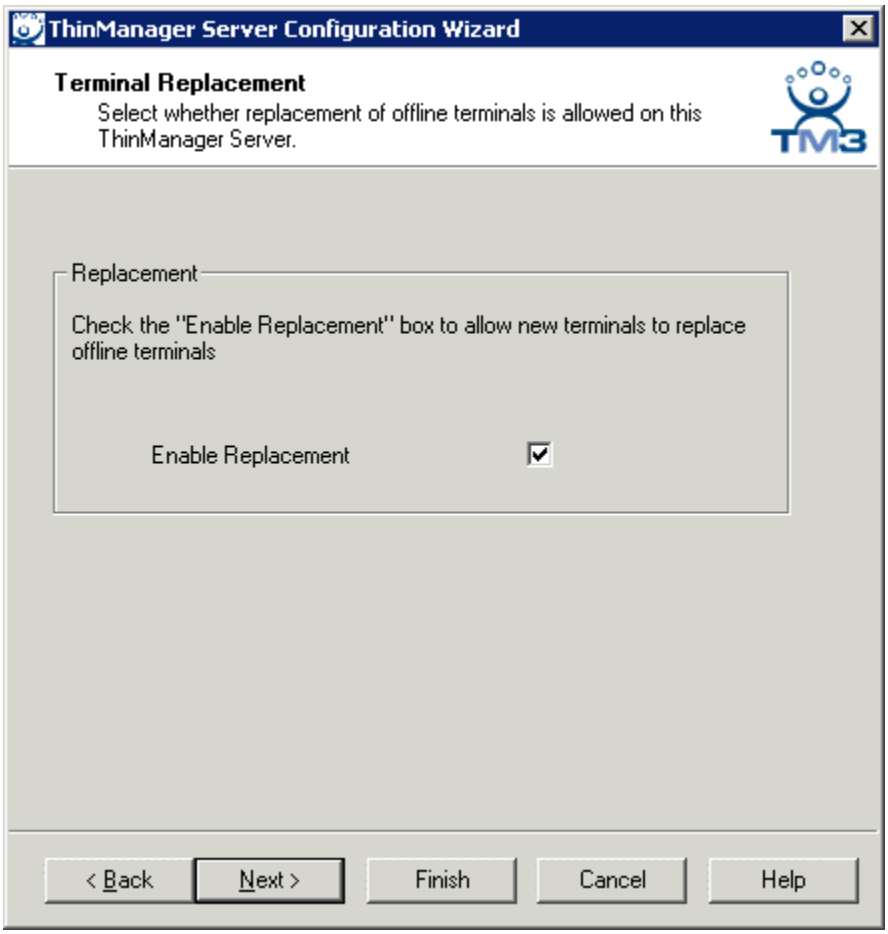


Unknown Terminals

- ***Allow unknown terminals to connect*** - This checkbox, if selected, lets new terminals be added to the ThinManager Server. Replacements and new terminals are prevented if this box is un-selected.
- ***Require password on unknown terminals*** - This checkbox, if selected, allows use of a password so that only authorized personnel can add terminals to the ThinManager Server. If checked, the password fields become active and allow the addition of a password.
- ***Enable AutoCreate*** - This checkbox, if selected, allows the auto-creation of an array of terminals as described in Auto-Creation of Terminals.
- ***AutoCreate Mask*** - This field is the base name used in the array of terminals when using Auto-Creation of Terminals.

Select the ***Next*** button to continue.

Terminal Replacement Page

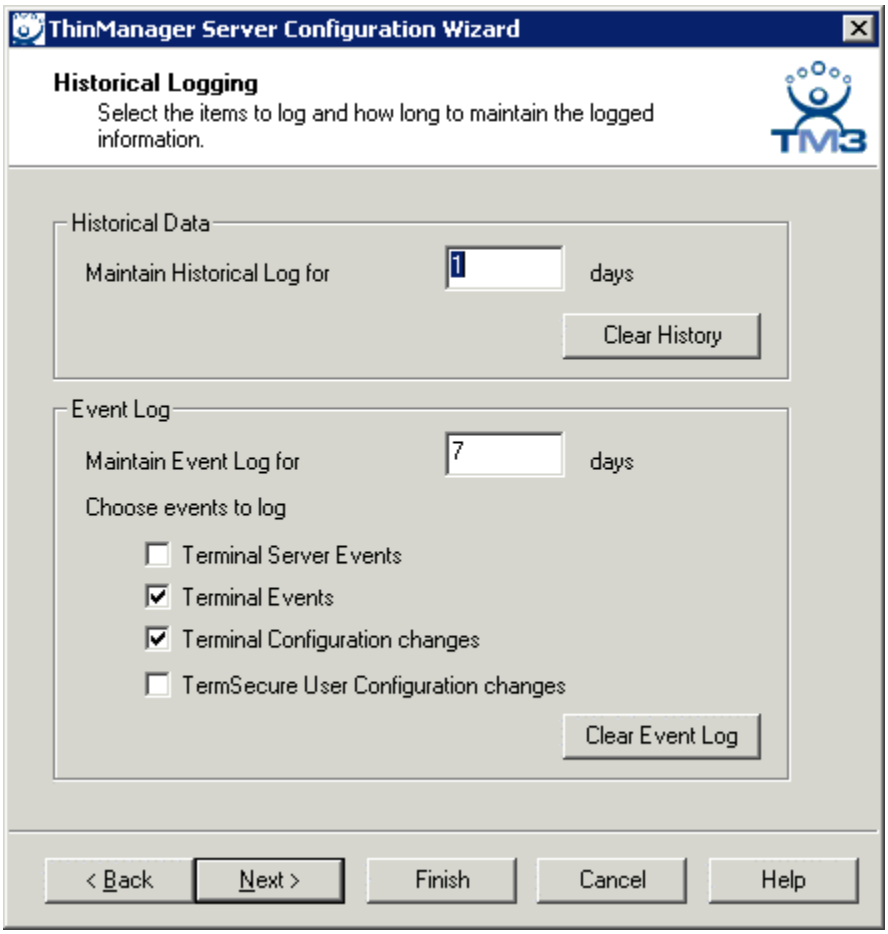


Terminal Replacement

The ***Enable replacement*** checkbox gives **global permission** for terminals to be replaced. Un-selecting this will prevent **all** terminals from showing up in the replacement list when a new terminal is added, making **Create New Terminal** the only option. This feature is also available for the Group and terminal level on the first page of the corresponding wizard. However, if this checkbox is unselected in the **ThinManager Server Configuration Wizard**, checking it in a **Terminal Configuration Wizard** will have no effect.

Select the ***Next*** button to continue.

Historical Logging Page



Historical Logging

The **Historical Logging** page allows the **Historical Log** and **Event Log** parameters to be set.

Historical Data

- ***Maintain Historical Log for X days*** - This field determines the length of time that the terminal server CPU and memory data from the **Terminal Server Graph** tab is stored. See Data Display for an example of the graph.
- ***Clear History*** - This button will erase the Historical log.

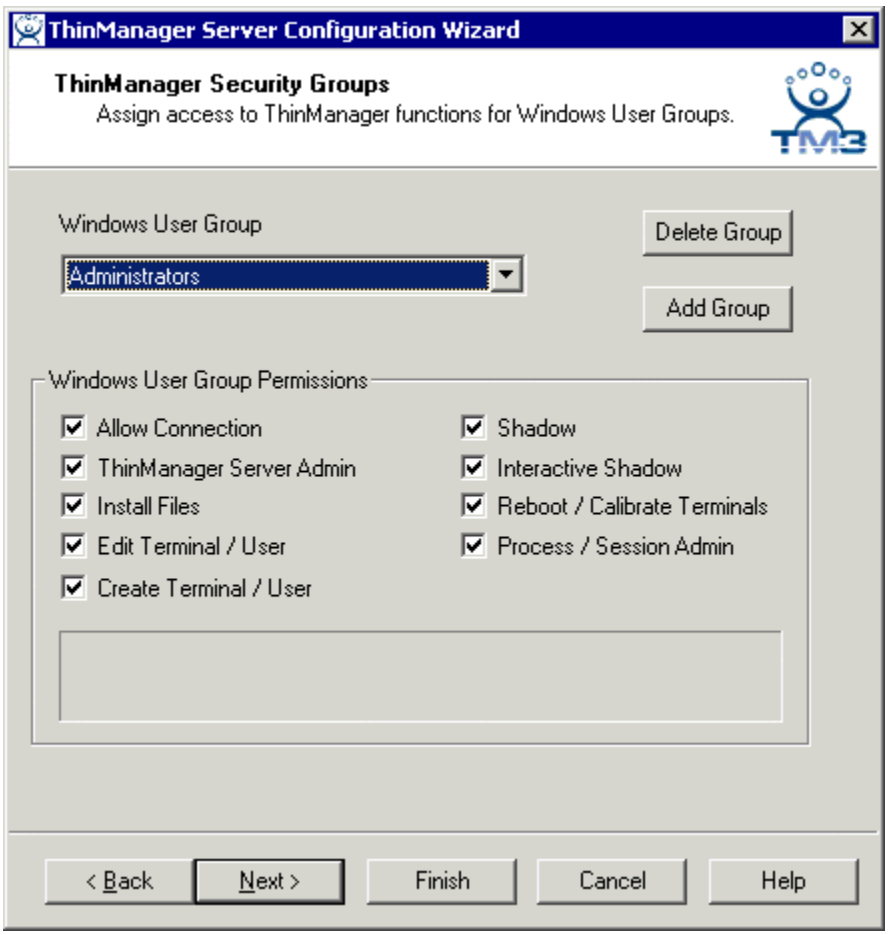
Event Log

- ***Maintain Event Log for X days*** - this field determines how long the event log is kept.
- **Choose events to log** - these checkboxes determine what events are stored in the log.
    - **Terminal Server Events -** This checkbox, when selected, records events of the terminal servers.
    - **Terminal Events -** This checkbox, when selected, records events of the terminal.
    - **Terminal Configuration Changes -** This checkbox, when selected, records change to the terminal configuration.
    - **User Configuration Changes -** This checkbox, when selected, records change to the TermSecure User configuration.

Select ***Next*** to continue.

ThinManager Access Permissions

Access to ThinManager can be assigned to Windows User Groups on the **ThinManager Security Groups** page.



ThinManager Security Groups

ThinManager allows different levels of access and functionality based on standard Windows groups.

Standard Windows groups can be created in the Computer Management console and given different privileges in ThinManager.

ThinManager 3.0 comes with privileges pre-defined for seven groups

- **Administrators -** The Microsoft defined Administrator group is given all privileges by default in ThinManager. This may be denied by unselecting the various **Windows User Group Permissions**
- **ThinManager Administrators** have full permission to do anything within ThinManager including the power to logoff sessions, kill processes, send messages, Restart terminals, calibrate touch screens, change terminal configurations, update firmware, update the TermCap, and restore configurations. Administrators and members of ThinManager Administrators can shadow terminals and interactively control the terminal session. **These privileges may not be removed.**
- **ThinManager Interactive Shadow Users** - Members of this group may shadow a terminal interactively.

- **ThinManager Power Users** can logoff sessions, kill processes, send messages, Restart terminals, and calibrate touch screens. They cannot change terminal configurations, update firmware, update the TermCap, and restore configurations. ThinManager Power Users can shadow terminals from within ThinManager but cannot interact with the session.
- **ThinManager Shadow Users** - Members of this group may shadow a terminal, but not interactively.
- **ThinManager Users** can view only. They cannot logoff sessions, kill processes, send messages, Restart terminals, or calibrate touch screens. ThinManager Users cannot shadow a terminal.

Additional **Windows User Groups** can be configured by selecting the ***Add Group*** button to launch the **New Windows Group** window.

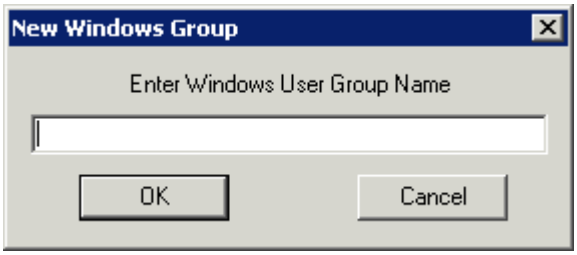
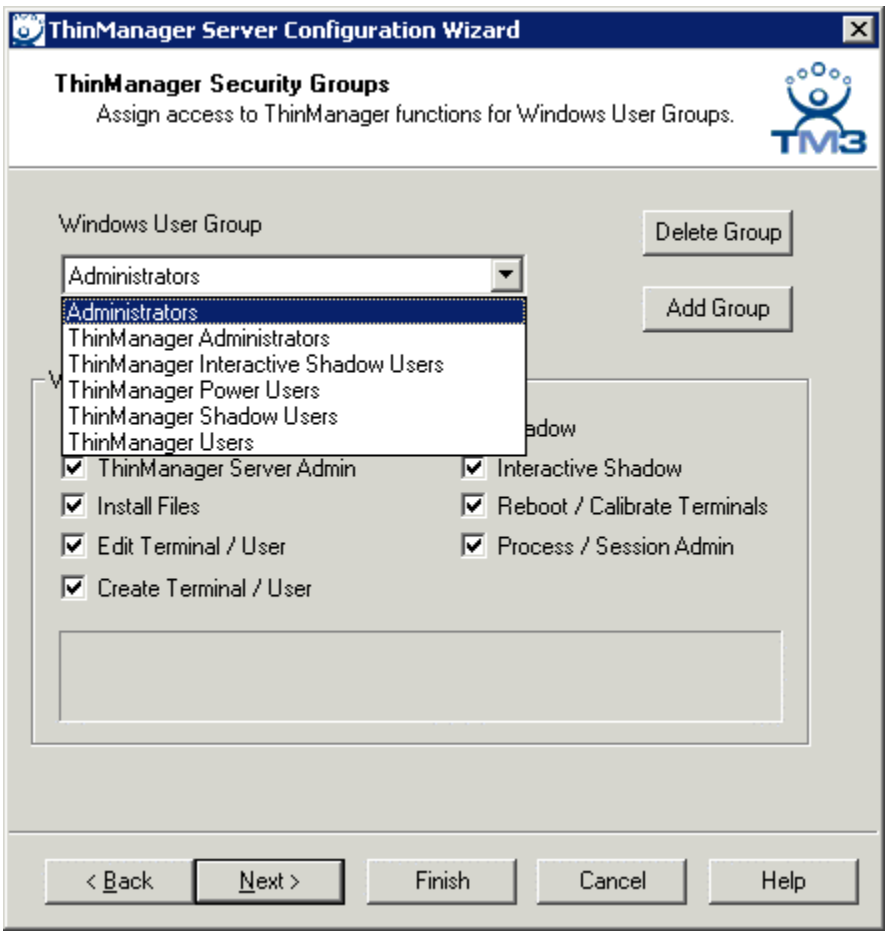


Figure 1 - New Window User Group Window

Adding a Windows Group name in the ***Enter Windows User Group Name*** field of the **New Window Group** window and selecting the ***OK*** button will add the Windows User Group to the drop-down list.

Note: This doesn't create the user group on any servers. This just adds the name of an existing group to the list that ThinManager is maintaining.

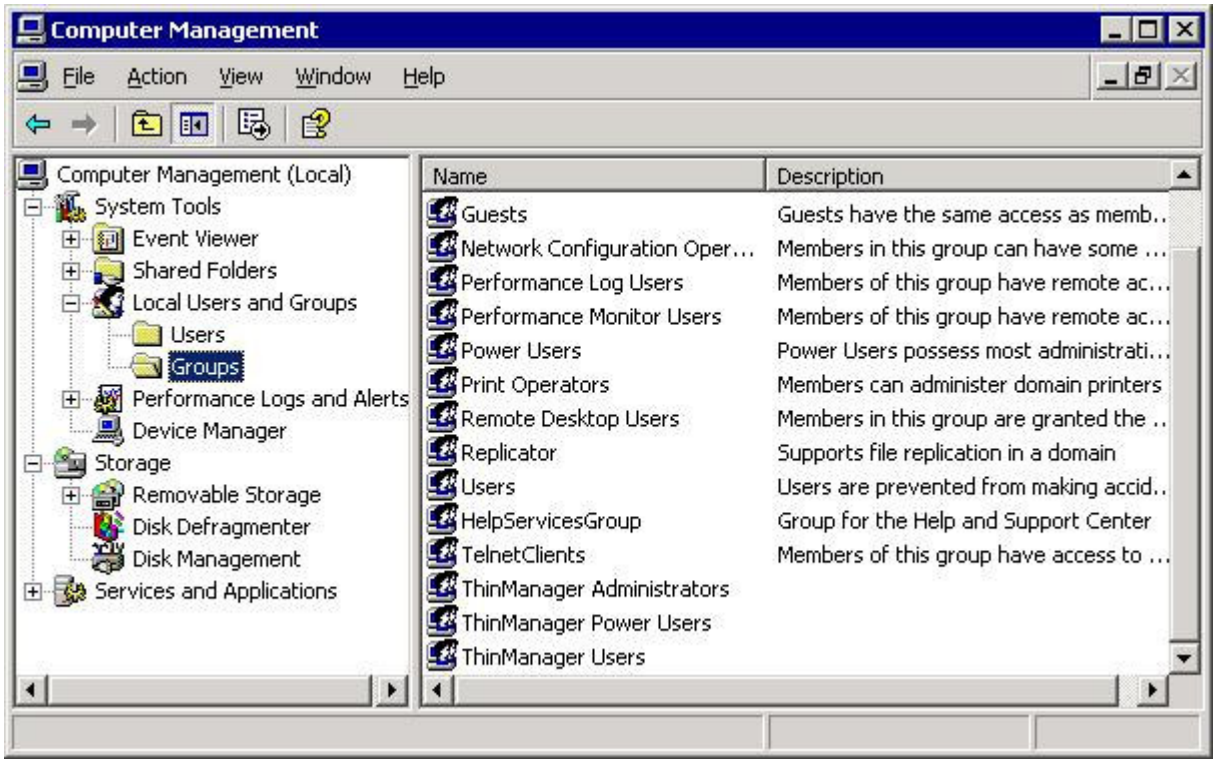


ThinManager Security Groups Page

Select the group from the **Windows Users Group** drop-down. Choose the permissions you want to grant to the group by selecting and unselecting the ***Windows Users Group Permissions*** checkboxes. Members of the Windows User Group will have the selected permissions the next time they login.

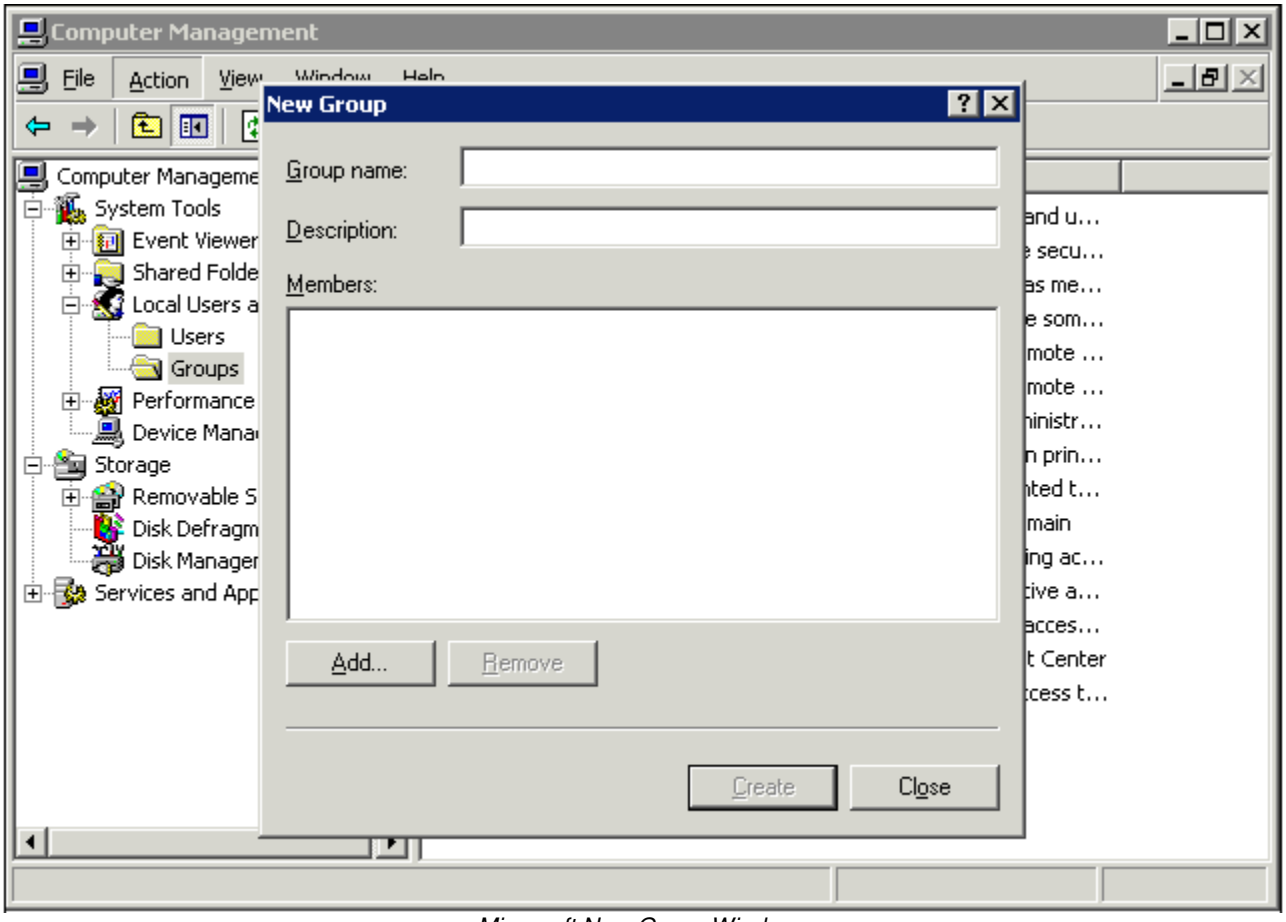
Although ThinManager has Windows User Groups pre-configured with privileges, these groups have not been created on the terminal servers.

To create a Windows User Group, open the **Computer Management Console** by selecting ***Start> Settings> Control Panel>Administrative Tools> Computer Management***.



Created ThinManager Security Groups

Highlight **Groups** in the tree and select ***Action> New Group*** to launch the **New Group window.**



Microsoft New Group Windows

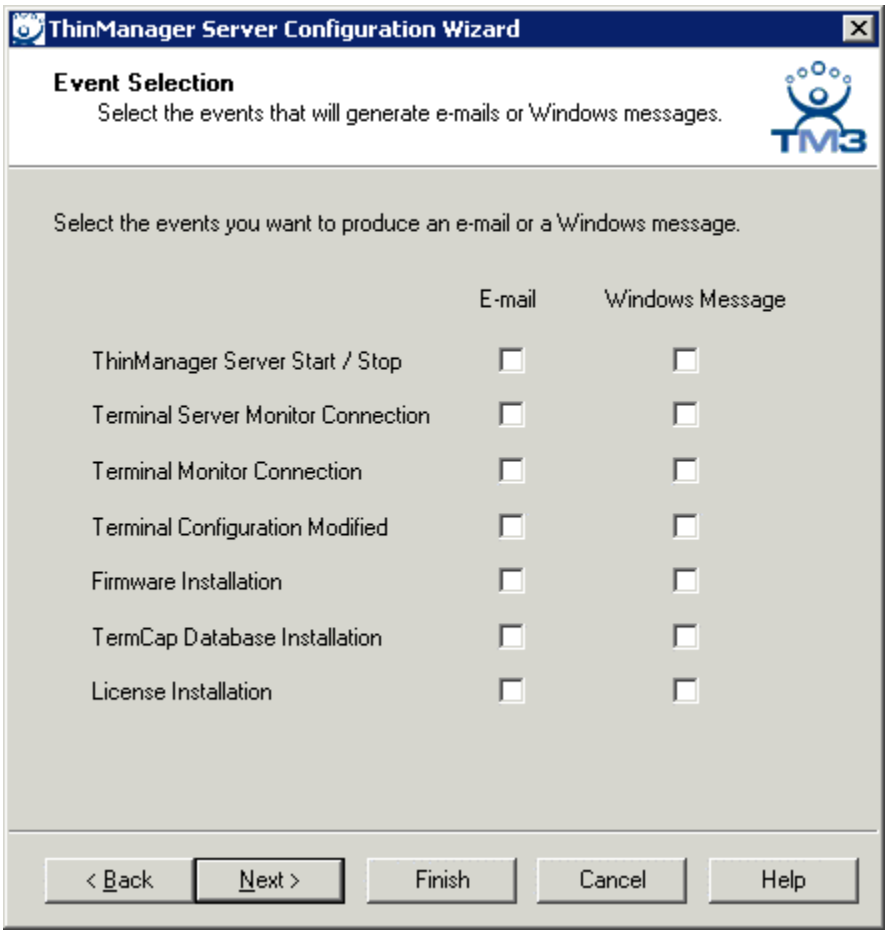
Enter the group name in the ***Group name*** field.

Add **Users** to the Windows User Group by selecting the ***Add*** button.

Select the ***Create*** button to finish the Windows User Group creation. Members of the Windows User Group will have the selected permissions the next time they login.

Select ***Next*** to continue the **ThinManager Server Configuration Wizard**.

Event Selection Page

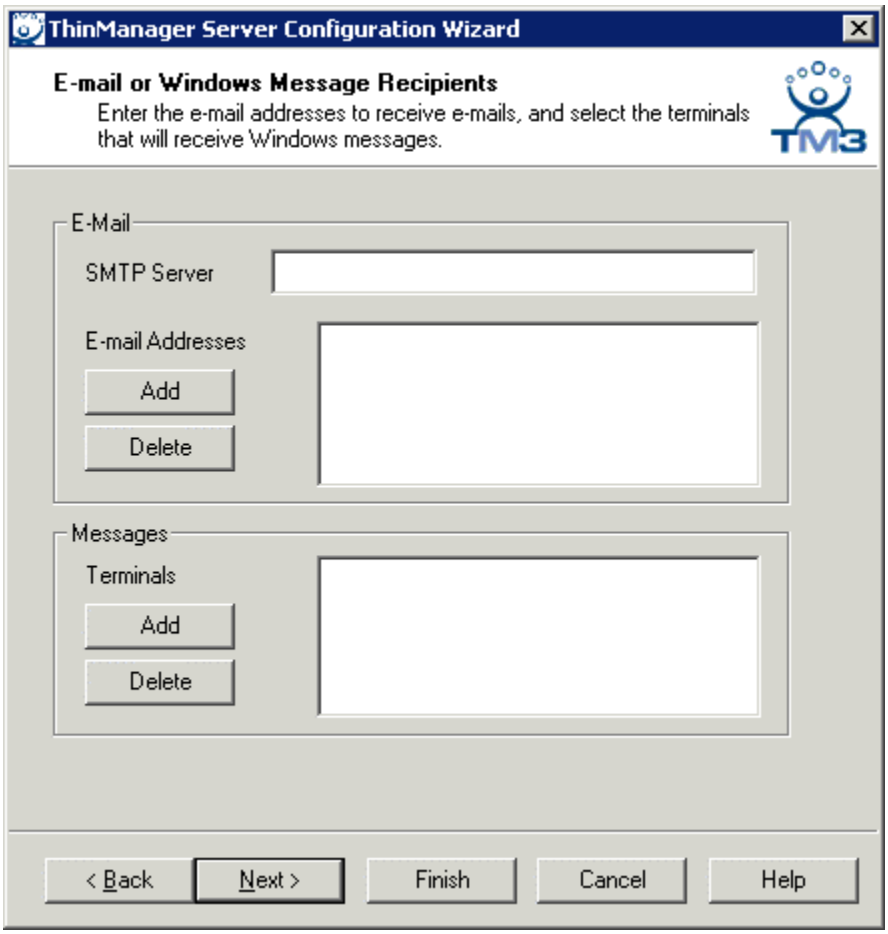


Event Selection

ThinManager has event notification. E-mails or windows messages can be sent by ThinManager to identify changes in the setup, configuration or status.

Check the desired events, the method of notification, and select ***Next*** to proceed.

E-Mail or Windows Message Recipients Page

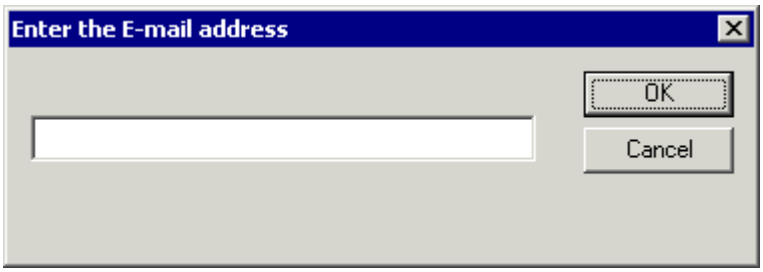


Email or Windows Messaging Recipients

The desired recipients of the event information can be specified on the ***Email or Windows Messaging Recipients*** page.

E-Mail:

- ***SMTP Server*** - Enter the SMTP (Simple Mail Transfer Protocol) server used by the ThinManager Server in the field.
- ***E-Mail Addresses*** - ThinManager will send an e-mail message to the addresses in this text box when an event selected on the **Event Select** page occurs.
- ***Add*** - Select this button to add e-mail addresses through the **Enter the E-mail address** window.



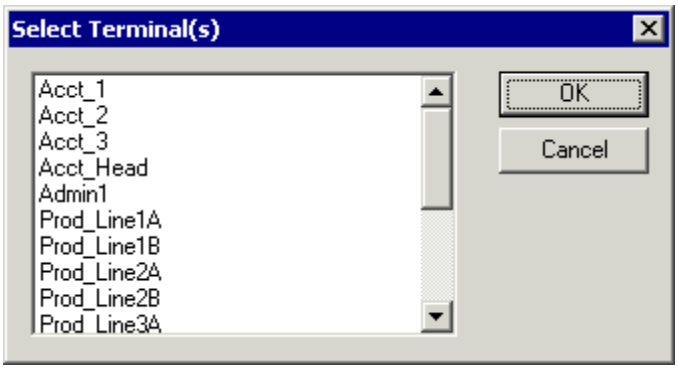
Enter the E-mail Address Window

Enter the desired e-mail address in the entry form and select ***OK***. Select the ***Cancel*** button to close the widow without making changes.

- **Delete** - Select this button to delete a highlighted e-mail address from the **E-mail Addresses** list.

Messages:

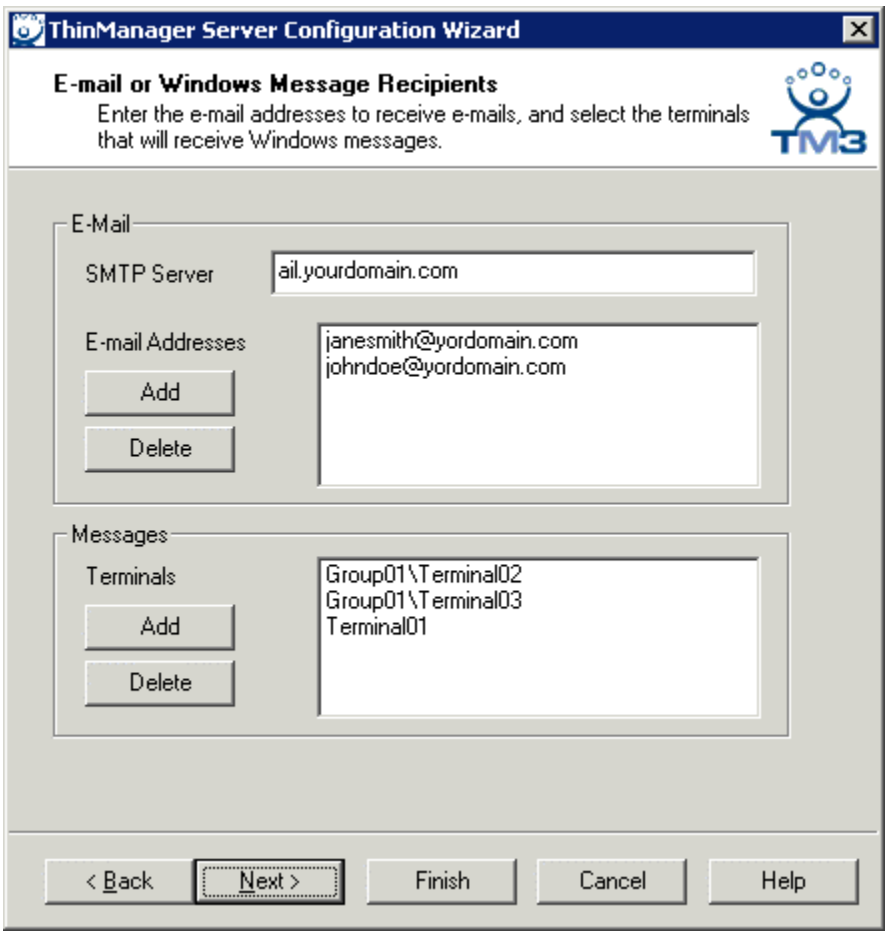
- ***Terminals*** - ThinManager will send a message to the terminals in this text box when an event selected on the **Event Select** page occurs.
- ***Add*** - Select this button to add a terminal through the **Select Terminal(s)** window.



Terminal Selection Window

The **Select Terminal(s)** windows will list the terminals configured on the ThinManager Server. Highlight the desired terminal and select the ***OK*** button.

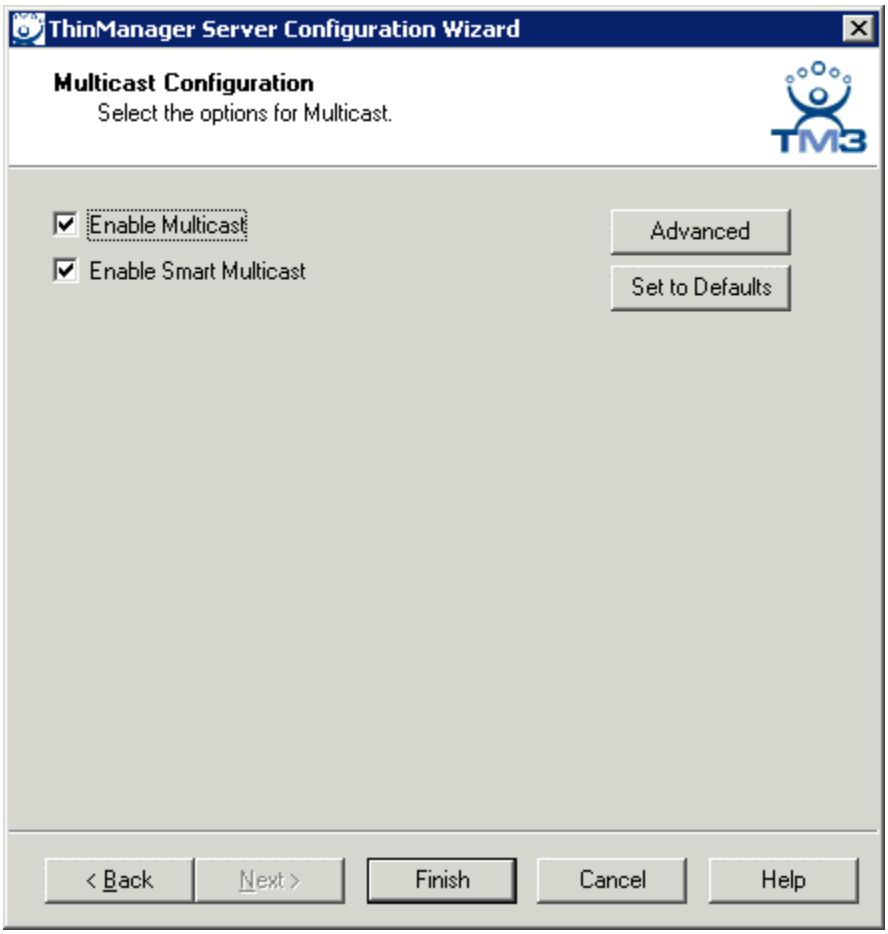
- **Delete** - Select this button to delete a highlighted terminal from the **Terminals** list.



Email or Windows Messaging Recipients

When the addresses are configured as desired, select the ***Next*** button to configure the ThinManager Server for Multicast of select ***Finish*** to accept configuration.

Multicast Configuration Page



Multicast Configuration Page

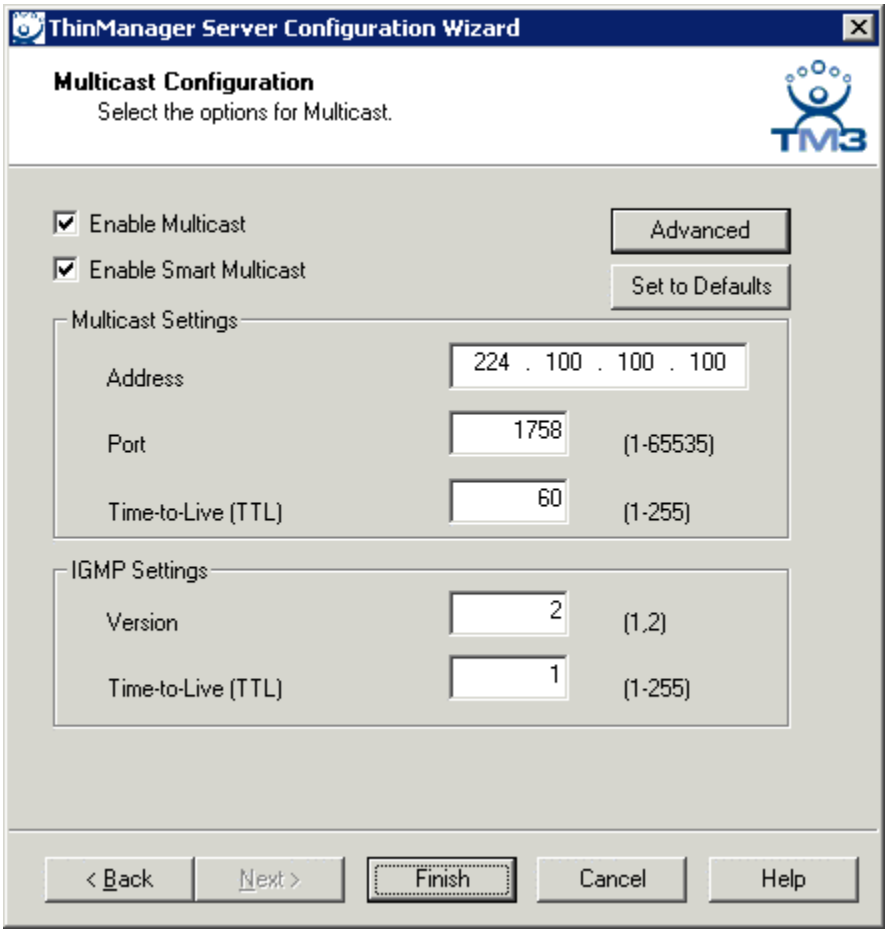
Multicast provides the ability for an unlimited number of terminals to boot simultaneously from the same data stream. This feature reduces the amount of network traffic and reduces the amount of load on the ThinManager Server when multiple terminals are booting concurrently. This function is especially useful for low bandwidth connections and highly utilized networks.

Smart Multicast allows the terminal firmware is sent directly to the terminal while a single terminal is booting. If additional terminals request the terminal firmware during this time, the firmware will be multicast so that all terminals can receive the firmware from a single data stream. If Smart Multicast is disabled, the firmware will always be sent as a multicast transmission.

Multicast is only available on terminals with ACP Boot Loader Version 5.0 and later. No local terminal configuration is needed to use Multicast.

There are two Multicast checkboxes and two buttons.

- ***Enable Multicast*** - This checkbox, if selected, enables Multicast.
- ***Enable Smart Multicast*** - This checkbox, if selected, enables Smart Multicast.
- ***Advanced*** - This button, if selected, will display the advanced settings.
- ***Load Defaults*** - This button, if selected, will set the advanced settings back to the defaults.



Advanced Multicast Options

The Advanced settings are provided for advanced users.

Note: If you do not understand these settings, we recommend that you use the default settings.

Multicast Settings

- ***Address*** – This is the IP address that will be used for Multicast transmissions.
- ***Port*** – This is the destination port that will be used for Multicast transmissions.
- ***Time-to-Live (TTL)*** – This is the maximum number of router hops for Multicast packets. Setting this value to 255 allows for unlimited hops.

IGMP Settings (Internet Group Management Protocol)

- ***Version*** – This sets the IGMP version for use with multicast capable routers.
- ***Time-to-Live (TTL)*** – This sets the time-to-live value for IGMP packets.

Terminal Server Groups

Terminal Server Group Overview

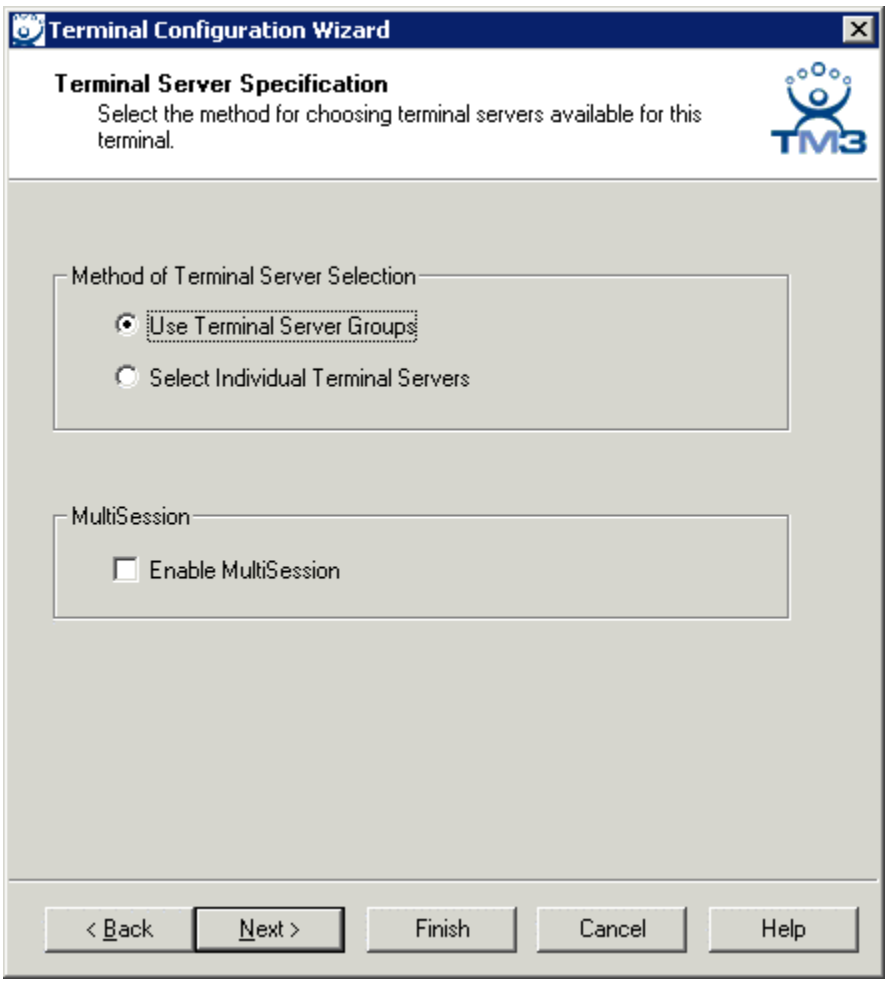
Terminal Server Groups are collections of Terminal Servers. A ThinManager Ready thin client can connect to one or more terminal servers that are members of a Terminal Server Group. Instead of specifying individual terminal server that a terminal will connect to a terminal server defined in a terminal server group. The specific terminal server that the terminal connects to is based on the Terminal Server Group configuration and options.

Configuring a Terminal Server Group is covered in detail in the Terminal Server Group List.

The types of Terminal Server Groups include:

- A **standard Terminal Server Group** has the terminal servers listed in a pre-defined order. The terminal connects to the first available member of the group.
- The **SmartSession** option of Terminal Services Groups provides load balancing by using CPU availability, memory, and the number of sessions on the member terminal servers to determine the resource availability on member terminal servers. A ThinManager Ready thin client connects to the terminal server in the Terminal Server Group with the most available resources.
- The **Instant Failover** option allows a terminal to connect to two terminal servers within a Terminal Server Group. The terminal will have an active session on two terminal servers but will only display one session. If the first terminal server fails, the session of the second terminal server is immediately displayed, eliminating any downtown due to terminal server failure.
- The **AppLink** option provides the Initial Program function to members of a Terminal Server Group. When specifying the Initial Program function, a program is started instead of the desktop. Closing the program will terminate the connection.
- **MultiSession** is a terminal configuration that allows a ThinManager Ready thin client to connect to multiple terminal servers from multiple Terminal Server Groups. The user can switch between groups using an on-screen menu or hot keys. These groups may be standard Terminal Server Groups, Terminal Server Groups with SmartSession, AppLink, and/or Terminal Server Groups with Instant Failover.

These Terminal Server Group options can be combined on the same Terminal Server Group, for example a Terminal Server Group could use SmartSession to choose the server connection order, Instant Failover to maintain a backup, while using AppLink to limit the terminal to a single application. Additionally, a terminal server may be a member of several Terminal Server Groups.

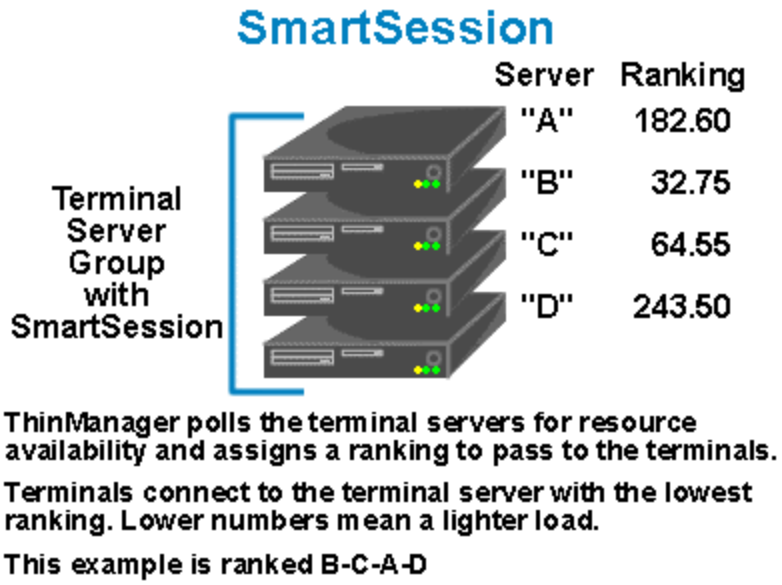


Terminal Configuration Wizard - Terminal Server Specification Page

A terminal will use Terminal Server Groups when the ***Use Terminal Server Groups*** radio button on the **Terminal Server Specification** page of the **Terminal Configuration Wizard** is selected.

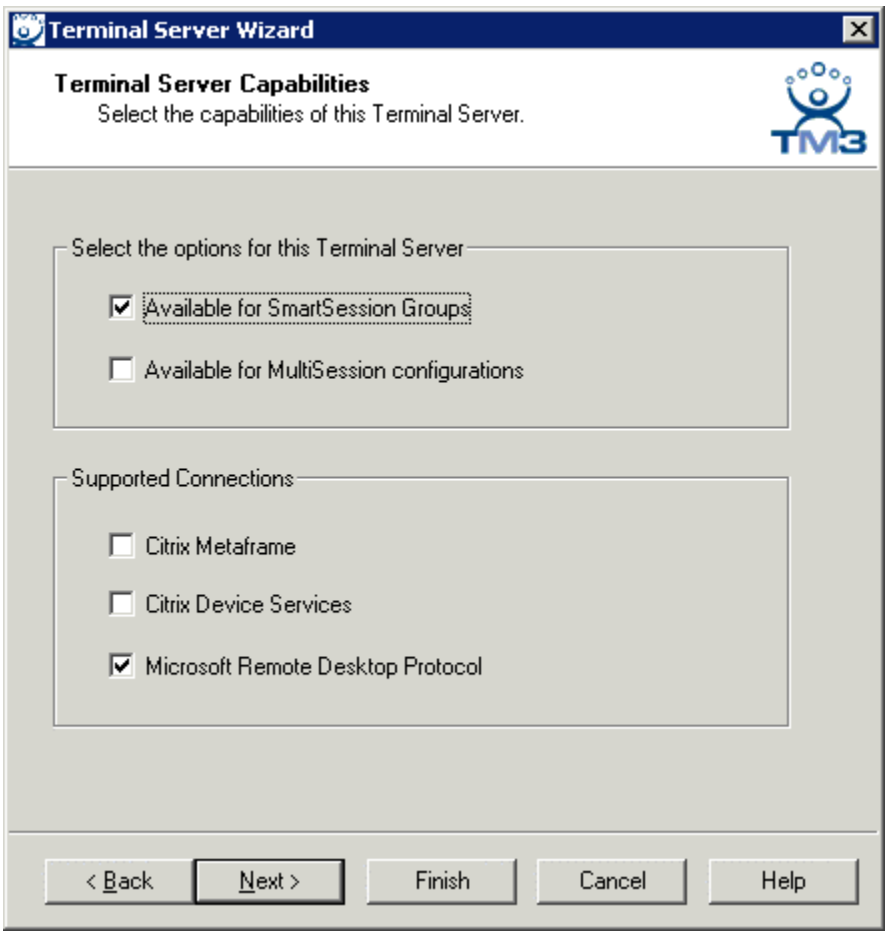
SmartSession

SmartSession is a load balancing strategy that allows terminals to connect to the member of a terminal server group that has the most available resources. ThinManager monitors the **CPU load**, **memory availability**, and **number of sessions** on the terminal servers and ranks them by availability. When a ThinManager Ready thin client connects to a member of a terminal server group with SmartSession, the terminal connects to the terminal server with the lightest load.



SmartSession

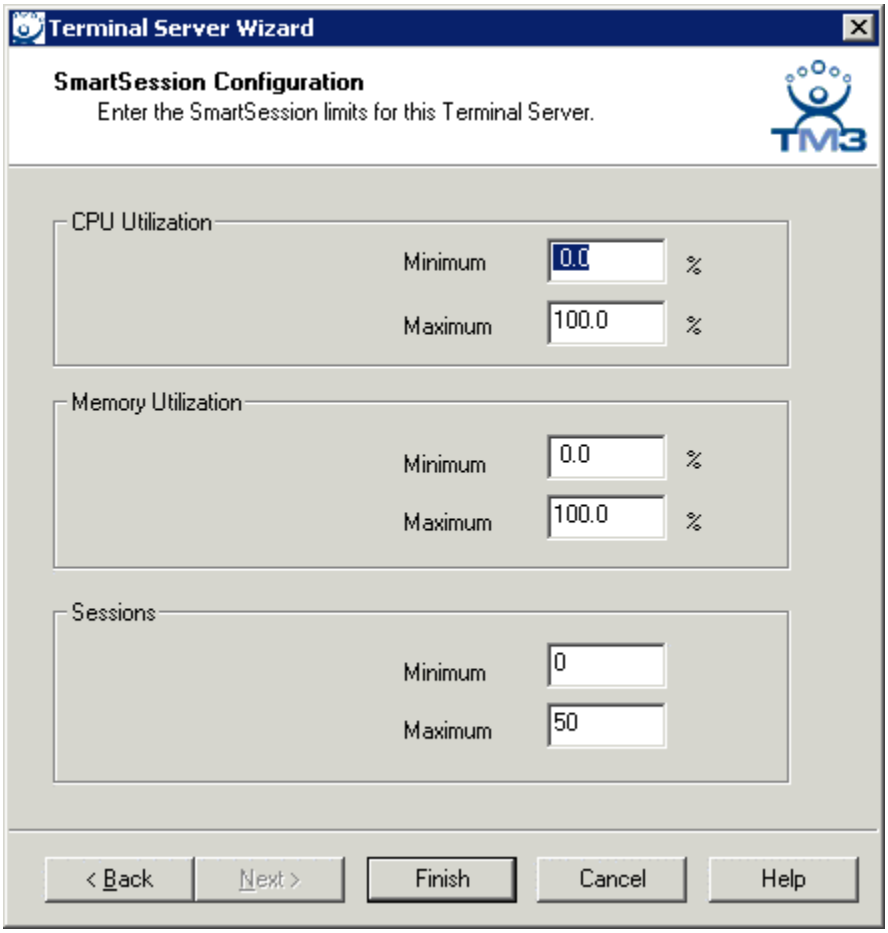
Each member terminal server needs **SmartSession** configured in the **Terminal Server List Wizard**. See the Terminal Server List Wizard for details.



Terminal Server Wizard – Terminal Server Capabilities

Selecting the ***Available for Smart Session Groups*** checkbox on the **Terminal Server Capabilities** page of the Terminal Server List Wizard allows the Terminal Server to become a member of a terminal server group using SmartSession.

Note: MultiSession can also be enabled on this page.



Terminal Server List Wizard - SmartSession Configuration

The **SmartSession Configuration** page allows the configuration of the three parameters that ThinManager uses to determine resource availability. ThinManager determines the availability of a terminal server by measuring:

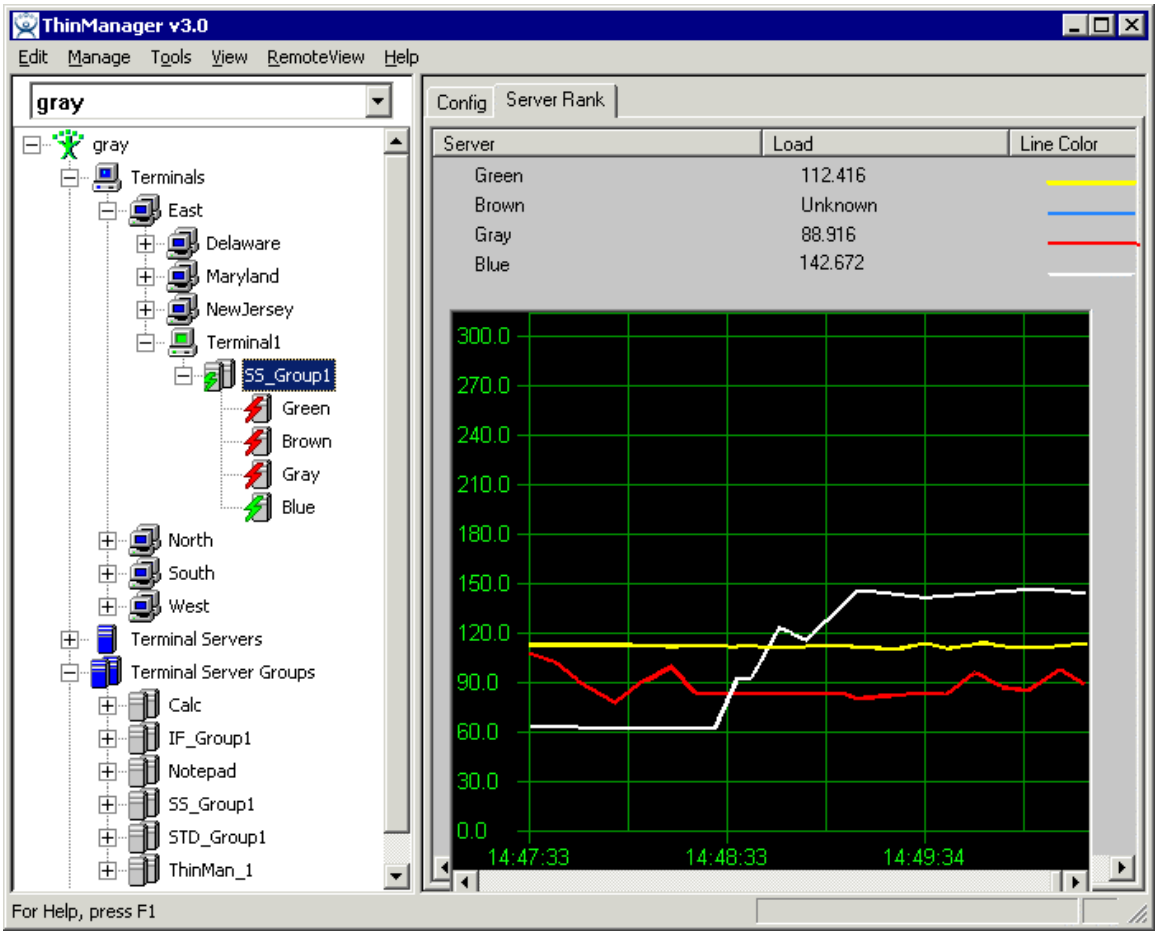
- **CPU Utilization**
- **Memory Utilization**
- **Number of Sessions**

ThinManager uses these values to rank the SmartSession server loads, with a lower number representing a smaller load and greater resources.

Each parameter has two settings that set the range that ThinManager uses.

- The ***Minimum*** field is the value that ThinManager will consider the parameter to be unused.
- The ***Maximum*** field is the value that ThinManager will consider a parameter exceeded and unavailable.

Once ThinManager has polled the terminal servers and established the availability of their resources, ThinManager passes the **Server Ranking** to the ThinManager Ready thin clients for its connection instructions.



ThinManager Interface – Server Rank Tab

The **Server Rankings** are displayed on the ***Server Rank tab*** when a Terminal Server Group is highlighted in the ThinManager tree. In the example above a ThinManager Ready thin client would connect to **Gray** because it has the lowest load.

Instant Failover with Terminal Server Groups

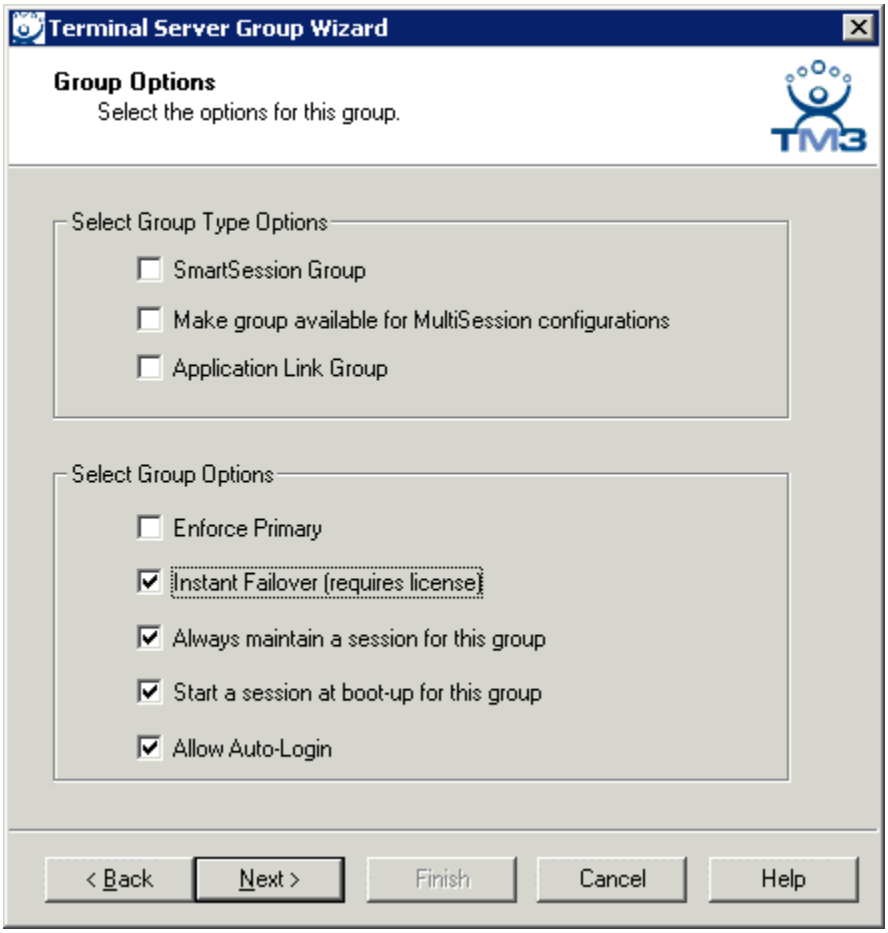
Terminal Server Groups can provide **Instant Failover** without using the **Instant Failover Module**. By selecting the ***Instant Failover*** checkbox on the **Group Option** page of the **Terminal Server Group Wizard**, a terminal will connect to a session on two terminal servers. Both sessions are active but only one is displayed. If the first terminal server fails, the second session is immediately displayed, eliminating any downtown due to terminal server failure.

Instant Failover works within a Terminal Server Group, not between Terminal Server Groups.

In a **standard terminal server group**, the terminal will use the first listed terminal server as the primary session and will use the second listed terminal server as the secondary session.

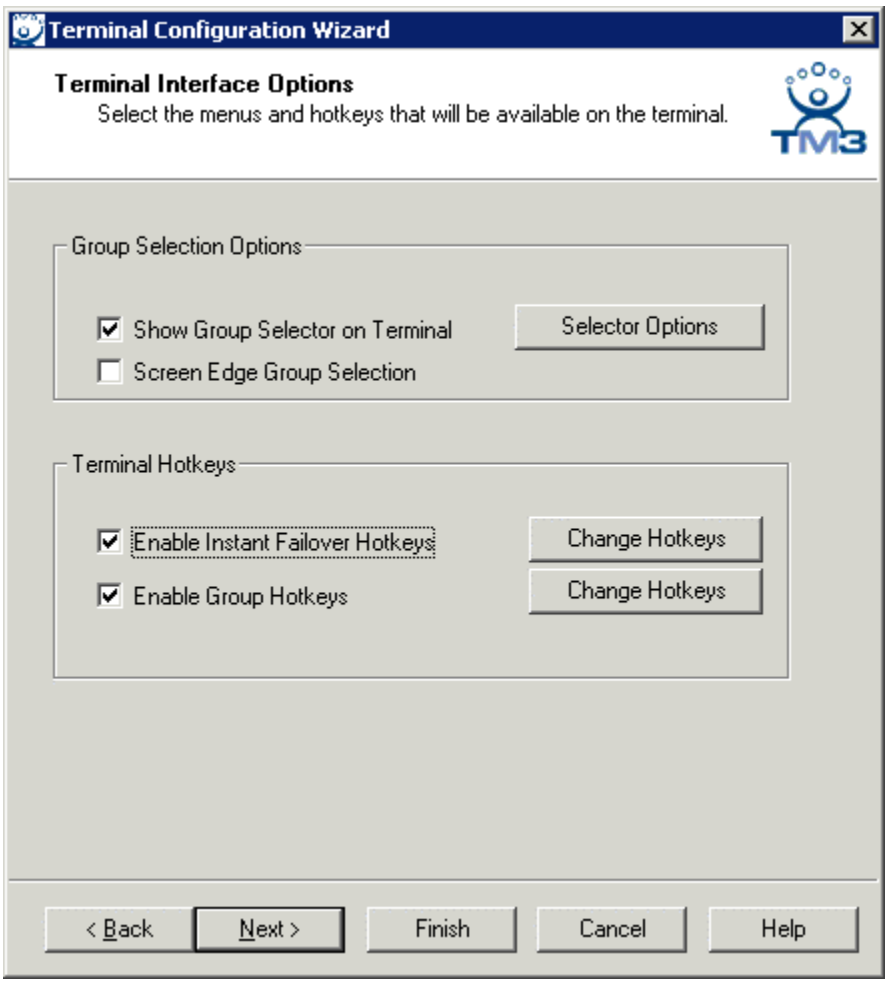
In a **terminal server group with SmartSession**, the primary session will be on the server with the lightest load and the backup session will be on the terminal server with the second lightest load.

The Instant Failover function requires an Instant Failover license for each terminal that uses it.



Terminal Server Group Wizard – Group Options

Instant Failover is a **Group Option** for **Terminal Server Groups**.



Terminal Configuration Wizard – Terminal Interface Options

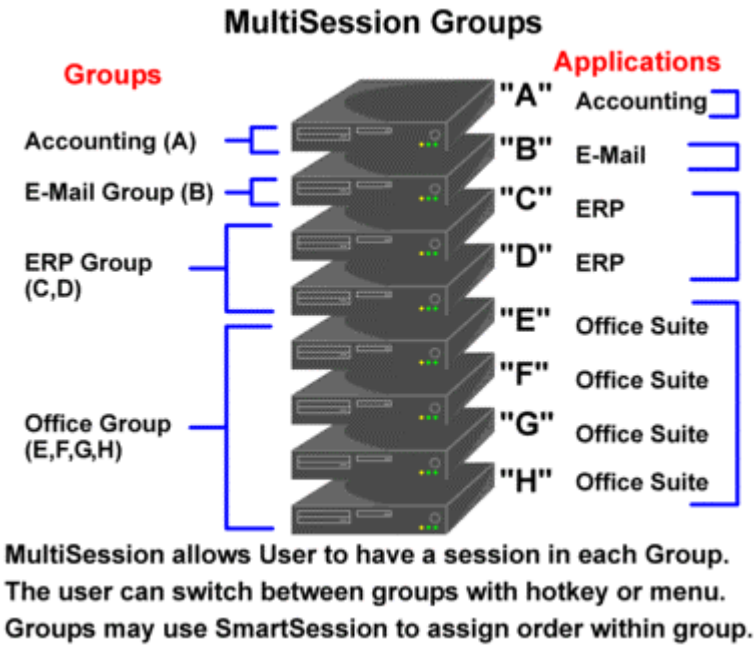
It is possible to switch between the sessions using Instant Failover on the terminal. Check the ***Enable Instant Failover Hotkeys*** checkbox on the **Terminal Interface Options** page of the **Terminal Configuration Wizard** for the desired terminal to activate the hotkeys to switch between sessions.

See Instant Failover Hotkeys for details.

MultiSession

MultiSession allows a user to login to multiple terminal groups and switch between the various sessions. The user will have one session for each group that they have selected. This lets a user have access to several terminal servers through terminal server groups. These terminal server groups can be standard groups or have combinations of SmartSession, AppLink, and Instant Failover.

Note: Users can cut and paste between sessions even when they are on different terminal servers when using RDP.



Sample MultiSession Groups

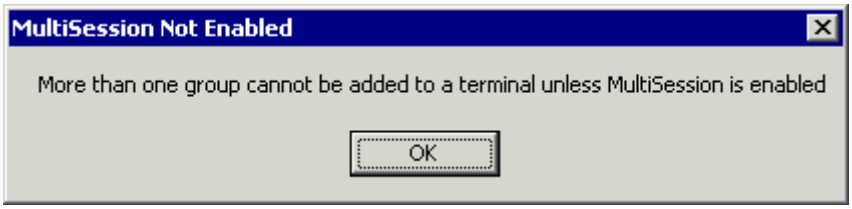
MultiSession is useful in large installations with many servers. Instead of installing every application on every server, individual terminal servers or groups of terminal servers can be dedicated to a single application, a small collection, or a suite. This simplifies maintenance, upgrading, and security, while limiting the number of conflicts between programs.

Terminals can use MultiSession to access the Terminal Server Groups that they need. The groups can be standard terminal server groups, or combinations of the various options like SmartSession, Instant Failover, and AppLink.

Enabling MultiSession is a three-step process.

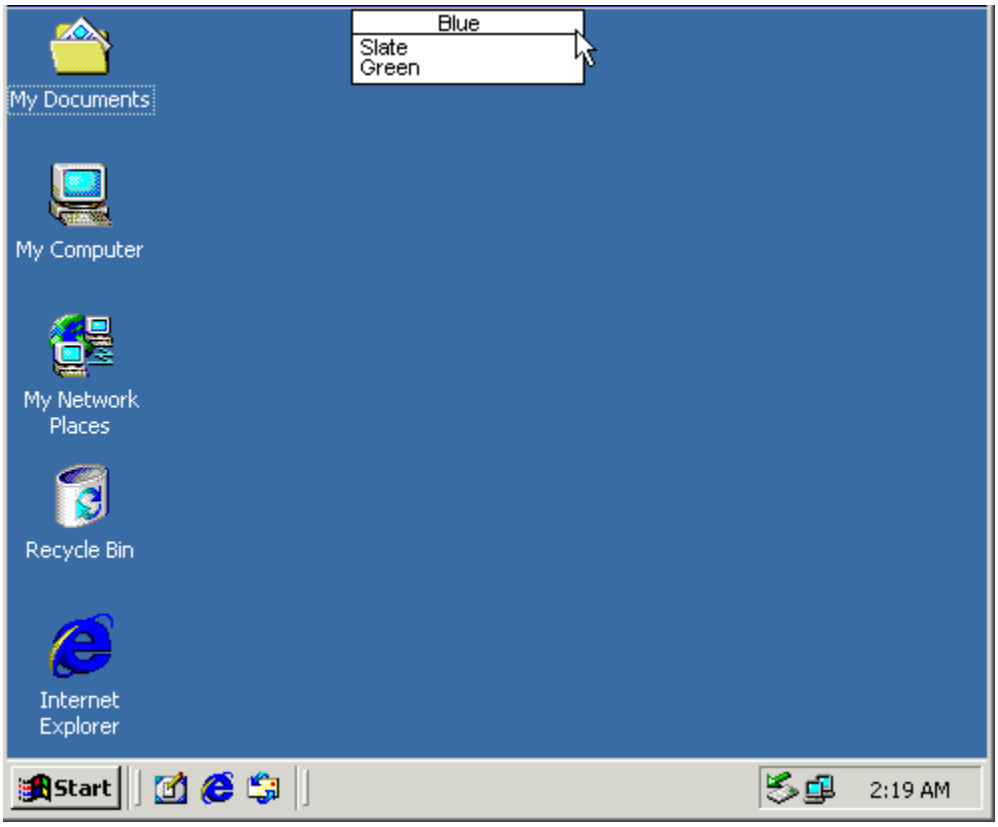
- First, the Terminal Servers need to be configured for MultiSession in the **Terminal Server List Wizard**.
  See Terminal Server List Wizard for details.
- Second, the Terminal Server Groups need to be configured for MultiSession in the **Terminal Server Group List Wizard**.
  See Terminal Server Group List Wizard for details.
- Third, the Group or Terminal needs to be configured to use MultiSession on the **Terminal Server Specification** page of the **Terminal Configuration Wizard**.
  See Terminal Configuration Wizard for details.

If two Terminal Server Groups are selected without the ***Enable MultiSession*** checkbox selected in the Terminal Configuration Wizard, a message will be displayed warning that the ***Enable MultiSession*** checkbox needs to be checked to allow the MultiSession.



MultiSession Not Enabled Warning

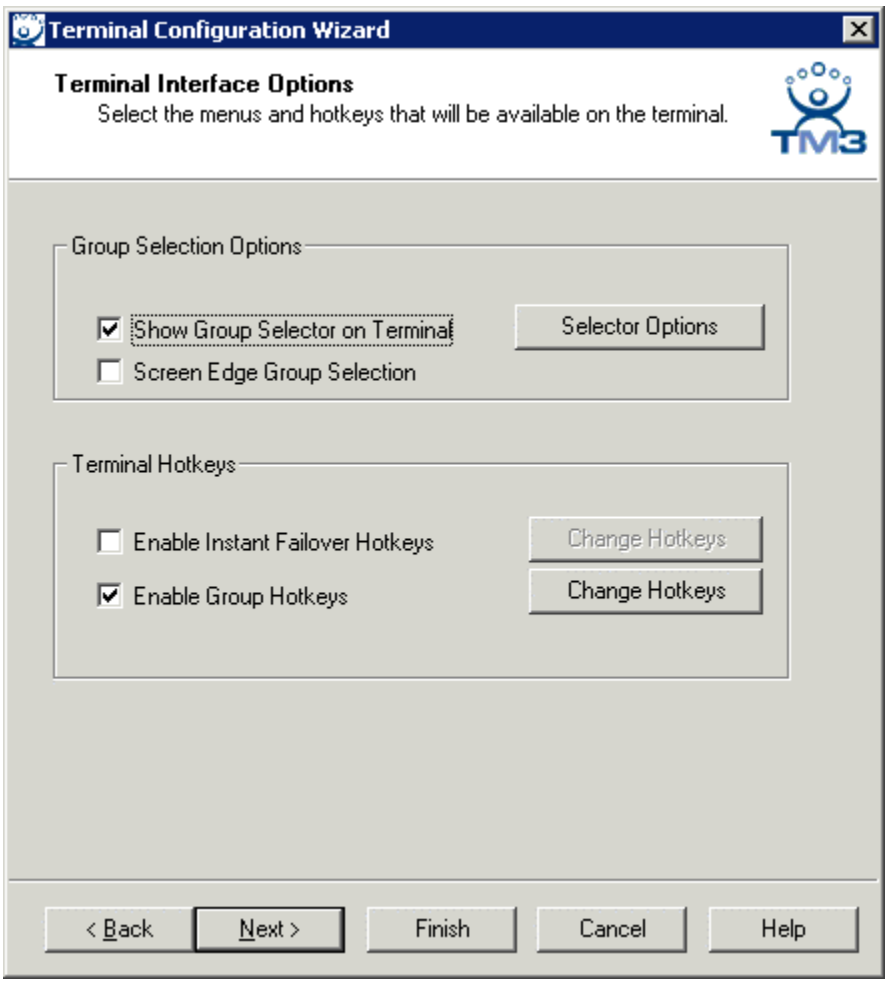
Users can switch between sessions using an onscreen **Group Selector** menu or **hotkeys**.



MultiSession Group Selector

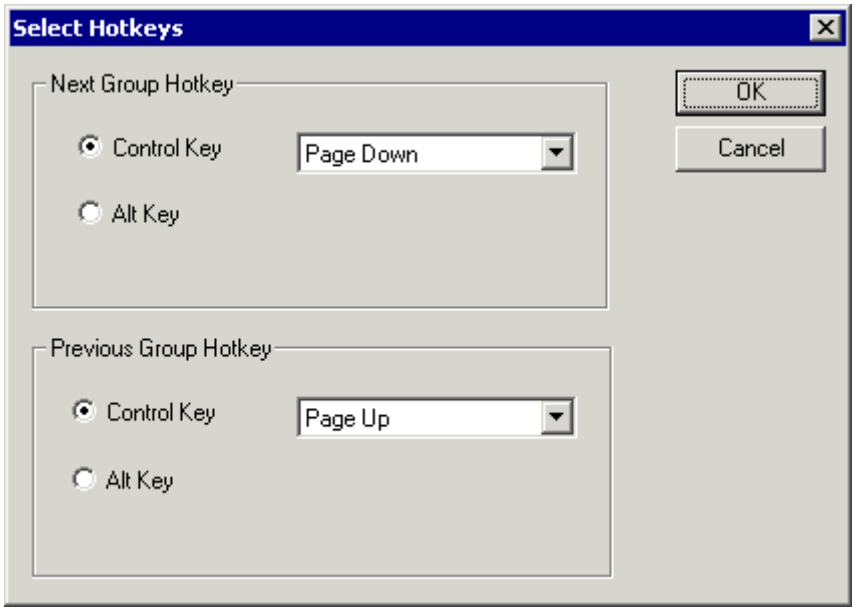
The **Group Selector** shows the Terminal Server Group that the terminal is currently displaying. When activated by the mouse it shows a dropdown list of available Terminal Server Groups.

Hotkeys can be used to switch between the terminal server groups if the ***Enable Group Hotkeys*** checkbox is selected on the **Terminal Server Group Options** page of the **Terminal Configuration** wizard.



Terminal Configuration – Terminal Interface Options

The choice of the hot keys used can be set by selecting the ***Change Hotkeys*** button to launch the **Select Hotkeys** window.



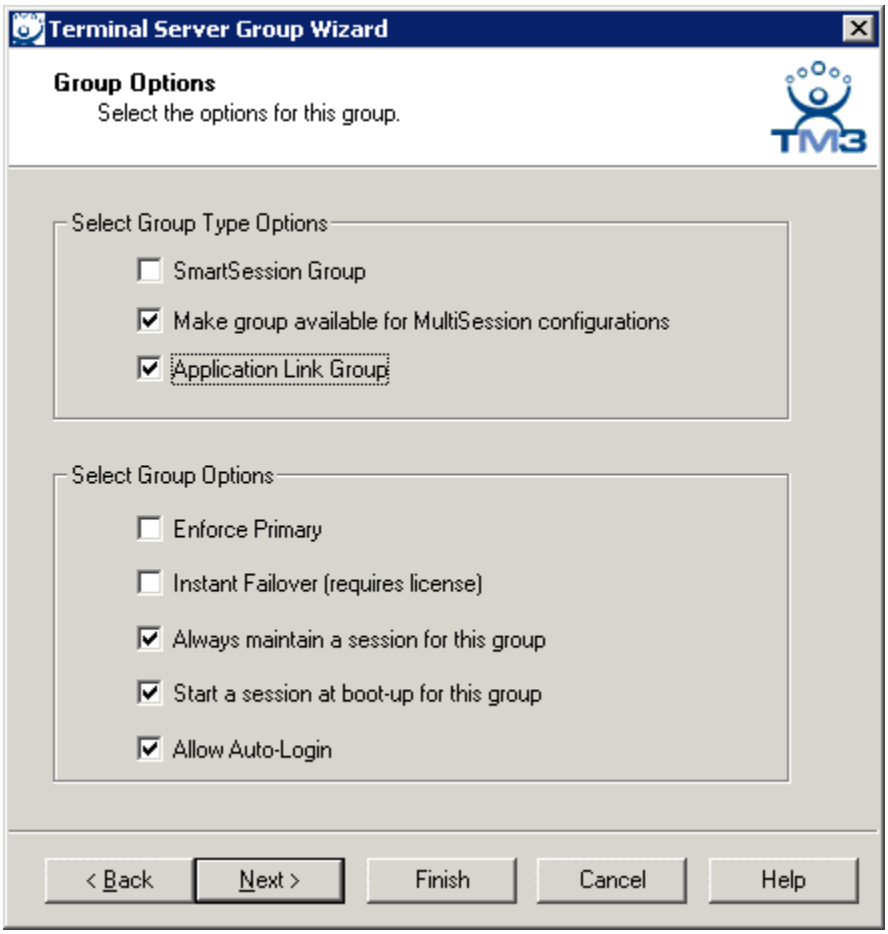
Terminal Configuration Wizard - Select Hotkeys Page

The default hotkeys are ***CTRL+Page Down*** and ***CTRL+Page Up***. These can be changed by selecting the ***Alt Key*** radio button or selecting a different key in the dropdown box.

AppLink

AppLink provides the ***Initial Program*** functionality to a Terminal Server Group. If AppLink is enabled, the path to an Initial Program is entered into the **Terminal Server Group Wizard**. This program will be the only program to run in that session. See Initial Program for details.

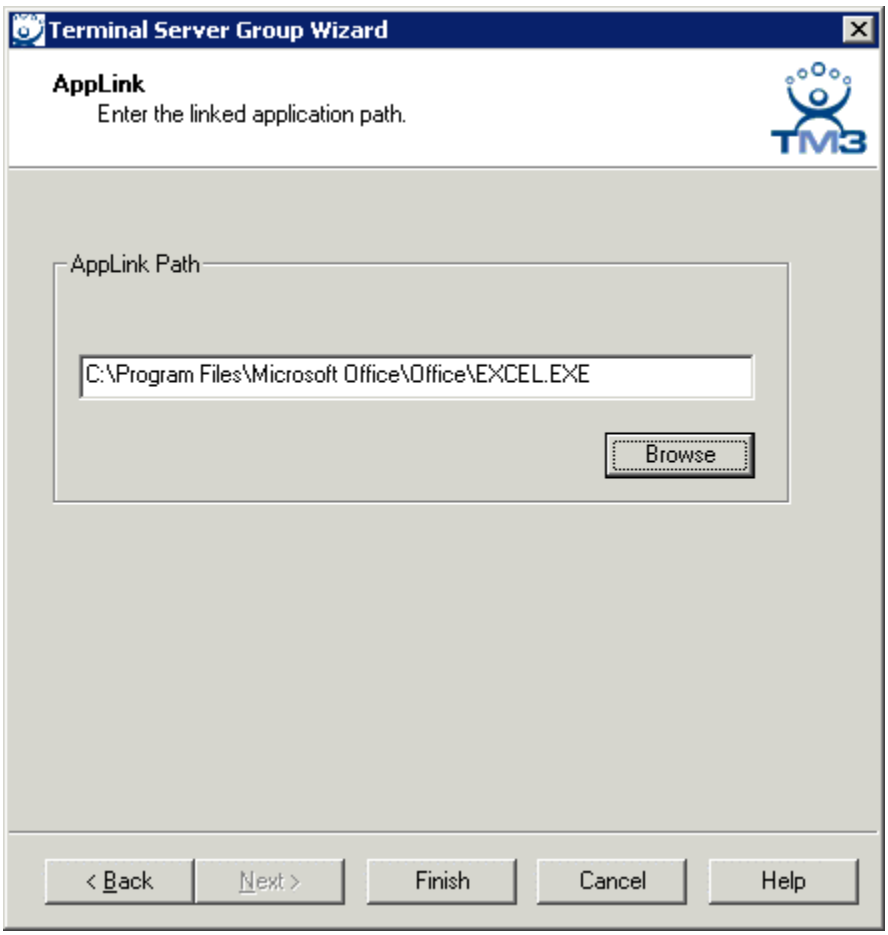
AppLink is configured during the Terminal Server Group Wizard. See Terminal Server Group List for details.



Terminal Server Group Wizard – Group Options

Selecting the ***Application Link Group*** checkbox will make the Terminal Server Group an **AppLink Group**.

Selecting ***Next*** will allow the designation of the Initial Program after the member servers are selected.



Terminal Server Group Wizard – Linked Application

The **AppLink** page of the Terminal Server Group Wizard has an ***Enter the path to the Linked Application*** field. Fill in the field for the **Initial Program** with the valid path to the desired program. This may require the use of quotation marks if there are spaces in the path name.

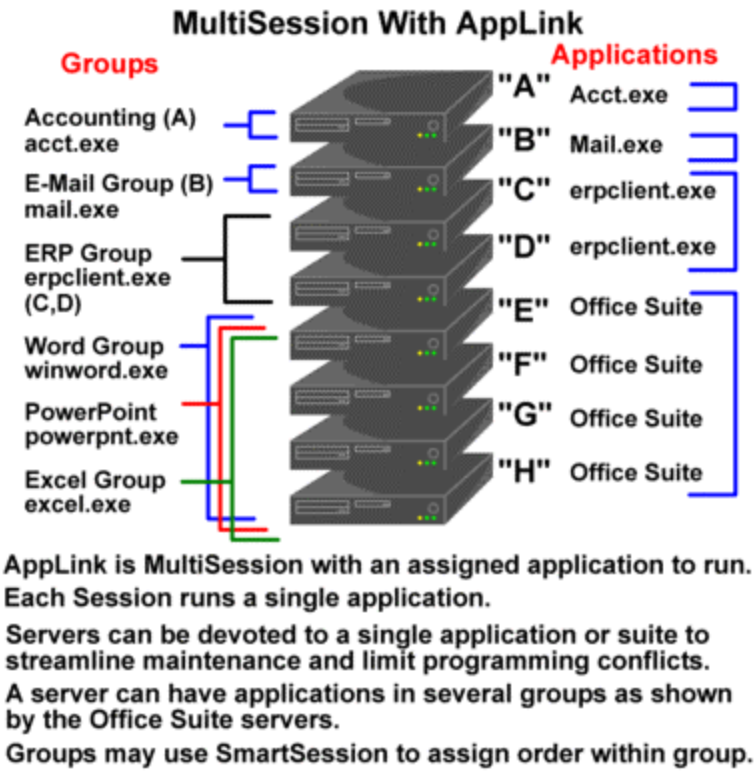
The Browse button will launch a Browse window that will allow the ***Enter the path to the Linked Application*** field to be filled in by ThinManager instead of typing the path manually.

The AppLink Terminal Server Group may be a single terminal server or may contain many terminal servers. These may be Standard Groups, SmartSession Groups, or MultiSession Groups.

Note: If the AppLink Group contains several terminal servers, the path must be valid for all members of the Terminal Server Group. If different members of the AppLink group have different paths to the desired program, write a batch file to open the program.

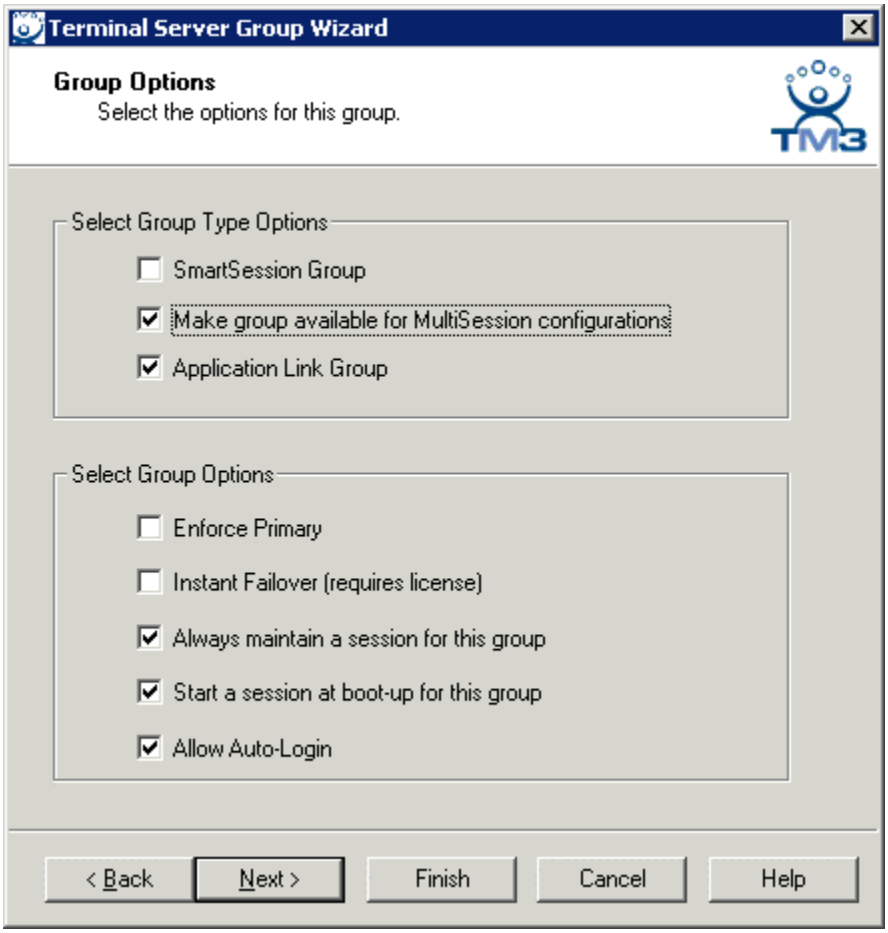
AppLink and MultiSession

MultiSession receives a major increase in functionality in combination with AppLink. Since AppLink adds the ***Initial Program*** functionality to Terminal Server Groups, a terminal server group with AppLink will display an application instead of a desktop. The user can switch between applications as they switch between AppLink sessions in the different Terminal Server Groups. This allows terminal servers to be set up and maintained by application instead of having every application installed on every terminal server.



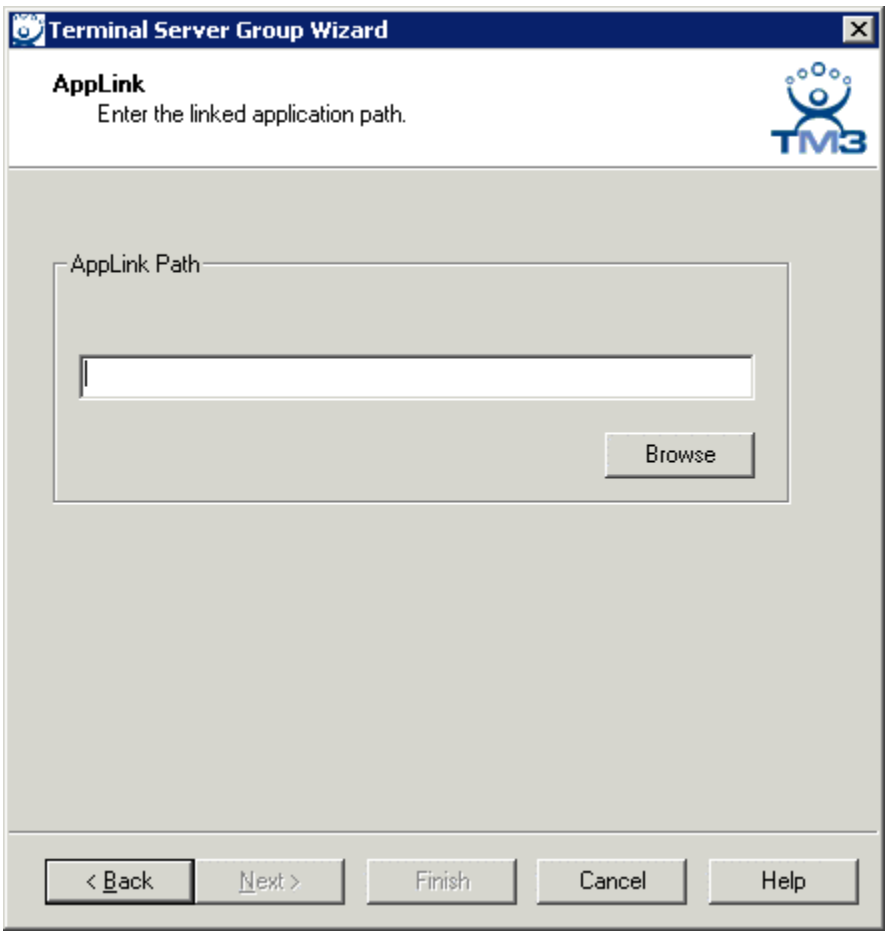
AppLink Servers

AppLink MultiSession is configured in the Terminal Server Group Wizard.



Terminal Server Group Wizard – Group Options

Select the ***Make group available for MultiSession configurations*** checkbox and the ***Application Link Group*** checkbox to make the Terminal Server Group an AppLink MultiSession Group.



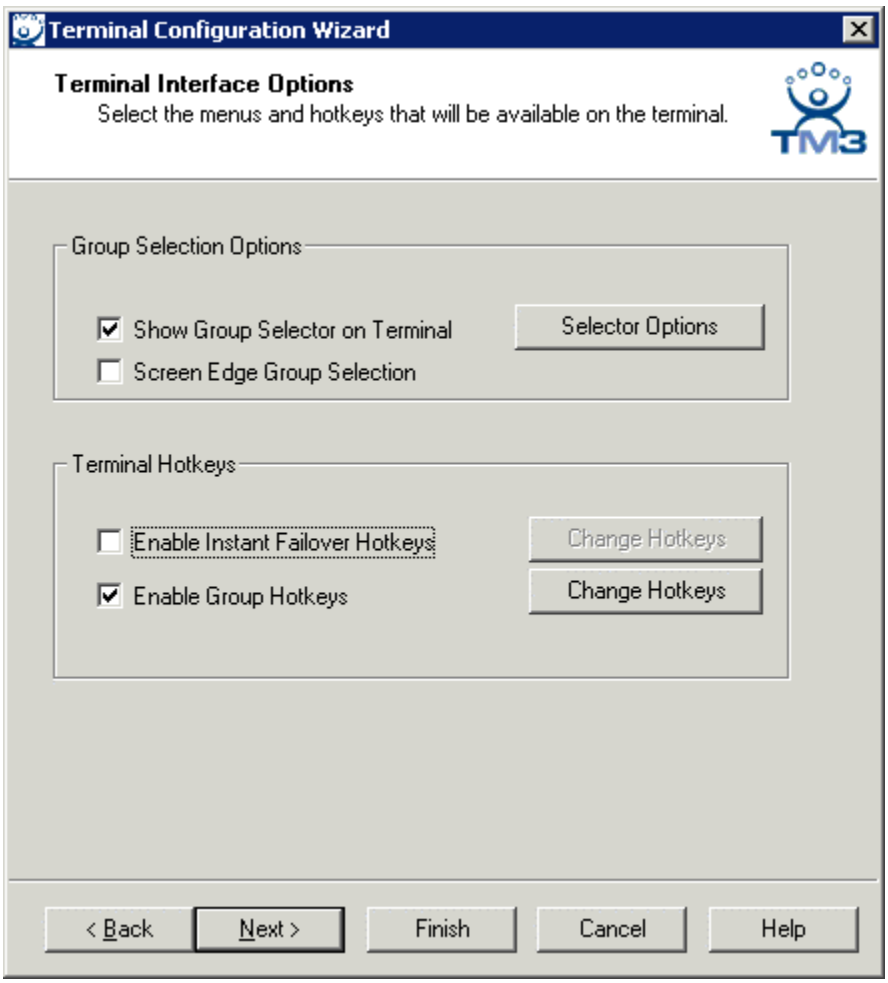
Terminal Server Group Wizard – Linked Application

The **AppLink** page of the Terminal Server Group Wizard has an ***Enter the path to the Linked Application*** field. Fill in the field for the ***Initial Program*** with the valid path to the desired program. This may require the use of quotation marks if there are spaces in the path name.

The **AppLink MultiSession Terminal Server Group** may be a single terminal server or may contain many terminal servers. These can be **Standard Groups** or **SmartSession Groups**.

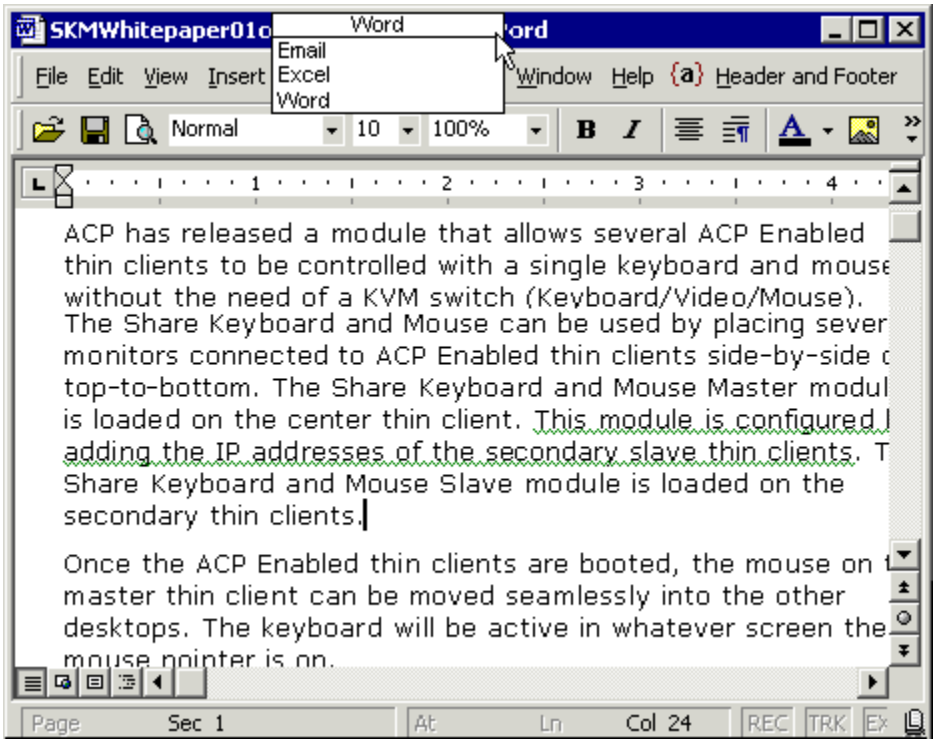
Note: If the AppLink Group contains several terminal servers, the path must be valid for all members of the Terminal Server Group. If different members of the AppLink group have different paths to the desired program, write a batch file to open the program.

The terminal will display a ***Group Selector*** menu at the top edge of the session when it boots if the ***Show Group Selector on Terminal*** checkbox was selected in the **Terminal Configuration Wizard**.



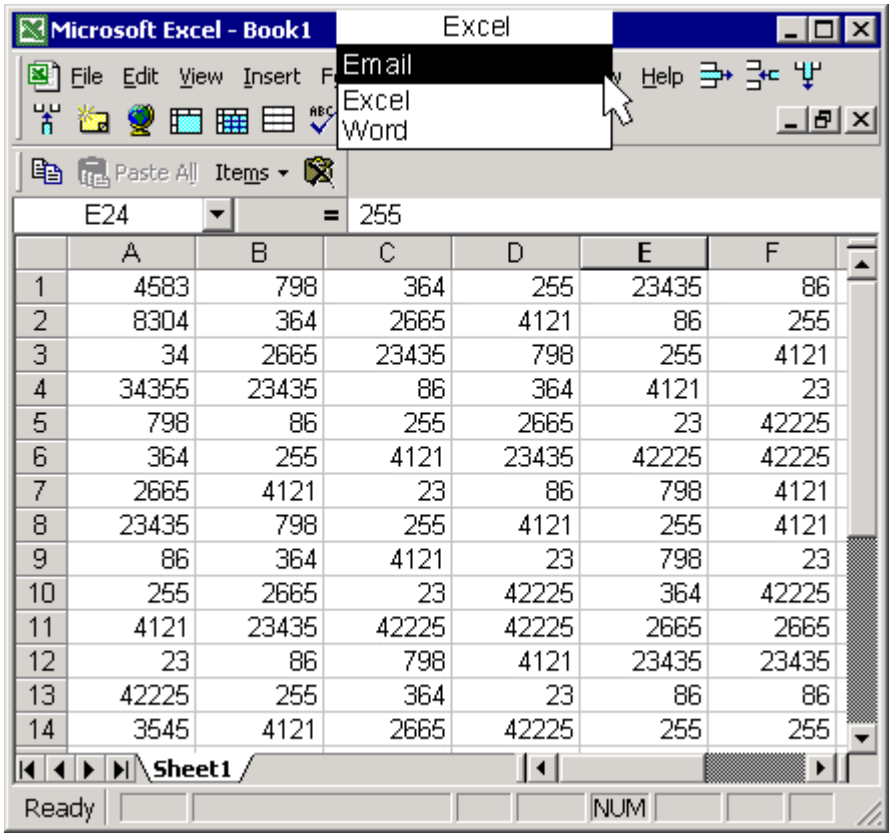
Terminal Configuration – Terminal Interface Options

The ***Show Group Selector on Terminal*** checkbox will display the mouse activated Group Selector at the top edge of the terminal screen. Hotkeys can be used if the ***Enable Group Hotkeys*** checkbox is selected on the **Terminal Interface Options** page of the **Terminal Configuration Wizard**. Both methods can be used, but at least one method must be available.



AppLink MultiSession Terminal Screen

The Group Selector lists the Terminal Server Group that the terminal is currently displaying. When activated by the mouse it shows a dropdown list of available AppLink Terminal Server Groups.



Group Selector

The user can switch between the AppLink Terminal Server Groups by using an on-screen **Group Selector** or by using **hotkeys**.

Modules

Module Overview

Modules are software components that can be loaded to increase the functionality of the terminal. Modules include touch screen drivers, sound drivers, and special device drivers. Some modules are included with ThinManager and are registered automatically during ThinManager installation. Other modules are obtained separately from Automation Control Products and need to be installed.

Note: "**Installing a module**" refers to the registration of the module with the ThinManager Server, while "**Adding a module**" refers to attaching the module to a particular group or terminal.

This section includes:

- A list of available Modules.
- Instructions on adding and using Modules.
- Details on specific modules.

Module List

ThinManager 3.0 divides the modules into a number of categories or types to make navigation of the module list easier. Although details on the specific modules will follow, the types and modules include:

ICA - See ICA Modules

- Citrix ICA UseAlternateAddress Module
- Citrix ICA wfclient.ini Extension Module
- ICA Client

Local Storage - See Local Storage Modules

- USB Flash Drive Module
- USB Memory Card Reader Module

Miscellaneous - See Miscellaneous Modules

- ActiveX Configuration
- Add Serial Port
- Disk On Chip / Compact Flash Update Module

- Instant Failover Module
- Key Block Module
- Local Printer Module
- Time Zone Redirection Module

Mouse - See Mouse Modules

- Mouse Configuration
- PS/2 Mouse Configuration
- Serial Mouse Driver
- Share Keyboard and Mouse Master Module
- Share Keyboard and Mouse Slave Module

RDP - See RDP Modules

- RDP Experience Module
- RDP Module for ThinManager v2.4 and Older
- RDP Port Module
- RDP Serial Port Redirection Module

Screen Saver - See Screen Saver Modules

- MultiSession Screen Saver Module
- Screen Saver Module

Sound - See Sound Modules

- Advantech PCM-5820 Sound Driver
- Advantech PCM-9372 Sound Driver
- Allen-Bradley VersaView 200R Sound Driver
- Arista 5824-ACP Sound Driver
- Arista 6824-ACP Sound Driver
- DC_30_100 Sound Driver
- DC_40_100 Sound Driver
- TC3500 Sound Driver
- TeleVideo TC7X30 Sound Module
- Xycom XA1300 Sound Module

TermSecure - See TermSecure Modules

- ActiveX Configuration Module
- RF Ideas pcProx Module
- USB Flash Drive Module
- Wavetrend Tag Reader

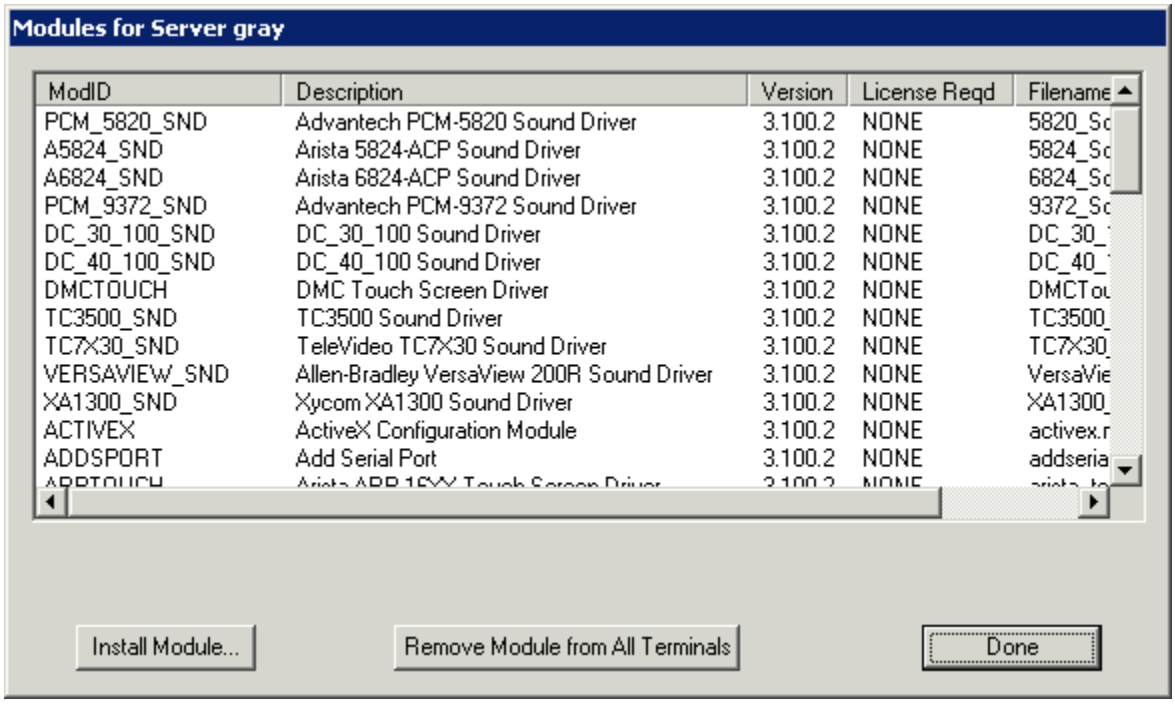
Touch Screen - See Touch Screen Modules

- Arista ARP-16XXXAP-ACP Touch Screen Driver

- CarrollTouch Touch Screen Driver
- Contec Touch Screen Driver
- DMC Touch Screen Driver
- Dynapro Touch Screen Driver
- Elographics Touch Screen Driver
- Gunze AHL Touch Screen Driver
- MicroTouch Touch Screen Driver
- PenMount Touch Screen Driver
- Ronics Touch Screen Driver
- Touch Control Touch Screen Driver
- Touch International IR Touch Screen Driver
- Xycom 33XX Touch Screen Driver

Installing a Module

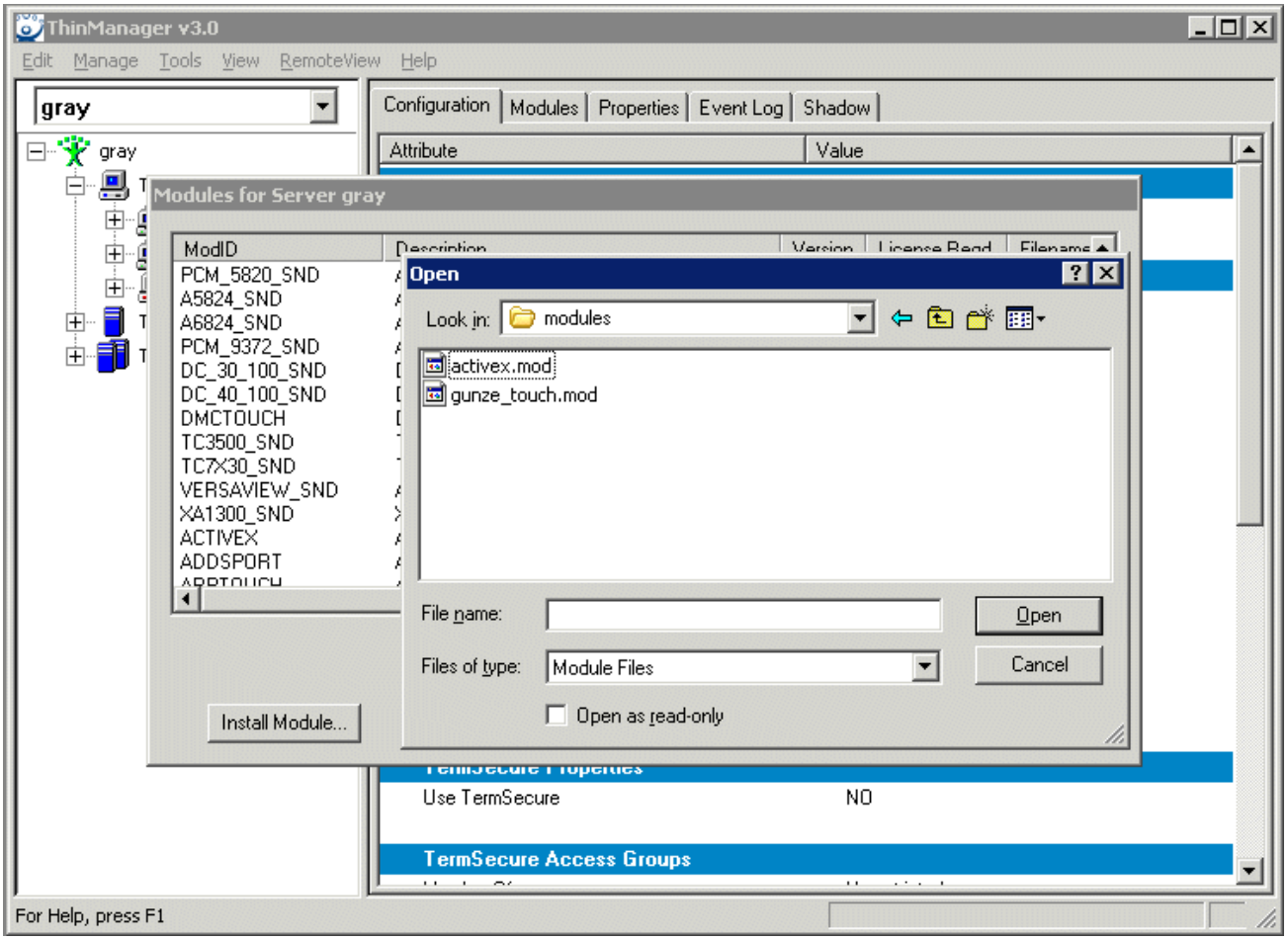
Installing a Module adds a new module to ThinManager so that it is available to Terminal Groups and Terminals. To install a module, open the Modules window by selecting ***Manage>Modules*** from the ThinManager menu bar to launch the **Modules** window.



Modules Window

The Module window shows all of the modules installed on the ThinManager Server.

To install additional modules select the ***Install Module*** button. This will launch a file browser window.



Module File Browser Window

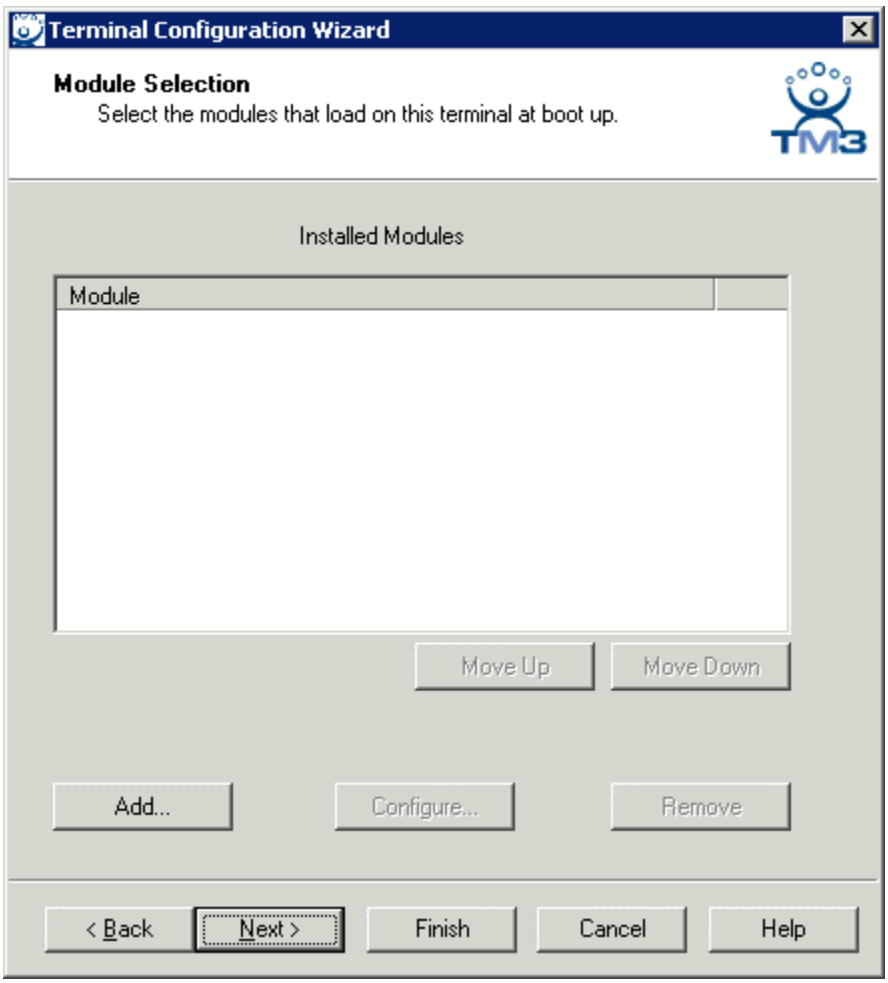
Browse to the new module, usually downloaded from the ThinManager web site (www.thinmanager.com). Highlight the new module, and select the ***Open*** button. This will add the new module to the list of modules.

Selecting the ***Remove Module from All Terminals*** button will remove the highlighted module from all terminals. It does not uninstall the module from the ThinManager Server; it just removes its use by all groups and terminals.

Select the ***Done*** button to close the **Modules** window.

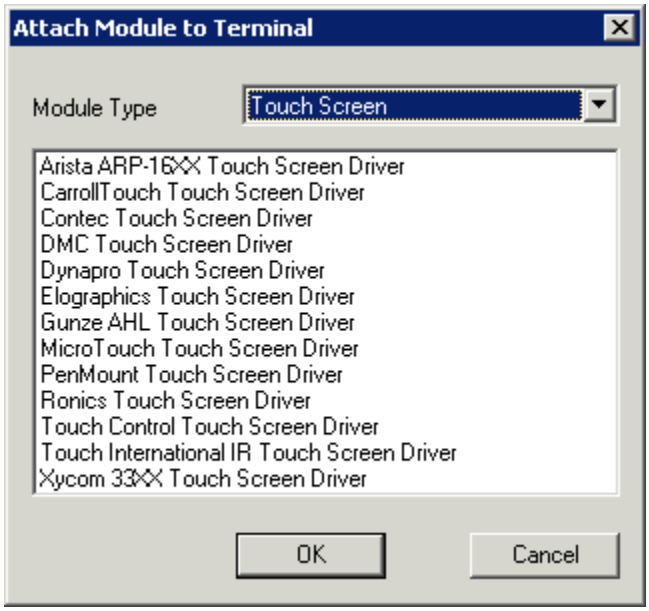
Adding a Module to a Group or Terminal

Modules are added to terminals or groups of terminals on the Module Selection page of the Terminal Configuration Wizard or the Terminal Group Configuration Wizard.



Terminal Configuration Wizard - Module Selection

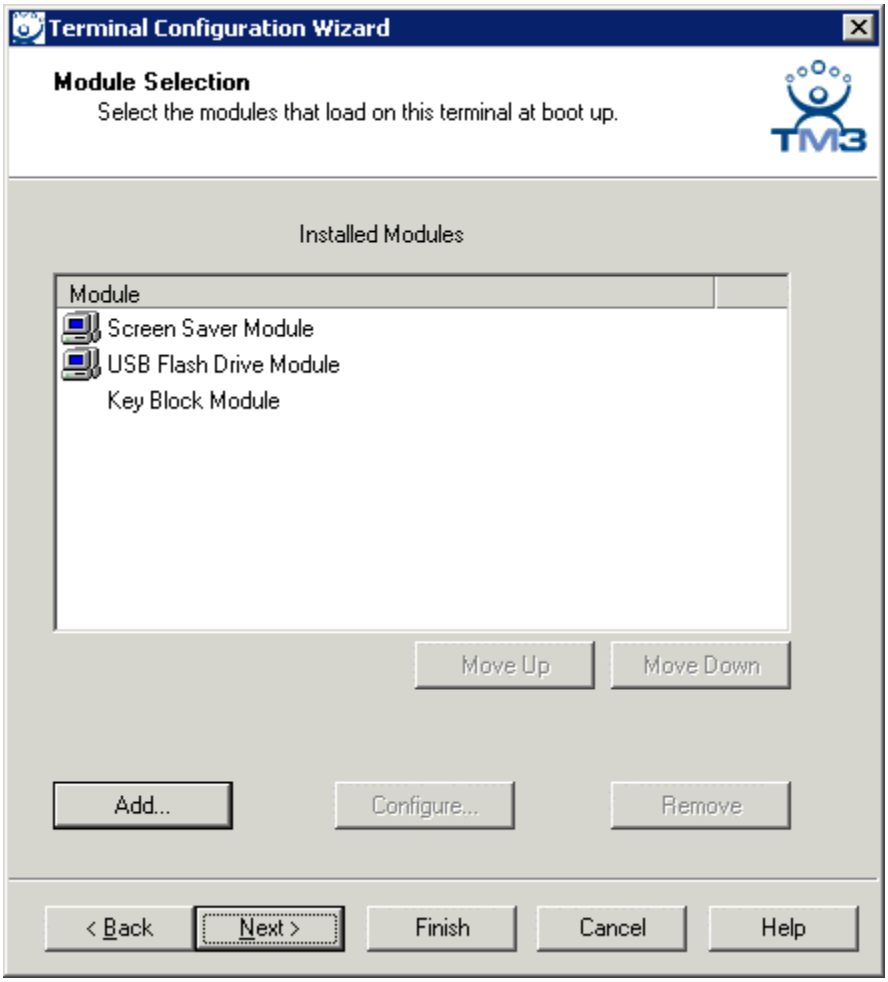
To add a Module to a Terminal, select the ***Add…*** button to launch the **Attach Module to Terminal** window.



Attach Module to Terminal

The **Attach Module to Terminal** window will show the modules that are available to the terminal. The ***Module Type*** drop-down box sorts the modules by categories to make the modules easier to find.

Highlight the desired module and select the ***OK*** button to add the module to the configuration.



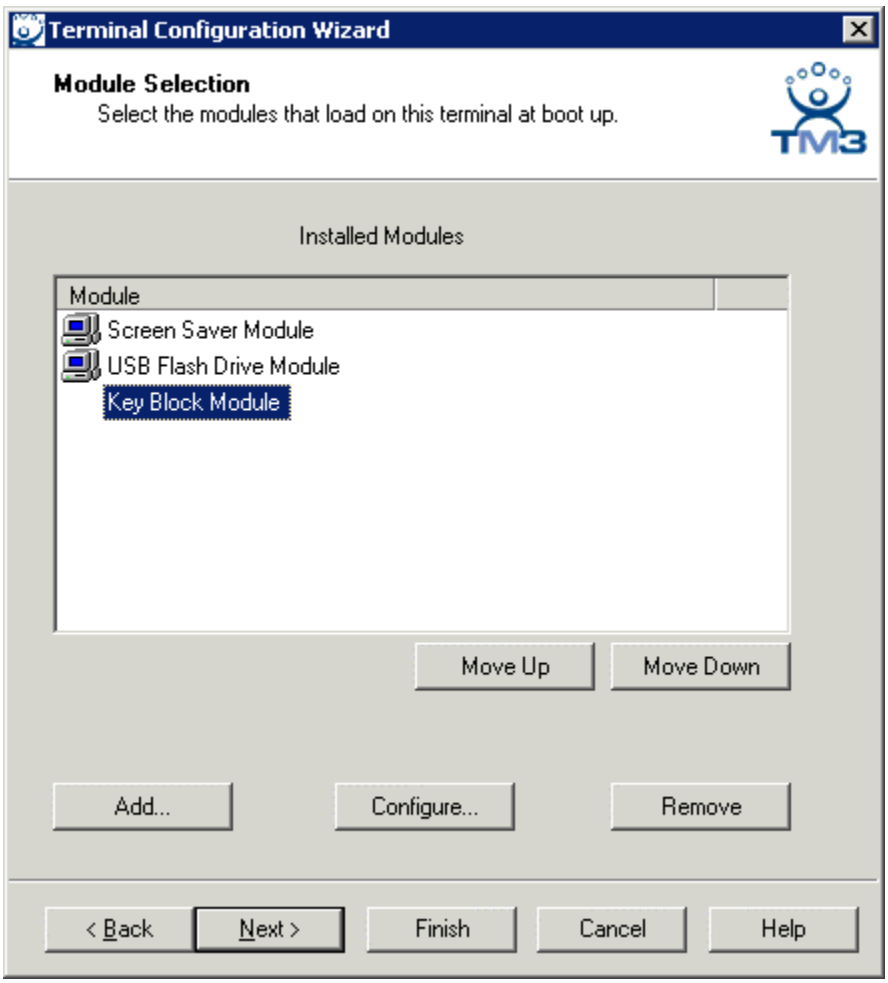
Terminal Configuration Wizard - Module Selection

Terminals that are members of a Group may show icons to represent the properties of added modules.

-  The Group icon represents modules assigned to a parent Group.
-  The Group icon with yellow plus sign represents properties that are changed on the terminal from the Group settings. This is limited to touch screen calibration.
- No icon indicates that the module was added to that particular Group or Terminal and not a parent Group.

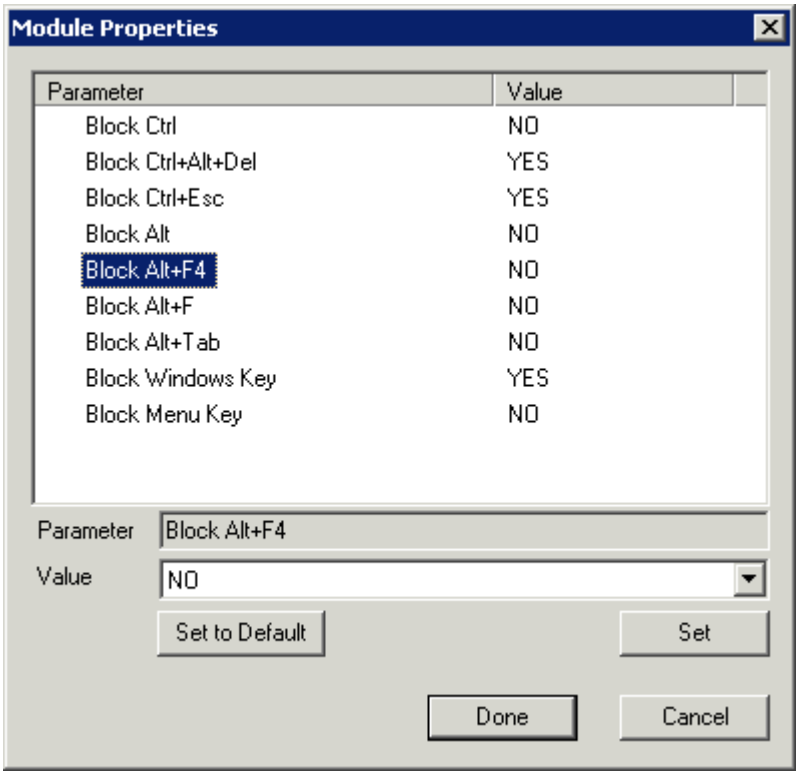
Changing Module Parameters

Many modules have parameters that can be changed. With ThinManager 3.0's new inheritance rules, module parameters can't be changed for modules that are inherited from a parent group. Changes must be made at the level that the module was added.



Module Configuration

Highlighting a module on the Module Selection page and selecting the ***Configure*** button will open the **Module Properties** window and allow changes to the module configuration.



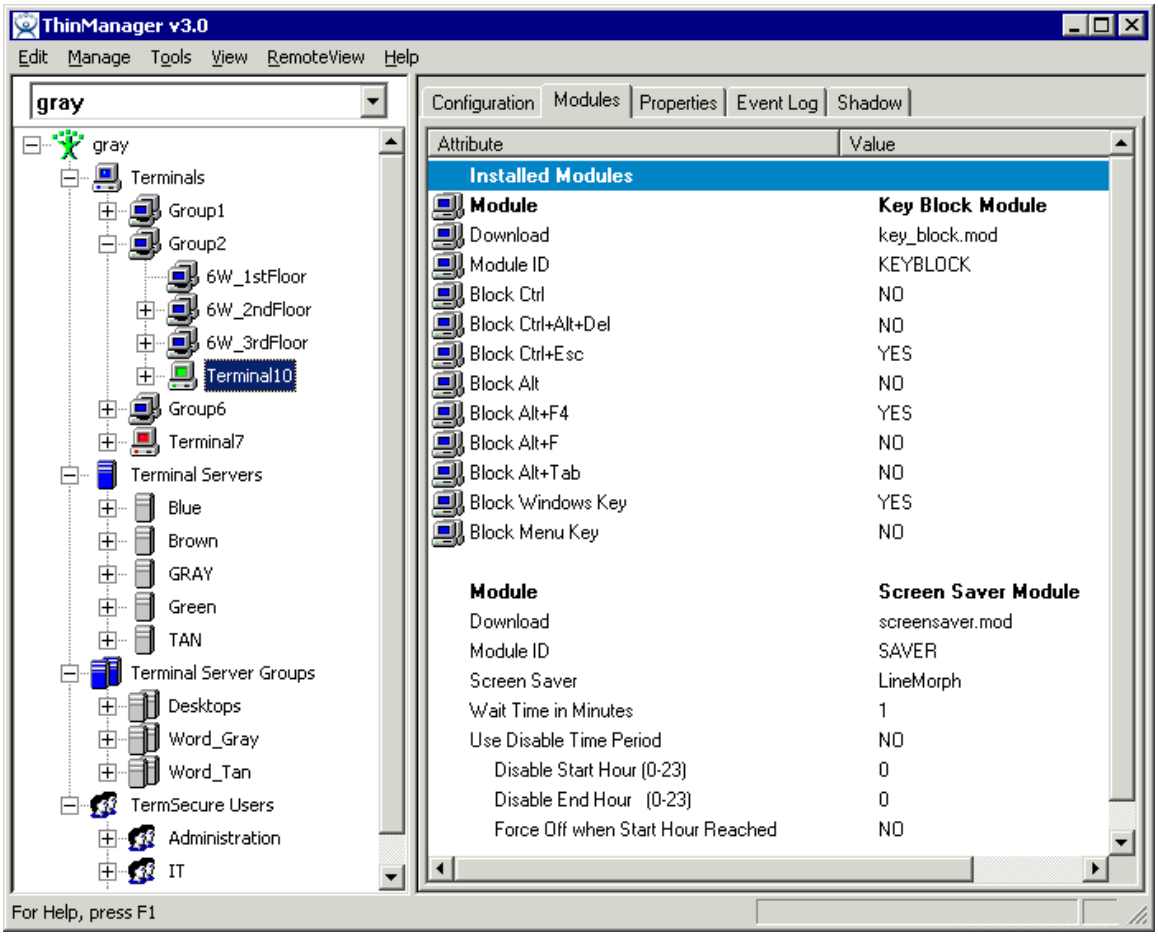
Module Properties

On the **Modules Properties** window, select the parameter to change, select the new value in the drop-down list, and click the **Set** button. This will change the setting.

The ***Set to Default*** button will restore the module to the default settings.

Note: The ***Set*** button must be selected to apply the change.

Select the ***Done*** button to close the **Module Properties** window and to return to the Group or Terminal Configuration Wizard.

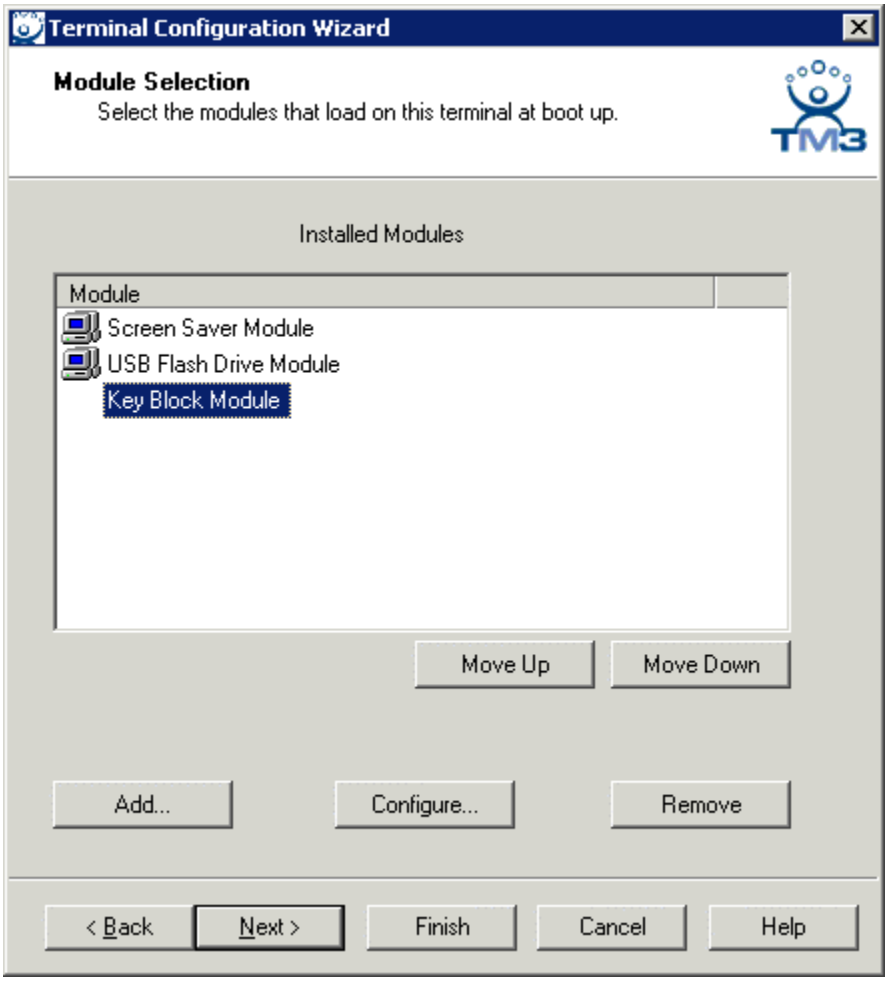


Module Icons in ThinManager

The status of the modules is displayed on the ***Modules*** tab of the **Details** pane of ThinManager.

Module Loading Order

Highlighting a module and selecting the ***Move Up*** or ***Move Down*** button can change the order that the modules load.



Module Loading Order

The loading order of modules rarely needs to be adjusted.

Individual Module Details

ThinManager 3.0 divides the modules into a number of categories or types to make navigation of the module list easier. The types and modules include **ICA, Local Storage, Miscellaneous, Mouse, RDP, Screen Saver, Sound, TermSecure,** and **Touch Screen.**

ICA Modules

The ICA Modules are advanced modules for advanced users of the ICA client communication protocol.

Citrix ICA UseAlternateAddress Module

The **Citrix ICA UseAlternateAddress Module** is used by advance Citrix users to specify connections to Citrix Servers.

Configuration includes **UseAlternate Address**, **Browser Protocol**, and **HttpBrowser Addresses**.

Citrix ICA wfclient.ini Extension Module

The **Citrix ICA wfclient.ini Extension Module** is used by advance Citrix users. This module allows up to 8 strings of text to be added to the wfclient.exe for passing Citrix parameters.

ICA Client

The **ICA Client Module** is a module that does not need to be added by administrators. If a terminal is configured to use the ICA client communication protocol on the **Terminal Server Specification** page of the **Terminal Configuration Wizard**, the terminal will automatically download this module to enable ICA functionality without human intervention.

Local Storage Modules

The Local Storage modules allow the use of USB ports on ThinManager Ready thin clients. The USB ports are not active by default for security.

USB Flash Drive Module

The USB Flash Drive Module allows USB flash drives to connect to a terminal. The parameters include:

- ***Drive Access Rights in Session*** - ***ReadWrite*** allows the user to read and write to the flash drive. ***ReadOnly*** allows the user to read data but not write data, and ***None*** sets the flash drive to access only the unique serial number to make it usable as a TermSecure ID device.
- ***Use with TermSecure*** - This, when set to ***Yes***, will allow the flash drive to be used as a TermSecure ID device.
- ***Allow Manual Login*** - This value, when set to ***Yes***, will allow a TermSecure user to log into a terminal without a TermSecure ID device. If set to No, TermSecure users must use a TermSecure ID device to log in.
- ***Prompt for Password*** - This value, when set to ***Yes***, will require a TermSecure User to enter their password for access, even if the password is configured in ThinManager.
- See Card and Badge Configuration for a TermSecure User for details.

USB Memory Card Reader Module

The **USB Memory Card Reader Module** allows USB card readers to connect to a terminal. The parameters include:

- **Number of Slots in Reader** - This value sets the number of slots that the card reader uses.
- **Read Only Access** - This value, when set to ***Yes***, will limit the user to reading the card. This value, when set to ***No***, will allow the user to read and write to the card.

Miscellaneous Modules

These are modules that don't fit on other categories.

ActiveX Configuration

This configures the ActiveX control that collects terminal information and can perform terminal functions.

Normally the ActiveX, when registered on a terminal server, allows a terminal server session to communicate with its terminal and act upon it, without the need of the ActiveX module. The ActiveX module can be added to the terminal configuration to either deny the default terminal server to terminal access or to allow access to other sessions and PCs.

- ***Allow ActiveX Connections*** - This value, when set to ***Yes***, will allow the ActiveX control to function. Setting this value to ***No*** will prevent any ActiveX communication to the terminal, including the default terminal server to terminal access.
- ***Only Allow Connections from Session*** - This value, when set to ***Yes***, will allow other terminal server sessions and PCs to communicate to the terminal with the ActiveX functions. If set to ***No,*** the only communication allowed is between a the terminal and a session on the terminal server belonging to the terminal, providing that the ***Only Allow Connections from Session*** is set to ***Yes***.

See TermMon ActiveX Control for details.

Add Serial Port

The **Add Serial Port Module** is only used to configure the serial ports of daughter boards that add additional serials ports to terminals. Add a module for each additional serial port. Each module will let the user configure one additional port.

- ***Port Number*** - This value is to be set to the port number of the new port.
- ***Port Address*** - This value is to be set to the port address of the new port.
- ***IRQ*** - This value is to be set to the IRQ of the new port.
- ***UART***- This value is set to the chipset type for the new port.

Disk On Chip / Compact Flash Update Module

ACP enables some models of terminals with a Disk On Chip or a Compact Flash firmware storage option so that the unit doesn't have to download the entire firmware at boot, but can boot locally and download just the configuration to save bandwidth. This is most commonly used with units that will connect over low bandwidth networks, like wireless networks or WANs. These units use the Disk On Chip/Compact Flash Update module to download and flash new firmware when the firmware is updated in ThinManager

The ability to update disk-on-chip/compact flash terminals eliminates the need to send the terminal back to the manufacturer to update the firmware.

Note: The firmware download can vary, depending on the bandwidth of the connection, and the size of the firmware update.
It is recommended that updates be done over a wired LAN instead of over a wireless connection, when possible.

The Disk-On-Chip/Compact Flash Update module has one configurable parameter, ***Confirm at Terminal***.

- ***Confirm at Terminal*** - This setting, if set to ***Yes***, will prompt the operator to choose between immediately updating firmware or waiting until the next boot up. If ***Confirm at Terminal*** is set to ***No***, the firmware download will take place immediately.

Note: The module will download firmware when it detects a different firmware. Since this will only happen at the first reboot after updating the ThinManager firmware, it is safe to leave this module added to the disk-on-chip terminals permanently. It does not need to be added and removed each time the firmware is updated. However, since it will update when the firmware is different, it will try to update the firmware if you boot it from a ThinManager server with older firmware.

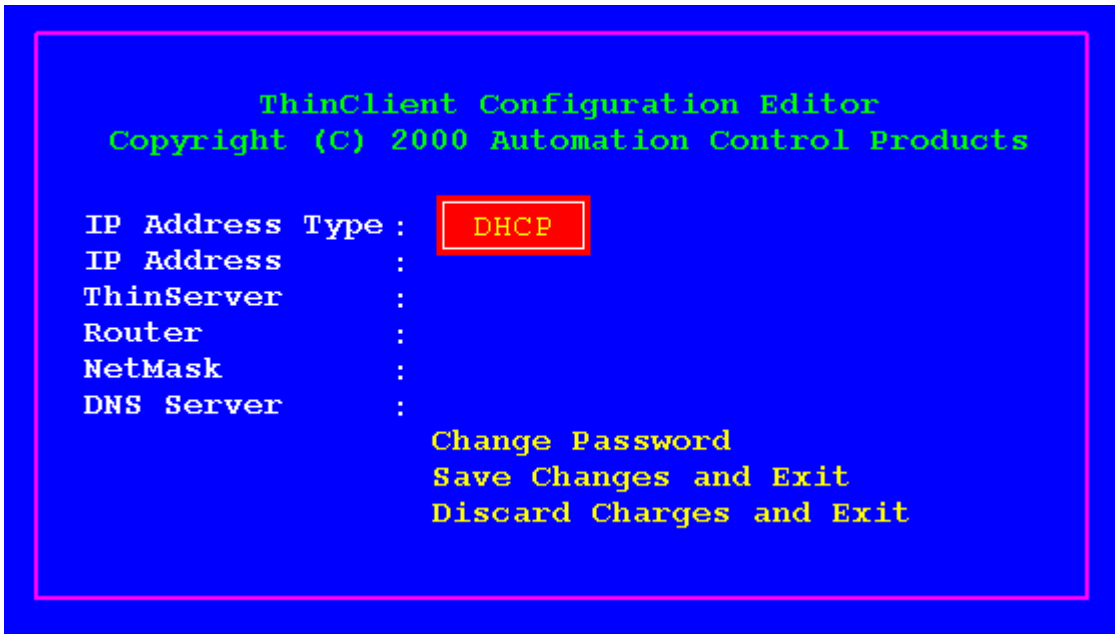
Disk-On-Chip/Compact Flash Update Program

Once the new firmware has downloaded, an update program will run on the disk-on-chip terminal to rewrite the new firmware to the disk-on-chip. The program will display a warning stating that the terminal must not be reset or powered off during the process, usually around 30 seconds. Ignoring the warning can corrupt the disk-on-chip, so it is important to leave the terminal alone for that period of time.

Note: Heed the warning. The terminal must not be reset or powered off during the brief period that the update program is writing the firmware on the disk-on-chip.
It is recommended that updates be done over a wired LAN instead of over a wireless connection, when possible.

Disk-On-Chip/Compact Flash Terminal Configuration

A disk-on-chip terminal loads the firmware locally before connecting to the ThinManager server. The disk-on-chip/compact flash terminals have a setup program that allows configuration of the connection. Enter the program by selecting any key when ***Select any key*** to configure is displayed during the boot process. A setup screen will be displayed.



Disk-On-Chip/Compact Flash Configuration Screen

The IP Addressing method is set to **DHCP by default**. To change a value, navigate with arrow keys to the desired property. Pressing the ***Enter*** key will allow the input and acceptance of new values. The changes may be saved or discarded before the boot process is resumed.

Instant Failover Module

The **Instant Failover Module** allows a terminal to connect to a session on two terminal servers. Both sessions are active but only one is displayed. If the first terminal server fails, the second session is immediately displayed, eliminating any downtown due to terminal server failure. See Instant Failover for details.

The Instant Failover module is used if the terminal is connecting to individual terminal servers. If Terminal Server Groups are being used, Instant Failover is a Terminal Server Group option. Instant Failover works within a Terminal Server Group, not between Terminal Server Groups.

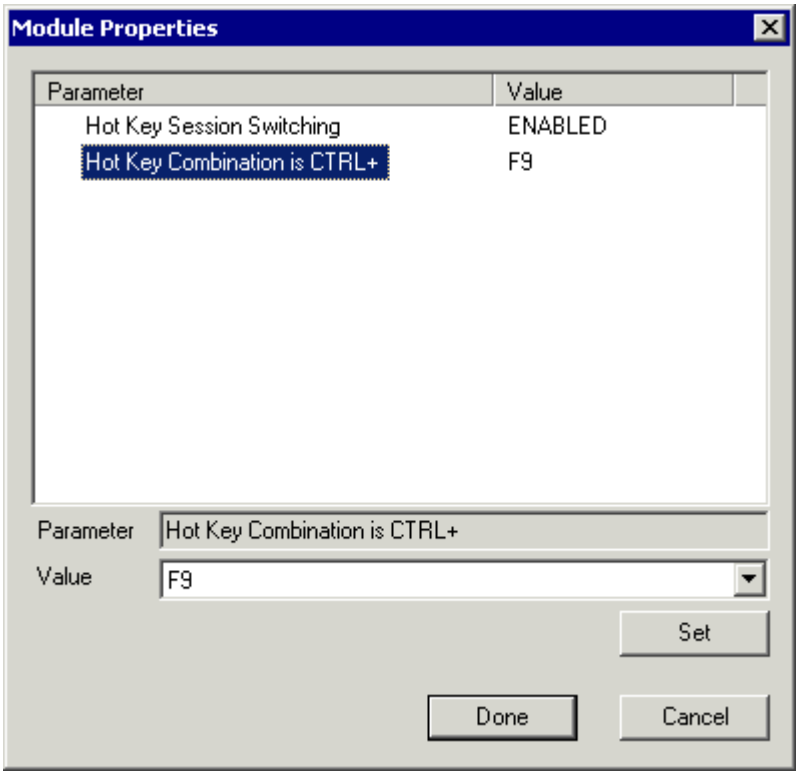
Note: The Instant Failover Module is only used with terminals using Individual Terminal Servers. (See Terminal Server Specification Page).
Terminals using Terminal Server Groups use a checkbox to enable Instant Failover. (See Instant Failover with Terminal Server Groups).

The Instant Failover function requires an Instant Failover license for each terminal that uses it.

The ThinManager Ready thin client cascades both sessions, with the primary in front. You cannot see the secondary session as it is hidden in back. There is an option that allows one to switch between sessions with a hot key.

Instant Failover Configuration When Using Individual Terminal Servers

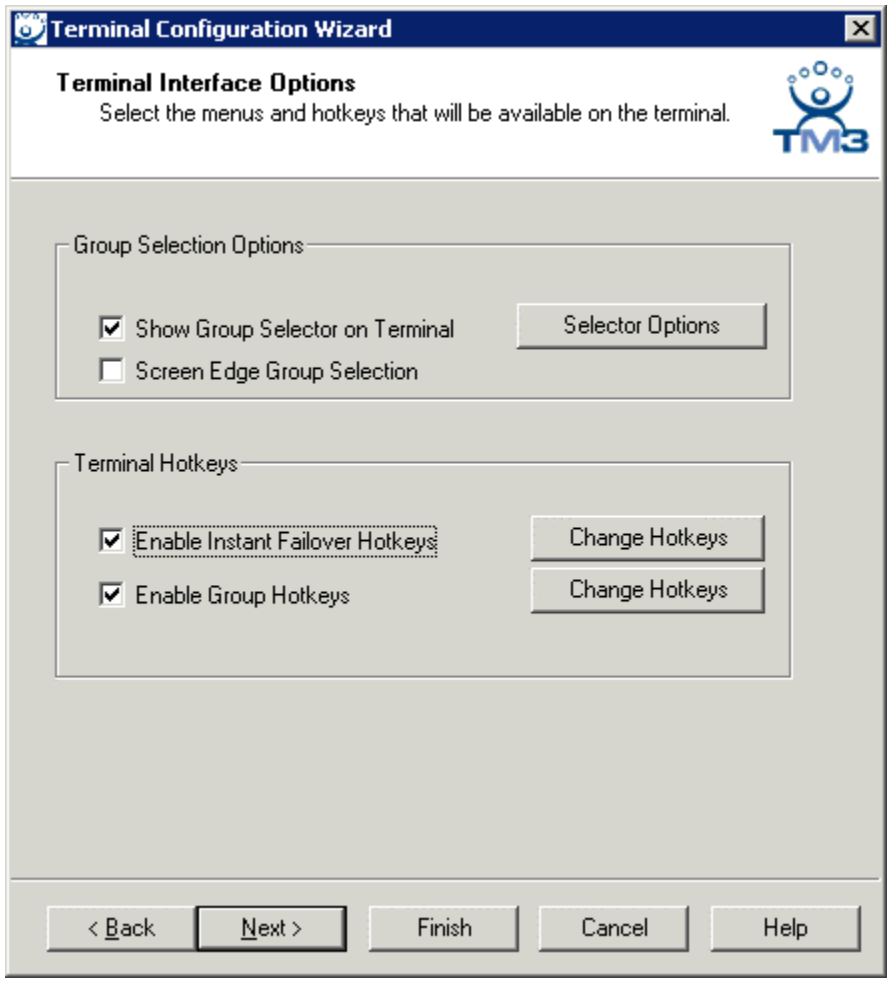
If using the **Instant Failover** module, this is configured in the module properties.



Instant Failover Module Properties

- ***Hot Key Session Switching*** - If this parameter is set to ***Enabled***, the hot key combination will allow the toggling between sessions.
- **Hotkey Combination is CTRL+** - The value of the hot key is defaulted to ***CTRL+F9***, but can be assigned to any function key.

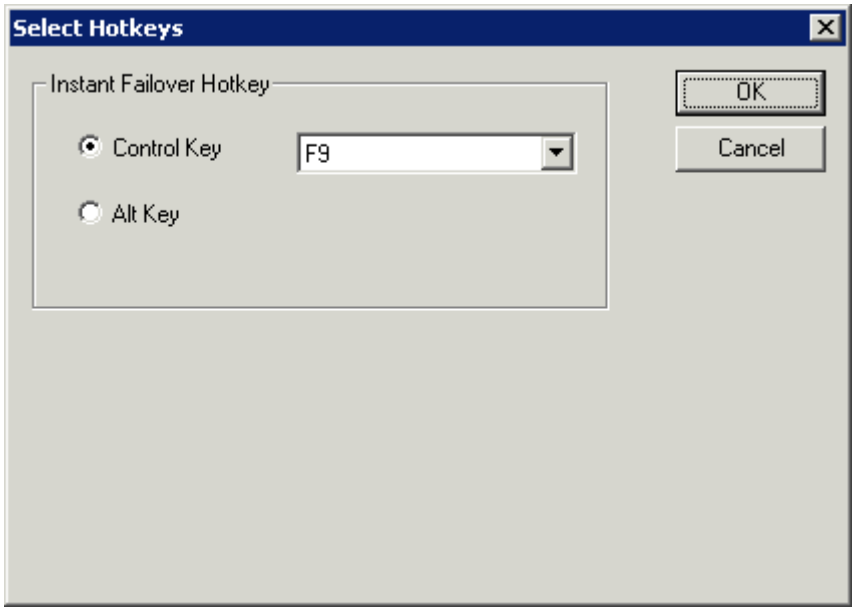
Instant Failover Configuration When Using Terminal Server Groups



Terminal Server Group Options - Instant Failover Hotkey Configuration

If using a **Terminal Server Group with Instant Failover**, the hotkey is enabled on the **Terminal Interface Options** page of the **Terminal Configuration wizard** by selecting the ***Enable Instant Failover Hotkeys*** checkbox.

Selecting the ***Change Hotkeys*** button when ***Enable Instant Failover Hotkeys*** is selected will allow the hotkeys to be changed from the default.

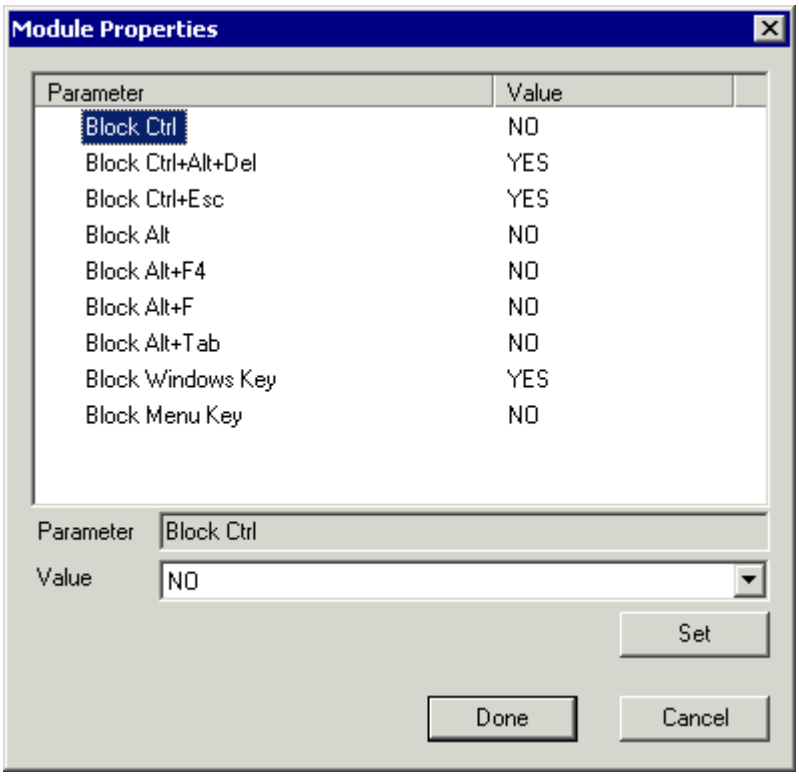


Select Instant Failover Hotkeys

The default hotkey for Instant Failover switching is set to ***Control+F9***. This can be changed by selecting the ***Alt Key*** radio button or using the drop-down to select another function key.

Key Block Module

The Key Block module traps certain keystrokes and prevents them from being sent to the terminal server for processing.



Key Block Module

The key combinations to be blocked can be configured by in the Module Properties. To launch this, highlight the module on the Module Selection page and select the ***Configure*** button. A **Module Properties** dialog box will be displayed. Select the parameter to change in the Module Properties window, select the ***Value*** in the dropdown box and click the ***Set*** button.

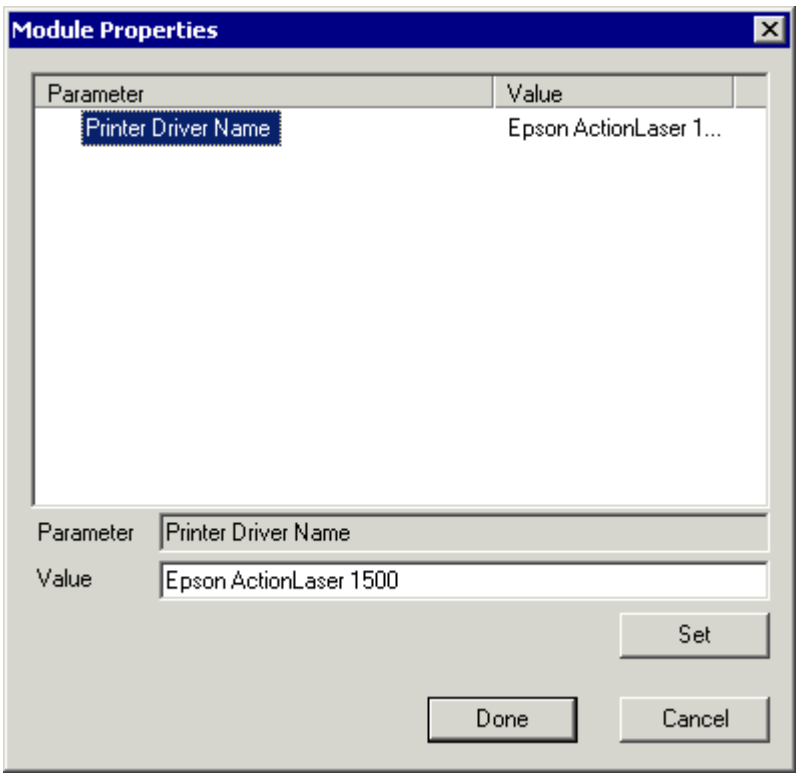
The key combinations that have a value of ***YES*** will be blocked from reaching the terminal server.

Local Print Module

The Local Print Module simplifies printing through the parallel port on ThinManager Ready thin clients.

There are three steps:

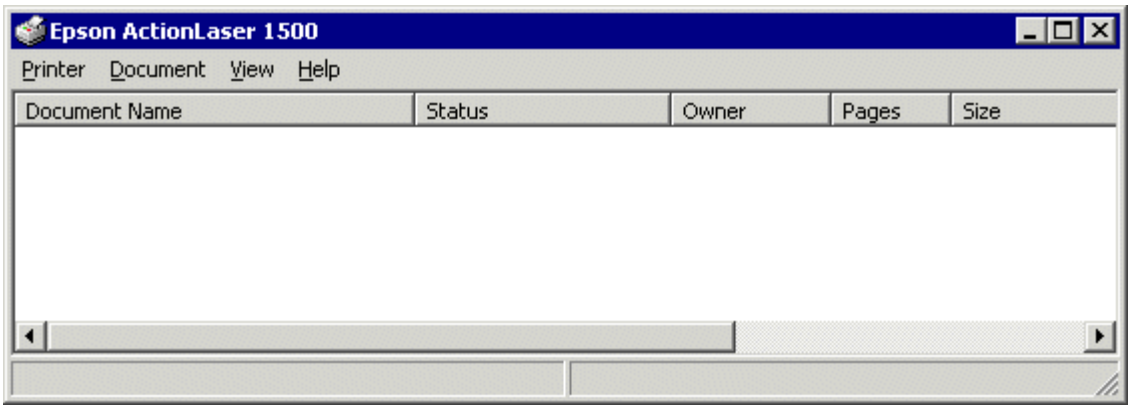
1. Install the print driver on the terminal servers that the client will connect to.
2. Add the **Local Print Module** to the ThinManager Ready thin client as described in Adding a Module to a Group or Terminal.
3. Configure the ***Print Driver Name*** parameter in the module to contain the print driver's name.



Local Print Module Properties

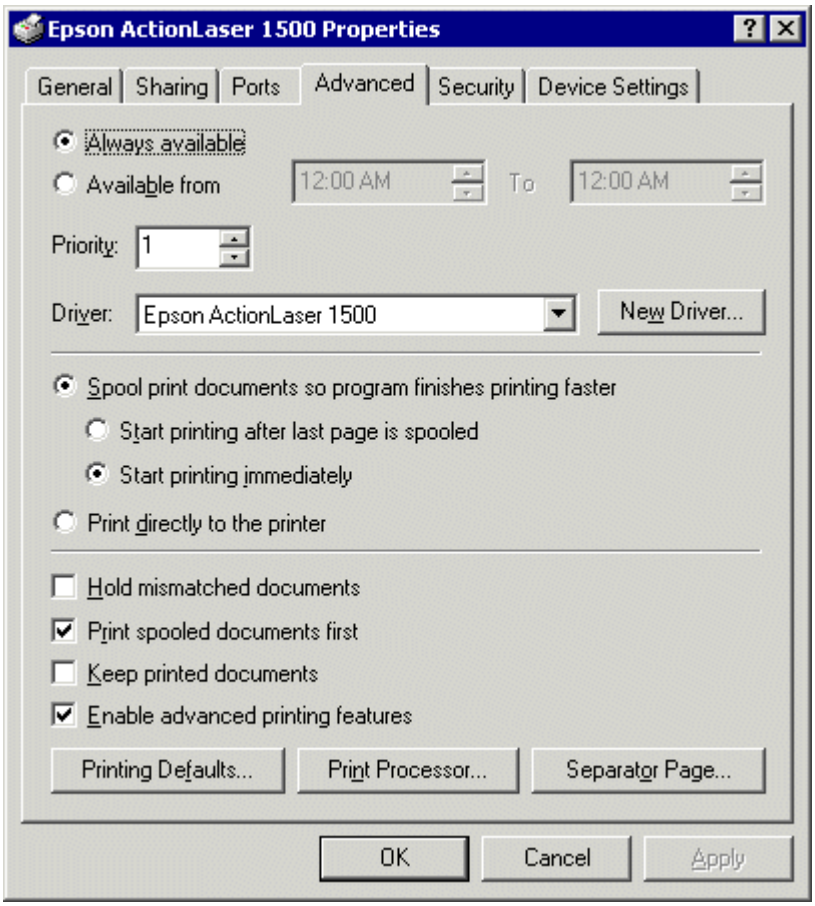
- ***Printer Driver Name*** - The Local Print module works when the name of the print driver is entered in the ***Value*** field for the **Printer Driver Name**. The Print Driver name is provided by the properties page for the printer.

The **Printer Property** page for a printer can be launched by selecting ***Start>Settings>Printers*** and selecting the appropriate printer. This will launch the **Printer Queue** window.



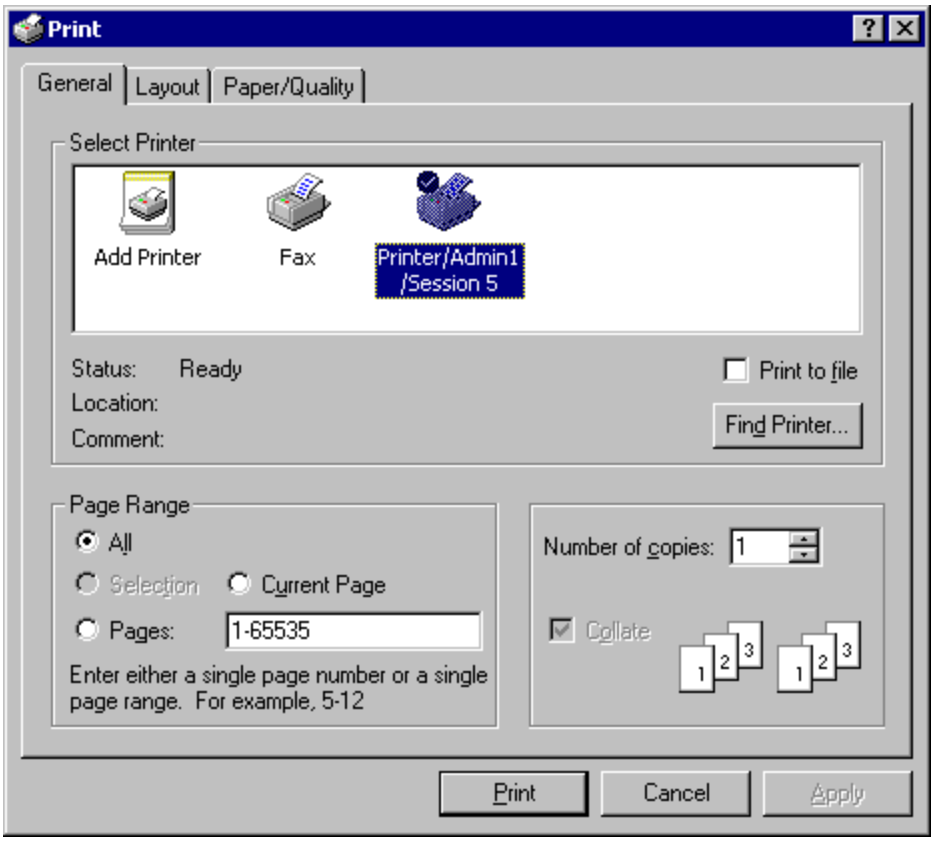
Printer Queue window

Select ***Printer>Properties*** to launch the **Printer Properties** page.



Advanced Printer Properties

The **Printer Property** page shows the Print Driver name on the ***Advanced*** tab. This is the name that needs to be entered into the Local Print Module.

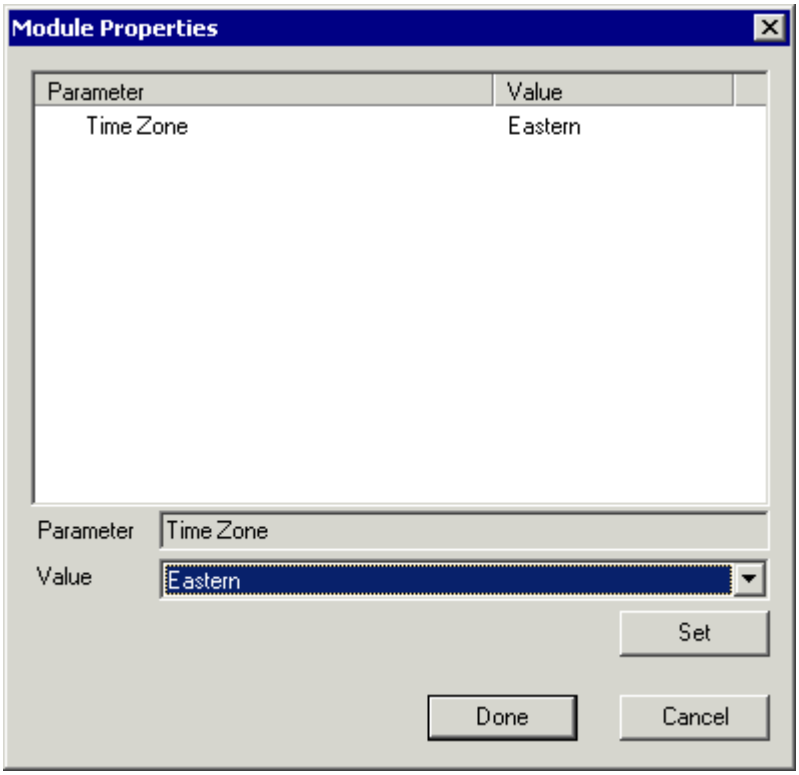


Client Print Window

When printing from the client, the printer will be displayed as **Printer/username/session number** as shown in the example.

Time Zone Redirection Module

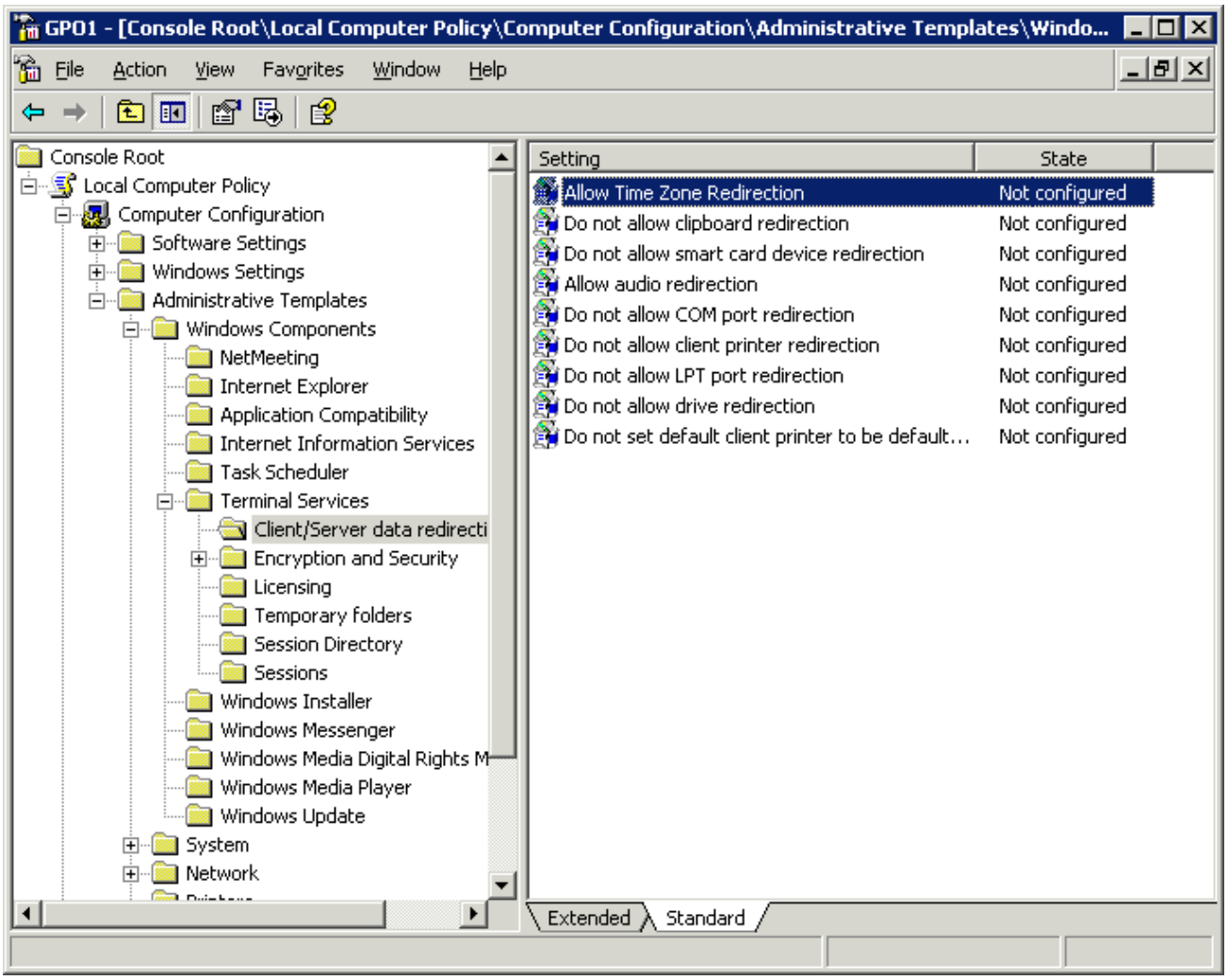
The Time Zone Redirection Module allows a terminal to display local time when it is connected to a terminal server in another time zone.



Time Zone Module Properties

- ***Time Zone*** - This parameter can be highlighted to activate the ***Value*** drop-down that contains time zones. Select the ***Set*** button to accept the changes.

The Time Zone Redirection module needs to have time zone redirection allowed in the Group Policy Console.



Group Policy Console

The Allow Time Zone Redirection policy is found under **Local Computer Policy\Computer Configuration\Administrative Templates\Windows Components\Terminal Services\Client/Server data redirection folder** of the Group Policy.

Please see Microsoft documentation for information on Group Policy.

Mouse Modules

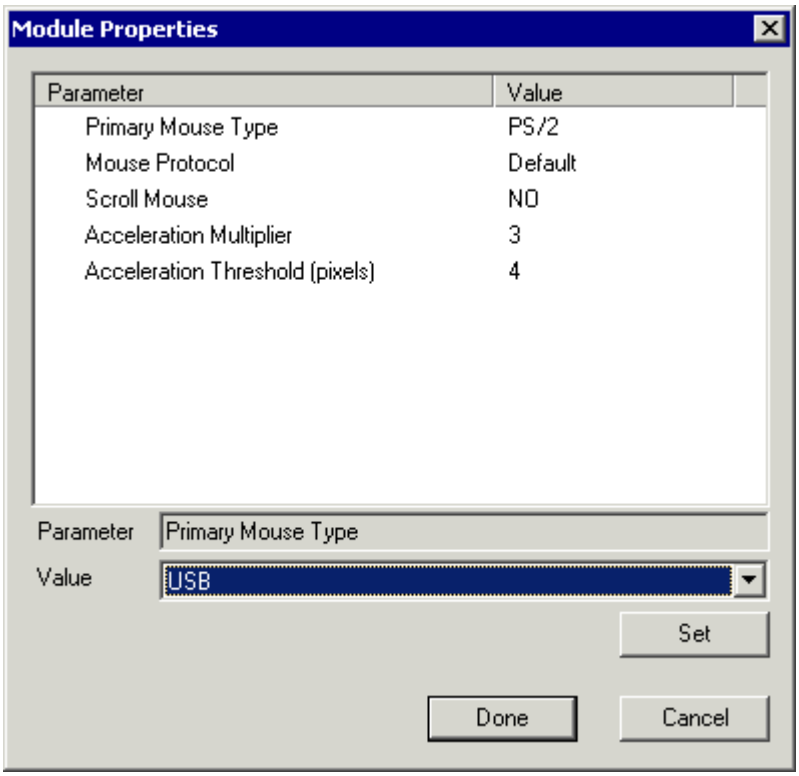
Mouse Configuration Module

The Mouse Configuration Module allows USB or PS/2 mice to be configured and allows the use of two mice. Configuration of mouse settings including:

- ***Primary Mouse Type*** -This setting allows both a PS/2 mouse and USB mouse to be used on a terminal. This setting will define which mouse is considered the primary mouse.
- ***Mouse Protocol*** - This value allows the selection of different protocols used by the mouse.
- ***Scroll Mouse*** - The value, when set to ***Yes***, allows a scroll mouse to function on a terminal.

- ***Acceleration Multiplier*** - This value allows the mouse movement to be slowed down or sped up.
- ***Acceleration Threshold (pixels)*** - This value is the number of pixels a mouse must move before the acceleration multiplier takes effect.

These parameters can be changed by highlighting the parameter and choosing a new value in the ***Value*** dropdown box. Use the ***Set*** button to accept the new parameter value.



Mouse Configuration Module

ThinManager supports USB mice with the latest firmware. The **Mouse Configuration Module** allows configuration of USB mice.

A ThinManager Ready thin client can have both a USB and a PS/2 mouse installed. This module allows the selection of the primary mouse when using two mice.

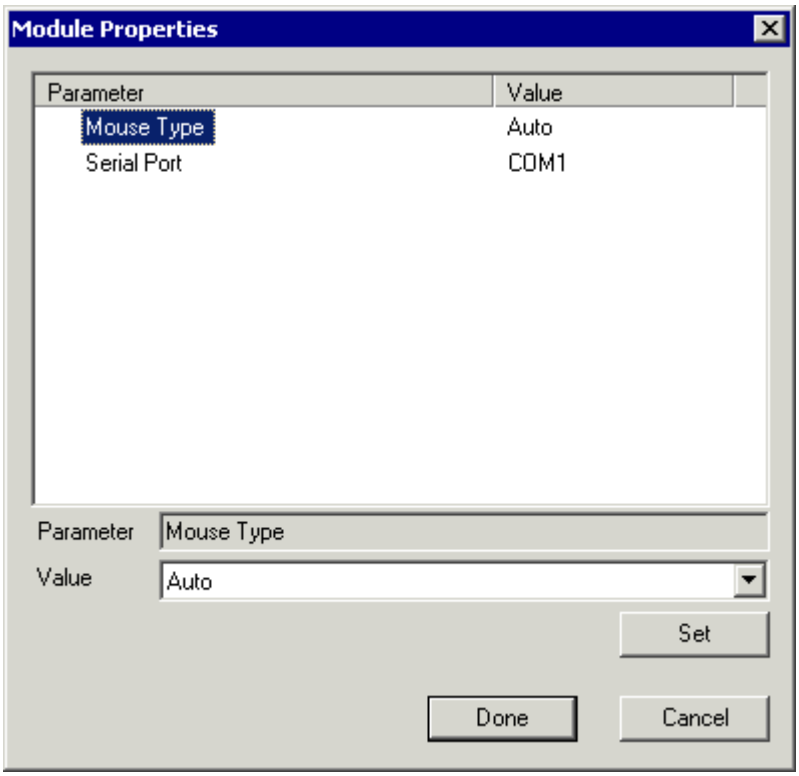
PS/2 Mouse Module

The PS/2 Mouse Module is the forerunner of the Mouse Configuration Module. It allows the changing of PS/2 settings like mouse type, acceleration and threshold. All of these features are now available in the Mouse Configuration Module.

- ***Mouse Type*** -This value allows the selection of PS/2 or USB mouse type.
- ***Scroll Mouse*** - The value, when set to ***Yes***, allows a scroll mouse to function on a terminal.
- ***Acceleration Multiplier*** - This value allows the mouse movement to be slowed down or sped up.
- ***Acceleration Threshold (pixels)*** - This value is the number of pixels a mouse must move before the acceleration multiplier takes effect.

Serial Mouse Driver

The Serial Mouse Driver allows a serial mouse to be used with ThinManager Ready thin clients.



Serial Mouse Module

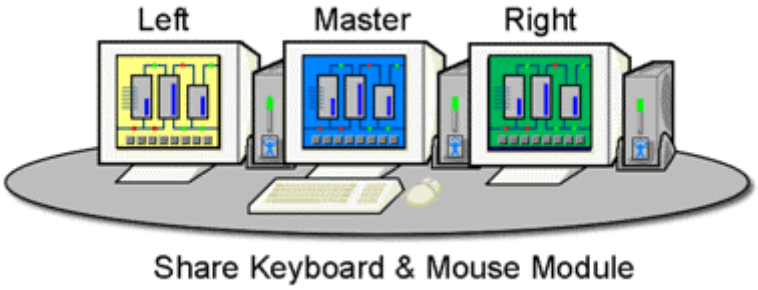
Mouse Type - This value defines what type of mouse is used.

Serial Port - This value is set to the serial port number used for the mouse.

Share Keyboard and Mouse Modules

The **Share Keyboard and Mouse** module allows several ThinManager Ready thin clients to be controlled with a single keyboard and mouse without the need of a KVM switch (Keyboard/Video/Mouse).

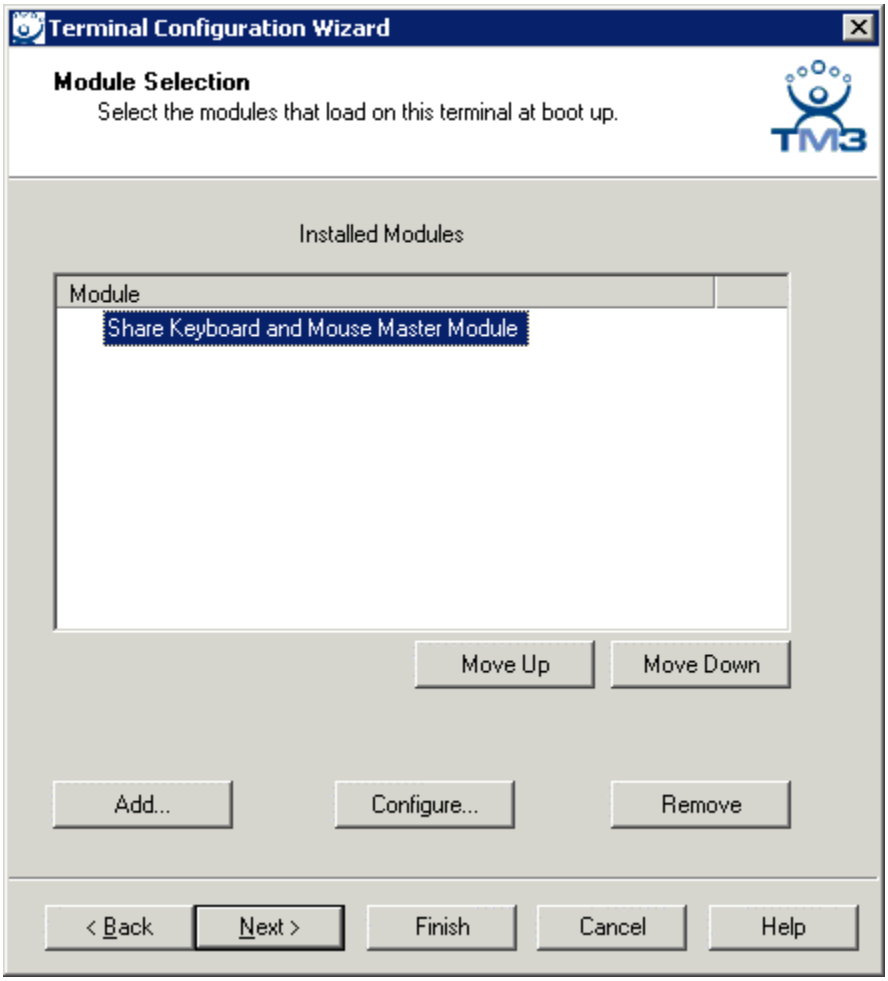
The **Share Keyboard and Mouse** has a **Master** module that is added to the controlling terminal, and a **Slave** module that is added to the dependent terminals.



Shared Keyboard and Mouse Layout

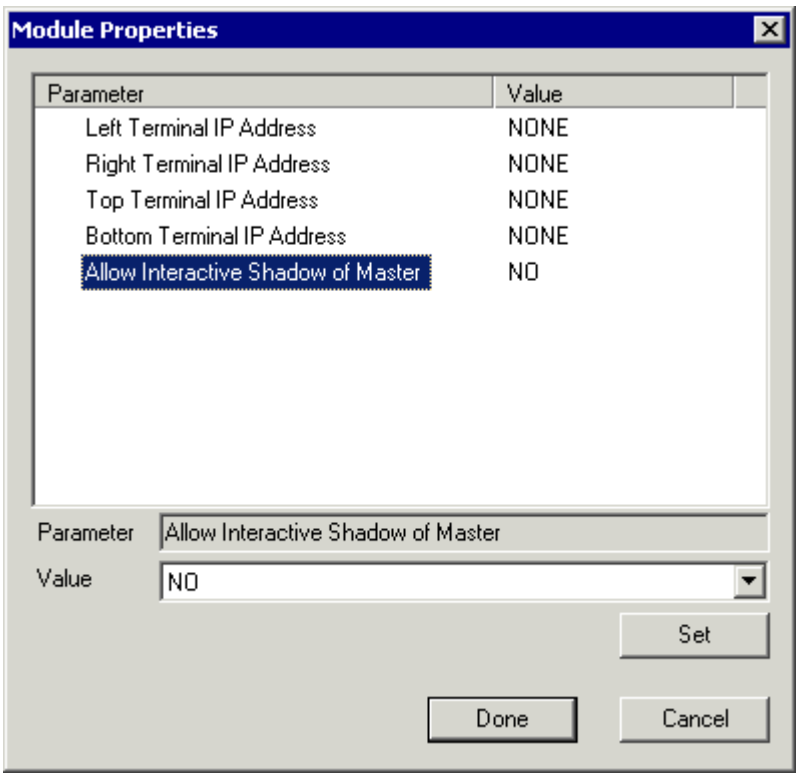
The Share Keyboard and Mouse can be used by placing several monitors connected to ThinManager Ready thin clients side-by-side or top-to-bottom. The ***Share Keyboard and Mouse Master module*** is loaded on the

center thin client. This module is configured by adding the IP addresses of the secondary slave thin clients. The other terminals receive the ***Share Keyboard and Mouse Slave module***.



Share Keyboard and Mouse Master Module

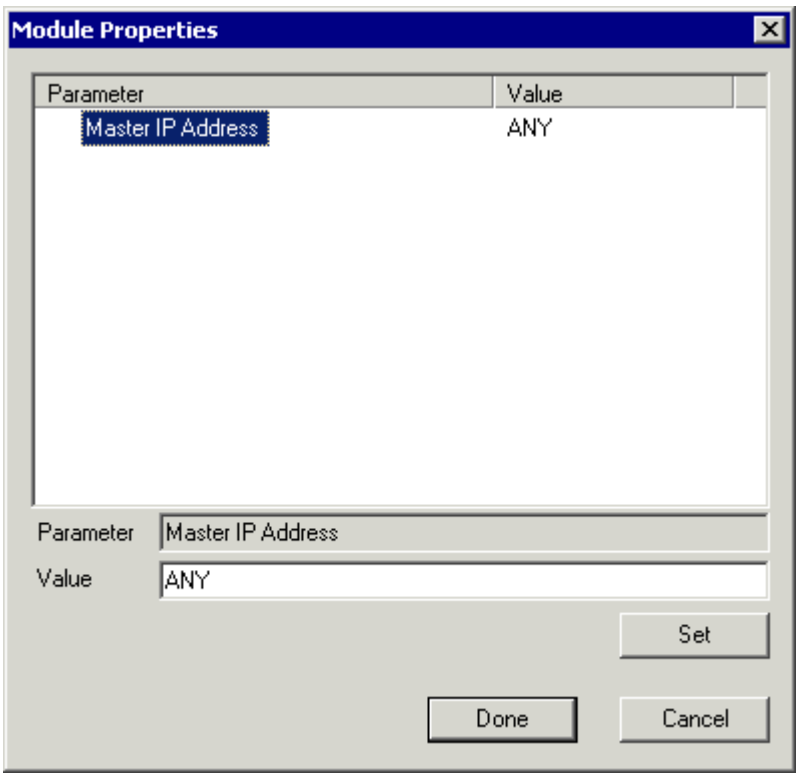
Once the ***Share Keyboard and Mouse Master Module*** is added to a terminal, it can be configured by highlighting it in the ***Installed Module*** window and selecting the ***Configure*** button.



Share Keyboard and Mouse Master Module Properties

- ***Left Terminal IP Address*** - Enter the correct IP address for the Slave terminal on the left of the master terminal, if used, and select the ***Set*** button.
- ***Right Terminal IP Address*** - Enter the correct IP address for the Slave terminal on the right of the master terminal, if used, and select the ***Set*** button.
- ***Top Terminal IP Address*** - Enter the correct IP address for the Slave terminal on the top of the master terminal, if used, and select the ***Set*** button.
- ***Bottom Terminal IP Address*** - Enter the correct IP address for the Slave terminal on the bottom of the master terminal, if used, and select the ***Set*** button.
- ***Allow Interactive Shadow of Master*** - Normally a terminal with the master module loaded is blocked from interactive shadow. If you want to allow interactive shadowing on the master, highlight the ***Allow Interactive Shadow of Master*** parameter, select ***Yes*** from the ***Value*** drop-down, and select the ***Set*** button.

The **Share Keyboard and Mouse Slave module** is loaded on the secondary thin clients using the same methods as other modules are loaded.



Share Keyboard and Mouse Slave Module Properties

- ***Master IP Address*** - This setting allows the slave module to be configured to connect to a specified master by entering the IP address of the master terminal, and selecting the ***Set*** button.

Select the ***Done*** button when finished.

Once the ACP Enabled thin clients are booted, the mouse on the master thin client can be moved seamlessly into the other desktops. The keyboard will be active in whatever screen the mouse pointer is on.

This allows an operator to have control of several displays with only one keyboard and mouse. The mouse movement is seamless, allowing access to displays without switching.

Note: A Master Share Keyboard and Mouse session cannot be interactively shadowed in ThinManager unless it is configured to allow it..

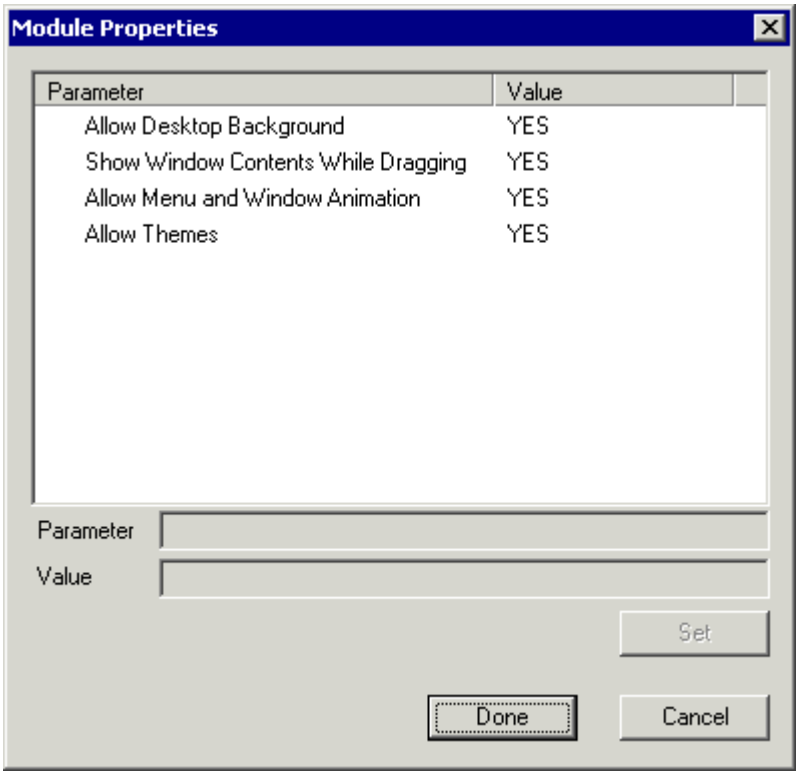
The keyboards and mice for the slave thin clients can be left attached, but stowed away until a multi-user configuration is needed.

The ***Share Keyboard and Mouse Master module*** is licensed for each master thin client. The ***Share Keyboard and Mouse Slave module*** is free. Each master module can have 1 to 4 slave units. Future releases will expand the number of slaves that the master can control.

RDP Modules

RDP Experience Module

The RDP Experience Module allows a session connected to a Windows 2003 terminal server with RDP to add features to the session.

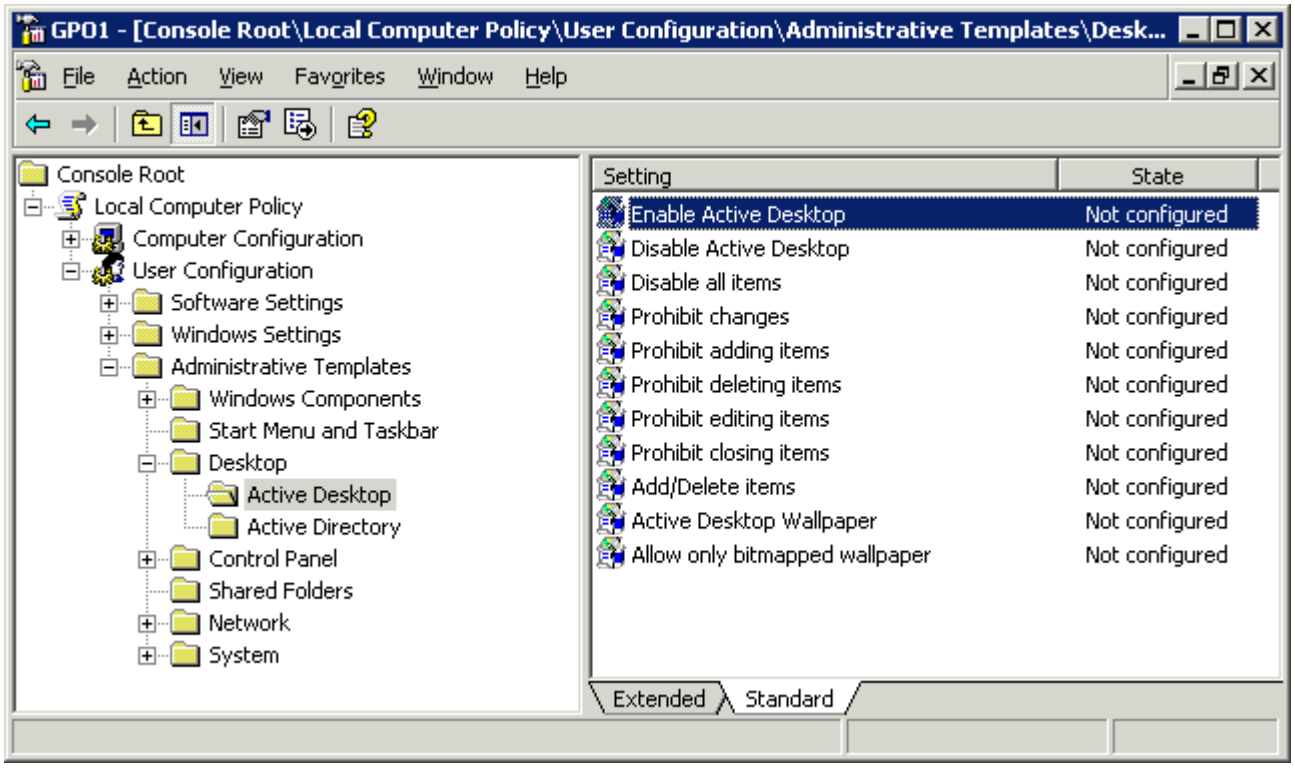


RDP Experience Module Parameters

The **RDP Experience Module** parameters are:

- ***Allow Desktop Background*** - This setting, if set to ***Yes***, will allow a terminal to show a desktop background.
- ***Show Window Contents While Dragging*** - This setting, if set to ***Yes***, will allow a terminal to show window contents while dragging.
- ***Allow Menu and Window Animation*** - This setting, if set to ***Yes***, will allow a terminal to show window and menu animations.
- ***Allow Themes*** - This setting, if set to ***Yes***, will allow a terminal to show a desktop Theme.

These features are only available with Windows 2003 Server. In order to use these features, they must be enabled by using the **Windows Group Policy Editor**. See Microsoft documentation for details.



Group Policy Console

Windows 2003 adds a variety of features that can be accessed or denied by Windows Group Policies as shown in the example. Please consult Microsoft documentation for assistance with these features.

RDP Module for ThinManager v2.4 and Older

The **RDP Module for ThinManager v2.4 and Older** module is used to allow older versions of ThinManager to use RDP.

ThinManager didn't support RDP until the v2.4.1 release. Users with older versions of ThinManager can use the RDP client communication protocol with older versions of ThinManager by adding the RDP Module for ThinManager v2.4 and Older to the terminal and installing a ThinManager firmware that is v02.05.00 or later.

RDP Port Module

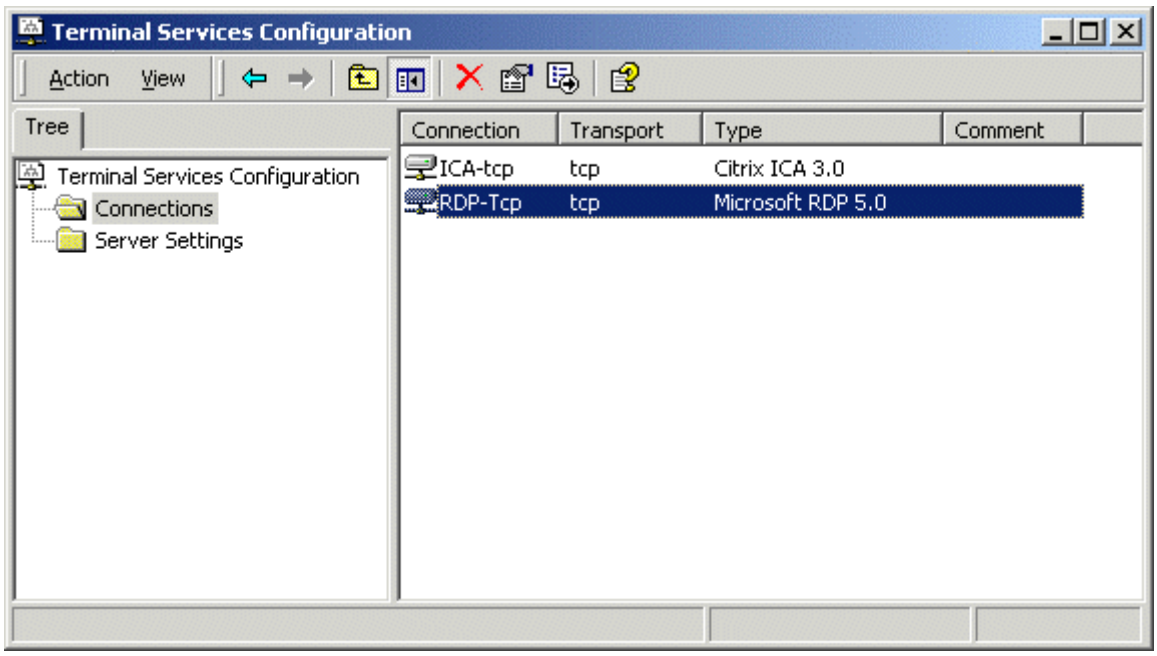
The **RDP Port Module** allows that port that RDP communicates to the terminal server to be changed from the default 3389 to another port.

- ***RDP Server Port Number (decimal)*** - Enter the new port number for RDP in this value.

RDP Serial Port Redirection Module

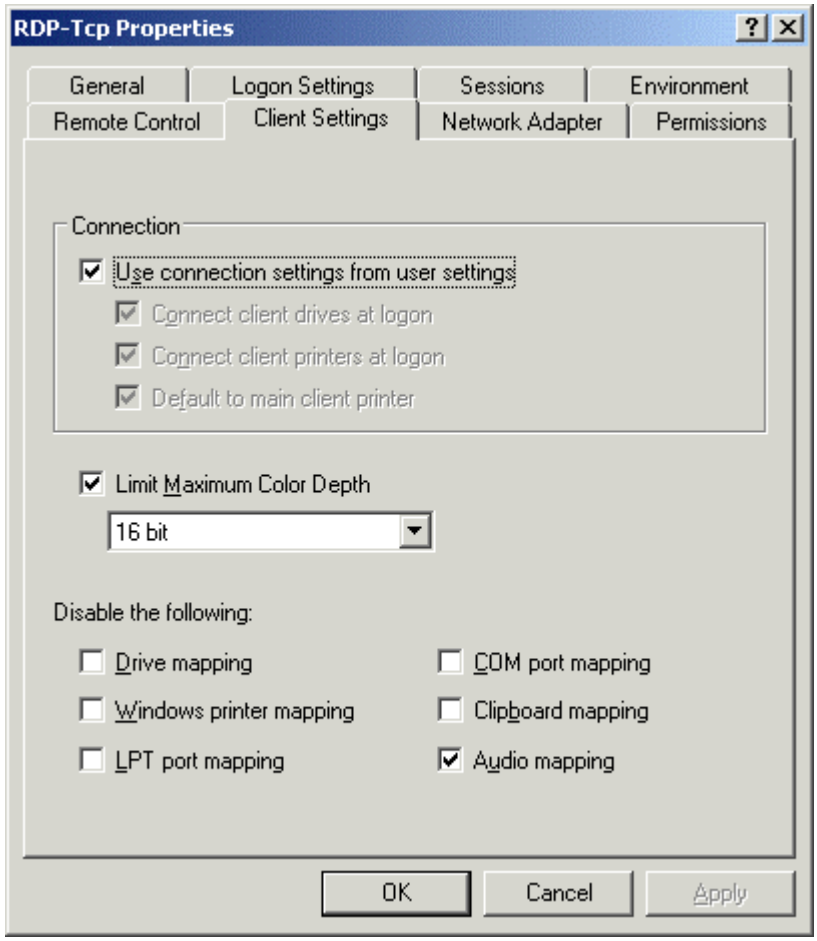
The serial ports on a ThinManager Ready thin client can be remapped by adding the **RDP Serial Port Redirection module** to the thin client without additional configuration. Once the thin client is booted, the COM1 in the session will refer to the COM1 on the terminal, while the COM2 in the session will refer to the COM2 on the terminal. This function requires Windows 2003 to work.

Additionally the **COM Port Mapping** needs to be allowed. This is done on the **Terminal Services Configuration Console**. To open the Terminal Services Configuration Console in Windows 2003 select ***Start> Administrative Tools> Terminal Services Configuration***.



Terminal Services Configuration Console

Launch the **RDP-tcp Properties** page by highlighting the ***Connections*** folder in the tree pane and double-clicking the ***RDP-tcp*** in the right pane. This will launch the **RDP-tcp Properties** page.



COM Port Mapping Allowed

The ***Com port mapping*** checkbox must be unselected to allow the **RDP Serial Port module** to function on the Windows 2003 terminal server.

Screen Saver Modules

MultiSession Screen Saver Module

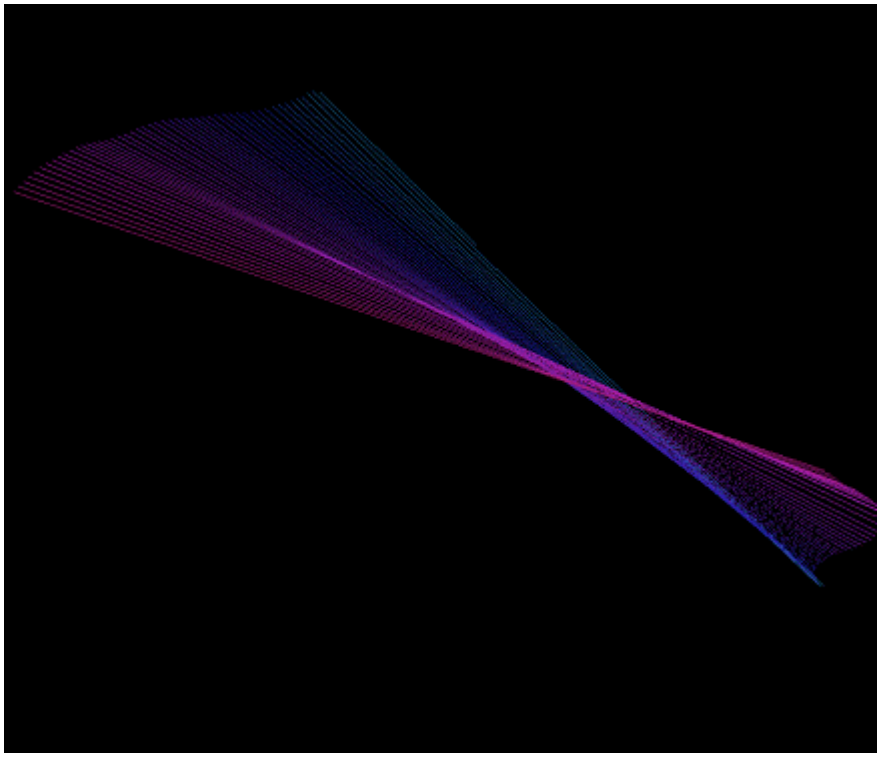
The MultiSession Screen Saver Module has two modes. It can be set to cycle through the MultiSession windows when the terminal is inactive, or it can be set to return to the main MultiSession screen when the terminal is inactive.

The parameters are:

- **Mode** - The **Cyclic** mode will switch between all active sessions on the terminal. The **GotoFirstGroup** mode will switch the terminal to the main session when it is inactive.
- **Start Delay Time in secs** - This is the number of seconds of inactivity that the terminal will allow before starting the screen saver.
- **Switch Interval in secs (Cyclic only)** - This is the number of seconds that the terminal will display each session when using the Cyclic mode.

Screen Saver Module

Screen Saver Module is a module that loads a screen saver on the client. The screen saver will run when the terminal is idle to protect the monitor. Since the screen saver runs on the client, it saves CPU resources on the terminal server.



Screen Saver on Thin Client

The Screen Saver Module configuration includes:

- ***Screen Saver*** - the graphic that is displayed when the screen saver is active.
- ***Wait Time in Minutes*** - the length of time that the terminal needs to be idle before the screen saver starts.
- ***Use Disable Time Period*** - the screen saver can be set to be disabled, or unavailable during a time block. This could be used to prevent the screen saver from running during normal business hours.
    - ***Disable Start Time (0-23)*** - This sets the start of the disabled time block. 0 is Midnight and 23 is 11:00 p.m.
    - ***Disable End Time (0-23)*** - This sets the end of the disabled time block. 0 is Midnight and 23 is 11:00 p.m.
    - ***Force Off when Start Hour is Reached*** - if set to ***Yes***, this will turn the screen saver off when the ***Disable End Time*** is reached.

Sound Modules

The use of sound from a ThinManager Ready thin client requires four things:

- ThinManager Ready hardware with a Line Out plug
- An amplified speaker
- The appropriate sound module
- Either a Windows 2003 Server terminal server or MetaFrame.

Plug the speaker(s) into the Line Out plug on the terminal, add the module, and connect to the terminal server.

Note: Some thin clients, like the Advantech PCM-5820, may require that a sound harness be plugged into the motherboard.

Current sound modules include:

- Advantech PCM-5820 Sound Driver
- Advantech PCM-9372 Sound Driver
- Allen-Bradley VersaView 200R Sound Driver
- Arista 5824-ACP Sound Driver
- Arista 6824-ACP Sound Driver
- DC_30_100 Sound Driver
- DC_40_100 Sound Driver
- TC3500 Sound Driver
- TeleVideo TC7X30 Sound Module
- Xycom XA1300 Sound Module

These Sound modules can several setting:

- ***Audio Bandwidth (ICA Only)*** - This parameter can be set to *Low*, *Medium*, or *High* bandwidth when using MetaFrame.

- ***Sound in Session*** - This setting, when set to ***Enabled***, will allow sound generated within the session to be played through the terminal.
- ***Terminal Sound Effects*** - This setting, when set to ***Enabled***, will allow terminal sound effects like TermSecure login sounds to on the terminal.

TermSecure Modules

ActiveX Configuration Module

This module configures the ActiveX Control. It is listed under both Miscellaneous Modules and TermSecure Modules. See ActiveX Configuration or TermMon ActiveX Control for details.

RF Ideas pcProx Module

The **RF Ideas pcProx Module** allows a terminal to use RF Ideas pcProx cards as TermSecure ID cards. The parameters are:

- **Port -** This selects the port that the RF Ideas pcProx card reader is installed
- **Use Facility Code -** This value, when set to ***Yes***, will require the addition of the card's Facility Code to the Card / Badge ID number.
- **Allow Manual Login** - This, when set to ***Yes***, will allow a TermSecure user to log into a terminal without a TermSecure ID device. If set to No, TermSecure users must use a TermSecure ID device to log in.
- **Prompt for Password** - This, when set to Yes, will require a TermSecure to enter their password for access, even if the password is configured in ThinManager.

See ProxCard Reader for details.

USB Flash Drive Module

The USB Flash Drive Module can be used to allow USB flash drives to be used as TermSecure ID devices. It is also listed under USB devices. See USB Flash Drive Module in the Local Storage Modules for details.

Wavetrend Tag Reader

The **RF Ideas pcProx Module** allows a terminal to use RF Ideas pcProx cards as TermSecure ID cards. The parameters are:

Port - The WaveTrend Tag Reader Module connects to a ThinManager Ready thin client through the serial port. The ***Port*** setting specifies which COM Port the reader is attached to.

Use Vendor Code - This, if set to ***YES***, includes the vendor code as part of the identifier number.

Allow Manual Login - If set to ***YES***, allows a TermSecure User to use the hotkey to initiate logins, or the device. If set to ***NO***, it will force a TermSecure User to use a device to login.

Prompt for Password - ***NO*** allows the device to login without a password. ***YES*** forces every TermSecure User to enter a password after using the device.

Entry Signal Strength - The signal strength required to register the card as in range

Exit Signal Strength - The signal strength required to register the card as out of range

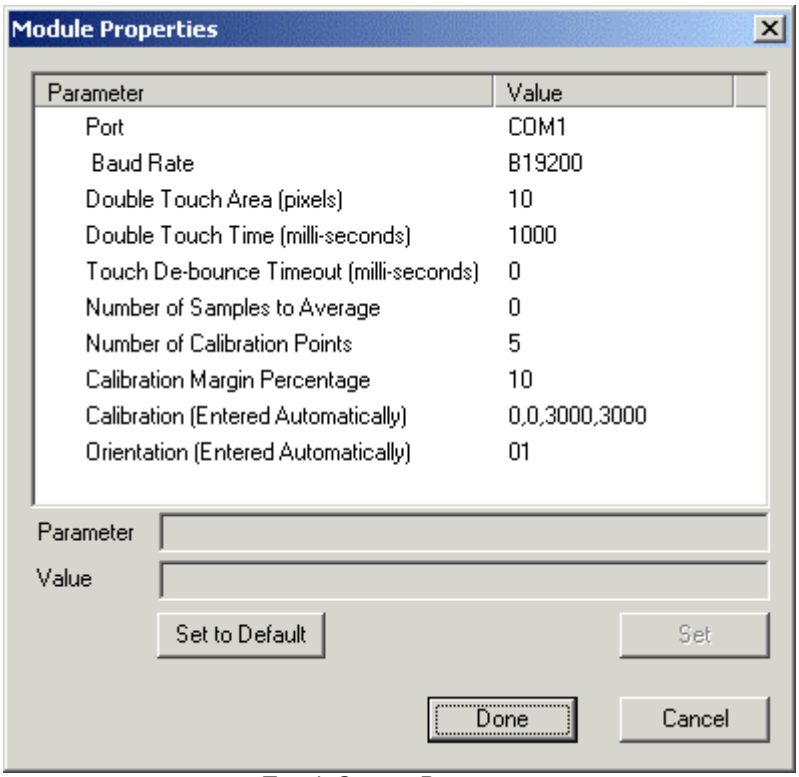
Entry Sensitivity - The number of reads above the Entry Signal Strength reads that are required to register as “Entered”

Exit Sensitivity - The number of reads below the Exit Signal Strength that are required to register as “Exited”

See WaveTrend Tag Reader Module for details.

Touch Screen Modules

- Arista ARP-16XXXAP-ACP Touch Screen Driver
- CarrollTouch Touch Screen Driver
- Contec Touch Screen Driver
- DMC Touch Screen Driver
- Dynapro Touch Screen Driver
- Elographics Touch Screen Driver
- Gunze AHL Touch Screen Driver
- MicroTouch Touch Screen Driver
- PenMount Touch Screen Driver
- Ronics Touch Screen Driver
- Touch Control Touch Screen Driver
- Touch International IR Touch Screen Driver
- Xycom 33XX Touch Screen Driver



Touch Screen Parameters

Some, but not all, touch screen modules have parameters that can be modified. These may include:

- ***Connection Type*** - Whether the touch screen uses Serial or USB to connect.
- ***Controller Type*** - Model of touch screen controller.
- ***COM Port*** - The serial port that the touch screen is connected to.
- ***Baud Rate*** - The speed used for communication between the terminal and the touch screen.
- ***Double Touch Area*** - The size of the area that a second touch will register as a double touch.
- ***Double Touch Time*** - The amount of time between touches that qualifies as a double touch.
- ***Touch De-Bounce Timeout*** - a time interval used to prevent a single touch from being registered as multiple touches.
- ***Calibration*** (entered automatically) - Set automatically by machine. These are the calibration values.
- ***Orientation*** (entered automatically) - Set automatically by machine. Used at the direction of Tech Support in error correction.
- ***Swap XY Coordinates*** – If X and Y are reversed, this setting will correct the orientation.
-

Additional ThinManager Functionality

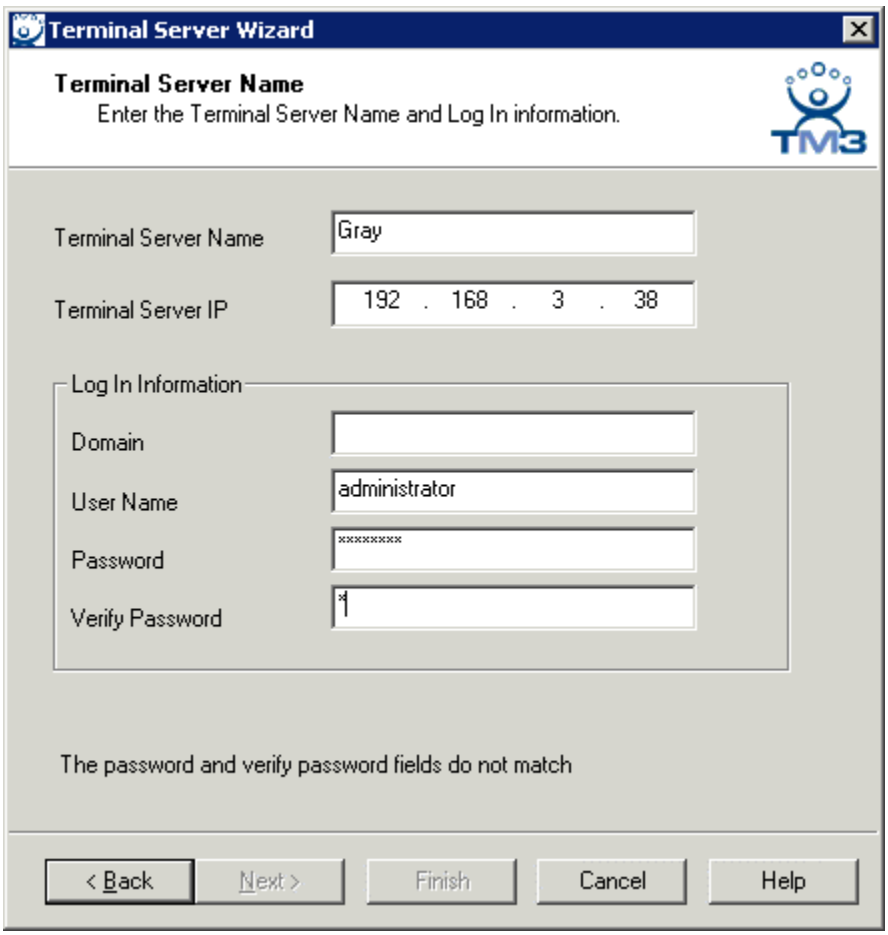
ThinManager to Terminal Server Connection

ThinManager can connect to the terminal servers and pull resource data, session information, and server load from the terminal servers. Additionally, an administrator can connect to a terminal server and run an RDP session from within ThinManager.

Communication Permission Setup

ThinManager needs permission to pull the data into ThinManager. This is configured in the Terminal Server List Wizard.

Launch the Terminal Server List Wizard by selecting ***Manage> Server List Management> Terminal Server List*** in the menu. Navigate to the **Terminal Server Name** page.

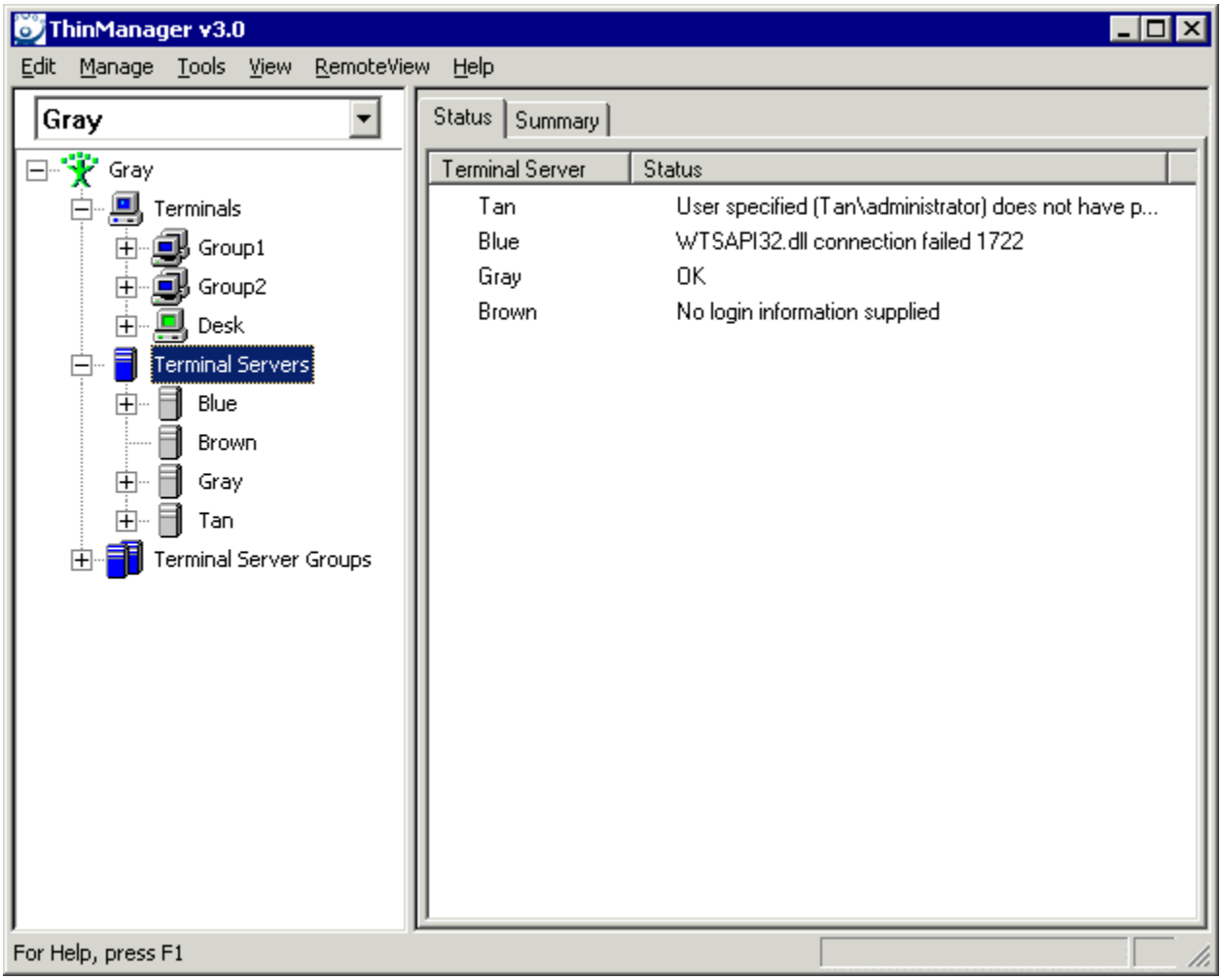


Terminal Server Name Page

Enter an administrative account in the ***User Name*** field and the password in the ***Password*** fields. If the terminal server is in a domain, enter the name of the domain in the ***Domain*** field.

The ***Next*** and ***Finish*** buttons will become available when the passwords match.

The connections can be tested by highlighting the Terminal Server branch in the tree.



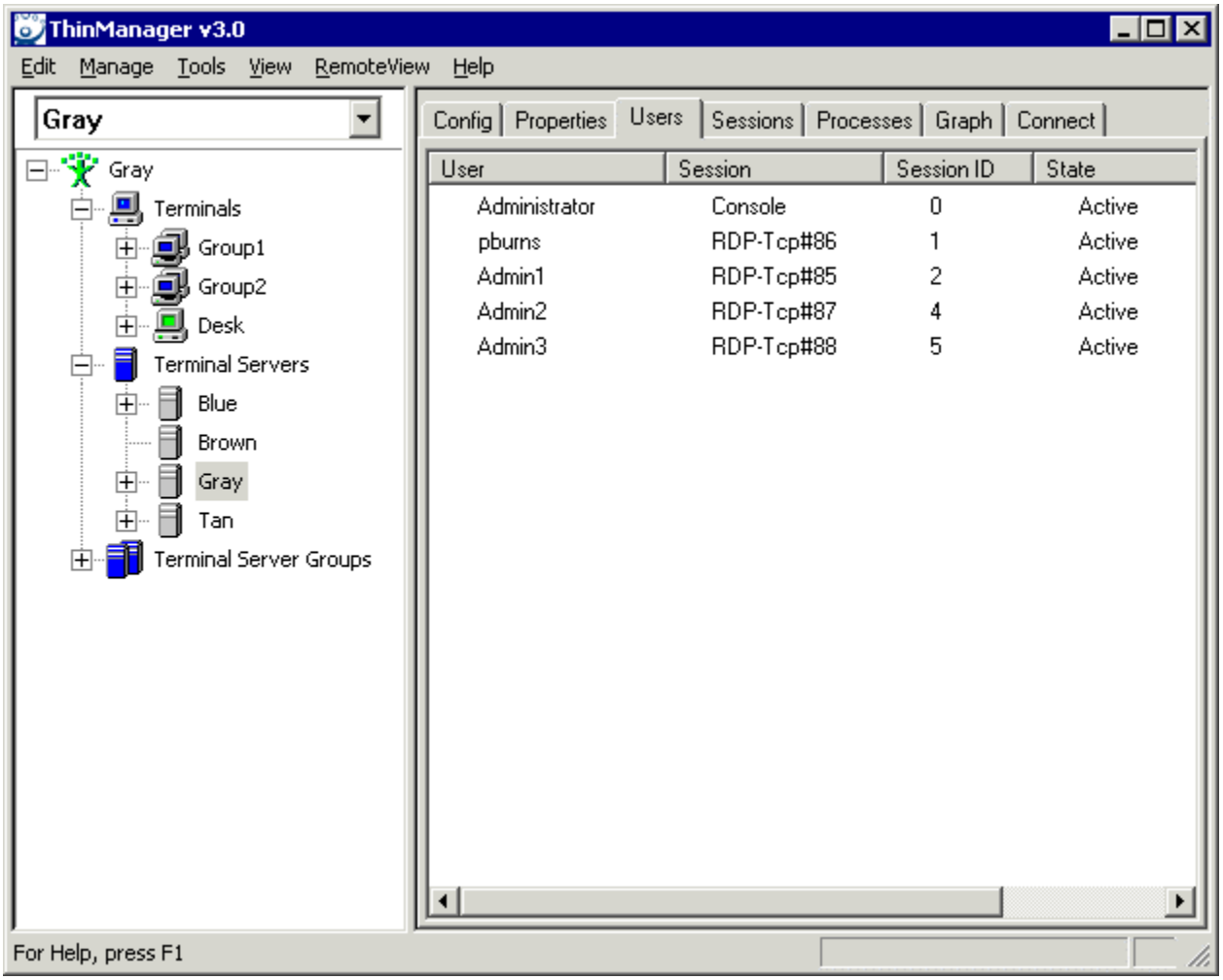
Terminal Servers Tabs - Status

Highlighting the **ThinManager Servers branch** of the tree will display the status of the ThinManager to Terminal Server Connection. The Connection Status of the ThinManager Server may have different messages:

- **OK** indicates a good connection.
- **No login information supplied** indicates that the Terminal Server didn't have a username and password added in the Terminal Server List Wizard.
- **User specified does not have permission to connect** indicates that the Terminal Server had an invalid username and password added in the Terminal Server List Wizard.
- **WTSAPI32.dll connection failed** occurs when the terminal server is off or unreachable.

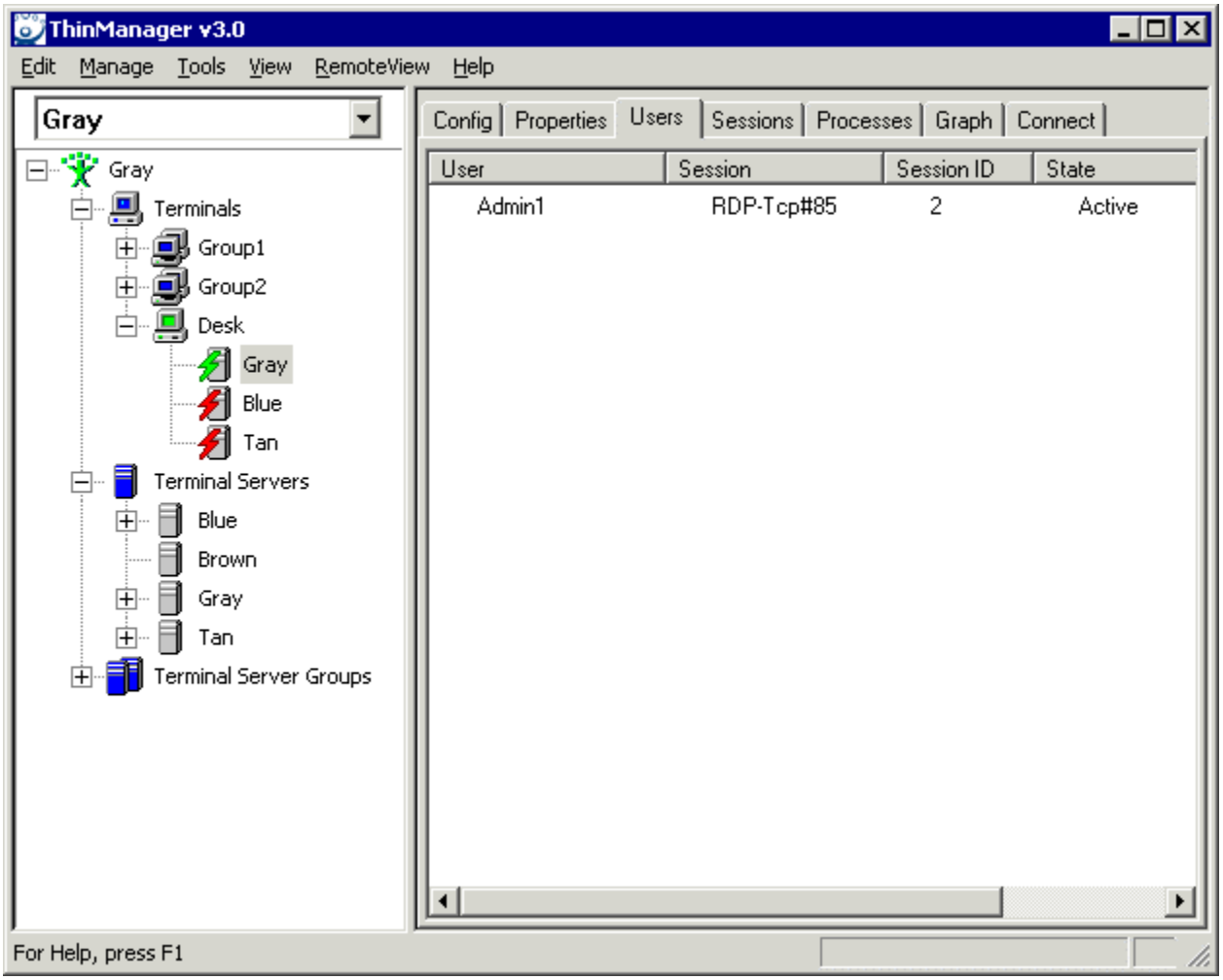
Data Display

Terminal Server data can be displayed in ThinManager once the permissions are set. When a terminal server is highlighted in the ThinManager Tree pane, the Detail pane will be tabbed to show the users, sessions, and processes on the terminal server.



User Tab - Terminal Server

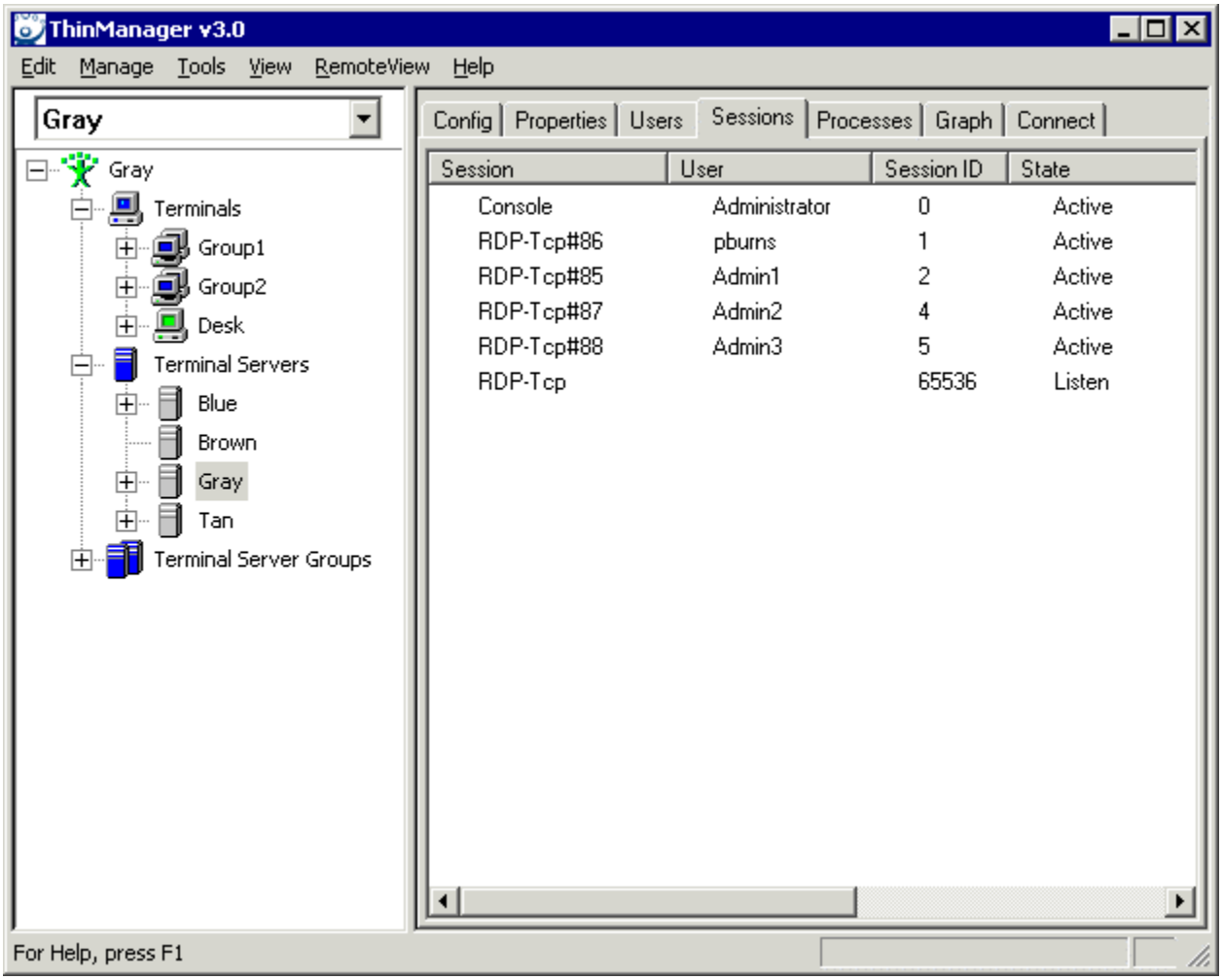
Highlighting a terminal server in the Terminal Servers branch and selecting the **User** tab will show the users logged into the terminal server.



User Tab - Terminal

When a terminal is expanded in the ThinManager Tree pane and the nested terminal server is highlighted, the Detail pane will be tabbed to show the users, sessions, and processes for the account logged into the terminal server from that terminal alone. This allows an administrator to know what each terminal is running.

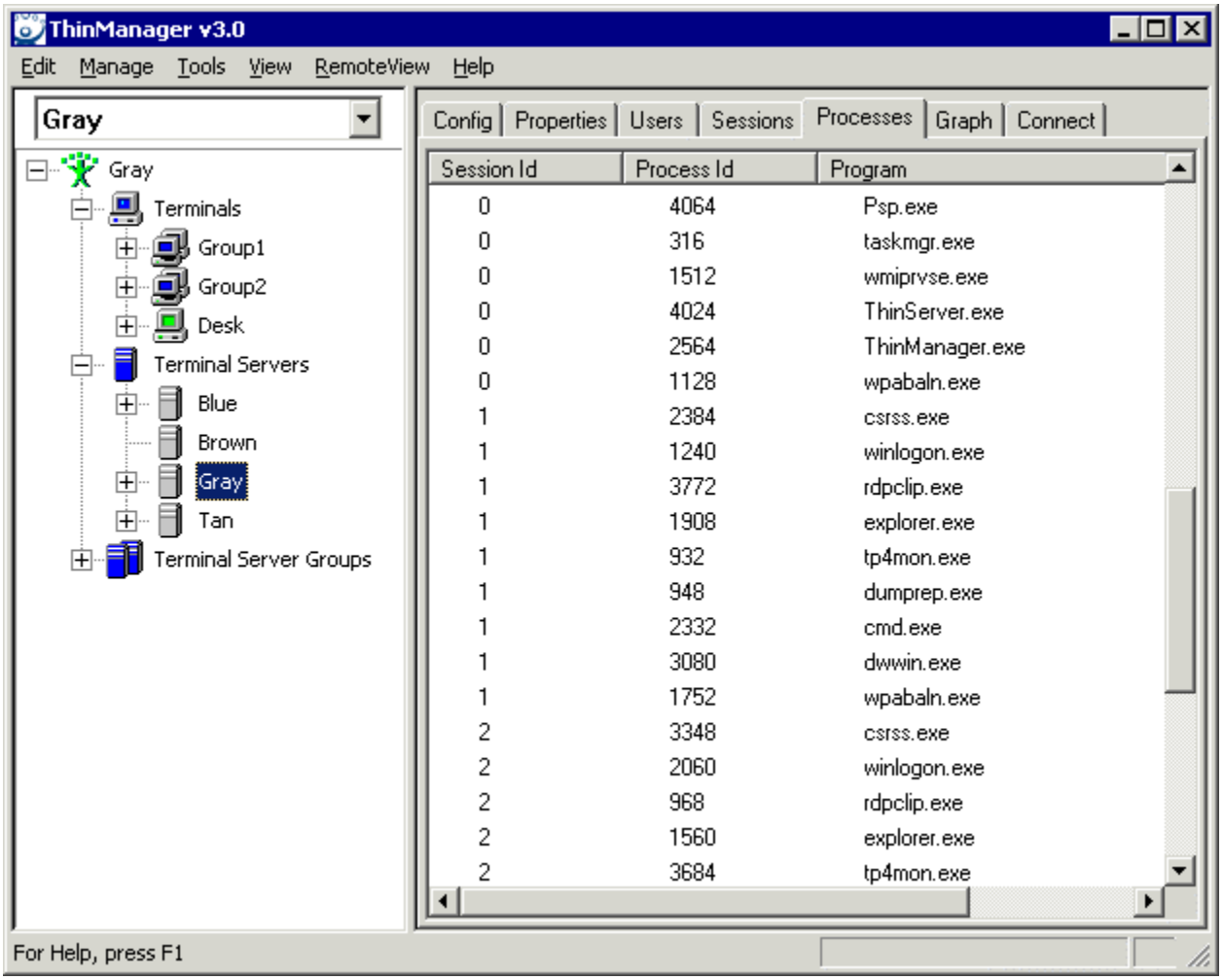
Highlight the terminal server under a terminal and the **User** tab will show the users logged into the terminal server from that terminal.



Session Tab - Terminal Server

Highlight the terminal server in the Terminal Servers branch and the **Sessions** tab will show the sessions running on the terminal server.

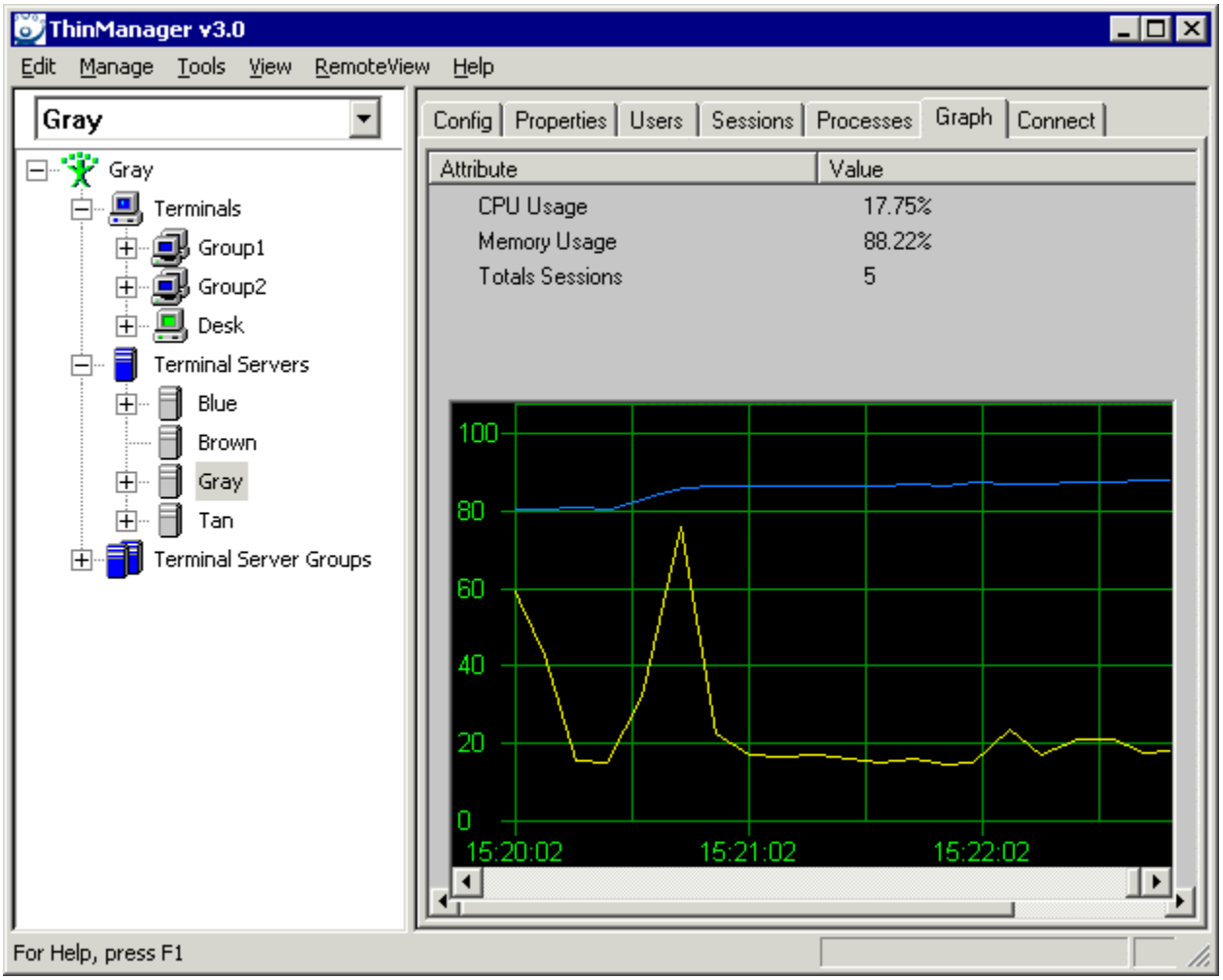
Highlight the terminal server under a terminal and the **Sessions** tab will show the sessions associated with that terminal on that terminal server.



Process Tab - Terminal Server

Highlight the terminal server and the **Process** tab will show the processes on that terminal server.

Highlight the terminal server under a terminal and the **Process** tab will show the processes of the user logged into the terminal server from that terminal.



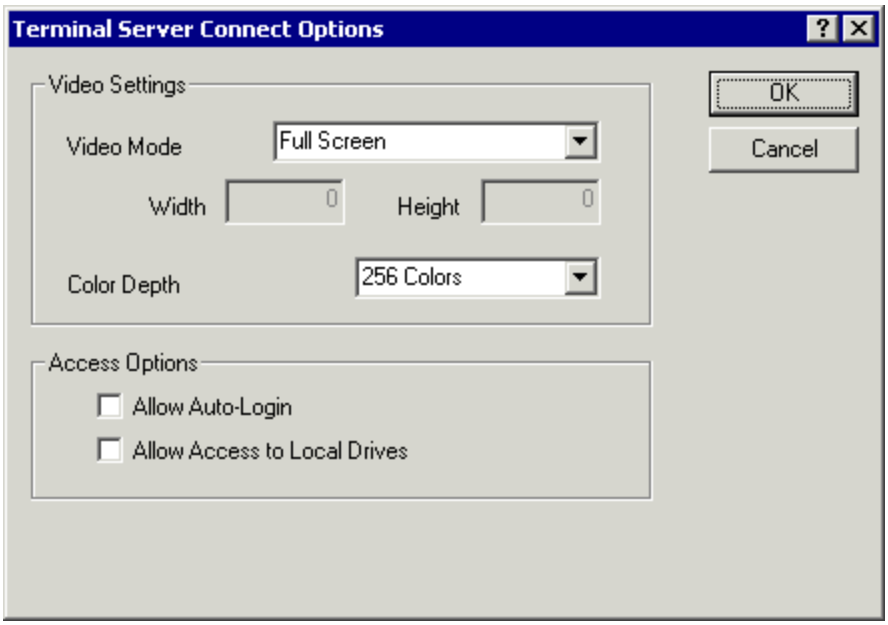
Terminal Server Tabs – Graph

The **Graph** tab will show the memory usage and CPU usage of the selected Terminal Server. The amount of time that the historical data is stored for each terminal server is configurable on the **Historical Logging** page of the **ThinManager Server Configuration wizard**. See Historical Logging for details.

Remote Connection

The Connect tab allows ThinManager to connect to a terminal server and open a session that is displayed within the Detail pane of ThinManager.

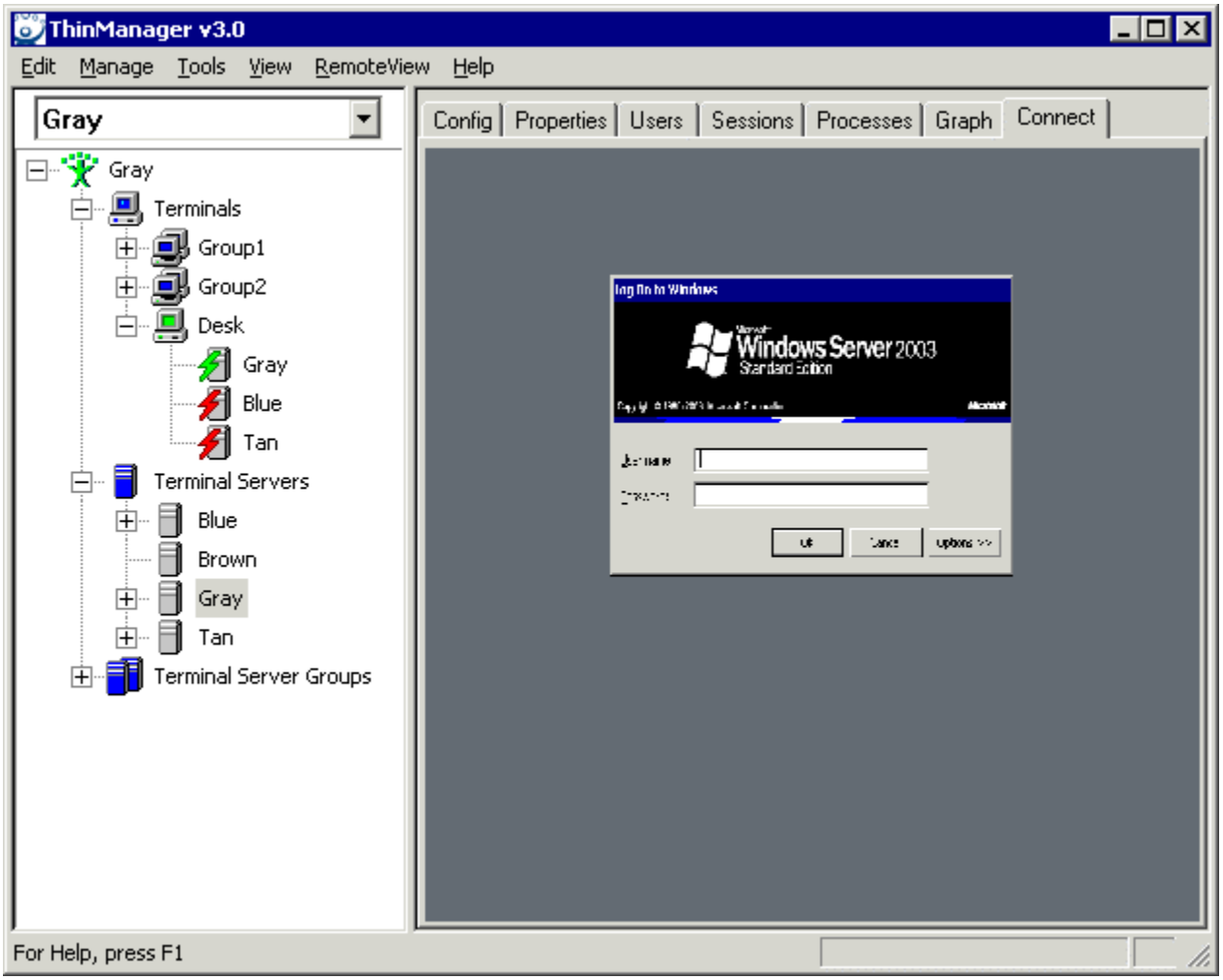
The session is configured in the **Remote Control Options** window launched by selecting ***RemoteView> Connect Options*** from the menu.



Connect Options Window

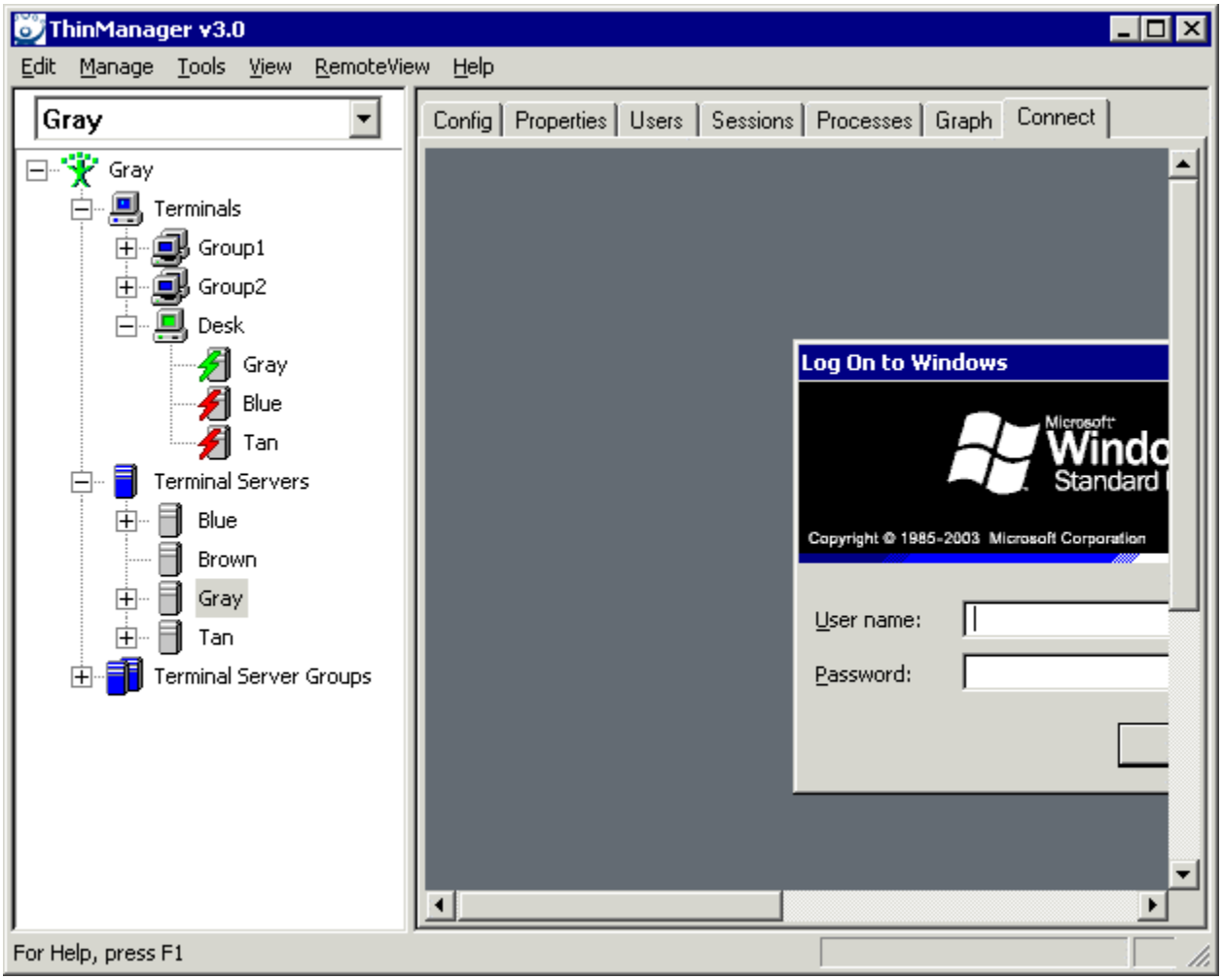
The settings include:

- ***Video Mode*** – This allows the connection to be displayed at a specific resolution or as full screen.
- ***Width*** – Allows the connection to be displayed at a specific width if the ***Video Mode*** is set to **Custom**.
- **Height** - Allows the connection to be displayed at a specific height if the ***Video Mode*** is set to **Custom**.
- **Color Depth** - This allows the connection to be displayed at a specific color depth. Windows 2003 is required for high-color.
- **Allow Auto-Login** – This checkbox, if selected, allows the connection to login without prompting when checked. The user name and password that were entered when creating this terminal server in the Terminal Server List will be used for the logon information.
- **Allow Access to Local Drives** – This checkbox, if selected, allows the user to access the hard drive on the remote computer from the remote connection.



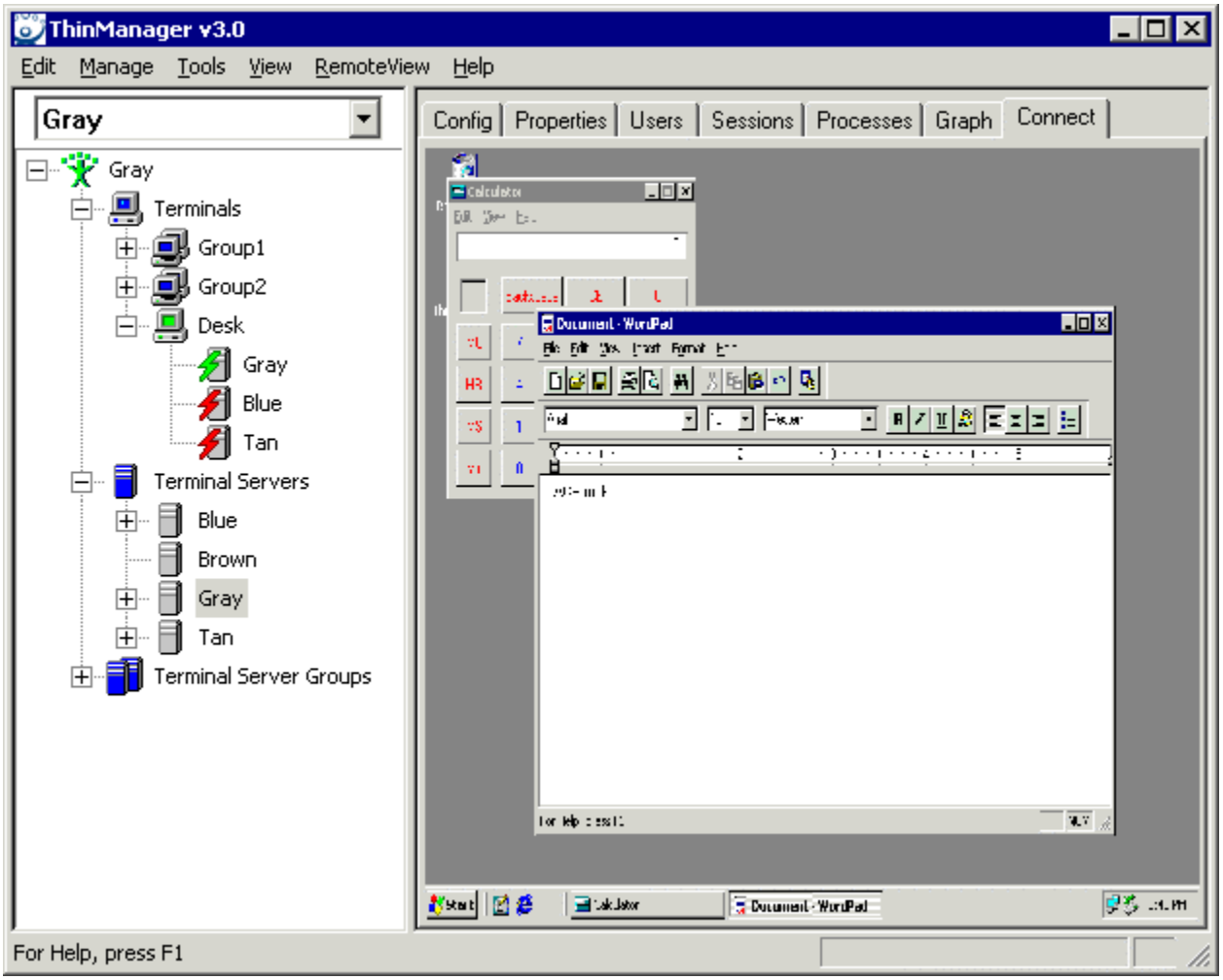
Remote Connect - Scaled to Window

The connection can be configured to fit within the ThinManager Detail pane by selecting ***RemoteView> Scaled to Window*** in the menu.



Remote Connect - Not Scaled to Window

The connection can be shown life-sized within the ThinManager Detail pane by un-selecting ***RemoteView> Scaled to Window*** in the menu.



Remote Connection - Terminal Server Desktop

Once logged in, the Detail pane will display a terminal server session on the Connect tab in the Details Pane.

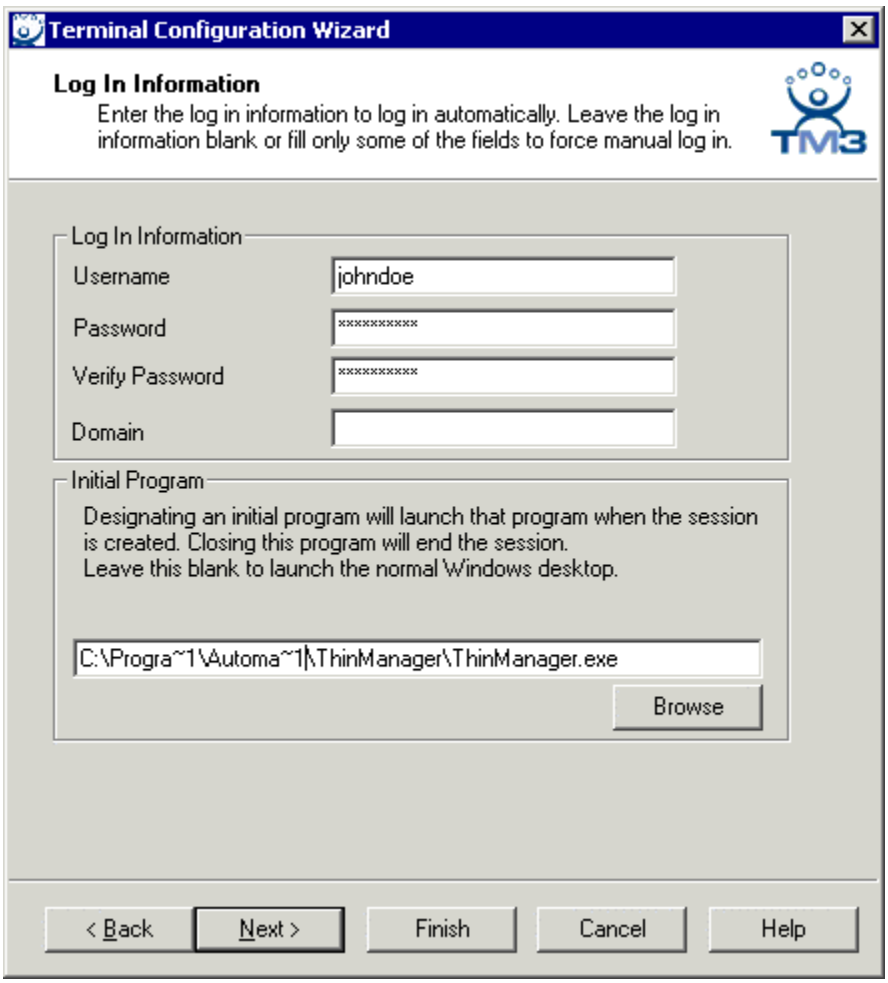
This session can be switched to full-screen by selecting ***RemoteView> Go FullScreen*** in the menu. This changes the appearance from running from within a window to running as a desktop.

Remote Session Tool Tab

The full screen session will have a tool tab at the top of the screen with controls that allow the window to be switched back to the window or to close the connection.

Initial Program

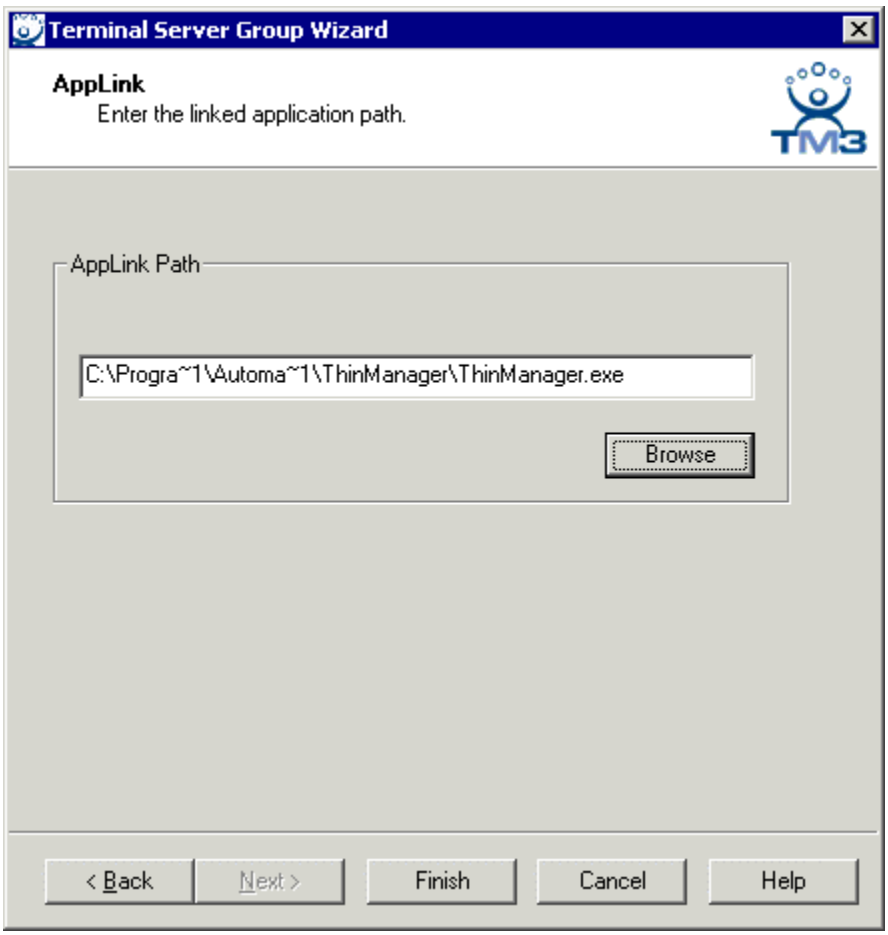
The ***Initial Program*** field on the Login Information page loads a program instead of the desktop in the terminal session.



Initial Program

Normally a session loads **`explorer.exe`** when it starts, launching the desktop. Other programs can be launched from within this shell.

If a program is set as the initial program, it is the only program that will launch. This provides a level of security and control because that program is the only program that will run in that session. If the Initial Program is closed on the terminal, the session on the Terminal Server will close and the ThinManager Ready Thin Client will reconnect to the Terminal Server and re-launch the Initial Program. This effectively makes the Initial Program the only program.



Terminal Server Group Wizard – AppLink Page

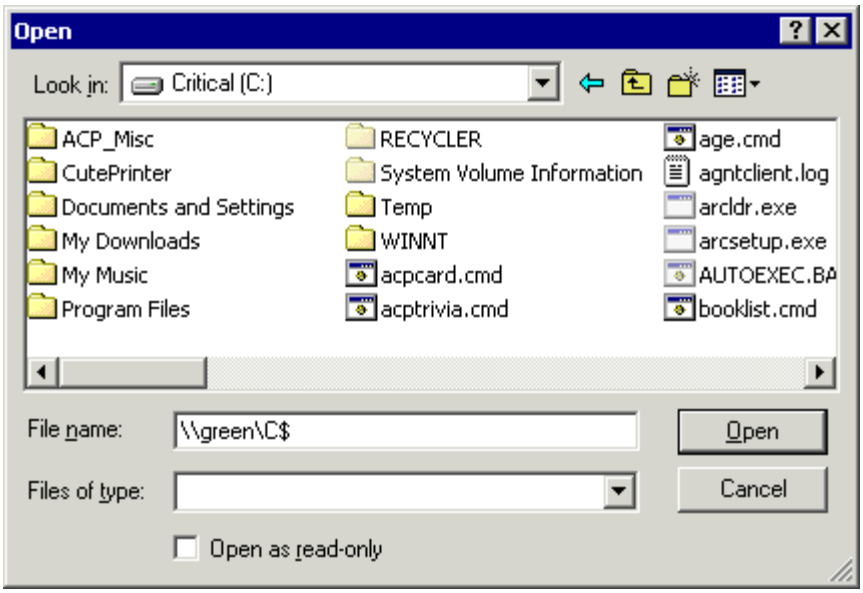
In Terminal Server Groups using the AppLink option, this Initial Program functionality is applied to each terminal server. Each group will have a single program that will launch. Closing it will kill the session and force a reconnect with the initial program running again.

Note: When using the Initial Program with failover, the path must be identical on all terminal servers. If they have different paths, use a batch file in a consistent location to launch the application

Note: If the user launches **`explorer.exe`**, the initial program can be closed and other program run. The Key Block module can help close this loophole by preventing launching Task Manager with the ***CTL+ALT+DEL*** keys or launching the Start Menu with the Run command with ***CTL+ESC***.

Browse Button

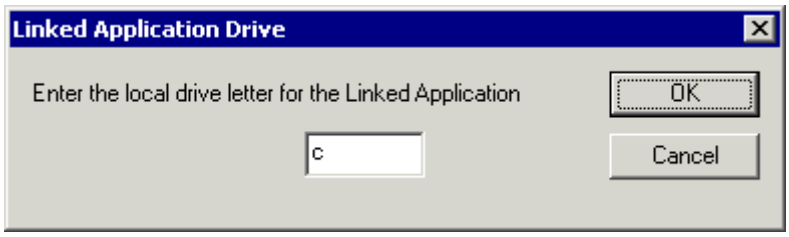
A **Browse** button is provided with Initial Program to make selecting a program easier.



Browse Window

Browse works fine on the local machine. If you are configuring a connection to another computer other than the one you are on, you will browse across the network. That requires entering the network path to open the remote hard drive to find the desired program.

Since an Initial Program path with the complete network address isn't needed on the client, if you are using a mapped network drive, ThinManager launches a popup window that asks for the local drive letter for that initial program or linked application.



Linked Application/ Initial Program Drive Window

Failover

Server crashes of any kind in any network or system can have devastating effects on productivity and data management. In the distributed computing world users may still be able to work on local applications but lose access to data. In a terminal server installation all the terminals rely on the terminal server for processing power. Failure of the terminal server leads to the failure of all the thin clients.

ACP ThinManager (version 2.3 and later) has a failover capability built in that allows terminals to connect to a secondary terminal server if the terminal server that they are logged into fails. This will lessen the effect of server crashes on the terminal server network. The terminals can detect the server crash, drop the connection to it, and connect to a secondary server in seconds.

ACP uses specific terms to cover different topics that are concerned with keeping data viable during computer failure.

Failover is the ability of a ThinManager Ready thin client to detect the failure of its terminal server and its ability to connect to a backup terminal server. This will lessen the effect of server failures on the terminal server network. The terminals can detect the server crash, drop the connection to it, and connect to a secondary server in seconds.

Instant Failover is the ability of ThinManager Ready thin clients to connect and login to two terminal servers simultaneously. This allows applications to be pre-loaded so that a failure to one terminal server causes minimal impact because the thin client will quickly switch to an existing session instead of spending a minute or two to load its application.

Redundancy is used to designate two licensed ThinManager Servers that are configured so that a ThinManager Ready thin client can connect to a backup ThinManager Server in case the primary ThinManager Server has failed.

Failover refers to backup Terminal Servers

Redundancy refers to backup ThinManager Servers.

To initiate failover protection, five steps are needed.

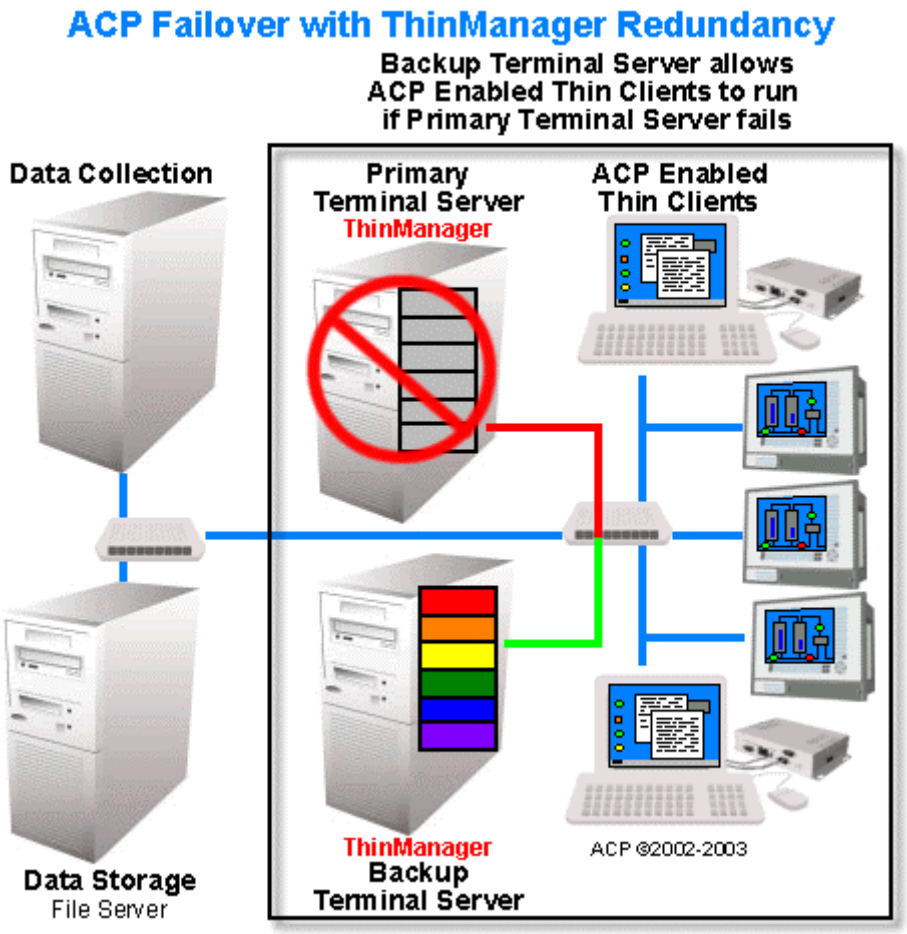
Multiple Terminal Servers: Multiple terminal servers are needed, each with the same Client Communication Protocol.

Sufficient Memory: The terminal servers need sufficient memory capacity on the servers to accommodate the addition of terminals during failover. If you do not plan for the extra capacity, the servers can be taxed with the addition of the new terminals.

User Permissions: Each terminal server needs the appropriate Windows 2000/2003 user profiles and permissions. The terminals will not log into a secondary session unless it has a user profile on that server.

Applications: Each terminal server needs to have the same applications installed to allow the terminal to run the programs on any terminal server.

Failover Configuration In ThinManager: Failover is configured in the Terminal Configuration Wizard. If one is using the individual terminal server option, one lists multiple terminal servers on the wizard. If one is using Terminal Server Groups, the terminal server group is configured to contain multiple terminal servers.

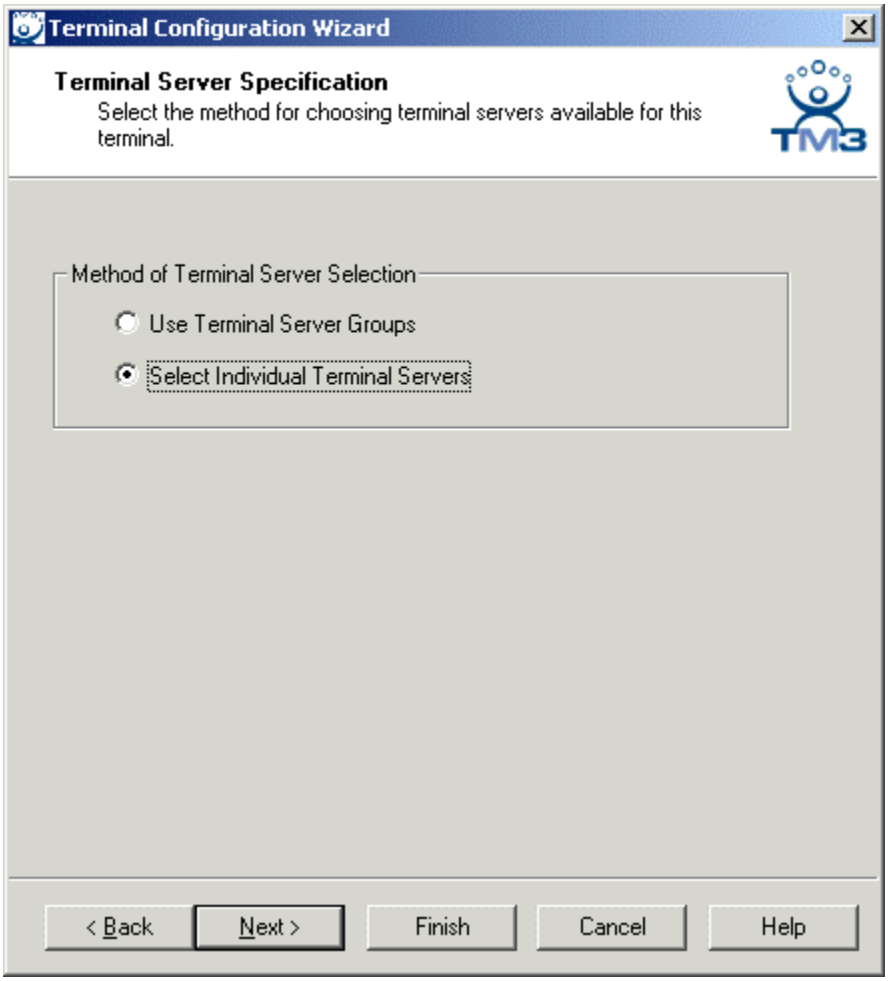


ACP Thin Client Network with Failover

ACP ThinManager allows the use of several terminal servers, defined as the primary and as backups. If the primary terminal server fails, the ThinManager Ready thin client will detect the server failure and will initiate a new session on a backup server. This allows the operator to continue their work and minimize the effect of a server failure.

Configuring Failover

A ThinManager Ready thin client can connect to individual terminal servers or groups of terminal servers. This is determined by the ***Method of Terminal Server Selection*** radio buttons in the Terminal Configuration Wizard.

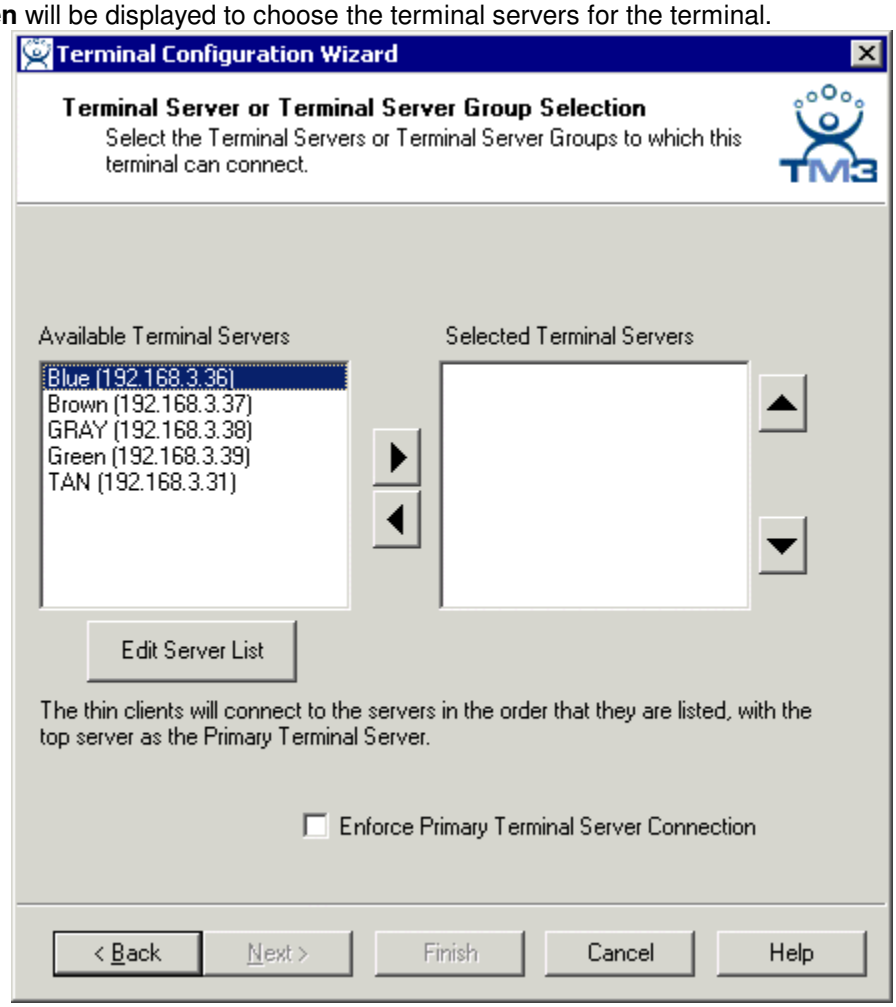


Terminal Server Specification Page

The configuration of failover is different for both methods of terminal server selection.

Failover Using Individual Terminal Servers

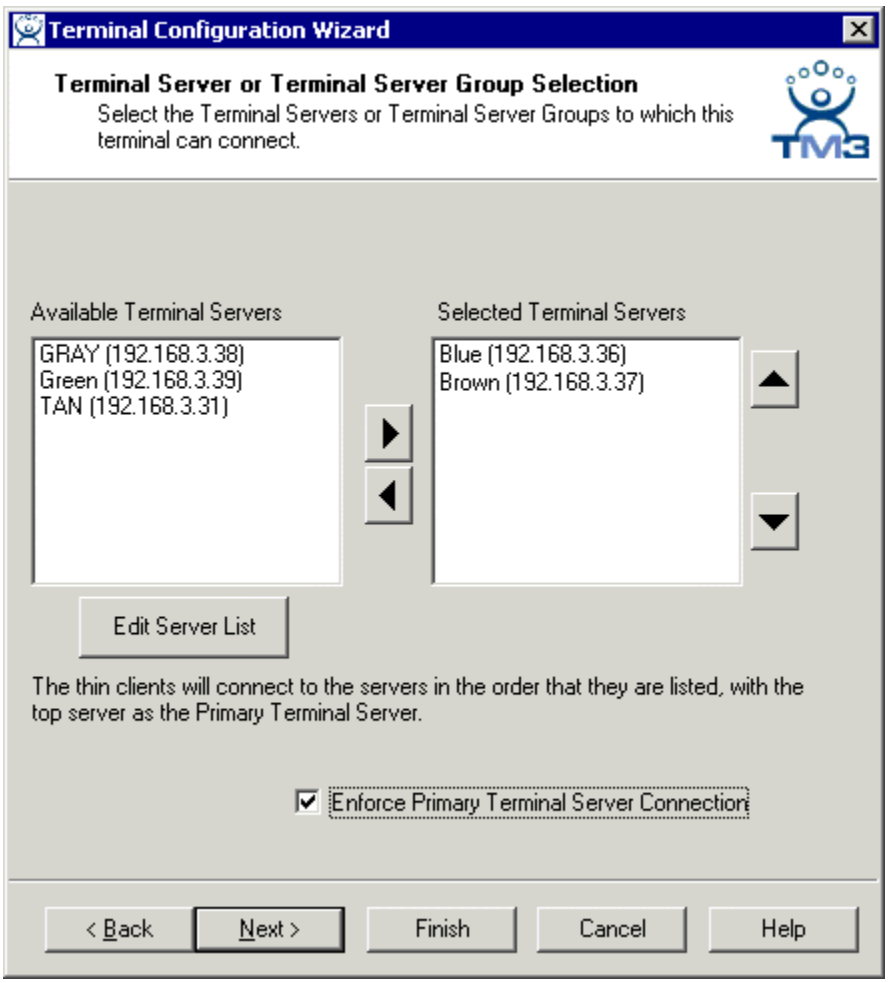
If the ***Select Individual Terminal Servers*** radio button is selected during terminal configuration, a **Terminal Selection Screen** will be displayed to choose the terminal servers for the terminal.



Terminal Server Selection Page

The available terminal servers will be listed in the left-hand **Available Terminal Server** list.

Select all the terminal servers for failover by highlighting them and selecting the right arrow.



Terminal Server Selection Page

Each terminal server in the **Selected Terminal Server** list is assigned to the ThinManager Ready thin client. The top terminal server in the list is considered the Primary Terminal Server and will be the terminal server that the ThinManager Ready thin client will connect to first.

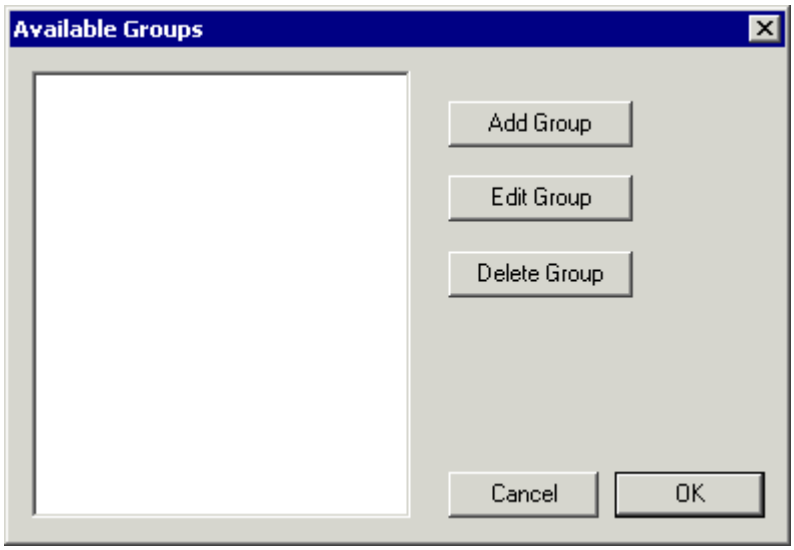
Upon boot, each terminal will try to connect to the first server in the list as the primary server. If it is not available, it will try the next on the list as a secondary server. If it is unavailable, it will try the next, and the next, until a connection is made.

If the terminal server that the terminal is connected to fails, the ThinManager Ready thin client will detect the failure, disconnect, and try the next terminal server in the list, providing failover.

Failover Using Terminal Server Groups

Terminal Server Groups provide the terminal with a list of terminal servers. In a **standard terminal server group**, the terminal will use the first listed terminal server as the primary terminal server, the second listed terminal server as the secondary terminal server, and the third listed terminal server as the tertiary terminal server, etc, to provide the failover configuration.

Launch the Terminal Server Group List Wizard by selecting ***Manage*** > ***Server List Management >Terminal Server Group List*** from the ThinManager menu or by right clicking on the **Terminal Server Group** branch.



Terminal Server Group List Wizard

The **Available Groups** window of the **Terminal Server Group List Wizard** will show any Terminal Server Groups that are defined, or will be blank if none have been defined.

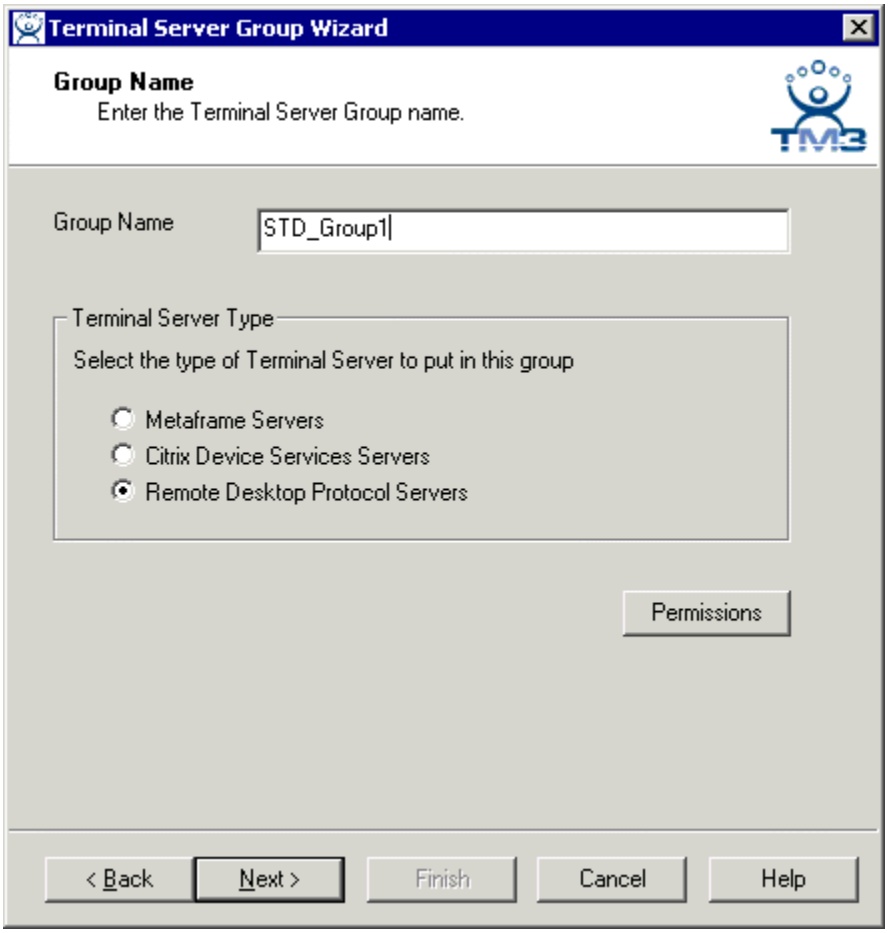
Add Group will allow a new Terminal Server Group to be defined.

Edit Group will open the properties for a highlighted Terminal Server Group in the list.

Delete Group will remove a highlighted Terminal Server Group from the list.

Cancel closes the wizard without action.

OK closes the wizard after accepting changes.

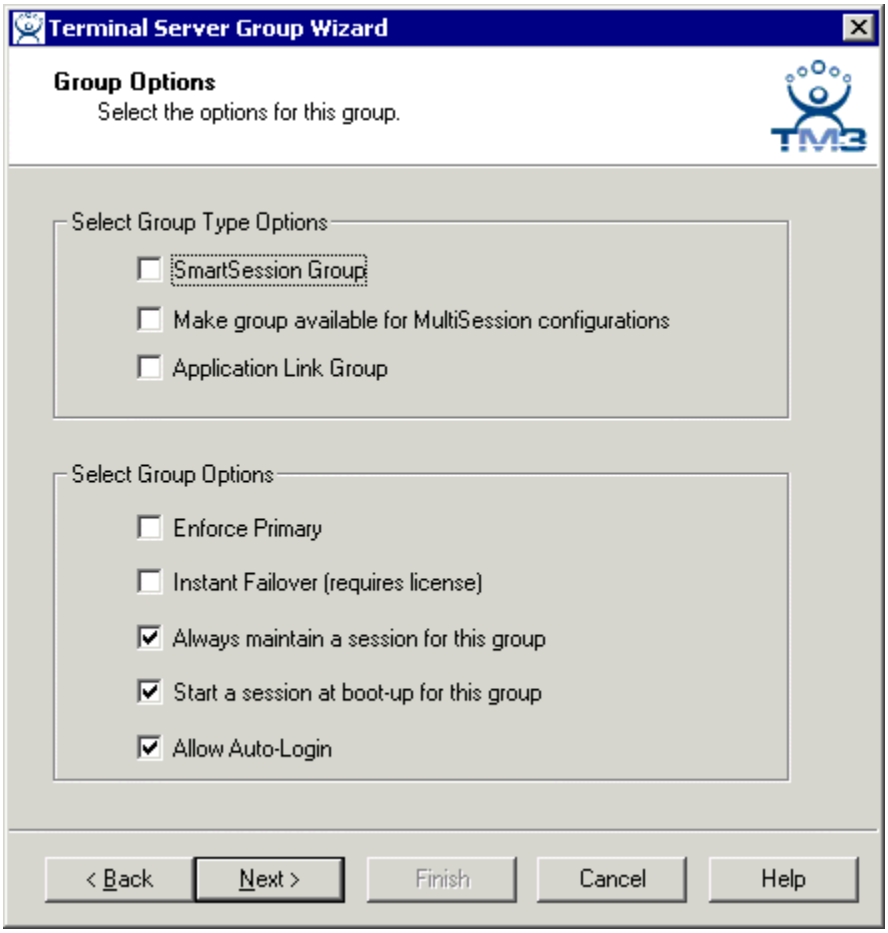


Group Name Page

Enter the desired name of the group in the ***Group Name*** field.

Each group can contain members of only one type of Client Communication Protocol. These were configured during the Terminal Server Configuration.

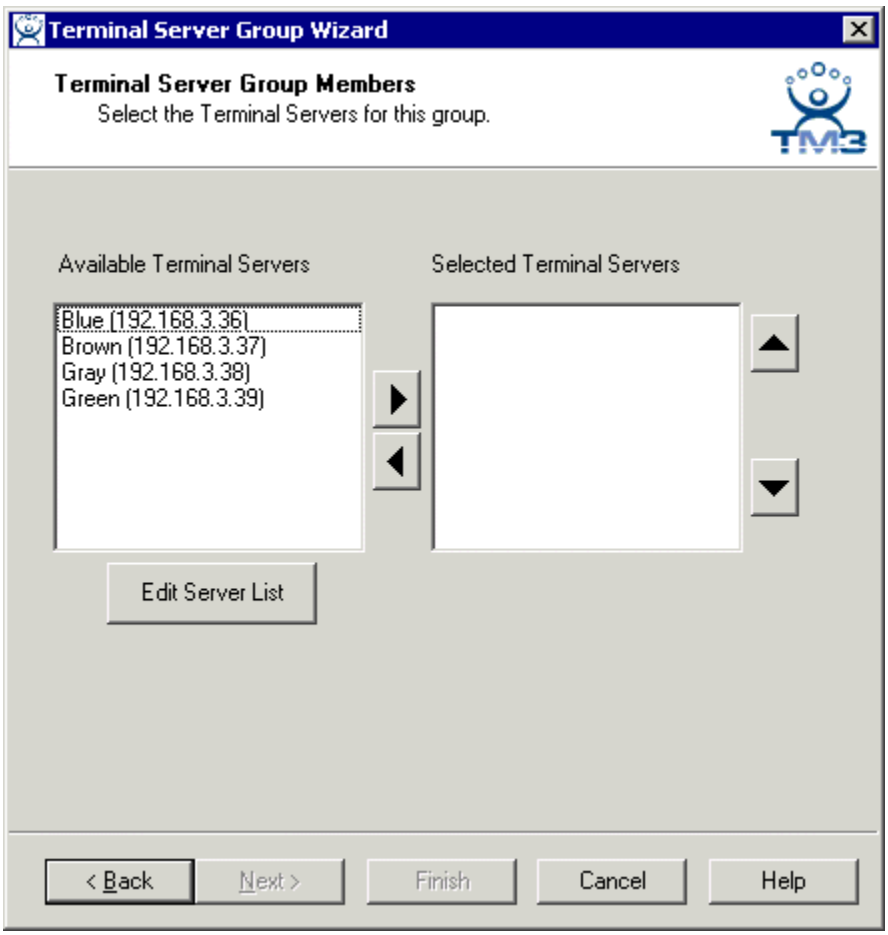
Select ***Next*** to continue.



Group Options

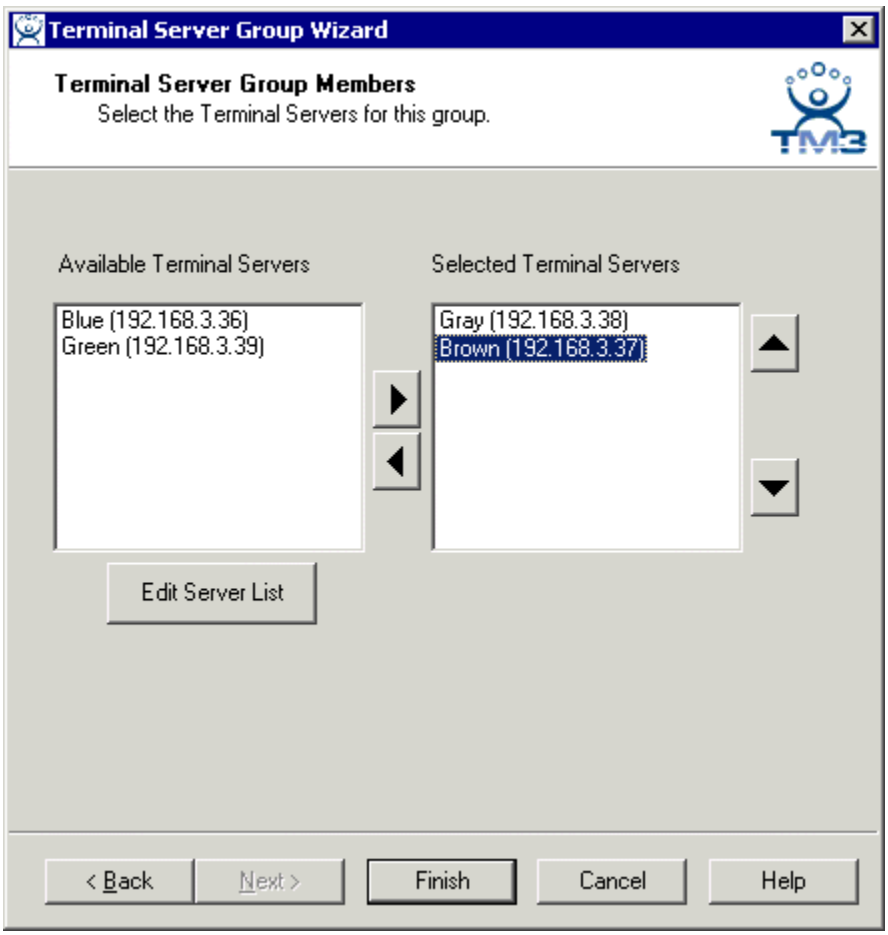
The **Group Options** allow the configuration of Terminal Server Group parameters. See Terminal Server Group List for details.

Select the ***Next*** button to add the Terminal Servers to the terminal server group.



Terminal Server Group Members

Highlight the desired terminal servers in the ***Available Terminal Servers*** list and use the arrow button to move them to the ***Selected Terminal Server*** list.



Selected Terminal Servers

In a standard Terminal Server Group, a terminal will connect to the terminal servers in the order that they are listed in the Selected Terminal Servers list.

To change the connection order of the terminal servers, highlight a terminal server and use the ***Up*** or ***Down*** arrow button to change the order.

Select the ***Finish*** button when the desired order is achieved.

Enforce Primary

Enforce Primary is a method where the terminal will reconnect to a lost primary terminal server if the primary terminal server reconnects to the network.

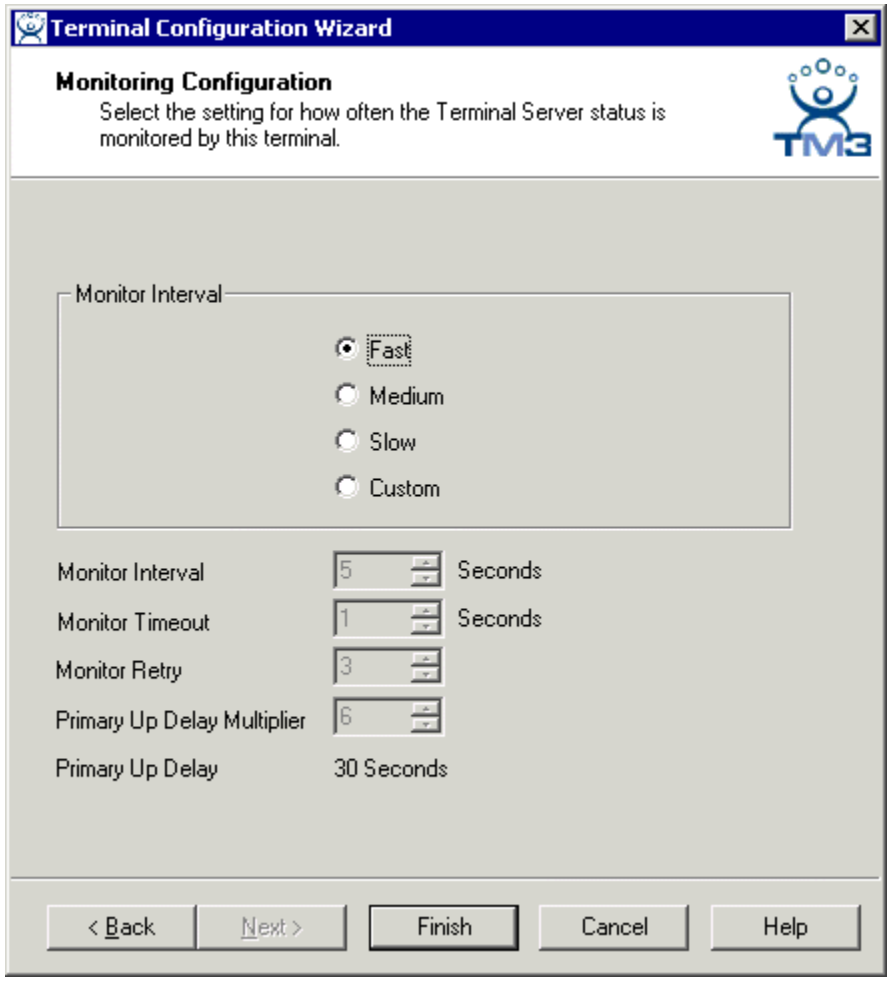
If the ***Enforce Primary Terminal Server Connection*** checkbox is selected on the **Terminal Server Selection** page of the **Terminal Configuration Wizard** or the **Group Options** page of the **Terminal Server Group Wizard**, the ThinManager Ready thin client will continue to monitor the status of the first terminal server in the **Available Terminal Server** list. When it becomes available again, the terminal will drop its connection to its backup terminal server, and will reconnect to the primary terminal server.

Monitoring Connection

The terminal has a program that monitors the terminal server on a regular basis. If the terminal server fails to respond, the terminal will disconnect from the terminal server and will try to connect to another assigned

terminal server. This action provides terminal server failover and insures that the terminal can connect to a backup and keep operating during a terminal server failure.

The frequency of the monitoring program is controlled on the **Monitoring Connection** page of the **Terminal Configuration Wizard.**



Monitoring Connection Page

Use the ***Monitor Interval*** radio buttons to use a default frequency or select ***Custom*** and choose a setting of your own.

Monitor Interval is the interval that the monitor checks occur.

Monitor Timeout is the time the terminal will wait for a response from the terminal server.

Monitor Retry is the number of times the monitor check will be tried.

Primary Up Delay Multiplier is the number that generates the Primary Up Delay time.

Primary Up Delay is a delay added (usually set to 30 or 60 seconds) to allow a Terminal Server to get fully booted before the terminal will try to login. This time period is equal to the Monitoring Interval times the Primary Up Delay Multiplier.

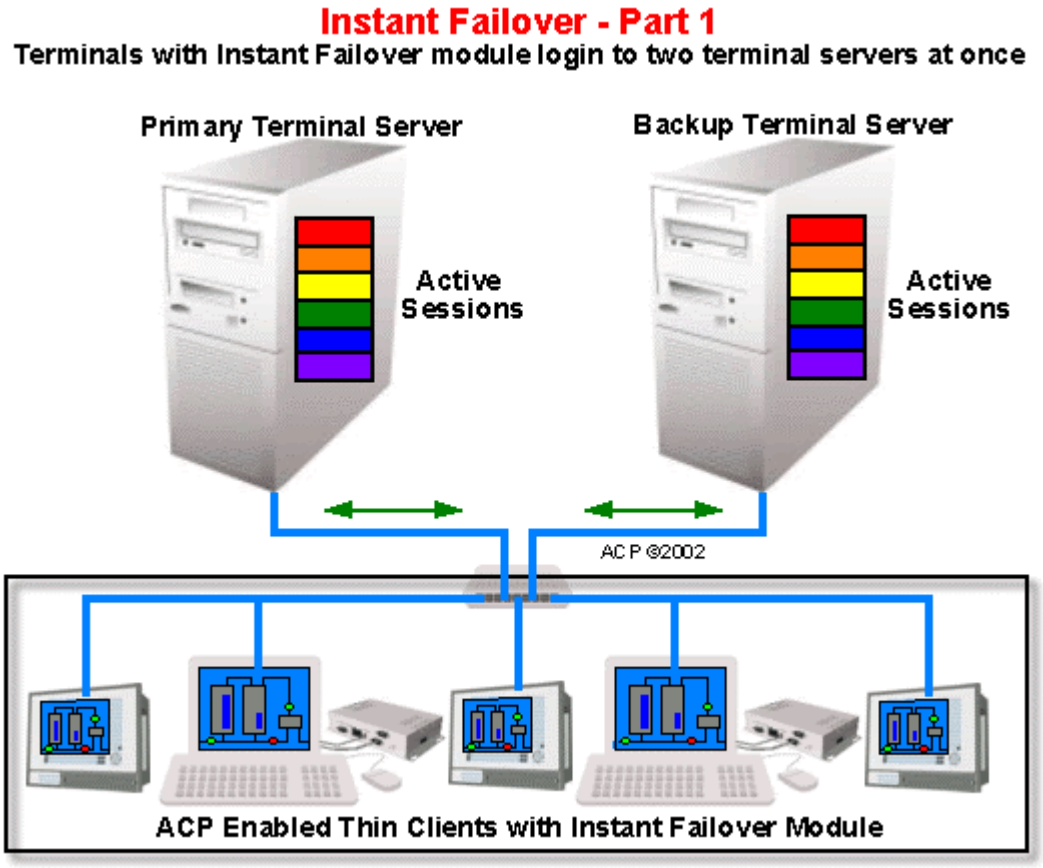
A **Fast** setting of the Monitor Connection will detect Terminal Server failure quickly. However, the faster the setting is, the more sensitive it is and it may drop the Terminal Server when the network is busy but not offline. Setting the Monitoring Connection to a slower setting gives the terminal server more time to respond when it is busy.

Instant Failover

The Instant Failover Module allows a terminal to connect to a session on two terminal servers. Both sessions are active but only one is displayed. If the first terminal server fails, the second session is immediately displayed, eliminating any downtown due to terminal server failure.

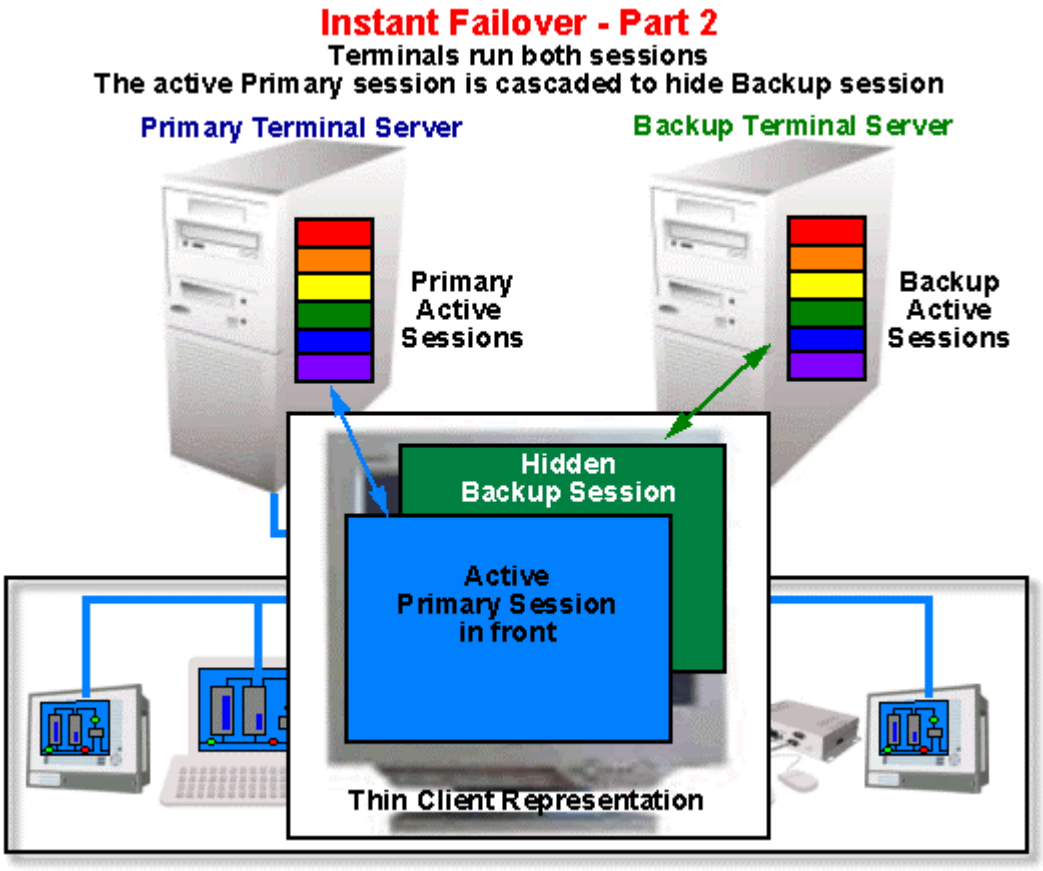
The Instant Failover module is used if the terminal is connecting to individual terminal servers. If Terminal Server Groups are being used, Instant Failover is a Terminal Server Group option. Instant Failover works within a Terminal Server Group, not between Terminal Server Groups.

The Instant Failover function requires an Instant Failover license for each terminal that uses it.



Instant Failover – Part 1

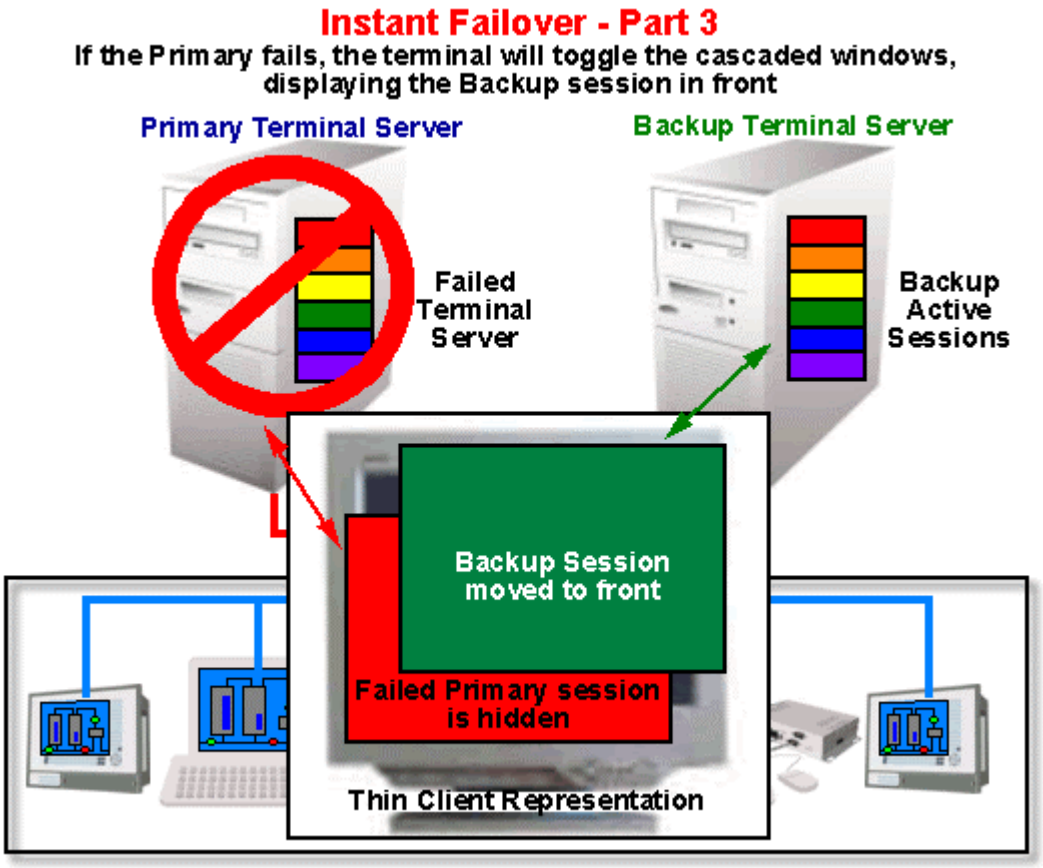
When the ThinManager Ready thin clients with the Instant Failover module boot, they connect to both servers, login, and start sessions.



Instant Failover – Part 2

The ThinManager Ready thin client cascades both sessions, with the primary in front. You cannot see the secondary session as it is hidden in back.

There is an option that allows one to switch between sessions with a hot key. See Instant Failover Hotkeys for details.



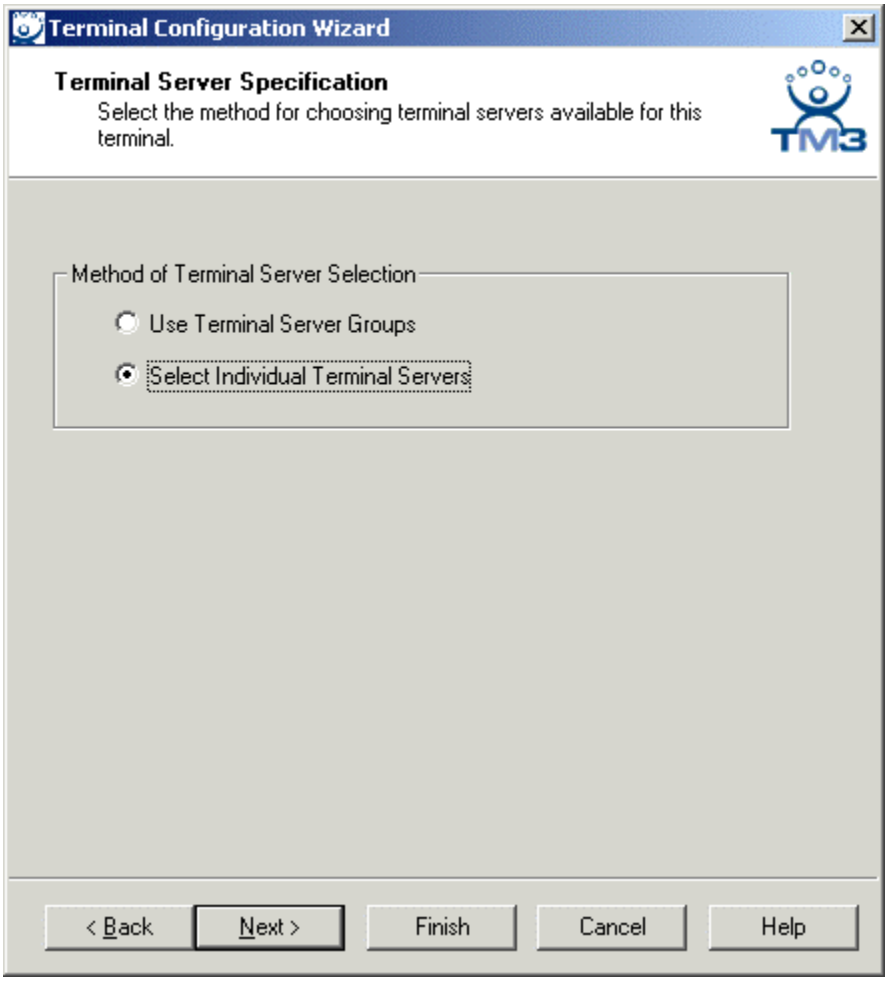
Instant Failover – Part 2

If the primary server fails, the thin client-monitoring program will detect its failure. The thin client will then switch the focus of the window, showing the secondary session. This session is already initialized so the user is able to proceed at once.

If the ***Enforce Primary*** feature on the Monitoring tab is set to ***Yes***, the thin client will switch back to the primary once it is back online.

Setting up Instant Failover

Instant Failover is configured differently if the terminal uses individual terminal servers or groups of terminal servers. This is determined by the ***Method of Terminal Server Selection*** radio buttons in the Terminal Configuration Wizard.



Terminal Server Specification Page

The configuration of failover is different for both methods of terminal server selection.

Instant Failover with Individual Terminal Servers

Setting up instant failover for use with terminals using individual terminal servers requires:

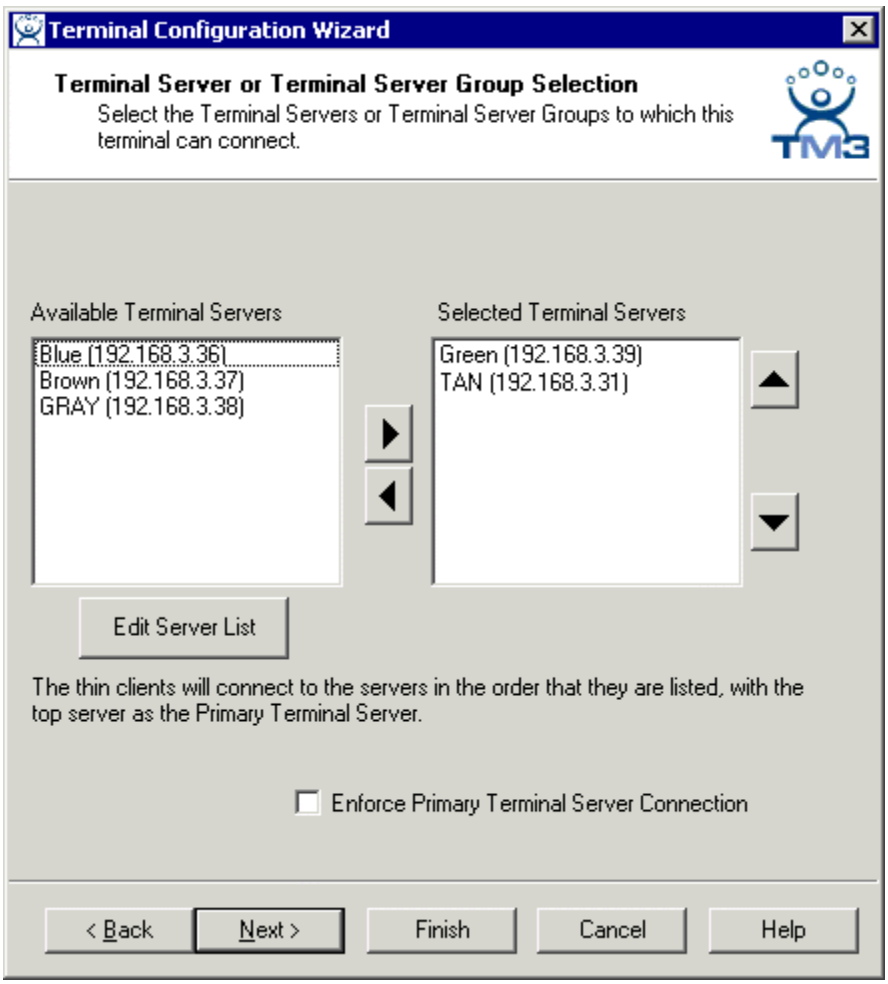
Pointing to two terminal servers.

Adding the Instant Failover Module.

Adding an Instant Failover License.

Open the Terminal Configuration Wizard for your terminal by double-clicking on the terminal icon in the ThinManager Server tree.

Navigate to the **Terminal Server Selection** page by clicking the ***Next*** button.

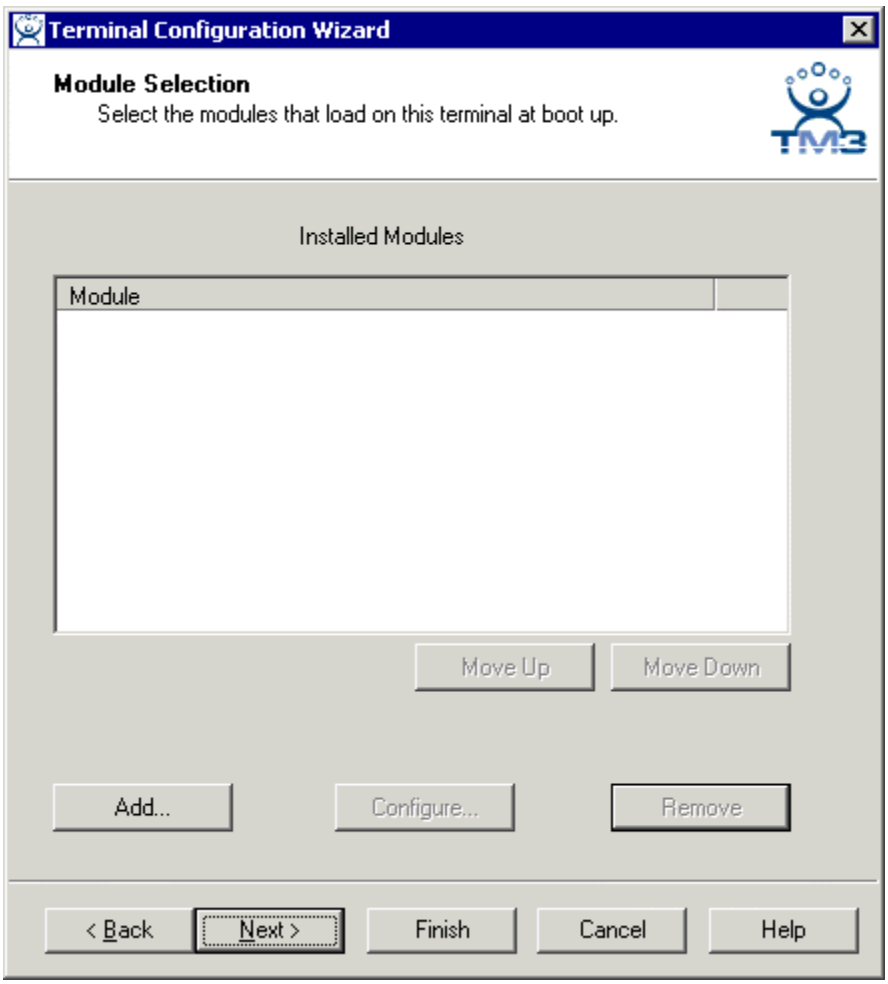


Terminal Server Selection

Select two terminal servers in the ***Available Terminal Server*** list and move them to the ***Selected Terminal Server*** list by using the arrow buttons.

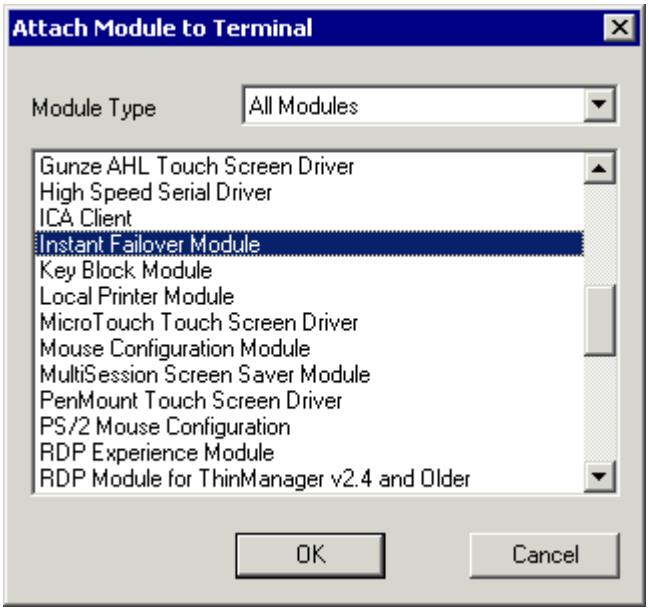
Use the **Enforce Primary Terminal Server Connection** checkbox, if desired. This will keep the focus on the primary terminal server when ever it is functioning.

Navigate to the **Module Selection** page by selecting the ***Next*** button.



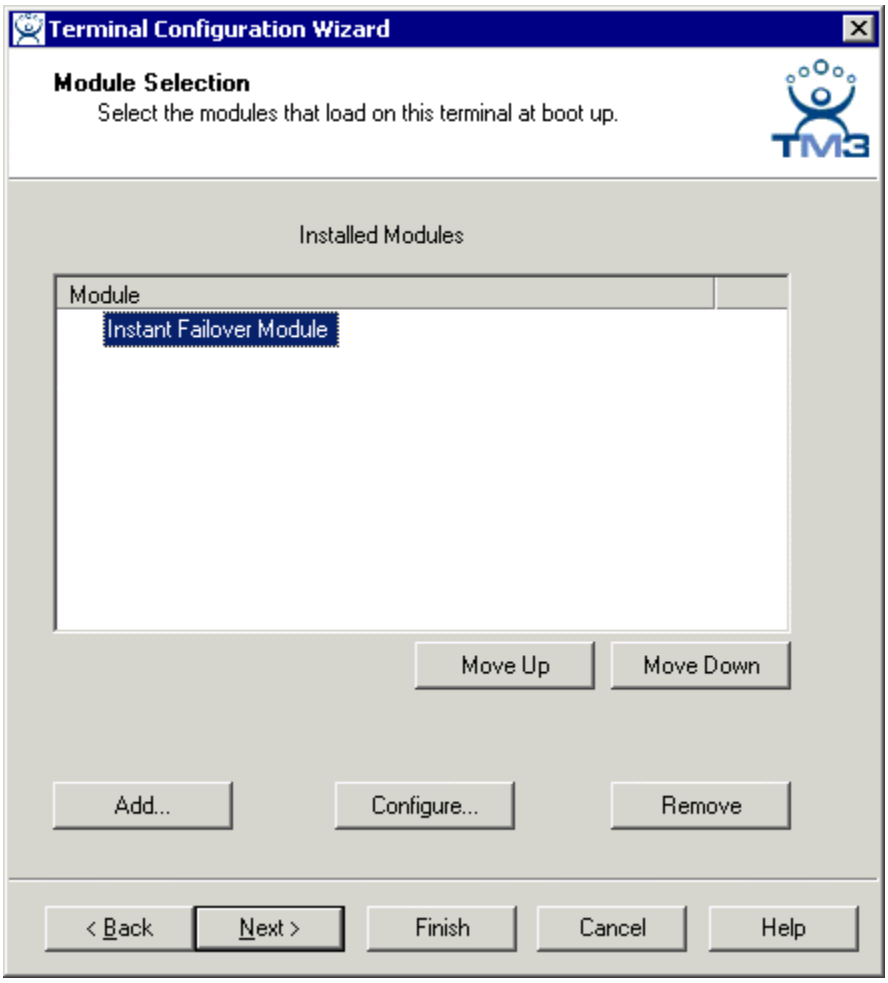
Terminal Configuration Wizard - Module Selection

Select the ***Add*** button to launch the **Attach Module to Terminal** window.



Attach Module to Terminal Window

Highlight the Instant Failover Module in the window and press the ***OK*** button. This will add it to the terminal.



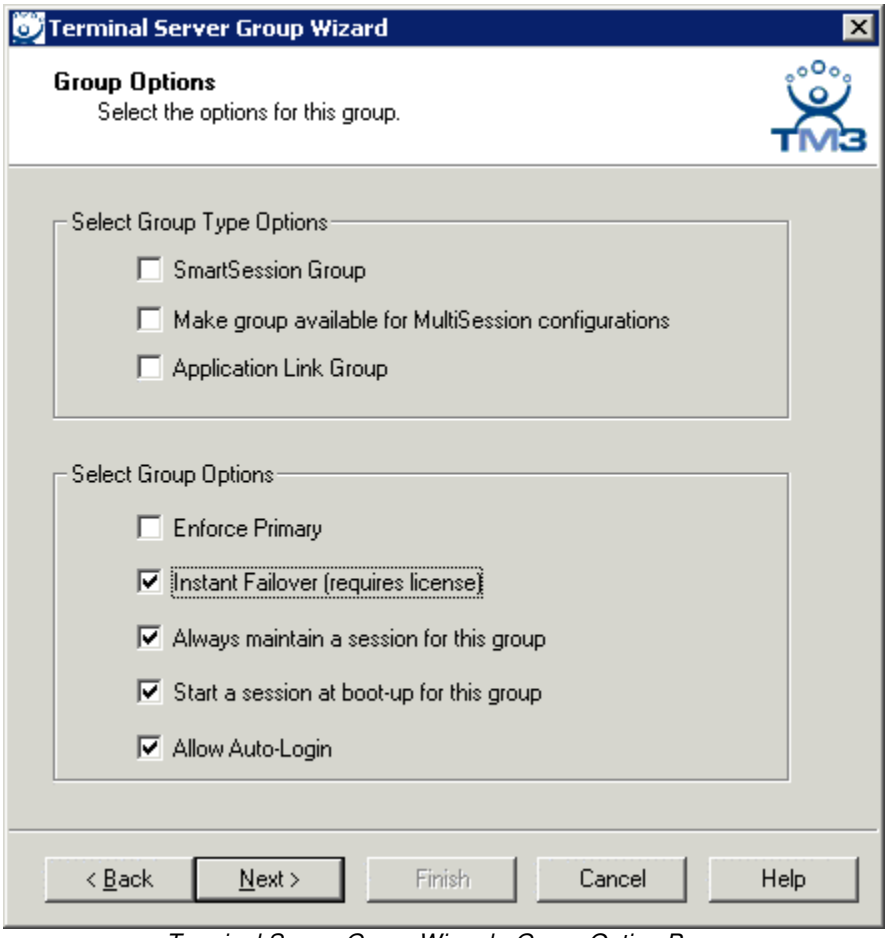
Adding Instant Failover Module

Select the ***Finish*** button to accept the changes.

Instant Failover with Terminal Server Groups

Instant Failover, when using Terminal Server Groups doesn't require the Instant Failover module, but instead uses a configuration in the Terminal Server Group Wizard.

Open the Terminal Server Group by double clicking on it in the ThinManager tree. Use the Next button to navigate to the Group Potions page.

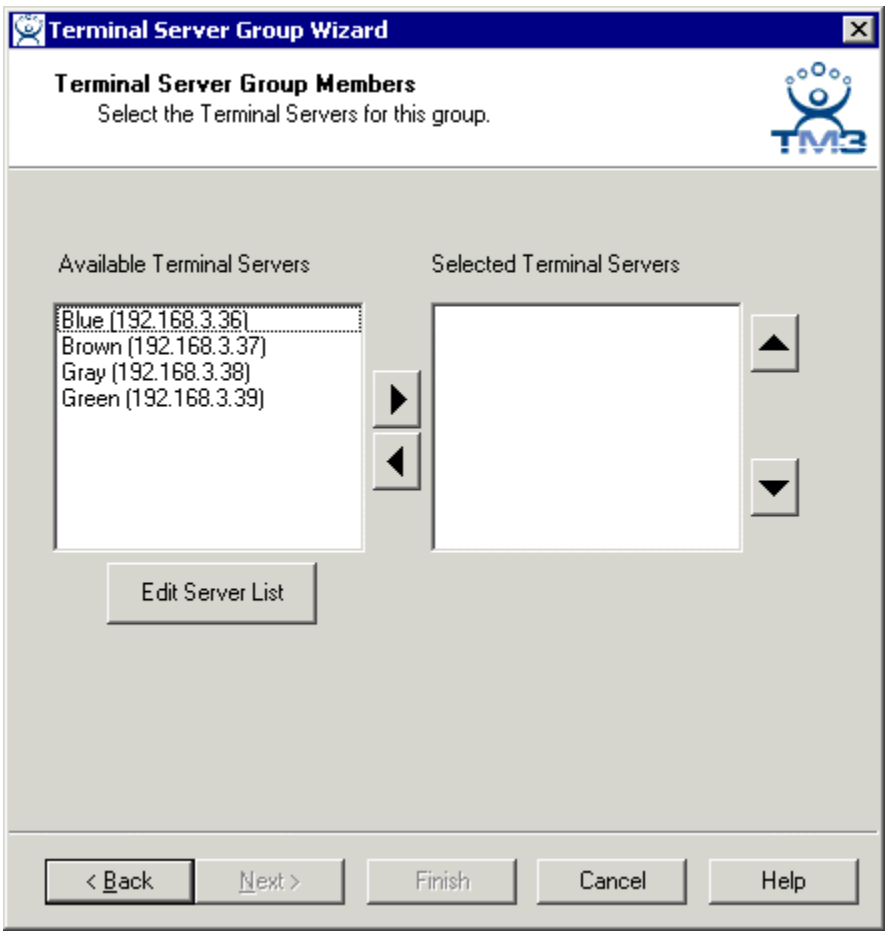


Terminal Server Group Wizard - Group Option Page

The **Group Option** page of the Terminal Server Group Wizard has an ***Instant Failover (requires license)*** checkbox that, if selected, will enable Instant Failover between member terminal servers of the group.

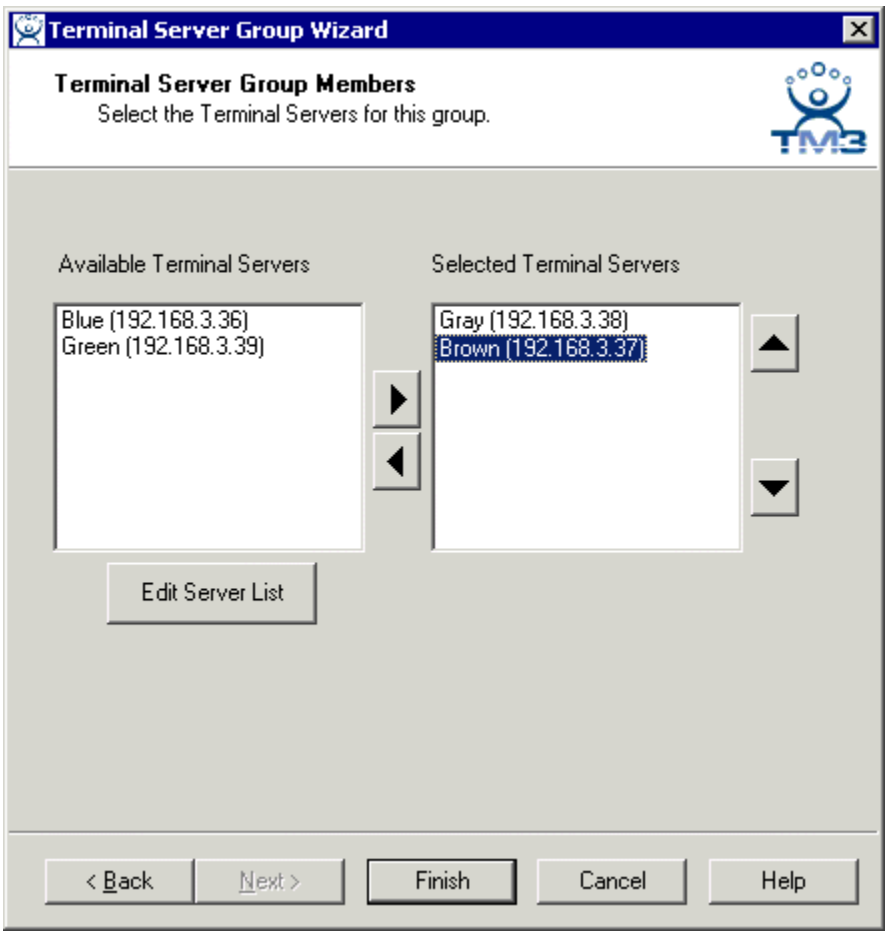
Note: This is Instant Failover between members of the same Terminal Server Group, not between different Terminal Server Groups.

Select the ***Next*** button to continue.



Terminal Server Group Members

Highlight the desired terminal servers in the ***Available Terminal Servers*** list and use the arrow button to move them to the ***Selected Terminal Server*** list.

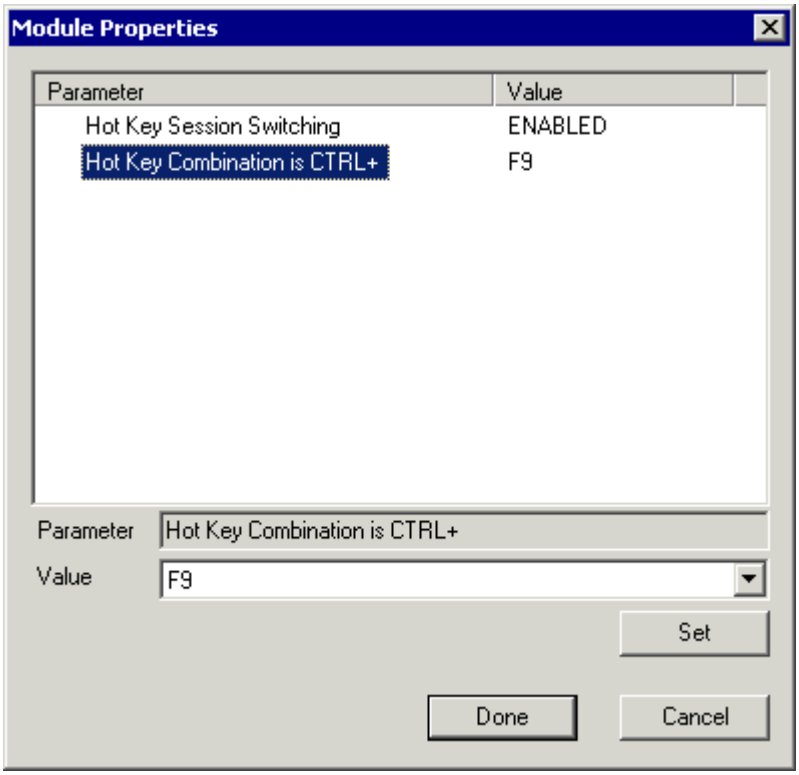


Terminal Server Group Wizard - Terminal Server Group Members

The terminal will start a session on the top two terminal servers in the ***Selected Terminal Server*** list. The secondary session will be hidden behind the primary session unless the primary terminal server fails.

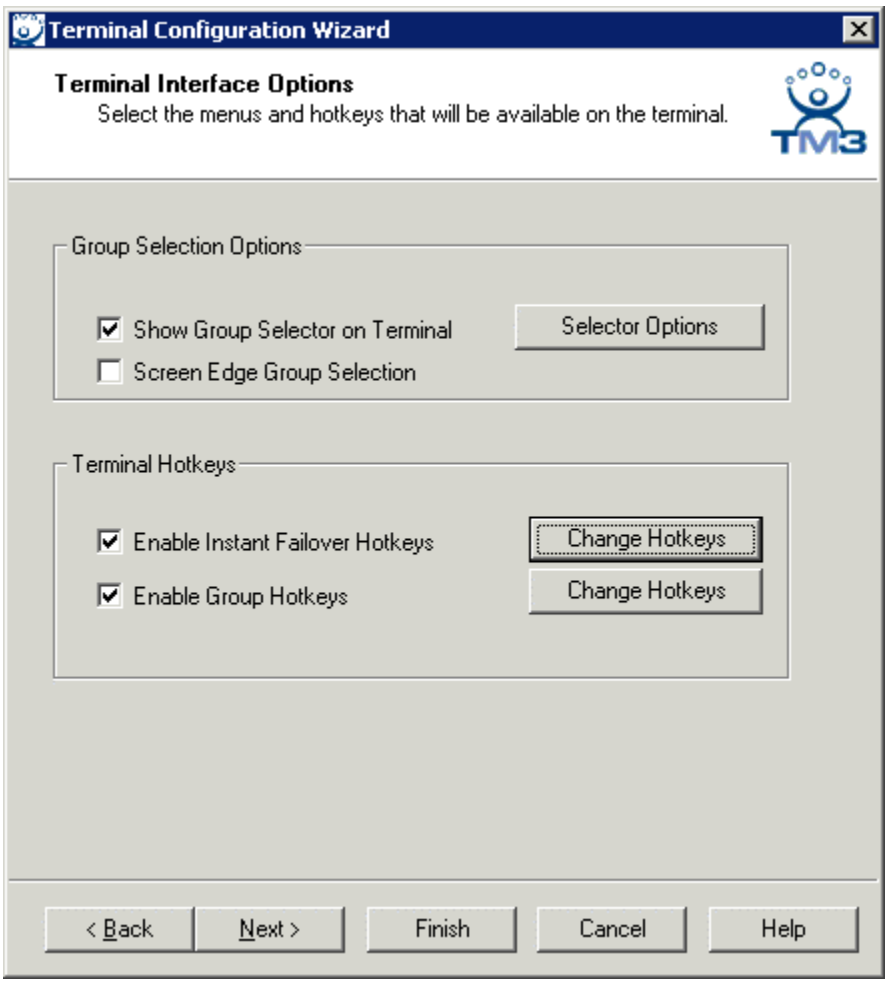
Instant Failover Hotkeys

If using the Instant Failover module, this is configured in the module properties.



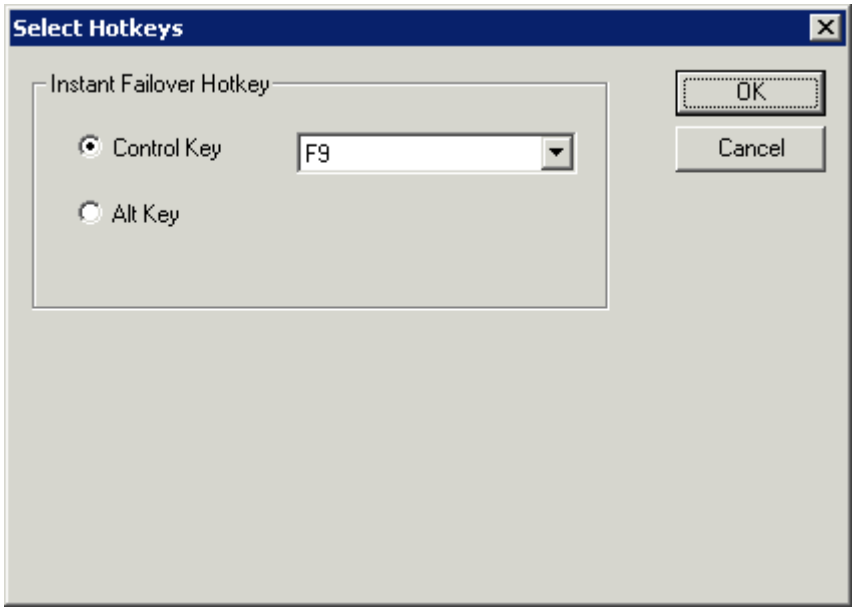
Instant Failover Module Properties

If the ***Hot Key Session Switching*** parameter is set to ***Enabled***, the hot key combination will allow the toggling between sessions. The hot key is defaulted to ***CTRL+F9***, but can be assigned to any function key by selecting the ***Hot Key Combination is CTRL+*** parameter and changing the function key in the ***Value*** field.



Terminal Server Group Options - Instant Failover Hotkey Configuration

If using the Instant Failover option in Terminal Server Groups, the ***Enable Instant Failover Hotkeys*** checkbox on the **Terminal Server Group Options** allows the switching between sessions. The default hotkey is ***CTL+F9*** but can be changed by selecting the ***Change Hotkey*** button.

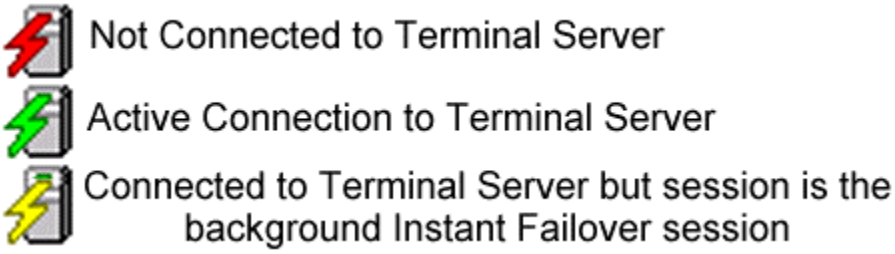


Select Hotkeys Window for Instant Failover

The hotkey combination for switching between Instant Failover sessions can be changed by selecting the ***Alt Key*** radio button or by selecting a different function key from the dropdown. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Instant Failover Tree Icons

Under each Terminal are icons representing the Terminal Servers that they connect to. The lightning bolt color indicated the connection status.

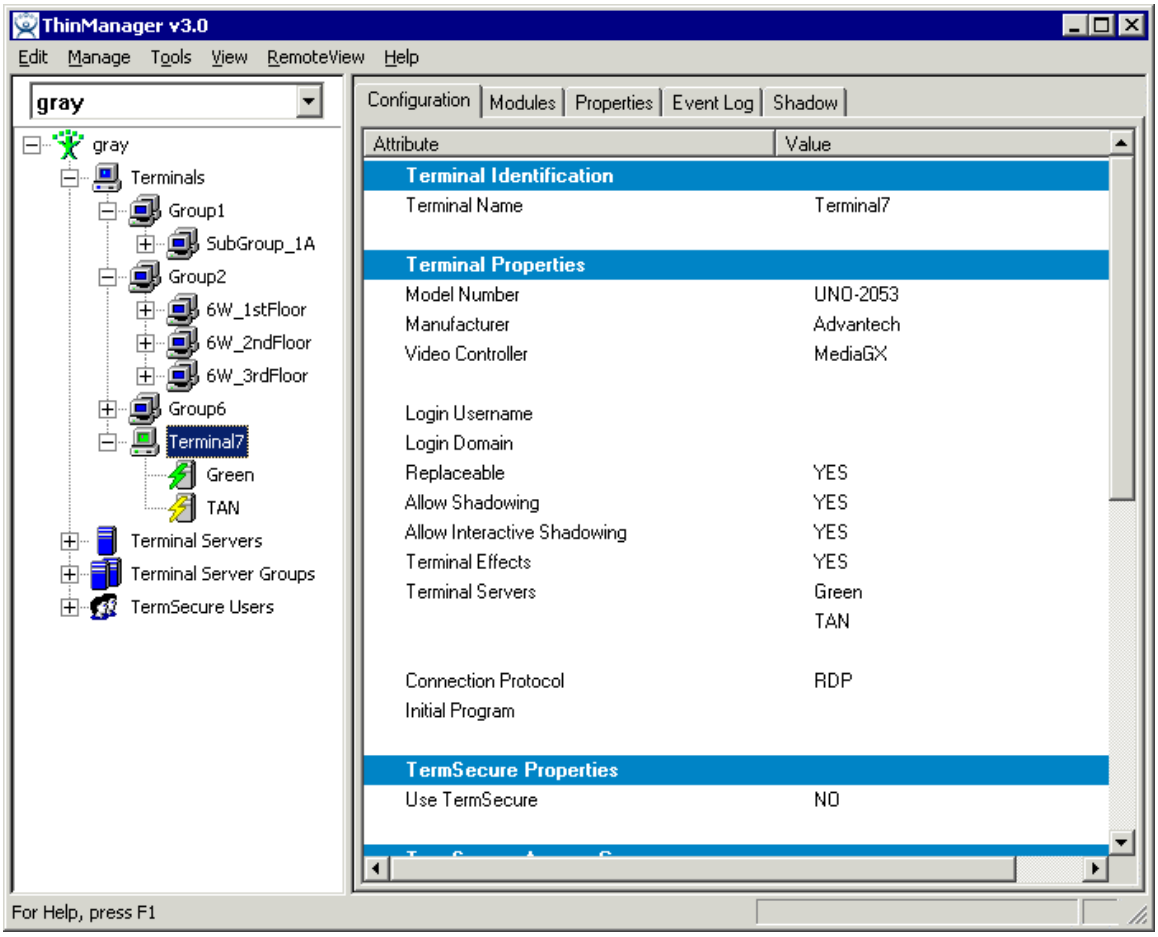


Terminal Server Connection Icons

A **Red lightning bolt** represents a lack of connection to the terminal server.

A **Green lightning bolt** represents a connection to the terminal server with an active session.

A **Yellow lightning bolt** represents a connection to the terminal server with an active session that is the backup in Instant Failover mode.



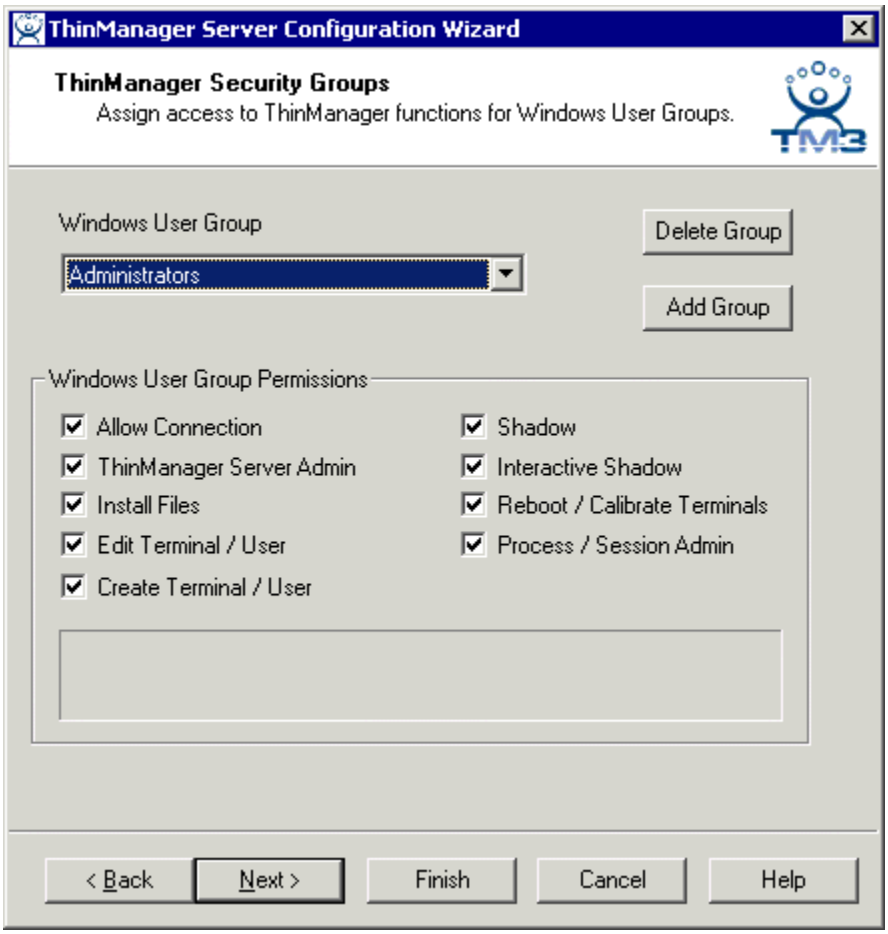
Instant Failover

If a terminal that is configured for Instant Failover is expanded in the ThinManager tree, the Primary Terminal Server should have a green lightning bolt, while the Secondary Terminal Server should have a yellow lightning bolt, as shown in the example.

ThinManager Security

ThinManager Security Groups

Access to ThinManager can be assigned to Windows User Groups on the **ThinManager Security Groups** page.



ThinManager Security Groups

ThinManager allows different levels of access and functionality based on standard Windows groups.

Standard Windows Groups can be created in the Computer Management console and given different privileges in ThinManager.

ThinManager 3.0 comes with privileges pre-defined for seven groups

Administrators - The Microsoft defined Administrator group is given all privileges by default in ThinManager. This may be denied by unselecting the various Windows User Group Permissions

ThinManager Administrators have full permission to do anything within ThinManager including the power to logoff sessions, kill processes, send messages, Restart terminals, calibrate touch screens, change terminal configurations, update firmware, update the TermCap, and restore configurations. Administrators and members of ThinManager Administrators can shadow terminals and interactively control the terminal session. These privileges may not be removed.

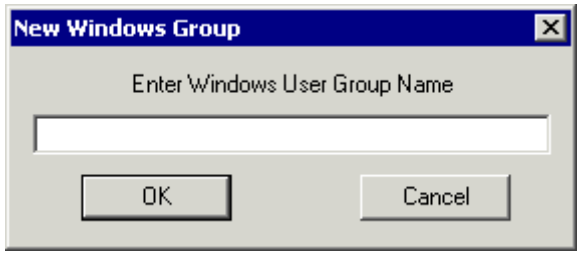
ThinManager Interactive Shadow Users - Members of this group may shadow a terminal interactively.

ThinManager Power Users can logoff sessions, kill processes, send messages, Restart terminals, and calibrate touch screens. They cannot change terminal configurations, update firmware, update the TermCap, and restore configurations. ThinManager Power Users can shadow terminals from within ThinManager but cannot interact with the session.

ThinManager Shadow Users - Members of this group may shadow a terminal, but not interactively.

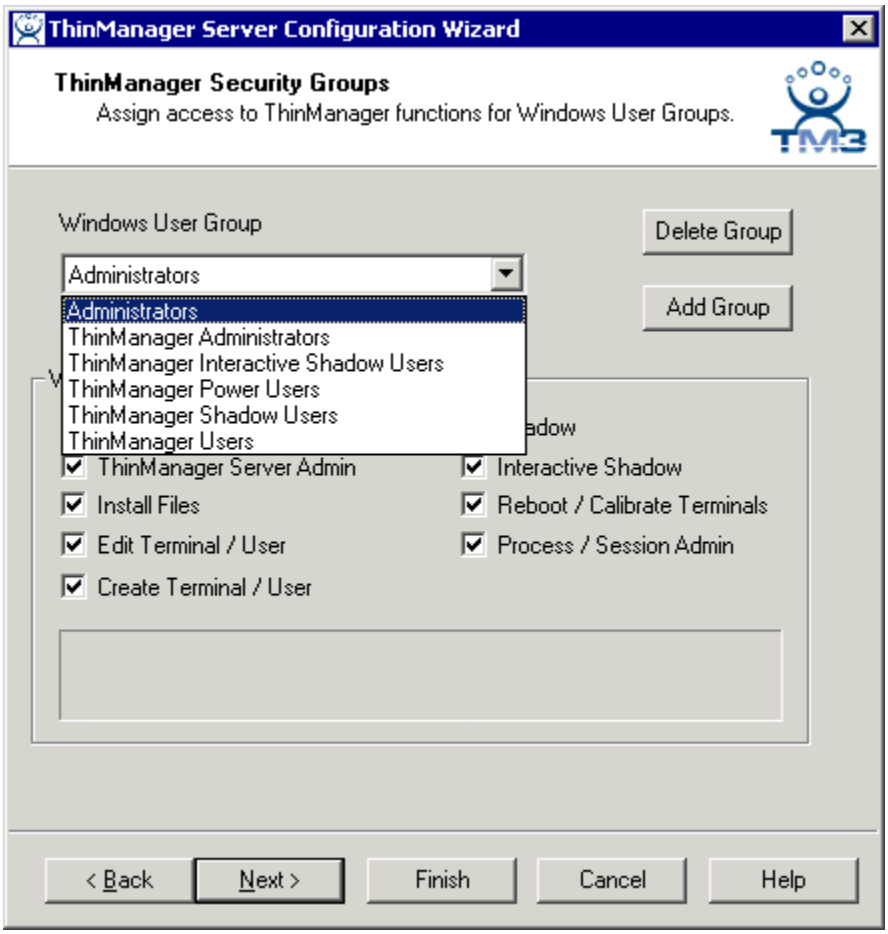
ThinManager Users can view only. They cannot logoff sessions, kill processes, send messages, Restart terminals, or calibrate touch screens. ThinManager Users cannot shadow a terminal.

Additional Windows User Groups can be configured by selecting the ***Add Group*** button to launch the **New Windows Group** window.



New Window User Group Window

Adding a Windows Group name in the field of the New Window Group window and selecting the ***OK*** button will add the Windows User Group to the drop-down list.



Terminal Replacement

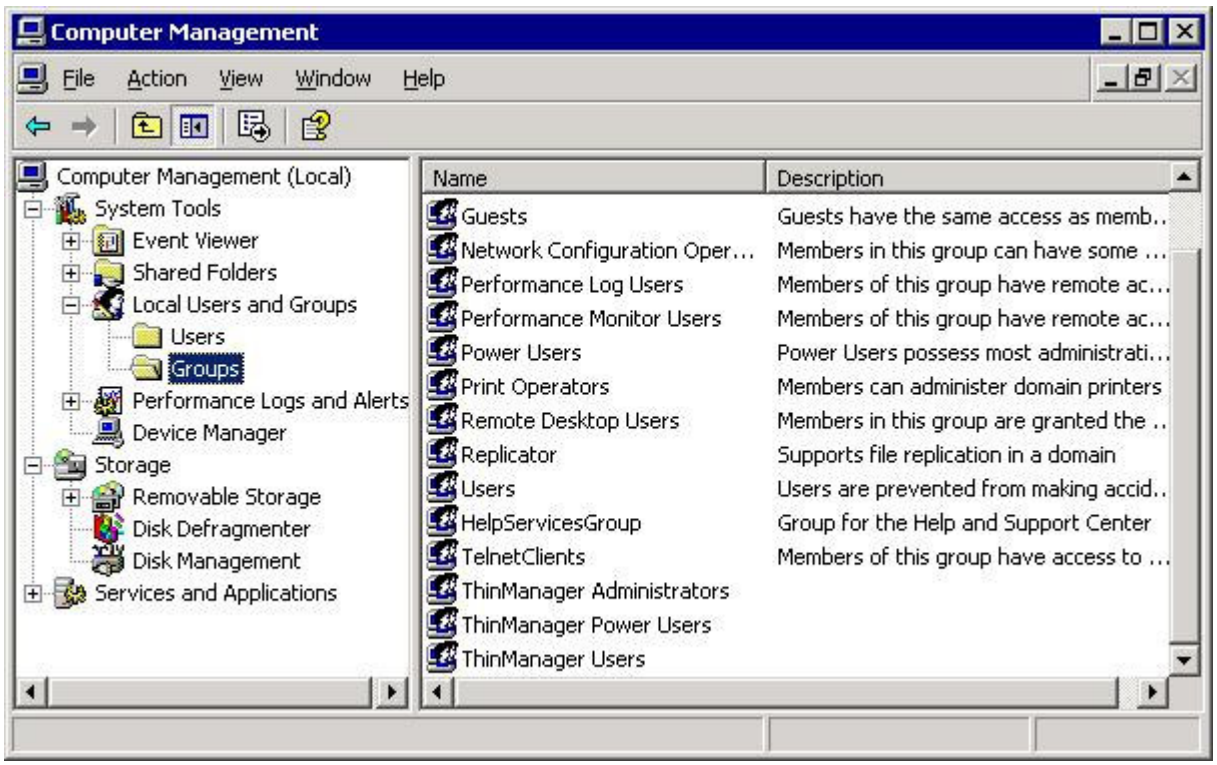
Select the group from the **Windows Users Group** drop-down

Choose the permissions you want to grant to the group by selecting and unselecting the ***Windows Users Group Permissions*** checkboxes.

Members of the **Windows User Group** will have the selected permissions the next time they login.

Note: Although ThinManager has **Windows User Groups** pre-configured with privileges, these groups have not been created on the terminal servers.

To Create A Windows User Group Open the **Computer Management Console** by selecting ***Start> Settings> Control Panel>Administrative Tools> Computer Management***.



Created ThinManager Security Groups

Highlight **Groups** in the tree and select ***Action> New Group***.

Name the group and select the ***Create*** button.

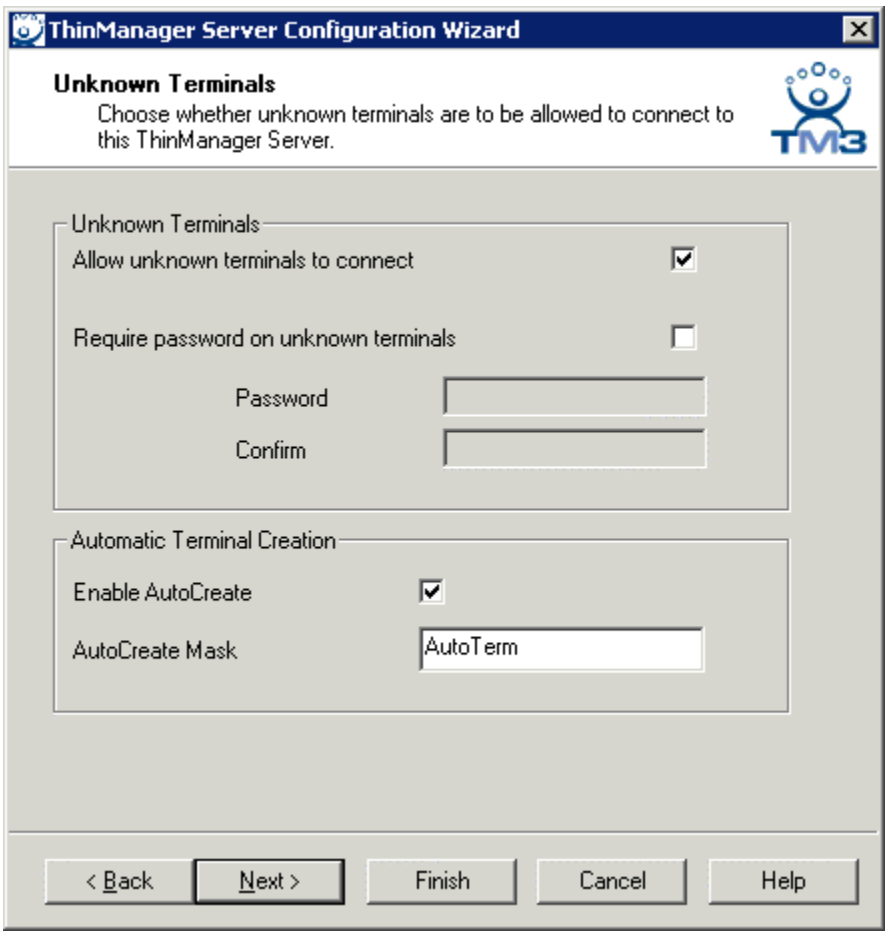
Add **Users** to the Windows User Group.

Members of the Windows User Group will have the selected permissions the next time they login.

If groups are not created, members of the standard Windows Administrator group has full privileges in ThinManager while members of the standard Windows User group will be denied access.

ThinManager Server Security

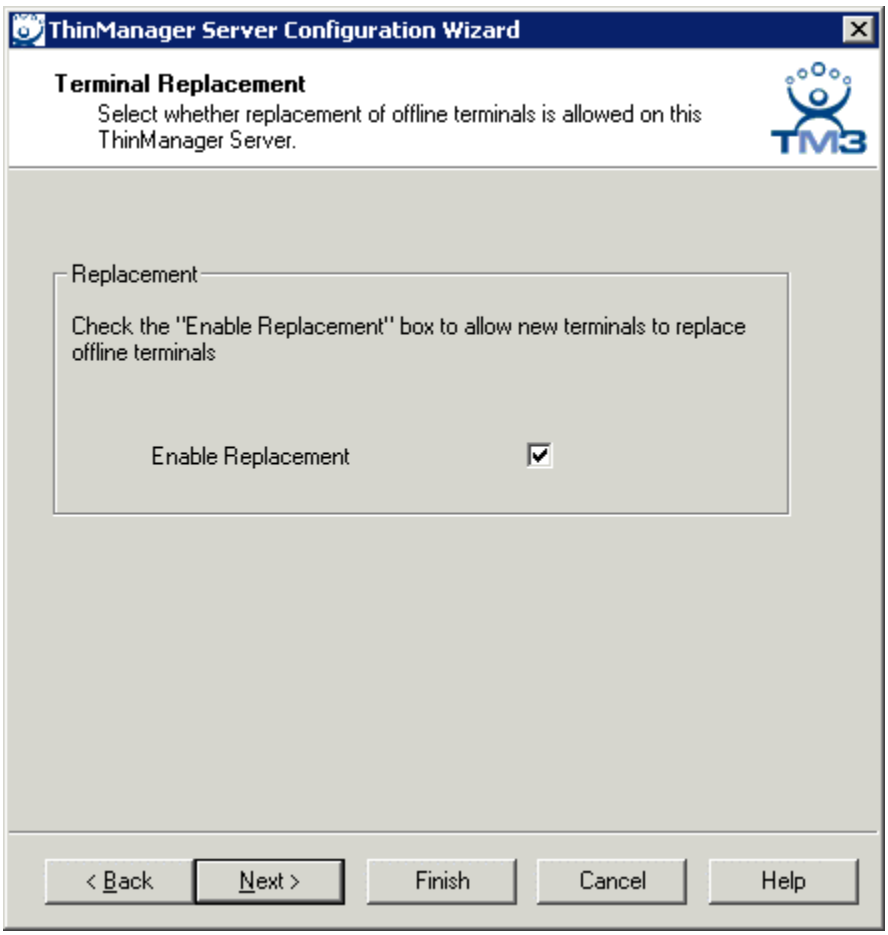
ThinManager has a number of security settings for the ThinManager Server. Open the ThinManager Server Configuration Wizard by right clicking on the ThinManager Server in the tree and selecting ***Modify***, or select ***ThinManager Server> Settings*** from the menu.



ThinManager Server Configuration Wizard

The second page of the wizard has two settings related to security:

- ***Allow unknown terminals to connect*** - This, when unchecked, will prevent any new terminals connecting to the system.
- ***Require passwords on unknown terminals*** - This checkbox, if checked, allows new terminals to be added, but only if the installer has the password.



Terminal Replacement

On the **Terminal Replacement** page of the **ThinManager Server Configuration Wizard** is the ***Enable replacement*** checkbox. This allows failed terminals to be replaced. If this is unchecked, terminals can still be added, but only by using the ***Create New Terminal*** process.

This is a global setting that affects all terminals connected to this ThinManager Server. The ***Enable replacement*** checkbox is also found on the **Terminal Configuration Wizard** of each terminal and the **Terminal Group Configuration Wizard** of each Terminal Group so that the setting can be applied to individual terminals and Terminal Groups.

Windows Security

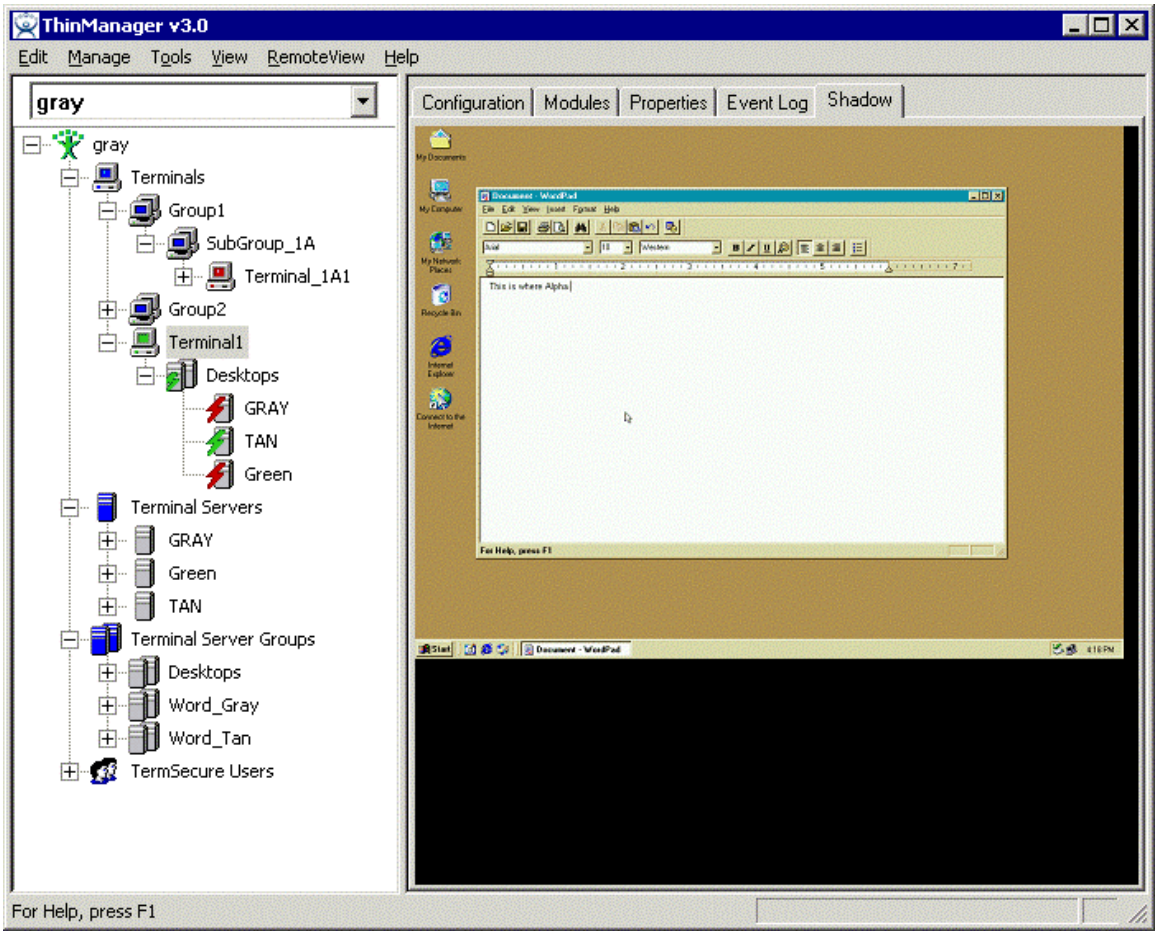
The ACP ThinManager system delivers a Windows 2000/2003 desktop to each thin client by default. Each thin client has full access to the server resources, as if it is the server. However, just because the thin client has the ability to have full access to the server resources doesn't mean that the user should be granted full access to the server. To prevent unauthorized changes to the server, it is recommended that each user profile have security policies applied through the System Policy Editor to limit access to the needed functions. Windows 2000/2003 Security procedures are discussed in the Windows on-line help and in many books and articles.

Administrators usually require that each user login to a terminal with their personal account and have the Microsoft policy determine the user's access rights.

Note: Task Manager has a feature that allows the launching of applications. If using an Initial Application, access to Task Manager should be denied in the security policy or with the Key Block Module to prevent a user from launching unauthorized programs.

Shadowing

Shadowing of a ThinManager Ready terminal can be initiated from within ThinManager by using the new ***Shadow*** tab in the Detail pane of ThinManager. To shadow, **highlight the desired terminal** in the ThinManager tree and select the ***Shadow*** tab.



Shadow – Shadow Scaled to Window

The shadowed terminal can be viewed full-sized or scaled to fit in the Details pane. Select ***View>Shadow scaled to Window*** to scale the session, and unselect the option to view it life sized.

Shadow Access

Access to the shadow function is controlled by membership in ThinManager User Groups. See ThinManager Security Groups for details.

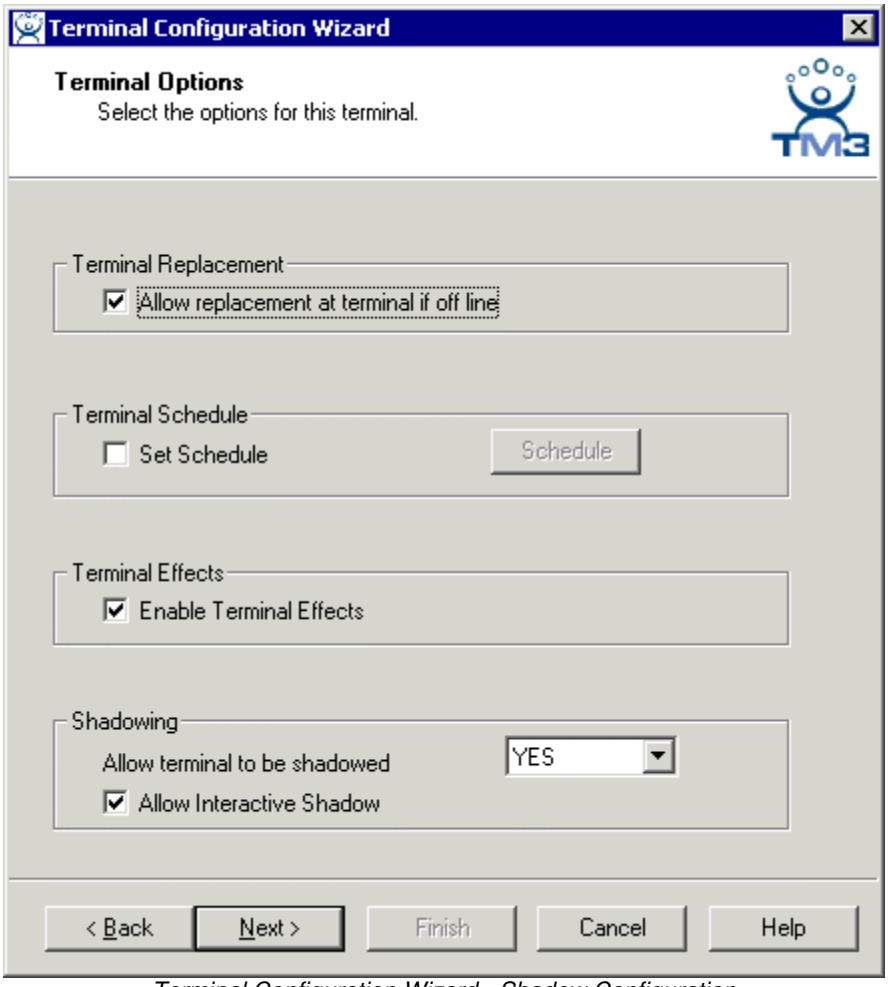
- **ThinManager Administrators** and **Administrators** can shadow terminals and interactively control the terminal session.
- **ThinManager Power Users** can shadow terminals from within ThinManager but cannot interact with the session. They are in View-only mode.

- **ThinManager Interactive Shadow Users** can shadow terminals from within ThinManager and can interact with the session.
- **ThinManager Shadow Users** can shadow terminals from within ThinManager but cannot interact with the session. They are in View-only mode.
- **ThinManager Users** cannot shadow a terminal.

View>Interactive Shadow on the menu bar prevents the interaction with the shadowed session if unselected.

Configure Shadowing

Shadowing can be configured on the **Terminal Options** page of the **Terminal Configuration Wizard** or **Terminal Group Configuration Wizard.**



Terminal Configuration Wizard - Shadow Configuration

The ***Allow terminal to be shadowed*** drop-down box allows the configuration of Shadowing Options.

No - Prevents members of the Group from being shadowed.

Ask - Will display a message window that will prompt for a positive response before the shadowing is allowed.

Warn - Will display a message window alerting the terminal that it is to be shadowed, but doesn't require a positive response before the shadowing is allowed.

Yes - Allows shadowing to occur without warning or recipient input.

Allow Interactive Shadow will allow members with Interactive Shadow privileges to shadow the terminal. The Interactive Shadow privileges are configured in the ThinManager Server Configuration Wizard. See ThinManager Server Configuration Wizard or ThinManager Security Groups for details.

Shadowing is initiated from the Shadow tab on the ***Details*** pane of the ThinManager program. Unselecting the ***Allow Interactive Shadow*** checkbox will prevent shadowing from within ThinManager.

Shadow Keystrokes

Because the **CTL+ALT+DEL** and the **CTL+ESC** keystrokes can't be sent to the local machine to the shadowed ThinManager Ready thin client, there is a menu item to send these commands. Select ***Tools> Shadowing>Send Ctl+Alt+Del*** or ***Tools> Shadowing>Send Ctl+Esc*** *to* send these commands.

Note: The Key Block Module will block these commands from being sent to a shadowed session.

Changing the tab or selecting another tree icon will break the shadow connection.

WinTMC Fat Client

WinTMC Overview

WinTMC is a ThinManager Client for PCs running Windows NT/2000/XP operating systems. WinTMC provides similar functionality to that of a ThinManager Ready Terminal. The WinTMC client can use failover, Instant Failover, SmartSession, MultiSession, and AppLink, among others. Once the WinTMC client is installed the client can be managed remotely through ThinManager instead of locally.

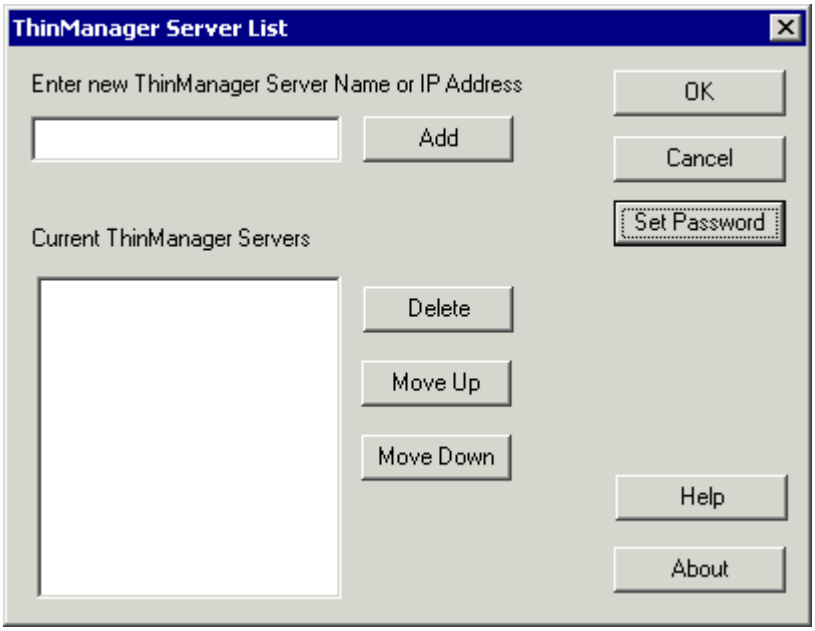
See Standard ThinManager Installation for details on installation.

Local WinTMC Configuration

When WinTMC starts, a ***Configure*** button will be displayed on the splash screen.

WinTMC Splash Screen

Click on the **Configure** button to configure the initial WinTMC settings.



WinTMC ThinManager Server List Configuration

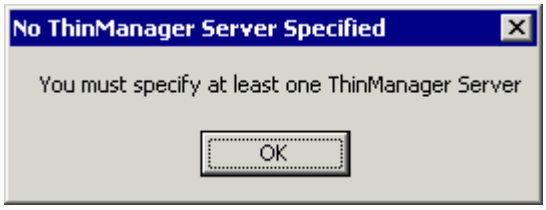
The ThinManager Server List allows the WinTMC to be pointed to one or more ThinManager Servers to retrieve its configuration.

Enter the IP address or name of your ThinManager Servers in the ***Enter new ThinManager Server Name or IP Address*** field and click the ***Add*** button to add them to the Current ThinManager Servers list.

The WinTMC will try to connect to the ThinManager Servers in the order listed, so the order can be changed with the ***Move Up*** and ***Move Down*** buttons.

Unneeded ThinManager Servers can be removed with the ***Delete*** button.

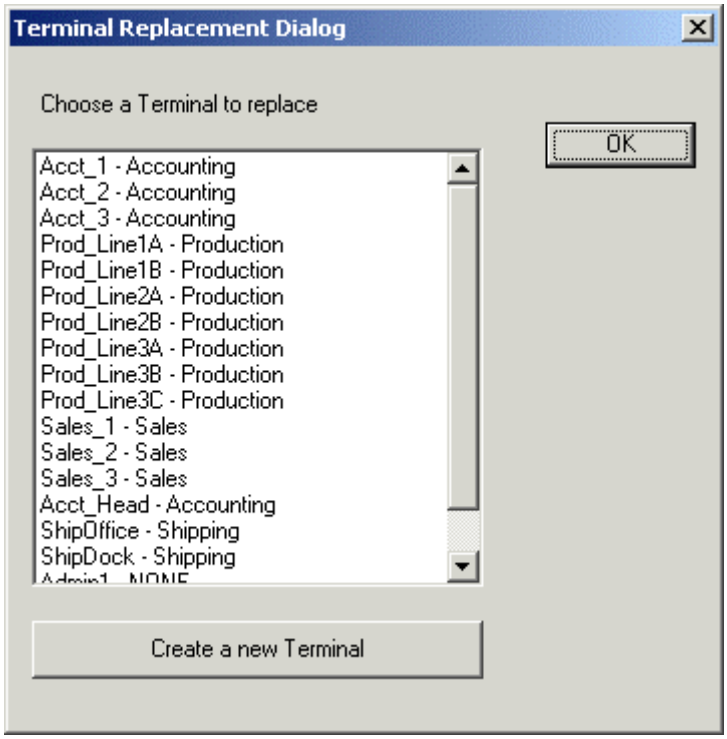
This configuration menu can be password protected by selecting the ***Set Password*** button. Once the password is set, when WinTMC is started and the Configure button is clicked, a password will be required to change the configuration.



No ThinManager Server Specified

If the OK button is selected without entering a ThinManager Server, an error window will remind you to enter a ThinManager Server address.

Once the local configuration is set, WinTMC will connect to a ThinManager Server and attempt to retrieve its configuration.



Terminal Replacement Dialog

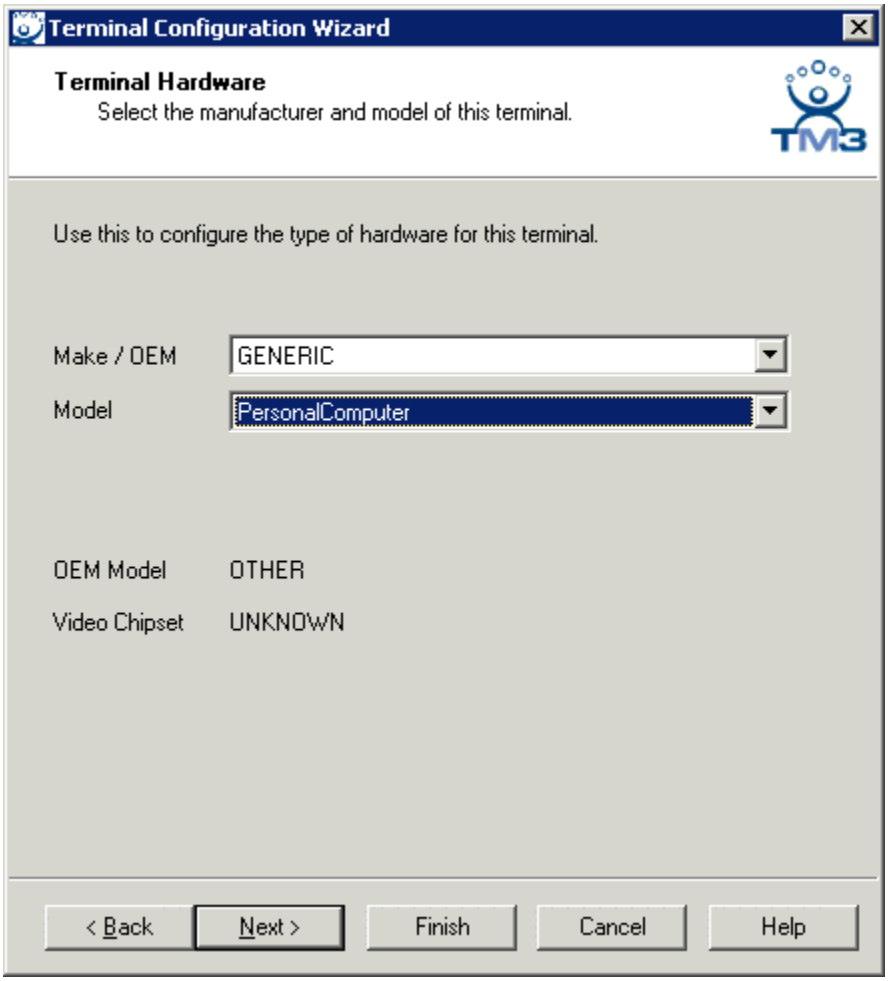
If the WinTMC PC has not been defined, the user will be prompted with a dialog box to allow for the creating a new configuration or replacing an existing terminal configuration on the ThinManager Server.

This functionality is similar to that of the create/replacement menu on a ThinManager Ready Thin Client. See Replace or Create New Mode for details on that method.

Once the WinTMC has been assigned a configuration you will not need to make a selection again.

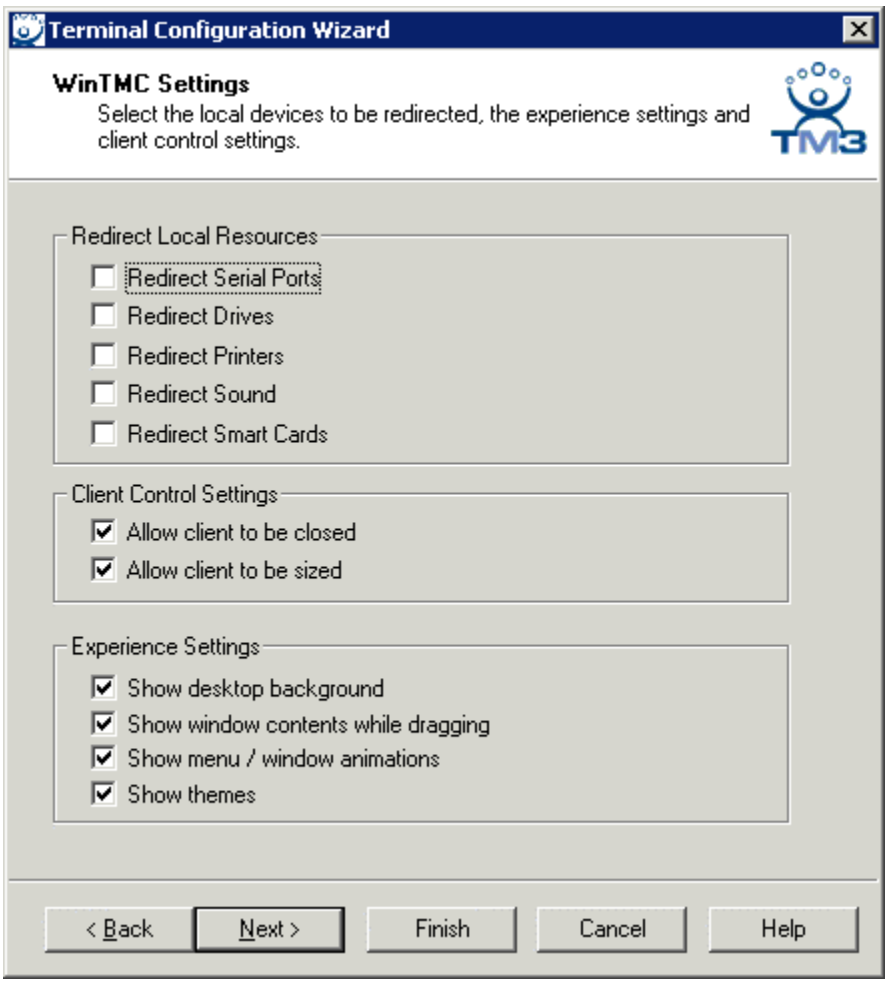
If you want to run WinTMC without the configure button, you can run it from a command line with the ThinManager Servers separated by semi-colons (i.e. **`WinTMC TMS1;TMS2;TMS3`**). This will eliminate the configure button when WinTMC is started.

If you want to pre-create a WinTMC client in ThinManager using the Terminal Configuration Wizard, select **GENERIC** for the ***Make/OEM*** and **PersonalComputer** for the ***Model*** on the **Terminal Hardware** page of the Terminal Configuration Wizard.



WinTMC Settings in Terminal Hardware

The **Terminal Configuration Wizard** includes a **WinTMC Settings** page.



WinTMC Settings

WinTMC clients can also be configured on the WinTMC Settings page. These only apply to connections made by the WinTMC fat client.

The settings include:

Redirect Local Resources:

- **Redirect Serial Ports** - This checkbox, if selected, will make local serial ports available in a session. Serial Port redirection does not work when you connect to a terminal server running Windows 2000 or earlier.
- **Redirect Drives** - This checkbox, if selected, will make local drives available in a session. Drive redirection does not work when you connect to a terminal server running Windows 2000 or earlier.
- **Redirect Printers** - This checkbox, if selected, will make your local printer available in a session.
- **Redirect Sound** - This checkbox, if selected, will allow audio played in your session to play locally. Sound redirection does not work when you connect to a terminal server running Windows 2000 or earlier.
- **Redirect Smart Cards** - This checkbox, if selected, will make your smart card available in a session. Smart card redirection does not work when you connect to a terminal server running Windows 2000 or earlier.

Client Control Settings:

- **Allow Client to be closed** - This checkbox, if selected, will enable your user to close the client (WinTMC program).
- **Allow client to be sized** - This checkbox, if selected, will enable your user to resize the client.

Experience Settings:

- **Show Desktop Background** - This checkbox, if selected, will enable your user to select a Windows Desktop Background. If not selected, the background will be a solid color.
- **Show window contents while dragging** - This checkbox, if selected, will show the window contents to be shown while the window is being dragged.
- **Show menu/window animations** - This checkbox, if selected, will enable menu/window animations on the client.
- **Show Themes** - This checkbox, if selected, will enable your user to select a Windows Theme.

Note: These functions may be denied by user policies or terminal server configuration. Check the Microsoft Local Policy, Group Policy, and Terminal Services Configuration. See Non-ThinManager Components for details.

WinTMC Licensing

WinTMC requires a Terminal/WinTMC connection license. Existing Terminal Connection Licenses can be upgraded to support WinTMC connections. For customers using ThinManager Enterprise Class licenses, a WinTMC Connection License is required.

TermSecure

TermSecure Overview

TermSecure is a new ThinManager feature that allows users to logon to a ThinManager Ready thin client and access user-specific or terminal-specific Terminal Server Groups. This does not replace the Windows logon, but adds an additional layer of security and control. Terminals and Terminal Server Groups can be assigned TermSecure Access Group permissions. A TermSecure User can use those terminals and Terminal Server Groups only if the TermSecure User has been assigned to the same Access Group.

TermSecure has two main attributes:

SecureAccess: Manages user access to terminal servers and sessions through ThinManager authentication and group permissions.

SmartContext: Allows the movement of the display of a TermSecure User's terminal server sessions between multiple ThinManager Ready thin clients; initiated by either manual login or the use of an authentication device. This allows a user to leave one terminal, logon to a different terminal, and reconnect to their session, essentially having the session follow him from terminal to terminal.

Although TermSecure has these two attributes, SecureAccess and SmartContext are not discussed as products, features, or items, but are invisible components of TermSecure.

Note: TermSecure requires the usage of Terminal Server Groups instead of using individual terminal servers.

Users

There are three types of users in a ThinManager system. **Windows Users** and **TermSecure Users** are important to TermSecure.

Windows Users

Windows Users are the Microsoft accounts created in Windows that allow access to the Windows terminal servers. These are configured within Windows and authenticated by Windows. They can be given varying levels of access and power using Windows User Groups and Group Policies.

TermSecure Users

TermSecure Users are users who can go to a ThinManager Ready thin client and receive access to specific Terminal Server Groups due to their membership in a TermSecure Access Group. The login and authentication is done by ThinManager a level above the Windows login.

TermSecure grants and limits access to terminals and Terminal Server Groups but a Windows User login is still required to actually logon to the terminal server.

ThinManager Security Group Users

ThinManager Security Group Users are Windows User Group members who have been configured in the ThinManager Server Configuration Wizard to have varying levels of access and control within the ThinManager program.

These groups are configured on the **ThinManager Security Groups** page of the **ThinManager Server Configuration wizard**. See ThinManager Access Permissions for details.

Deploying TermSecure

TermSecure requires a number of steps to configure and deploy TermSecure:

1. TermSecure Access Groups can to be created.
   See Creating Permissions Groups for details.
2. Terminals can be assigned TermSecure Access Groups to limit access to specific users.
   See Permission Groups for Terminals for details.
3. Terminal Server Groups can be assigned TermSecure Access Groups to limit access to specific users.
   See Permission Groups for Terminal Server Groups for details.
4. TermSecure Users need to be created and assigned to TermSecure Access Groups, if desired.
   See TermSecure User Configuration Wizard for details.
5. A Login strategy needs to be put in place. The TermSecure User can use the Terminal Login, their TermSecure login, or a Windows login to access the terminal servers.
   See Windows Login Information for details.
6. USB drives and ProxCards, if used, need to have the identification number entered in their configuration.
   See Card/Badge Information for details.
7. The TermSecure User can then login to a ThinManager Ready thin client using TermSecure TermSecure prompts the TermSecure User to login to the terminal servers using a Windows User account, or it will pass the pre-configured Windows User account information to the terminal server for auto-login, based on the login strategy selected.
8. The TermSecure User is granted access to all Terminal Server Groups that share the same TermSecure Access as the TermSecure User, and is denied access to Terminal Server Groups that they don't share a TermSecure Access Group membership.

TermSecure User Configuration Wizard

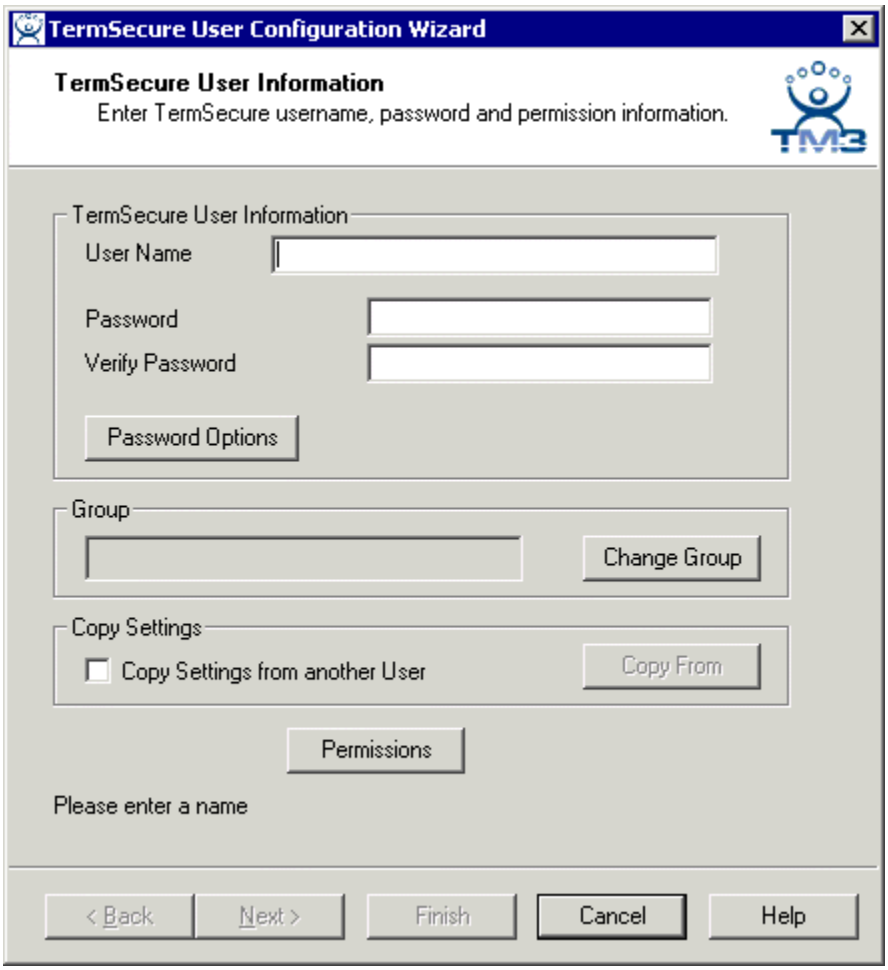
ThinManager 3.0 introduces a new function of **TermSecure User** configuration for use with TermSecure. A TermSecure User can be configured with a user name, password, and additional Terminal Server Groups. When the user logs into a terminal with that identity, TermSecure will allow the user access to the

personalized Terminal Server Groups for that user in addition to the Terminal Server Groups already assigned to the terminal.

Note: The TermSecure Users branch of the ThinManager tree will not be visible unless a valid TermSecure license is installed on the ThinManager Server.

The **TermSecure User Configuration Wizard** is launched by right clicking on the TermSecure Users branch of the ThinManager tree and select ***Add TermSecure User***.

TermSecure User Information



ThinManager User Information

The **TermSecure User Information** has fields for the user name and password that will be used by the TermSecure User to log into ThinManager security to access TermSecure functions.

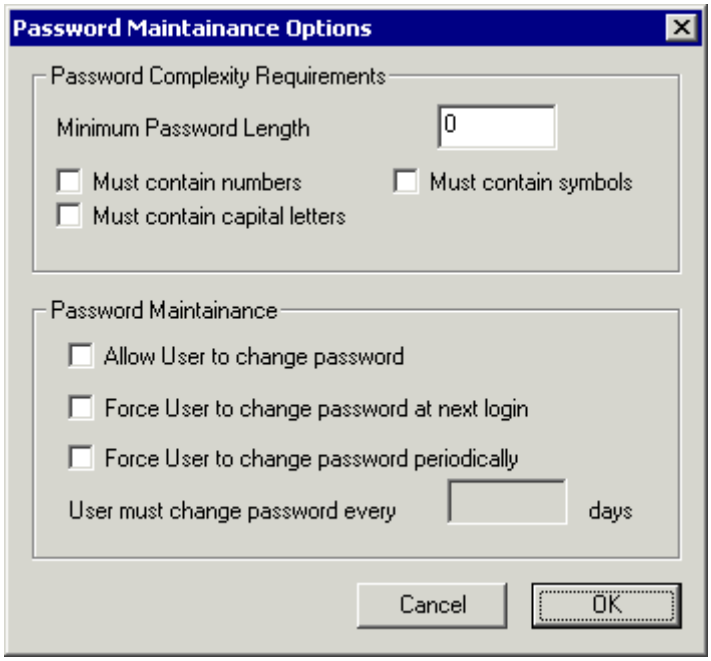
The **TermSecure User Information** is for account information:

- **User Name** - Enter the user name that the user will use to log into the TermSecure system. Although this can be the same as the Windows user name, the TermSecure user name is independent of the Microsoft Windows login. This TermSecure user name can be tied to a Windows login later in the wizard on the **Windows Login Page**.

- **Password** - Enter the password for the TermSecure User in this field.

- **Verify Password** - Re- enter the password for the ThinManager User in this field.

- The **Password Options** button launches the **Password Maintenance Options** window that regulates rules for the ThinManager User password.



Password Maintenance Options

Password Complexity Requirements:

- ***Minimum Password Length*** - Sets the amount of characters that the password must contain to be valid.
- ***Must contain numbers*** - This checkbox, if checked, will require that the password contain at least one number in it.
- ***Must contain symbols*** - This checkbox, if checked, will require that the password contain at least one symbol in it.
- ***Must contain capital letters*** - This checkbox, if checked, will require that the password contain at least one capital letter in it.

Password Maintenance:

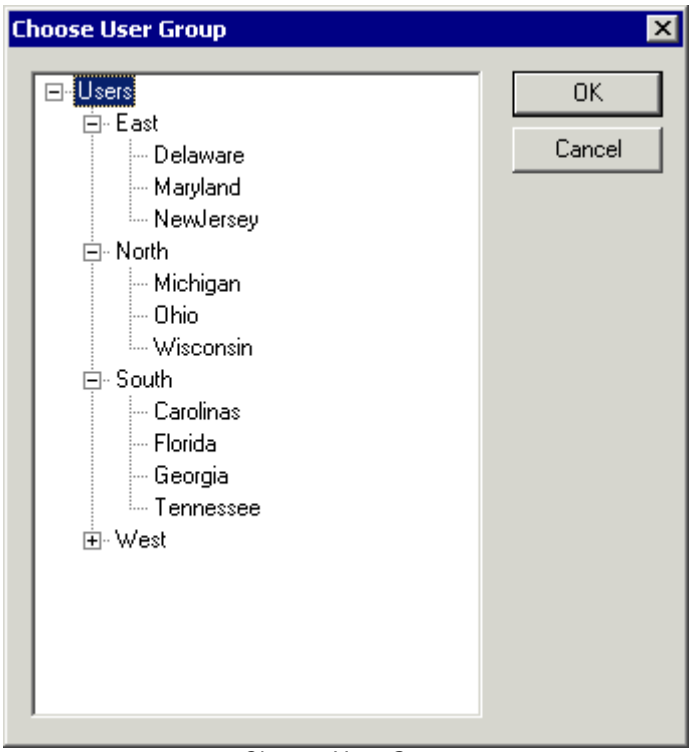
- ***Allow User to change password*** - This checkbox, if checked, will allow the user to change the password at the TermSecure menu.
- ***Force User to change password at next login*** - This checkbox, if checked, will require the user to change the password at the TermSecure menu when they login the next time.
- ***Force User to change password periodically*** - This checkbox, if checked, will require the user to change the password at the TermSecure menu on the schedule set by the ***User must change password every X days*** field.

- ***User must change password every X days*** - This field sets the time period between the scheduled password changes caused by the ***Force User to change password periodically*** checkbox.

The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Group:

- The ***Change Group*** button opens the **Choose User Group** window that allows a User to be placed in an existing TermSecure Users Group.



Choose User Group

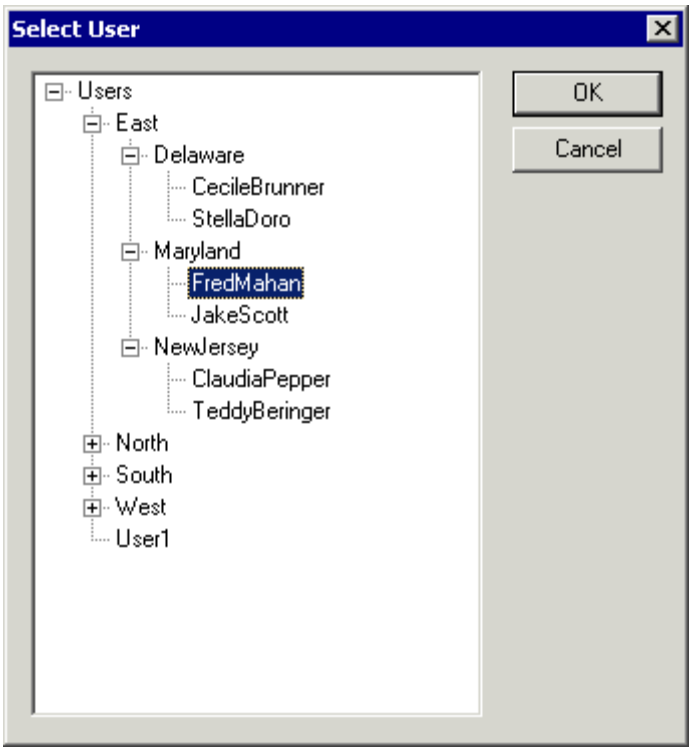
If TermSecure User Groups have been created, the **Choose User Group** window will display the TermSecure User Group branch of the ThinManager tree.

- To add the TermSecure User to a TermSecure Users Group, highlight the desired TermSecure Users Group and select the ***OK*** button.
- To change the TermSecure User to a different TermSecure Users Group, highlight the desired TermSecure Users Group and select the ***OK*** button.
- To remove the TermSecure User from all TermSecure Users Groups, highlight the top-level Users branch and select the ***OK*** button.

The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Copy Settings:

- The ***Copy Settings from another User*** checkbox, if selected, activates the ***Copy From*** button that allows the configuration of an existing TermSecure User to be applied to the current TermSecure User.
- The ***Copy From*** button opens the **Select User** window that allows the selection of the desired TermSecure User configuration.



Select User Window

The **Select User** window will show a tree with the existing TermSecure User Groups and the TermSecure Users.

Highlight the TermSecure User whose configuration you want to copy and select the ***OK*** button. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Card / Badge Information

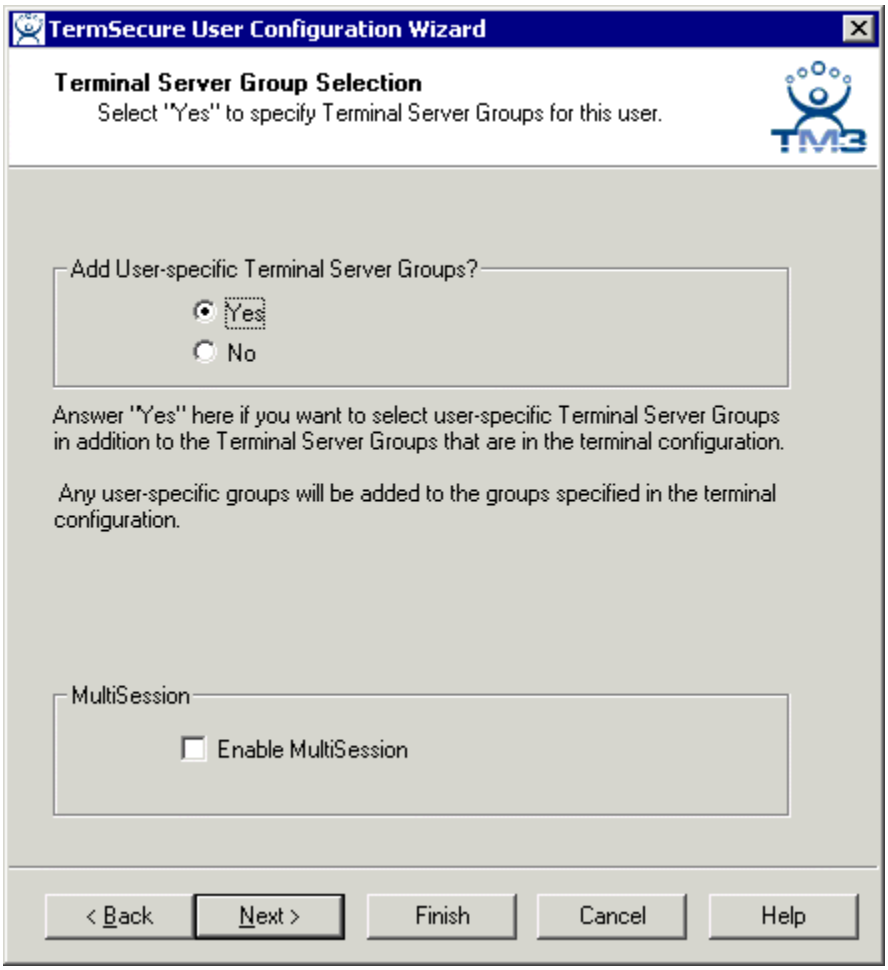
Card / Badge Information Page

The **Card** / **Badge Information Page** enables the use of Identification devices such as USB flash drives, HID ProxCards, and WaveTrend Radio Frequency IDs (RFIDs) as login devices. This will be covered later. See Card and Badge Configuration for a TermSecure User for details

Note: Terminals using the USB flash drives, HID ProxCards, and WaveTrend RFIDs as login devices will need the appropriate module added. See TermSecure Modules for details.

Select the ***Next*** button to continue with the configuration.

Terminal Server Group Selection



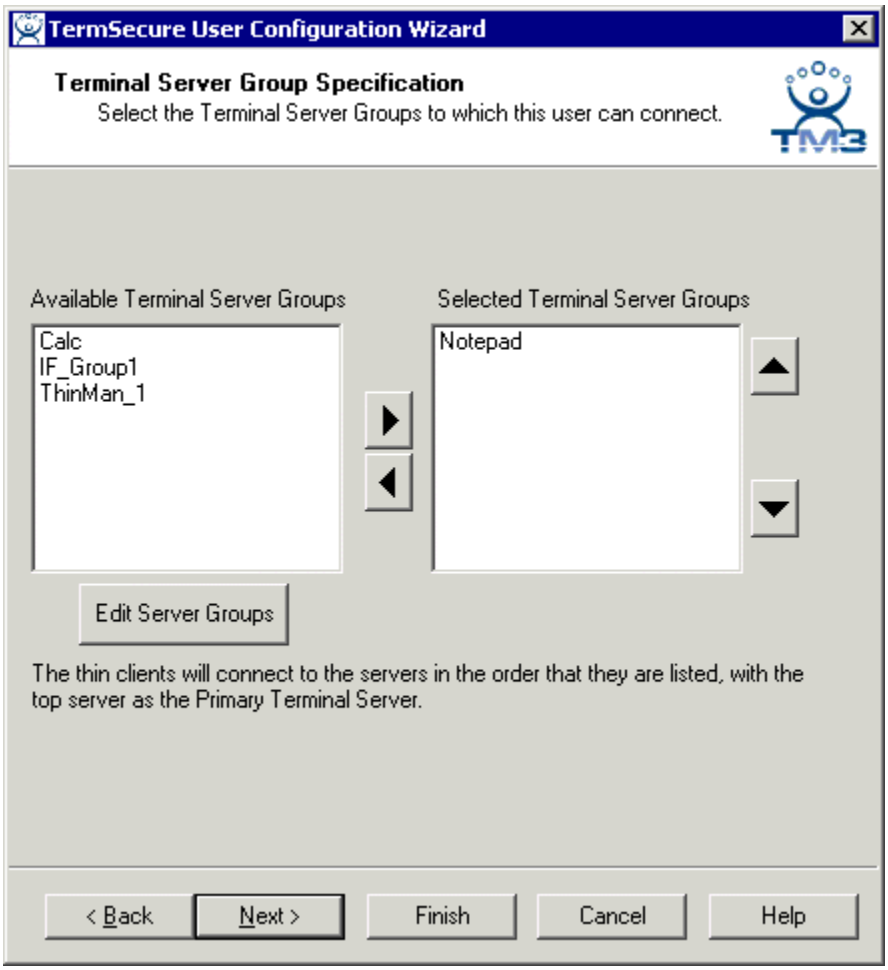
Terminal Server Group Selection

The **Terminal Server Group Selection** page allows Terminal Server Groups to be assigned to the TermSecure User. When the TermSecure User logs onto a terminal, these Terminal Server Groups will be available on the terminal for him.

- ***Add User specific Terminal Server Groups?*** - This setting, if set to ***Yes***, will allow the selection of Terminal Server Groups for the TermSecure User that will be added to the terminal when the TermSecure User logs in top the terminal. Selecting ***Yes*** will display the ***Enable MultiSession*** checkbox.
- ***Enable MultiSession*** - This checkbox, if selected, will allow the TermSecure User to run more than one Terminal Server Group at a time.

Select the ***Next*** button to continue with the configuration.

Terminal Server Group Specification



Terminal Server Group Specification Page

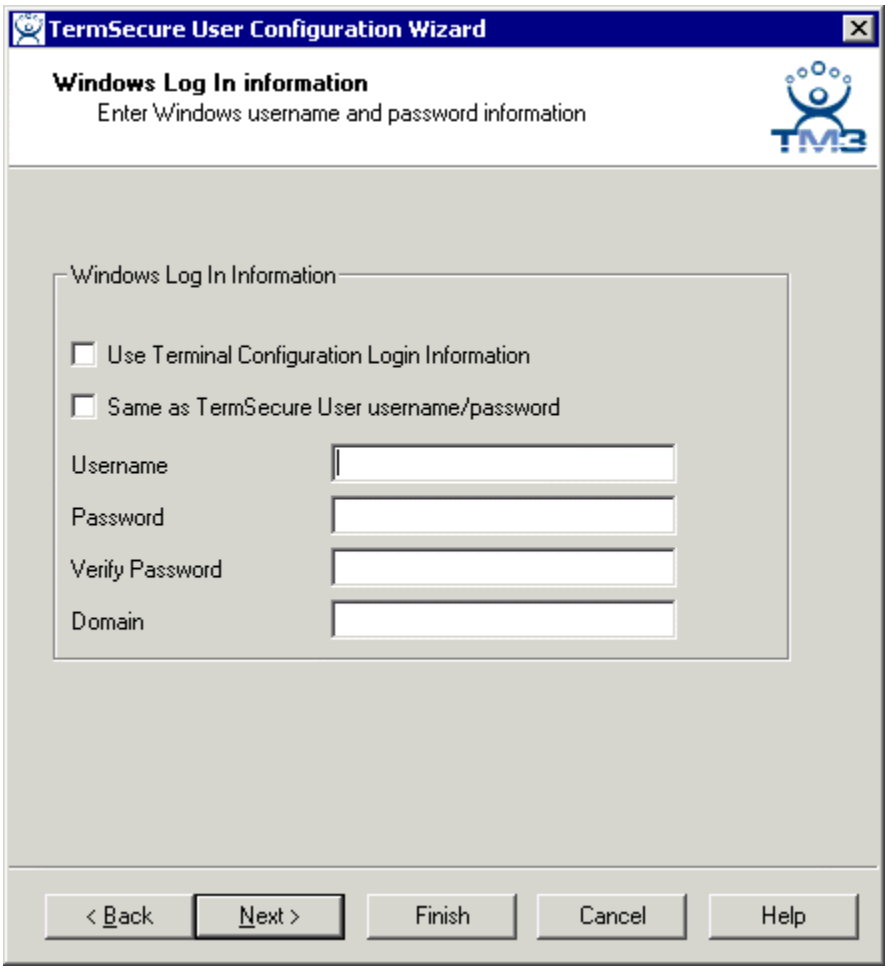
The **Terminal Server Group Specification** page allows Terminal Server Groups to be assigned to the TermSecure User if the ***Add User specific Terminal Server Groups?*** radio button is set to ***Yes***.

Move a Terminal Server Group you want the TermSecure User to use into the ***Selected Terminal Server Groups*** list by double-clicking on it in the **Available Terminal Server Groups** list or by highlighting it and clicking the ***Right Arrow*** button.

To add a new Terminal Server Group, select the ***Edit Server Groups*** button to launch the Terminal Server Group Wizard. See Terminal Server Group List for details.

Select the ***Next*** button to continue with the configuration.

Windows Login Information



Windows Login Information

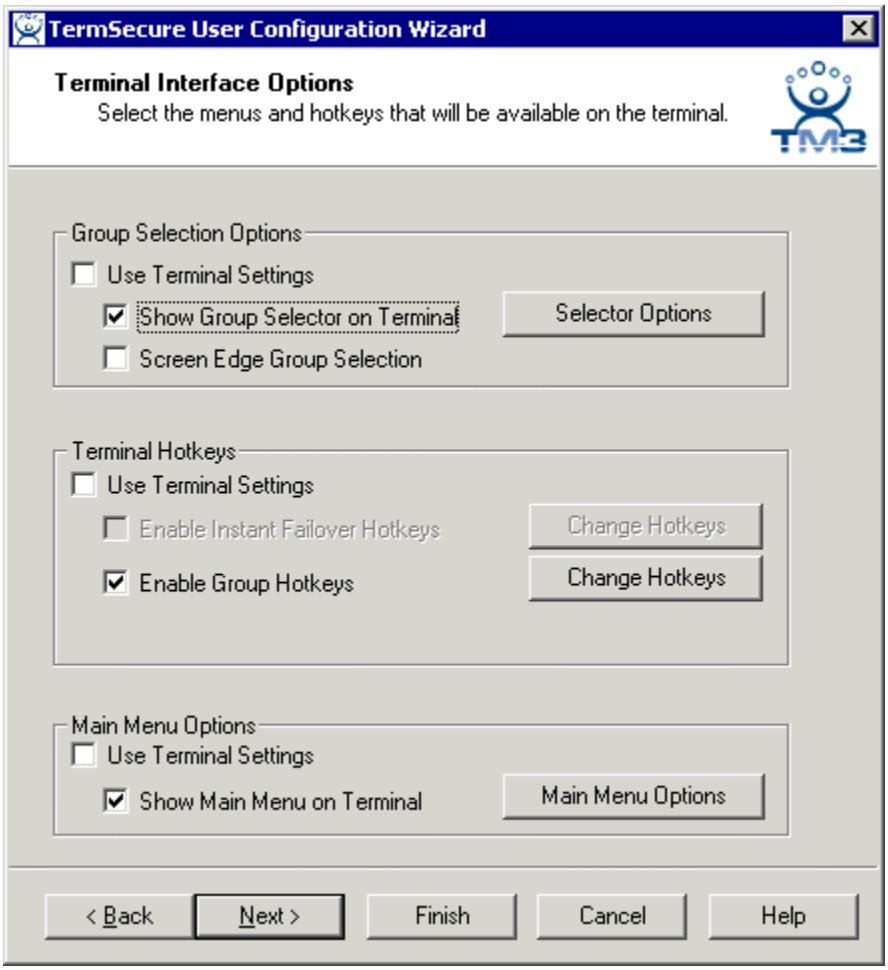
The **Windows Log In Information** page allows the configuration of how the TermSecure User will log on to the Windows terminal servers.

There are several Windows login options for the TermSecure User.

1. The TermSecure User can use the terminal's username and password to auto-log on to the terminal server. To do this, check the ***Use Terminal Configuration Login Information*** checkbox
2. The TermSecure User can use the TermSecure User username and password to auto-log on to the terminal server. To do this, check the ***Same as TermSecure User username/password*** checkbox. The TermSecure User username and password must match a **Windows User** username and password to get authenticated by Windows.
3. The TermSecure User can use a separate username and password to auto-log on to the terminal server. To do this, use the fields for the ***Username***, ***Password***, and ***Domain*** that are provided.
4. The TermSecure User can be required to manually log onto the terminal servers. To do this, leave the checkboxes unchecked and the ***Username***, ***Password***, and ***Domain*** empty.

Select the ***Next*** button to continue with the configuration.

Terminal Interface Options

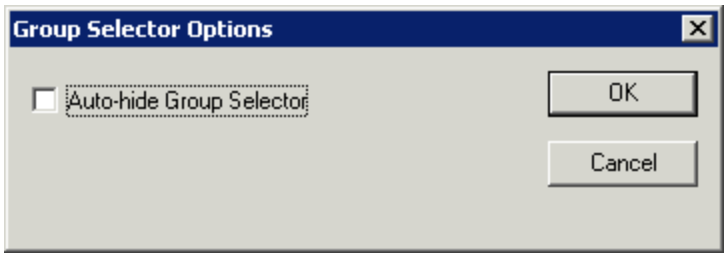


Terminal Interface Options

The **Terminal Interface Options** page sets the menus and hotkeys for the TermSecure User because a terminal using MultiSession will need to have a method to switch between sessions.

Group Selector Options allow on-screen switching of sessions.

- ***Use Terminal Settings -*** This checkbox, when selected, will let the TermSecure User inherit the hotkeys that were configured for use with the terminal.
- ***Show Group Selector on Terminal*** - This checkbox, if selected, will display an on-screen drop-down menu that can be activated by mouse.
- ***Screen Edge Group Selection*** - This checkbox, if selected, will activate a feature that will switch windows if the mouse is moved off screen.
- ***Selector Options*** - This button, if selected, will launch the Group Selector Options window.

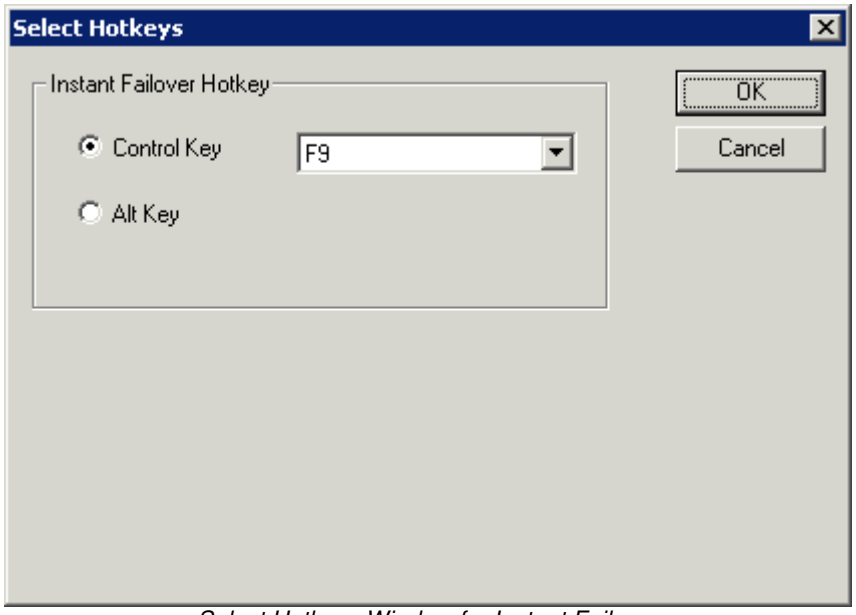


Group Selector Options Window

- ***Auto-hide Group Selector*** - This checkbox, if selected, will hide the on-screen group selector until the mouse is moved over its location. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Terminal Hotkeys allows the selection of keyboard combinations that allow switching between sessions.

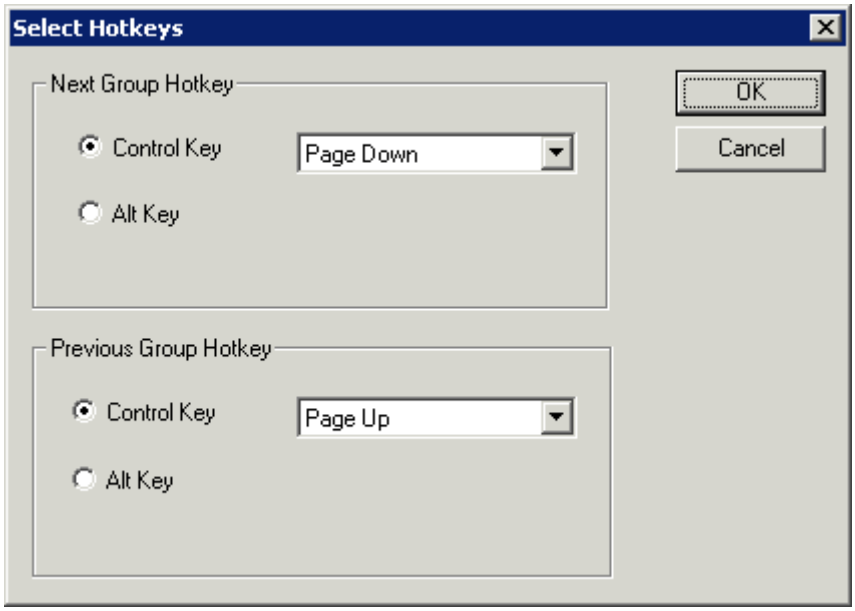
- ***Use Terminal Settings -*** This checkbox, when selected, will let the TermSecure User inherit the hotkeys that were configured for use with the terminal.
- ***Enable Instant Failover Hotkeys*** - This checkbox, if selected, allows the hot key switching between the two active sessions of a Terminal Server Group that is using Instant Failover.
- ***Change Hotkeys*** - This button, if selected, will launch the **Select Hotkeys** window for Instant Failover.



Select Hotkeys Window for Instant Failover

The hotkey combination for switching between Instant Failover sessions can be changed by selecting the ***Alt Key*** radio button or by selecting a different function key from the dropdown. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

- ***Enable Group Hotkeys*** - This checkbox, if selected, allows the hot key switching between different sessions of a terminal using MultiSession.
- ***Change Hotkeys*** - This button, if selected, will launch the **Select Hotkeys** window for the Group Selector.

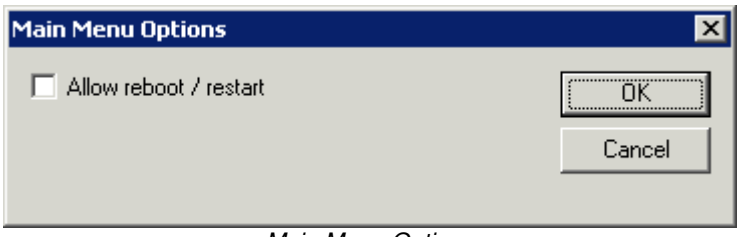


Select Hotkeys for the Group Selector

The hotkey combination for switching between Terminal Server Group sessions can be changed by selecting the ***Alt Key*** radio button or by selecting a different function key from the dropdown. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Main Menu Options allow switching between sessions.

- ***Use Terminal Settings -*** This checkbox, when selected, will let the TermSecure User inherit the hotkeys that were configured for use with the terminal.
- ***Enable Main Menu Hot Key*** - This checkbox will be displayed if TermSecure is being used and will allow the TermSecure menu to be shown with a hot key, if selected.
- ***Main Menu Options*** - This button, if selected, will launch the **Main Menu Options** window to configure the TermSecure Main Menu options.



Main Menu Options

The Allow reboot/restart checkbox, if selected, will place a Shut Down button on the Main Menu that leads to a Reboot/Restart menu to reboot or restart the terminal. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

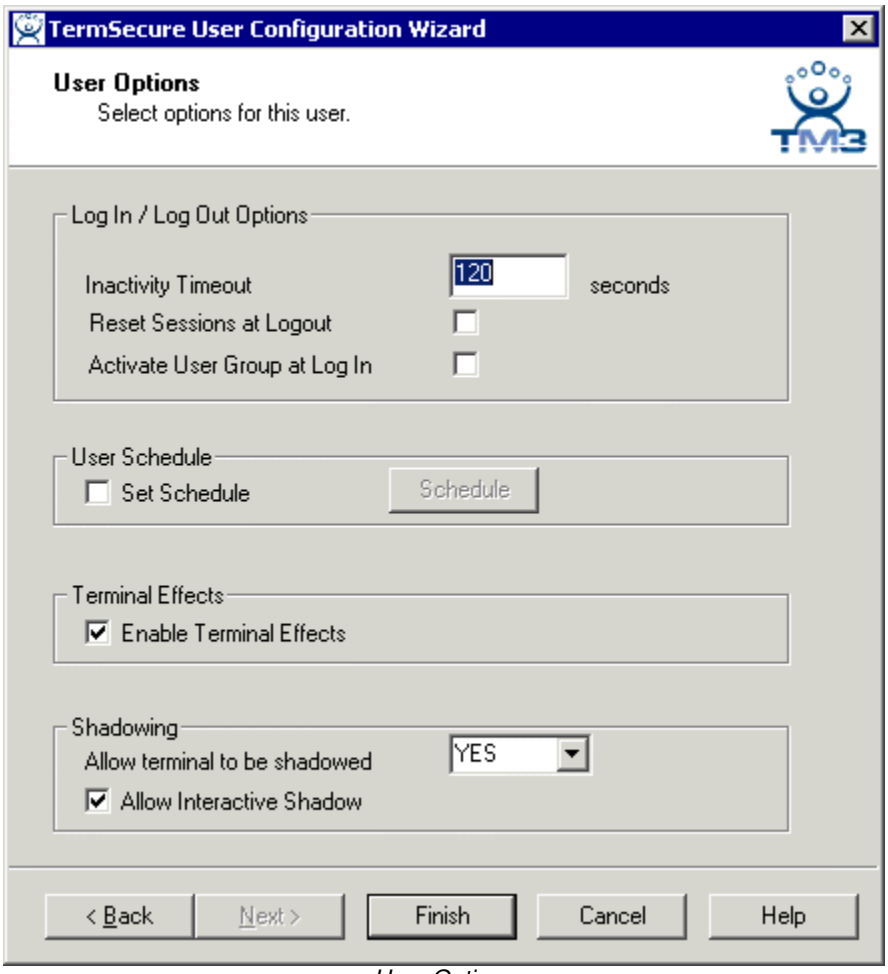
Note: If the Main Menu Options window is launched from the Terminal Configuration Wizard for a terminal using TermSecure, a checkbox is displayed that enables a virtual keyboard.
See Main Menu Configuration – Terminal Configuration Wizard for details.

Note: It is possible to unselect the ***Show Group Selector on Terminal, Enable Group Hotkeys***, and the ***Enable Main Menu Hot Key*** checkboxes, making it impossible to login a TermSecure User manually.

While the manual lockout might normally be undesirable, it might be desired if one is using the USB of ProxCard badge login to limit logons to badge holders.

Select the ***Next*** button to continue with the **TermSecure User Configuration** wizard.

User Options



User Options

Log In / Log Out Options

- ***Inactivity Timeout*** - TermSecure will log a TermSecure Users off the terminal after this much inactive time has passed.
- ***Reset Sessions at Logout*** - This checkbox, if selected, will logoff a session when the TermSecure User logs off.
- ***Activate User Group at Log In*** - This checkbox, if selected, will display the TermSecure User's first Terminal Server Group when the user logs in to the terminal.

User Schedule

- ***Set Schedule*** -

Selecting the ***Schedule*** button on the **User Options** page will launch the **Event Schedule** window and allow a schedule to be created for terminal events.

See Terminal Schedule for details.

Terminal Effects

- ***Enable Terminal Effects*** - This allows the use of Terminal Effects. This currently includes sliding Windows and message rollups.

Shadowing

- ***Allow terminal to be shadowed*** - This drop-down box allows the configuration of Shadowing Options.
    - ***No*** - Prevents the TermSecure Users from being shadowed.
    - ***Ask*** - Will display a message window that will prompt for a positive response before the shadowing is allowed.
    - ***Warn*** - Will display a message window alerting the terminal that it is to be shadowed, but doesn't require a positive response before the shadowing is allowed.
    - ***Yes*** - Allows shadowing to occur without warning or recipient input.
- ***Allow Interactive Shadow*** - This checkbox, if selected, will allow members with Interactive Shadow privileges to shadow this TermSecure User.

Shadowing is initiated from the Shadow tab on the Details pane of the ThinManager program. Unselecting this will prevent shadowing from within ThinManager.

Select **Finish** to finish the configuration.

TermSecure Users Group Configuration Wizard

TermSecure Users can be organized into TermSecure User Groups, just as Terminals can be organized into Terminal Groups. This Section will show the configuration of a TermSecure User Group.

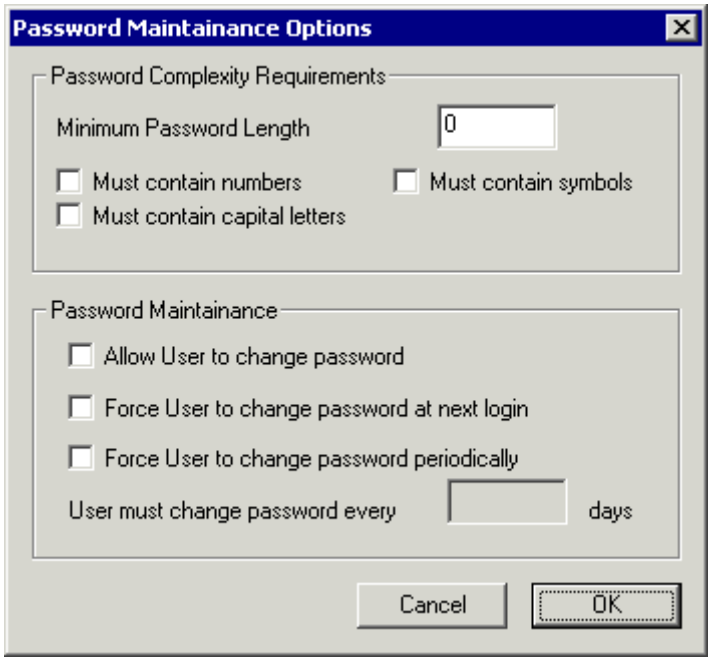
The **TermSecure Users Group Configuration Wizard** can be launched by right clicking on the **TermSecure User**s branch of the tree and selecting ***Add TermSecure User Group***.

TermSecure User Group Information

ThinManager User Information

The **TermSecure User Group Information** has fields for the group name and membership.

- **User Name** - This field names the TermSecure User Group.
- **Password** - This field is unused since each TermSecure User will login as a separate entity.
- **Verify Password** This field is unused.
- **Password Options** - This button launches the **Password Maintenance Options** window that regulates rules for the ThinManager User password.
- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.



Password Maintenance Options

Password Complexity Requirements:

- ***Minimum Password Length*** - Sets the amount of characters that the password must contain to be valid.
- ***Must contain numbers*** - This checkbox, if checked, will require that the password contain at least one number in it.
- ***Must contain symbols*** - This checkbox, if checked, will require that the password contain at least one symbol in it.
- ***Must contain capital letters*** - This checkbox, if checked, will require that the password contain at least one capital letter in it.

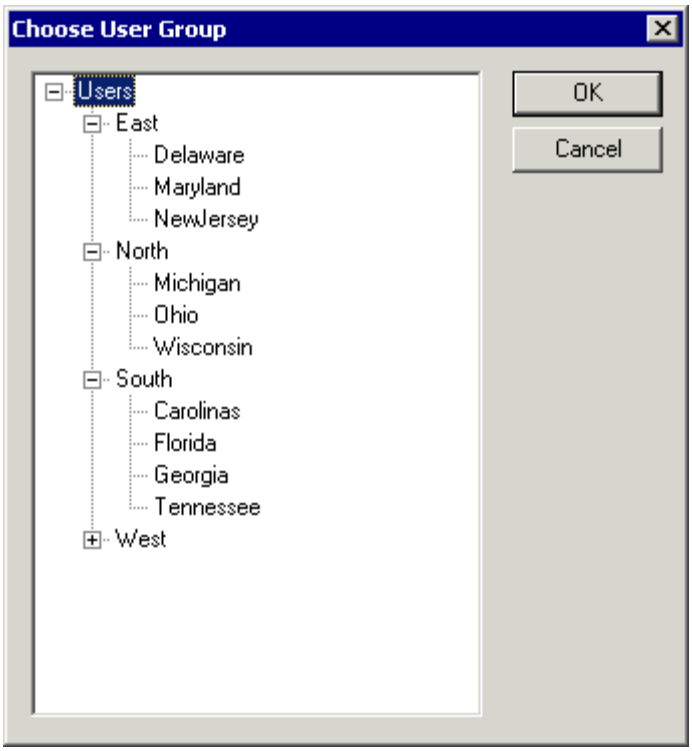
Password Maintenance:

- ***Allow User to change password*** - This checkbox, if checked, will allow the user to change the password at the TermSecure menu.
- ***Force User to change password at next login*** - This checkbox, if checked, will require the user to change the password at the TermSecure menu when they login the next time.
- ***Force User to change password periodically*** - This checkbox, if checked, will require the user to change the password at the TermSecure menu on the schedule set by the ***User must change password every X days*** field.
- ***User must change password every X days*** - This field sets the time period between the scheduled password changes caused by the ***Force User to change password periodically*** checkbox.

The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Group:

- The ***Change Group*** button opens the **Choose User Group** window that allows a TermSecure Users Group to be placed in an existing TermSecure Users Group.



Choose User Group

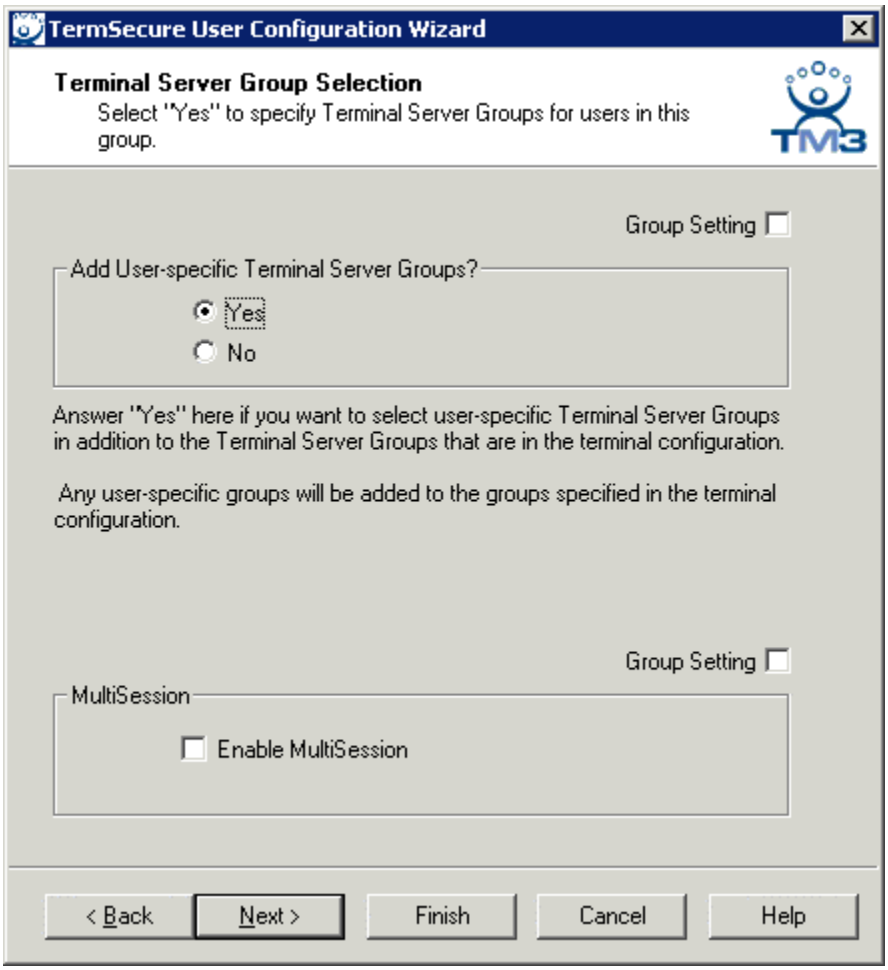
If TermSecure User Groups have been created, the **Choose User Group** window will display the TermSecure User Group branch of the ThinManager tree.

- To add the TermSecure User Group to another TermSecure Users Group, highlight the desired TermSecure Users Group and select the ***OK*** button.
- To move the TermSecure User Group to a different TermSecure Users Group, highlight the desired TermSecure Users Group and select the ***OK*** button.
- To remove the TermSecure User Group from all TermSecure Users Groups, highlight the top-level Users branch and select the ***OK*** button.

The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Select ***Next*** to continue.

TermSecure Group - Terminal Server Group Selection



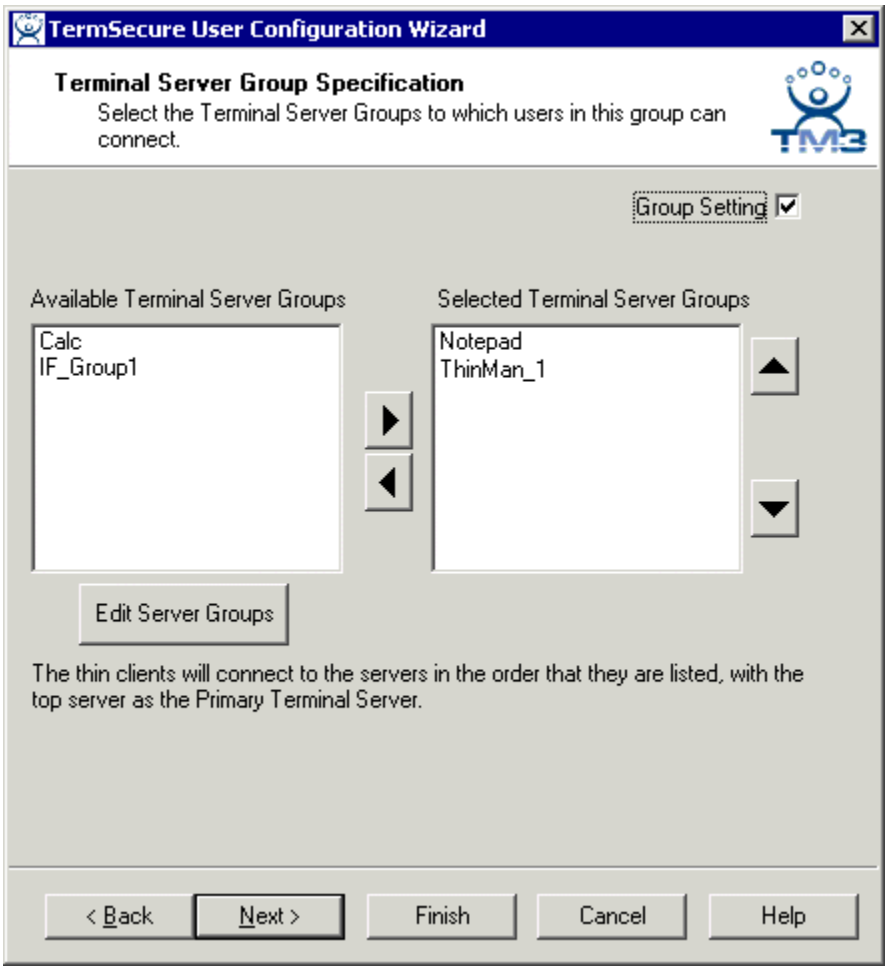
Terminal Server Group Selection

The Terminal Server Group Selection page allows Terminal Server Groups to be assigned to the TermSecure User. When the TermSecure User logs onto a terminal, These Terminal Server Groups will be available on the terminal for him.

- ***Add User specific Terminal Server Groups?*** - This setting, if set to ***Yes***, will allow the selection of Terminal Server Groups for the TermSecure User that will be added to the terminal when the TermSecure User logs in top the terminal.
- ***Enable MultiSession*** - This checkbox, if selected, will allow the TermSecure User to run more than one Terminal Server Group at a time.
- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.

Select the ***Next*** button to continue with the configuration.

TermSecure Group - Terminal Server Group Specification



Terminal Server Group Specification Page

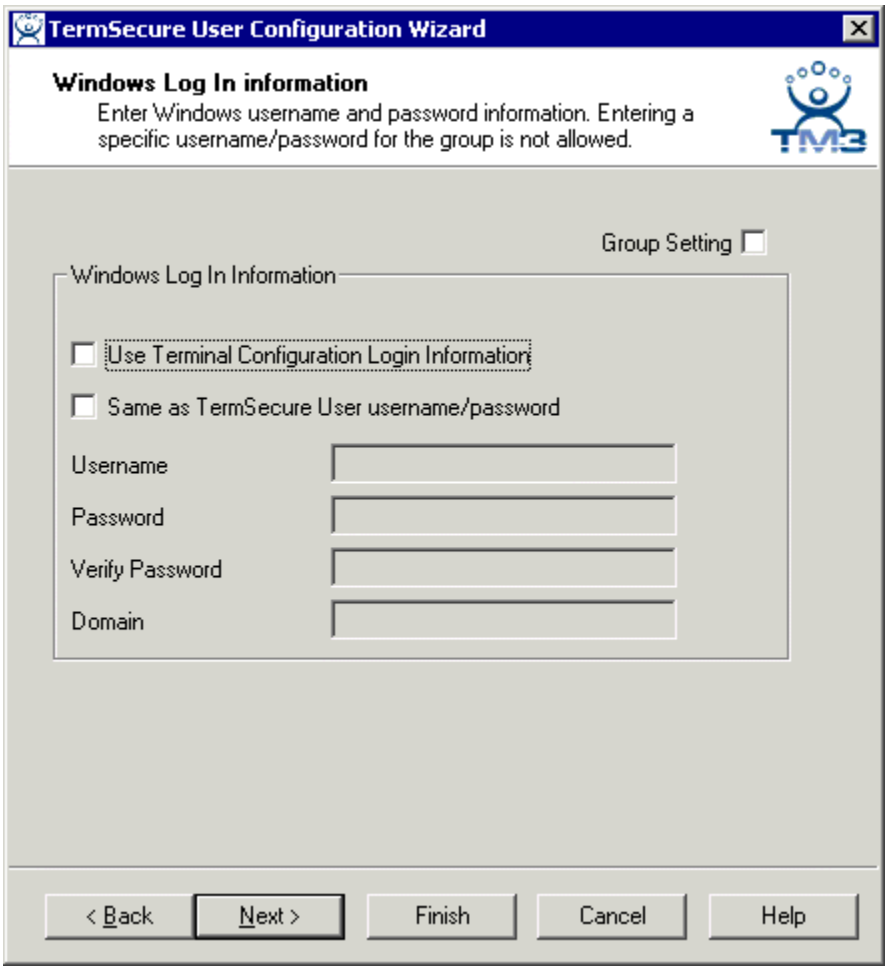
The **Terminal Server Group Specification** page allows Terminal Server Groups to be assigned to the TermSecure User Group if the ***Add User specific Terminal Server Groups?*** radio button is set to ***Yes***.

Move the Terminal Server Groups you want the TermSecure User Group into the ***Selected Terminal Server Groups*** list by double-clicking on it in the ***Available Terminal Server Groups*** list or by highlighting it and clicking the ***Right Arrow*** button.

To add a new Terminal Server Group, select the ***Edit Server Groups*** button to launch the Terminal Server Group Wizard. See Terminal Server Group List for details.

Select the ***Next*** button to continue with the configuration.

TermSecure Group - Windows Login Information



Windows Login Information

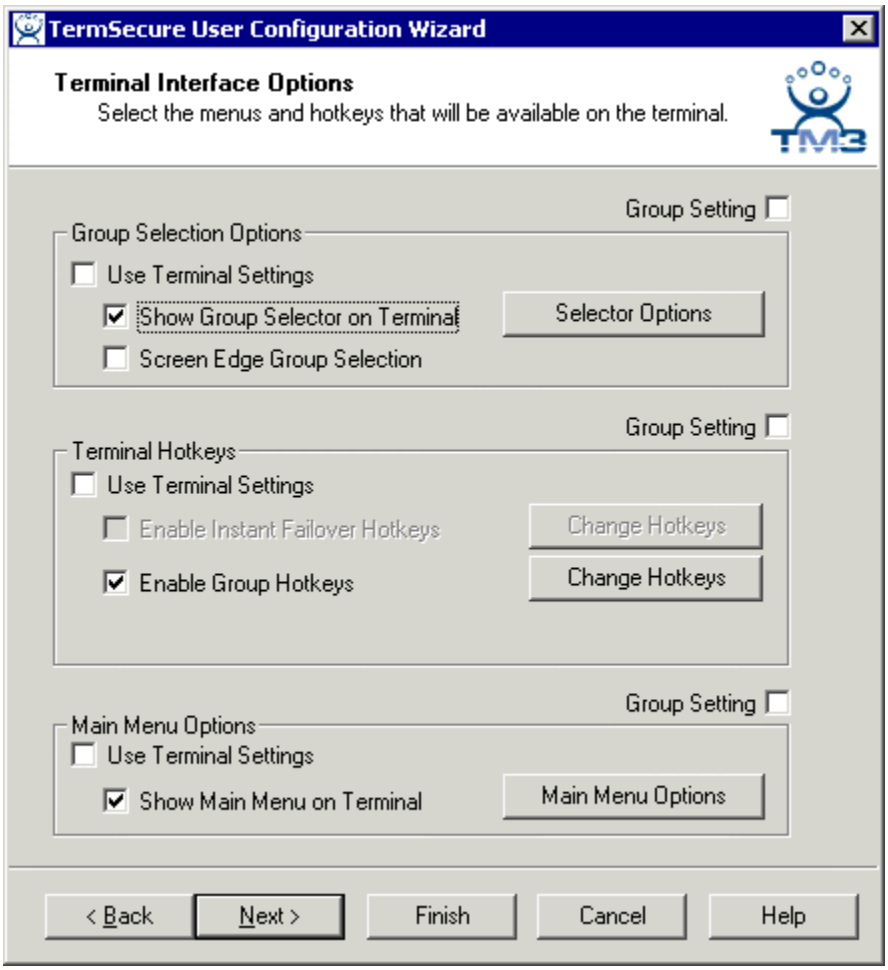
The **Windows Log In Information** page allows the configuration of how the members of the TermSecure User Group will log on to the Windows terminal servers.

There are several Windows login options for the TermSecure User Group.

1. The members of the TermSecure User Group can use the terminal's username and password to auto-log on to the terminal server. To do this, check the ***Use Terminal Configuration Login Information*** checkbox
2. The members of the TermSecure User Group can use the TermSecure User username and password to auto-log on to the terminal server. To do this, check the ***Same as TermSecure User username/password*** checkbox.
3. The members of the TermSecure User Group can use a separate username and password to auto-log on to the terminal server. Because each user should logon with a unique user name and password, the ***Username***, ***Password***, ***Verify Password*** and ***Domain*** fields are inactive for the members of the TermSecure User Group.
4. The TermSecure User can be required to manually log onto the terminal servers. To do this, leave the checkboxes unchecked and the ***Username***, ***Password***, and ***Domain*** empty.

Select the ***Next*** button to continue with the configuration.

TermSecure Group - Terminal Interface Options

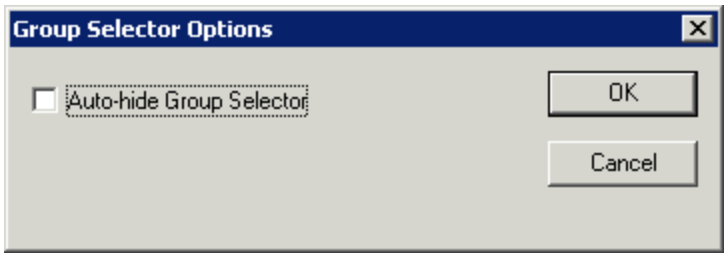


Client Interface Options

The **Terminal Interface Options** page sets the menus and hotkeys for the TermSecure User because a terminal using MultiSession will need to have a method to switch between sessions.

Group Selector Options allow on-screen switching of sessions.

- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.
- ***Use Terminal Settings -*** This checkbox, when selected, will let the TermSecure User inherit the hotkeys that were configured for use with the terminal.
- ***Show Group Selector on Terminal*** - This checkbox, if selected, will display an on-screen drop-down menu that can be activated by mouse.
- ***Screen Edge Group Selection*** - This checkbox, if selected, will activate a feature that will switch windows if the mouse is moved off screen.
- ***Selector Options*** - This button, if selected, will launch the Group Selector Options window.

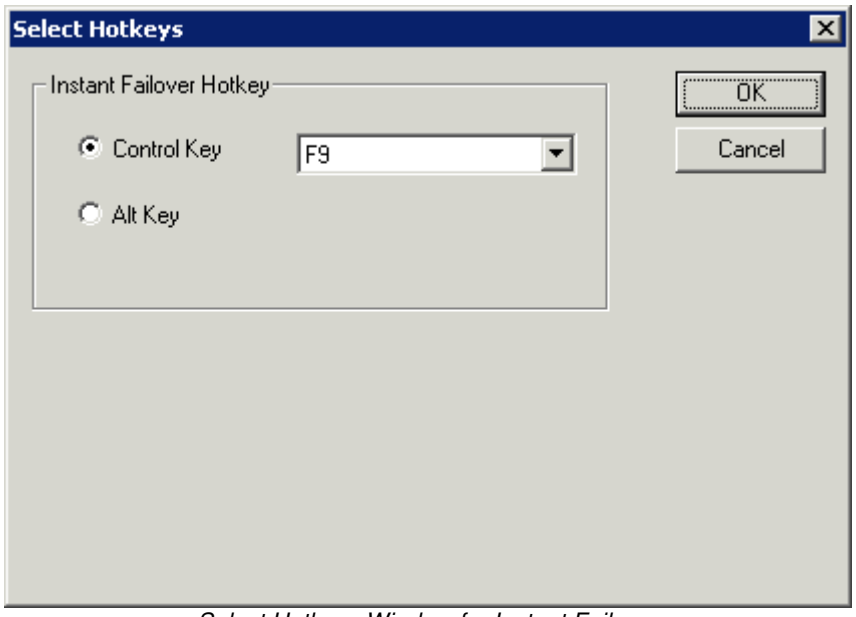


Group Selector Options Window

- ***Auto-hide Group Selector*** - This checkbox, if selected, will hide the on-screen group selector until the mouse is moved over its location. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Terminal Hotkeys allows the selection of keyboard combinations that allow switching between sessions.

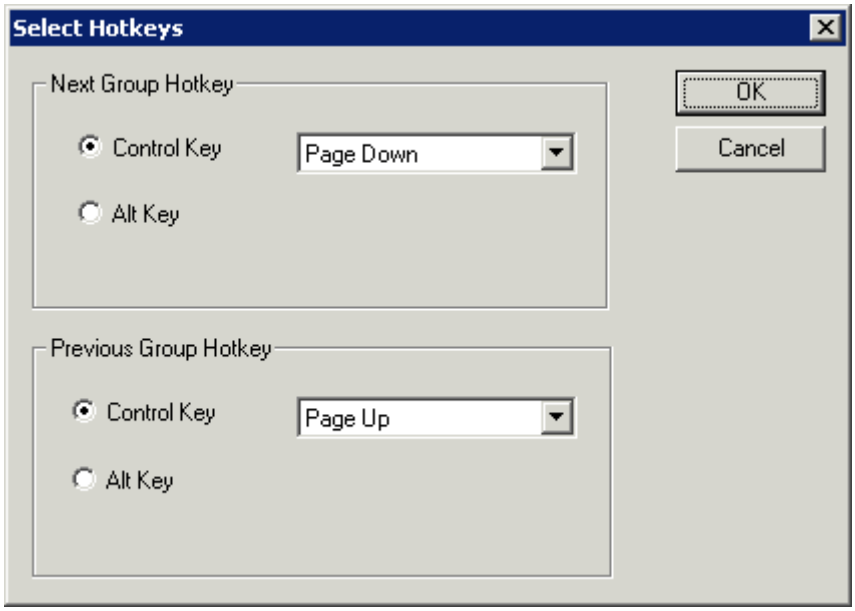
- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.
- ***Use Terminal Settings -*** This checkbox, when selected, will let the TermSecure User inherit the hotkeys that were configured for use with the terminal.
- ***Enable Instant Failover Hotkeys*** - This checkbox, if selected, allows the hot key switching between the two active sessions of a Terminal Server Group that is using Instant Failover.
- ***Change Hotkeys*** - This button, if selected, will launch the **Select Hotkeys** window for Instant Failover.



Select Hotkeys Window for Instant Failover

The hotkey combination for switching between Instant Failover sessions can be changed by selecting the ***Alt Key*** radio button or by selecting a different function key from the dropdown. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

- ***Enable Group Hotkeys*** - This checkbox, if selected, allows the hot key switching between different sessions of a terminal using MultiSession.
- ***Change Hotkeys*** - This button, if selected, will launch the **Select Hotkeys** window for the Group Selector.

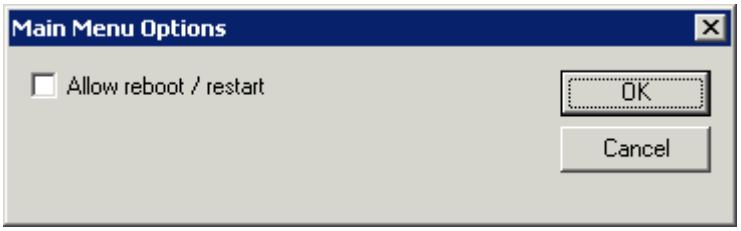


Select Hotkeys for the Group Selector

The hotkey combination for switching between Terminal Server Group sessions can be changed by selecting the ***Alt Key*** radio button or by selecting a different function key from the dropdown. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Main Menu Options allow switching between sessions.

- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.
- ***Use Terminal Settings -*** This checkbox, when selected, will let the TermSecure User inherit the hotkeys that were configured for use with the terminal.
- ***Enable Main Menu Hot Key*** - This checkbox will be displayed if TermSecure is being used and will allow the TermSecure menu to be shown with a hot key, if selected.
- ***Main Menu Options*** - This button, if selected, will launch the **Main Menu Options** window to configure the TermSecure Main Menu options.



Main Menu Options

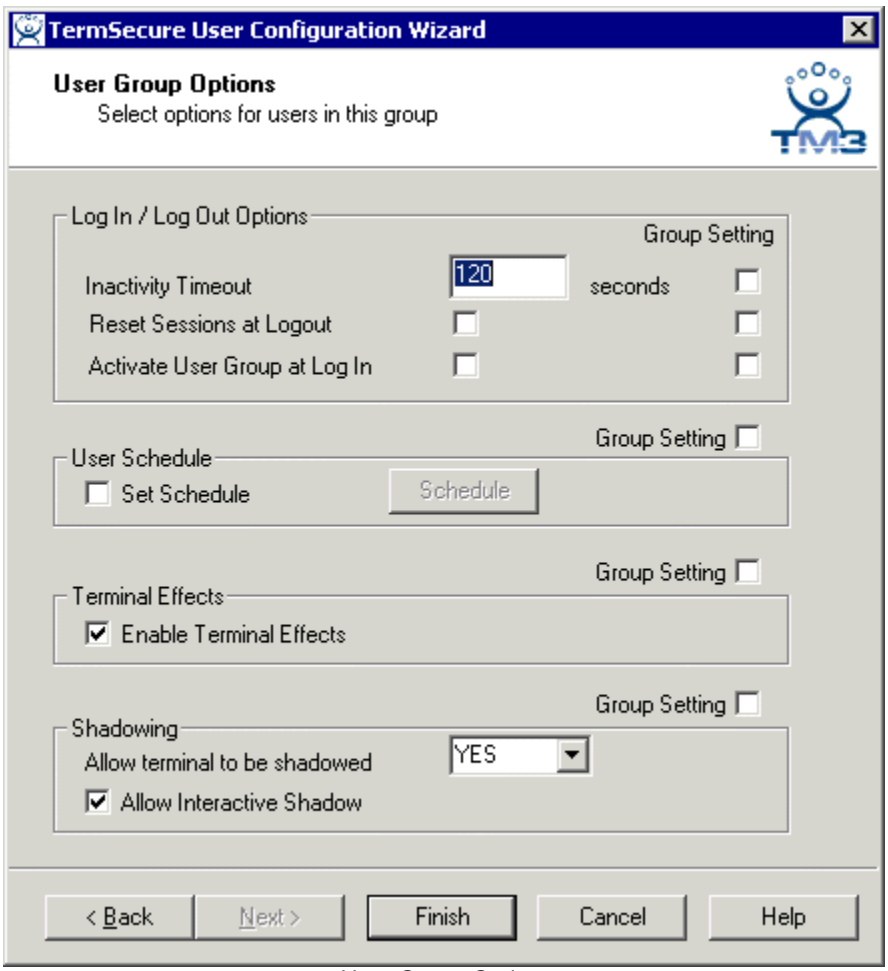
The Allow reboot/restart checkbox, if selected, will place a Shut Down button on the Main Menu that leads to a Reboot/Restart menu to reboot or restart the terminal. The ***OK*** button closes the window with any changes. The ***Cancel*** button closes the window without changes.

Note: If the Main Menu Options window is launched from the Terminal Configuration Wizard for a terminal using TermSecure, a checkbox is displayed that enables a virtual keyboard.
See Main Menu Configuration – Terminal Configuration Wizard for details.

Note: It is possible to unselect the ***Show Group Selector on Terminal, Enable Group Hotkeys***, and the ***Enable Main Menu Hot Key*** checkboxes, making it impossible to login a TermSecure User manually. While the manual lockout might normally be undesirable, it might be desired if one is using the USB of ProxCard badge login to limit logons to badge holders.

Select the ***Next*** button to continue with the **TermSecure User Group Configuration** wizard.

TermSecure Group - User Options



User Group Options

The User Group Options page has settings that configure several features.

Log In / Log Out Options

- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.
- ***Inactivity Timeout*** - TermSecure will log a member of the TermSecure Users Group off the terminal after this much inactive time has passed. Setting this to "**0**" will prevent it from logging off.
- ***Reset Sessions at Logout*** - This checkbox, if selected, will logoff a session when the TermSecure User logs off.
- ***Activate User Group at Log In*** - This checkbox, if selected, will display the TermSecure User's first Terminal Server Group when the user logs in to the terminal.

User Schedule

- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.
- ***Set Schedule*** -Selecting the ***Schedule*** button will launch the **Event Schedule** window and allow a schedule to be created for terminal events.

Terminal Effects

- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.
- ***Enable Terminal Effects*** - This enables terminal effects that currently include sliding windows and rollup message boxes.

Shadowing

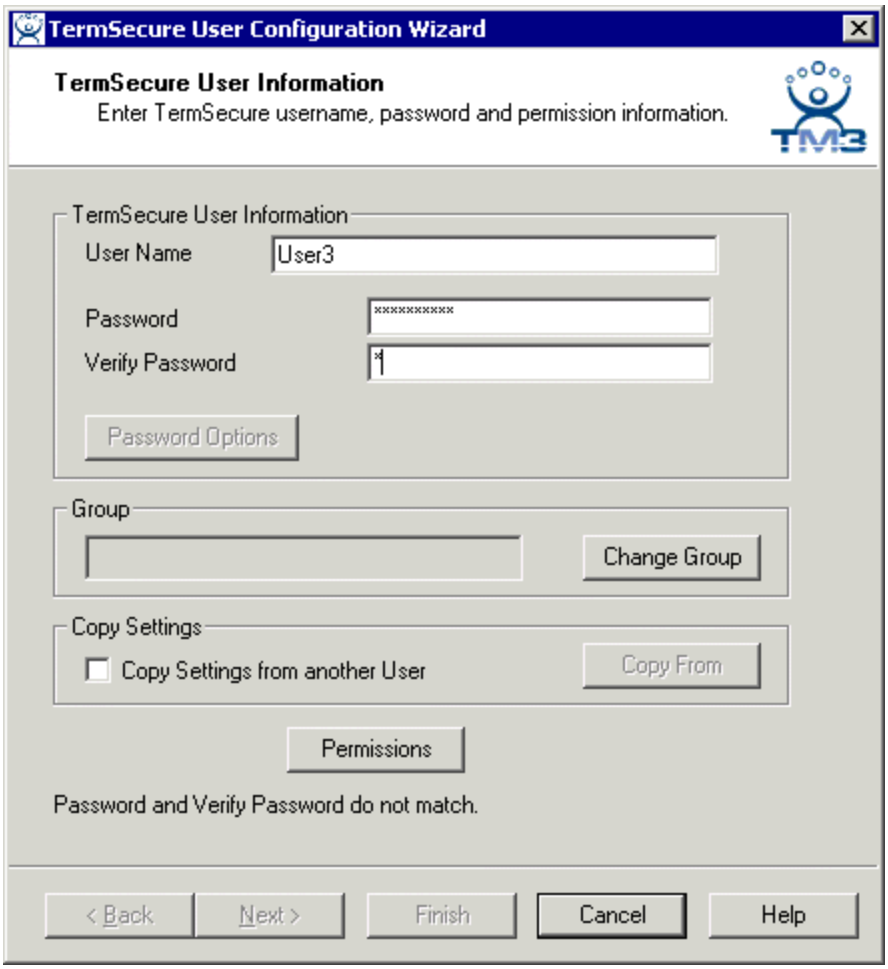
- **Group Setting** - This checkbox, if selected, applies this configuration to all members of the group.
- ***Allow terminal to be shadowed*** - This drop-down box allows the configuration of Shadowing Options.
    - ***No*** - Prevents the TermSecure Users from being shadowed.
    - ***Ask*** - Will display a message window that will prompt for a positive response before the shadowing is allowed.
    - ***Warn*** - Will display a message window alerting the terminal that it is to be shadowed, but doesn't require a positive response before the shadowing is allowed.
    - ***Yes*** - Allows shadowing to occur without warning or recipient input.
- ***Allow Interactive Shadow*** - This checkbox, if selected, will allow members with Interactive Shadow privileges to shadow this TermSecure User.

Shadowing is initiated from the Shadow tab on the Details pane of the ThinManager program. Unselecting this will prevent shadowing from within ThinManager

Select ***Finish*** to complete the configuration.

Adding a TermSecure User to the TermSecure User Group

To add a TermSecure User to a TermSecure User Group, create a new TermSecure User by right clicking on the **TermSecure Users** branch in the ThinManager tree and select the ***Add TermSecure User*** option.

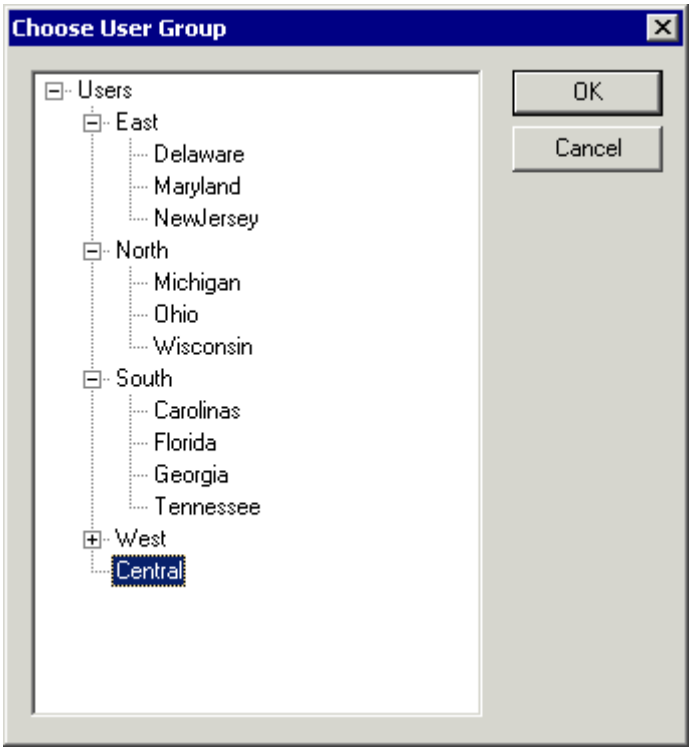


TermSecure User Information Page

Enter a name for the TermSecure User in the ***User Name*** field.

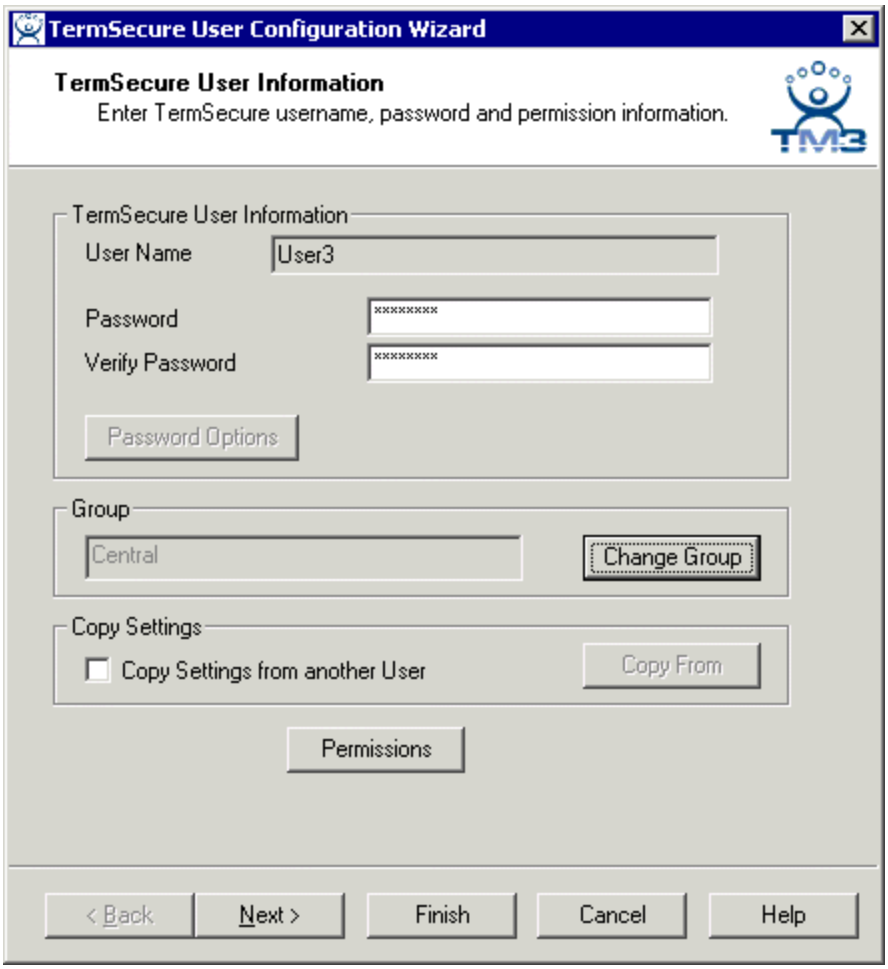
Select the ***Change Group*** button.

This will launch the **Choose User Group** window.



Choose User Group Window

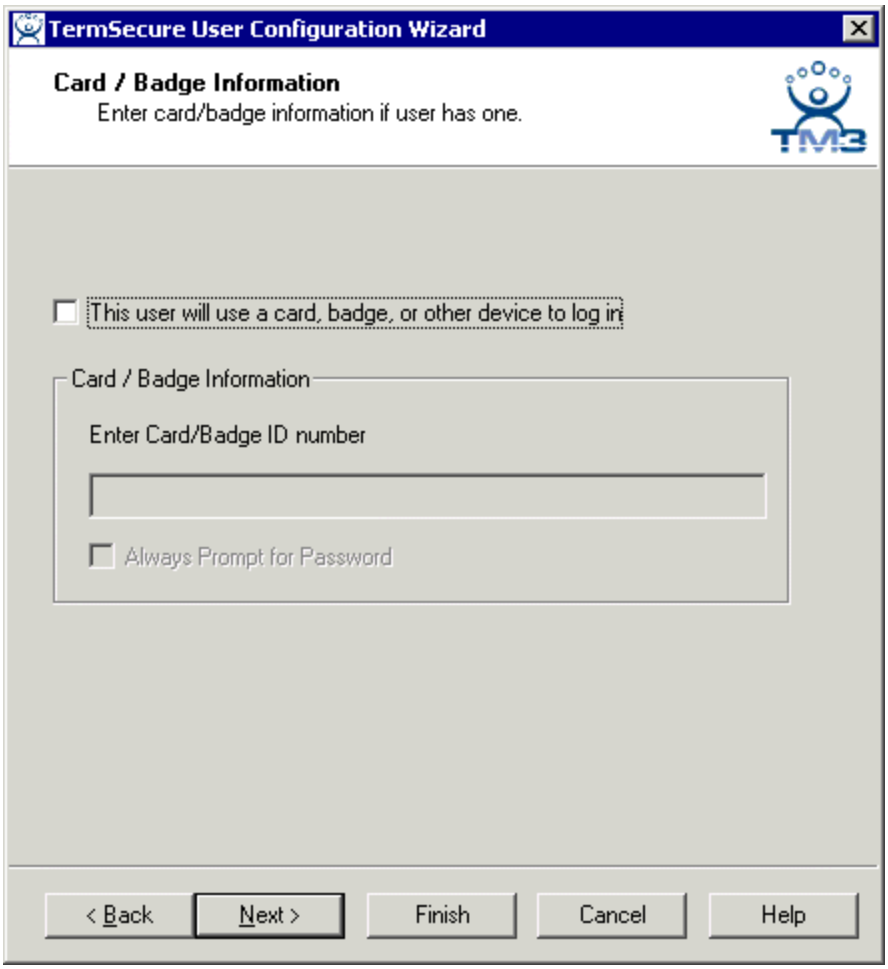
Highlight your TermSecure Users Group and select **OK**. This will accept the changes and close the window.



TermSecure User Information Page

The **TermSecure User Group** will now be displayed in the ***Group*** field.

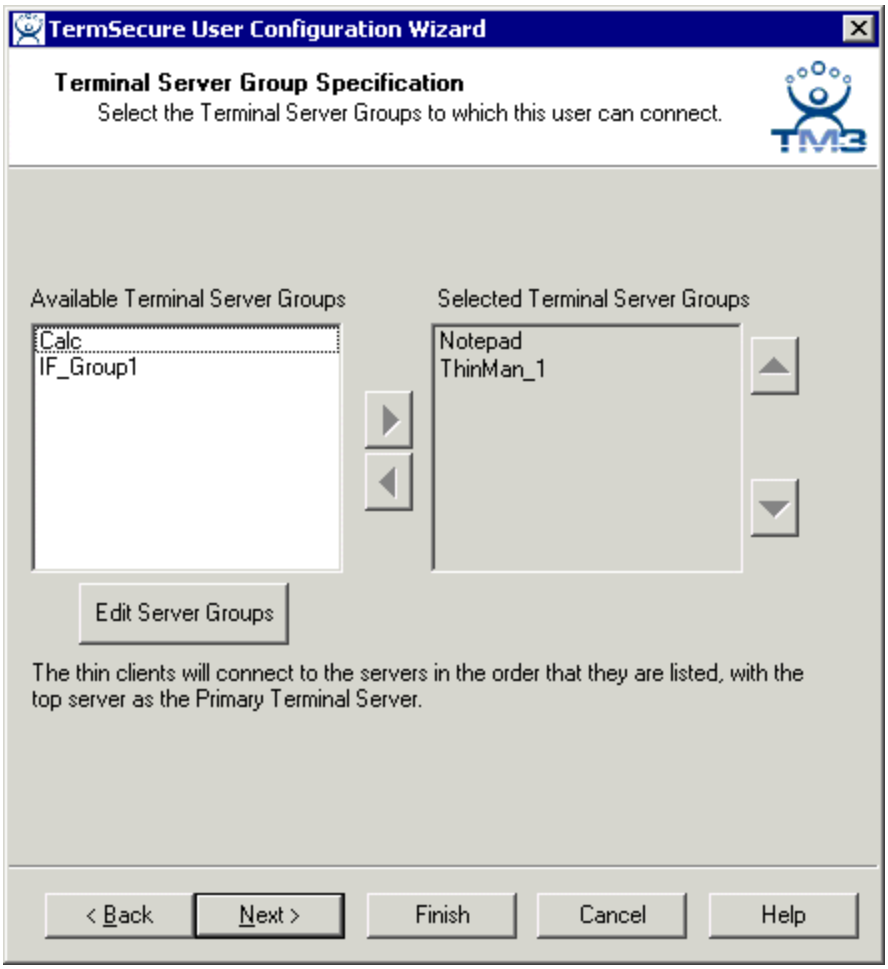
Select ***Next*** to continue.



Card/Badge Information

The Card/Badge Information options are available because these are individual settings, not group settings.

Select ***Next*** to continue.



Terminal Server Group Specification

Each of the settings that have the ***Group Setting*** checkbox selected in the **TermSecure User Group wizard** will be grayed out because the ***Group Setting*** enforces the configuration of each chosen parameter.

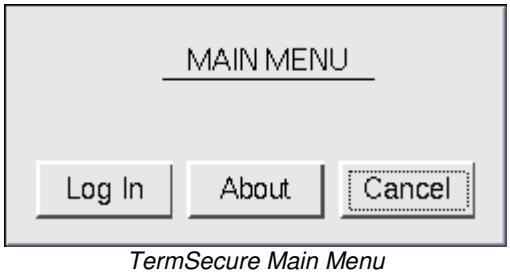
Select the ***Finish*** button to accept the configuration.

TermSecure Login

To log in a TermSecure User on a terminal, go to a terminal that has the ***Enable TermSecure*** checkbox selected on the **Terminal Server Specification** page.

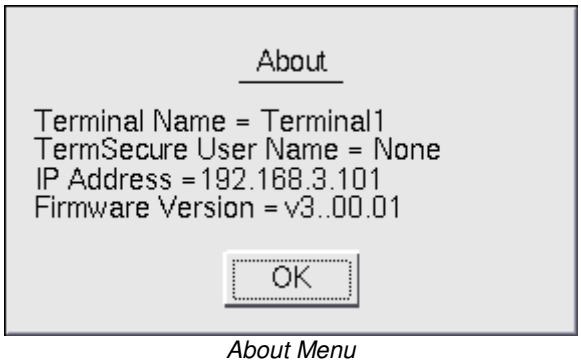
Type **CTL+m** at the keyboard.

The Main Menu will be displayed on the terminal.



TermSecure Main Menu

The ***About*** button to see details about the terminal.



About Menu

Select ***OK*** to close the **About** window.

Select the ***Log In*** button to login.

TermSecure Log On Screen

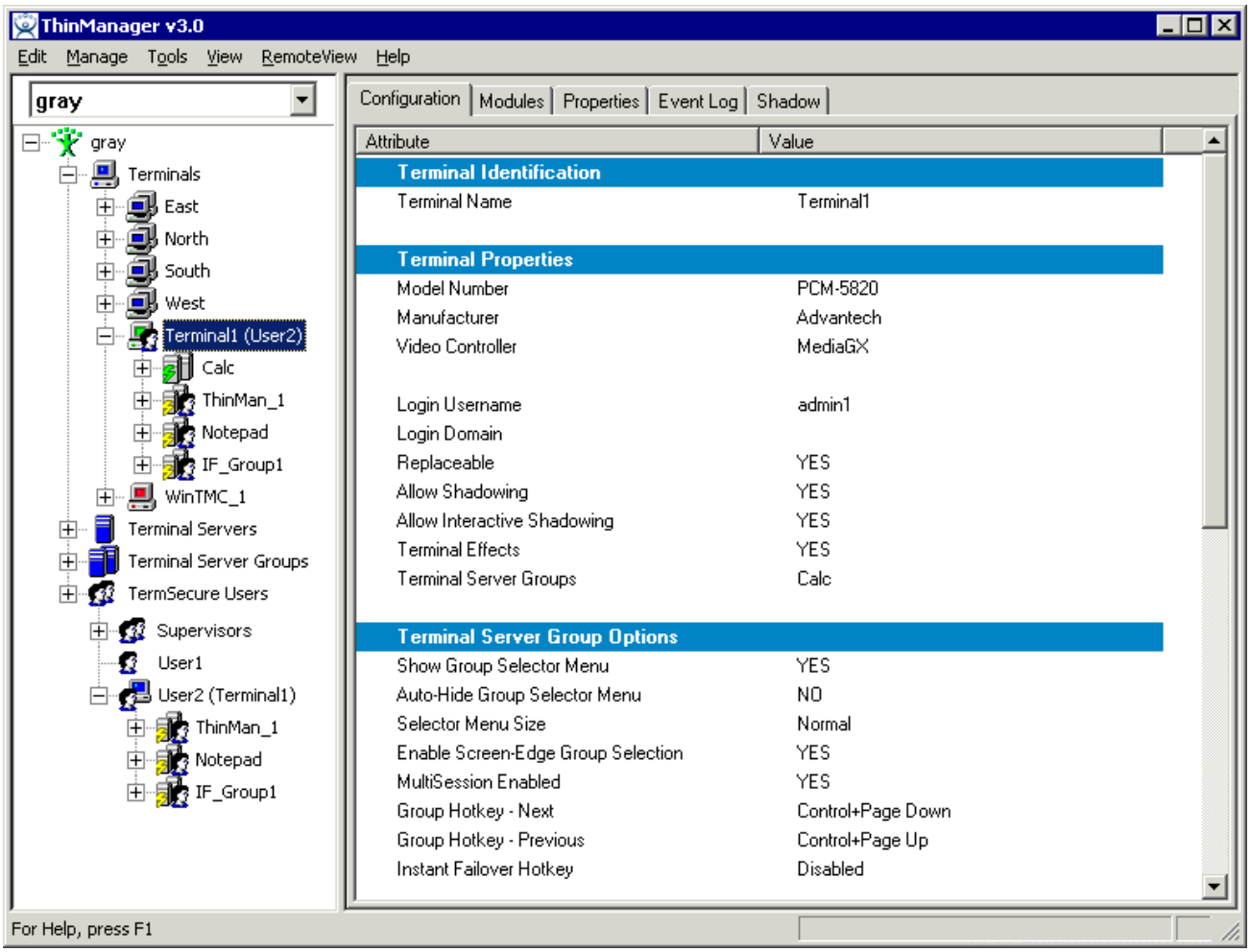
Enter your TermSecure User user name in the ***Enter User Name*** field.

Select **OK**.

Password Screen

Enter the password in the field.

Select the ***OK*** button. If the user name and password are correct, ThinManager will allow the login.



ThinManager With TermSecure Log On

Once a TermSecure User is logged into a terminal, ThinManager will display the TermSecure User's name after the terminal name in the tree. ThinManager will add the name of the terminal after the TermSecure User name in the tree.

Logging Out

The TermSecure User can be logged out by:

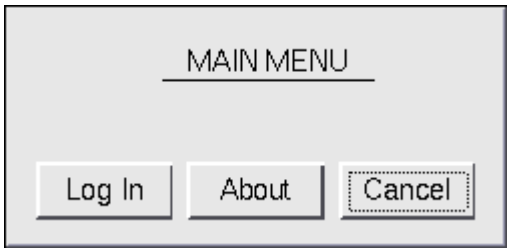
- Opening the **TermSecure Main Menu** (type ***CTL+m***) on the terminal and selecting the ***Log Off*** button.
- Right clicking on the TermSecure User in the ThinManager tree and selecting ***Logoff User***.
- Restarting or Rebooting the terminal that has a TermSecure User logged in.

Main Menu

The ***Switch User*** button will log off the TermSecure User and open the Login screen for another TermSecure User. The ***Log Off*** button will log of the TermSecure User and return to the terminal's display.

TermSecure Menu

The **TermSecure Menu** that is displayed on a terminal that allows TermSecure Users to manually log on to a ThinManager Ready terminal is configurable for use with TermSecure. This menu is generated from the terminal and not the terminal server session.



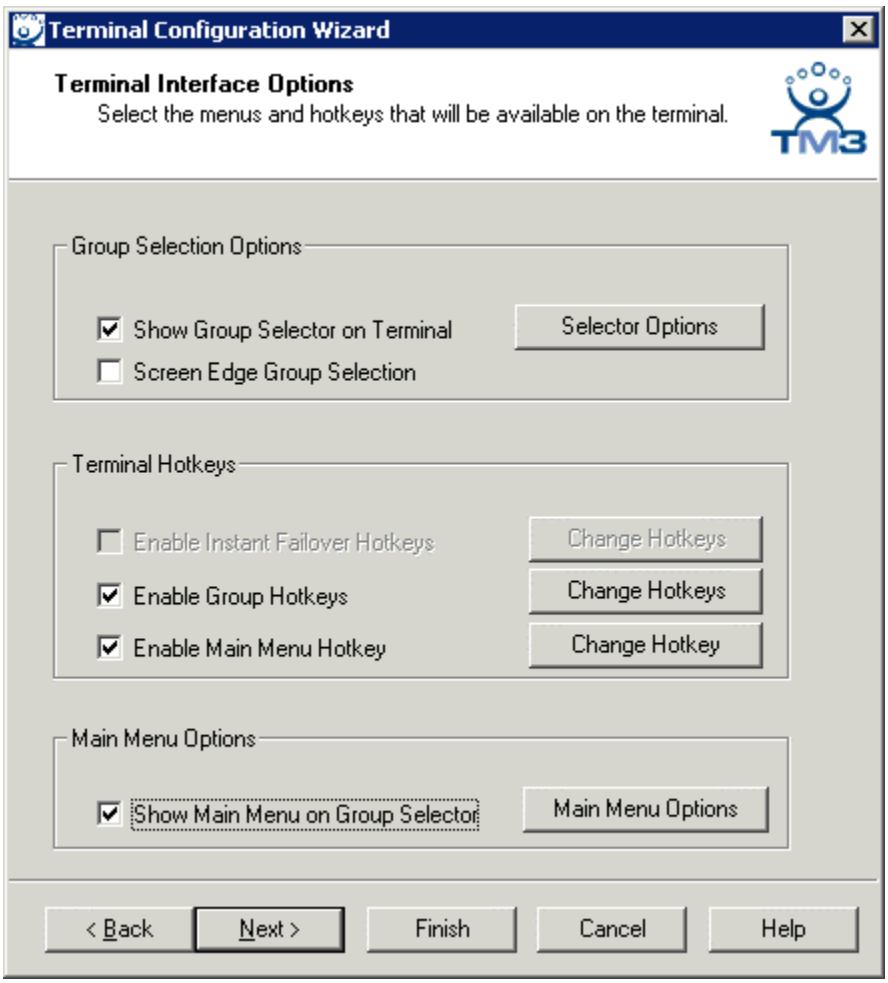
Basic TermSecure Menu

The TermSecure Menu can be configured by a number of settings in the **Terminal Configuration Wizard** and **TermSecure User Wizard**.

The **Main Menu** is activated on the **Terminal Interface Options** page of the **Terminal Configuration Wizard** and/or **TermSecure User Configuration Wizard**.

Main Menu Configuration - Terminal Configuration Wizard

Open the **Terminal Configuration Wizard** by double clicking on the desired terminal in the ThinManager tree. Terminals using Terminal Server Groups will display the **Terminal Interface Options** page. This page will display Main Menu options when TermSecure is enabled for the terminal.

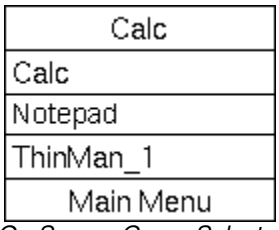


Terminal Interface Options Page

A terminal using MultiSession will need to have a method to switch between sessions. This is configured on the Terminal Interface Options page. For terminals using TermSecure, additional Main Menu options are available, as shown. See Terminal Interface Options for a terminal for a comparison.

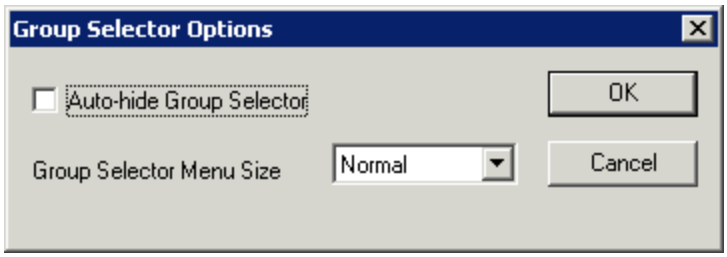
Group Selector Options allow on-screen switching of sessions.

- ***Show Group Selector on Terminal*** - This checkbox, if selected, will display an on-screen drop-down menu that can be activated by mouse.



On-Screen Group Selector

- ***Screen Edge Group Selection*** - This checkbox, if selected, will activate a feature that will switch windows if the mouse is moved off screen.
- ***Selector Options*** button will launch **the Group Selector Options** window that allows configuration of the on-screen Group Selector.



Group Selector Options Window

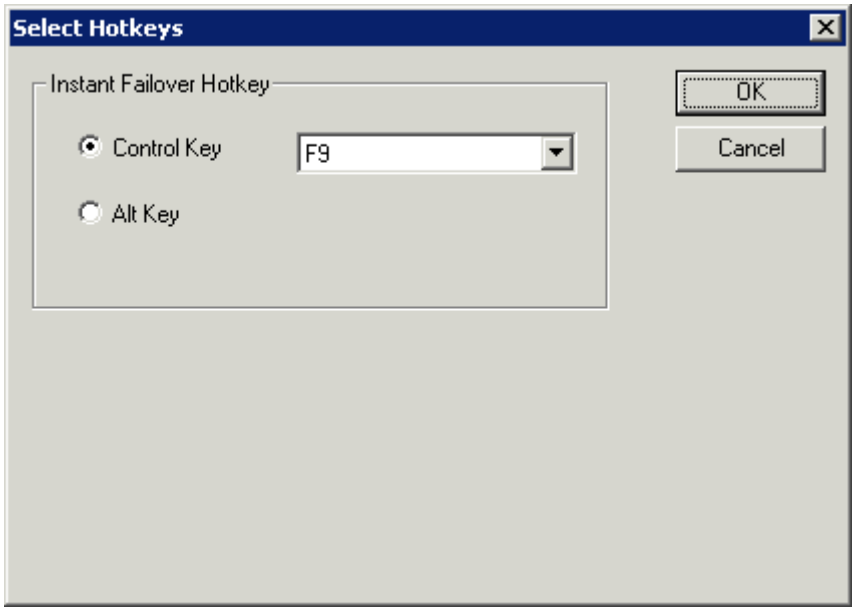
The ***Auto-hide Group Selector*** checkbox, if selected, will hide the Group Selector until the mouse is move to that space.

The ***Group Selector Menu Size*** drop-down box allows the setting of the size of the Group Selector font.

Terminal Hotkeys on the **Terminal Interface Options** page allows the selection of keyboard combinations that allow switching between sessions and launching the TermSecure Main Menu.

- ***Enable Instant Failover Hotkeys*** - This checkbox, if selected, allows the hot key switching between the two active sessions of a Terminal Server Group that is using Instant Failover.
- ***Change Hotkeys*** - This button allows the **Instant Failover hotkey** to be configured.

  Selecting the ***Change Hotkeys*** button when ***Enable Instant Failover Hotkeys*** is selected will allow the Instant Failover hotkeys to be changed from the default.

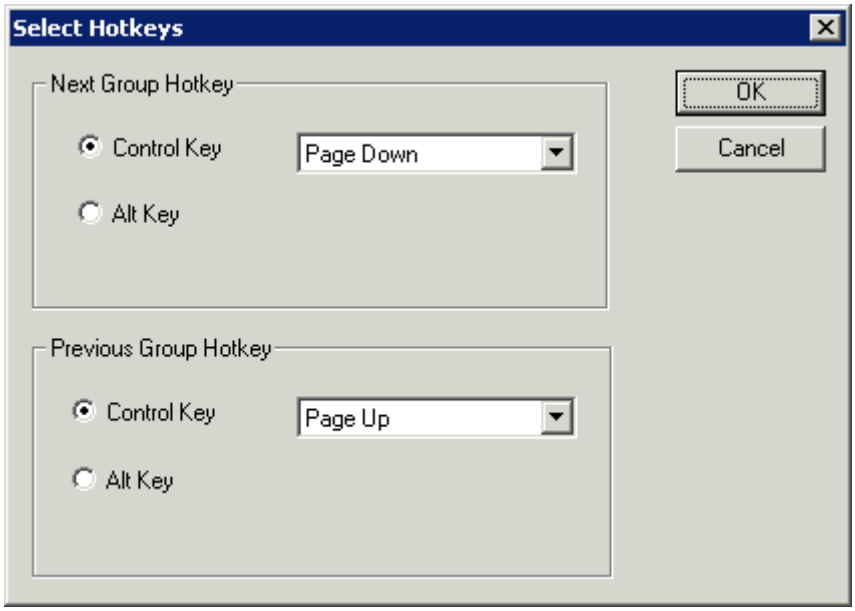


Select Instant Failover Hotkeys

The default hotkey for Instant Failover switching is set to ***Control+F9***. This can be changed by selecting the ***Alt Key*** radio button or using the drop-down to select another function key.

- ***Enable Group Hotkeys*** - This checkbox, if selected, allows the hotkey switching between different sessions of a terminal using MultiSession.
- ***Change Hotkeys*** - This button allows the **Group hotkey** to be configured.

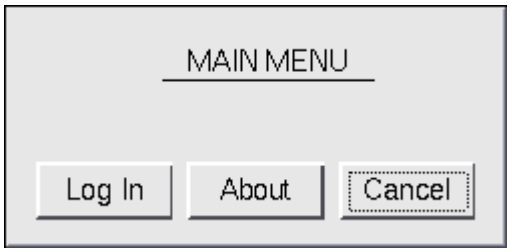
  Selecting the ***Change Hotkeys*** button when ***Enable Group Hotkeys*** is selected will allow the MultiSession Switching hotkeys to be changed from the default.



Select MultiSession Switching Hotkeys

The default hotkey for MultiSession switching is set to ***Control+Page Up*** and ***Control+Page Down***. This can be changed by selecting the ***Alt Key*** radio button or using the drop-down to select another hot key.

- ***Enable Main Menu Hotkeys*** - This checkbox, if selected, allows the Main Menu to be launched with a hotkey combination. This terminal option is only configurable in the Terminal Configuration Wizard.

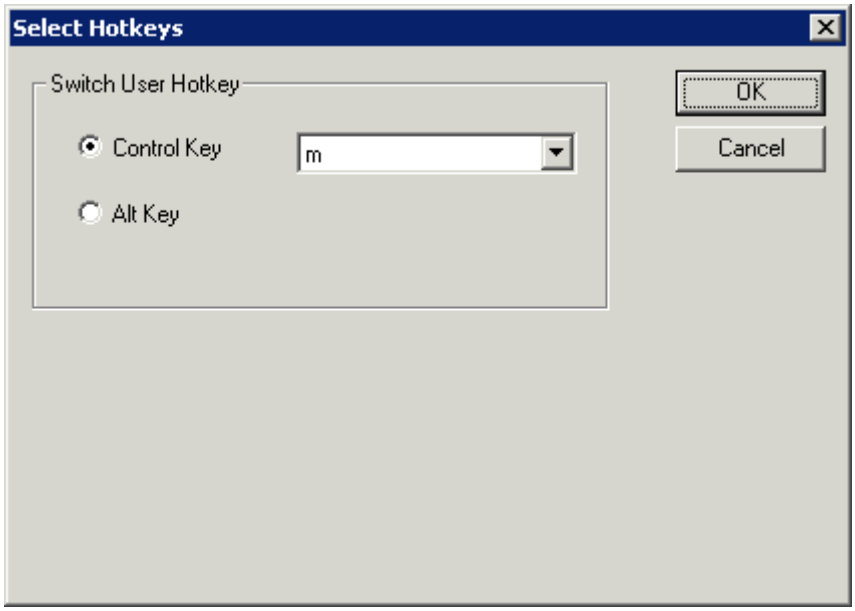


Main Menu

The Main Menu can be launched with the **Ctrl+ m** hotkey if the ***Enable Main Menu Hotkey*** checkbox is selected.

- ***Change Hotkey*** - This button allows the **Main Menu hotkey** to be configured.

  Selecting the ***Change Hotkey*** button when ***Enable Main Menu Hotkey*** is selected will allow the TermSecure Main Menu hotkey to be changed from the default.

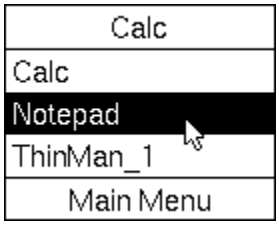


Enable Main Menu Hotkey

The default hotkey for launching the Main Menu is ***Control+m***. This can be changed by selecting the ***Alt Key*** radio button or using the drop-down to select another hotkey.

Main Menu Options:

- ***Show Main Menu on Group Selector*** - This adds a Main Menu launch command to the Group Selector.

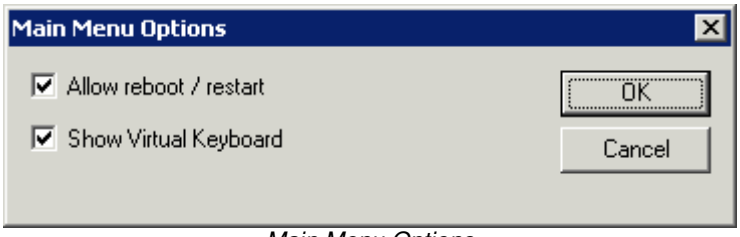


Group Selector with Main Menu Option

Moving the mouse over the Group Selector menu and selecting the Main Menu entry will launch the Main Menu.

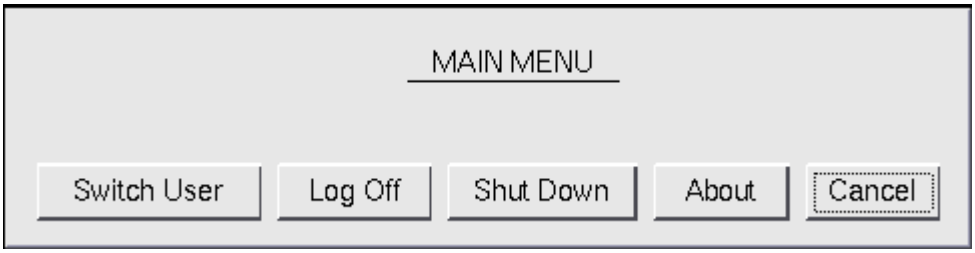
- ***Main Menu Options*** - This allows the addition of a ***Restart*** and ***Reboot*** button to the TermSecure Menu. It also enables an on-screen keyboard to aid with logins.

Selecting the ***Min Menu Options*** button will allow the TermSecure Main Menu to be changed from the default.



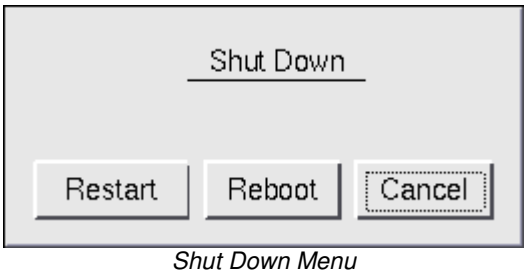
Main Menu Options

The ***Allow reboot/restart*** checkbox, if selected, will add a ***Shut Down*** button to the TermSecure Main Menu. The ***Shut Down*** button leads to a menu with a ***Restart*** and ***Reboot*** button.



Main Menu with Shut Down Button

Once the user logs out, a ***Shut Down*** button will appear on the Main Menu. Selecting the ***Shut Down*** button will launch the **Shut Down Menu**.



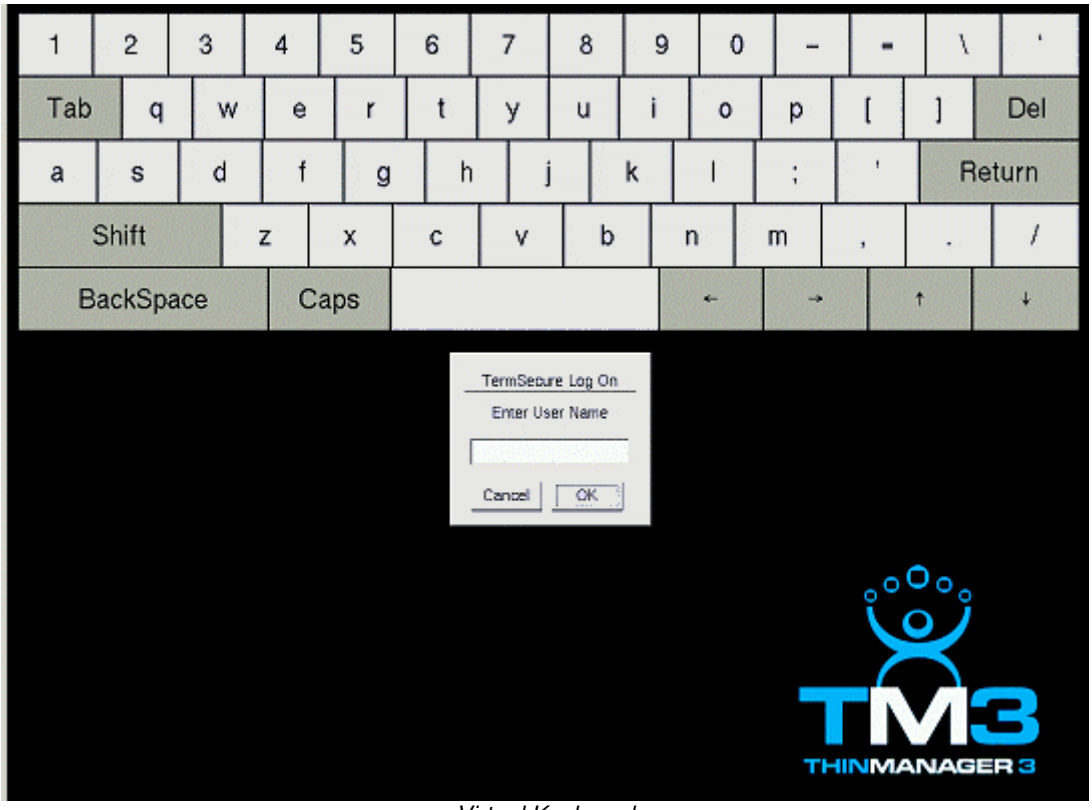
Shut Down Menu

The **Shut Down** window has two buttons.

- ***Restart*** , when selected, will log off the TermSecure User, reload the configuration and load any changes.

- ***Reboot***, when selected, will log off the TermSecure User, power off the terminal and reload firmware and configuration.

The ***Show Virtual Keyboard*** checkbox, if selected, will display an on-screen keyboard to assist in logins.

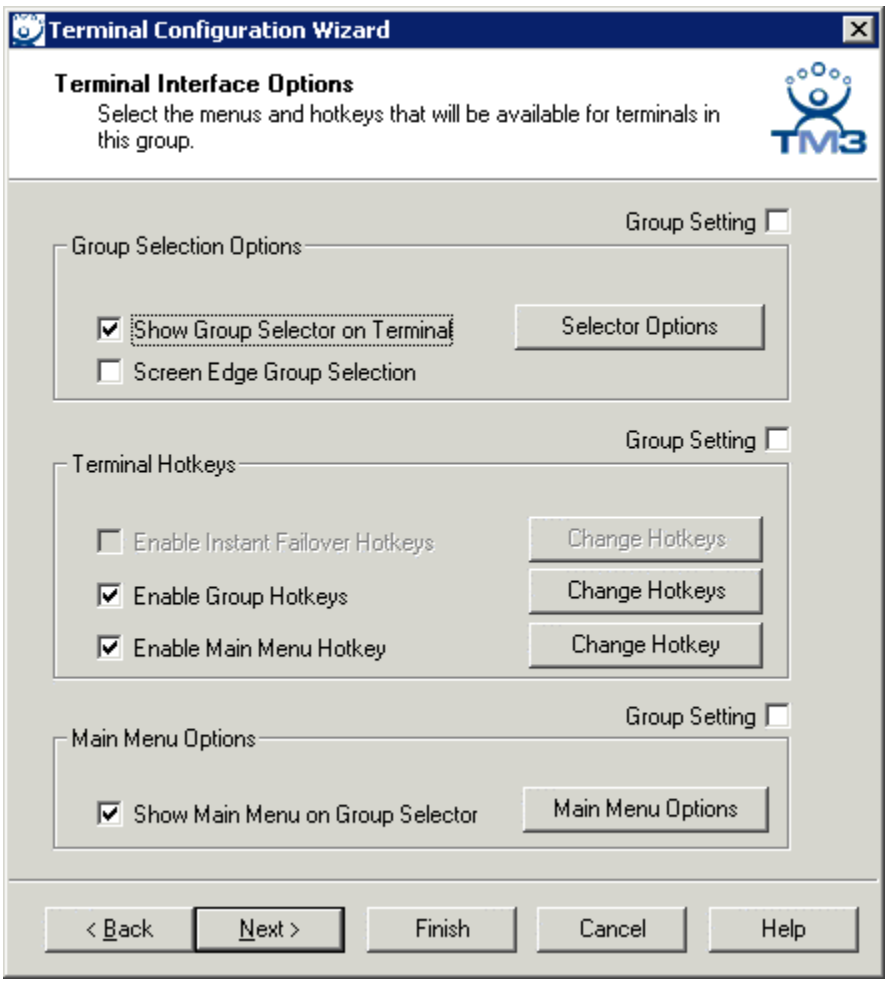


Virtual Keyboard

The virtual keyboard allows users to login to terminals that use a touch screen instead of a keyboard and mouse.

Main Menu Configuration - Terminal Group Configuration Wizard

The Main Menu Group Selection and Hotkey options are also configurable in the **Terminal Group Configuration Wizard** on the **Terminal Interface Options** page.



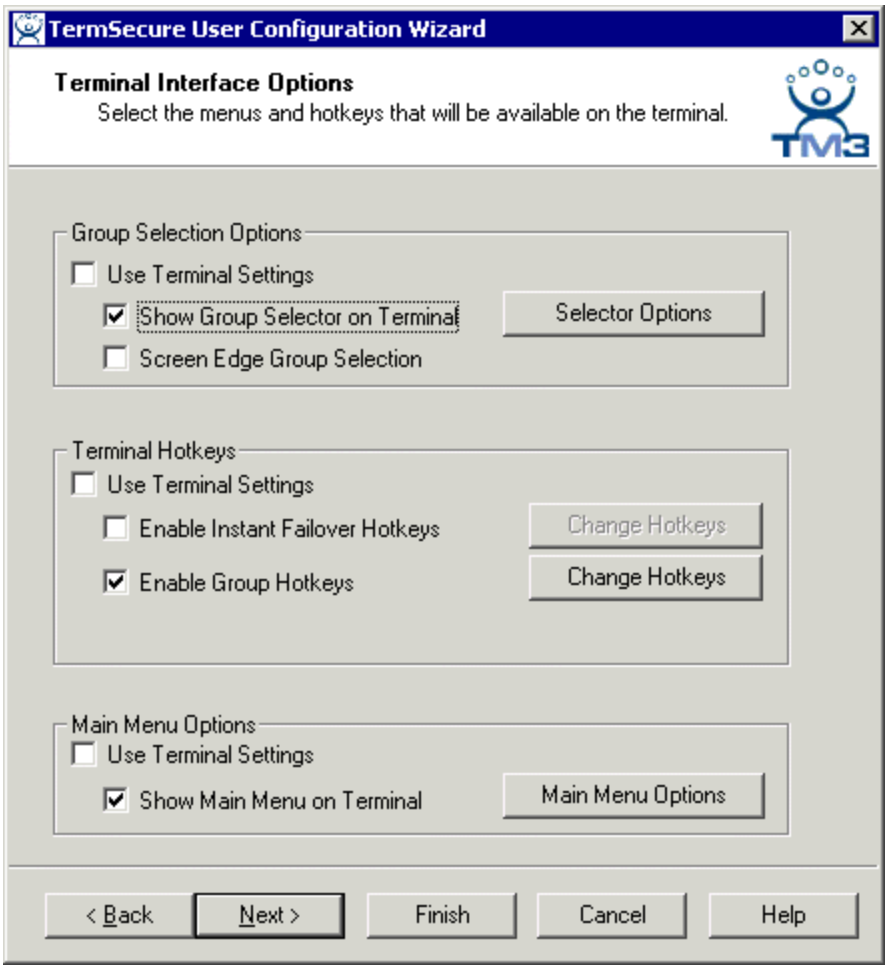
TermSecure User Configuration Wizard - Terminal Interface Options Page

The **Terminal Interface Options** window of the **Terminal Group Configuration** is the same as the **Terminal Interface Options** window of the **Terminal Configuration Wizard** except for the Group Setting checkboxes. The ***Group Setting*** checkbox, if selected, will apply that setting to all members of the group.

See Terminal Interface Options for details on this configuration.

Main Menu Configuration - TermSecure User Configuration Wizard

The Main Menu Group Selection and Hotkey options are also configurable in the **TermSecure User Configuration Wizard** on the **Terminal Interface Options** page.



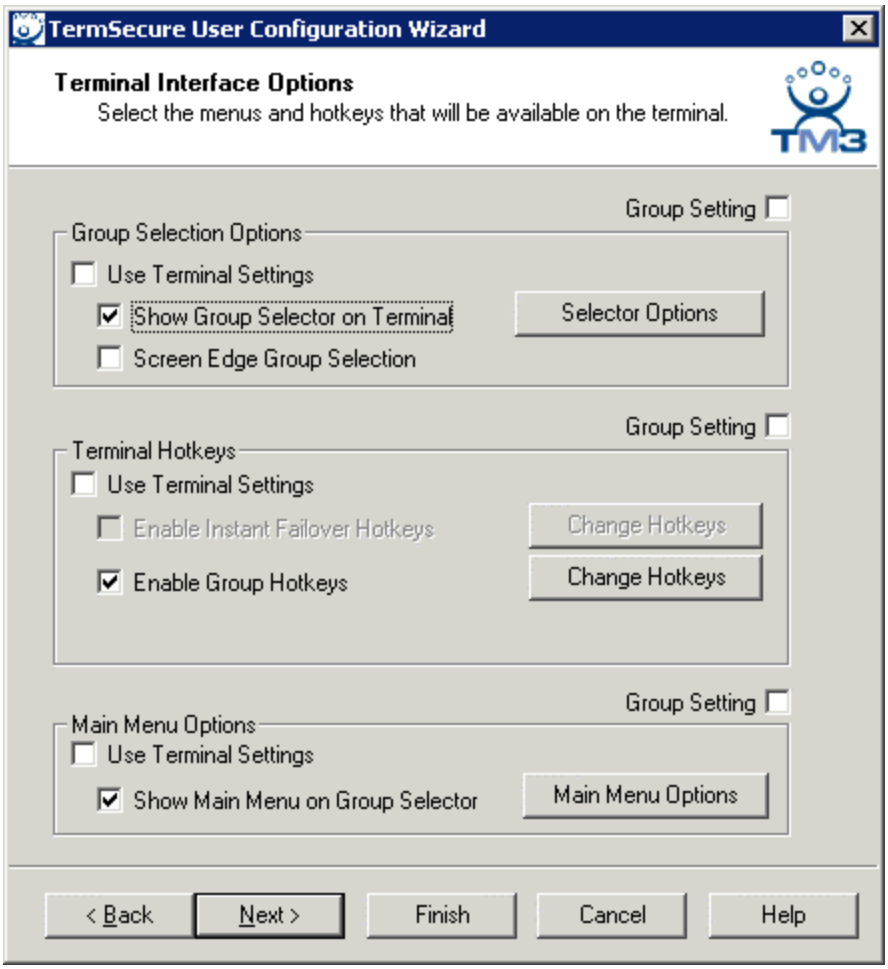
TermSecure User Configuration Wizard - Terminal Interface Options Page

The **Terminal Interface Options** window of the **TermSecure User Configuration** is the same as the **Terminal Interface Options** window of the **Terminal Configuration Wizard** except for the absence of the ***Enable Main Menu Hotkey*** checkbox. This setting affects the display on the terminal and is not available for configuration for TermSecure Users.

See Terminal Interface Options for details on this configuration.

Main Menu Configuration - TermSecure User Group Configuration Wizard

The Main Menu Group Selection and Hotkey options are also configurable in the **TermSecure User Group Configuration Wizard** on the **Terminal Interface Options** page.



TermSecure User Configuration Wizard - Terminal Interface Options Page

The **Terminal Interface Options** window of the **TermSecure User Group Configuration** is the same as the **Terminal Interface Options** window of the **Terminal Configuration Wizard** except for the absence of the ***Enable Main Menu Hotkey*** checkbox and the addition of ***Group Setting*** checkboxes.

The ***Enable Main Menu Hotkey*** setting affects the display on the terminal and is not available for configuration for TermSecure Users and TermSecure User Groups.

The ***Group Setting*** checkbox, if selected, will apply that setting to all members of the group.

See Terminal Interface Options for details on this configuration.

Permissions

Creating Permissions Groups

Permissions grant or limit access through the TermSecure Access Groups. Select the ***Permissions*** button in the **Terminal Configuration Wizard**, the Terminal **Group Configuration Wizard**, the **Terminal Server Group Wizard**, the **TermSecure User Wizard**, or the **TermSecure Users Group Wizard** to set these up.

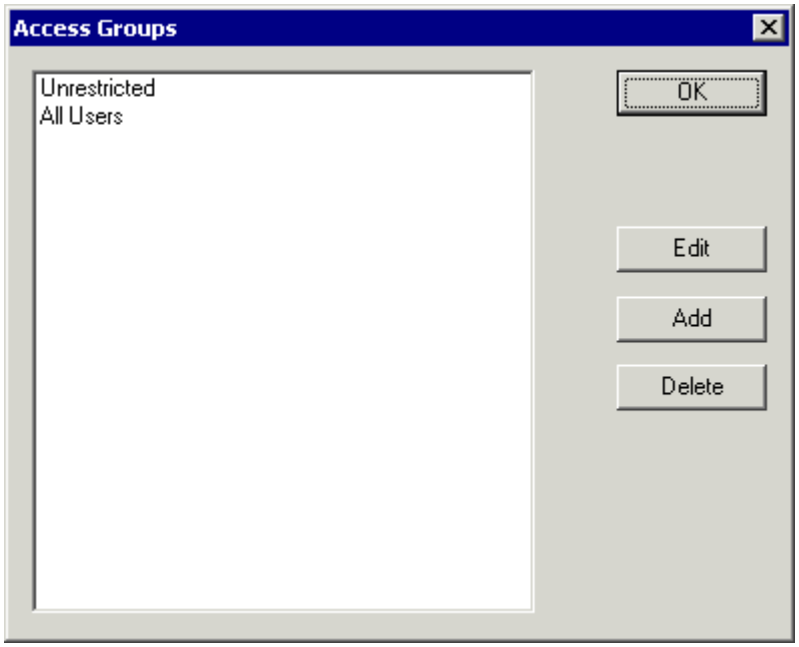
- **Terminal Permissions** is the list of named permission groups whose members may access a terminal. The **Unrestricted** group does not require a membership to access.
- **Terminal Group Permissions** is the list of named permission groups whose members may access a terminal belonging to the Terminal group. The **Unrestricted** group does not require membership to access.
- **Terminal Server Group Permissions** is a list of named permission groups whose members may access and view a terminal server group. The **Unrestricted** group does not require a login.
- **TermSecure User Permissions** is a list of named permission groups to which a TermSecure User belongs.
- **TermSecure User Group Permissions** is a list of named permission groups to which members of a TermSecure User Group belong.

A TermSecure User can use a terminal when they share membership in a TermSecure Access Group.

A TermSecure User can use a Terminal Server Group when they share membership in a TermSecure Access Group.

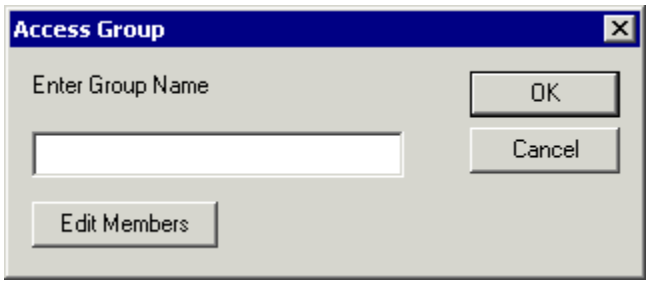
Creating a TermSecure Access Group

Selecting ***Manage> TermSecure Access Groups*** from the ThinManager menu will launch the **Access Groups** window.



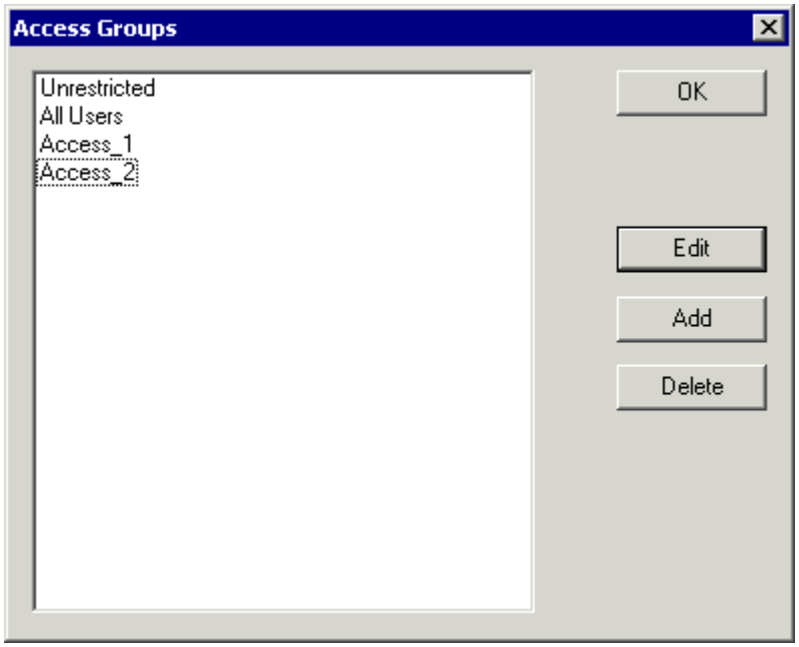
Access Groups Window with Default Groups

Select the ***Add*** button to add an Access Group. The ***Add*** button launches an Access Group window.



Permission Group Creation Window

Enter a name for the new TermSecure Access Group and select ***OK*** to create the group.



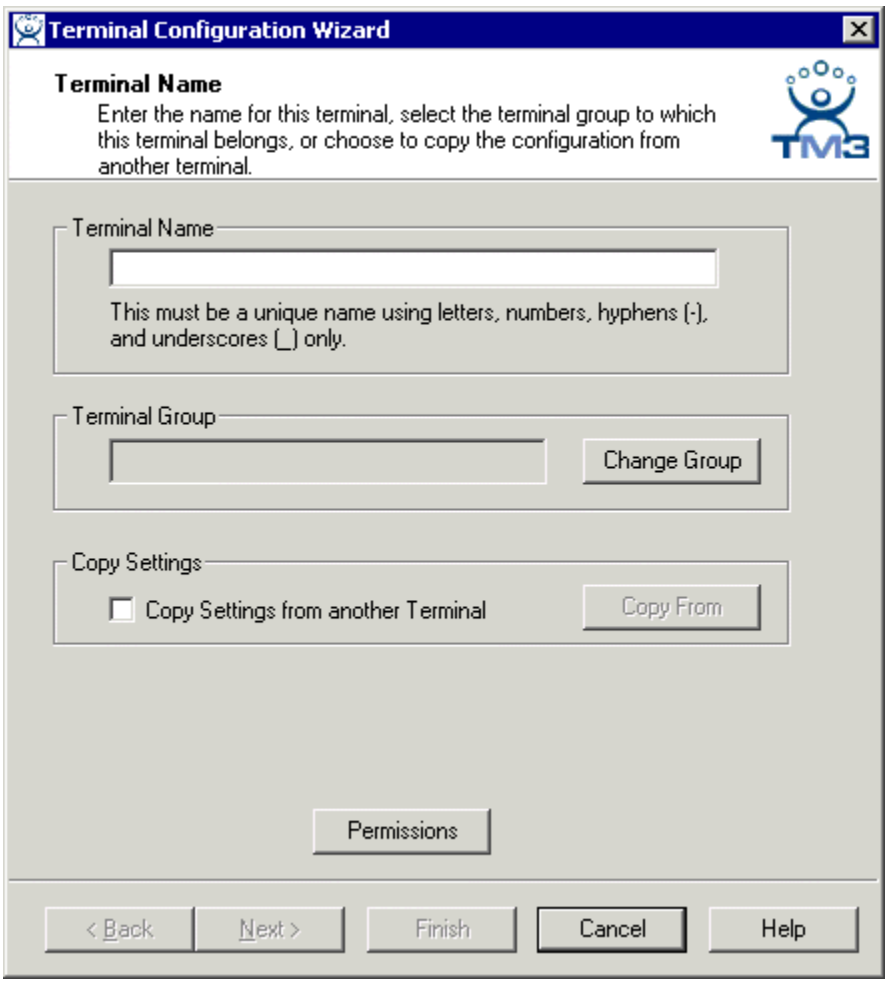
Additional TermSecure Access Groups Created

The created Access Groups will be displayed in the **Access Group** window. These TermSecure Access Groups, like Microsoft User Groups, do not have settings and parameters, but instead get their usefulness by adding members to them or applying restrictions to them.

Permission Groups for Terminals

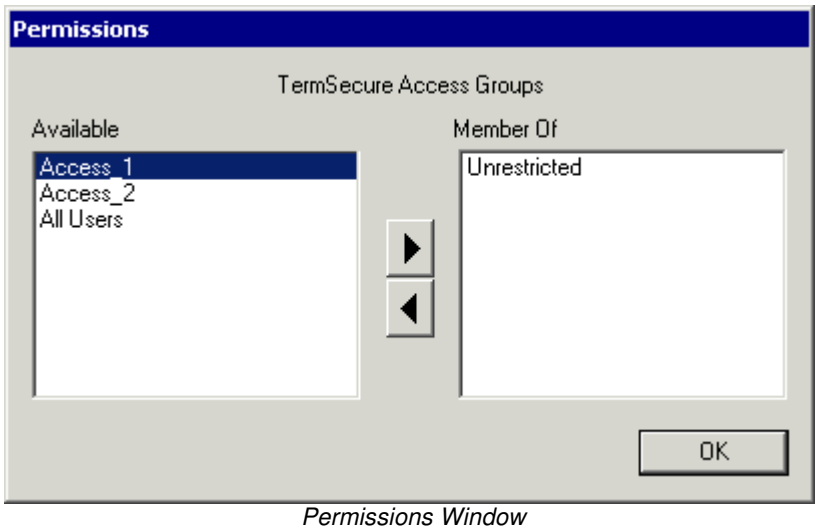
TermSecure Access Groups are assigned to a terminal on the first page of the **Terminal Configuration Wizard**.

Open the Terminal Configuration Wizard for an existing terminal by double clicking on it in the tree. Start the Terminal Configuration Wizard for a new terminal by selecting ***Edit> Add Terminal***.



Terminal Configuration Wizard

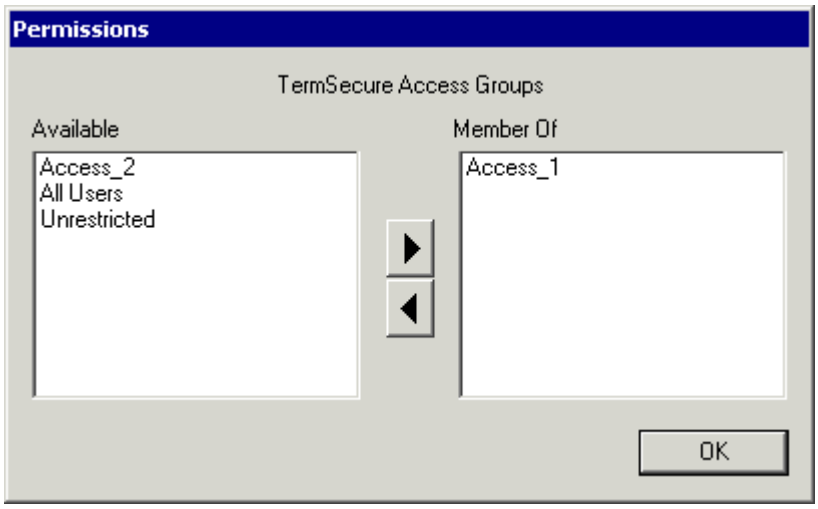
Select the ***Permissions*** button on the first page of the Terminal Configuration Wizard to launch the **Permissions** window to apply the TermSecure Access Groups to the terminal.



Permissions Window

By default, the terminal uses the **Unrestricted** access group, allowing anyone access to the Terminal Server Groups that are assigned to the terminal.

If Additional Permission Groups are configured, they will be displayed in the **Available** list. Access can be granted or denied by moving the Access Groups into or out of the **Member Of** list by double clicking or highlighting the desired group and selecting an arrow.



Object Permissions

If the terminal has the **Unrestricted** access group removed from ***Member Of*** list and is replaced by other Access Groups, TermSecure will deny access to the terminal except for members of the selected access groups.

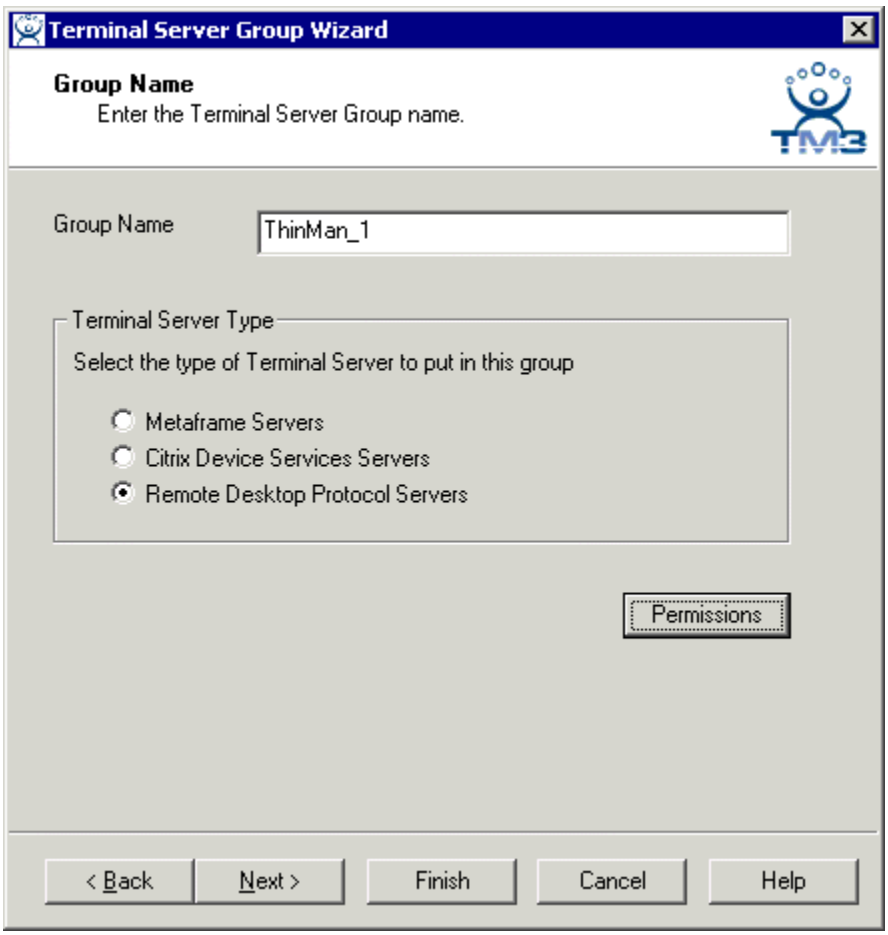
Note: Removing the Unrestricted group from a terminal and adding a different group will render the terminal functionless until a member of the group logs in.

Select ***OK*** to close the Permissions window.

Permission Groups for Terminal Server Groups

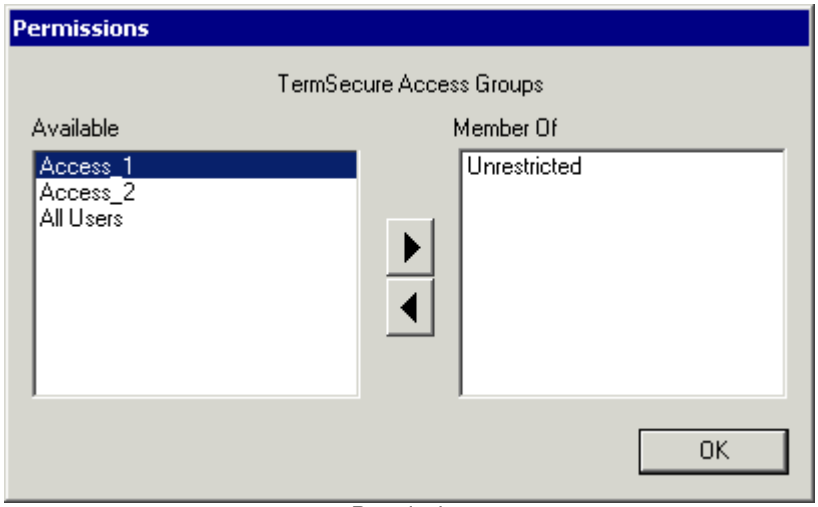
TermSecure Access Groups are assigned to a Terminal Server Group on the first page of the **Terminal Server Group Wizard**.

Open the Terminal Server Group Wizard for an existing Terminal Server Group by double clicking on it in the tree. Start the Terminal Server Group Configuration Wizard for a new Terminal Server Group by right clicking on the Terminal Server Group branch icon and selecting ***Add Terminal Server Group***.



Terminal Server Group Configuration Wizard

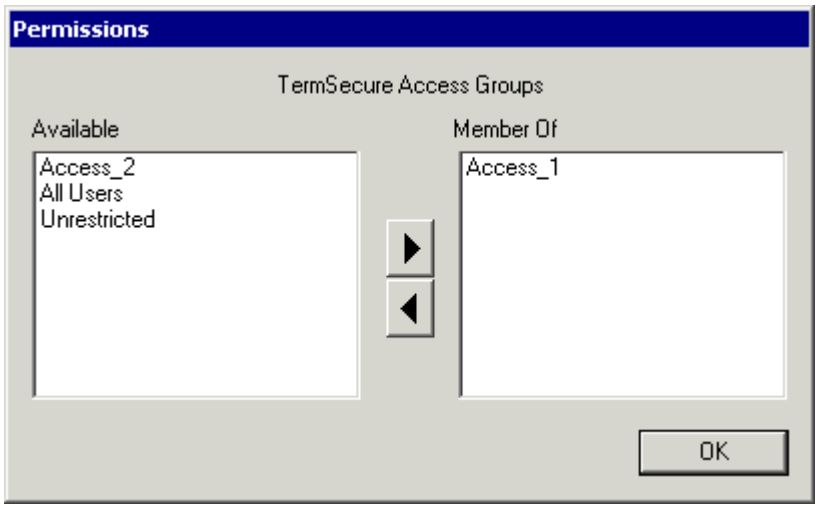
Select the ***Permissions*** button on the first page of the Terminal Server Group Configuration Wizard to launch the **Permissions** window to apply the TermSecure Access Group to the Terminal Server Group.



Permissions

By default, the Terminal Server Group uses the **Unrestricted** access group, allowing anyone access to the Terminal Server.

If Additional Permission Groups are configured, they will be displayed in the **Available** list. Access can be granted or denied by moving the Access Groups into or out of the **Member Of** list by double clicking or highlighting the desired group and selecting an arrow.



Permissions Changed

If the Terminal Server Group has the **Unrestricted** access group removed from ***Member Of*** list and is replaced by other Access Groups, TermSecure will deny access to the terminal except for members of the selected access groups.

Note: Removing the Unrestricted group from a terminal and adding a different group will render the Terminal Server Group functionless until a member of the group logs in.

Select ***OK*** to close the Permissions window.

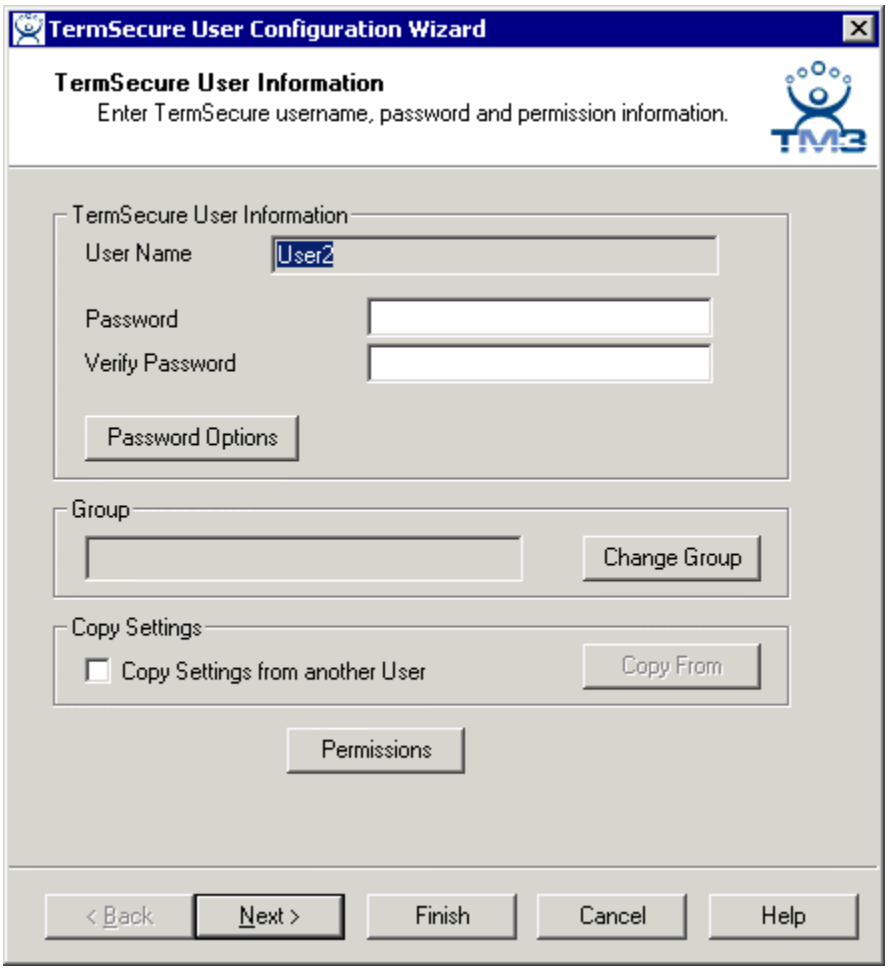
Permission Groups for TermSecure Users

TermSecure Access Group permissions can be applied to TermSecure Users.

Open the TermSecure User Configuration Wizard by double clicking on a TermSecure User icon or by right clicking on the TermSecure User branch of the ThinManager tree and selecting ***Add TermSecure User***.

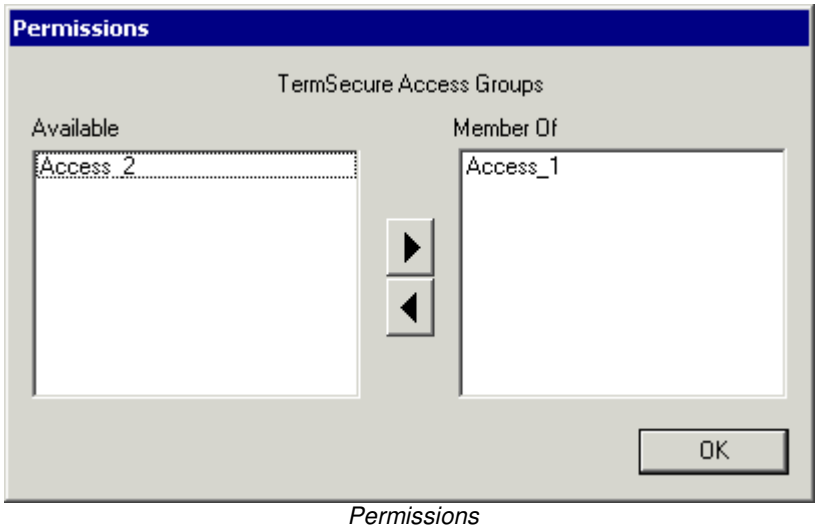
TermSecure Access Groups are configured on the first page of the wizard by selecting the ***Permissions*** button.

TermSecure User Information



TermSecure User Information

Selecting the ***Permissions*** button will open the **Permissions** window that allows the assignment of a TermSecure Access Groups.



Permissions

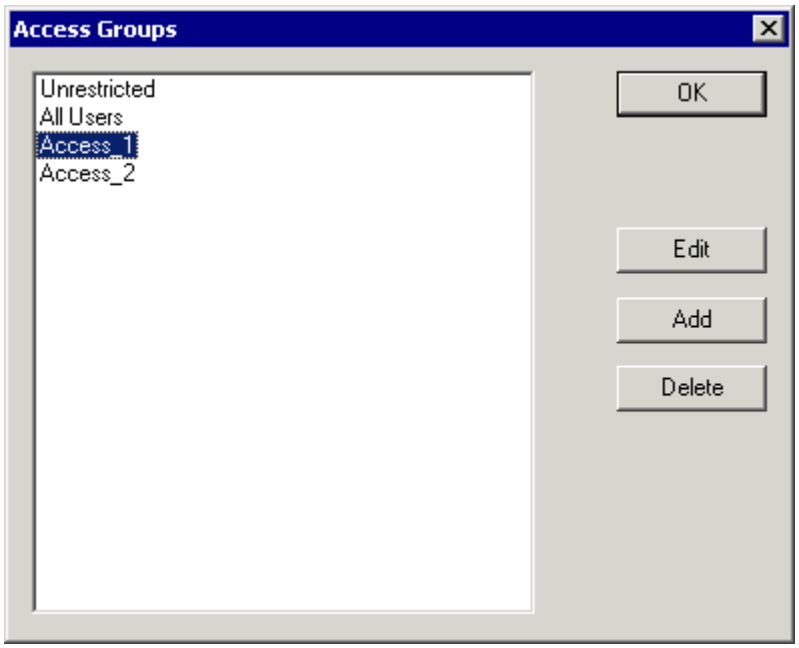
The **Permissions** window for TermSecure Users does not show the **Unrestricted** or the **All Users** groups, just the created groups. Access can be granted or denied by moving the Access Groups into or out of the **Member Of** list by double clicking or highlighting the desired group and selecting an arrow.

Select ***OK*** to close the Permissions window.

Shortcut Method of Adding TermSecure Access Groups

Members can be added to TermSecure Access Groups quickly through the TermSecure Access Group Wizard.

Open the TermSecure Access Group Wizard by selecting ***Manage> TermSecure Access Groups*** from the ThinManager menu. This will launch the Access Groups window.

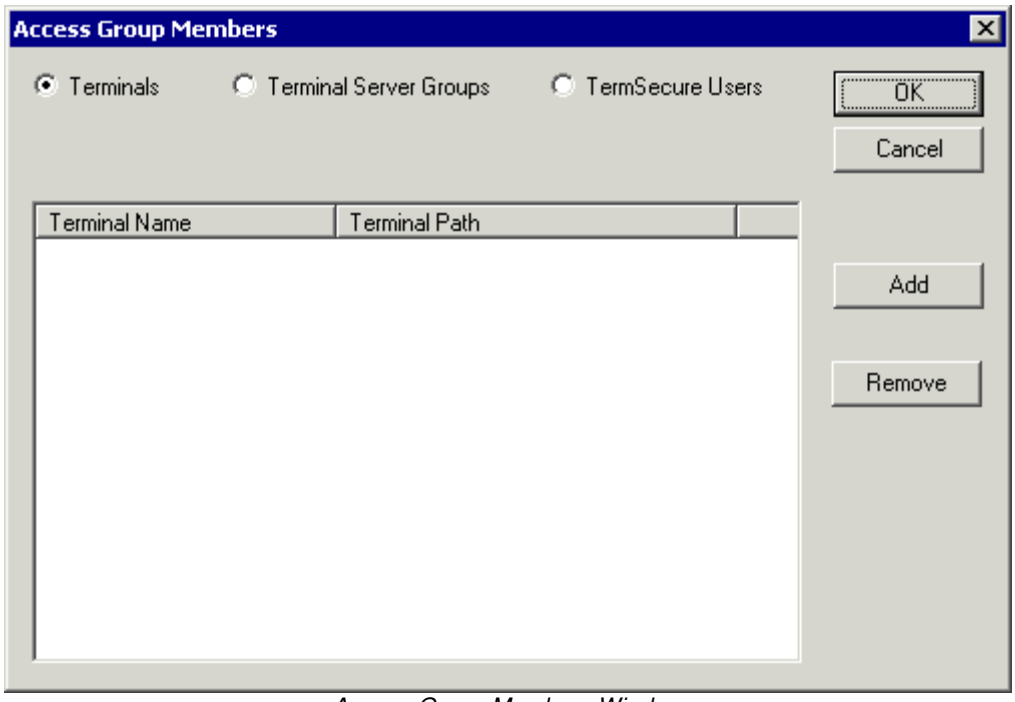


Access Groups Window

Highlight the desired TermSecure Access Group and select the ***Edit*** button.

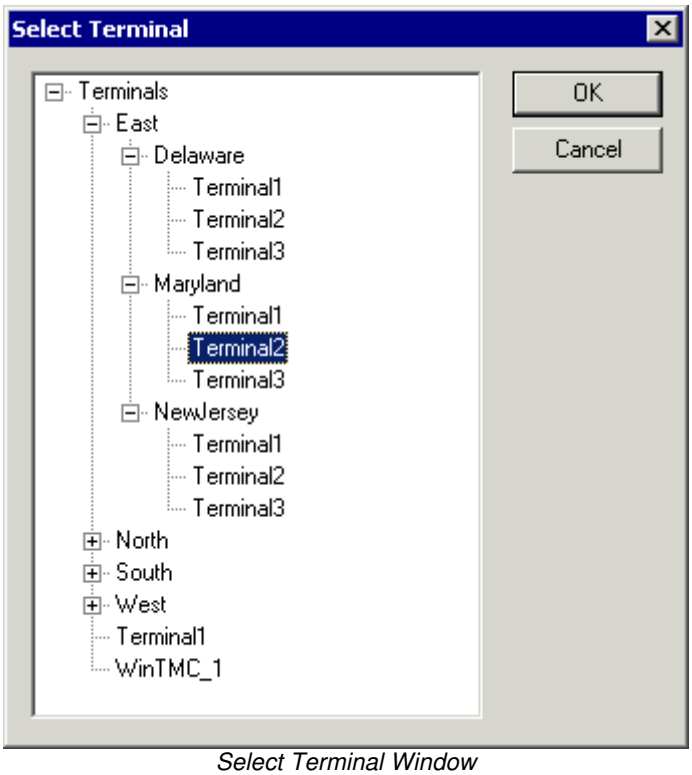
Access Group Window

Select the ***Edit Members*** button to launch the **Access Group Members** window.



Access Group Members Window

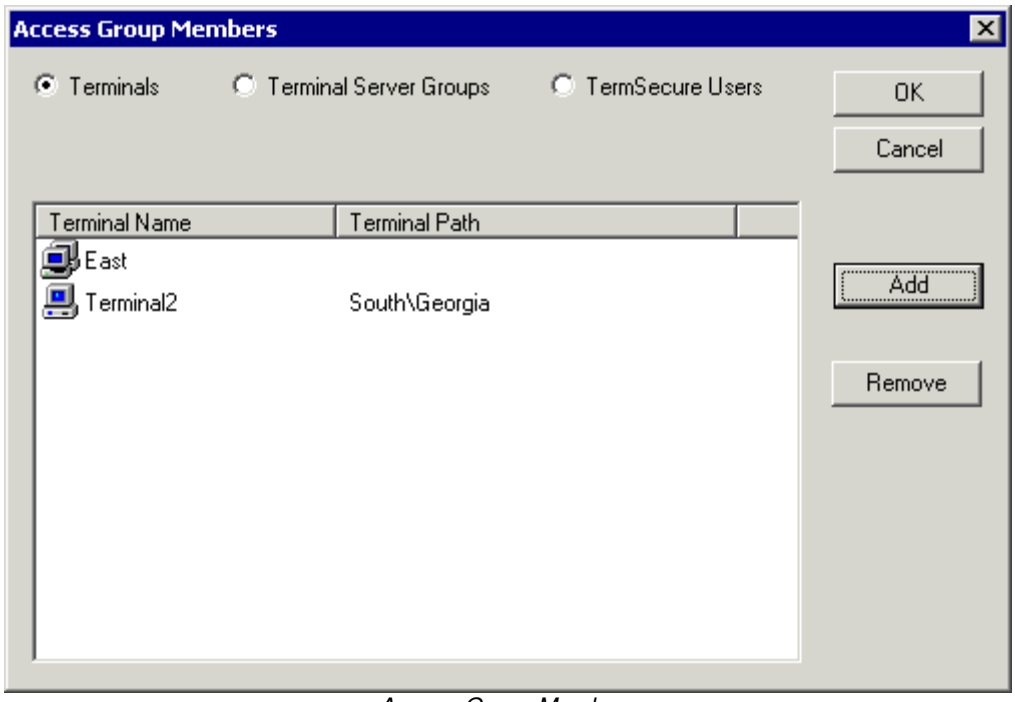
Select the **Terminals**, **Terminal Server Groups**, or **TermSecure Users** radio button to configure that category and select the ***Add*** button.



Select Terminal Window

A **Select Terminal** window will be displayed with a tree of the configured terminals and terminal groups.

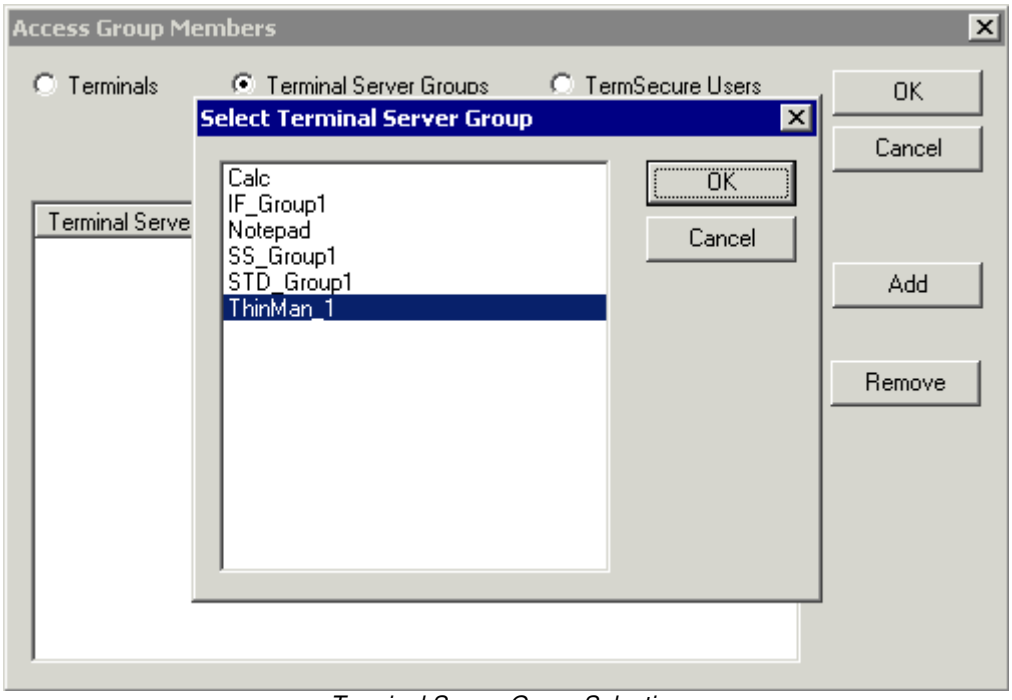
Select the desired terminals and terminal groups and select ***OK*** for each addition.



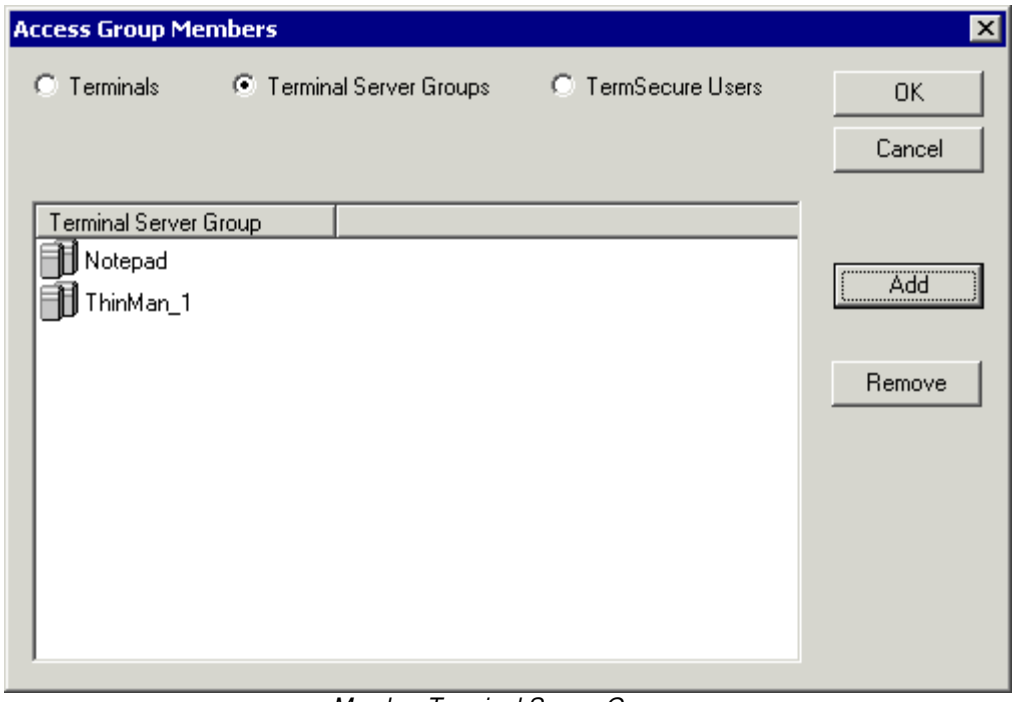
Access Group Members

The Access Group Members window will show the members of the TermSecure Access Group. These can be removed by highlighting and selecting the ***Remove*** button.

Terminal Server Groups and **TermSecure Users** can be added by the same process of adding by selecting the appropriate radio button.



Terminal Server Group Selection

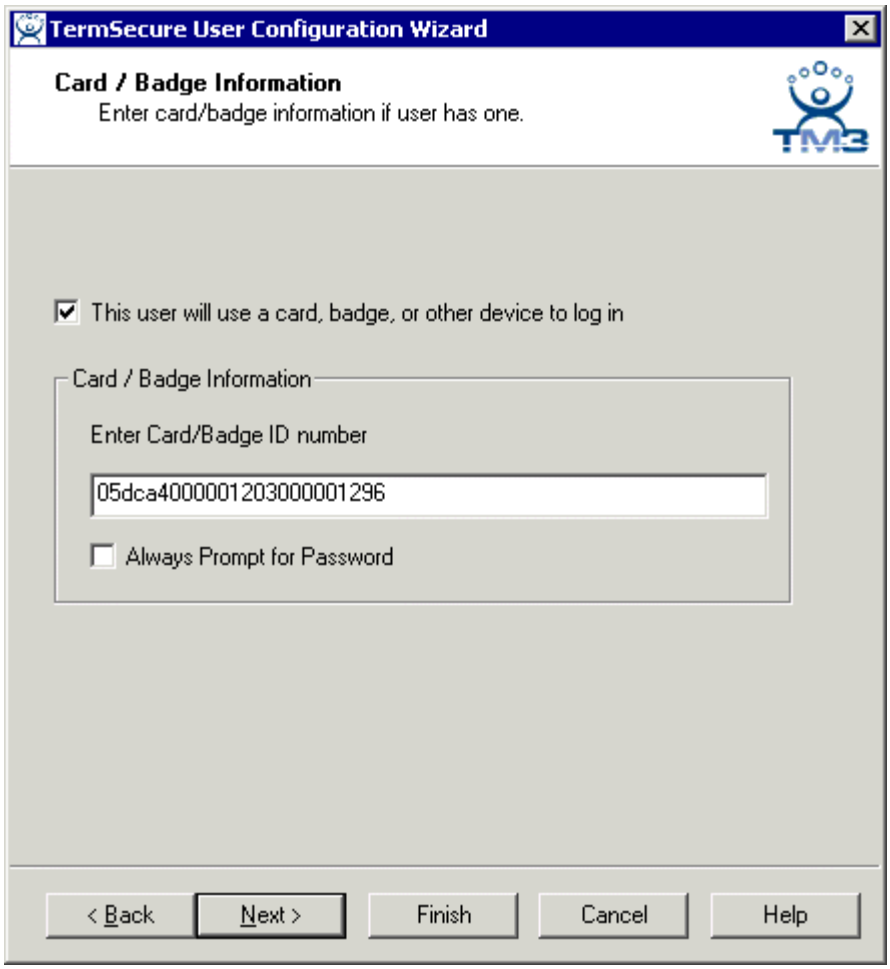


Member Terminal Server Groups

Members can be removed by highlighting them and selecting the ***Remove*** button.

Card and Badge Configuration for a TermSecure User

TermSecure allows the use of USB drives and RFID cards as login devices at terminals. This is configured on the **Card/Badge Information** page of the **TermSecure User Configuration wizard**. The **TermSecure Users Configuration Wizard** can be launched by double clicking on a TermSecure User in the ThinManager tree or by right clicking on the **TermSecure User**s branch of the tree and selecting ***Add TermSecure User***.



Card / Badge Information Page

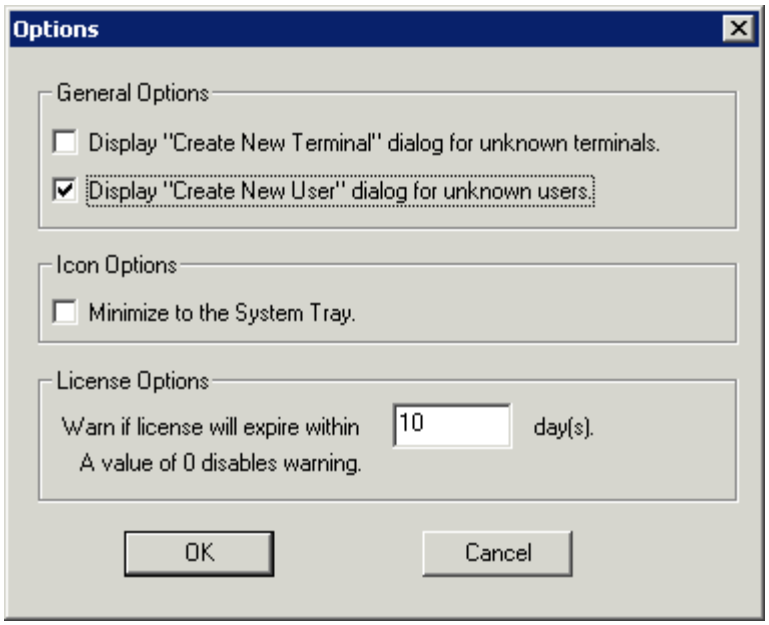
- ***This user will use a card, badge, or other device to log in*** - This checkbox, if selected, enables the use of a USB device, card or badge to login to a terminal.

- ***Enter Card/Badge ID number*** - This field is for the unique identification number of the ID device. This can be filled manually or automatically. See Automatic Card/Badge ID Number Entry and Manual Card/Badge ID Number Entry for instructions on the methods.

- **Always *Prompt for Password*** - This checkbox, if selected, will require a password in addition to the ID device to login to a terminal as a TermSecure User.

Automatic Card/Badge ID Number Entry

ThinManager can be configured to automatically add the Card/Badge ID number. This is configured on the **Options** window that is opened by selecting ***View>Options***.



Options Window

The ***Display "Create New User" dialog for unknown users*** check box, if selected, will launch the TermSecure User Configuration wizard on the ThinManager Server when an unknown ID device (USB key or ID card) is read by a terminal. Once this checkbox is seleceted, scanning a new ID card or inserting an undefined USB key will launch the **TermSecure User Configuration Wizard** with the ***Enter Card/Badge ID number*** automatically filled in.

Manual Card/Badge ID Number Entry

If the ***Display "Create New User" dialog for unknown users*** check box on the Options window is unselected, the ***Enter Card/Badge ID number*** field will need to be entered manually. The Card/Badge ID number is accessible in the event log. To configure a terminal to allow a device one needs to:

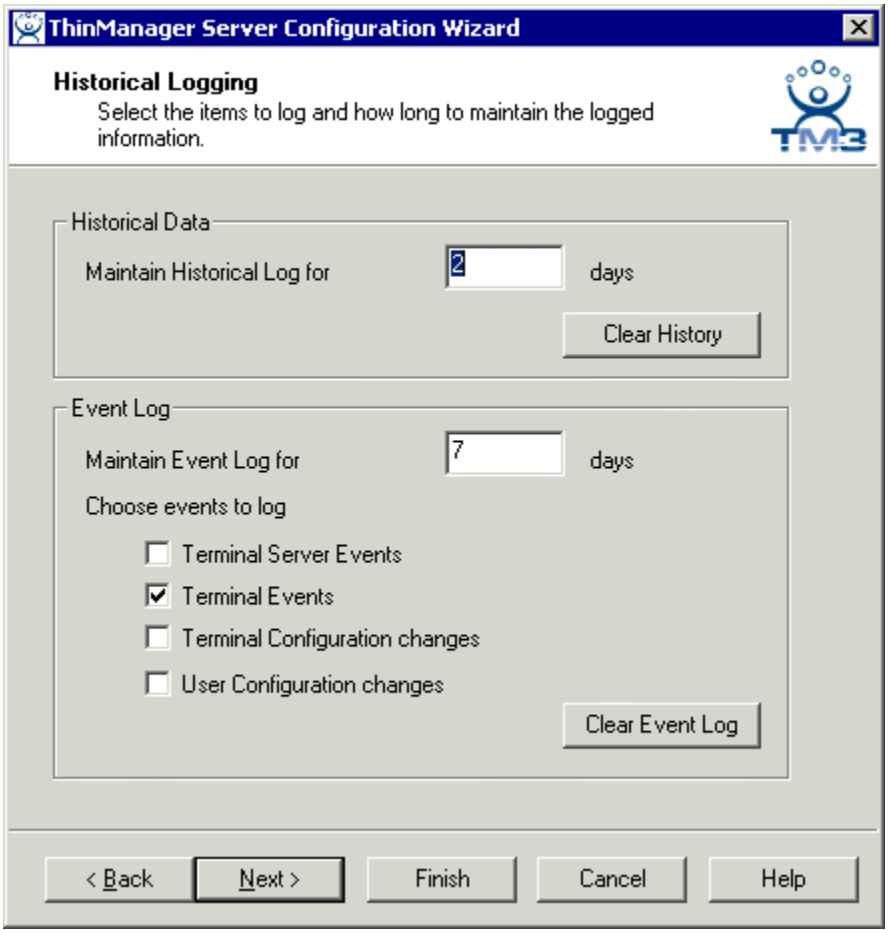
- Turn the Event Log on
- Have the appropriate hardware on the terminal, either a USB port or a ProxCard reader.
- Add the appropriate module.
- Use the device once to have the device's identifier entered to the event log.
- Open the **TermSecure User Configuration wizard** and enter the ID number to tie the TermSecure User to the device.
- Login with the ID device.

Event Log

The Event Log is configured in the ThinManager Server Configuration Wizard.

Open the **ThinManager Server Configuration Wizard** by double clicking on the ThinManager Server icon in the tree, or highlighting it and selecting ***Edit>Modify*** from the menu.

Navigate to the **Historical Logging** page.



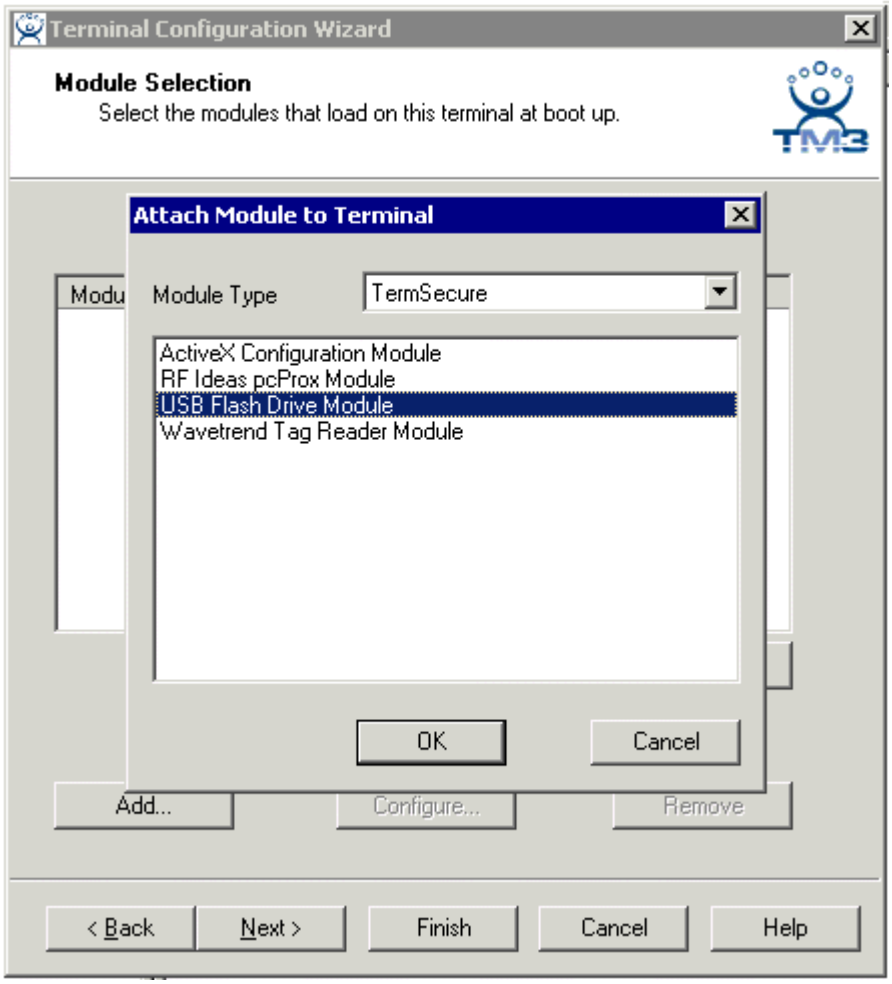
Historical Logging Page

All events may be selected to be logged, but the **Terminal Events** checkbox is critical to the TermSecure Device detection. Select the **Terminal Events** checkbox and select the ***Finish*** button.

USB Device

When using the USB drive, the USB Flash Drive Module needs added to the terminal.

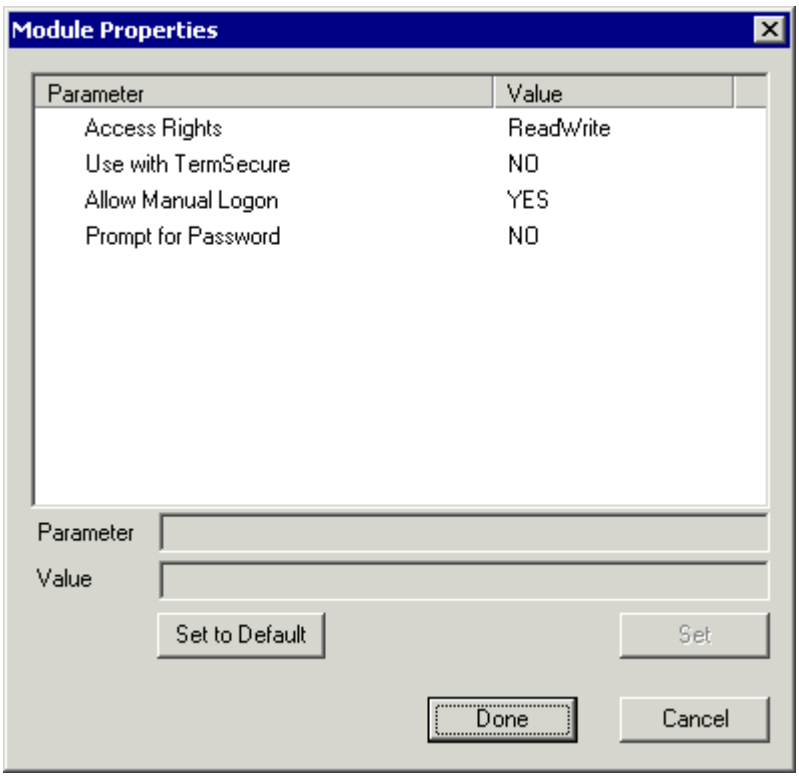
Open the terminal by double clicking on it in the ThinManager tree. Navigate to the **Module Selection** page.



USB Flash Drive Module

Select the ***Add*** button. Highlight the **USB Flash Drive Module** in the TermSecure Section and select ***OK*** to accept the module and to return to the **Module Selection** page.

Highlight the **USB Flash Drive Module** and select the ***Configure*** button to launch the **Module Properties** window.



USB Flash Drive Module Properties

The **USB Flash Drive Module** has several parameters.

- ***Access Rights*** - This lets the USB device to be used as a removable storage drive when set to ***ReadWrite***. ***Read Only*** will allow the device to be read for its ID number, but not used as a drive. ***None*** blocks any access.
- ***Use with TermSecure*** - This needs to be set to ***YES*** to allow the device to be a TermSecure identifier. A ***NO*** setting, in conjunction with a ***ReadWrite*** **Access Rights** setting, will allow the device to be used as a remote storage drive
- ***Allow Manual Login*** - If set to ***YES***, allows a TermSecure User to use the hotkey to initiate logins, or the device. If set to ***NO***, it will force a TermSecure User to use a device to login.
- ***Prompt for Password*** - ***NO*** allows the device to login without a password. ***YES*** forces every TermSecure User to enter a password after using the device.

Configure the USB parameters as desired and select ***Finish*** to close the Terminal Configuration Wizard.

Restart the terminal.

ProxCard Reader

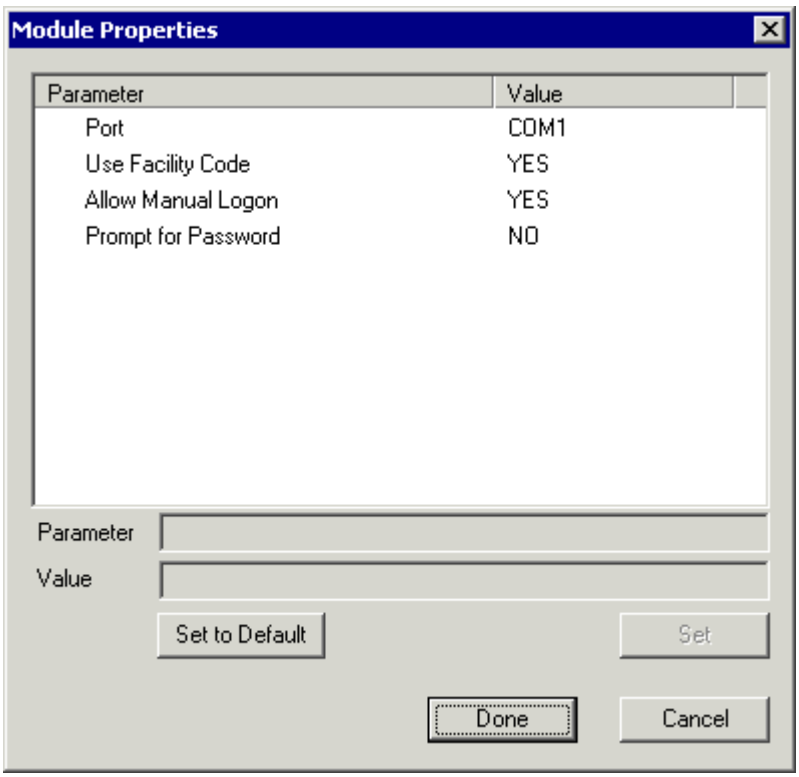
A ProxCard Reader works much the same as the USB device, but uses a different module, the **RF Ideas pcProx Module**.

Open the terminal by double clicking on it in the ThinManager tree. Navigate to the **Module Selection** page.

Select the ***Add*** button.

Highlight the **RF Ideas pcProx Module** in the TermSecure Section and select ***OK*** to accept the module and to return to the **Module Selection** page.

Highlight the **RF Ideas pcProx Module** and select the ***Configure*** button to launch the **Module Properties** window.



RF Ideas ProxCard Module Properties

The **RF Ideas pcProx Module** has several parameters.

- ***Port*** - The RF Ideas pcPRoxCard Reader connects to a ThinManager Ready thin client through the serial port. The ***Port*** setting specifies which COM Port the reader is attached to.
- ***Use Facility Code*** - This, if set to YES, includes the facility code as part of the identifier number.
- ***Allow Manual Login*** - If set to ***YES***, allows a TermSecure User to use the hotkey to initiate logins, or the device. If set to ***NO***, it will force a TermSecure User to use a device to login.
- ***Prompt for Password*** - ***NO*** allows the device to login without a password. ***YES*** forces every TermSecure User to enter a password after using the device.

Configure the ProxCard parameters as desired and select ***Finish*** to close the Terminal Configuration Wizard.

Restart the terminal.

WaveTrend Tag Reader Module

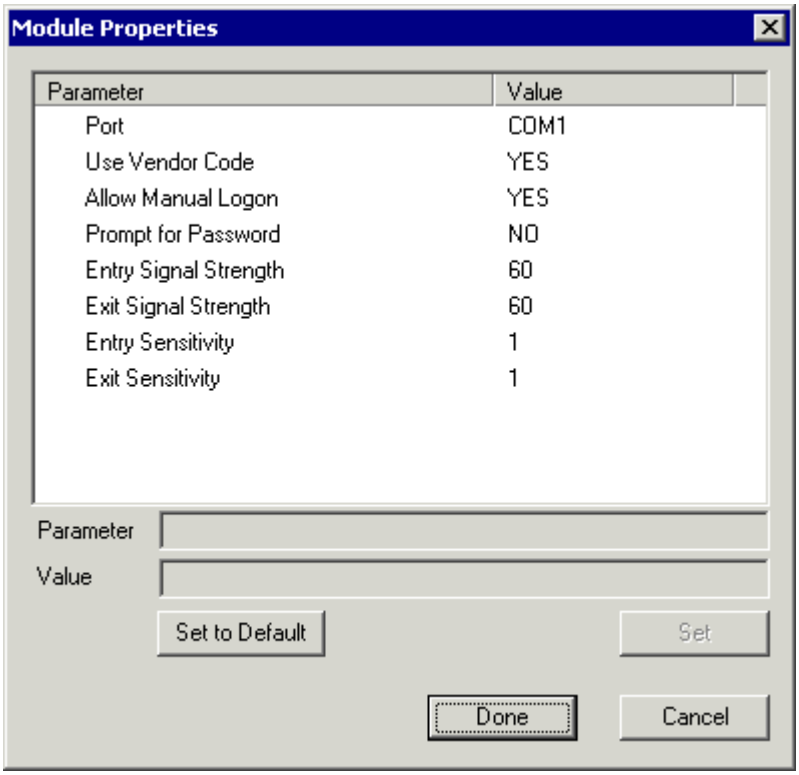
A WaveTrend Tag Reader works much the same as the USB device, but uses a different module, the **WaveTrend Tag Reader Module**.

Open the terminal by double clicking on it in the ThinManager tree. Navigate to the **Module Selection** page.

Select the ***Add*** button.

Highlight the **WaveTrend Tag Reader Module** in the TermSecure Section and select ***OK*** to accept the module and to return to the **Module Selection** page.

Highlight the **WaveTrend Tag Reader Module** and select the ***Configure*** button to launch the **Module Properties** window.



WaveTrend Module Properties

The **WaveTrend Tag Reader Module** has several parameters.

- ***Port*** - The WaveTrend Tag Reader Module connects to a ThinManager Ready thin client through the serial port. The ***Port*** setting specifies which COM Port the reader is attached to.
- ***Use Vendor Code*** - This, if set to ***YES***, includes the vendor code as part of the identifier number.
- ***Allow Manual Login*** - If set to ***YES***, allows a TermSecure User to use the hotkey to initiate logins, or the device. If set to ***NO***, it will force a TermSecure User to use a device to login.
- ***Prompt for Password*** - ***NO*** allows the device to login without a password. ***YES*** forces every TermSecure User to enter a password after using the device.
- ***Entry Signal Strength*** - The signal strength required to register the card as in range
- ***Exit Signal Strength*** - The signal strength required to register the card as out of range
- ***Entry Sensitivity*** - The number of reads above the Entry Signal Strength reads that are required to register as “Entered”
- ***Exit Sensitivity*** - The number of reads below the Exit Signal Strength that are required to register as “Exited”

Configure the WaveTrend parameters as desired and select ***Finish*** to close the Terminal Configuration Wizard.

Restart the terminal.

Device Identifier Number

Next the ID device needs to be scanned or inserted to help find the ID number.

Insert the USB device or scan the ProxCard on the terminal.

A TermSecure message should be displayed.

TermSecure Message

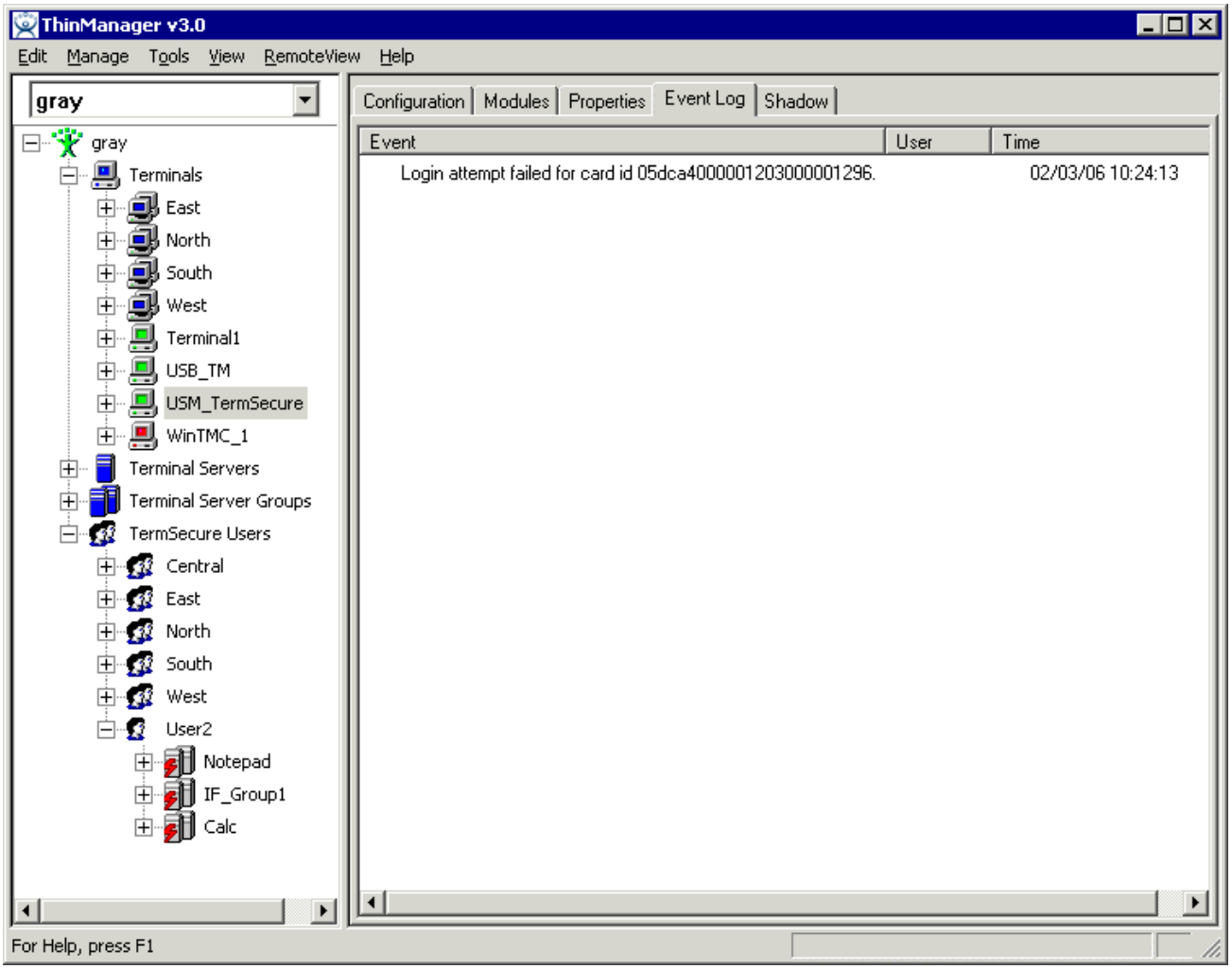
The ID device will not work so the terminal will send a message with the ID device's identifier number.

- Record this number.

This number is also entered in the event log if the Terminal Events were selected in the ThinManager Server Configuration Wizard.

- Open ThinManager.
- Highlight the terminal in the tree and select the Event Log tab.

The ID for the device is entered in the log.

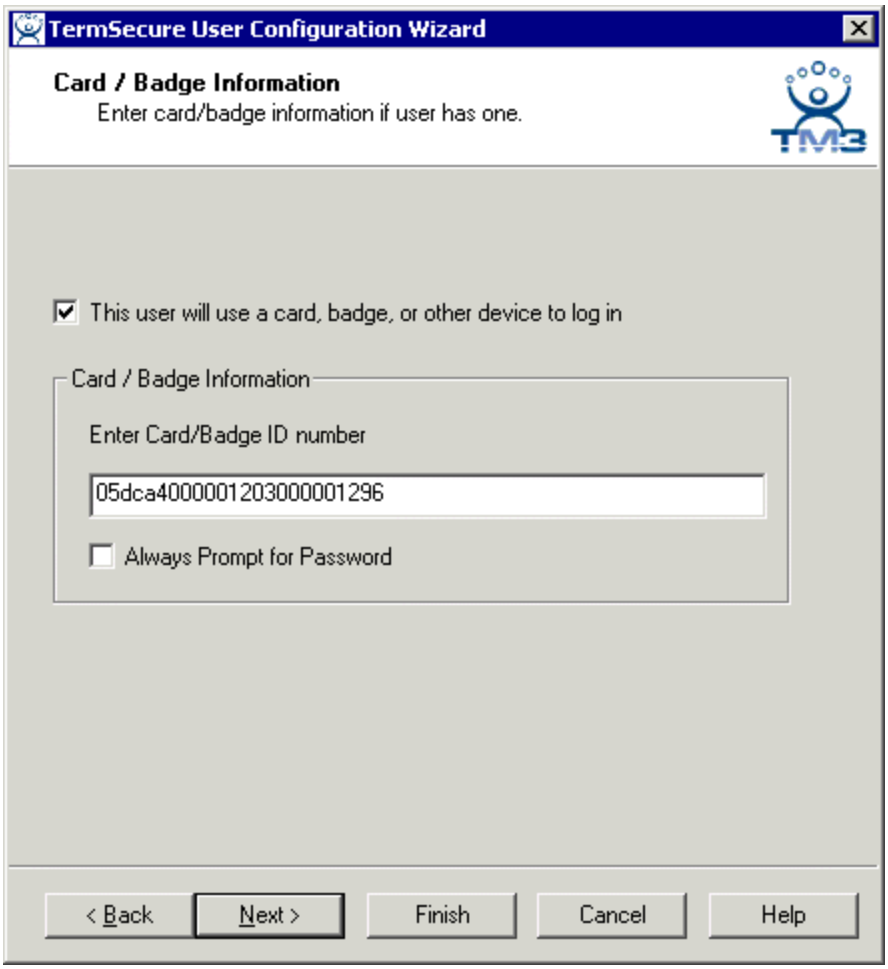


ThinManager Event Log

Next the ID number needs to be associated with the TermSecure User.

- Open the **TermSecure User Configuration Wizard** for the user you want to have use that ID device.

- Navigate to the **Card** / **Badge Information** page.



Card / Badge Information Page

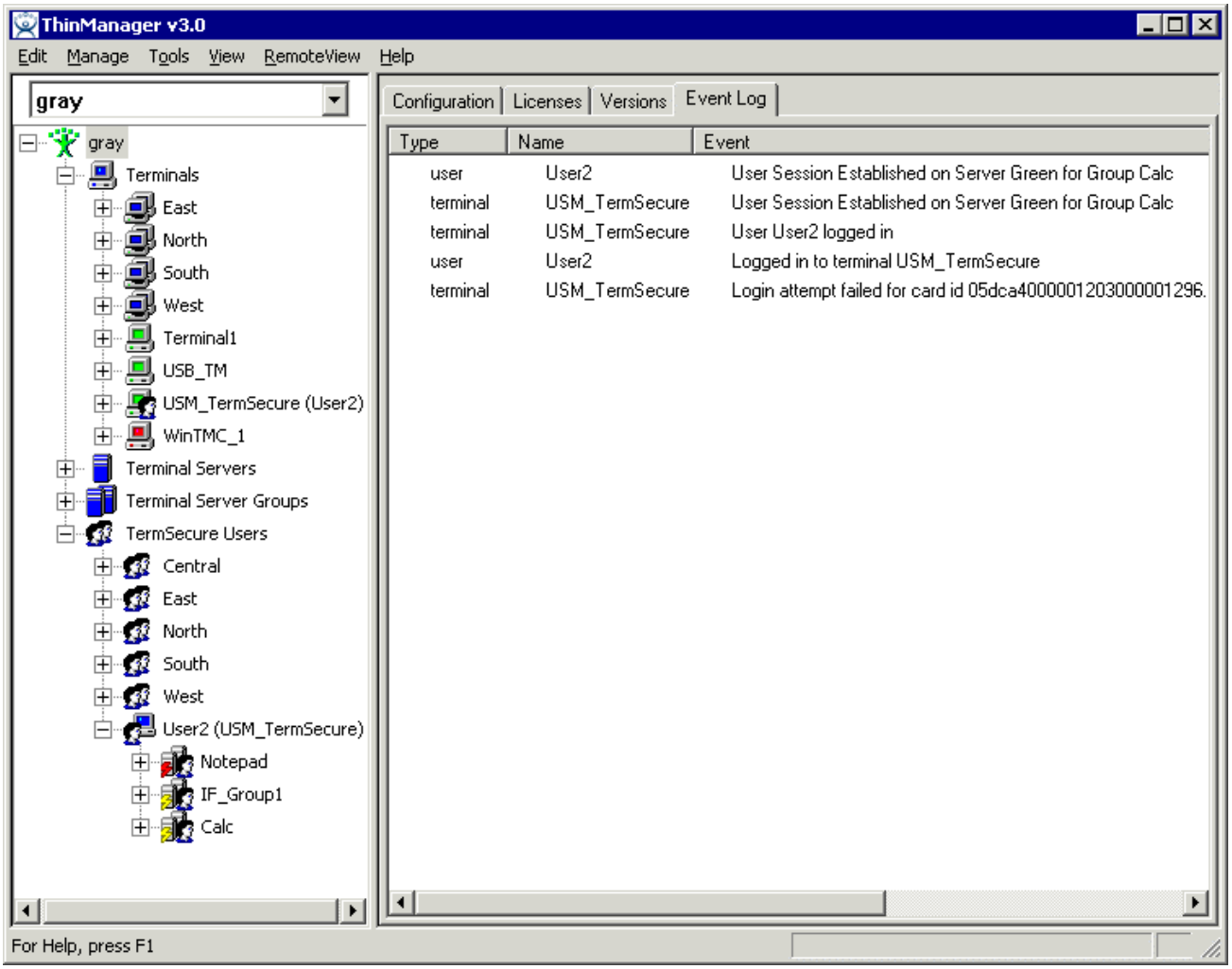
- Select the ***This user will use a card, badge, or other device to log in*** checkbox.
- Enter the ID Identifier from the earlier steps into the ***Enter Card/Badge ID number*** field.
- Select the **Always *Prompt for Password***, if desired.

Now the Terminal is configured, the ID device is identified, and the TermSecure User is configured to use the device.

- Insert the USB device into the USB port on the ThinManager Ready thin client or scan the ProxCard on the card scanner.

The USB device will log the TermSecure User into the terminal server.

- Open ThinManager.
- Highlight the ThinManager Server and select the **Event Log** tab.



Event Log

The Event Log will show the results of the successful login. The terminal will have the TermSecure User added to its icon in the tree, while the TermSecure User icon will show the name of the terminal that it is logged into.

TermMon ActiveX Control

The TermMon ActiveX Control can be used to collect information about a terminal and perform terminal functions. For the purposes of this document Control will refer to the TermMon ActiveX Control.

Registering The Control

The TermMon ActiveX Control can be found on the ThinManager 3.0 CD as **`termmon.ocx`**.

The Control must be registered before it can be used. Copy the file **`termmon.ocx`** to the computer where you want to use it. Register the OCX by executing **`regsvr32 <path\termmon.ocx>.`**

Using the Control

ActiveX Configuration Module

If running the Control in the terminal's terminal services session, no special configuration of the terminal in ThinManager is required.

If the **ActiveX Control Configuration Module** has been added to the terminal configuration in ThinManager, the option ***Allow ActiveX Connections*** must be set to ***YES*** for proper operation of the Control.

If the Control is not run in the terminal's terminal services session, the option ***Only Allow Connections from Session*** must be set to ***NO***.

Read-Only Properties

The following properties are read only strings. An event will be generated any time one of these properties changes.

- **TerminalName** - This is the name of the terminal.
- **TerminalModel** - This is the terminal model number.
- **TerminalIP** - This is the terminal IP address.
- **TerminalMAC** - This is the terminal MAC Address.
- **TerminalBootLoaderVersion** - This is the terminal network boot loader version.
- **TerminalFirmwareVersion** - This is the firmware version that the terminal is running.

- **TerminalWindowsUsername** - This is the Windows Username that is specified in the terminal's ThinManager configuration.
- **TermSecureUsername** - This is the TermSecure username of the TermSecure user currently logged onto the terminal. If no TermSecure user is logged on, this value will be blank.
- **TermSecureWindowsUsername** - This is the Windows Username associated with a TermSecure user. This is the Windows Username for all TermSecure user sessions. If no TermSecure user is logged on, this value will be blank.
- **TerminalServerGroupList** - This is a comma-separated list of terminal server groups currently running on the terminal.
- **ConnectionState** - This is the Control's connection state with the terminal.
- **CurrentTerminalServerGroup** - This is the Terminal Server Group that is currently being displayed on the terminal.
- **CurrentWindowsUsername** - This is the Windows Username of the session where the Control has been executed. This property is not available when the RunInSession property is set to ***False***.
- **TerminalServerName** - This is the name of the Terminal Server where the Control is running. This property is not available when the RunInSession property is set to ***False***.

Read-Write Properties

These properties can be set by the application.

- RunInSession - When the RunInSession property is set to True, the Control will be running in the terminal's terminal services session. The terminal IP address will be determined automatically by the control.
- OverrideIP - If the RunInSession property is set to False, the OverrideIP property specifies the IP Address of the terminal that the Control will connect to.

Note: To use the OverrideIP property, the ActiveX Control Configuration Module must be added to the terminal configuration in ThinManager. In the module configuration, ***Allow ActiveX Connections*** must be set to ***YES***, and ***Only Allow Connections from Session*** must be set to ***NO***.

Events

When a property value changes, an event will be generated by the Control. When an Event occurs the event code can be used to determine the property that changed. The event code is provided by the Control as follows:

- TermMonEvent.TerminalName
- TermMonEvent.TerminalModel
- TermMonEvent.TerminalIP
- TermMonEvent.TerminalMAC
- TermMonEvent.TerminalBootLoaderVersion
- TermMonEvent.TerminalFirmwareVersion
- TermMonEvent.TerminalWindowsUsername
- TermMonEvent.TermSecureUsername

- TermMonEvent.TermSecureWindowsUsername
- TermMonEvent.TerminalServerGroupList
- TermMonEvent.ConnectionState
- TermMonEvent.CurrentTerminalServerGroup
- TermMonEvent.CurrentWindowsUsername
- TermMonEvent.TerminalServerName

Methods

- **Enable** - Invoking this method will enable the Control. The Control will attempt to connect to the terminal and generate events to update the Control Properties. The Control will maintain a connection to the terminal as long as it is enabled.
- **Disable** - Invoking this method will cause the Control to break the connection with the terminal. Events will be generated to clear the Control Properties.
- **Command** - The Command method can be used to send terminal action commands. The Command method requires one parameter which is the terminal command to be performed. The supported commands are:
    - **Reboot** - This command will initiate a terminal reboot.
    - **Restart** - This command will initiate a terminal restart.
    - **Calibrate** - This command will initiate a touch screen calibration.
    - **GotoMainMenu** - This command will cause the Main Menu to be displayed.
    - **SwitchToNextGroup** - This command will switch to the next terminal server group.
    - **SwitchToPrevGroup** - This command will switch to the previous terminal server group.
    - **SwitchInstFailover** - This command will switch the instant failover group.
    - **ChangeTermSecureUser** - This command will disconnect any current TermSecure user sessions and then display the TermSecure Log On menu.
    - **LogOffAndChangeTermSecureUser** - This command will log off any current TermSecure user sessions and then display the TermSecure Log On menu.
    - **LogOffTermSecureUser** - This command will log off any current TermSecure user sessions and will return to a terminal server group which is assigned to the terminal. If no terminal server groups have been configured on the terminal, the TermSecure Log On menu will be displayed.
    - **DisconnectTermSecureUser** - This command will disconnect any current TermSecure user sessions and will return to a terminal server group which is assigned to the terminal. If no terminal server groups have been configured on the terminal, the TermSecure Log On menu will be displayed.

  The Command Method constants are provided by the Control as follows:
    - TermMonCommand.Reboot
    - TermMonCommand.Restart
    - TermMonCommand.Calibrate
    - TermMonCommand.GotoMainMenu
    - TermMonCommand.SwitchToNextGroup

- TermMonCommand.SwitchToPrevGroup
- TermMonCommand.SwitchInstFailover
- TermMonCommand.ChangeTermSecureUser
- TermMonCommand.LogOffAndChangeTermSecureUser
- TermMonCommand.LogOffTermSecureUser
- TermMonCommand.DisconnectTermSecureUser

- **ChangeTerminalServerGroup** - This method can be used to change the terminal server group currently displayed on the terminal. This method requires one parameter which is the name of the terminal server group that the terminal should switch to.
- **TermSecureCheckAccess** - This method can be used to query the access rights of a TermSecure user. This method requires two parameters. The first parameter is the name of the user. The second parameter is the name of the Access Group. This method returns the result of the query as follows:
  - **TermMonConst.Timeout** - The request timed out.
  - **TermMonConst.Busy** - The Control is busy with another request.
  - **TermMonConst.InvalidMember** - The user is not a member of the specified TermSecure Access Group.
  - **TermMonConst.ValidMember** - The user is a member of the specified TermSecure Access Group.
  - **TermMonConst.UserNotFound** - The TermSecure Username was not found.
  - **TermMonConst.GroupNotFound** - The Access Group Name was not found.

Control Constants

Constant values provided by the Control are as follows:

TermMonEvent

- TerminalName 1
- TerminalModel 2
- TerminalIP 3
- TerminalMAC 4
- TerminalBootLoaderVersion 5
- TerminalFirmwareVersion 6
- TerminalWindowsUsername 7
- TermSecureUsername 8
- TermSecureWindowsUsername 9
- TerminalServerGroupList 10
- ConnectionState 11
- CurrentTerminalServerGroup 12
- CurrentWindowsUsername 13
- TerminalServerName 14

TermMonCommand

- Reboot 100
- Restart 101
- Calibrate 102
- GotoMainMenu 103
- SwitchToNextGroup 104
- SwitchToPrevGroup 105
- SwitchInstFailover 106
- ChangeTermSecureUser 107
- LogOffAndChangeTermSecureUser 108
- LogOffTermSecureUser 109
- DisconnectTermSecureUser 110

TermMonConst

- Success 0
- Fail 1
- Disconnected 2
- Connected 3
- Timeout 4

- Busy 5
- Updating 6
- RequestFailed 7
- InvalidMember 8
- ValidMember 9
- UserNotFound 10
- GroupNotFound 11

TermMon ActiveX Demo Application

The TermMon ActiveX Demo Application can be used to demonstrate the features of the Control. The demo application is found on the ThinManager 3.0 CD as TermMon.exe.

To start the application in graphical mode, run **`TermMon.exe`** in a terminal's terminal services session. This will allow the Control functionality to be demonstrated.

The demo application can also be run non-graphically using command line options. The format is as follows:

`TermMon –c <command> –f <output path and filename> –d <data> –a <ip address>`

The following commands are terminal action commands:

- Reboot
- Restart
- Calibrate
- GotoMainMenu
- SwitchToNextGroup
- SwitchToPrevGroup
- SwitchInstFailover
- ChangeTermSecureUser
- LogOffAndChangeTermSecureUser
- LogOffTermSecureUser
- DisconnectTermSecureUser
- ChangeTerminalServerGroup -d <groupname>

The following commands return the result in the output filename.

- TerminalName -f <output filename>
- TerminalModel -f <output filename>
- TerminalIP -f <output filename>
- TerminalMAC -f <output filename>
- TerminalBootLoaderVersion -f <output filename>
- TerminalFirmwareVersion -f <output filename>

- TerminalWindowsUsername -f <output filename>
- TermSecureUsername -f <output filename>
- TermSecureWindowsUsername -f <output filename>
- TerminalServerGroupList -f <output filename>
- ConnectionState -f <output filename>
- CurrentTerminalServerGroup -f <output filename>
- CurrentWindowsUsername -f <output filename>
- TerminalServerName -f <output filename>
- TermSecureCheckAccess -f <output filename> -d <username,accessgroupname>

Note: The -a <ip address> option is used when not running the application in the terminal's terminal services session. <ip address> is the IP Address of the terminal.

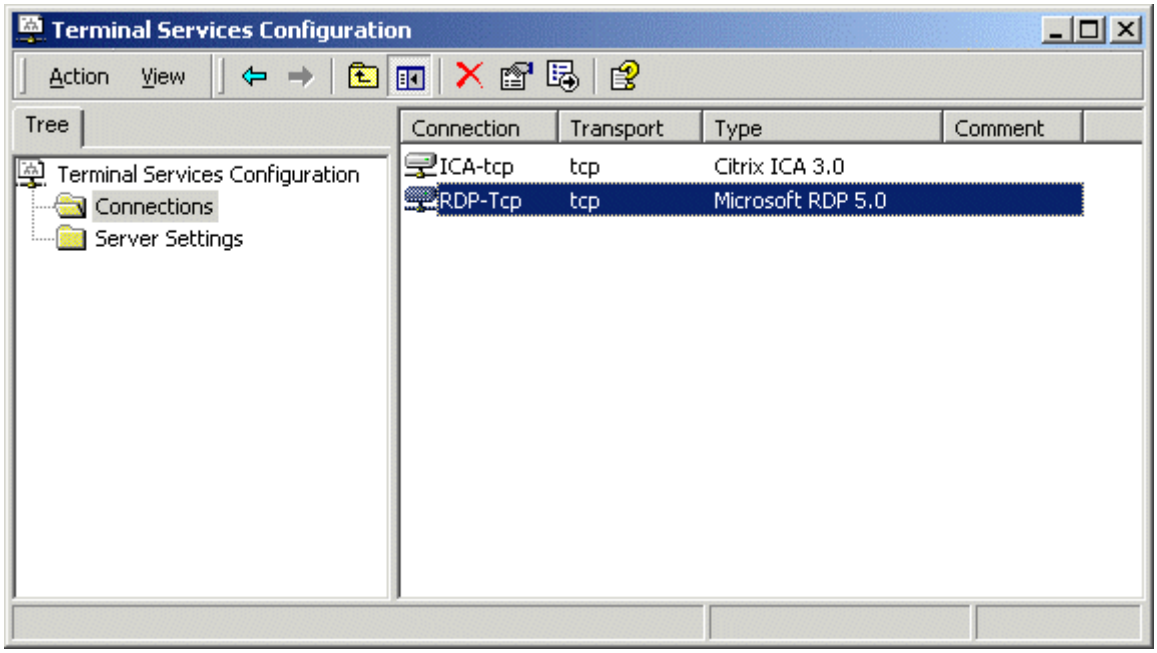
Non-ThinManager Components

Configuring RDP for Auto-Login

RDP, the **Remote Desktop Protocol** is configured by default to require users to enter a password when logging on to a Windows 2000 Terminal Server. This prevents a terminal from logging in automatically when using an initial program. The change in the configuration to allow the auto-login and initial program while using RDP is made in the **Terminal Services Configuration**.

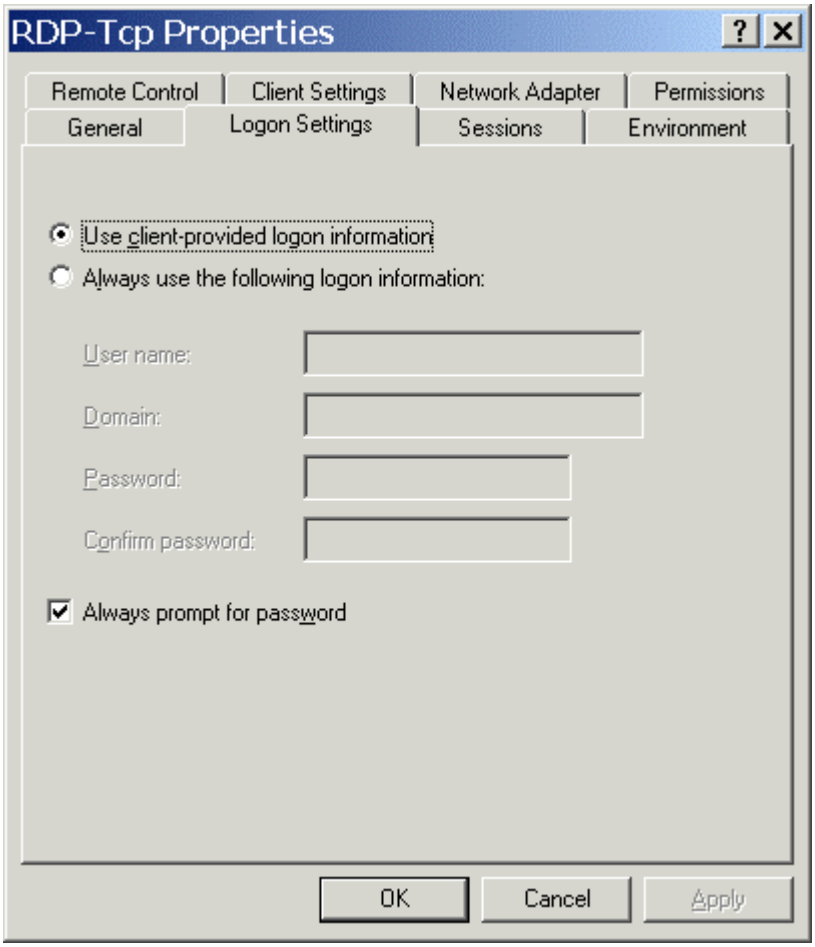
Note: The information included here is for your convenience. Because this information can change, please see Microsoft at www.microsoft.com for up-to-the-minute details.

Select ***Start>Programs>Administrative Tools>Terminal Services Configuration*** to launch the **Terminal Services Configuration Console**.



Terminal Services Configuration Console- Windows 2000

Double-click **RDP-tcp** in the right pane or highlight **RDP-tcp** and select ***Action>Properties*** to launch the **RDP-tcp Properties**.



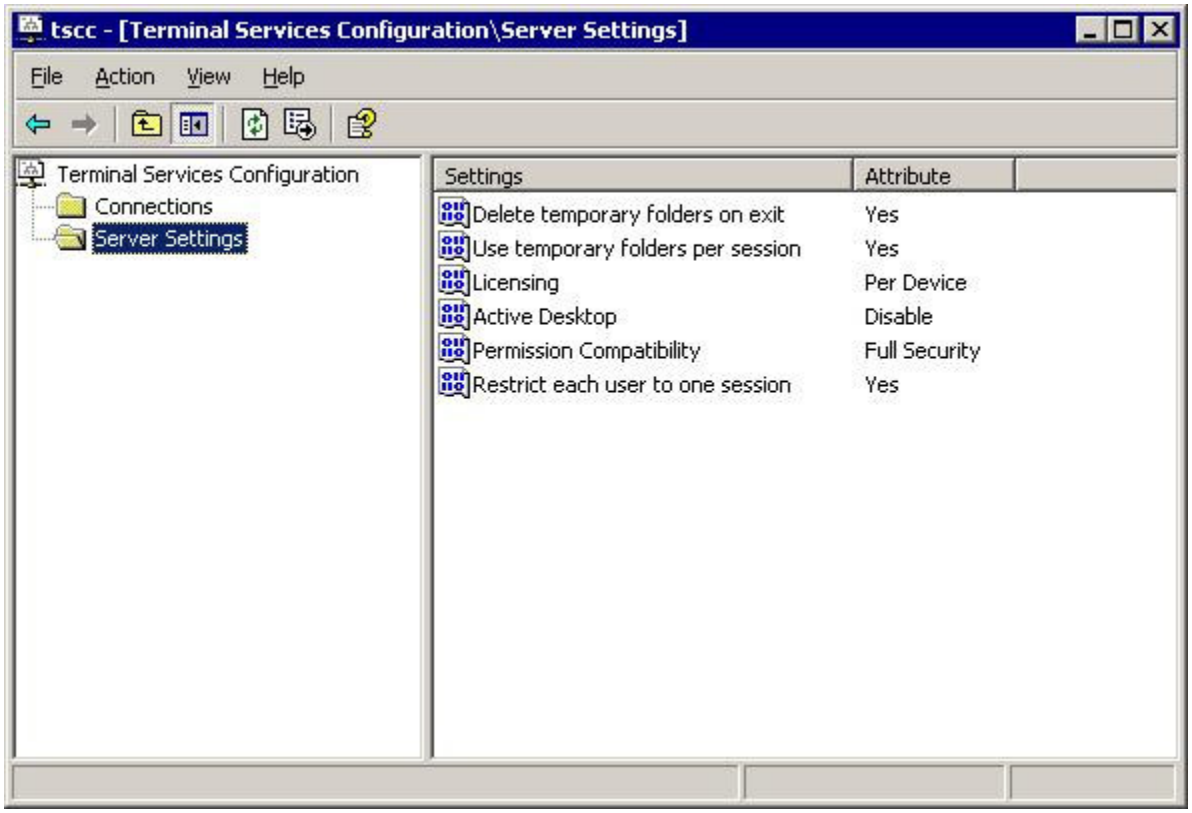
RDP-tcp Properties

Uncheck the ***Always prompt for password*** checkbox and click the ***OK*** button to allow auto-login.

Configuring Windows 2003 Terminal Services for Multiple Logins

Windows 2003 is set to prevent multiple logins by the same account. Although it is a “best practice” to have each user login with a unique account, a terminal using MultiSession can use the same terminal server in several Terminal Server Groups, making multiple logins desirable. This setting, and others, is changed in the Terminal Services Configuration Console. See Configuring RDP for Auto-Login.

Open the Microsoft Terminal Services Configuration Console by selecting ***Start>Control Panel>Administrative Tools> Terminal Services Configuration***.

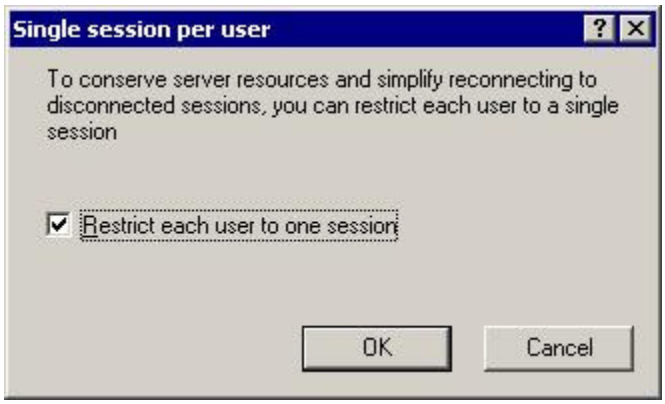


Terminal Services Configuration Console- Windows 2003

The **Server Settings** in the Terminal Services Configuration Console the settings that can be changed by double-clicking them. Three that are of interest are ***Licensing***, ***Permission Compatibility***, and ***Restrict each user to one session***.

Single Session Per User

The **Single Session Per User** setting controls multiple logins. Double-clicking the setting will launch a settings window.



Terminal Services Configuration Console- Single Session Per User

The ***Restrict each user to one session*** checkbox is selected by default in Windows 2003. Unselect it to allow multiple logins if needed for MultiSession.

Licensing Mode

Microsoft has expanded the Terminal Server Client Access License (TS CAL) program in windows 2003. TS CALs are available in two types, TS Device CALs and TS User CALs.

- The TS Device CAL licenses one device for any user to connect to Microsoft Terminal Servers. This functions like the previous Windows 2000 TS CAL.
- The TS User CAL licenses one user for any device to connect to Microsoft Terminal Servers.

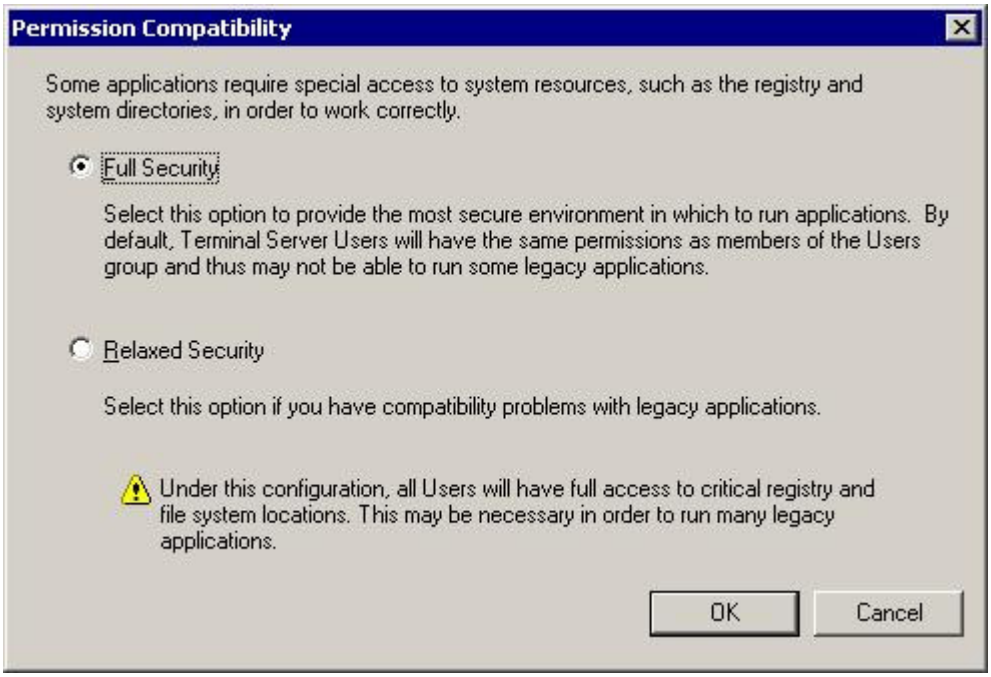
To change between the ***Per Device*** licensing and ***Per User*** licensing, double-click ***Licensing*** to launch the **Licensing Mode** window.

Terminal Services Configuration Console- Licensing Mode

Select the desired mode from the ***Licensing Mode*** dropdown box and click ***OK***.

Permission Compatibility

Microsoft has increased the security in each successive release of its terminal server software. These new policies prevent users from accessing the system folder, *.ini files, the registry, and other resources. Some programs such as HMI, SCADA, database, and control software needs access to these resources to function. Instead of making all the users administrators, the security can be set to the less strenuous Windows NT 4.0-style security.



Terminal Services Configuration Console- Permission Compatibility

Launch the **Permission Compatibility** window by double-clicking on the ***Permission Compatibility*** setting. Select the ***Relaxed Security*** radio button and select the ***OK*** button.

Command Prompt

Terminal Services has several commands that aid in managing the terminal server. Some useful ones are:

Command	Action
`change logon`	Temporarily disables logons to a Terminal Server
`change port`	Changes COM port mappings for MS-DOS program compatibility
`change user /install`	Puts the server into “Install Mode”
`change user /execute`	Removes the server from “Install Mode”
`Ipconfig`	Displays the IP addresses of the network card
`Logoff`	Logs off a user from a session and deletes the session from the server
`net send` *`username`* “*`message`*”	Sends a message to a user. ***`username`*** is the NT/2000 user name that the person or terminal is logged in as. “***`message`***” is the text of the message. Quotation marks are needed for any messages containing a space.
`query process`	Displays information about processes running on a Terminal server
`query session`	Displays information about sessions on a Terminal server
`query termserver`	Displays a list of all Terminal servers on the network
`query user`	Displays information about user sessions on a Terminal server
`reset session`	Resets a session to known initial values
`Shadow`	Monitors another user's session
`Tsdiscon`	Disconnects a client from a terminal server session

`Tsshutdn`	Shuts down the terminal server in an orderly manner

See the Windows online help for additional commands and parameters.

Alternative Terminal Keystrokes

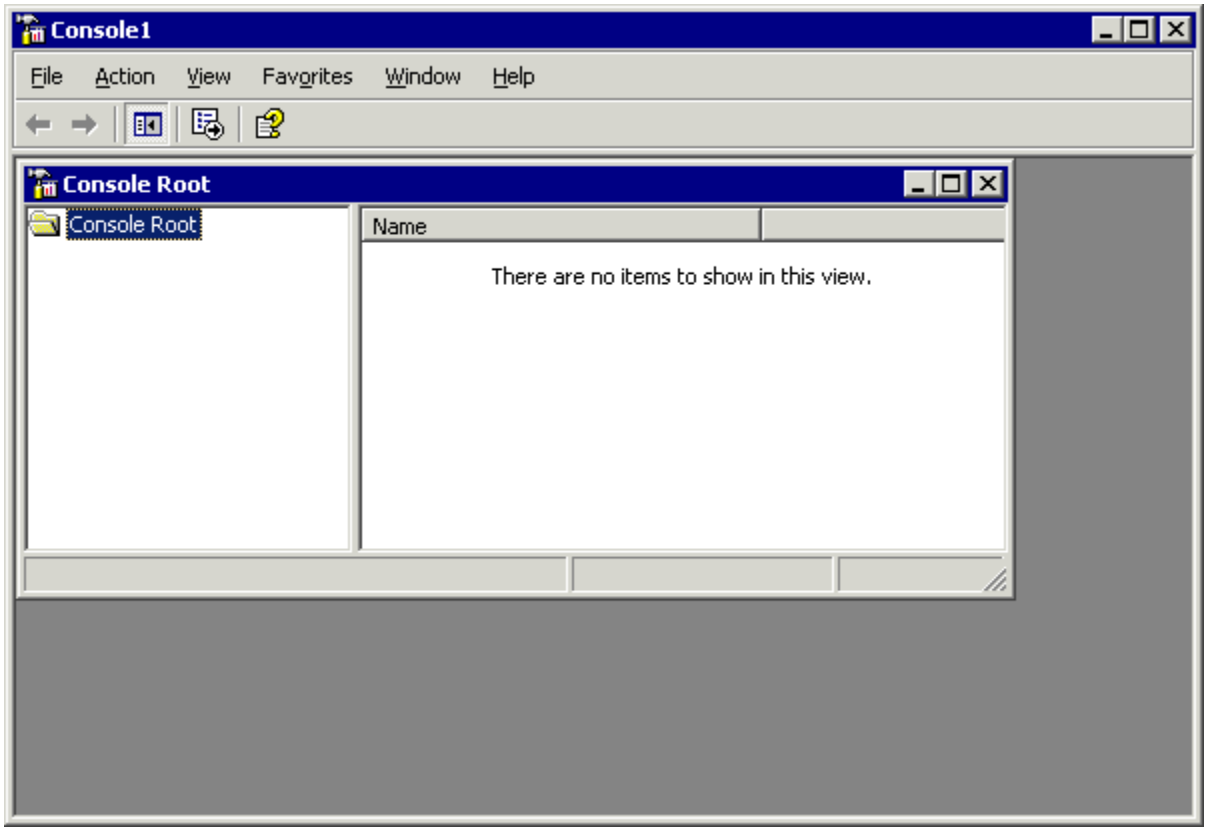
Certain keystrokes are not available in a terminal session. Microsoft has provided these alternatives.

Keystroke	Function
ALT+PAGE UP	Switches between programs from left to right.
ALT+PAGE DOWN	Switches between programs from right to left.
ALT+INSERT	Cycles through the programs in the order they were started.
ALT+HOME	Displays the Start menu.
CTRL+ALT+BREAK	Switches the client between a window and full screen.
CTRL+ALT+END	Brings up the Windows 2000 Security dialog box.
ALT+DELETE	Displays the Windows menu.
CTRL+ALT+Minus (-) symbol on the numeric keypad	Places a snapshot of the active window, within the client, on the Terminal server clipboard (provides the same functionality as pressing PrintScrn on a local computer.)
CTRL+ALT+Plus (+) symbol on the numeric keypad	Places a snapshot of the entire client window area on the Terminal server clipboard (provides the same functionality as pressing ALT+PrintScrn on a local computer.)

Group Policy

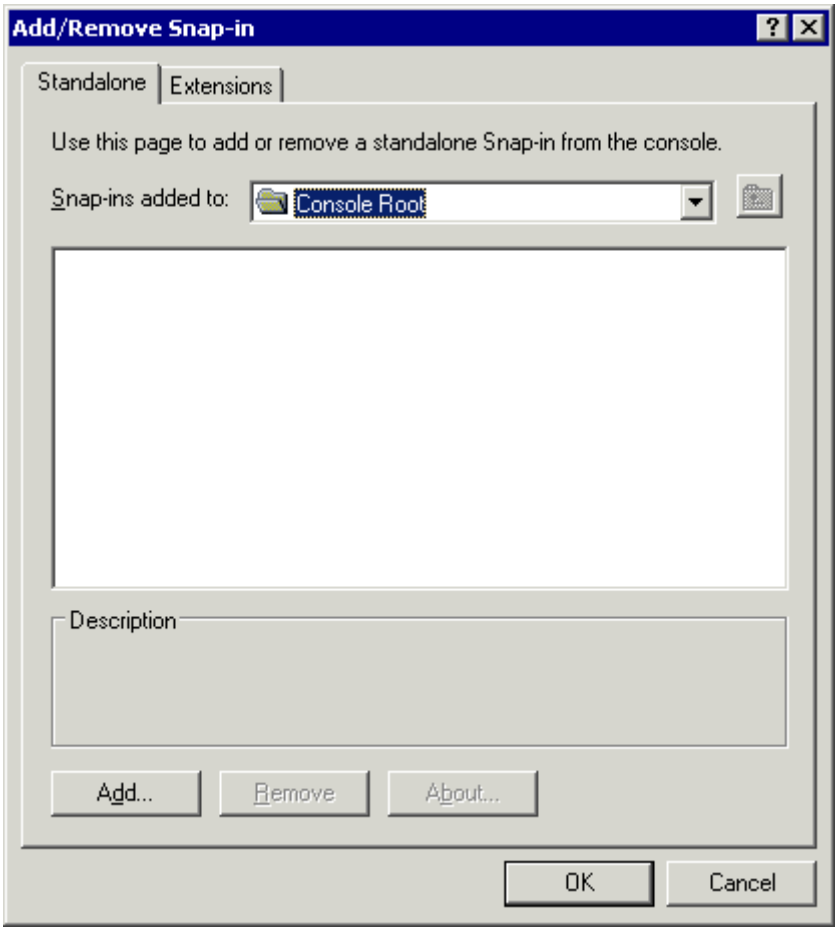
Windows 2003 has a number of features that can be allowed or prevented with a Group Policy. Group Policy is configured in the Group Policy Object Editor snap-in to the Microsoft Management Console.

Access the Group Policy Editor by typing **`mmc`** at a command prompt to launch the Microsoft Management Console.



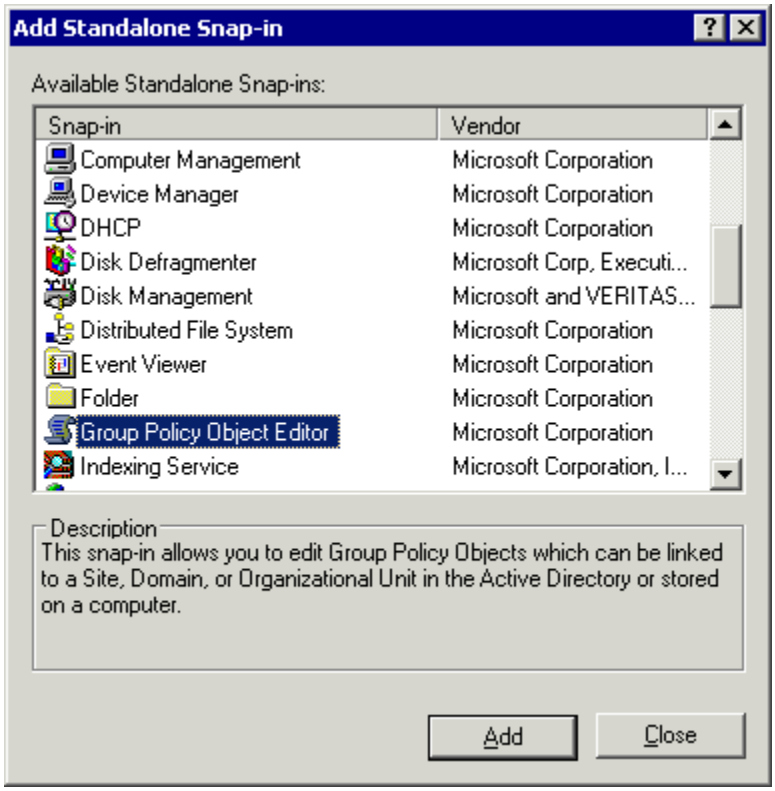
Microsoft Management Console

The Microsoft Management Console will be empty. Add snap-ins by selecting ***File> Add/Remove Snap-in***.



Add/Remove Snap-in

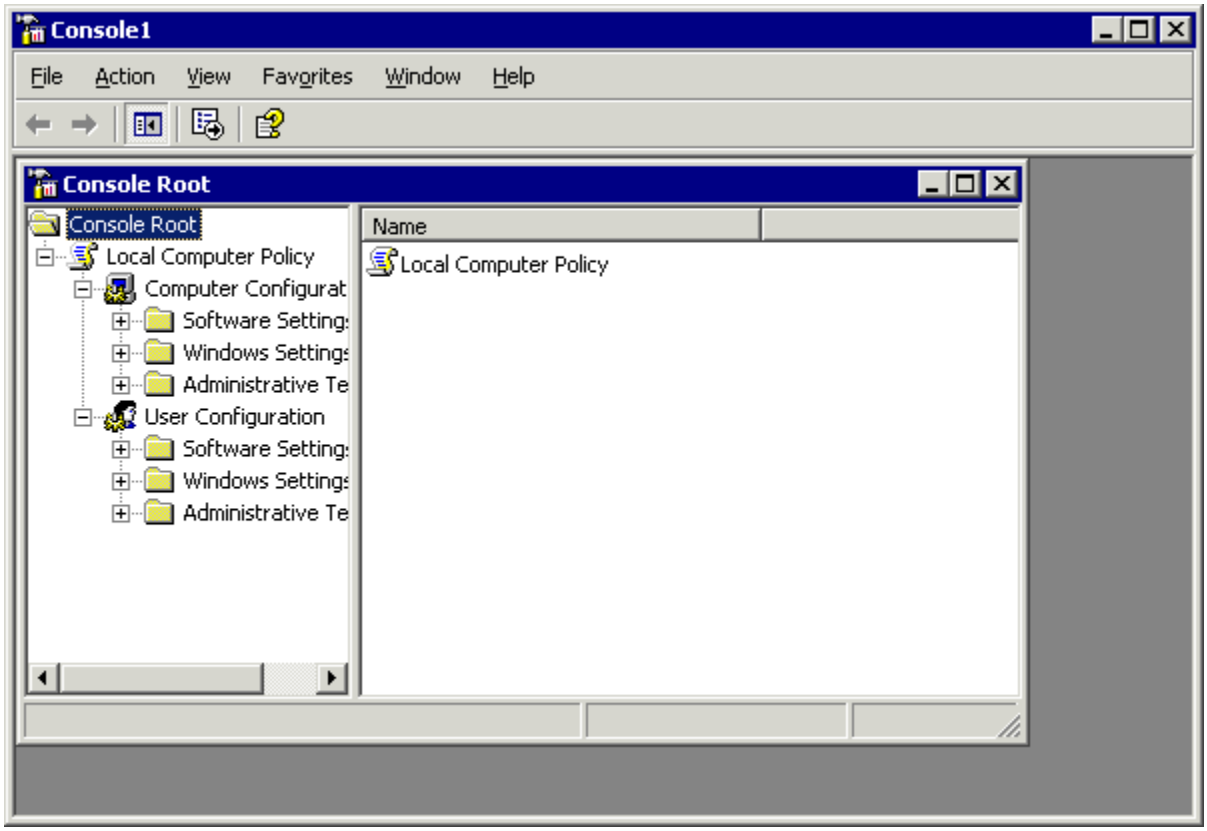
Select the ***Add*** button on the **Standalone** tab of the **Add/Remove Snap-in** window.



Add Standalone Snap-in

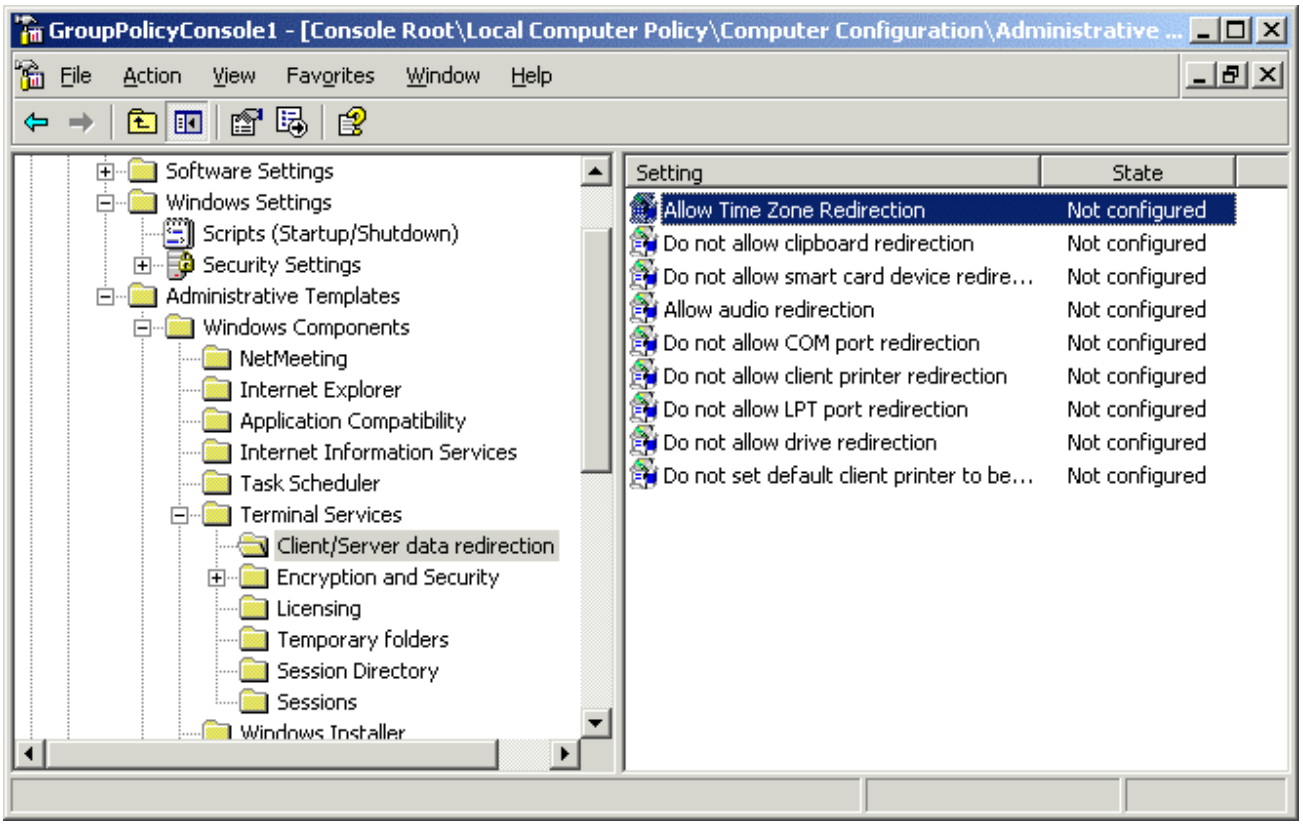
Scroll through the snap-ins on the Add Standalone Snap-in page and highlight the **Group Policy Object Editor**.

Select the ***Add*** button to add the Group Policy editor to the console.



Console with Group Policy

The Group Policy editor will be added to the console for use. This console can be saved for re-use. Expanding the tree will show Group Policy settings that can affect the terminal server experience.



Group Policy Settings

Please refer to Microsoft documentation for information on using these features.

DHCP Server Setup

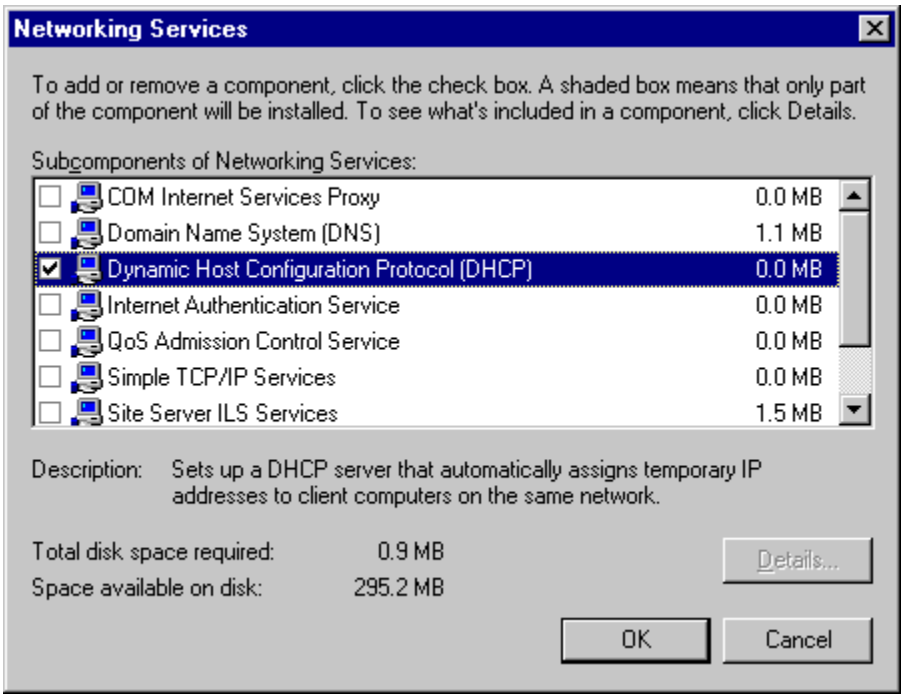
Dynamic Host Configuration Protocol (DHCP) is a program that assigns IP addresses to devices on a network. Since a DHCP server can be used to provide IP addresses to ThinManager Ready thin clients, the instructions for configuring the Windows 2000 DHCP Server are provided.

Note: The information included here is for your convenience. Because this information can change, please see Microsoft at www.microsoft.com for up-to-the-minute details.

To add DHCP to a Windows Server after installation select ***Start>Settings>Control Panel>Add/Remove Programs>Add/Remove Windows Components***. A Windows Configuration Wizard will launch.

Windows Components Wizard

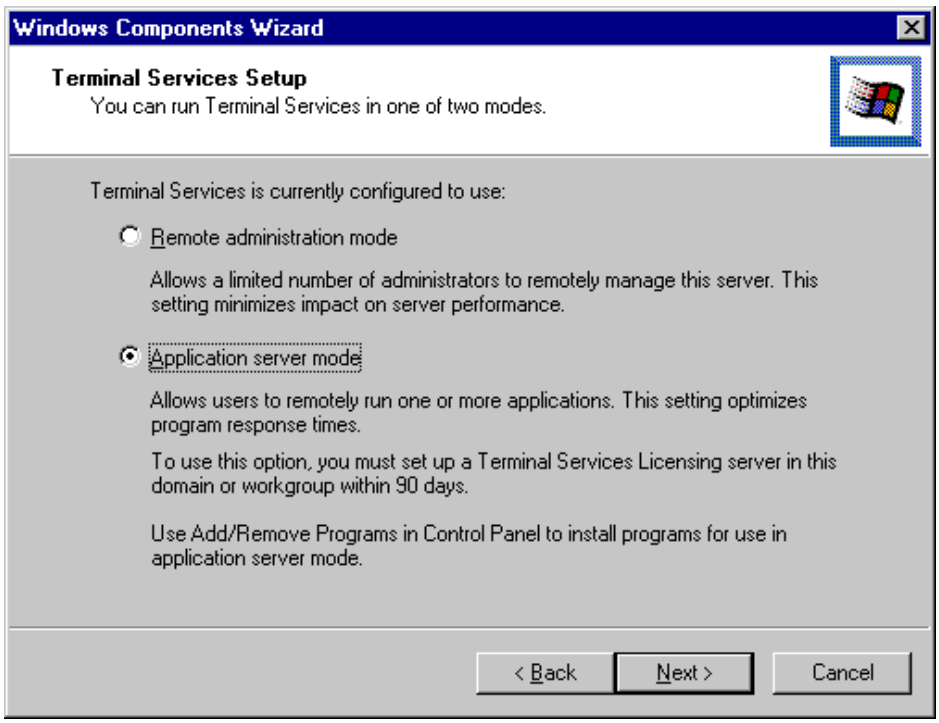
Highlight ***Networking Services*** in the list window and select the *Details* button.



Networking Services

Check the ***Dynamic Host Configuration Protocol (DHCP)*** check box and select the ***OK*** button.

The wizard will install the DHCP server.



Application Server Mode

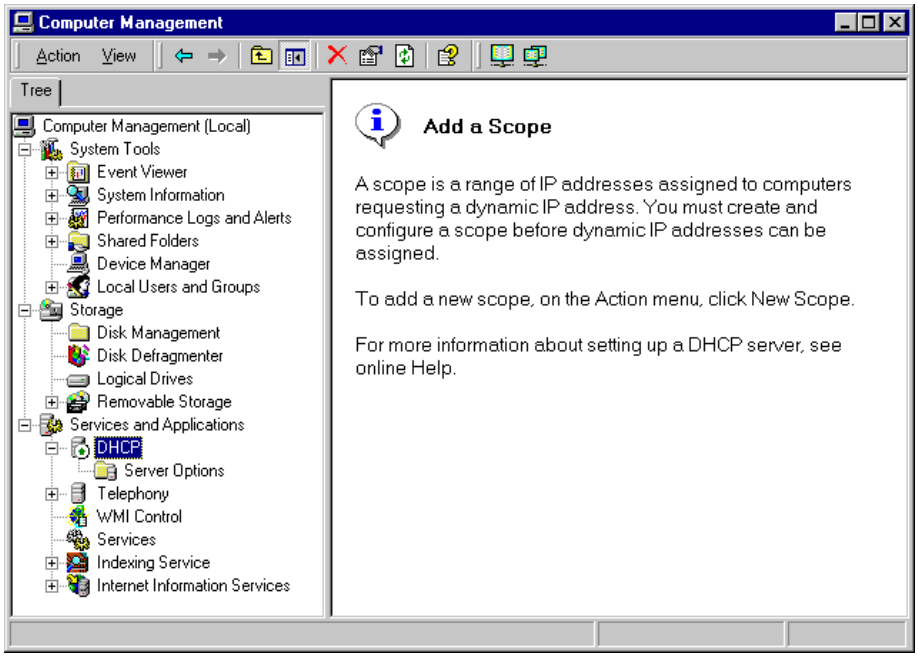
As part of the Windows Components Wizard, you may be asked to confirm the terminal service mode. The terminal server needs to run in application server mode to work with thin clients.

DHCP Scope Configuration for Microsoft DHCP Server

A DHCP server, in its simplest form, will assign an IP address to a computer that joins a network and requests one. A DHCP scope is a range of IP addresses that are available for assignment.

ACP Enabled thin clients need more information from the DHCP server than just an IP address. They need the IP address of the ThinManager server (Option 066) and the name of the firmware (Option 067) to download. This information needs to be added to the DHCP scope in the form of options.

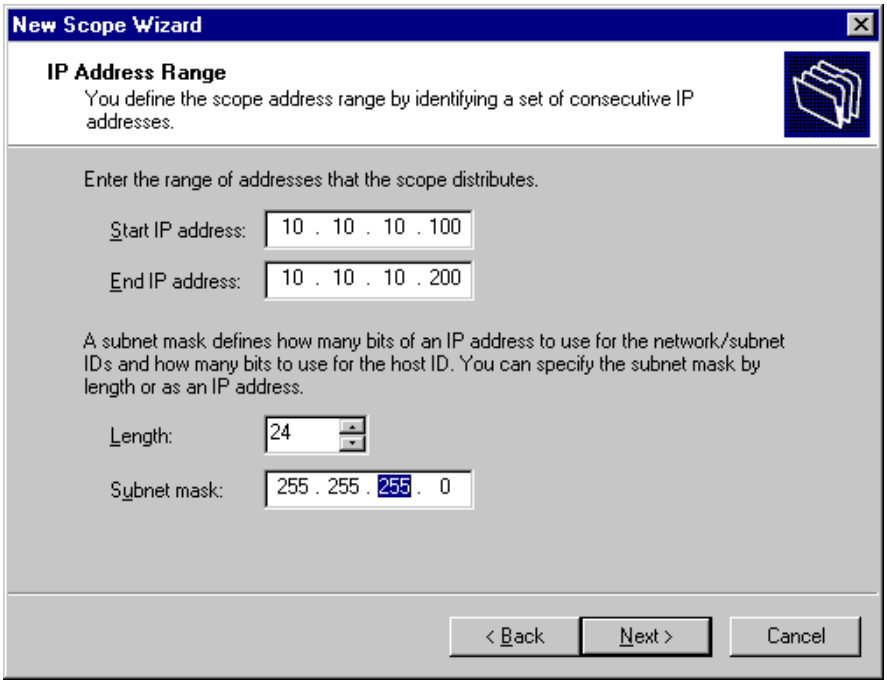
To establish a DHCP scope, open the Computer Management Console by selecting ***Start>Programs>Administrative Tools>Computer Management***.



Create a DHCP Scope

Highlight DHCP in the Services and Applications folder of the tree pane and select ***Action>New Scope***.

A New Scope Wizard will launch that will guide the process of creating the scope.

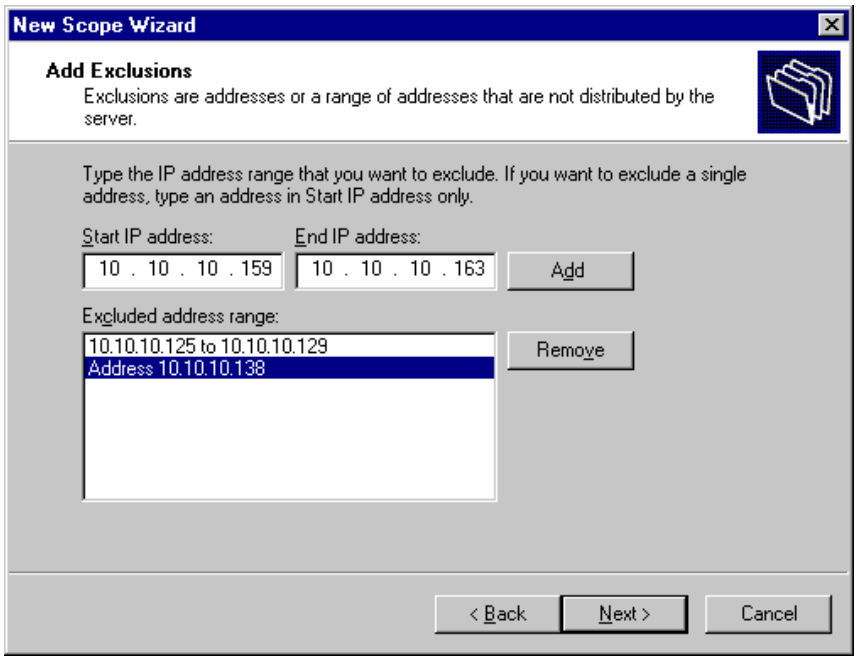


Scope Range

Set the range of IP addresses by entering the starting IP address for the scope and the ending IP address of the scope.

Enter the desired subnet mask.

Select the ***Next*** button to continue.

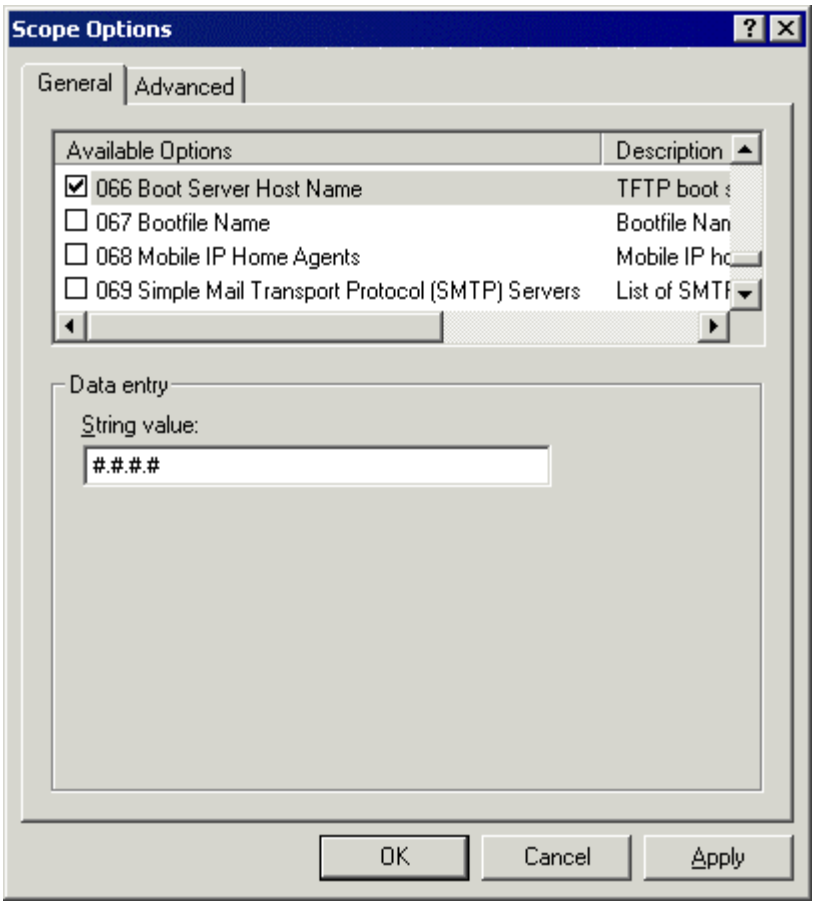


Scope Exclusions

If computers are already assigned IP addresses in the scope range, they can be excluded from the range by adding the IP address(s) and selecting the *Add* button.

Scope Options

The DHCP Server needs two options configured before it will provide all the information that the terminal needs to boot. These options are **Option 066** and **Option 067**.



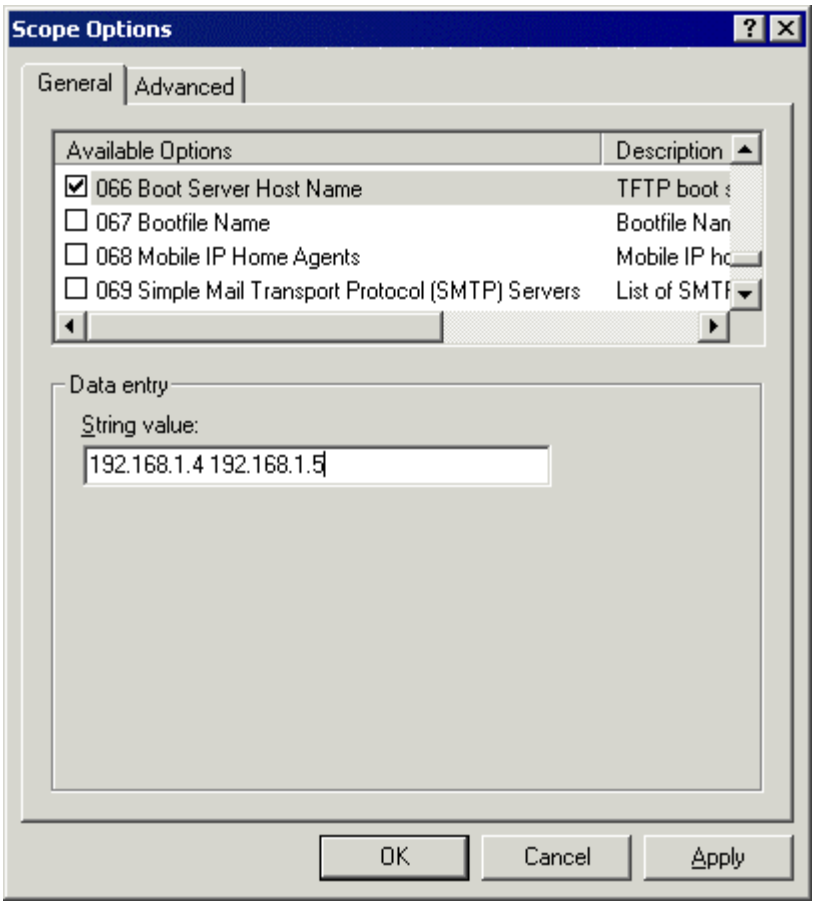
Boot Server Host Name

The ***Boot Server Host Name***, **Option 066**, assigns a ThinManager server to the terminal.

Open the Scope Options dialog box by highlighting the ***Scope Option*** folder in the tree pane of the Computer Management Console under the ***Services and Application>DHCP*** folder and selecting ***Action>Configure Options***.

Scroll through the list window and check the ***Option 066*** check box.

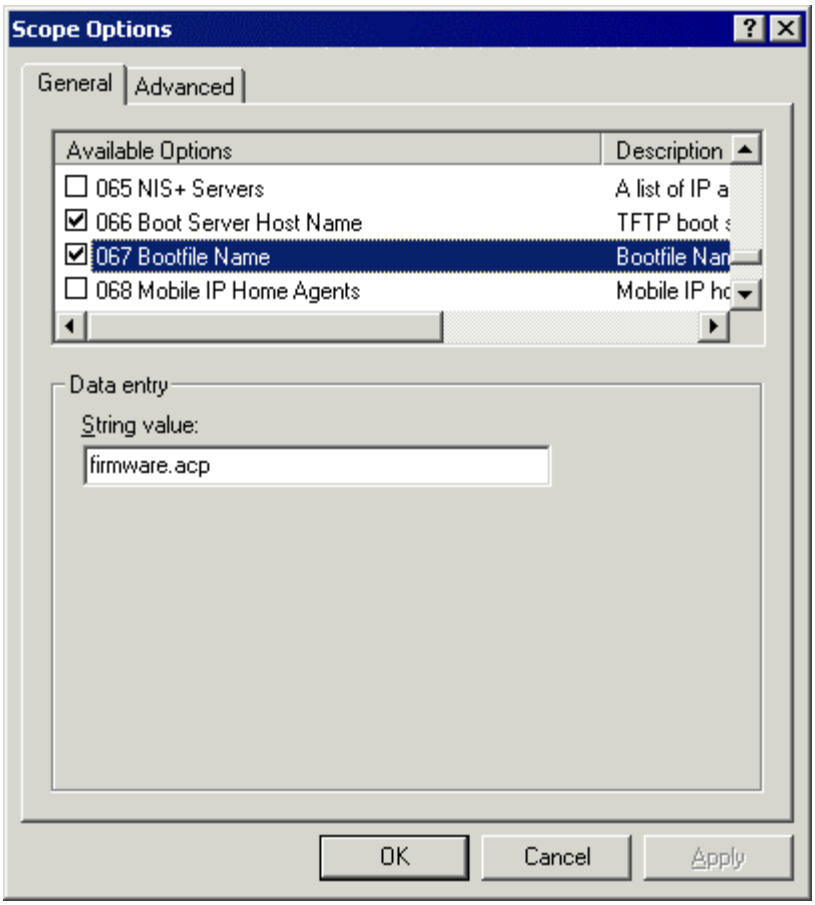
Enter the IP address of the desired ThinManager server in the ***String Value*** field.



Boot Server Host Name for Dual ThinManager Servers

The DHCP Server can issue the IP address for a Primary ThinManager Server and a Secondary ThinManager Server by listing the IP addresses of both, separated with a space.

Do not select the ***OK*** button yet.



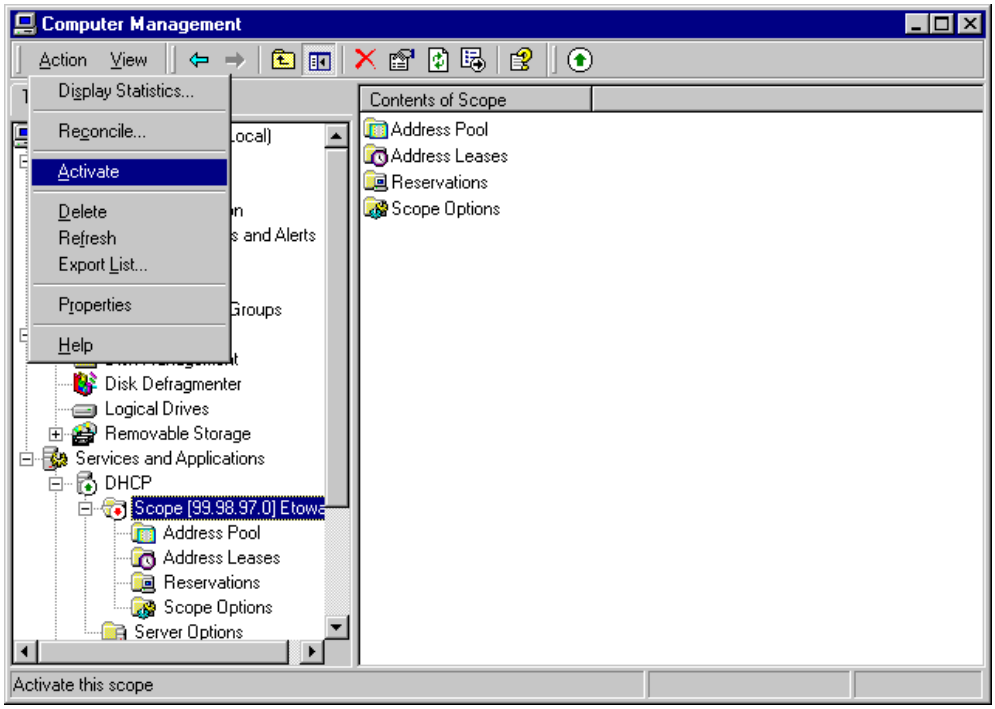
DHCP Options

The **Option 067**, **Bootfile Name**, tells the terminal what file to download during the boot process.

Scroll through the list window and check the ***Option 067*** check box.

Enter **`firmware.acp`** in the **String Value** field.

Select the ***OK*** button to accept the configuration of options.



Completed Scope

Once the scope is added, the range is set, and the options are configured, it needs to be activated.

Highlight the scope in the tree pane of the Computer Management Console. Select ***Action > Activate***. The scope is now active.

Scope Reservation

Reservations allows an IP address to be reserved for a specific terminal instead of being assigned randomly. An IP address can be matched with a MAC address to create a reservation. This allows DHCP to assign a "static" IP address.

Scope Reservation

The New Reservation window is launched by selecting the Reservation folder in the tree pane of the Computer Management Console under the Services and Application / DHCP folder and selecting ***Action>New Reservation***.

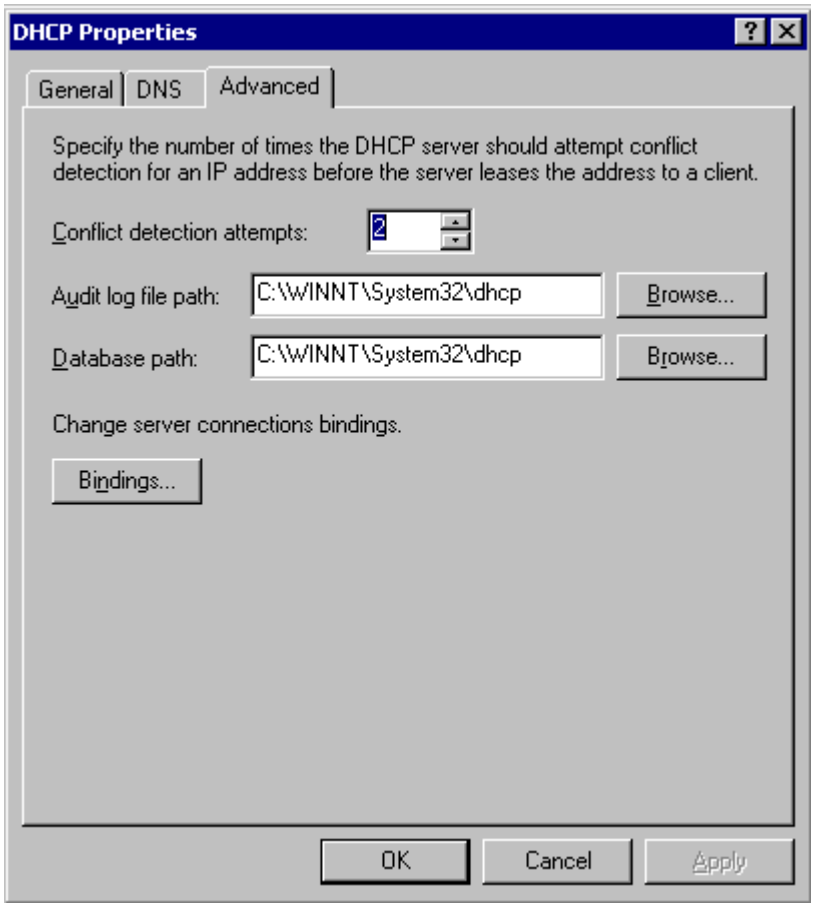
The MAC address of a terminal is displayed in the details-view pane of ThinManager.

Enter a **Reservation Name**, the desired **IP address**, and the **MAC address** from the terminal. Select ***OK*** to finish.

DHCP Properties

The DHCP Server can be configured to check for duplicate IP addresses before issuing a new address. This is a good feature to use.

Highlight DHCP under Services and Applications in the Computer Management tree and select ***Action>Properties***, or right-click on DHCP and select ***Properties***. The DHCP Properties window will launch.



DHCP Properties – Advanced Tab

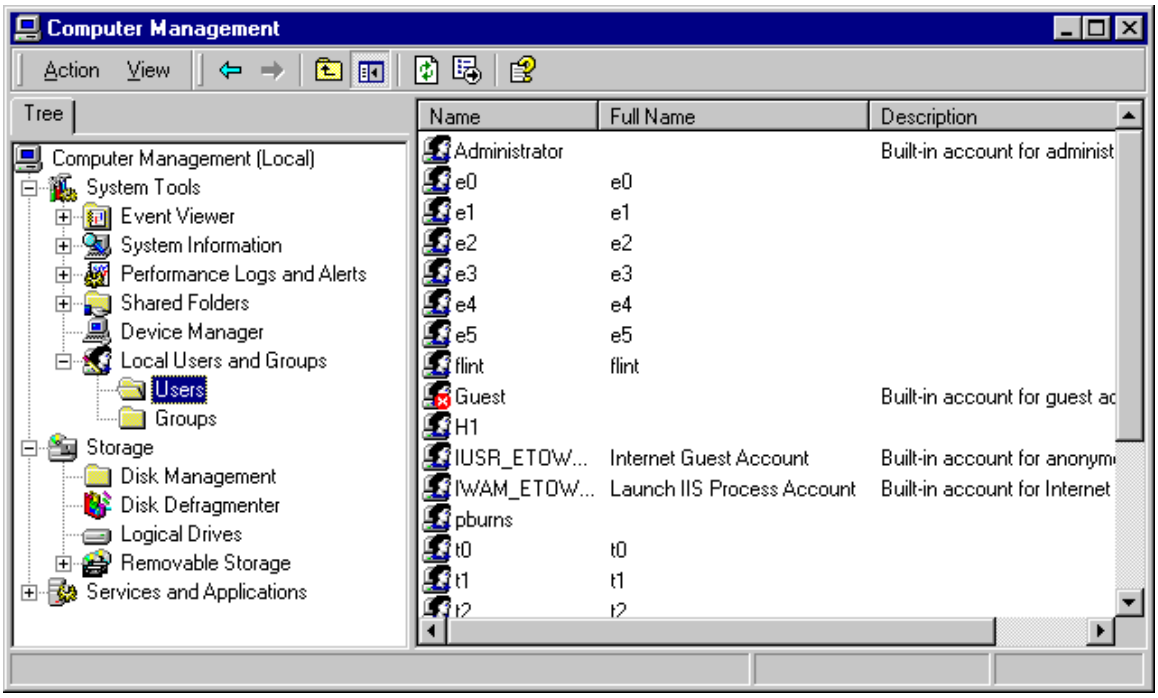
Select the ***Advanced*** tab. Replace the zero in the ***Conflict detection attempts*** field with an integer. This will prompt the DHCP Server to check for duplicate IP addresses before assigning an IP address.

Select ***OK*** when finished.

Creating Microsoft User Profiles

A terminal needs a valid Windows 2000/Windows 2003 User Profile to log onto a terminal server.

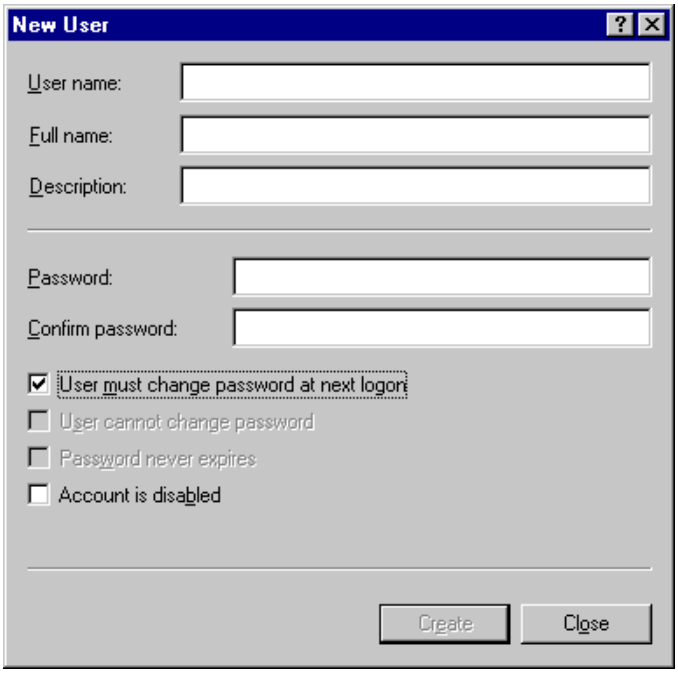
To create a user profile open the **Computer Management Console** by selecting ***Start>Programs>Administrative Tools>Computer Management*** in Windows 2000 or by selecting ***Start>Administrative Tools>Computer Management*** in Windows 2003.



Computer Management Console

Highlight the ***User*** sub-folder of Local Users and Groups in the Computer Management tree pane.

Select ***Action>New User***. This will launch a New User dialog box.



New User Dialog

Enter the user name for the user in the *User name* field.

Enter a password in the ***Password*** field.

Re-enter the password in the ***Confirm*** *password* field.

The ***User must change password at next logon*** check box forces the user to change the password.

Select the ***Create*** button to finish the profile.

Select the ***Close*** button to return to the Computer Management Console.

Microsoft TS CALs – Terminal Server Client Access Licenses

Microsoft Client Access Licenses (CALs)

ACP Enabled Thin Clients require a terminal server with **Windows 2000 Server** with **Terminal Services** enabled, or **Windows 2003 Server** with **Terminal Services** enabled as an operating system.

Each of these operating systems requires a standard Microsoft Client Access License (CAL) for each connection to the server. These are based on concurrent use; a 5-pack would allow more than five users to access server resources, but only five users at a time.

Microsoft Terminal Server Client Access Licenses (TS CALs)

Terminals, such as thin clients and fat clients, require an additional license, the **Microsoft Terminal Server Client Access License (TS CAL)** to connect to the server using either RDP or ICA. This licensing is **per seat**; ten terminals would require ten TS CALs, even if only two were connected at a time.

Windows NT 4.0 Terminal Server Edition were sold with TS CALs. These were installed on each NT 4.0 Terminal Server. Additional TS CALs are available from Microsoft.

Windows 2000 and Windows 2003 have an improved method of license management. All TS CALs are installed on a Terminal Services Licensing Server. This acts as a repository for all TS CALs. The terminal servers request TS CAL authentication from the Terminal Services Licensing Server as terminals attach to terminal servers.

Note: The Terminal Server Licensing Server does not need to be a separate computer, but can be run on any Windows 2000 or 2003 server, including Windows 2000/2003 Terminal Servers.

In Windows 2000, Microsoft requires that the Terminal Server Licensing Server be installed on the Primary Domain Controller in a domain.

The Terminal Services Licensing server is activated through the Internet by connecting to the Microsoft Certificate Authority and License Clearinghouse.

Windows 2000/2003 Server with Terminal Services enabled will issue 90-day temporary licenses while the Terminal Services Licensing server is being setup and activated. If this period has elapsed, the terminal will not connect to the terminal server and will display an “Error Number 50” message box.

Windows 2000/2003 Server is not normally sold with TS CALs. These need to purchased separately and installed on the Terminal Services License server.

Windows 2003 TS CALS

Microsoft has expanded the Terminal Server Client Access License (TS CAL) program in windows 2003. TS CALs are available in two types, TS Device CALs and TS User CALs.

- The TS Device CAL licenses one device for any user to connect to Microsoft Terminal Servers. This functions like the previous Windows 2000 TS CAL.
- The TS User CAL licenses one user for any device to connect to Microsoft Terminal Servers.

To change between the ***Per Device*** licensing and ***Per User*** licensing, double-click ***Licensing*** to launch the **Licensing Mode** window.

Microsoft Terminal Server Licensing Activation

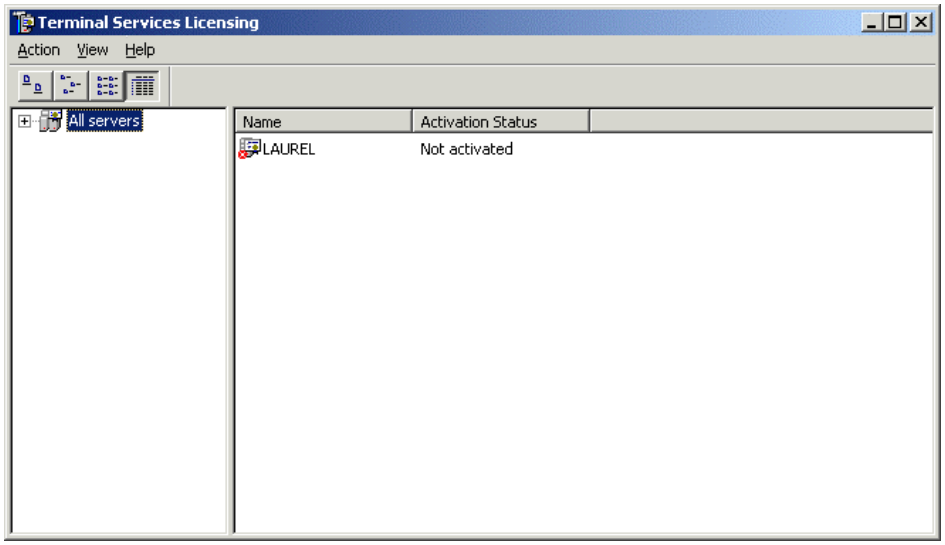
In Windows 2000 and 2003, all the TS CALs are installed on a single Terminal Server Licensing Server. This allows a single site for management and authentication of terminal server connections. A server becomes a Terminal Server Licensing Server by selection of the option during the installation phase or by selecting ***Add/Remove Programs> Add/Remove Windows Components*** from the Control Panel and selecting the Terminal Services Licensing.

Note: The information included here is for your convenience. Because this information can change, please see Microsoft at www.microsoft.com for up-to-the-minute details.

The licensing of the Microsoft components of a Windows 2000 terminal server is a is a two-step process; one must first authorize the Terminal Server Licensing Server, then one must activate the licenses. The license activation will be repeated for each license pack.

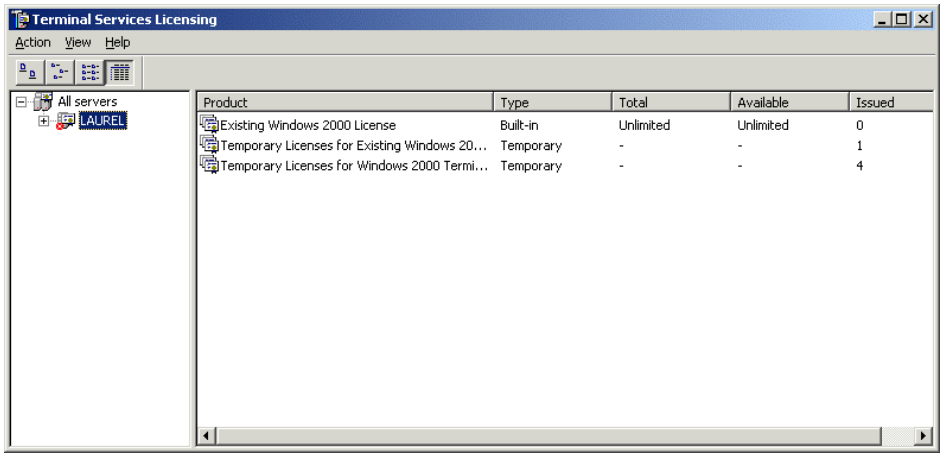
Note: The Terminal Server Licensing Server does not need to be a separate computer, but is usually installed on a Terminal Server. Microsoft requires that the Terminal Server Licensing Server be installed on the Primary Domain Controller in a 2000 domain.

To begin the process select ***Start>Programs>Administrative Tools>Terminal Server Licensing*** on the Terminal Server Licensing Server.



Terminal Services Licensing

Highlight desired server



Selected Terminal Server

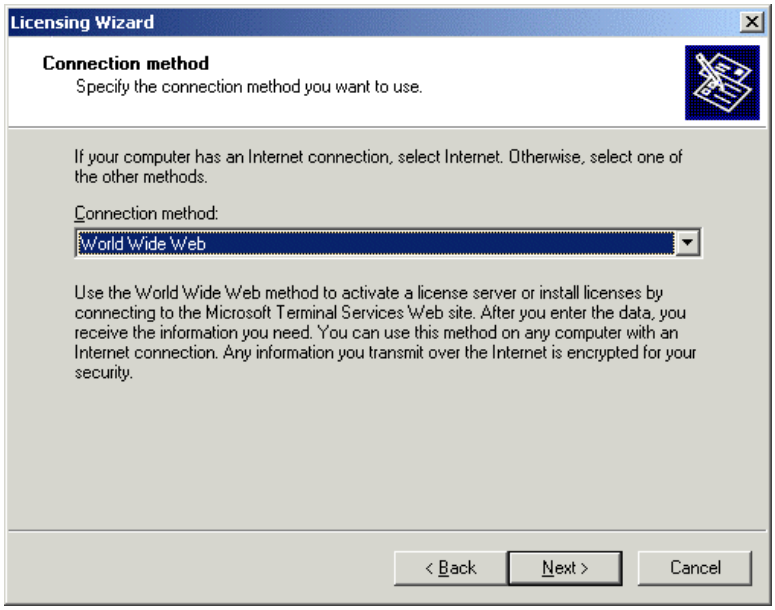
Select ***Action>Activate Server*** from the menu bar.

Licensing wizard

The Licensing Wizard will launch.

Follow the steps of the wizard by selecting ***Next***.

Note: The ID numbers shown on screens have been changed to "1234". Please use the appropriate numbers that apply to your server and licenses.



Connection Method

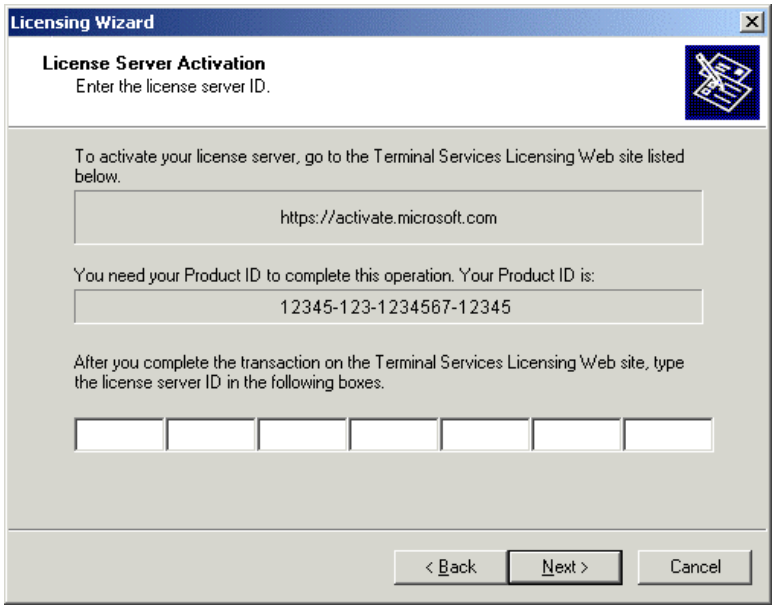
There are several methods for connecting to the Microsoft License Clearinghouse.

- **Internet** - Allows activation through a direct connection to Microsoft. The Licensing Server must have Internet access.
- **World Wide Web** - Allows activation at Microsoft's web site through a web browser.

- **Fax** - Allows activation through faxes to Microsoft.
- **Telephone** - Allows activation through the telephone.

Select the desired method from the drop-down box and select ***Next***.

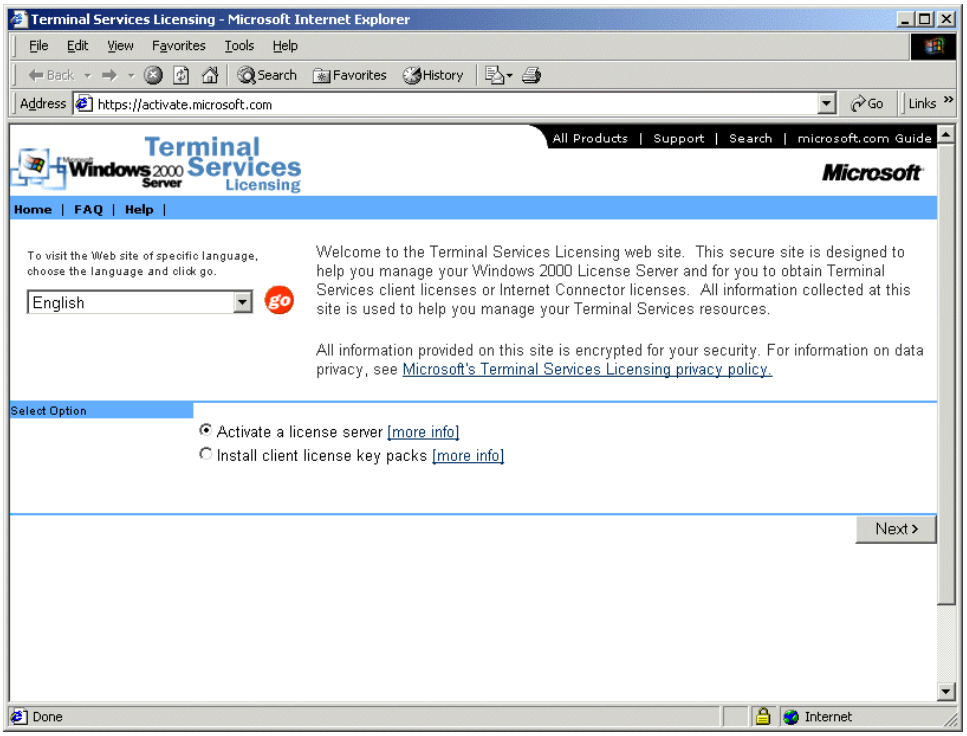
Note: This section will detail the World Wide Web method.



License Server Activation

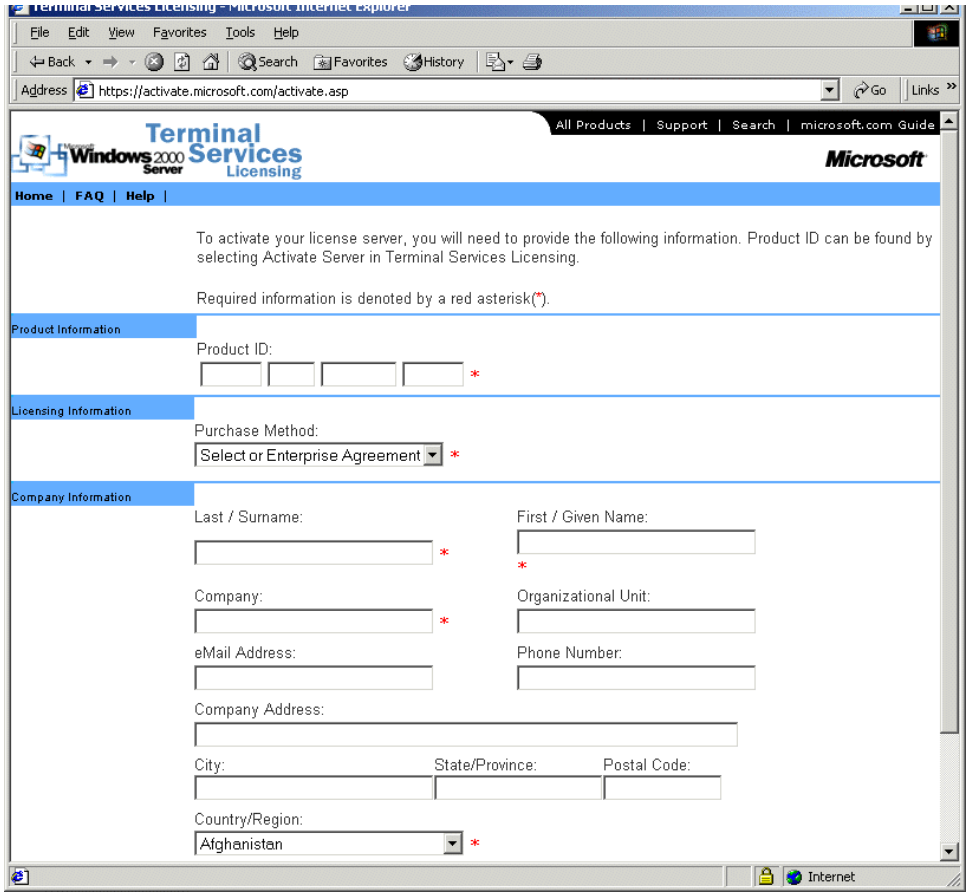
The server needs a License Server ID for authorization. This is done on the Microsoft web site.

Go to the https://activate.microsoft.com site mentioned in the dialog box.



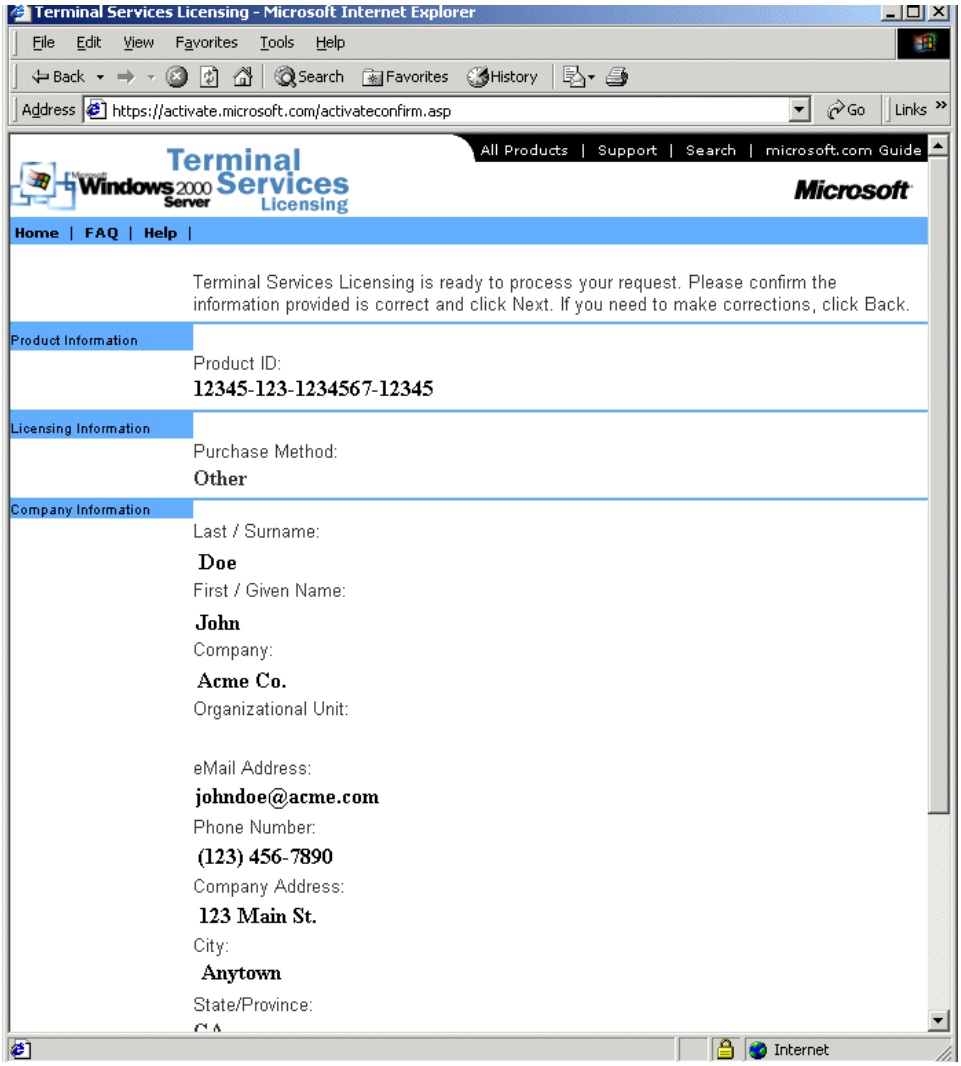
Microsoft Terminal Services Licensing Web Site

Select ***Activate a license server*** and select ***Next***.



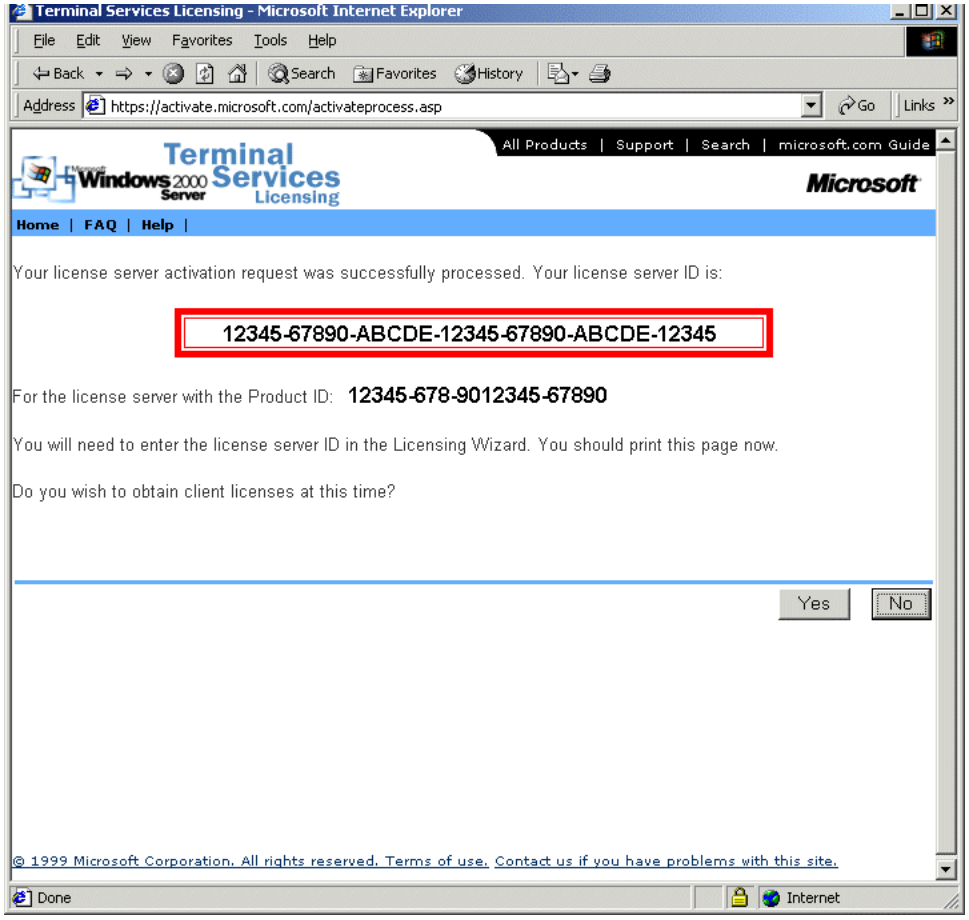
Customer Information Entry Form

Fill out the information forms and select ***Next***. The Product ID is supplied by the Licensing Wizard.



Customer Information

Continue with web-based wizard. Verify the data and select ***Next***.



Server Activation Number

The Microsoft will provide the License Server ID.

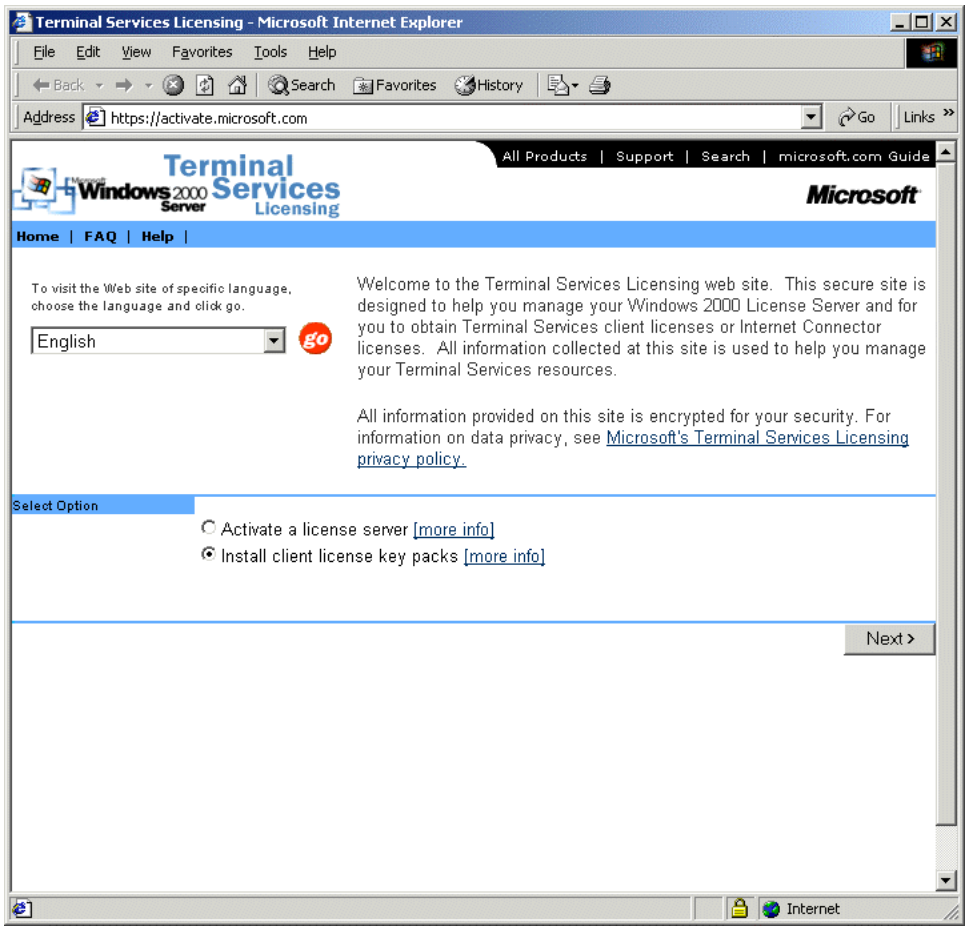
Add this number to the form in the Licensing Wizard.

Wizard Completion

Once the License Server ID is placed in the appropriate fields on the Licensing Wizard, you will have a choice to continue and activate the license packs, or to stop with the server activation.

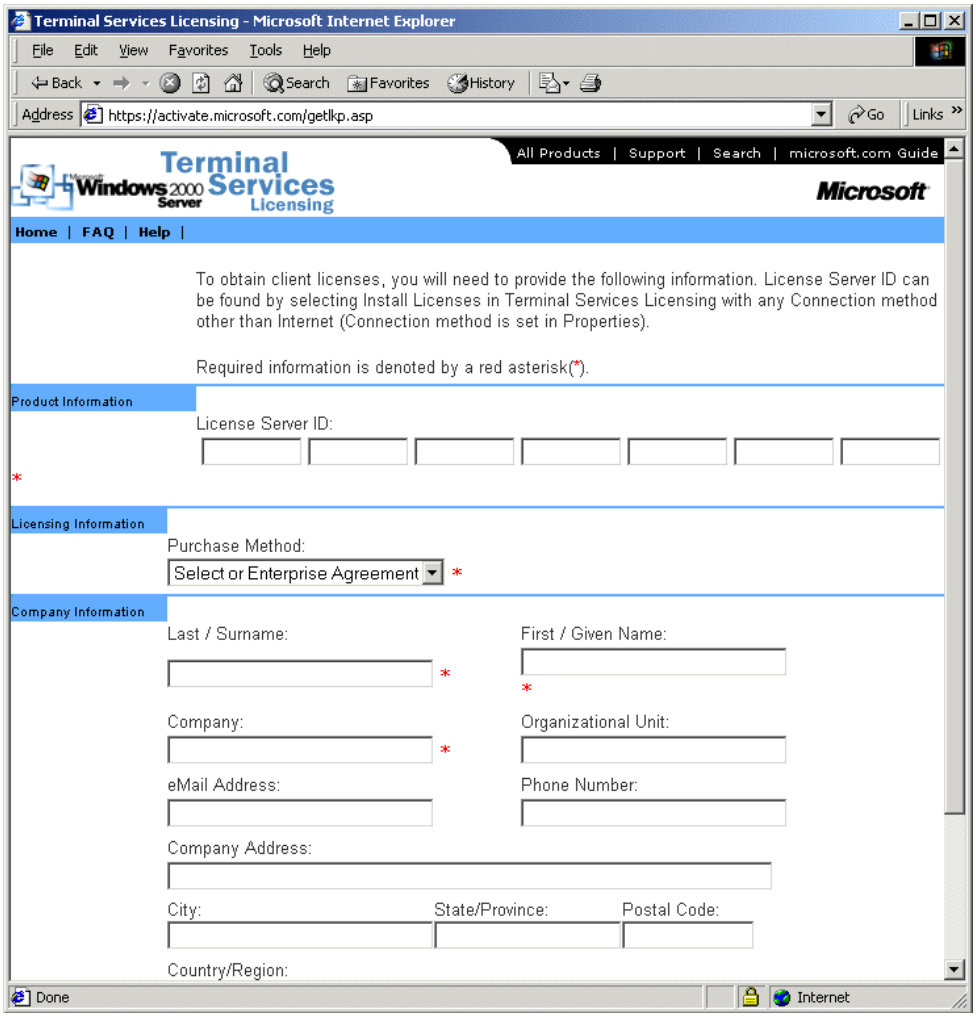
Microsoft TS CAL License Authorization

To continue adding license packs, return to the https://activate.microsoft.com web site.



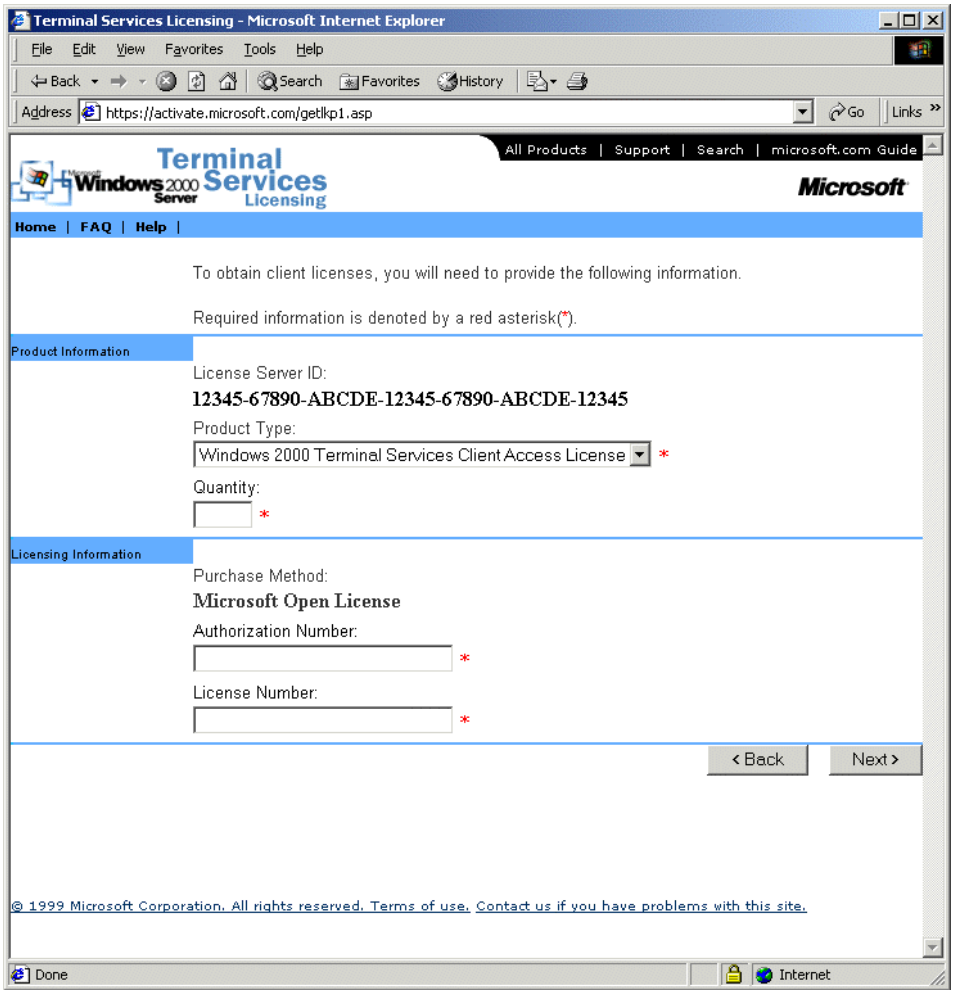
Microsoft Terminal Services Licensing Web Site

Select the Install client license key packs and select ***Next***.



Customer Information

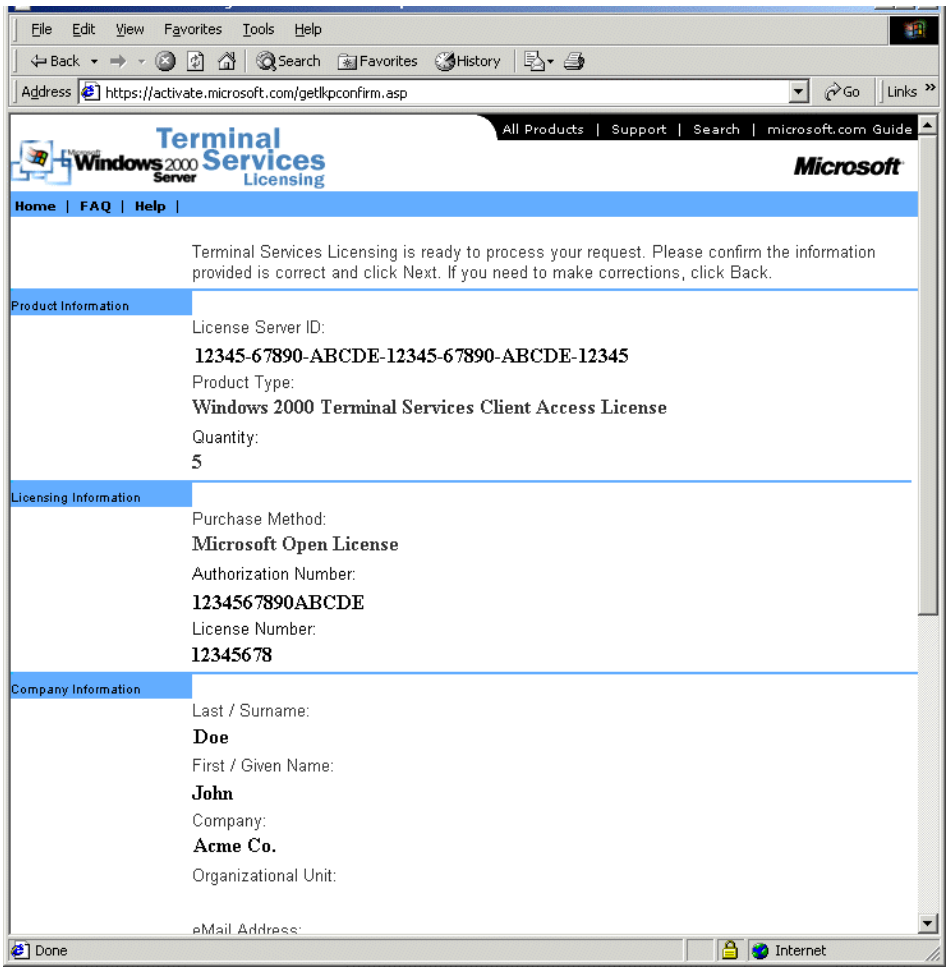
Fill out the form and select ***Next***.



TS CAL Information

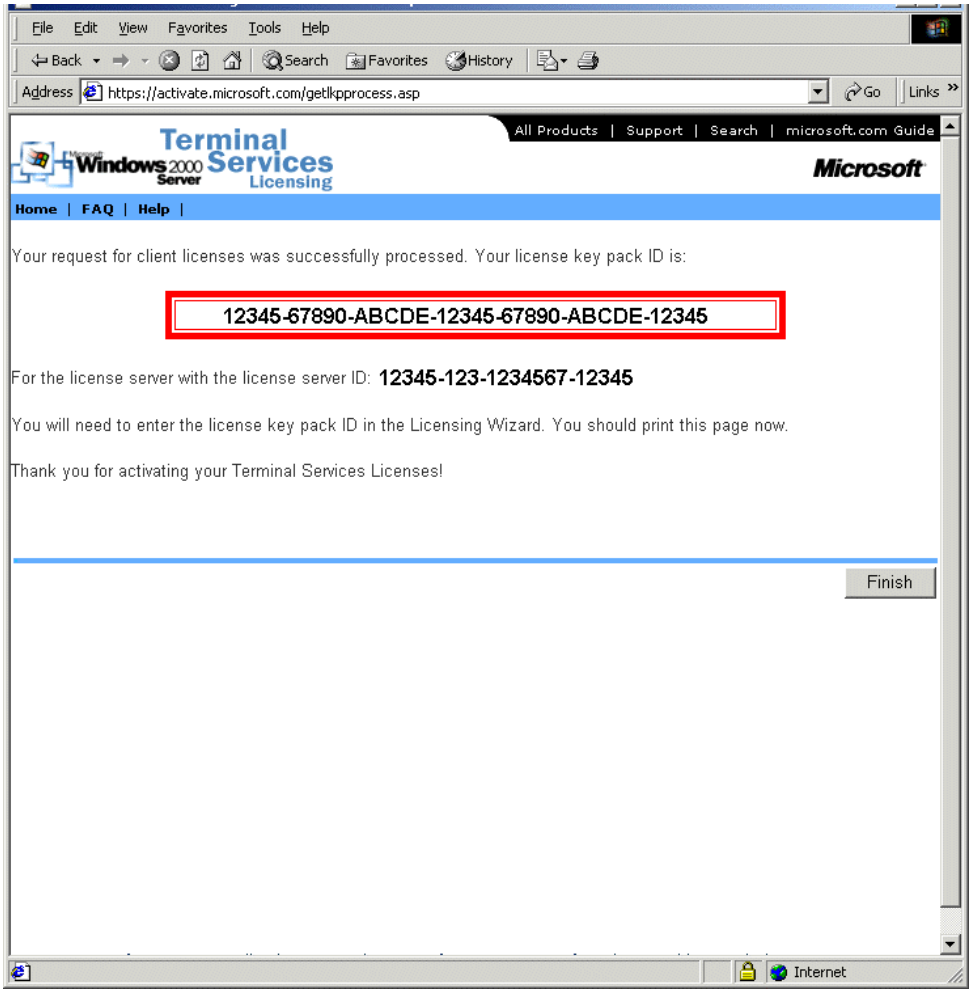
Select the Product Type and fill in the fields with the Quantity, Authorization Number, and License Number from the Licensing Certificate that was included with the purchase of the licenses.

Select ***Next*** to continue.



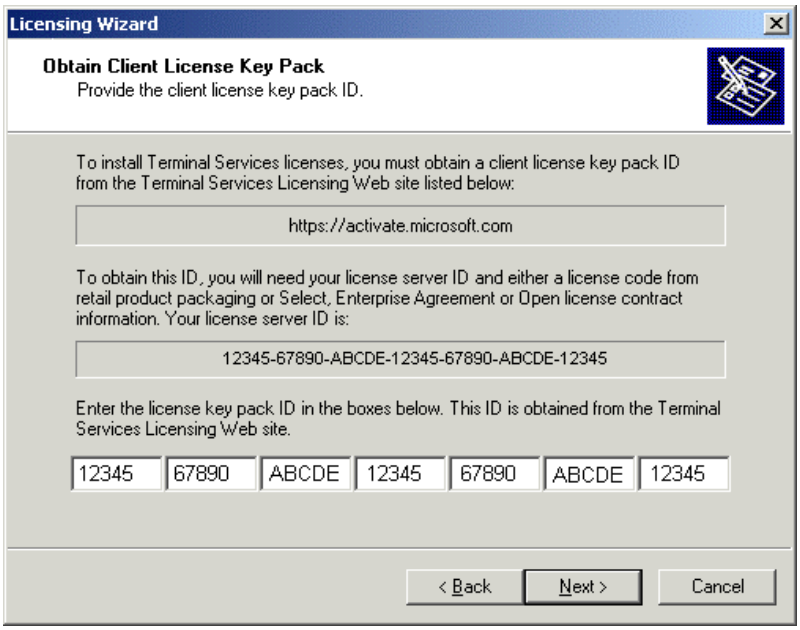
License Information

Verify that the information is correct and select ***Next*** to continue.



License Key Pack ID

The Microsoft site will provide the License Key Pack ID. This needs to be installed in the Licensing Wizard.



License Key Pack ID Fields

Fill in the fields of the Licensing Wizard with the License Key Pack ID from the Microsoft site and select ***Next***.

Licensing Completion

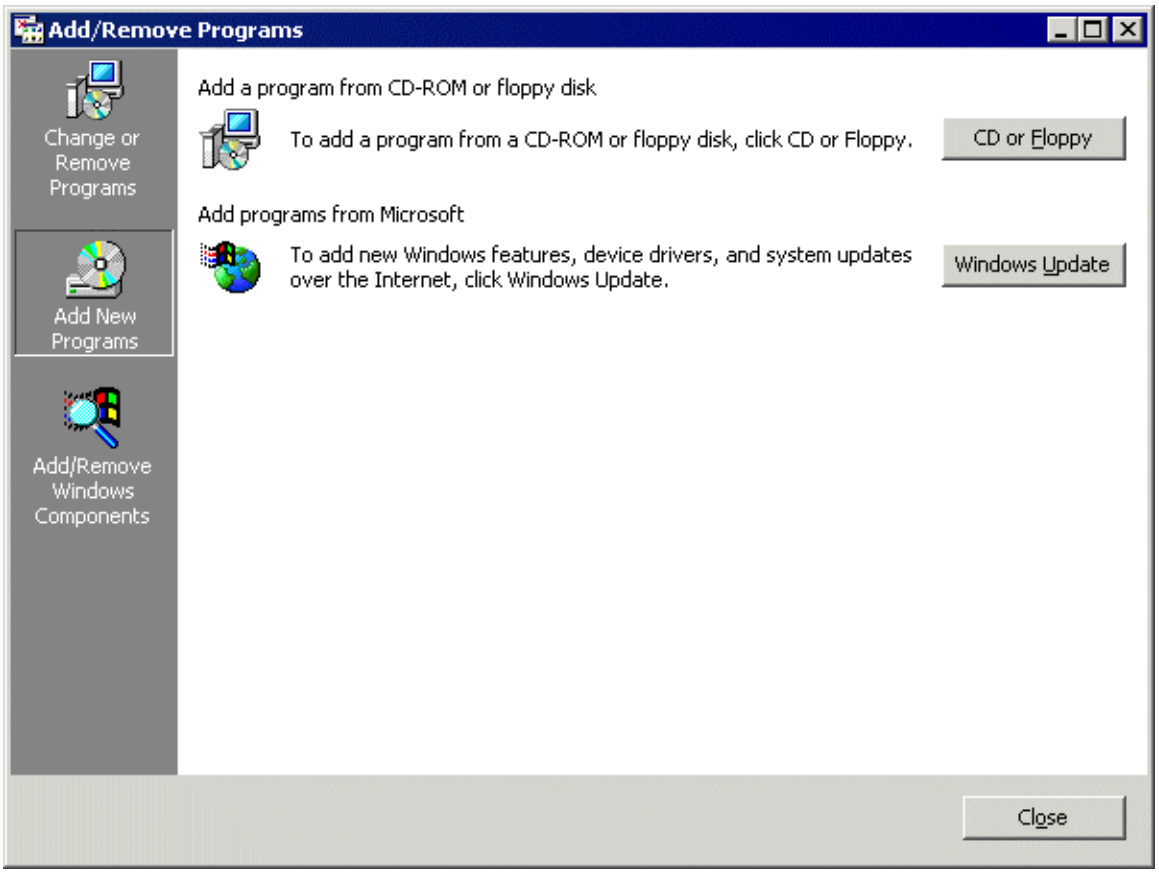
The licenses will be added and will be displayed in the Terminal Services Licensing window.

Software Installation On Windows 2000/2003

Microsoft Windows 2000 Server requires that software be added in the "**Install Mode**" through the ***Control Panel, Add/Remove Programs.***

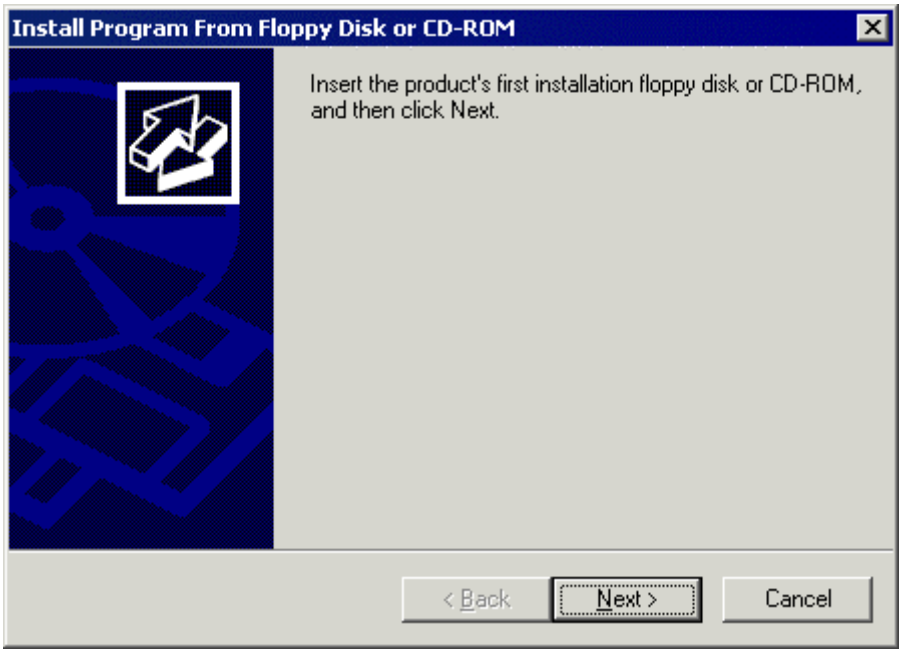
Select ***Start>Settings>Control Panel>Add/Remove Programs*** to launch the **Add/Remove Programs** dialog box.

Note: Some software, especially downloaded software, doesn't allow the installer to install it through the Add/Remove Programs tools. To manually put the machine into the install mode open a command prompt and type:
`change user /install`
This command sets the machine to install mode. When finished, type:
`change user /execute`
This command returns the machine to the normal run mode.



Add/Remove Programs

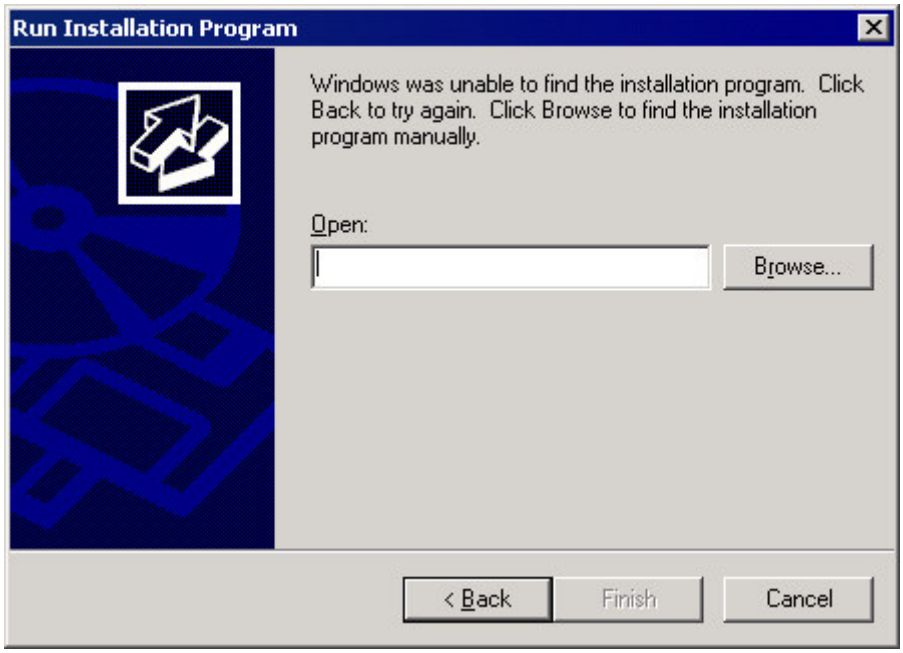
Select the ***CD or Floppy*** button on the **Add/Remove Programs** dialog box to open the Installation wizard.



Install Program Window

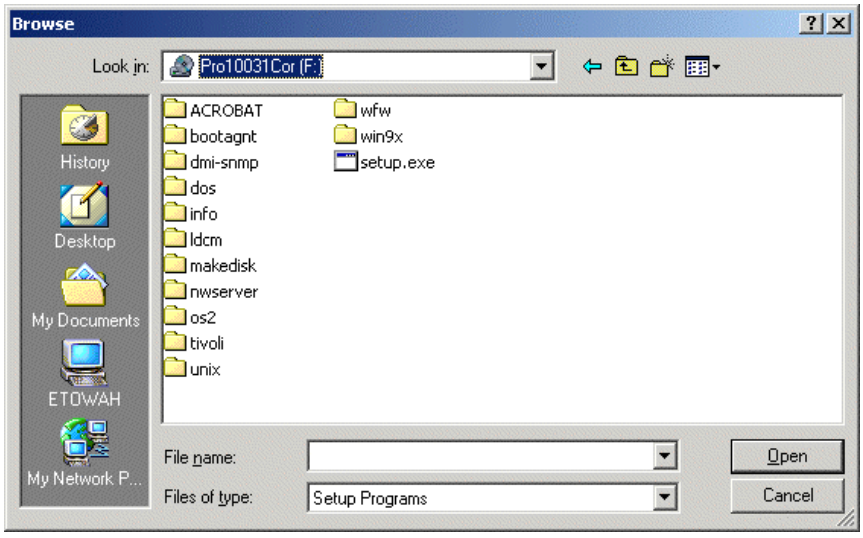
The wizard will prompt for the installation of the software disk. Select ***Next*** to display the **Run Installation Program** dialog box.

Note: If the new program starts in **autorun** and proceeds without going through the following procedures, either stop the **autorun** and use the wizard to initiate the installation, or use the **`change user /install`** command to place the machine in the install mode. Use the **`change user /execute`** command when finished to return the machine to the Run mode.



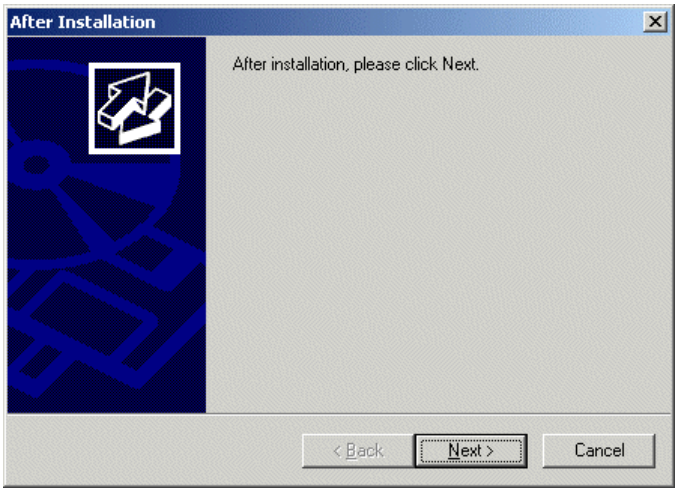
Run Installation Program

Enter the command line of the installation program and select ***Finish***, or select the ***Browse*** button to select the installation file.



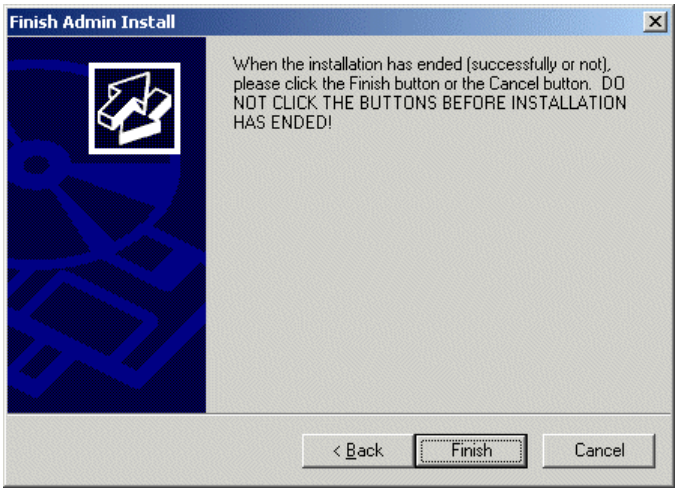
Browse File Window

Selecting the ***Browse*** button on the **Run Installation** dialog box will launch a **Browse File** window. Highlight the installation file and select ***Open***. This will begin the application setup.



After Installation Window

As the installation begins, an **After Installation** dialog box is displayed. It requests that the ***Next*** button be selected when the installation is finished. When this button is selected a second confirmation window is displayed.



Finish Install Window

Select the ***Finish*** button when the installation is finished.

Note: If a choice is given to **Reboot Now** or **Reboot Later**, choose to reboot later once the entire setup is completed and the dialog boxes are cleared.

Glossary of Terms

Access Groups

Access groups are used to limit access to a terminal or Terminal Server Group unless the user is also a member of the access group.

ACP

Automation Control Products.

ACP Enabled Thin Client

A terminal that uses ACP technology. Also called ThinManager Ready

ACP Enabled Thin Client Network

A ThinManager server, a terminal server, and ACP enabled thin clients connected and configured on the same network.

AppLink

A function that applies the Initial Program to a Terminal Server Group.

BIOS

Basic Input/Output System. A program that the computer uses to control the keyboard, mouse, monitor, serial ports, and other devices before the hard drive is accessed .

CAL

Client Access License. A Microsoft license that is required to print or access files on a Windows Server. See also TS CAL.

Classic Mode

The method of configuring Groups and Terminals using property tabs that was introduced in ThinManager 1.0. See also Wizard Mode.

Client

A machine that requests data, resources, or services from a server. A software program that shares data with the server.

Client/Server

A relationship between two computers or programs where one, the client, requests data, resources, or services from the other, the server.

COM Port

A serial communication port on a PC.

Console

The administrative session that is run on the server.

DHCP

Dynamic Host Configuration Protocol. A protocol for assigning IP addresses and other boot information to computers on a network.

Disk-On-Chip

Storage device that contains firmware that allows an ACP Enabled thin client to boot locally. This may be a disk-on-chip or compact flash, depending on the make and model of the terminal.

DNS

Domain Name Service. An Internet service that converts domain names to IP addresses.

Domain

A group of computers that are administered as a unit, with common rules, policies, and procedures.

Domain Name Service

An Internet service that converts domain names to IP addresses. Often abbreviated to DNS.

Enforce Primary

A ThinManager feature that allows terminals that failed over to a backup terminal server to return to their primary terminal server once the primary terminal server has returned online.

Failover

The ability of a terminal to switch to a backup server when the primary server fails.

Fat Client

A computer with a hard drive and operating system that is acting as a client.

Firmware

The software that runs the ThinManager Ready thin client.

Gateway

A device that connects two computer networks that use different protocols.

GUI

Graphical User Interface. The portion of an operating system or program that provides icons, symbols, or pictures for options and choices.

HMI

Human-Machine Interface. A software program that allows an operator to control a manufacturing process. Also known as MMI, Man-Machine Interface.

Hot key

A keyboard combination that triggers a function.

HSSD

High speed Serial Driver. A module that works with the ACP Com Redirection program to transfer serial data from the ThinManager Ready thin client to the session on the Terminal Server at speeds up to 115 Kbaud.

ICA

Independent Computing Architecture. A remote presentation services protocol from Citrix that allows thin clients to access the server.

ICA Connection

The communication channel between an ICA server and an ICA terminal.

Initial Program

A function that loads a specific application instead of the desktop in a terminal server session.

Instant Failover

A ThinManager function that allows a ThinManager Ready thin client to start sessions on two terminal servers, with only the session of the primary terminal server visible. If the primary terminal server fails, the secondary session is immediately displayed.

IP

Internet Protocol. A widely used protocol for network communications.

IP Address

Four sets of numbers from 0 to 255 that represent an Internet address.

KeyBlock

A module that prevents certain keyboard combinations like CTL+ALT+DEL from functioning.

KVM

Keyboard/Video/Mouse. A device that allows several PCs to be displayed on a single monitor and controlled by a singe keyboard and mouse.

Load Balancing

A dynamic ability to connect a thin client to a group of servers and login to the server with the lightest load.

Load Sharing

A static ability to connect a thin client to one of a group of servers in a predetermined fashion to share the load among the servers available.

MAC

Media Access Control Layer. A protocol that controls access and communication on a network card.

Module

Modules are software components that can be added to the firmware to increase the functionality of the terminal. Modules include touch screen drivers, sound drivers, and special device drivers.

MultiCast

Multicast provides the ability for an unlimited number of terminals to boot simultaneously from the same data stream.

MultiSession

A function that allows a terminal to connect to several Terminal Server Groups at one time and to switch between sessions.

MultiSession License

A license that allows a server to be added to a Terminal Server Group that uses the MultiSession function.

OEM

Original Equipment Manufacturer. A company that manufactures computers.

PLC

Programmable Logic Controller. A device, often using ladder logic programs, that controls processes and devices in an industrial plant.

POST

Power On Self Test. A diagnostic test that a computer runs when it is first turned on to make sure that the hardware is functioning.

Primary Up Delay

An interval of time given to a server to allow it to finish loading before terminals will connect to it.

Primary Terminal Server

The first terminal server that a terminal will log into.

Published Application

An application in a server farm that is shared equally among the servers.

Queuing

Queuing extends the functionality of Smart Session by preventing terminals from connecting to Terminal Servers that have exceeded their Smart Session CPU load limit by letting the terminals connect in an orderly fashion.

RAM

Random Access Memory. The computer's primary memory space.

Redundancy

The use of duplicate equipment so that if one unit fails, another one takes its place without downtime.

RDP

Remote Desktop Protocol. The client/server communication protocol used between Windows NT/2000/2003 servers and Windows clients.

Router

A device that manages data transmission between two networks.

SCADA

Systems Control And Data Acquisition. A software program that gathers and displays data, and allows for operator input, for control of a manufacturing process.

Secondary Server

Backup terminal servers that a terminal may log into.

Server

A computer that holds applications, files, or data for use by other computers.

Server Farm

A group of connected servers that share responsibilities and are usually configured to allow processing to continue if one or more server crashes.

Server Ranking

A number that represents the available resources on a terminal server using SmartSession. Lower numbers indicate a lighter load.

Share Keyboard and Mouse

A module that allows several thin client to share a keyboard and mouse.

SmartSession

A function that allows a Terminal Server Group to be load balanced so that a ThinManager Ready terminal will connect to the terminal server in the terminal server group that has the lightest load.

SmartSession License

A license that allows a server to be added to a Terminal Server Group that uses the SmartSession function for load balancing.

Standard Group

A Terminal Server Group without additional options. The terminal servers are listed in a pre-defined order and a terminal connects to the first available terminal server in the order specified by the group.

Subnet

A group of TCP/IP addresses that communicate without going through a router and can be reached by broadcasts.

TCP/IP

Transmission Control Protocol/Internet Protocol. A layered application that allows shared applications and data on PCs.

Terminal

A client device that relies on a server for operations. ThinManager Ready thin clients are terminals.

Terminal Server

A server with a multi-user operating system that processes data for terminals.

Terminal Server Groups

A managed collection of terminal servers that a terminal can connect to.

TermSecure

A function that allows user profiles to be created and configured with their own Terminal Server Groups and Access Groups. When a TermSecure User logs in to a terminal using TermSecure, they will be allowed access to their own Terminal Server Groups and any of the terminal sessions that they are a member.

Thin Client

A terminal without a hard disk that is used to access a server.

ThinManager

A thin client configuration and management software from ACP.

ThinManager Ready

An ACP Enabled thin client.

ThinManager Server

A computer running both the ThinServer service and the ThinManager interface.
Since ThinManager will run on Windows workstations, a ThinManager “Server” can be a workstation.

ThinServer

The Windows NT service that is the engine for ThinManager.

Trialware

A free demo version of ThinManager that can be downloaded from www.thinmanager.com. It can run for 30 days without a license.

TS CAL

Terminal Server Client Access License. A Microsoft license that is required for each client accessing a terminal server.

USB

Universal Serial Bus. A data port that allows peripherals to connect to a PC.

WinTMC

A terminal server client application that can be installed on a PC. It can be controlled, configured, and managed through ThinManager.

Wizard Mode

A method of configuring Groups and Terminals using a Wizard that was introduced in ThinManager 2.4. See Classic Mode.

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