

ThinManager 12 Thin Client Management Platform

Catalog Number 9541



User Manual



Original Instructions

Rockwell Automation Publication TM-UM001D-EN-P - December 2020

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Notes:

About This Publication	This publication provides comprehensive information for users of ThinManager® thin client management software.	
Download Firmware, AOP, EDS, and Other Files	Download firmware, associated files (such as AOP, EDS, and D product release notes from the Product Compatibility and Dow <u>rok.auto/pcdc</u> .	
	ThinManager resources are also available at <u>thinmanager.com</u> .	
Summary of Changes	This publication contains the following new or updated inform includes substantive updates only and is not intended to reflect	
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	New Hotkey Options—Force failover to next display server and Set keyboard focus to a screen	227
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Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
EtherNet/IP Network Devices User Manual, <u>ENET-UM006</u>	Describes how to configure and use EtherNet/IP devices to communicate on the EtherNet/IP network.
Ethernet Reference Manual, ENET-RM002	Describes basic Ethernet concepts, infrastructure components, and infrastructure features.
System Security Design Guidelines Reference Manual, <u>SECURE-RM001</u>	Provides guidance on how to conduct security assessments, implement Rockwell Automation products in a secure system, harden the control system, manage user access, and dispose of equipment.
Industrial Components Preventive Maintenance, Enclosures, and Contact Ratings Specifications, publication <u>IC-TD002</u>	Provides a quick reference tool for Allen-Bradley industrial automation controls and assemblies.
Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Control, publication <u>SGI-1.1</u>	Designed to harmonize with NEMA Standards Publication No. ICS 1.1-1987 and provides general guidelines for the application, installation, and maintenance of solid-state control in the form of individual devices or packaged assemblies incorporating solid-state components.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, rok.auto/certifications.	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <u>rok.auto/literature</u>.

Notes:

Quick Setup Overview

	This chapter guides you through the actions needed to build and activate a ThinManager system.
Microsoft	Complete the following activities to install and configure Remote Desktop Services.
	 Build a Remote Desktop Server with the Microsoft Windows Server 2008/2008R2, 2012, or 2016 operating system. Enable the Remote Desktop Services (Terminal Services) role.
	 Create a Microsoft Remote Desktop Licensing Server and add Remote Desktop Services Client Access Licenses (RDSCALs) for each thin client. These were called Terminal Server Client Access Licenses (TSCALs) in Server 2003. The servers also require a normal CAL.
	 It is common to have each ThinManager-managed terminal automatically log in to the Remote Desktop Server when it boots up. Therefore, create a unique Windows user for each ThinManager-managed terminal. For domain deployments, this will be done within Active Directory. For work group deployments, this will be done on each Remote Desktop Server. Make sure that each user has permission to start Remote Desktop Server sessions on each Remote Desktop Server.
	 Apply appropriate security to each user profile using the standard Microsoft techniques.
ThinManager	This section describes how to install, activate, and configure ThinManager.
	Installation & Activation
	Perform the following actions to install and activate ThinManager.
	Install ThinManager software onto a computer to create ThinManager Server.
	 If using ThinManager Master Licensing, create a Master ThinManager License and add enough Product Licenses for each ThinManager-managed terminal.
	 If using FactoryTalk Activation:
	 Install the FactoryTalk Activation Manager on each computer where ThinManager is installed.
	- Download the FactoryTalk Activations for ThinManager.
	 Change the License Mode in ThinManager to FactoryTalk Activation and assign the newly downloaded activations.

ThinManager Database Encryption

ThinManager 11.2 introduced a major encryption change, with the Advanced Encryption Standard, AES, used to encrypt the ThinManager database instead of the previous encryption key. This led to a few important changes.

The database requires a password to be used as part of the encryption key and prompts for a password as soon as it is installed or updated.

Installation

When ThinManager 11.2 and later is first run, a dialog box appears, which prompts for a new database password.

Figure 1 - Database Password Dialog Box

Database Passw	vord	\times
configuration dat	ise password. This password is used to encrypt t tabase. You must have this password to move th tabase to another installation of ThinManager.	
Password		
	ОК	

1. Type a password into the Password field and click OK.

This password is used for the encryption key when the database is configured. There are no requirements for length or complexity. You can leave the Password field blank.

IMPORTANT The Database Password is unrecoverable if lost.

Manual Backup

To manually back up the database, follow these instructions.

1. Choose Manage>Backup.

You are prompted to create a password for the backup.

Figure 2 - Database Password Dialog Box

Database Pass	word	\times
configuration d	ase password. This password is used to encrypt atabase. You must have this password to move ti atabase to another installation of ThinManager.	
Password		
Verify		
	OK	

- 2. Type the password into the Password field.
- 3. Type the password into the Verify field.
- 4. Click OK.

The manual backup password is for the copy of the database as a backup only, not the running database. The password allows a user to backup the configuration with a short password to send to support without the need to send the main database password.

There are no requirements for length or complexity of the backup password. The password can be blank.

IMPORTANT	This password is unrecoverable if lost.
-----------	---

Manual Restore

To manually restore an encrypted backup, follow these steps.

1. Choose Manage>Restore.

The Database Password dialog box appears and prompts for the backup database password, not the original database password.

Figure 3 - Database Password

Database Password	×
Enter the database password. This password configuration database. You must have this p configuration database to another installation	bassword to move the
Password	
	Ск

2. Type the Password and click OK.

Automatic Backup

ThinManager can be configured to backup the configuration automatically. These automatic backups use the original password that was originally set when ThinManager was set up.

The backups are now be saved in C:\ProgramData\Rockwell Software\ThinManager instead of C:\Program Files (x86)\Rockwell Software\ThinManager.

Configuration

Perform the following actions to configure ThinManager.

• Define the Remote Desktop Servers at Display Servers> Remote Desktop Servers>Remote Desktop Server Wizard.

- Define the Display Clients at Display Clients> Remote Desktop Services>Display Client Wizard to deploy the applications.
- Define the Terminals using the Terminal> Terminal Configuration Wizard.
- Associate the hardware to the Terminal configuration.

Network

Thin clients and Remote Desktop Servers need a reliable network.

Verify that traffic is allowed on the following network ports in all software and hardware firewalls.

- **UDP/67** IP Address Assignment Used by the PXE Server (if using PXE boot).
- **UDP/69** TFTP Used by the PXE Server (if using PXE boot).
- **TCP/1494** Citrix Used by the ICA protocol (if using ICA instead of RDP).
- **UDP/1758** Used if the default Multicast is used. If the network MTU size is not the default, then the packet size need to be changed on the Multicast Configuration page of the ThinManager Server Configuration Wizard.
- **TCP/2031** Configuration Used to pass the configuration from the ThinManager server to the ThinManager thin clients.
- **TCP/2376**: Containers: This port is needed to allow an encrypted channel for the terminal to connect to a Container Host to display the Container content.
- **TCP/3268** Used for LDAP queries targeted at the global catalog.
- **TCP/3389** RDP Used by the RDP protocol (if using RDP in v2.4.1 or later).
- **UDP/4011** UEFI Boot Used when the DHCP server is on the ThinManager server or when using the UEFI BIOS to boot.
- **UDP/4900** TFTP Used for the TFTP download of the firmware.
- **TCP/5900** Shadowing Used to shadow Terminals. This can be changed on the Shadow Configuration page of the ThinManager Server Configuration Wizard.
- ICMP Echo Packets (Ping) Used by WinTMC and Enforce Primary.
- **DHCP** Configure as needed.

VLANs and Subnets

You should have only one PXE server per network. It is a good idea to have a separate VLAN for each ThinManager Server pair that will be replying to PXE requests.

Network Level Authentication (NLA)

ThinManager supports Network Level Authentication (NLA) with firmware package 7.1.113 and later.

• If a terminal has a valid Windows account entered in its configuration for an automatic login, then the client will pass that info through NLA to

authenticate. The client will log in and start a session without the operator noticing.

• If a terminal does not have a valid Windows account entered in its configuration, then an NLA login screen will be displayed, requiring a valid user account and password. This gets passed to the Remote Desktop Server for the login. A Windows Security/Login window is never displayed.



Note: NLA must be turned off on the Remote Desktop Servers if you want to use a Smart Card for authentication.

Perform the following actions regarding hardware.

- Establish the IP addressing scheme for the ThinManager-managed terminals. ThinManager-ready thin clients can use Static IP or DHCP. ThinManager-compatible thin clients use PXE boot and, therefore, require DHCP.
 - If using Static addressing, open the IP Address menu on the thin client and enter the IP address of the thin client and the ThinManager Server.
 - If using DHCP, configure Option 066 for the IP address of the ThinManager Server, and Option 067 as acpboot.bin.
 - If using PXE Boot, enable PXE boot by selecting Manage>PXE Server to launch the PXE Server wizard.
- Attach the terminals to ThinManager by either:
 - Turning on the terminal and selecting Create New Terminal when the offline terminals are listed.
 - Pre-creating the terminals in ThinManager and selecting the proper terminal name when the terminal is turned on and offline terminals are listed.

Step 1: The clients connect to the ThinManager Server and download the firmware and configuration.

Step 2: The configuration sends the clients to the Remote Desktop Server to log in and start a session, and delivers any additional content assigned to the terminal's configuration.

Hardware

Results

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Notes:

Introduction

ThinManager is a content delivery system that delivers content from a source to a device, where a user can view and interact with the content.

Thin Manager is the management system. Relevance is an extension that allows you to grant or deny access based on location or user permissions.

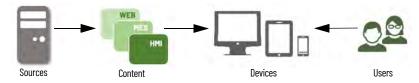
This manual covers the variations of content deployment using ThinManager[®] with Relevance[®].

Figure 4 - Thin Manager Content Delivery by Device, User, or Location

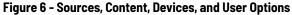


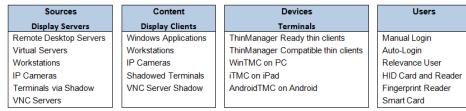
ThinManager is the tool that allows you to define sources, deploy content, configure devices, and allow user access. Each device connects to it to receive its configuration and instructions.

Figure 5 - Typical Simple Deployment



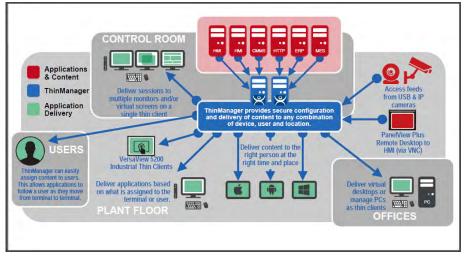
ThinManager is a software program that is installed on a computer in your system. The simplest use of ThinManager is to deploy a Windows application from a Windows Remote Desktop Server to a ThinManager-ready device. However, ThinManager provides many more options for deploying applications.





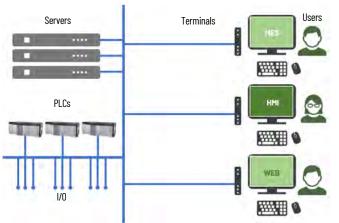
These options allow a robust content delivery system.





ThinManager centralizes content servers in a computer room and deploys the content to the plant floor, office, or control room as needed.

Figure 8 - Standard Industrial Architecture



An industrial network pulls the I/O to the PLCs. The Remote Desktop Server hosts the sessions that run the HMI and talk to the PLCs to gather and display the data.

Relevance User Access

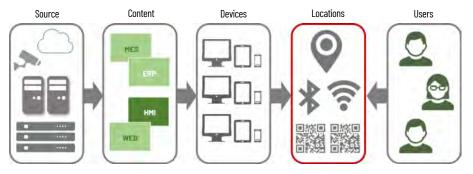
ThinManager has an additional security system that controls deployment of applications to users. This was formerly called TermSecure and is now integrated into ThinManager with Relevance as Access.

Figure 9 - Access

Relevance Location Services

The Relevance component builds on the ThinManager system by adding location to the application delivery. This allows content to be sent to the right person, at the right place, at the right time.

Figure 10 - Stylized Content Deployment







ThinManager uses wizards to configure the ThinManager components.

You create Locations in Relevance and send content to the locations. These can be assigned locations with a tethered terminal, or they can be unassigned locations that have no terminal at the location and are accessed solely by mobile devices.

Locations can be resolved manually or by using QR codes, Bluetooth beacons, Wi-Fi networks, or GPS.

ThinManager Interface

This section leads you through the important features on the ThinManager interface. Press F1 to find specific information while in the ThinManager program.

Figure 12 - ThinManager Interface

ThinManager Server EducationRDP02a Add ThinManager Server Disconnect 4		Lock Find (Ctrl-F) Unlock Find Next (F3)
ThinManager Server	Edit	Find
inManager Server	5Configuration Licenses Properties Vers	ions Synchronization Event Log
ThinManager Servers	Name 7	Value EducationRDP02a
	Unknown Terminal Configuration Allow Unknown Terminals to connect Authentication Required for Replacement Allow Automatic Terminal Creation Automatic Terminal Creation Mask Allow Off-line Replacement Allow Replacement Only with Like Model Allow Terminal Creation during Replacement	YES None YES AutoTem YES NO YES
	Local Terminal Settings Require Authentication to edit local terminal settings	NO
	Event Log Configuration	
🙁 💻 📗 🚛 🤱 🥥 8*	Maintain Historical Log Data (days)	Ť.

The ThinManager Interface has several components.

Note	Component	Description
1	Application Button	Launches the ThinManager Server Configuration wizard to configure global ThinManager settings.
2	Quick Access Toobar	Click the pull-down arrow to customize this toolbar. Add icons of commonly used tasks from the menu bar, like Restart, Send Message, Modify, Backup, and Shadow.
3	Menu Bar	Separates the functions into categories.
4	Ribbon Bar	Contains icons for the functions. Hide when unused via the Minimize the Ribbon command on the Quick Access pull-down arrow menu.
5	Detail Pane Tabs	Allows you to choose details to display. The tabs and detail selections change depending on what is selected in the tree. Drag the tabs to change the order.
6	Tree	Displays the components of ThinManager with the Outlook Bar Tab control so the branches of the ThinManager tree are shown one at a time.
7	Detail Pane	Displays the information for the selected tab for the highlighted tree component. The Detail Pane can be torn away by dragging the tab away from ThinManager. The Detail Pane can be re-docked by dragging the pane title bar back to the tabs.
8	Tree Selector	The selector buttons at the bottom of the tree control select which branch is active and visible. These can be pulled upwards to stack the buttons, or pulled down to minimize the buttons.

Terminals	Termīnals
	ThinManager Server
	Display Servers Display Clients
	🙎 Users
Tree Selector Bi	💊 🖉 👻
Minimized Buttons at the Bottom	Buttons Buttons Stacked

Figure 13 - Tree Selector Buttons - Minimized Buttons at the Bottom/Buttons Stacked

Stacking the buttons provides quicker switching, but the minimized buttons allows more room to show components in a larger system.

There is an arrow that allows customization tasks—like hiding branches or reordering the branches of the tree.

Menus

The menus of ThinManager use the Microsoft Outlook ribbon but contain similar functions as previous versions.

This is a brief description. Many of these functions will be explained in greater detail in the sections of the manual that cover setup and configuration.

Figure 14 - Edit

Refresh

Modify

(B) - 2 = 0 ;	1 😔 ÷	ThinManager				
Edit Manage	e Install Tools View	Remote View Help				
ThinManager Server Ec Add ThinManager Server Disconnect		2	G Find (Ctrl-F) Find Next (F3)			
ThinMa	anager Server	Edit	Find			
Feature	Description					
Add ThinManager Server	interface. Appropriate per	managment of, other ThinManager Servers from missions on the remote computer are required f nection, not the partner in a synchronized pair.	your local or access.			
Disconnect	Breaks the connection to the remote ThinManager Server.					
Remove	Deletes the remote ThinMa ThinManager Server.	Deletes the remote ThinManager Server from the local list. Does not affect the remote				

Opens the configuration wizard for a highlighted tree component.

Refreshes the data.

Feature	Description
Add	Launches a new configuration wizard for a highlighted tree component.
Add Group	Launches a group configuration wizard for a highlighted tree component.
Сору	Launches a dialog that allows you to create a copy of a highlighted item.
Delete	Deletes a highlighted item.
Rename	Renames a highlighted item.
Lock	Locks a highlighted item.
Unlock	Unlocks a locked item.
Find	Use to search for names, descriptions, IP addresses, and other data in the tree.
Find Next	Repeatedly search for a term.

Figure 15 - Manage

8	∠ = 0 ≈ 9 =	ThinManager		
	Edit Manage Install Tools Vi	ew Remote View Help		
	Restore Backup Biometric Databa		Manage Synchronize Settings Accounts Passwords	 Manage Resolvers Access Groups Settings
Packages	Configuration	Manage	Active Directory	Relevance

Feature	Description				
Packages	Opens the Package Manager window.				
Restore	Opens a file browser to let you restore a previously saved ThinManager configuration.				
Backup	Opens a file browser that lets you back up and save a ThinManager configuration for emergency restoration. This backup can be automated using the Scheduler.				
Restore Biometric Database	Opens a file browser to let you restore a previously saved Biometric database.				
Backup Biometric Database	Opens a file browser to let you save your Biometric data.				
Synchronize	se to manually synchronize a pair of ThinManager Servers if you are not using the ecommended automatic synchronization.				
PXE Server	Launches the PXE Server configuration wizard.				
ThinManager Server List	Opens the ThinManager Server configuration wizard for automatic synchronization.				
DNS Configuration	Opens the DNS configuration wizard to allow ThinManager to resolve names using your DNS.				
Configure Default Terminal	Allows configuration of the default Terminal if you are using auto-creation of Terminals.				
Web Management	Allows web access management when it is implemented in the future.				
Manage Accounts	Allows password management of Active Directory accounts. See <u>Manage Accounts</u> <u>Management on page 462</u> for details.				
Synchronize Passwords	Allows synchronization of passwords between ThinManager and the Active Directory for the chosen accounts. See <u>Synchronize Password on page 467</u> for details.				
Settings (Active Directory)	Allows you to use Active Directory, set Password Settings, and select whether to use Windows Security Groups or Active Directory Organizational Units for Relevance. See <u>Settings on page 468</u> for details.				
Manage Resolvers	Opens the Resolver Management window that lets you Add, Delete, and Edit resolvers added through a mobile device. See <u>Mobile Device Interactions with Relevance on page 507</u> for details.				
Access Groups	Opens the Access Groups dialog box where you create access groups for Relevance User Services. See <u>Relevance Access Group Creation on page 404</u> for details.				
Settings (Relevance)	Opens the Relevance Settings window that lets you define iBeacons and manage Bluetooth filtering.				

Figure 16 - Install

2 *	ThinManager					
Edit Mana	ige Install	Tools View	Remote View	Help		
Firmware Package	<u>]</u> Boot Loader 🧠 Chain Loade	Signada Signada	TermCap Database	ports		
Packages	Boot Files	Licensing	TermCap Reg	oorts		

Feature	Description
Firmware Package	Updates a firmware package, which consists of a firmware version and the modules for that version.
Firmware	Updates the firmware without an update of modules.
Modules	Updates a module without an update of the firmware.
Boot Loader	Updates the boot loader used in PXE boot.
Chain Loader	Updates the chain loader used in PXE boot.
Licenses	Launches the Licensing window to add licenses to ThinManager.
License Mode	Selects between the traditional ThinManager licensing or the Rockwell Automation FactoryTalk activation.
TermCap Database	The Terminal Capability Database has information on the abilities of every ThinManager-ready thin client. A new version is released with every newly supported thin client. Service packs update the TermCap but this allows you to update the TermCap if a new unit you have is not listed.
Reports	Adds a report and SQL query if you need a newly released one before it is added in a service pack.

Figure 17 - Tools

				ThinManager		
Edit	Manage Ins	tall Tools	View	Remote View	Help	
C Contractor Restart Reboot	Reboot Server	Calibrat	e Touchscreen essage	🔮 Enable 🐙 Disable	Clear	
P	ower	Terminal	Operations	Enable/Disable	Event Log	

Feature	Description
Restart	Resends the configuration to a highlighted terminal.
Reboot	Cycles power to a highlighted terminal and reloads the firmware and configuration.
Reboot Server	Cycles power to a highlighted Remote Desktop Server. Although it will give you a warning prompt, do not use unless you are serious about restarting a Remote Desktop Server. All sessions end abruptly when the server is rebooted.
Power Off	Powers off a highlighted virtual machine or thin client with a Wake-On-LAN function enabled.
Power On	This will power on a highlighted virtual machine or a thin client with a Wake-On-LAN function enabled.
Calibrate Touchscreen	Initiates the calibrate touchscreen program on a highlighted terminal.
Send Message	Sends a message to a highlighted terminal.
Enable	Re-enables a disabled terminal, Remote Desktop Server, or location.
Disable	Disables a highlighted terminal, Remote Desktop Server, or location. A terminal stops showing the session but shows a ThinManager splash screen. The session continues to run on the Remote Desktop Server. A disabled Remote Desktop Server kicks off all the ThinManager thin clients from the Remote Desktop Server, and forces them to a backup server. The Remote Desktop Server is still functional and allows RDP connections from other sources. This is useful to force failover to a backup so you can update your Remote Desktop Servers on the fly. A location will stop showing the session when disabled.
Clear	Clears the event log for the highlighted Terminal or Remote Desktop Server.

Figure 18 - View

<u>8) _ </u>	, , <u>∠</u> ≡ o 🤻 😡 =			ThinManager		
Edit Manage	Install	Tools	View	Remote View	Help	
 Status Bar Show Connected Only Options 	Application	Tabs	_	Tab Reordering Tab Tear-Off		
Interface		Т	heme		Reports	Print

Feature	Description
Status Bar	Check to display the status bar at the bottom of the ThinManager interface.
Show Connected Only	Hides any unpowered or unconnected thin clients. Although it can be useful, it is best left checked as it can be confusing when the unpowered terminal is hidden.
Options	Launches the Options window with the settings for license notifications, and allows new terminals and users to initiate a Terminal Configuration Wizard or Relevance User Configuration Wizard.
Application	Use to choose the color scheme for ThinManager.
Tabs	Use to choose the tab scheme for ThinManager.
Disable Tab Reordering	Check to lock the Detail Pane tabs in their current position. Normally, the tabs can be rearranged.
Disable Tab Tear-Off	Check to lock the Detail Pane tabs in their current position. Normally, the tabs can be dragged free from the ThinManager console.
Select Reports	Opens the Select Reports window that lets you select the reports for the various components. Select the Report tab for a highlighted component to see the actual report or use the Scheduler to generate a report automatically.
Print	Use to print a highlighted Report tab.

Figure 19 - Remote View

			ThinManager		
	nage Insta	all Tools	View	Remote View	Help
✓ Interactive	Send Keys 🝷	đ			
Scaled to Window	Zoom In	900			
Go Full Screen	Zoom Out	Connect Options			
Shadow		Connect			

Feature	Description
Interactive	Check to click into and control a shadow session. Clear this option for view-only mode.
Scaled to Window	Shrinks the shadowed terminal to fit into the details pane. Clear this option to show it in the correct resolution with scroll bars to give you a closer view.
Go Full Screen	Makes the shadowed terminal's image full screen. Use CTL+ALT+Break to undo full screen. To close ThinManager, use ALT+F4.
Send Keys	Sends the selected key sequence to a shadowed terminal.
Zoom In	Use to click inside a shadow session and zoom in for detail. This option is dimmed until the Interactive checkbox is cleared.
Zoom Out	Use to click inside a shadow session and zoom out for an overview. This option is dimmed until the Interactive checkbox is cleared.
Connect Options	Use to configure the RDP settings when you connect to a Remote Desktop Server console from ThinManager.

Figure 20 - Help

8	2 ≤ ≤ 0 ≤ 0 ≠				ThinMan	ager	
	Edit	Manage	Install	Tools	View	Remote View	Help
8	0						
About							
Ab	out						

Feature	Description
About	Shows the version and build number of ThinManager.
Help	Launches the ThinManager Help.

Customizing the Toolbar

Select More Commands from the Customize Quick Access Toolbar pull-down menu to launch the Customize window and add icons of frequently used functions.

Figure 21 - Customize Quick Access Toolbar Menu



Figure 22 - Customize Window

		Custom	ize			
ustomize) Choose commands from: Edit Commands: <separator> Add Add Group Add Group Add Group Add Thin/Manager Server Copy Delete Disconnect Edit Find Find Find Find Find (F3) Cock Modify Find Refresh Show Quick Access Toolbar below the Keyboard shortcuts: Customi</separator>	Pibbon	Add >> Remove	Reba	fy nses ess Groups rate Touchscr	een	•
						Help

Feature	Description
Choose commands from	Use to select commands from each group.
Commands	Lists the available command options. Select one and click Add to move it to the right-hand list to add it to the Quick Access bar. Adjust the order using the up and down arrows.
Show Quick Access Toolbar below the Ribbon	Check to move the Quick Access bar.

Figure 23 - Quick Access Toolbar



The icons for the selected functions appear in the Quick Launch menu. Click one to launch that function or wizard.

lcons

ThinManager tree icons show the status of components.

ThinManager Server

The ThinManager Server branch has two ThinManager icons.

Figure 24 - ThinManager Server Tree Icons

🖃 😤 Thir	nManager Servers	Tree Branch
	EducationRDP02a	Connected ThinManager Server
8	Emerald	Disconnected ThinManager Server

lcon	Description
Green ThinManager	ThinManager console is talking to the ThinServer.
Red ThinManager	ThinManager console is not talking to the ThinServer. Right-click on the icon and select Reconnect from the menu.



Note: You should not add the second ThinManager Server of a synchronized pair in the tree of your Primary ThinManager Server. The data is the same. Adding a second ThinManager Server is intended to display a remote connection to a different system.

Terminals

The Terminal branch of the ThinManager tree has several different icons.

Terminal Tree Icons

🖃 💻 Terminals	Tree Branch
Production	Terminal Group
📇 4_Terminal	Group Member - Locked
🗄 🖩 🌄 1_Terminal (@Shipping	02) Terminal needing a Restart
🗄 🌄 2_Terminal (@Loc_1)	Terminal with Location
🕂 🛲 3_Terminal	Turned on Terminal
🕂 – 🔜 4_Spare	Booting Terminal
🔙 5_iPad (Fred)	Terminal with Relevance User
庄 💻 6_Terminal	Turned off Terminal
🗄 🚵 Android_7	Disabled Terminal

lcon	Represents
Dual Monitor	A Terminal Group
Lock	A Terminal with an open configuration wizard
Exclamation Mark	A Terminal with a configuration change that needs a restart
Globe	A Terminal with an assigned Location, which is shown in parentheses
Green Monitor	A Terminal that is booted and connected to the ThinManager Server
Yellow Monitor	A Terminal that is going through the boot process
User	A Terminal that has a Relevance User logged in to the Terminal. The user name is shown in parentheses.
Red Monitor	A Terminal that is either turned off or not able to communicate with the ThinManager Server
Red X	A Terminal that was Disabled using the Tools>Disable command

Display Servers

The Display Server tree has several different icons.

Figure 25 - Display Server Tree Icons



lcon	Represents
Blue Server	The Remote Desktop Server branch
Server with Folder	A Remote Desktop Server Group
Server with Virtual Boxes	A Virtual Server defined through the VCenter Server tool
Blue Camera	The Camera branch
Camera with Folder	A Camera Group
Gray Camera	A Camera
Blue Eye	The VNC Server branch
Cyan Eye with Folder	A VNC Server Group
Cyan Eye	A VNC Server

Figure 26 - Remote Desktop Server Icon Colors



The color stripe on a Remote Desktop Server icon indicates its connection status.

lcon	Represents
Server with Gray Stripe	A Remote Desktop Server without an administrative account
Server with Green Stripe	A Remote Desktop Server with a connection to the ThinServer using an administrative account
Server with Red Stripe	A Remote Desktop Server with an account but unable to make a connection to the ThinServer



Note: A red stripe does not mean that a Terminal cannot connect to the Remote Desktop Server. It only indicates the status of the ThinManager Server to Remote Desktop Server communication.

Display Clients

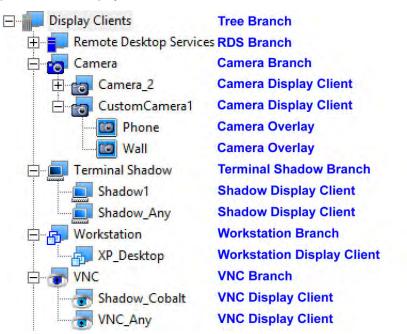
The Display Client branch has several icons.

Figure 27 - Remote Desktop Services Display Client Branch Icons

🖃 🚛 Display Clients	Tree Branch
Remote Desktop Services	Remote Desktop Services Branch
🚊 📲 Able	RDS Display Client
2012_RDS_2a	Virtual Remote Desktop Server
🚊 🚛 Calculator	RDS Display Client
📺 🗐 Gold45	Remote Desktop Server
庄 - 📑 Gold43	Remote Desktop Server
庄 🥛 Gold44	Remote Desktop Server
🕀 🗐 📃 Desk2012	RDS Display Client
🚊 Desk43	RDS Display Client
庄 🗐 Gold43	Remote Desktop Server

lcon	Represents
Dark Gray Server and Blue Monitor	The Display Client Tree Branch
Blue Server and Blue Monitor	The Remote Desktop Services Branch
Light Gray Server and Blue Monitor	A Remote Desktop Services Display Client
Gray Server	A Remote Desktop Server assigned to a Display Client

Figure 28 - Other Display Client Branch Icons



lcon	Represents
Dark Gray Server and Blue Monitor	The Display Client Tree Branch
Blue Server and Blue Monitor	The Remote Desktop Services Branch
Blue Camera and Blue Monitor	The Camera Branch
Gray Camera and Blue Monitor	A Camera Display Client
Gray Camera inside a Blue Box	A Camera Overlay assigned to a Display Client
Dark Blue Terminal and Blue Monitor	The Terminal Shadow Branch
Light Blue Terminal and Blue Monitor	The Terminal Shadow Display Client
Dark Blue Virtual Boxes and Blue Monitor	The Terminal Shadow Branch
Medium Blue Virtual Boxes and Blue Monitor	The Workstation Display Client
Dark Blue Eye and Blue Monitor	The VNC Server Branch
Light Blue Eye and Blue Monitor	The VNC Server Display Client

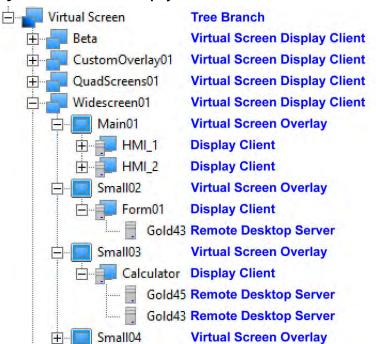


Figure 29 - Virtual Screen Display Client Branch Icons

Icon	Represents
Dark Blue Monitor and Blue Monitor	The Virtual Screen Branch
Blue Monitor and Blue Monitor	The Virtual Screen Display Client
Blue Square within a Blue Monitor	The Virtual Screen Overlay
A Light Gray Server and Blue Monitor	A Display Client. Assigned to the Overlay
A Light Gray Server	A Remote Desktop Services Server assigned to the Display Client on the Overlay

Lightning Bolts

Icons with lightning bolts indicate the connection status.

Figure 30 - Lightning Bolts

ė. 🔲	Green - Terminal that is turned on
ė-14	Green - Active Display Client in Foreground
	Green - RDS with active session
Ġ-	Yellow - Active Display Client in Background
	Green - RDS with active session
	Yellow - RDS with active session in background
ė-	Red - Inactive Display Client
1	

lcon	Represents
Green Lightning Bolt	Active connection that is visible in the foreground
Yellow Lightning Bolt	An active connection that is not displayed, usually running in the background. An Instant Failover display client will show servers with a green and a yellow to show the main and secondary session.
Red Lightning Bolt	Defined connection that is not active.

Relevance Users

Figure 31 - Relevance Users Tree

8-2	Rele	van	ce Users	Tree Branch
Ė.	20	Han	inibal	User Group
		2	Becky Thatcher	Group Member
		2	Huck Finn	Group Member
		2	Mark Twain	Group Member
	ļ	2	Tom Sawyer	Group Member
Ē	2	Ada	m Brown	User with a display client
-	0	Fred	l (1_Terminal)	User logged on to 1_Terminal
	2	Mik	e	User without a display client
Ē	2	Pbu	rns	User with a display client

lcon	Represents
Light Blue Person	The Relevance User Tree Branch
Two People	A Relevance User Group
Red Person	A Relevance User
Red Person with Blue Monitor	A Relevance User that is logged in to a Terminal or Location. The Terminal is displayed in parentheses.

Locations

The Globe icon represents the Locations Tree Branch, Locations, Parent Locations, and Sub-Locations.



VCenter Servers

Figure 33 - VCenter Servers

🖃 🔂 VCenter Servers	Tree Branch
🗄 🖉 V_Education	VCenter Server
🗄 🖬 ha-datacenter	Datacenter
🔂 2012_1_DC	Virtual Server
🛅 2012_RDS_2	a Virtual Server
🔁 XP_28	Virtual Workstation

lcon	Represents
Green and Yellow Squares	Either the VCenter Tree Branch or a VCenter Server
Gray Building	A VCenter Server Datacenter
Blue Virtual Squares	A Virtual Machine, both server and workstation

Notes:

Licenses

ThinManager has two license modes, ThinManager Master License and FactoryTalk Activations.

To choose the licensing mode, follow these steps.

3. Choose Install>License Mode from the ThinManager menu.

The License Mode dialog box appears.

Figure 34 - License Mode

License Mode	×
Select the License Mode in which you want to run ThinManager	
License Mode	
ThinManager Master License	
© FactoryTalk Activations	
C Pactory Laik Activations	
OK Cancel	1

- a. To choose ThinManager Master License Mode, click ThinManager Master License.
- b.To choose FactoryTalk Activations License Mode, click FactoryTalk Activations.
- 4. Click OK.

ThinManager Master License

ThinManager Master License is the traditional ThinManager license, which is comprised of three components.

Component	Description
Product License	Provides permission for terminals to connect, and controls which features and functions the terminals have. Purchase from a ThinManager distributor.
Master License	A container for the Product Licenses, which is created by the user on the ThinManager License site and has the Product Licenses added to it. Activated with the Installation ID from the Licensing dialog box of the ThinManager application.
Activated License File	A file generated from the Master License and Installation ID on the ThinManager License site. Download and apply to ThinManager.

Product Licenses are connection licenses purchased from ThinManager distributors. Standard license packs are available as 5-, 10-, or 25-pack

quantities. Also, there is an Enterprise Server license with unlimited connections.



Greater detail on ThinManager licensing is found in the ThinManager Knowledge Base at https://kb.thinmanager.com/index.php/License_Activation.

ThinManager Redundancy

Standard product licenses are available with redundancy. Enterprise server licenses include full redundancy.

Redundancy Type	Description
Full Redundancy	Licenses a synchronized pair of ThinManager servers so that one ThinManager server is available if the other is offline. Both synchronized ThinManager servers have the administrative console available.
Mirrored Redundancy	Licenses a synchronized pair of ThinManager servers so that one is available if the other is offline, but this option only activates the administrative console on one ThinManager server—the one designated as the primary ThinManager server. The other ThinManager server is designated as the secondary ThinManager server. From the secondary server, terminals can boot, but the ThinManager console is view-only.
Stand-Alone ThinManager	Licenses one stand-alone ThinManager. If the stand-alone ThinManager goes offline, the terminals continue to run. However, if a terminal reboots, it waits until the ThinManager server is online before it can rejoin the system.

Auto-synchronization for Redundancy

To have a Redundant ThinManager system, configure Auto-synchronization as described in the following steps.

1. From the menu bar on your Primary ThinManager Server, choose Manage>ThinManager Server List.

The ThinManager Server List Wizard Introduction page appears.

2. Click Next.

The Auto-synchronization Selection page appears.

Figure 35 - Auto-synchronization Select Page

8	ThinMana	ager Server	List Wizard	×
Chec	chronization Select k Automatic Synchron guration of two ThinMa	ization to automa	tically synchronize th	
	box if you want to use ger servers. Leave the ation.			
If you hav	e mirrored licenses, th	en you must use	Automatic Synchron	ization.
Park V	omatic Synchronizatio	n		
< Back	: Next >	Finish	Cancel	Help

3. Check Automatic Synchronization and click Next.

The Auto-synchronization Configuration page appears.

Figure 36 - Auto-synchronization Configuration Page

8	Thin	Aanager Server	List Wizard	
Define	chronization (the primary and s will be synchro	secondary ThinMan	ager servers. These	$\mathfrak{>}$
- Primary	hinManager Se	rver	Edit	
Name				-
IP Addr	:55			
	ry ThinManager	Server	Edit	
Name IP Addr	ess			
Additio	n <mark>al ThinManag</mark> e	er Servers		
< Back	Next>	Finish	Cancel	Help

4. Click Edit in the Primary ThinManager Server section.

The Enter the Primary ThinManager Server Information dialog box appears.



Enter the Primary ThinManager Server Information					
ThinManager Server ThinManager Server IP	Documentation	OK Cancel			
	Discover				

- a. Enter the name of your Primary ThinManager Server in the ThinManager Server field.
- b. Click Discover to automatically populate the IP address in the ThinManager Server IP field. However, this field can be completed manually.



Do not click Discover to complete the ThinManager Server IP field manually.

c. Click OK.

5. Repeat step 4 for the Secondary ThinManager Server.

Figure 38 - Auto-synchronization Configuration Page

Primary ThinMana	ger Server	Edit	1
Name	Documentation	_	
IP Address	10.3.10.153	_	
Secondary ThinM		Edit	
Name	Engineering_120	_	
IP Address	10.3.10.120		
Additional ThinN	lananer Servers		-

6. On the Auto-synchronization Configuration page, click Finish to begin auto-synchronization.



7. Highlight the ThinManager Server.

Figure 39 - Synchronization Tab

8.			ThinManage	er				- 0	×
	Edit Manage	Install Too	ls View	Remote	view Help		_		
Packages	Restore Backup	PXE ThinM Server Serv	anager Ver List	Accounts		Resolvers			
Packages	Configuration	Mana	age	Act	ive Directory	R	elevance		_
ThinManag	jer Server		Synch	ronization	Configuration	Licenses	Properties	Schedule	Ŧ
	Documentation		Synchr	onization Mod onization Stat onization Pee	e		ter drionized 3. 10. 120		
8	1 - 2 () 🔁 🕴	<						>

a. On the Synchronization tab, verify that the server's Synchronization State indicates 'Synchronized'.

Manual Synchronization for Redundancy

Follow these steps to use manual synchronization with a redundant ThinManager system.

- 1. On your Primary ThinManager Server, in the ThinManager Server tree, highlight the green ThinManager icon.
- 2. From the menu bar, choose Manage>ThinManager Server List.

The ThinManager Server List Wizard Introduction page appears.

3. Click Next.

The Auto-synchronization Selection page appears.

Figure 40 - Clear Automatic Synchronization Checkbox

	omatic Synchroni on of two ThinMa		ally synchronize the	
	ervers. Leave the	Automatic Synchr box unchecked if		
f you have min	rored licenses, the	en you must use Au	utomatic Synchroni	zation.
C Automat	ic Synchronization	n		
-				

4. For manual synchronization, clear the Automatic Synchronization checkbox.



With mirrored licenses, you must use Automatic Synchronization.

5. Click Next.

The ThinManager Server List page appears with your network ThinManager Servers displayed.

Figure 41 - ThinManager Server List Page

RDS1 RDS2	_	. 1
		-

6. (Optional) Highlight a server and use the up and down arrows to change the order of the servers in the list.

- 7. (Optional) Highlight a server and click Remove Server to eliminate it from the ThinManager server list.
- 8. (Optional) Click Add Server to add a server to the list.

A dialog box appears, in which you can define a new ThinManager server.

Figure 42 - ThinManager Server Definition Dialog

Enter the new ThinManager Server Definition

ς.		,	
-			
1	٦	٤.	

ThinManager Server		ОК
ThinManager Server IP	255 . 255 . 255 . 255	Cancel
	Discover	

- a. Enter a ThinManager Server name.
- b.Click Discover to automatically populate the ThinManager Server IP field. Also, this field can be completed manually.
- c. Click OK.
- 9. Click Finish to complete your changes.

ThinManager License Process

Follow these steps to license ThinManager.

- 1. Purchase a Product License from a ThinManager distributor.
- 2. If you have a redundant product license, synchronize two ThinManager Servers. See <u>Auto-synchronization for Redundancy on page 38</u>.
- 3. Go to the ThinManager Licensing site at <u>https://thinmanager.com/</u><u>licensing/</u>.
- 4. Log in to the site or register as a new user, and log in with the new user account.
- 5. Click the Create Master License link on the License Site menu bar.
- 6. Enter a description and complete the other fields.
- 7. Click Create.

The License site displays the Master License.

K Licensing S	upport Get a Demo Co	ode Administration	Search	Sign OL
Manage Master License	s Create Master License	Manage Product License	s Create Product Licenses	
A41E-A41E-	A41E-A41E			
License Information	Edit	Delete PM Estimate	Contact Information	Add User
Address: City, State Zip:	ThinManager 1220 Old Alpharetta Rd Alpharetta, GA 30005 United States Expired (None)		Owner: ThinManager	
Product Licenses				Add Product License
	This	Master License does not	contain any Product Licenses.	
Activations	Add /	Activation (1 / 1)		Activation
		This Master License has	not yet been activated.	-

- 8. Click Add Product License and enter the Product License.
- 9. Once the Product License is added, click Activation.

The Licensing dialog box appears.

Figure	44 -	Stand-a	lone T	hinMana	ager	Installa	tion ID

	1		Install License Dieleta License
License Number	Description	Redundancy Expira	
Installation Id	RALD (primary)	-86CF-A995-007E-3E50	Show All

10.Enter the Installation IDs, which are found in the Licensing dialog box when you choose Install>Licenses.

A stand-alone ThinManager has a single Installation ID at the bottom of the Licensing dialog box.

A synchronized ThinManager system displays both the Primary and Secondary Installation IDs at the bottom of Licensing dialog box.

Master License N	lumber			_		all Licens te Licens
License Numbe	ər Descrip	ition	Location	Redundancy	Expiration Never	

Figure 45 - Primary and Secondary Installation IDs

- 11. Once the Installation IDs are added, scroll down and click Create at the bottom of the Master License form.
- 12. Click the Download License link and save the license file.
- 13. Move the license file to the ThinManager Server but not into the ThinManager folder.
- 14. Choose Install>Licenses in the ThinManager menu to open the Licensing dialog box.

Figure 46 - Install License

		Licensing		
Master License Number				Install License
License Number	Description	Redundancy	Expiration	
- Installation Id DOCUMENTATION (primary) 1234-1234-1234-	1234-1234-1234		Show All
License Details	Delete Demo Code	Install Demo Code	Show Old L	icenses Done

15. Click Install License.

Figure 47 - File Browser

8	Ope	en				
	PC → Local Disk (C:) → Downloads →		v c	Search Download	5	,p
Organize 🔻 New folder					i • 1	
^	Name	Date modified	Туре	Size		
🜉 This PC	D2H	1/27/2015 4:39 PM	File fold	er		
admin (documer	IM_10_SP2_RC3	10/29/2018 5:27 PM	File fold	er		
Desktop	🕌 TM_11_Beta	11/28/2018 9:49 PM	File fold	er		
Documents	TMLicense_9F0A-9FEA-D602-6866.lic	10/30/2018 3:24 PM	LIC File		2 KB	
Downloads	IMLICENSE_9FVA-9FEA-D002-0800.IIC	10/30/2018 3:24 PW	LIC FILE		CRD	1
Downloads Music Ppurns (docume Pictures Videos Local Disk (C:)	IMLICENSE_9FVA-9FEA-U002-0000.IIC	10/30/2018 3:24 PM	LIC THE		CRD	1
Music P pburns (docume Pictures Videos Local Disk (C;)	ne: TMLicense_9F0A-9FEA-D602-6866.lic	10/30/2018 3:24 PM	LIC FILE	Thin Manager Lice		1

16. Browse to the License file and click Open.

Figure 48 - Install Master License

Install Master License	×
License successfully installed	
ОК	

A properly installed license is indicated.

17. Click OK.

Figure 49 - Installed License

		Licensing		
Master License Number	9F0A-9FEA-D602-6866			Install License Delete License
License Number	Description	Redundancy	Expiration	
12345678-12345678	XLr License	none	01/28/2019	
Installation Id DOCUMENTATION	(primary) 1234-1234-1234- Delete Demo Code	1234-1234-1234 Install Demo Code	show Old	Show All

A successfully installed license is shown in the Master License Number field, the Product Licenses are listed in the center section, and the Installation ID shows in the bottom field.

18.Click Done.

FactoryTalk Activations

The other license mode—besides ThinManager Master License—is FactoryTalk Activations.

Follow these steps to enter FactoryTalk Activations mode.

1. From the ThinManager menu, choose Install>License Mode to open the License Mode dialog box.

Figure 50 - License Mode

ense Mode	
Select the Lice	nse Mode in which you want to run ThinManager
	ode
	C ThinManager Master License
	FactoryTalk Activations
	OK Cancel

2. Click FactoryTalk Activations and OK.

FactoryTalk Activation Files

FactoryTalk Activation binds Rockwell Automation software product licenses to specific devices. Without activation, some Rockwell Automation products do not run, run with less than full functionality, or they run for a limited time and shut down. Therefore, before you can proceed with FactoryTalk Activations in ThinManager, you must create activation files via the FactoryTalk Activation Manager.

Figure 51 - FactoryTalk Activation Manager Home

Home Manage Activations Advance	ed	
	Welcome to FactoryTalk Activation! You are steps away from using your Ro do is activate your Rockwell product us	ockwell Automation product. All you have to
	Ready to get started? To activate your Rockwell product, click one of the following buttons: Find Available Activations	Want to learn more? To learn more about FactoryTalk Activation before you get started, click the following button: Learn More
	Get New Activations	

When FactoryTalk Activation Manager is started, it detects whether an Internet connection exists. Available options for obtaining new activations differ depending on your Internet connectivity status. In FactoryTalk Activation Manager, click Help to find instructions on activation options.

3. Return to ThinManager and choose Install>Licenses to open the FactoryTalk Activations dialog box.

Figure 52 - FactoryTalk Activations

FactoryTalk Activat	ions		×
Activations attached	to this ThinManager serve		
Serial Number	Feature	Count	I
			Add Activations
			Remove Activations
1			
			OK Cancel

4. Click Add Activations.

The Add Activations to ThinManager dialog box appears, searches for and displays FactoryTalk activations.

Figure 53 - Add Activations to ThinManager

Serial Number	Feature	Version	Count	Available Count	Expiration
2524300466	RSVSECLI.RW	1.01	1	1	07-sep-201
2524300467	RSVSECLI.RW	1.01	1	1	07-sep-201
3963J00001	TM.CLI.XLR.STD	11.00	25	25	1-mar-2019
3968J00001	TM.FLX.XLR.STD	11.00	100	100	1-mar-2019
3968J00001	TMFLXSTD, 100	1.00	1	1	1-mar-2019
3961300002	TMCLIMRED.5	1.00	1	1	10-jan-2020
3961J00002	TM.CLI.XLR.RED	11.00	5	5	10-jan-2020
•					•

- 5. Highlight the license to use with ThinManager, and, when enabled, in the Enter the number of activations to add to ThinManager field, specify how many licenses to add.
- 6. Click OK.

The FactoryTalk Activations dialog box appears and shows the FactoryTalk licenses transferred.

Figure 54 - FactoryTalk Activations

Serial Number	Feature	Count	E
3963J00001	TM.CLI.XLR.STD	25	Add Activations
			Remove Activation:

^{7.} Click OK.

Notes:

ThinManager System Users

	There are three types of ThinManager system users: Windows™ Users, ThinManager Security Group Users, and Relevance Users. The Windows Users may be local or domain accounts.
Windows Users	Windows Users are the Microsoft™ accounts created in Windows that allow access to the Windows Remote Desktop Servers. These are configured within, and authenticated by, Windows. They can be given varying levels of access and power using Windows User Groups and Group Policies.
	All users and terminals need a Windows account to log in to a Remote Desktop Server. These accounts need to be members of the Remote Desktop User Group.
	As a Microsoft best practice, each Terminal or Location needs a unique Windows account .
	ThinManager 8 introduced Active Directory integration to the ThinManager system, which is covered in <u>Active Directory User Login Account on page 301</u> .
ThinManager Security Group Users	ThinManager Security Group Users are Windows User Group members who were configured, in the ThinManager Server Configuration Wizard, to have varying levels of access and control within the ThinManager program. This pertains to access to the administrative console of ThinManager, not access to a Windows application.
	ThinManager Security Groups are configured on the ThinManager Security Groups page of the ThinManager Server Configuration wizard. See <u>ThinManager Server Configuration Wizard on page 369</u> .
Relevance Users	Relevance Users can go to a ThinManager-ready thin client and receive access to specific display clients based on their membership in an Access Group. ThinManager performs authentication a level above the Windows login. Formerly called TermSecure, this feature is currently integrated into the Relevance suite of functions.
	Relevance User Services give additional powers to grant or deny access to Windows applications but still rely on a Windows user account to log in to a Remote Desktop Server.

The following are various strategies for Relevance Users.

- For a Terminal-specific Application, a user does not need a Windows account; but permission from an Access Group is required to open a hidden application.
- If a user is accessing their own User-specific Applications, they need a Windows account associated with them so they can log in and start these sessions. The Relevance User can be created:
 - From an Active Directory account
 - To match the name of a Windows account, and use that Windows account without using Active Directory
 - With one name and be associated to a Windows account of a different, aliased name

See <u>Active Directory User Login Account on page 301</u> for details.

Sources

There are three possible ThinManager sources: Remote Desktop Servers, IP Cameras, and VNC Server.

Remote Desktop Servers

Microsoft servers with Remote Desktop Services, formerly known as Terminal Services, provide the foundation of thin client computing, which consolidates management of the Windows environment to mainframe architecture. In this document, Remote Desktop Server refers to the computer and operating system, while Remote Desktop Services refers to the connection using the Remote Desktop Protocol.

To configure Remote Desktop Servers as sources:

- First, you need to build and configure the server using standard Microsoft practices.
- Second, you need to define the server as a Display Server in ThinManager.

Microsoft Configuration



Refer to Microsoft for instructions on the use and configuration of a Microsoft server.

Here are a few common tips.

 Build a Remote Desktop Server with Microsoft 2008, 2008R2, 20012, 2016 or 2019 Server operating system. Enable Terminal Services in 2008 Server or Remote Desktop Services in 2008R2, 2012, and 2016 Server. The 2012 and 2016 Servers usually require a domain.

Create a Microsoft Licensing Server and add a Remote Desktop Services Client Access License

(RDS CAL) for each thin client. These are called Terminal Services Client Access Licenses (TS CALs) in Server 2008 and earlier. This does not need to be a separate physical server but can be a role added to an existing server. The servers also require a normal CAL.

• Create a unique Microsoft user profile for each Terminal on the Remote Desktop Server. Make sure that the user is a member of the Remote Desktop Users Windows group.

- · Apply appropriate security to each user profile using the standard Microsoft techniques.
- Install all applications in the Install Mode. This can be done by typing change user /install in a command window or by using the Install Application on Remote Deskton Server in the Control Papel

Make sure that the following network ports are unblocked, including in the Windows firewall.

Port	Protocol	Description
UDP/67	DHCP – IP Address Assignment	Used by the DVE Conver (if using DVE best)
UDP/69	TFTP	Used by the PXE Server (if using PXE boot)
TCP/1494	Citrix ICA	Used by the ICA protocol (if using ICA instead of RDP)
TCP/2031	Propriety – Configuration	Used to pass the configuration from the ThinManager Server to the thin client
TCP/3268	LDAP	Used for LDAP queries targeted at the global catalog with Active Directory
TCP/3389	RDP	Used by the Microsoft RDP protocol
UDP/4900	TFTP	Used for the TFTP download of the firmware
TCP/5900	Propriety - Shadow	Used to shadow Terminals. This can be changed on the Shadow Configuration page of the ThinManager Server Configuration Wizard.
ICMP Echo Packets (Ping)	ICMP	Used by WinTMC and Enforce Primary

Defining Remote Desktop Servers in ThinManager

Once the Remote Desktop Servers are built, you must define them as Display Servers in ThinManager.

Display Servers Branch of the ThinManager Tree

Value OK OK
OK

Perform the following to define Remote Desktop Servers as Display Servers.

1. Right-click RDS Servers in the Display Servers branch of the ThinManager tree.

2. Choose Add Remote Desktop Server to launch the Remote Desktop Server Wizard Introduction page, which provides instruction about DNS servers.

IMPORTANT If you are using a DNS server, click Cancel to close the Remote Desktop Server Wizard. Click Manage>DNS Configuration. The Domain Name Server Wizard appears where you define a DNS server.

3. Click Next.

Figure 55 - Introduction - Remote Desktop Server Wizard

*	Remote Desktop Server Wizard
Re	note Desktop Server Wizard Introduction
	Remote Desktop Server Wizard defines the Remote Desktop Servers on your vork. This allows the listing of Remote Desktop Servers for easy selection.
lf yo	u are using a DNS server you will only need to enter the server name.
ff yo	u are not using a DNS server you will enter a server name and IP address.
The	server name must be the name used to identify the server on the network.
	(Back: Next > Finish Cancel Help

Non-Domain Remote Desktop Server

The Remote Desktop Server Name page allows you to define the Remote Desktop Server.

	Figure 56 - Remote Deskt	op Server Name	Page - Non-Domain
--	--------------------------	----------------	-------------------

Remote Desktop) Server Name	
Name		
IP Address	255 . 255 . 255 . 255	Discover
	1	Change Group
User Name Password Verify Password Domain		Schedule
lease enter a Rei	mote Desktop server name	

To define the Remote Desktop Server, perform the following steps.

- 1. Enter the Remote Desktop Server Name.
- 2. Click Discover to validate the server name and auto-populate the IP address.
- 3. Complete the Log In Information fields to add an administrative account on the Remote Desktop Server.

This step is required for SmartSession load balancing and server management from ThinManager as the Microsoft server only provides information to an administrator. The ThinServer connects to the Remote Desktop Server to retrieve CPU, Memory, and Session status for load balancing.

- 4. Click Change Group to add the Remote Desktop Server into a Remote Desktop Server Group.
- 5. Run the Remote Desktop Server Wizard for each Remote Desktop Server you want to add to the system.

Domain Member Remote Desktop Server

On the Remote Desktop Server Name page, the Search function allows you to search for a domain user account for the administrative login.

Remote Deskto	TM-2016-RDS-C1	-
IP Address	10 . 3 . 10 104	Discover
		Change Group
Log In Informati	ion	_
User Name	administrator@lab	Search
Password	1	
Domain		Verify
		Password Options
		Schedule

Figure 57 - Remote Desktop Server Name Page - Domain

Perform the following to search for a administrative account.

1. Click Search.

The Search for AD User dialog box appears, which allows you to select an Active Directory user.

This adds an administrative account to the Log In Information fields of the Remote Desktop Server Name page.

Figure 58 - Search for AD User

		Search for AE) User	x
Filter	Contains	•	Recurse 🗖	Locations Search
Name		User Principal Name		
,			ОК	Cancel

Feature	Description
Locations	Click and the Select AD Location to Search dialog box appears, where you choose which Organizational Unit (OU) to search
Recurse	Check this option to set the Search function to look in nested Windows Security Groups. To enable this function, set Choose AD Synchronization Mode to Security Group on the Active Directory System Settings dialog box to work. To open the Active Directory System Setting dialog box, click Manage>Active Directory>Settings.
Search	Searches the selected OU and populates the Name field with the OU members
Filter	Filters the results with either the Contains or Starts with function and the entry of the text box

2. Click Locations.

The Select AD Location to Search dialog box appears.

Figure 59 - Select AD Location to Search

Select AD Location to Search
Education.local Computers Computers Compain Controllers ForeignSecurityPrincipals Hannibal Managed Service Accounts Program DataStation01Station01SystemTestOU_01UsersUsers
OK Cancel

- 3. Choose the branch of the Active Directory tree that contains the administrative user account.
- 4. Click OK.

The location appears in the Search for AD User dialog box with the list of domain users from that branch.

Figure 60 - Search for AD User

	Search for AD User	x
TestOU_01		Locations
Filter Contains	Recurse	Search
Name	User Principal Name	
Test Admin01	TestAdmin01@Education.local	
Test01	Test01@Education.local	
Test02	Test02@Education.local	
Test03	Test03@Education.local	
Test04	Test04@Education.local	
Test05	Test05@Education.local	
J		
	OK	Cancel

5. Choose the desired user and click OK.

The domain user is populated to the User Name field of the Remote Desktop Server Name page.

Figure 61 - Remote Desktop S	Server Wizard - Loo	y In Informati	ion
------------------------------	---------------------	----------------	-----

	TM-2016-RDS-C1	-
Name	1	
IP Address	10 . 3 . 10 . 104	Discover
		Change Group
Log in informa User Name	lion administrator@lab	Search
Password		-
Domain	[Verify
		Password Options
		Schedule

- 6. Complete the Password field.
- 7. Click Verify to check whether the password is valid.

If correct, the Account Verify dialog box indicates that the password is valid.

Figure 62 - Account Verify Dialog



- 8. Click OK to return to the Remote Desktop Server Name page.
- 9. Click Next to continue in the wizard.

The Terminal Server Capabilities page appears.

Figure 63 - Terminal Server Capabilities - Terminal Server Options

*	Terminal Server Wizard
	Terminal Server Capabilities Select the capabilities of this Terminal Server.
	Supported Connection Types
	Citrix ICA
	Citrix Device Services
	✓ Microsoft Remote Desktop Protocol
Ļ	
	< Back Next > Finish Cancel Help

10.To use the Remote Desktop Server with SmartSession, check Available for Display Clients using SmartSession and click Next.

The Data Gathering page appears.

Figure 64 - Data Gathering

	Remote Desktop	Deliver 1	in a start of	
Data Gathering Enter the Dat	a Gathering intervals.			
– Data Gathering	Intervals			
	Fast			
	C Medium			
	C Slow			
	C Custom			
Process Up	on Data Update Interval date Interval date Interval	8. 5. 8	नि नि निन	seconds seconds seconds
< Back	Next>	inish	Cance	el Help

11. On the Data Gathering page, set the speed and frequency with which ThinManager polls Remote Desktop Servers. This covers both SmartSession and the data on the Users, Sessions, and Processes tabs of the server. Fast is the default Data Gathering Interval, but the interval can be changed for less frequent polling or to a custom value.

Figure 65 - SmartSession Configuration

CPU Utilization	Minimum	0.0	%	
	Maximum	100.0	%	
Memory Utilization				
	Minimum	0.0	%	
	Maximum	100.0	%	
Sessions				
	Minimum	0		
	Maximum	50		
	from going above the ma	vinum or bal	w the minimum	n Minimu
	resent "no utilization" and			

If Available for Display Clients using SmartSession was checked to load balance on the Remote Desktop Server Capabilities page, then the wizard shows the SmartSession Configuration page.



Values are not prevented from exceeding the maximum or minimum. The values represent the levels that 'No Utilization' or 'Full Utilization' is reached.

See <u>SmartSession on page 132</u>.

- 12. Click Finish to accept the changes and close the wizard.
- 13. Repeat this process for each Remote Desktop Server in use.

Citrix Servers

Support for Citrix ICA was deprecated starting with ThinManager Server 9.0. By default, the ability to configure a Remote Desktop Services Display Client to use Citrix ICA was removed. This was deprecated because ICA is a proprietary protocol that prevents it from being fully supported by all of the latest features of ThinManager such as mobile clients, Tiling, Virtual Screens, and so on. With that said, it is still possible to enable ICA in ThinManager. To allow ICA configuration for ThinManager 9.0 and newer, follow these steps.

1. Open the registry editor and navigate to the option for your deployment.

32-bit Windows, or 64-bit ThinManager on 64-bit Windows:

• HKEY_LOCAL_MACHINE\SOFTWARE\Automation Control Products\ThinManager

32-bit ThinManager on 64-bit Windows:

- HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Automation Control Products\ThinManager
- 2. Add a new DWORD value named SupportICA with a value of 1
- 3. Restart the ThinServer service.
- 4. For redundant systems, make this change on both servers.

This is a one-time change that does not need to be made again; for example, after an upgrade.

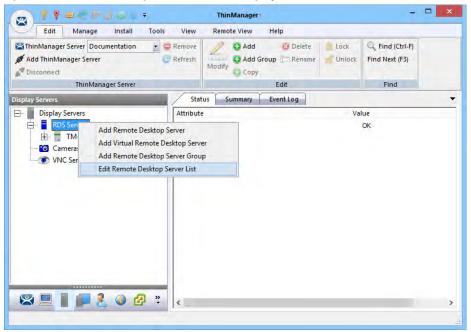


ThinManager only supports the Citrix PNAgent, not StoreBrowse. Therefore, Citrix 7.x and newer installations must enable PNAgent since it is no longer enabled by default.

Automatically Find Remote Desktop Servers

ThinManager has a search function that finds Remote Desktop Servers on the network to speed your configuration.

Figure 66 - Remote Desktop Server Branch - Display Servers Tre
--



To find Remote Desktop Servers on the network, follow these steps.

- 1. Go to the Remote Desktop Server branch of the Display Server tree.
- 2. In the Display Server tree, right-click RDS Servers and choose Edit Remote Desktop Server List.

The Remote Desktop Server List Wizard appears.

Figure 67 -	Remote	Desktop	Server	List	Wizard
-------------	--------	---------	--------	------	--------

Edit Server
Add Server
Remove Serve
Find Servers

3. Click Find Servers.

The Available Remote Desktop Servers dialog appears.

Figure 68 - Available Remote Desktop Servers

×
OK Cancel
Find

The Available Remote Desktop Servers list shows all Remote Desktop Servers that ThinManager can communicate with in a workgroup.

4. Choose the Remote Desktop Server to add and click OK.

The Remote Desktop Server Wizard appears, displaying the name and IP address.

5. Use the WorkGroup to search field to expand the search. Enter the workgroup and click Find to search again.

Remote Desktop Server Graph

The Remote Desktop Server Graph allows you to see the performance levels of the server.

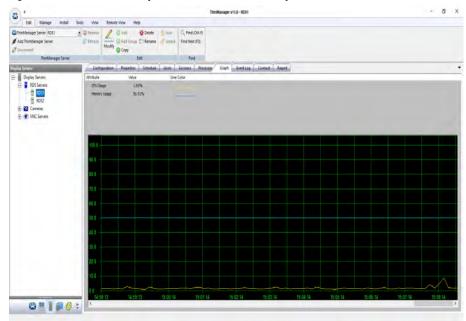


Figure 69 - Remote Desktop Server Performance Graph

To view the performance levels of a Remote Desktop Server, highlight a Remote Desktop Server in the RDS Servers branch of the Display Servers tree and click the Graph tab.

CPU Usage, Memory Usage, and Total Sessions are the values that ThinManager uses to calculate the SmartSession resource load.



This graph is only displayed for Remote Desktop Servers that have a valid administrative account on the Remote Desktop Server Name page, have Available for Display Clients using SmartSession checked, and have an active connection (green-light status) to the ThinManager Server.

Remote Desktop Server Status

Remote Desktop Server Status shows the connection status between ThinManager and the servers.

	Remove Refresh	Modify O Ad	d Group 🏥 Rename	🤮 Lock	G Find (Ctrl-F) Find Next (F3)	
splay Servers	TM-2		Event Log Value No login informatio User specified (adr OK		ave permis	

Figure 70 - Remote Desktop Server Status

To show the connection status between ThinManager and the servers, highlight the RDS Servers branch of the Display Servers tree and click the Status tab.

Ideally, the Remote Desktop Servers are configured properly so that ThinManager communicates with them and is able to pull load status into ThinManager for use in management and SmartSession load balancing.

Figure 71 - Remote Desktop Server Status Lights



Status Color	Meaning
Green	ThinServer can talk to the Remote Desktop Server and pull data using the administrative account you are using. "OK" is displayed as the Value on the Status tab.
Red	The server is offline or the administrative account failed to connect to the server.
Gray	The administrative account was left blank, and the ThinManager Server is not trying to communicate with the server. "No login information supplied" is the Value displayed on the Status tab.
A F	Red or Gray status does not mean that the Terminals cannot log in and run on e servers. These colors only indicate the ability of ThinManager to access the

resources on the server.

Solutions to Failed or No Connection

- For a gray status, reopen the Remote Desktop Server Wizard and enter an administrative account in the Log In Information fields on the Remote Desktop Server Name page.
- For a red status with a Value of "User specified does not have permission to connect," re-open the Remote Desktop Server Wizard and correct the administrative account in the Log In Information fields on the Remote Desktop Server Name page.
- For a red status with a Value of "The RPC Server is unavailable" or "WTSAPI32.dll failed," then the Remote Desktop Server is offline or missing the Terminal Services/Remote Desktop Protocol role.

Local Administrative Login for ThinServer

Sometimes, large domains have issues where the connection times out before the domain controller validates the user name. To correct this issue, create a local administrative user account on each server, then have the ThinServer log in with this account. This speeds up data retrieval.

	🔒 🛛 🖬 🕨 🖬 🕪					
Services (Local)	Name	Description	Status	Startup Type	Log On As	Ī
	Smart Card Device Enumera	Creates soft		Manual (Trig	Local Syste	
	Smart Card Removal Policy	Allows the s		Manual	Local Syste	
	SNMP Trap	Receives tra		Manual	Local Service	
	Software Protection	Enables the		Automatic (D	Network S	
	Special Administration Con	Allows adm		Manual	Local Syste	
	Spot Verifier	Verifies pote		Manual (Trig	Local Syste	
	SSDP Discovery	Discovers n		Manual	Local Service	
	State Repository Service	Provides re	Running	Manual	Local Syste	
	Still Image Acquisition Events	Launches a		Manual	Local Syste	
	Storage Service	Provides en		Manual (Trig	Local Syste	
	Storage Tiers Management	Optimizes t		Manual	Local Syste	
	🧟 Superfetch	Maintains a	Running	Automatic	Local Syste	
	Sync Host_6b52c	This service	Running	Automatic (D	Local Syste	
	System Event Notification S	Monitors sy	Running	Automatic	Local Syste	
	System Events Broker	Coordinates	Running	Automatic (T	Local Syste	
	🖏 Task Scheduler	Enables a us	Running	Automatic	Local Syste	
	TCP/IP NetBIOS Helper	Provides su	Running	Manual (Trig	Local Service	
	🧟 Telephony	Provides Tel		Manual	Network S	
	Themes	Provides us	Running	Automatic	Local Syste	
	ChinServer China Contract Cont	ThinServer	Running	Automatic	tmlab\tms	
	🖏 Tile Data model server	Tile Server f	Running	Automatic	Local Syste	
	🖏 Time Broker	Coordinates	Running	Manual (Trig	Local Service	
	Touch Keyboard and Hand	Enables Tou		Manual (Trig	Local Syste	

Figure 72 - Services in Windows 2016

To change the ThinServer service login in Microsoft Services on your ThinManager Server, follow these steps.

- To access the Windows Services dialog box, choose Control Panel>System and Security>Administrative Tools>Services, or choose Server Manager>Tools>Services.
- 2. Double-click on the ThinServer service. The ThinServer Properties dialog box appears.

Figure 73 - ThinServer Properties

ieneral	Log On Reco	overy Dependencies	
Log on	as:		
-	al System accou		
	Allow service to i	nteract with desktop	
 This 	s account:	administrator	Browse
Pas	sword:	•••••	
Con	firm password:		1
		OK Can	cel Apply

- 3. Click the Log On tab.
- 4. To change the log in account from the Local System account, click This account and specify the local administrative account. Make sure it is a member of the Administrative Group.
- 5. Click OK and restart the ThinServer service to apply the changes to the login.

Disable Remote Desktop Servers

ThinManager allows you to disable a Remote Desktop Server, which is useful for failover tests and updates. This feature allows you to move servers offline, one at a time, for updating. This action forces ThinManager-controlled thin clients to drop their connections and switch to an alternate server. This is useful for testing Failover and Instant Failover because the Terminals should switch to a back-up server. The network card on the server is not disabled—you can make RDP connections from a PC; but ThinManager thin clients stop using the server.

			ThinMan	ager			X
Edit Manage In Edit Manage In Reboot Server Power On Power Off	Calit	rate Touchscreen Message	Remote View	Help Glear			
Power	Termi	nal Operations	Enable/Disable	Event Log			
play Clients	-	Configura	ation Properti	es Schedule	Users Sessions	Processes Graph	
Terminal Services Calc Calc Calculator Calculator Gold44 Cold44 Cold44 Cold44 Cold44 Cold44 Cold45 C		Administrat Test03 Administrat Test01 Test01 Test02		RDP-Tcp#3	22	1 2 3 4 5 7 8	
	(a) *	<		IB			3

Figure 74 - Disabled Remote Desktop Servers in Display Clients

To disable a Remote Desktop Server, follow these steps.

- 1. Highlight the Remote Desktop Server icon in the Display Servers tree and choose Tools>Disable.
- 2. Once the Remote Desktop Server is disabled, reset the sessions on the Sessions tab. Right-click a session and choose Reset Session. Once the server is clear of sessions, patch and update the server and applications, and even reboot it if necessary. This does not impact production as all the Terminals are using a backup server.
- 3. Once the task is complete, choose Tools>Enable to allow the Terminals to use the server again.

Remote Desktop Server Group

A Remote Desktop Server Group can be created to speed configuration by selecting a pool of servers instead of an individual server.

Figure 75 - Add a Remote Desktop Server Group

Edit Manage Install To	ols View	Remote View Help			
AthinManager Server RWRDS2	Remove C Refresh	Modify O Add Group	😳 Delėte 🤷 Lock	C, Find (Ctrl-F) Find Next (F3)	
ThinManager Server		Ed	lit	Find	
isplay Servers	Status	Summary Event L	Log		
Add Remote Desktop Add Virtual Remote Desktop Add Virtual Remote Desktop Add Remote Desktop Edit Remote Desktop Production-RDS-15 Cameras Cameras	esktop Server Server Group	13 14 15	N N N	ot Connected ot Connected ot Connected ot Connected ot Connected	
🙁 💻 📔 🚛 🤱 🥥 🔗 🙁					

To add a Remote Desktop Server Group, follow these steps.

1. In the Display Servers branch, right-click RDS Servers and choose Add Remote Desktop Server Group.

The Remote Desktop Server Wizard appears.

Figure 76 - Remote Desktop Server Name Page

	Remote Desktop Server	r Wizard
	nter Desktop Server Name Inter the Remote Desktop Server Name and Log In information.	
Remote Desi	ktop Server Name	
Name	Production_Servers	_
-		Change Group
'		
Gateway		
Gateway		
Gateway		

- 2. Enter a name for the Remote Desktop Server Group.
- 3. Click Gateway.

The RDP Gateway dialog box appears. The RDP Gateway allows Remote Desktop Servers to use the Microsoft RDP Gateway to connect to resources on other subnets.

Figure 77 - RDP Gateway

	RDP Gateway
Gateway Name	
Username	
Password	
	OK Cancel

- 4. Enter the Gateway Name, Username, and Password.
- 5. Click OK.

The Remote Desktop Server Group is created as an empty group as shown on the Remote Desktop Server Order page.

3	Remote	Desktop Serve	er Wizard	×
	e sktop Server Ord Remote Desktop serv			\mathfrak{S}
Server Pr	ority			
				Up
				Down
1				
			-	
	Back Next>	Finish	Cancel	Help

Remote Desktop Server Order Page

The Remote Desktop Servers are added individually in the Remote Desktop Server Wizard.

6. Double-click on the server under RDS Servers in the Display Server branch.

The Remote Desktop Server Name page of the Remote Desktop Server Wizard appears.

Figure 78	- Remote	Desktop	Server	Name	Page
-----------	----------	---------	--------	------	------

	ThinManager	
Edit Manage	Remote Desktop Server Wizard	x
ThinManager Server RWRI Add ThinManager Server Disconnect	Remote Desktop Server Name Enter the Remote Desktop Server Name and Log In information.	(Ctrl-F) t (F3)
ThinMana	Remote Desktop Server Name	d
lay Servers	Name Production-RDS-13	Processes Graph
Display Servers	IP Address 192 . 168 . 1 . 13 Discover	
RDS Servers Production_S	Change Group	
E Office-RDS-1		
F Office-RDS-1	administrator Sourch	
Production-		
+ Production-	r dssword	col
🗄 🔯 Cameras	Domain	
E VNC Servers	Domain	
	Schedule	
	< Back Next > Finish Cancel Help	

7. Click Change Group.

The Select Parent Remote Desktop Server Group dialog box appears.

Figure 79 - Select Parent Remote Desktop Server Group

Select Parent Remote Desktop Serv	er Group
RDS Servers Production_Servers	OK Cancel

8. Choose the desired Remote Desktop Server and click OK to accept the changes.

The chosen Remote Desktop Server is populated to the Change Group field.

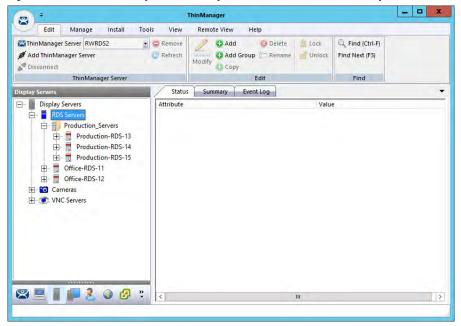
Remote Desktoj Name	Production-RDS-13	-
IP Address	192 168 1 13	Discover
Production_Se	rvers	Change Group
Log In Informatio	n	
Jser Name	administrator	Search
assword		
/erify Password		
Domain		
_		Schedule
	[

Figure 80 - Remote Desktop Server Name Page with RDS Group Membership

The Remote Desktop Server is now a member of the Remote Desktop Server Group.

9. Repeat as needed.

Figure 81 - Remote Desktop Server Group with Member Remote Desktop Servers



The tree shows the member Remote Desktop Servers in the RDS Servers group.

3)*		ThinManager		
Edit Manage	8	Remote Desktop Server Wizard	x	
ThinManager Server RWRD Add ThinManager Server Disconnect	Set the	Desktop Server Order a Remote Desktop server priority	(Ctrl-F t (F3))
ThinMana	Server F	nonty	d	
Display Servers Display Servers RDS Servers	Produ	uction-RDS-15 uction-RDS-13 uction-RDS-14		ocesses Gra
🛨 🗖 Producti			Down	
🕂 📑 Producti				
Office-RDS-1 Office-RDS-1 Office-RDS-1				
🗄 🛅 Cameras				
VNC Servers				
	2			
3 🗏 🛛 🔲 🗶		< Back Next> Finish Cancel	Help	_

Figure 82 - Remote Desktop Server Order Page

Button	Description
Up	Moves a highlighted Remote Desktop Server up in the priority list.
Down	Moves a highlighted Remote Desktop Server down in the priority list.

10.Open the Remote Desktop Server Group wizard and navigate to the Remote Desktop Server Order page to view the members of the Remote Desktop Server Group.

The Remote Desktop Servers are used in the order listed.

- 11. Highlight a member server to move, then use the Up and Down buttons to change the order.
- 12.Click Finish.

Remote Desktop Server Groups and Display Clients

The Display Client Wizard appears differently when Remote Desktop Server Groups are configured versus not configured. The following steps depict when no Remote Desktop Server Groups are configured.

1. In the Display Clients branch, double-click a Display Client.

The Display Client Wizard appears.

2. Click Next until the Display Client Members page appears.

1	ThinManager	x
	nstall Tools View Remote View Helo Display Client Wizard	ind (Ctrl-F)
Add ThinManager Server	Display Client Members Select the Remote Desktop Servers for this Display Client.	Next (F3)
ThinManager		Find
lay Clients Display Clients	Selected Remote Desktop Servers Add	
Alarms Boiler Calibrate Desktop	Remove	avices
HMI_2 HMI_2 Reports H	RD Gateway Settings	
Camera Camera Terminal Shadow Government Shadow Government Shadow Government Shadow Covernment Shadow	Use RD Gateway Server Bypass RD Gateway server for local addresses	
Virtual Screen	<back news=""> Finish Cancel Help</back>	
) 💻 👔 🗊 🧶 🥥		

Figure 83 - Display Client Members Page

3. Click Add.

The Select Remote Desktop Server or Group dialog appears, from which you may select a Remote Desktop Server Group, an individual Remote Desktop Server, or a Remote Desktop Server that is a member of a Remote Desktop Server Group.

Figure 84 - Select Remote Desktop Server or Group

Select Remote Desktop Server	or Group
□ RDS Servers TM-2016-RDS-B1 TM-2016-RDS-C1 OfficeServers ProductionServers 	OK Cancel

- 4. Highlight the desired Remote Desktop Server or group and click OK.
- 5. Repeat as needed.

Once a Remote Desktop Server or group is selected, it appears in the Selected Remote Desktop Servers list.

Figure 85 - Display Client Wizard - Display Client Member Page

*	Display Client Wizard
D	Select the Remote Desktop Servers for this Display Client.
S	elected Remote Desktop Servers
	Production_Servers
]	RD Gateway Settings
	Bypass RD Gateway server for local addresses
	< Back Next > Finish Cancel Help

Feature	Description
Use RD Gateway	Prompts the Display Client to use the Microsoft RD Gateway.
	Allows the Display Client to use a Remote Desktop Server without going through the RD Gateway if the Terminal and Remote Desktop Server are on the same subnet.

Navigation through the remaining Display Client Wizard pages follows those displayed when no Remote Desktop Server Groups are configured.

Containers

ThinManager 12 introduced Containers as a method of delivering content. This technology is based on the Container technology developed by Docker.

Instead of connecting to a Microsoft Remote Desktop Server and running a session, the thin client, or terminal, connects to a Container Host. Then, the thin client, or terminal, creates a Container that runs an application. The display is sent to the terminal, or thin client, where the user can interact with and control it.

With the ThinManager 12 release, the Container provides a Firefox browser that can be run without a Remote Desktop Server.

Container Deployment

Container Deployment is similar to the deployment of Remote Desktop Services Servers.

- 1. Create a Windows 2019 Server and install Docker.
- 2. Install the Container image in ThinManager.
- 3. Define the Container Host as a Display Server.
- 4. Define the Container as a Display Client and add the Container Image to the Container Display Client.
- 5. Apply the Container Display Client to the Terminal.

The Container Host needs two TLS Certificates and a TLS key installed, which provides secure authentication between the Container Host and the ThinServer service. The certificates can be generated with the TLS Certificate tool in ThinManager.

6. Generate the two certificates and the key, and move them to the Docker Container Host.

On boot, the thin client requests a connection to the container from ThinManager, which starts a container instance, if not already running, and returns the connection details to the thin client. Then, the thin client establishes a connection directly to the container.

This section shows the steps to configure the Container system in ThinManager, then covers the Certificate process once ThinManager is configured. It is possible to create the certificates during the ThinManager configuration process, but it is easier to understand if it is done as one procedure.

Container Host Server Installation

To make the selected server a Docker Container server, the script **Install-Docker.ps1** installs Hyper-V and Containers Roles. Windows Server 2019 with Internet connection is required for the Docker Container Server solution in ThinManager. Offline installation is not available as the Internet is necessary to download files from Microsoft Servers and Rockwell Automation Servers.

If a virtual machine is not used, skip to Running the Script. To prepare your virtual machine, follow these steps to enable nested virtualization.

If a Hyper-V virtual machine is used, this setting can be set using PowerShell.

- 1. Power off the Docker Container Server virtual machine.
- 2. On the Hyper-V host, open PowerShell as an Administrator.

Figure 86 - Windows PowerShell



 Type the following command: Set-VMProcessor -VMName [VM Name] -ExposeVirtualizationExtensions \$True where [VM Name] is replaced by the Docker Container virtual machine name. See Figure 87.

Figure 87 - Type Command into PowerShell

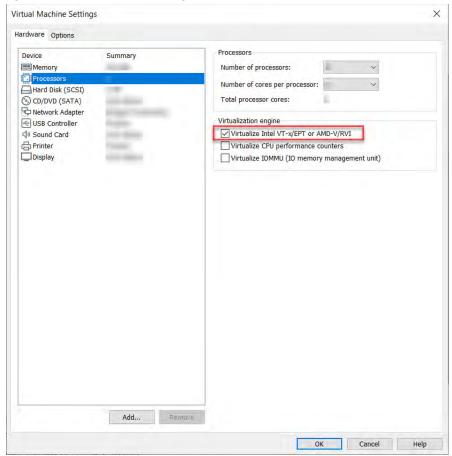


4. Press Enter to run the command.

If you use a VMware virtual machine, this setting can be configured under Virtual Machine Settings.

- 1. Power off the Docker Container Server virtual machine.
- 2. Navigate to Virtual Machine Settings.

Figure 88 - Virtual Machine Settings



3. Click the Hardware Tab, and select Processors.

- 4. Under the Virtualization engine properties section, check Virtualize Intel VT-x/EPT or AMD-V/RVI.
- 5. Click OK.

Run the Script

Once the designated Server 2019 has Internet connectivity, run the script **Install-Docker.ps1** located in the installer files at: \Common\12.0.0-ThinManager\Install-Docker.ps1 or at downloads.thinmanager.com.

The **Install-Docker.ps1** script has two components: the Installation of Hyper-V and the installation of Container roles. The virtual machine restarts during the installation processes of the Hyper-V and Containers roles, as required.



You must manually initiate the script a second time during this installation process as detailed below.

1. Open PowerShell as an Administrator.

Figure 89 - Windows PowerShell



2. Change the file directory as necessary to match the location of Install-Docker.ps1.

Figure 90 - Install Script

Administrator: Windows PowerShell

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
```

PS C:\Users\Administrator> cd .\ PS C:\Users\Administrator > .\Install-Docker.ps1 -AllowFirewall -Restart

3. Type:

".\Install-Docker.ps1 -AllowFirewall -Restart". and press Enter to run the script. See Figure 90.

Switch	Description
	Creates a Windows firewall rule, Docker SSL Inbound, to allow TCP2376 , the default port for Docker. If this is not specified in this PowerShell command, it must be added manually to the Windows firewall rules.
-Restart	Automatically restarts the server after the installation of Hyper-V and Docker Containers. If it is omitted, the script prompts if a restart is required.
-Verbose	Enables more in-depth information about command processing.

- 4. Once the server restarts, repeat steps 1 through 3 to initiate the Install-Docker.ps1.
- 5. To complete the installation, restart the Docker service in Windows Services or restart the server.

For more information on the script, type the command: Get-Help .\Install-Docker.ps1

Install Container Images

The Container images are included as part on the ThinManager installation. Additional containers can be installed into ThinManager similarly to firmware packages.

Figure 91 - Install Container Images

-			ThinMar	ager v12.0 -	Topaz			- [] 3
Edit Manage	Install	Tools View	Remote View	Help				
Firmware Package	🗓 Boot Loader 🧠 Chain Loader	<u></u>	1 Exenses License Mode	TermCap Database				
Packages	Boot Files	Container Image	~	TermCap	Reports			
Display Servers	Install Contain	er Image	an/ Evention				×	
Display Servers Display Servers RDS Servers Cameras VNC Servers Container Ho:	Installed Cor	ntainers	Name			Instal	2	
Container rio								×
	+	1	« 012_ThinManage	r_Document	tation > TM_12	Files v Ö	Search TM_12_Fi	es p
	On	ganize 👻 New	folder					
ThinManager Server		Quick access	Name 32bit		^	Date modified 11/2/2020 12:58 P	Type M File folder	Size
Display Servers		This PC	64bit			11/2/2020 12:58 P		
		Desktop	L] termin	al_proxy-0.1.	5-15.tar.gz	0/27/2020 2:52 P	M GZ File	236,123 K
Display Clients		Documents				-		
Terminals		Downloads						
Users	-	Music Pictures						
Locations		Videos	v «					,
VCenter Servers			File name: termina	_proxy-0.1.5	-15.tar.gz		Container Image	es (*.tar.gz;) 🗸 🗸
						4	Open	Cancel
		_				-		1

To install container images, follow these steps.

1. Choose Install>Container Images.

The Install Container Image dialog box appears.

2. Click Install.

The File Browser appears.

- 3. Selecting the Container Image *tar.gz file
- 4. Click Open.

The Container Image is installed.

Define the Container Host Display Server

The Container Host is a new branch of the Display Server branch of the ThinManager tree.

Figure 92 - Cor	ntainer Hosts i	n Displa	y Server	Branch
-----------------	-----------------	----------	----------	--------

Display Servers	
🕀 🗧 RDS Servers	
🕀 😇 Cameras	
E VNC Servers	-
Container Ho	ists
	42.
😤 ThinManager Server	**
😤 ThinManager Server	
ThinManager Server	
Display Servers	
Display Servers	

5. Right-click on the Container Hosts icon and choose Add Container Host.

The Container Host Wizard appears.

Figure 93 - Container Host Wizard

Name	Server112	
IP Address	192 . 168 . 1 . 112	
Port	2376	
	TLS Cettificate	

- 1. Type the name of the Container Host in the Name field.
- 2. Type the IP address in the IP Address field.
- 3. Type the port number that is used for the container connection. Port 2376 is the default port number, but it can be changed in the wizard if it was changed on the Container Host.
- 4. Click Finish to exit the Container Host Wizard.



You must click TLS Certificate to open the TLS Certificate dialog box, which allows you to save the Server Certificate and Server Key. See <u>Install the TLS Certificates on page 86</u>.

Define the Container Host Display Client

The Container Host is a new branch of the Display Clients branch of the ThinManager tree.

∃ 	ay Clients Display Clients
	E Remote Desktop Services
	E Camera
	Terminal Shadow
	Workstation
1	Harring Virtual Screen
r	Container Host
	ThinManager Server Display Servers
	Display Servers
	Display Servers Display Clients
	Display Servers Display Clients Terminals
	Display Servers Display Clients Terminals Users

Figure 94 - Container Host in Display Clients Branch

1. Right-click on the Container Host icon and choose Add Display Client.

The Display Client Wizard appears.

Figure 95 - Display Client Wizard

Display Client Name			
	Browser01		
Set a Display Name			
Type of Display Client		Container Application	
Container Host	+	firefox	•
		1	
			Permissions

- 2. Type the name of the display client in the Client Name field.
- 3. Choose an installed Container Image from the Container Application pull-down menu. The Firefox browser is the default Container Image. See <u>Install Container Images on page 79</u> for more information on installed Container Images.
- 4. Click Next.

The Display Client Wizard continues with the typical pages and settings.

The Select Container Hosts page of the Display Client Wizard allows the selection of a Container Host much like Remote Desktop Servers are selected in Remote Desktop Server Display Clients.

Figure 96 - Se	lect Container	Hosts	Page
----------------	----------------	-------	------

Select container hosts for this display c	lient		×
vailable Container Hosts		Selected Contain	ner Hosts
Container Hosts	Ser	ver112	
9.010			4
	-		2
			\square
	- I-		
Search			

- 5. Select the Container Host of your choice for the Display Client.
- 6. Click Next to continue with the wizard.

The Container Properties page shows the maximum size the Docker Container uses. By default, the maximum size is 1 GB, but it can be changed.

Figure 97 - Container Properties

Display Client Wi			>
Container Propert Enter information	es needed to create the container		\geq
Memory	p	GB	
		_	
	<back next<="" td=""><td>Finish C</td><td>ancel Help</td></back>	Finish C	ancel Help

7. Click Next to continue.

8. The final page of the Container Display Client Wizard, which uses the Firefox web browser Container Image, allows you to specify the web content to be displayed through the Start URL field.

Figure 98 - AppLink Path Page

AppLink Path				
Start URL				
https://kb.thinmanager	.com/index.php	/Main_Page		
Other Command Line C	Options			
-kiosk				

9. Type the URL of the desired web content to display.10. In the Other Command Line Options field, type -kiosk.

The Firefox browser is put into Kiosk Mode, which prevents user access to the address bar. The content is displayed without the toolbar, menu, and URL field.

11. Click Finish to close the Wizard.

Apply the Container Display Client to a Terminal

Container Host Display Clients are added to thin clients, or terminals, like any other Display Client.

The Container Display Client is added on the Display Client Selection page with the other Display Clients.

Display Client Selection Select the Display Clients to use on this termina	
Available Display Clients	Selected Display Clients
Remote Desktop Services Camera Camera Terminal Shadow Workstation VNC VNC Container Host WebBrowser01	Web Browser01
Edit Display Clients Search	Override

1. Expand the Container Host branch, highlight the Container Display Client, and click the right arrow.

The selected Container Display Client launches when the terminal boots.

<u>Figure 100</u> shows the ThinManager Knowledge Base launches in the container on a thin client.

8	ThinManager -	×
Edit Manage Install Tool	ls View Remote View Help	
	CREMERVER Add Coup CREMERVER OLOCK Find (Ctr-F) CREMERVER Add Group CREMERVER OLOCK Find Next (F3)	
ThinManager Server	Edit Find	
Display Clients	Summary	*
Display Clients	Attribute Value	
🕀 📳 Remote Desktop Services	Workstation Display Client Summary	
Terminal Shadow Workstation Jostop Workstop WinZ_Desktop VNC Virtual Screen		
ThinManager Server		
💻 📕 💭 🕹 🥥 🗗 🤻	¢	>
		.H.

Figure 100 - ThinManager Knowledge Base in Container

Install the TLS Certificates

A TLS Certificate is needed to provide secure authentication between the Container Host and the ThinServer service. There are two certificates and one key that must be generated in ThinManager and copied to the Container Host.

When Docker is installed, a configuration folder that contains the file **daemon.json** is created, which contains the names and locations of the keys and certificates. This file is found at: C:\ProgramData\docker\config.

Three files are needed to add the two certificates and one key to the Container Host.

By default, the certificates and keys are saved at C:\ProgramData\docker\certs.d. You must manually create the certs.d folder.

Figure 101 - JSON File



Certificate Authority Certificate

The first certificate needed is the Certificate Authority (CA) Certificate, which is generated in the Certificate Authority Window.

1. Choose Manage>TLS Certificate.

The Certificate Authority dialog box appears.

Figure 102 - Certificate Authority

Certificate Authority		×
Generate New Certificate Certificate Length (days) 7300		
Certificate		
BEGIN CERTIFICATEMIIFmDCCA4CgAwIBAwIBATANBgkqhkiG9w0BAQsF/ 9ZRdpItcZh6Q7z3DEYWb+bFElz0zO9hvh3SzuTNLTuSzflnO3X0V4Amwk/m/F2JTVo	N A	Сору
		Save
		Import
J Certificate Key	Ť	
	^	
		Import
	\sim	ОК

Setting	Description
Generate New Certificate	Click if you want to invalidate existing certificates, which ThinServer generates automatically during installation.
Import	Click if your site's IT department already uses Docker and generated a CA certificate that they want to use.
Certificate Length (days)	The number of days the CA certificate is valid. Change as needed from the default 7,300 days, or 20 years.
Save	Click to save the certificate so you can export it to the Container Host.

<u>Figure 103</u> uses docker-ca-cert.pem as the CA certificate name. You must use the file name that was specified in the Docker configuration folder.

There is only one CA certificate needed per ThinManager system. However, this also means that a Docker Host cannot be shared by two independent ThinManager systems.

Figure 103 - CA Cerfiticate Name

· · ·	« ProgramData > Rockwell Software >	5 ~	Search Rockwell S	California	م
	* Programbata / Nockweil Software /	V 0	Search Kuckweil s	SOLWAIE	7
ganize 🔻 New	folder			-	6
Microsoft H	e ^ Name	Date modified	Туре	2	lize
Microsoft O	cl I ninivianager	11/3/2020 7:11 P	M File folder		
Rockwell					
Rockwell Au	ıt	[3			

2. Click OK to exit the wizard.

Server Certificate

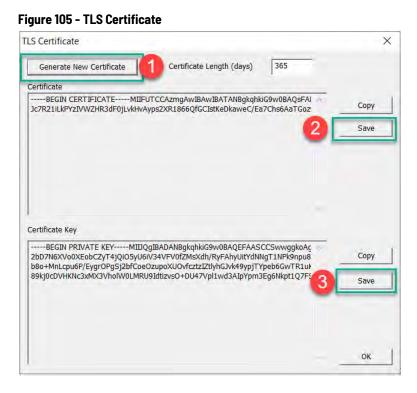
The second certificate is the Server Certificate, which is generated in the Container Host Wizard.

Figure 104 - TLS Certificate Button

ame	Server112	
^o Address	192 . 168 . 1 . 112	
ort	2376	
	TLS Certificate	

1. Click TLS Certificate.

The TLS Certificate dialog box appears.



The TLS Certificate dialog box does not show the Certificate and the Certificate Key until the Generate New Certificate button is clicked. The Certificate and the Certificate Key must be saved and moved to the Container Host.

2. Click Save for the Certificate.

By default, the Server Certificate is saved with a file name of docker-server-cert.pem, which must match the name specified in the Docker configuration folder.

Figure 106 - Save Server Certificate

1	5 ~	Search Rockwell Se	oftware ,P
Irganize 👻 New folder			## • (
Desktop ^ Name	Date modified	Туре	Size
🔮 Documents 🦳 ThinManager	11/3/2020 7:35 PM	A File folder	
	11/3/2020 7:11 PM	A PEM File	
J Music			
E Pictures			
Videos			
Local Disk (C:)			
• • • • • •			_
File name: docker-server-cert.pem			
Save as type:			

3. Click Save for the Certificate Key.

Figure 107 - Save Certificate Kev

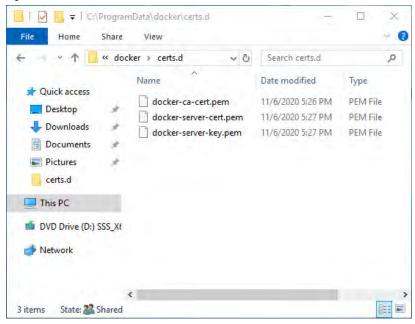
					×
« Pro	gramData 🔹 Rockwell Software 👂	5 ~	Search Rockwell	Software	P
folde	n				0
^	Name	Date modified	Туре	Siz	e
	ThinManager	11/3/2020 7:38 P	M File folder		
	docker-ca-cert.pem	11/3/2020 7:11 P	M PEM File		21
	docker-server-cert.pem	11/3/2020 7:38 P	M PEM File		01
¥.	<				>
docke	r-server-key.pem				~
					~
	folde	ThinManager	folder Name Date modified ThinManager 11/3/2020 7:38 P docker-ca-cert.pem 11/3/2020 7:38 P docker-server-cert.pem 11/3/2020 7:38 P	folder Name Date modified Type ThinManager 11/3/2020 7:38 PM File folder docker-ca-cert.pem 11/3/2020 7:11 PM PEM File docker-server-cert.pem 11/3/2020 7:38 PM PEM File	folder Date modified Type Siz ThinManager 11/3/2020 7:38 PM File folder docker-ca-cert.pem 11/3/2020 7:11 PM PEM File docker-server-cert.pem 11/3/2020 7:38 PM PEM File

Install the Certificates

- 1. Open the Docker Container Host server.
- Copy the three files to the default location, C:\ProgramData\docker\certs.d, or the location you specified in the Docker config file. You must create the certs.d folder manually.
- 3. Restart the Docker service to register the new certificates.

<u>Figure 108</u> shows the three certificate files, generated through ThinManager, installed on the Container Host.

Figure 108 - Certificate Files on Container Host



IP Cameras

ThinManager supports cameras in the ThinManager system. Cameras, either IP or USB, can be configured to provide the camera feed to display clients on Terminals. This section covers how to define the camera as a Display Server. Delivery of the video to a Camera Display Client is covered in <u>Camera Display</u>. <u>Clients on page 142</u>.

There are three steps in integrating an IP camera into the ThinManager system.

- 1. Configure the camera and add it to your network using the guidelines from the camera manufacturer.
- 2. Add the configured camera to ThinManager as a Display Server source.
- 3. Deploy the content of the cameras by creating a camera display client and applying it to the Terminals.

USB cameras are added to a Terminal and configured. See <u>Define the IP</u> <u>Camera as a Display Server on page 91</u>.

Configure the IP Camera

Each camera manufacturer distributes their cameras with a default IP address and a default administrative account. These need to be configured to add the camera to your network. Methods vary between vendors, but a web interface is common.

IMPORTANT Please follow the instructions from the camera manufacturer to configure your camera for use.

Figure 109 - Browser-based Camera Configuration

Product: DCS-910						Firmware Version: 1.00
D-Lin	k					\prec
DCS-910	LIVE VIDEO	SETUP	MAI	NTENANCE	STATUS	HELP
Wizard Network Setup Dynamic DNS Image Setup	NETWORK SETU You can configure	P your LAN and Intern Save Sett		e Settings		Helpful Hints Select "DHCP Connection" if you are running a DHCP server on your network and would like an IP address assigned
Video	LAN SETTINGS					to your camera automatically. You may
Mail FTP Time and Date	DHCP Connection	 Static IP Add IP Address Subnet Mask 	10.7.10.71 255.255.255.0	 PPPoE User ID Password 		choose to manually enter a Static IP Address and all the relevant network information or select PPPoE if you connect your DCS-910 directly to the Internet that uses a PPPoE
Logout	Primary DNS Secondary DNS	Default Gateway 68.87.68.162 8.8.8.8	10.7.10.1		_	service. If you choose PPPoE you must enter the user ID and password that was given by your Internet Service Provider. DHS (Domain Name System) server is an
	PORT SETTINGS Second HTTP Por	t 🔘 Enable 🖲 Dis Port Number 💈				Internet service that translates domain names (i.e. www.dink.com) into IP addresses (i.e. 192, 168, 0, 20). The IP addresses can be obtained from your ISP. - Primary DMS: Primary domain name server that

Define the IP Camera as a Display Server

The Camera Configuration Wizard is launched from the Camera branch of the Display Server tree.

1. To open the Display Server tree, click the Display Servers icon at the bottom of the ThinManager tree.

Figure 110 - Camera Branch of the Display Servers Tree

	View Remote View Help Remove Add Oroup Referesh Modify Copy Edit		
play Servers Display Servers Compared and the servers	Summary Event Log Attribute Camera Stats	Value	
Production TM-2016-RDS-B1 TM-2016-RDS-B2 TM-2016-RDS-C1 TM-2016-RDS-C1 Cmorece Add Camera Add Camera Add Camera Group	Total Cameras Total Camera Groups	0 0	
	٤		

2. Right-click on the Cameras branch and choose Add Camera to launch the Camera Configuration Wizard.

Figure 111 - Camera Name Page

Camera Name Camera Name	Camera 76	
		Change Group
Camera Network Setup Type IP Address Port	IP Camera 10 . 6 . 1 554	. 10 . 76
Camera Connection — Streaming Protocol	RTSP - TCP	•

- 3. Complete the Camera Name field.
- 4. In the Camera Network Setup section, chose either USB Camera or IP Camera from the Type pull-down menu.

IP Camera

ThinManager supports IP cameras added to the network. A thin client that has a camera added makes a connection to the camera and streams the video feed directly. The video does not go through the ThinManager Server. ThinManager only tells the thin client to stream the video feed.

Choose a protocol that the camera uses from the following choices.

Legacy Motion JPEG

Legacy Motion JPEG is the original protocol configuration for IP cameras in ThinManager.

For this option, choose the make and model from a list contained in the TermCap database. ThinManager populates the necessary URL.

Motion JPEG

This protocol provides flexibility of camera choices because it does not require the use of a camera from the TermCap database.

Each camera uses a specific Motion JPEG URL, usually specified in the camera manufacturer's documentation.

Enter the Motion JPEG URL in the Custom URL field on the Camera Authentication page.

Real Time Streaming Protocol (RTSP)

RTSP is preferred as it is most widely supported by camera companies.

RTSP has several transport layers—HTTP, TCP, UDP, and UDP multicast. Specify the URL that specific camera uses for the video stream.

For this option, follow these steps.

- 1. Choose IP Camera from the Type pull-down menu.
- 2. Enter the IP address of the camera in the IP Address field.
- 3. Choose the desired transport method from the Streaming Protocol pull-down menu.
- 4. Click Next.

The Camera Authentication page appears.

Figure 112 - Camera Authentication Page

Camera	Authentication	a Configuration Wiz	aru
	the camera userna	me and password	×
Camera	Authentication		
User	name	admin	
Pass	sword		
Verify	y Password		_
Custom	(IR)		
Custom I	URL	0.76:554/	
).76:554/	
).76:554/	
		0.76:554/	

- 5. Enter the Username and Password of the account for the camera that allows streaming. The thin client is unable to access the video feed without an account unless the camera allows anonymous access.
- 6. Enter the RTSP URL specified by the camera manufacturer in the Customer URL field.
- 7. Click Finish.

The wizard closes and camera configuration is complete.

Figure 113 - Camera Management Dialog

Edit Manage Install To		ThinManager e View Help		
ThinManager Server EducationRDP02a Add ThinManager Server Disconnect ThinManager Server	Refresh Modify	G Add Group (Core and Core a	G Find (Ctrl-F) Find Next (F3)	
Display Servers	Config Conne		Find	
III Display Servers	Product: DCS-910	1k°		
- VNC Servers		and the second s		
⊞- 💽 VNC Servers	DCS-910		ETUP	AINTENANCE
⊞- ● VNC Servers			ETUP	1AINTENANCE
⊞- ® VNC Servers	DCS-910	LIVE VIDEO S		
⊞- ® VNC Servers	DCS-910 Wizard Network Setup Dynamic DNS	LIVE VIDEO S NETWORK SETUP You can configure your LAN and	Internet settings here	
⊞- ● VNC Servers	DCS-910 Wizard Network Setup Dynamic DNS Image Setup	LIVE VIDEO S NETWORK SETUP You can configure your LAN and	Internet settings here	e.
⊞- ® VNC Servers	DCS-910 Wizard Network Setup Dynamic DNS	LIVE VIDEO S NETWORK SETUP You can configure your LAN and Save to the seture of the se	Internet settings here Settings Don IP Address	e.

To access the camera's browser control panel, highlight the camera in the ThinManager tree and click the Connect tab. Make changes as needed.



- If a camera uses a 32-bit ActiveX, then it can be connected and viewed within a 32-bit ThinManager, but not a 64-bit ThinManager.
- If a camera uses a 64-bit ActiveX, then it can be connected and viewed within a 64-bit ThinManager, but not a 32-bit ThinManager.

The network settings and configuration are available, but not the live video feed.

Define the USB Camera as a Display Server

USB cameras can be attached to ThinManager thin clients, and the video feed sent to display clients, on any ThinManager thin client.

To define the USB camera as a display server, follow these steps.

1. To open the Display Servers tree, click the Display Servers icon at the bottom of the ThinManager tree.

Figure 114 - Camera Branch of the Display Servers Tree

Image:	
Edit Manage Install Tools View Remote View Help	
Image: Server Documentation Image: Server Image: Server<	
ThinManager Server Edit Find	
Display Servers Summary Event Log	-
Display Servers Attribute Value	
E RDS Servers Camera Stats	
Production Total Cameras 0	
TM-2016-RDS-B1 Total Camera Groups 0	
TM-2016-RDS-C1	
Add Camera	
Add Camera Add Camera Group	
Add Camera Group	

	>

2. Right-click the Cameras branch and choose Add Camera.

The Camera Configuration Wizard appears.

Figure 115 - USB Camera on Camera Name Page

Camera Nam Camera N		L2_2_Camera			1
-			Char	nge Group	
Camera Netw Type Terminal Port	Vork Setup	USB Camera 8080		Select	
jelect a Termir					

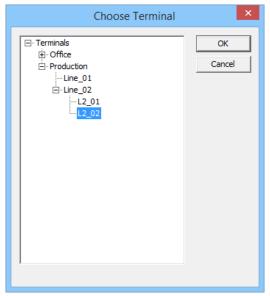
- 3. Complete the Camera Name field.
- 4. Select USB Camera from the Type pull-down menu.

The Terminal field appears dynamically.

5. Click Select.

The Choose Terminal dialog appears.

Figure 116 -	Choose	Terminal	Dialog
--------------	--------	----------	--------



6. Choose the correct Terminal and click OK.

The Terminal appears in the Terminal field of the Choose Terminal dialog.

Figure 117 - Terminal	Name in the	Camera Name	Page
-----------------------	-------------	--------------------	------

Enter the camer	a name and network location	·
Camera Name Camera Name	L2_2_Camera	
I		Change Group
Camera Network S Type	USB Camera	
Terminal Pro	oduction\Line_02\L2_02	Select

7. Click Next.

The Camera Authentication page appears.

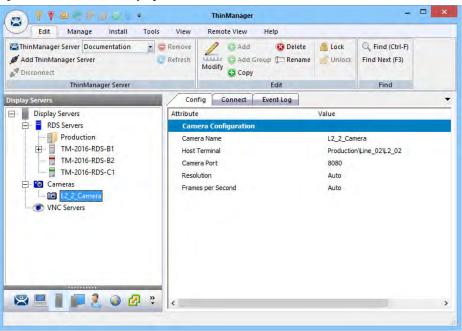
Figure 118 - Camera Authentication Page

Camera Authentication		
Usemame	1	
Password		
Verify Password	[_

- 8. Enter the administrative account Username and Password information if your USB cameras use authentication.
- 9. Click Finish.

The camera appears in the Display Servers tree.

Figure 119 - Cameras in Display Servers Tree





A USB camera cannot be connected to and managed from the Connect detail pane in the ThinManager console.

VNC Servers

ThinManager uses Virtual Network Computing (VNC) to shadow thin clients in various ways.

- From within the ThinManager Server console
- From another Terminal using a Terminal Shadow Display Client
- Through a connection to any VNC Server to shadow from the administrative console or through a display client

All of these options are useful in shadowing PanelView Plus panels.

Figure 120 - VNC Servers Branch of the Display Servers Tree

8 -		ThinManager	- □ <mark>×</mark>
Edit Man Edit Man Firmware Package Package	age Install Boot Loader Chain Loader Boot Files	TermCap Licensing Licensin	
Display Servers		Summary Event Log	-
Display Servers		Attribute Value VIIC Server Stats	
	Add VNC Server Add VNC Server Gro	Total VNC Server 0	
ThinManager Serve		2 <	

To define the VNC server, follow these steps.

1. Click the Display Servers icon at the bottom of the ThinManager tree.

The Display Servers tree is displayed.

2. Right-click the VNC Servers branch and choose Add VNC Server.

The VNC Server Configuration Wizard dialog appears.

Figure 121 - VNC Server Name Page of the VNC Server Configuration Wizard

8	VNC Server Configuration Wizard
V	AC Server Name Enter Name and Network Configuration
ſ	VNC Server Name VNC Server Name Change Group
	VNC Server IP Address
	Port 5900
Pi	asse enter a Name
-	<back next=""> Finish Cancel Help</back>

Required Settings	Description
VNC Server Name	Name of the device that is acting as the VNC server.
VNC Server IP Address	IP address of the device that is acting as the VNC server.
Port	The port that the VNC server is using. The default is 5900.
Password	Password for the VNC server, if needed.

3. Complete the fields on the VNC Server Name page.

4. Click Finish.

You must create a VNC Display Client to deploy the VNC shadow. See <u>VNC Shadow on page 177</u> for details.

Workstations

ThinManager takes advantage of Microsoft Remote Desktop Protocol (RDP) to allow you to port a workstation to a thin client. Use RDP connectivity to connect to physical or virtual workstations and transfer the desktop to another computer.

To activate the remote desktop function on the workstation, follow these steps.

1. Right-click the My Computer icon and choose Properties, or double-click the System icon in Control Panel.

The System Properties dialog appears.



mputer Name	Hardware	Advanced	Remote	-
Remote Assistar	100	connection	ns to this cor	nputer
				Advanced
Remote Desktop	p			
Choose an optio	on, and then	specify who	can conne	ct.
O Don't allow n	emote conne	ections to th	is computer	
 Allow remote 	connection	s to this con	nputer	
Allow con				ng Remote recommended)
Desktop				

- 2. Under the Remote Desktop section, click Allow remote connections to this computer.
- 3. Click Select Users to specify which users can access the workstation.

The Remote Desktop Users dialog appears.



4. To grant permission to users, click Add.

This makes the workstations sources. You deliver the workstation to the thin client by defining Workstation Display Clients as shown in the Content section.

See <u>Workstation Deployment on page 167</u> for details.

VCenter Servers

ThinManager is compatible with virtual machines, just as it is compatible with physical machines. The easiest way to handle virtual machines is to treat them as physical machines.

If you use VMware ESXi™, you can connect using the ThinManager interface to access several of the management features provided by VMware VCenter[®].

To add a VCenter Server, follow these steps.

1. Click the VCenter Servers icon at the bottom of the ThinManager tree.

The VCenter Servers tree appears.

Figure 124 - VCenter Servers Tree

(2) < < = 0 < 0 < < < < < < < < < < < < < <			ThinMana	ger		□ X
Edit Manage Ins	stall Tools	View	Remote View	Help		
Reboot Server Power On Power Off	Calibrate 1	sage	Enable Disable	Clear		
VCenter Servers		Summary				-
VCenter Add VCenter	ar Senver	bute	1		Value	
Add VCente	er Server	/Center S	ervers View Sun	nmary		1
		Total VCen	ter Servers		0	
ThinManager Server						
📃 🛔 📕 🧶 🥥	🛃 🤻 🤇			ш		>
						A

2. Right-click the VCenter Servers branch and choose Add VCenter Server.

The VCenter Server Property Wizard appears.

Figure 125 - VCenter Server Property Wizard

er
_

- 3. Complete the VCenter Server Name and VCenter IP Address fields.
- 4. Enter the administrative account information into the Log In Information fields.
- 5. Click Finish.

After it connects and populates, highlight the newly added VCenter Server for it to appear in the Summary tab.

Figure 126 - Populated VCenter Servers Tree

2 = 0 = 0 = 0 =		ThinMan	iger		x
Edit Manage Ins	tall Tools View	Remote View	Help		
Restart Reboot	Calibrate Touchscreen	Enable Disable	Clear		
Power	Terminal Operations	Enable/Disable	Event Log		
VCenter Servers	Summary				-
🖃 🚱 VCenter Servers	Attribute	1		Value	
🖻 🛃 V_2012	Virtual M	achine Summary			
由 - datacenter - ⊕ 2012_1_DC - ⊕ 2012_RDS_2a	Name Host Nam IP Address Guest DS Memory Si CPU Coun Provisione Committed	ze t d Storage		2012_RDS_2a Microsoft Windows Server 2012 (64-bit) 3972 MB 1 64.14 GB 60.00 GB	
ThinManager Server	? "			0	>

6. In the VCenter Servers tree, right-click the VCenter Server for a list of the following options.

Center Server Function Description			
Power Operations			
Power On	Turns on a stopped or suspended virtual machine		
Power Off	Turns off a stopped or suspended virtual machine		
• Suspend	Suspends a running virtual machine and stores the state		
• Reset	Cycles power to the virtual machine to restart it		
Snapshot			
• Take Snapshot	Captures and stores the state of the virtual machine		
• Revert to Current Snapshot	Reapplies the stored state of a previously saved virtual machine		
Snapshot Manager	Launches the Snapshot management tool		
Rename	Allows the virtual machine to be renamed		
Remove from Inventory	Removes the virtual machine from the tree without deleting the files		
Delete	Removes the virtual machine from the tree and deletes the file system		

Snapshots

Snapshots save the state of the virtual machine in a file, which allows you to preserve a working status before applying new applications, programs or updates. If the changes fail or are undesired, then the snapshot can be restored, allowing the virtual machine to return to the state it was in prior to the changes.

Create a Snapshot

To take a snapshot of the state of the virtual machine, follow these steps.

1. In the VCenter Servers tree, right-click the virtual machine and choose Snapshot>Take Snapshot.

The Create Snapshot dialog appears.

Figure 127 - Create Snapshot

Create Snapshot 🛛 🗙				
Snapshot Name				
Snapshot Description				
✓ Include Virtual Machine Memory Image ☐ Suspend Guest File System (requires VMWare Tools)				
OK Cancel				

- 2. Enter the Snapshot Name and Snapshot Description.
- 3. Click OK to save the snapshot.

Multiple snapshots of a virtual machine can be taken.

Use a Snapshot

To make use of a snapshot, follow these steps.

1. In the VCenter Servers tree, right-click on the virtual machine and choose Snapshot>Snapshot Manager to launch the Snapshot Manager dialog box.

Figure 128 - Snapshot Manager

	Snapshot Manager	x
2012_1_DC		Revert To Delete Delete All Edit
Snapshot Name		
Snapshot Description		< <
Creation Date		ОК

Snapshot Manager Buttons Description

Applies the selected saved snapshot
Deletes a highlighted snapshot
Deletes all saved snapshots
Opens the Create Snapshot dialog to allow changes to the name and description
Closes the Snapshot Manager

The Snapshot Manager dialog box displays all saved snapshots for the selected virtual machine, including the name, description, and creation date of a highlighted snapshot.

2. Click an action to take regarding a snapshot.

A confirmation dialog box appears.

Figure 129 -	· Revert to (Current Sna	pshot Warning
--------------	---------------	-------------	---------------

	Revert to Current Snapshot	x
4	Current virtual machine state will be lost. Revert to snapshot?) the current
	Yes	No

3. Click Yes to confirm the action.



The dialog box is dependent upon the snapshot action taken. The one shown above is only one example.

Adding a Virtual Server

Virtual Remote Desktop Servers that reside on a VCenter Server can be defined using a wizard.

Do define a Virtual Remote Desktop Server that resides on a VCenter Server, follow these steps.

1. Click the Display Servers icon at the bottom of the ThinManager tree to open the Display Servers tree.

Figure 130 - Remote Desktop Servers Tree

(a) *	ThinManager		- 🗆 ×
	ols View Remote View	Help	
Package	icenses TermCap Database icensing TermCap Reports		
Display Servers	Status Summary Ev	vent Log	-
Display Servers ROS Servers Add Remote Deskto Pr Add Virtual Remote Th Add Remote Deskto Th Edit Remote Deskto Cameras VNC Servers	Desktop Server	Total Memory Available Memory Data only available for Data only available for Data only available for	CPU Utilizatik
ThinManager Server	_		
* D O S	¢		>

2. Right-click the RDS Servers branch and choose Add Virtual Remote Desktop Server.

The Virtual Machine Selection page appears.

Figure 131 - Virtual Machine Selection Page

8	Terminal Server Wizard
	ral Machine Selection Select the Virtual Machine to use as a Virtual Terminal Server
Choo	se a VCenter Server
V_2	012 💌
Choo	se the Virtual Machine to add as a Virtual Terminal Server
	🚱 V_2012
1	Back Next > Finish Cancel Help

3. Choose your VCenter Server from the pull-down if you have multiple servers defined.

The VCenter Server tree populates the selection box.

4. Choose the virtual Remote Desktop Server you want and click Next.

The Terminal Server Name page appears.

Figure 132 - Remote Desktop Server Name Page

Terminal Server		-
Name	EducationRDP02a	
IP Address	10 . 7 . 10 . 62	Discover
		Change Group
Log In Informati	on	
User Name	administrator@Education.local	Search
Password		
Domain		Verify
		Password Options
		Schedule

- 5. Complete the Log In Information fields with the administrative account information as you do other Remote Desktop Servers. The IP address populates automatically.
- 6. (Optional) Click Next and check Available for Display Clients using SmartSession for load balancing.
- 7. Click Finish.

The tree displays a different icon for a Remote Desktop Server when it is configured as a virtual Remote Desktop Server. A virtual Remote Desktop Server created as a physical Remote Desktop Server displays the same icon as a physical Remote Desktop Server.

Figure 133 - Remote Desktop Server Icons



Virtual Remote Desktop Servers can be used in display clients just like physical Remote Desktop Servers.

Figure 134 - Display Servers Tree

		Thir	Manager			- - x
	ols View	Remote Vie	ew Help			
# Add ThinManager Server	Remove	Madibi	dd 🥸 Delete dd Group 🗇 Rename Copy	🤮 Lock 💕 Unlock	C Find (Ctrl-F) Find Next (F3)	
ThinManager Server			Edit		Find	
Display Servers	Status	Summary	Event Log			
Display Servers	Attribute			Value		
Terminal Servers	2012_RD	S_2a		OK		
Gold43	Gold43			OK		
Gold45	Gold44 Gold45			0K 0K		
Cameras VNC Servers						
8 - 1 - 2 0 *						

Content

Content is sent to devices through Display Clients. This chapter discusses the various display clients through which content is delivered.

Remote Desktop Services Display Clients

The most common content sent to a device is a Windows application. Applications are sent as Remote Desktop Services display clients. You can either give a user a full desktop, or limit them to a specific application with AppLink.

With MultiSession, ThinManager allows you to deploy several applications to a device at once. Use the Display Client Configuration Wizard to define applications.

To define applications, follow these steps.

- 1. Launch the Display Client Configuration wizard by selecting the Display Client icon at the bottom of the ThinManager tree.
- 2. Right-click Remote Desktop Services, and choose Add Display Client.

Figure 135 - Launch the Display Client Configuration Wizard

8.			ThinMana	ger			- 🗆 🗙
	Edit Manage li	nstali Tools	View	Remote View	Help		
Packages	Restore Backup	PXE ThinMar Server Server	List 💆	Accounts Pass		Manage Access Settings Resolvers Groups	
Packages	Configuration	Manag	-		Directory	Relevance	
Display Clie	ents		Summa	ary			
🖃 🚛 Di	splay Clients		Attribute			Value	
E	Remote Desktop Serv		isplay Client		es Display Cli	e	
	Camera Terminal Shadow		isplay Client		ices Clients	1	
	Workstation		Citrix IC	A Protocol Client		0	
	VNC		Smart Se	ssion Clients		0	
	Virtual Screen		Applicati	on Link Clients		0	
Think	Manager Server						
	1 1 2 6	· 🔁 🔋	۲.				>
-							

Desktop

You can present a Desktop to a terminal for a user. The device can automatically log in with the terminal account, or you can allow the user to log in manually so that they receive the desktop that is associated with their user account.

Figure 136 - Client Name Page of the Display Client Wizard

*	Display Client Wizard	×
a	ient Name Enter the Display Client name.	3
r1	Display Client Name	
	Client Name Desk_Foremen	
0	C Set a Display Name	
F	Type of Display Client	
	Display Client Group	
	Change Group	
	Permissions	
-	Back Next > Finish Cancel Help	

3. Enter a name for the display client in the Client Name field.

The Type of Display Client field automatically populates when you open the Display Client Wizard as we did in the previous step. When you open the Display Client Wizard from the top-level Display Clients branch, you must choose the Type of Display Client you want from the pull-down menu.

4. Click Next.

The Display Client Options page appears.

Figure 137 - Display Client Options Page

Display Client Select the o	Diptions options that apply to this Display C	lient	X
Client Options			
Allow Disp	lay Client to be tiled		
Allow Disp	olay Client to be moved		
Include C	amera Overlays		
Include V	rtual Screen Overlays		
P Delay unti	l Relevance User present		
Connection Op	tions		
Always ma	aintain a connection		
Connect a	at boot-up		
Disconne	ct in the background		

Description		
Allows the display client to be tiled.		
When using MultiMonitor, this setting allows the display client to be moved fror screen to screen. A movable display client can be anchored with a setting on th Screen Options page of the Terminal Configuration Wizard.		
Allows an IP camera overlay to be added to this display client.		
Allows a display client overlay to be added to this display client. See <u>Virtual</u> <u>Screens on page 182</u> for details.		
Hides the display client until a Relevance user logs in. When the display client launches, it uses the credentials of the Relevance user to start the session.		
Keeps a session active—it reconnects and restarts if it is closed. Clear the checkbox so the user can close a session and another session does not start automatically.		
Starts a session for the display client at boot-up. Clear the checkbox so a user action is required to start the session.		
In a MultiSession configuration, disconnects once it is moved into the background. Use to require fewer resources.		

5. Check the options that apply to the Display Client and click Next.

The Remote Desktop Services and Workstation Options page appears.

	Display Client Wizard	×
	ktop Services and Workstation Options e options for this Display Client	R
Connection	Options	_
▼ A	llow Auto-Login	
F A	pplication Link	
Гs	martSession	
ΓE	nforce Primary	
∏ Ir	istant Failover	
< Back	Next > Finish Cancel	Help

The Remote Desktop Services and Workstation Options page of the Display Client Wizard is key to Display Client configuration. These settings control how Remote Desktop Server content is deployed to the Terminal.

Setting	Description				
Allow Auto-Login	Automatically logs in to the session when a user account is applied to the Terminal. Clearing this checkbox displays the login window and forces a manual login, which is useful to provide a user with a login based on their group policy.				
Application Link	Launches a single application instead of a Desktop. The session lacks the Explorer shell and does not show Desktop icons or the Start menu. Close the AppLink program to end the current session and starts a new session with the application running. This setting allows the administrator to control content to the user in a simple manner without the need to use group policies. Note : This setting is not valid with workstations after Windows XP.				
SmartSession	Adds SmartSession to the display client, which provides load balancing between member Remote Desktop Servers. SmartSession uses CPU availability, memory, and the number of sessions on the member Remote Desktop Servers to determine the load on the servers. Thin clients connect to the Remote Desktop Server with the most available resources.				
Enforce Primary	Makes a thin client reconnect to its original Remote Desktop Server if the RDS fails and recovers. Disabled when SmartSession is checked.				
Instant Failover	Allows you to specify at least two Remote Desktop Servers. On startup, the Terminal connects and initiates sessions on two Remote Desktop Servers, but displays one session only. If the first Remote Desktop Server fails, the session of the second Remote Desktop Server session is immediately displayed, eliminating any downtime due to Remote Desktop Server failure. With this setting, the display client looks for two active sessions; so, if one Remote Desktop Server fails, the display client starts a session on a third Remote Desktop Server if there is one in the server list.				

- 6. (Optional) Clear the Allow Auto-Login checkbox if you want to provide the login prompt and force manual login.
- 7. Clear the Application Link checkbox to deploy to Desktop.
- 8. Click Next.

The Session Resolution/Scaling Options page appears.

Figure 139 - Session Resolution/Scaling Options Page
--

	on / Scaling Options tions and session resolutio e screen.	n if desired setting is	Y
Session Scaling O	ptions		_
☐ Maintain As ☐ Scale Down			
Session Resolution	n Options creen Resolution Custom	[0 ×]0	

The Session Resolution/Scaling Options page sets the ability of the display client to scale the session. This page has parameters that can be configured.

Setting Description				
Session Scaling Options				
Maintain Aspect RatioKeeps the aspect ratio of the session constant when scaling. With the checkbox cleared, the session fits the available display size.				
Scale Down Only	Allows a session to be shrunk for a thumbnail, but does not expand it beyond the original size designation.			
	Screen Resolution Options			
Don't Use Screen Resolution	Overrides the session resolution and enables the Resolution settings for configuration of a new display resolution.			
Resolution	Pull-down menus allow you to select a new resolution for the display when Don't Use Screen Resolution is checked.			

9. Click Next.

The Display Client Members page appears.

Figure 140 - Display Client Members Page

×	Display Client Wizard
	Display Client Members Select the Remote Desktop Servers for this Display Client.
	Available Remote Desktop Servers Selected Remote Desktop Servers
	TM-2016-RDS-B2 (10.3.10.123) TM-2016-RDS-C1 (10.3.10.104)
	Edit Server List
-	< Back Next> Finish Cancel Help

The Display Client Members page allows you to select the Remote Desktop Servers on which to run the application.

10.Click a server to highlight it, and use the left and right arrows to move the Remote Desktop Servers between the Available and Selected Remote Desktop Servers lists.



If your defined Remote Desktop Servers do not show in the list, it is likely you checked SmartSession on the Remote Desktop Services and Workstation Options page without checking Available for Display Clients using SmartSession on the Remote Desktop Server Capabilities page of the Remote Desktop Server Wizard.

To get your defined Remote Desktop Servers to appear in the list, follow these steps.

- a. Click Edit Server List to open the Remote Desktop Server List Wizard.
- b. Double-click or highlight the servers you want to appear in the list, and click Edit Server to open the Remote Desktop Server Wizard.
- c. Click Next until you reach the Remote Desktop Server Capabilities page and check Available for Display Clients using SmartSession.
- d. Click Finish.

Adding two Remote Desktop Servers to the Selected Remote Desktop Servers list provides failover. In normal failover, the terminal connects to the first Remote Desktop Server. If the connection fails, it connects to the second RDS.

SmartSession load balancing does not follow the list order. Instead, the terminal connects to the Remote Desktop Server with the most resources available.

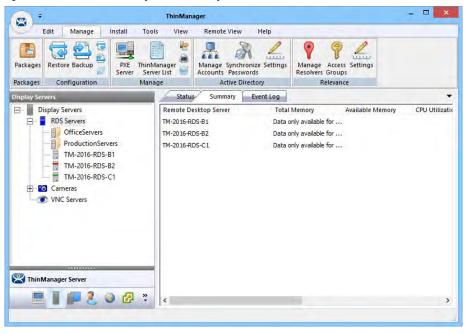
11. Click Finish.

The Display Client Wizard closes, and the new Display Client appears in the Remote Desktop Services branch Display Clients navigation pane.

Display Client Using Remote Desktop Server Groups

The Display Client Wizard appears differently when Remote Desktop Server Groups are used to speed selection of Remote Desktop Servers.

Figure 141 - Remote Desktop Server Groups Defined in the RDS Servers Tree



This example has two RDS Groups: OfficeServers and ProductionServers.

2	Display Client Wizard	×
	v Client Members ect the Remote Desktop Servers for this Display Client.	\aleph
Selected	d Remote Desktop Servers	,
Γu	ateway Settings Use RD Gateway Server Bypass RD Gateway server for local addresses	
< Bac	ok Next> Finist Cancel	Help

Figure 142 - Display Client Members Page with RDS Server Groups

The Display Client Members page has a different format to select the Remote Desktop Servers.

1. Click Add.

The Select Remote Desktop Server or Group dialog box appears.

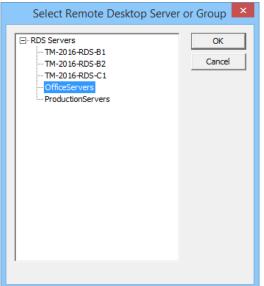


Figure 143 - Select Remote Desktop Server or Group

2. Highlight the desired RDS Group and click OK.

The Display Client Members page appears with the desired RDS Group populated to the Selected Remote Desktop Servers field.

Figure 144 - Display Client Members Page with RDS Server Groups

i.	Dis	splay Client V	Vizard	
	Client Members t the Remote Deskto	op Servers for this	Display Client.	×
Selected F	Remote Desktop Ser	rvers		
OfficeSer	vers		-	Add
				Remove
			-	
			_	
RD Gate	way Settings			
⊢ Us	e RD Gateway Serv	ver		
Г Ву	pass RD Gateway s	server for local add	resses	
1				
< Back	Next>	Finish	Cancel	Help
	1			

Two RD Gateway Settings control the use of the Microsoft RDP Gateway.

Setting	Description
Use RD Gateway Server	Prompts the Display Client to use the Microsoft RD Gateway. See <u>Remote Desktop Server Group on</u> <u>page 69</u> .
Bypass RD Gateway server for local address	Allows the Display Client to use a Remote Desktop Server without going through the RD Gateway if the Terminal and Remote Desktop Server are on the same subnet.

3. Click Finish.

Single Application Deployment with AppLink

ThinManager uses its AppLink function to launch a single application, instead of a Desktop, which allows you to control what the user sees and interacts with.

The application is launched instead of the Windows Explorer Desktop. Closing the application causes the terminal to disconnect and launch a new connection to the server with the application running.

To create a single application display client, launch the Display Client Configuration Wizard.

- 1. Click the Display Clients icon at the bottom of the ThinManager tree.
- 2. Right-click the Remote Desktop Services branch, and choose Add Display Client.

The Client Name page of the Display Client Wizard appears.

Figure 145 - Client Name Page

Client Name Display Client Name Client Name Client Name HMI_234TC4 I Set a Display Name Display Name HMI Type of Display Client Remote Desktop Services Display Client Group Change Group
Client Name HMI_234TC4
Display Name HMI Type of Display Client Remote Desktop Services ± Display Client Group Change Group
Remote Desktop Services
Change Group
Permissions

3. Enter a name for the display client in the Client Name field.

4. (Optional) Check Set a Display Name to enable the Display Name field and enter a simplified Display Client name in the tree.



The Type of Display Client is automatically chosen when you right-click the Remote Desktop Services branch. However, when you right-click the top-level Display Clients branch, you must choose the type from the Type of Display Client pull-down menu.

5. Click Next.

The Display Client Options page appears.

Figure 146 - Display Client Options Page

Display Client Wizard	x
play Client Options Select the options that apply to this Display Client	X
ient Options ✓ Allow Display Client to be tiled ✓ Allow Display Client to be moved Include Camera Overlays	
onnection Options ✓ Always maintain a connection ✓ Connect at boot-up	
< Back Next > Finish Cancel H	lelp
	play Client Options Select the options that apply to this Display Client ent Options Allow Display Client to be tiled Allow Display Client to be moved Include Camera Overlays Include Virtual Screen Overlays Include Virtual Screen Overlays Include Virtual Screen Overlays Disconnect at boot-up Disconnect in the background

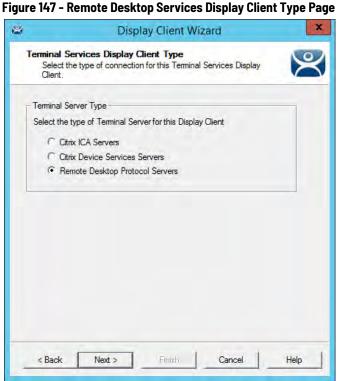
Setting	Description
Client Options	
Allow group to be tiled	Allows the Display Client Group to be tiled.
Allow Group to be moved (MultiMonitor)	Allows the Display Client to be moved from one MultiMonitor screen to another. A display client that allows it to be moved can be anchored with a setting on the Screen Options page of the Terminal Configuration Wizard.
Include IP Camera Overlays	Allows an IP Camera overlay to be added to this display client.
Include Virtual Screen OverlaysAllows a virtual screen overlay to be added to this display client. See Virtual Screens on page 182 for details.	
Connection Options	·
Always maintain a connection	Keeps a session active-restarts and reconnects—if it is closed. Clear this checkbox to allow the user to close a session and not have another session start automatically.
Connect at boot-up	Starts a session for this display client at boot-up. When the checkbox is clear, a user action is required to start the session.
Disconnect in background	A display client being used in a MultiSession configuration disconnects once it is moved into the background. Use this option to require fewer resources.

6. Choose the desired Client Options and click Next.

The Terminal Services Display Client Type page appears.



This page is not shown unless you upgrade from a system with Citrix ICA, or you have added a registry entry as shown in <u>Citrix Servers on page 61</u>.

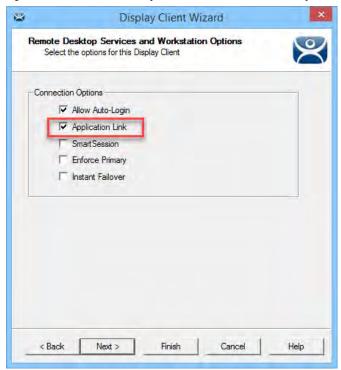


ThinManager thin clients can use the default Microsoft Remote Desktop Protocol (RDP) or Citrix ICA (Independent Computing Architecture).

7. Click the terminal server type to use with the display client and click Next.

The Remote Desktop Services and Workstation Options page appears.

Figure 148 - Remote Desktop Services and Workstation Options



The Remote Desktop Services and Workstation Options page is the key page in Display Client configuration. These settings control how Remote Desktop Server content is deployed to the Terminal.

Connection Options	Description
Allow Auto-Login	Automatically logs in to the session if a user account is applied to the terminal, which is the typical setting. Clear this checkbox to display the log in window and force a manual login, which is useful in order to provide a user with a login based on their group policy.
Application Link (AppLink)	Launches a single application instead of a Desktop. The session lacks the Explorer shell and does not show Desktop icons or the Start menu. Closing the AppLink program terminates the session and starts a new one as the application runs. This allows the administrator to control content sent to the user in a simple manner without needing to use group policies.
SmartSession	Adds SmartSession to the display client, which provides load balancing between member Remote Desktop Servers. SmartSession uses CPU availability, memory, and the number of sessions on the member Remote Desktop Servers to determine the load on the servers. Thin clients connect to the Remote Desktop Server with the most available resources.
Enforce Primary	Tells a thin client to reconnect to its original Remote Desktop Server if that Remote Desktop Server failed and recovered. Not available when SmartSession is selected.
Instant Failover	Activates Instant Failover, in which you specify at least two Remote Desktop Servers. On boot the Terminal, it connects and starts sessions on two Remote Desktop Servers, but only displays one session. If the first Remote Desktop Server fails, the session of the second Remote Desktop Server session is immediately displayed, which eliminates any downtime due to Remote Desktop Server failure. An Instant Failover display client requires two active sessions in case one Remote Desktop Server fails, then the display client starts a session on a third Remote Desktop Server if one is in the server list. Instant Failover is free for ThinManager but requires a second application license as two active sessions are running the application.

- 8. Check Application Link to deploy a single AppLink application.
- 9. (Optional) Clear the Allow Auto-Login checkbox to provide the log in prompt and force manual login.

10.Click Next.

The Session Resolution/Scaling Options page appears.

-Session Scal	om the screen. ing Options			
	iin Aspect Ratio Down Only			
	olution Options Jse Screen Resolution Custom	- D	× [0	

Options	Description		
Session Scaling Options			
Maintain Aspect Ratio	Keeps the aspect ratio of the session constant when scaling. Clear the checkbox for the session to fit the available display size.		
Scale Down Only	Allows a session to be shrunk for a thumbnail, but does not expand it beyond the original size designation.		
	Screen Resolution Options		
Don't Use Screen Resolution	Allows for override of the session resolution and to set a new resolution for the display.		
Resolution	Allows you to select a new resolution for the display when Don't Use Screen Resolution is checked.		

The Session Resolution/Scaling Options page sets the ability of the display client to scale the session. This page has parameters that can be configured.

11. Click Next.

The Display Client Members page appears.

Figure 150 - Display Clients Members Page

*	Display Client Wizard
	ay Client Members elect the Remote Desktop Servers for this Display Client.
	ble Remote Desktop Servers Selected Remote Desktop Servers
TM-2 TM-2	016-RDS-B2 (10.3.10.123) 016-RDS-C1 (10.3.10.104)
	Edit Server List
_ <e< td=""><td>Back Next> Finish Cancel Help</td></e<>	Back Next> Finish Cancel Help

The Display Client Members page of the Display Client Wizard allows the selection of Remote Desktop Servers on which you want the application.

12. Highlight the Remote Desktop Servers you want to use in the Available Remote Desktop Servers list and click the right arrow to move them to the Selected Remote Desktop Servers list.



If your defined Remote Desktop Servers do not appear in the Available Remote Desktop Servers list, it is likely you checked SmartSession on the Remote Desktop Services and Workstation Options page without checking Available for Display Clients using SmartSession on the Remote Desktop Server Capabilities page of the Remote Desktop Server Wizard.

To get your defined Remote Desktop Servers to appear in the list, follow these steps.

- a. Click Edit Server List to open the Remote Desktop Server List Wizard.
- b. Double-click or highlight the servers you want to appear in the list, and click Edit Server to open the Remote Desktop Server Wizard.
- c. Click Next until you reach the Remote Desktop Server Capabilities page and check Available for Display Clients using SmartSession.
- d. Click Finish.

Adding two Remote Desktop Servers to the Selected Remote Desktop Servers list provides failover. In normal failover, the terminal connects to the first Remote Desktop Server. If that fails, it connects to the second.

SmartSession load balancing does not follow the list order. Instead, the terminal connects to the Remote Desktop Server with the lightest load.

Alternatively, if Remote Desktop Server Groups are used to speed the selection of Remote Desktop Servers, then the Display Client Members page displays the Selected Remote Desktop Servers list only.

Display Client Wizard	×
Client Members ct the Remote Desktop Servers for this Display Client.	R
Remote Desktop Servers	
6-RDS-C1 (10.3.10.104) 6-RDS-B1 (10.3.10.103)	
eway Settings	
se RD Gateway Server	
ypass RD Gateway server for local addresses	
k Next > Finish Cancel Help	,]
	Client Members t the Remote Desktop Servers for this Display Client. Remote Desktop Servers 6-RDS-C1 (10.3.10.104) 6-RDS-B1 (10.3.10.103) Remove way Settings se RD Gateway Server vpass RD Gateway server for local addresses

Figure 151 - Display Client Members Page

a. Click Add.

The Select Remote Desktop Server or Group dialog box appears.

b. Choose the Remote Desktop Servers or Groups and click OK. c. Click Next.

The AppLink page appears.

Figure 152 - AppLink Page

8	Display Client	Wizard
AppLink Enter th	ne linked application path.	19
- AppLink F	Path	
Program	Path and Filename	
1		
		Browse
Comman	d Line Options	
		Browse
Start in t	he following folder	
		Browse
-		
< Back	Next > Finish	Cancel Help
-	-	

The AppLink Page contains a field for the path to the executable to launch the desired application.

13. Enter the path to the application in the Program Path and Filename field, or click Browse, which launches a file browser.

Figure 153 - File Browser

🗲 👘 🔻 🕈 📕 « Mi	crosoft Office 🕨 Office14 🛛 🗸	C Search Office14	<i>م</i>
Organize 👻 New folde	r		
C on EMERALD	Name	Date modified	Туре
🐌 Dell	EDITOR.EXE	2/15/2013 3:26 AM	Applicatio
🍐 Downloads 🔄	B EDITORS.DLL	9/2/2015 5:04 AM	Applicatio
🕌 HMI	S ELEMENTS.DLL	9/2/2015 5:04 AM	Applicati
HP_Color_Lase	SELEMUTIL.DLL	9/2/2015 5:04 AM	Applicatio
📕 Intel 🗮	ENGDIC.DAT	6/14/2002 6:34 AM	DAT File
MSOCache	ENGIDX.DAT	6/14/2002 6:34 AM	DAT File
👃 PerfLogs	ENGLISH.LNG	1/26/2004 6:18 AM	LNG File
🎍 Program Files	EntityDataHandler.dll	10/31/2012 12:31	Applicatio
🍌 Program Files (S EntityPicker.dll	10/31/2012 12:31	Applicatio
ProgramData	ERXIMP.ADD	2/28/2010 4:47 AM	ADD File
M_Apps	KCEL.EXE	12/24/2015 10:46	Applicatio
🍌 Users	excel.exe.manifest	3/12/2010 11:32 PM	MANIFES
Windows	x excelcnv.exe	12/23/2015 9:26 AM	Applicatio
D on EMERALD	< excelcnypxy.dll	3/13/2010 12:08 AM	Annlication >
File na	me: EXCEL.EXE		*

a. If browsing to the file location, click Open to populate the Program Path and Filename field.

Figure 154 - Filled Program Path and Filename Field

8	Display Client Wizard	x
Арр	Link Enter the linked application path.	\aleph
	Link Path	
-	-program Files\Microsoft Office\Office14\EXCEL.EXE	
	Browse	1
0	mmand Line Options	-
St	art in the following folder	
	Browse	1
		-
_<	Back Next> Finish Cancel	Help

14. Click Finish to complete the wizard and save the configuration.

Here are a few considerations for when you enter the application in the Program Path and Filename field.

- The file browser is on the ThinManager Server and not the Remote Desktop Server unless you installed ThinManager on your Remote Desktop Server.
- The path to the application needs to be the same on each Remote Desktop Server.
- If the file is different on different servers, you may need to use a batch file to launch the application using different paths.

Create a batch file in the same location on each Remote Desktop Server. The batch file can be as simple as 3 lines, as follows.

CD "C:\Program Files\Microsoft Office\Office14" Start EXCEL.EXE CD\

The batch file may need different paths on different servers. The first line is changed to reflect the location on that particular Remote Desktop Server.

```
CD "C:\Program Files (x86)\Microsoft Office\Office14"
Start EXCEL.EXE
CD\
```

This first line uses Program Files (x86) instead of Program Files to reflect the location on that particular Remote Desktop Server.

When a terminal connects to a Remote Desktop Server, it is directed to the batch file.

The batch file directs the terminal to the right location.

Figure 155 - Batch File as the Program Path

1	Display Client Wizard
A	ppLink Enter the linked application path.
ſ	AppLink Path
	Program Path and Filename
	C:Vaunchexcel.cmd Browse
	Command Line Options
	Start in the following folder Browse
1	

The batch file must be in a consistent location when using multiple Remote Desktop Servers.

Figure 156 - Created Display Clients in ThinManager Tree

Edit Manage Install Too	C Refresh	Add 80 Delet		C Find (Ctrl-F) Find Next (F3)	
ThinManager Server		Edit		Find	
Display Clients	Summary				
Display Clients	Attribute		Value		
Remote Desktop Services	Remote	Desktop Services Display Clie			
E Alarms	Total Remo	ote Desktop Services Clients	4		
Desktop_103	Remote De	esktop Protocol Clients	4		
Desktop_104	Citrix ICA	Protocol Clients	Ó		
Excel		sion Clients	0		
- to Camera - Terminal Shadow - To Workstation - To Workstation - To Workstation - To Workstation - To Workstation	Application	Link Clients	2		
🗳 ThinManager Server	¢				

Once you have created a display client, it appears in the Display Clients branch of the ThinManager tree.

Connection Options

Remote Desktop Services Display Clients have a variety of Connection Options, which are controlled on the Remote Desktop Services and Workstation Options page of the Display Client Wizard.

Figure 157 - Remote Desktop Services and Workstation Options Page

	e Desktop ! lect the option		nd Workstat play Client	ion Options	۶
Conne	ection Options	-			_
		to-Login			
	Application	on Link			
	☐ SmartSe	ssion			
1	F Enforce	Primary			
	Instant F	ailover			
					_

Table 1 - Connection Options

Connection Options	Description
Allow Auto-Login	Automatically logs in to the session if a user account is applied to the terminal, which is important for instant failover so that the backup session is immediately displayed without user intervention. This is the default setting. Clearing this checkbox displays the login window and forces a manual login, which is useful to provide a user with a login based on their group policy.
Application Link (AppLink)	Launches a single application instead of a Desktop icons or a Start menu, which allows you to control a user's access. Closing the AppLink program ends the current session and starts a new session with the application running, which allows the administrator to control content to the user in a simple manner without needing to use group policies.
SmartSession	Adds SmartSession to the display client, which provides load balancing between member Remote Desktop Servers.
Enforce Primary	Causes a thin client to reconnect to its original Remote Desktop Server if that Remote Desktop Server fails and recovers. Thin Manager uses a list of assigned Remote Desktop Servers to which the terminal can connect. The top RDS is considered primary. Not available when SmartSession is selected.
Instant Failover	Allows you to specify at least two Remote Desktop Servers. On startup, the terminal connects and initiates sessions on two Remote Desktop Servers, but displays one session only. If the first Remote Desktop Server fails, the session of the second Remote Desktop Server session is displayed immediately, which eliminates any downtime due to Remote Desktop Server failure. With this setting, the display client looks for two active sessions; so, if one Remote Desktop Server fails, the display client starts a session on a third Remote Desktop Server if there is one in the server list.

1. Check the desired connection options and click Next.

Allow Auto-Login

See the description of this connection option in <u>Table 1</u>.

Application Link (AppLink)

The following is information additional to the Deployment Option descriptions regarding Application Link in <u>Table 1 on page 127</u>.

Figure 158 - AppLink Page

*	Display Client Wizard
'	ppLink Enter the linked application path.
	AppLink Path Program Path and Filename Browse Command Line Options
	Start in the following folder Browse
E	< Back Next> Finistr Cancel Help

1. Complete the required fields on the AppLink page.

Field	Description			
Program Path and Filename	Enter the path to the desired application in the field, or click Browse to navigate to the executable file using a browser. $^{(1)}$ $^{(2)}$			
Command Line Options	This field provides a space for command line options and switches. This field may not be required.			
Start in the following folder	This field is provided in order to specify the working directory for the program when using a relative path for the initial program. Click Browse to navigate to the executable file using a browser. ⁽²⁾ This field may not be required.			

(1) Double-quotation marks may be needed when there is a space in the path.

(2) If a Remote Desktop Services Display Client contains several Remote Desktop Servers, the path must be valid on all Remote Desktop Servers. If different Remote Desktop Servers have different paths to the desired program, write a batch file to open the program.

Mozilla Thunderbird Target type: Application Target location: Mozilla Thunderbird Target: h Files (x86)\Mozilta Thunderbird\thun Start in: "C:\Program Files (x86)\Mozilla Thunderbird\thun Shortcut key: None Run: Nomal window Comment:	patibility
arget type: Application arget location: Mozilla Thunderbird arget: <u>r Files (x86)\Mozilla Thunderbird\thun</u> tart in: "C:\Program Files (x86)\Mozilla Thund hortcut key: None kun: <u>Normal window</u> comment:	
Target location: Mozilla Thunderbird Target: h Files (x86)\Mozilla Thunderbird\thun Start in: "C:\Program Files (x86)\Mozilla Thunce Shortcut key: None Run: Normal window Comment:	
Target location: Mozilla Thunderbird Target: h Files (x86)\Mozilla Thunderbird\thun Start in: "C:\Program Files (x86)\Mozilla Thunce Shortcut key: None Run: Normal window Comment:	
Target: h Files (x86)\Mozilla Thunderbird\thun Start in: "C:\Program Files (x86)\Mozilla Thunc Shortcut key: None Run: Normal window Comment:	
Start in: "C:\Program Files (x86)\Mozilla Thunc Shortcut key: None Run: Normal window Comment:	derbird e
Shortcut key: None Run: Normal window Comment:	
Run: Normal window Comment:	lerbird"
Run: Normal window Comment:	
Comment:	
Open File Location Change Icon., Adv	
	vanced
OK Cancel	

Figure 159 - Command Prompt Shortcut Properties

The AppLink fields can be explained by looking at the properties of a shortcut.

The Command Prompt shortcut property has a Target field and a Start in field. The Target field contains the path to the executable. The Start in field contains the home directory for the application.

Figure 160 - AppLink Path

8	Display Client Wizard	×
1	ppLink Enter the linked application path.	2
ſ	AppLink Path Program Path and Filename	
	"C:\Program Files (x86)\Mozilla Thunderbird\thunderbird.exe"	
	Browse	
	Command Line Options	
	Start in the following folder	
	"C:\Program Files (x86)\Mozilla Thunderbird"	
	Browse	
L		
		_
		-
-	< Back Next> Finish Cancel Help	

Figure 160 shows how the path data from the shortcut is used in AppLink.

The Target field from Figure 159 is equivalent to the Program Path and Filename field in <u>Figure 160</u>.

The Start in field in Figure 159 is equivalent to the Start in the following folder field in <u>Figure 160</u>.



Usually, the Start in the following folder is not needed.

Figure 161 - Website Deployment

*	Display Client Wizard
	AppLink Enter the linked application path.
1	AppLink Path Program Path and Filename
	C\Program Files\Internet Explorer\vexplore.exe
	Browse
	http://www.thinmanager.com
	Start in the following folder
	Browse
	< Back Next> Finish Cancel Help

a. To launch a browser, include the URL of the desired site in the Command Line Options field.



Windows Server 2008, 2012, and 2016 need the AppLink path to be on the allow list in the Server Manager>Collections>RemoteApp Programs of the Remote Desktop Server.

Alternatively, follow these steps to configure the group policy to allow any initial program.

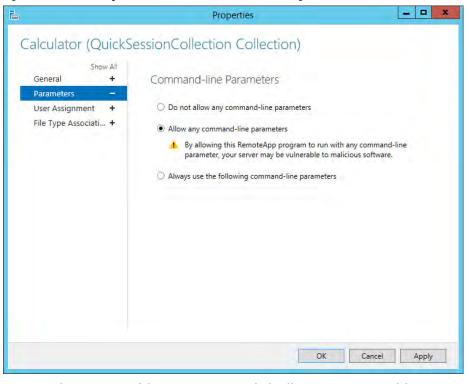
- a. Open the Group Policy. b. Navigate to Computer Configuration>Administrative Templates>Windows Components>Remote Desktop Services>Remote Desktop Session Host>Connections.
- c. Set the Restrict Remote Desktop Services user to a single Remote Desktop Services session parameter to Enabled.

Figure 162 - RemoteApp Programs Allow List

L.		Server Manager	_ _ X
Cor ··· Quick	SessionCollecti	on • 🕲 i 🏲	Manage Tools View Help
Overview Servers Collections QuickSessionCo ⊘	PROPERTIES Properties of th Collection Type Resources User Group REMOTEAPP PROP Last refreshed on 12/9	ne collection TASKS Session RemoteApp Programs RWWEB\Domain Users GRAMS /2017 8:49:51 PM Published RemoteAp TASKS	CONNECTIONS Last refreshed on 12/5/2017 8- Füter Server FQDN User Session
	Filter RemoteApp Program Calculator Paint WordPad		ublish RemoteApp Programs
	<	iii	>

- 2. Include the application in your allow list by using the Publish RemoteApp Programs task.
- 3. Once the application is published, right-click the application in your allow list to open the properties.

Figure 163 - Allow Any Command-line Parameters Setting



- 4. Under Command-line Parameters, click Allow any command-line parameters, which lets you pass specific files or URLs to the display client.
- 5. Click Apply and then OK.

SmartSession

The SmartSession Configuration page allows for the tweaking of SmartSession values by adjusting the weights of SmartSession settings. ThinManager multiplies the CPU utilization, Memory utilization, and number of sessions on the Remote Desktop Server by the Weight shown to define the SmartSession Remote Desktop Server's available resources. The higher the Weight, relative to the others, the greater the importance that parameter has in determining the load for SmartSession.

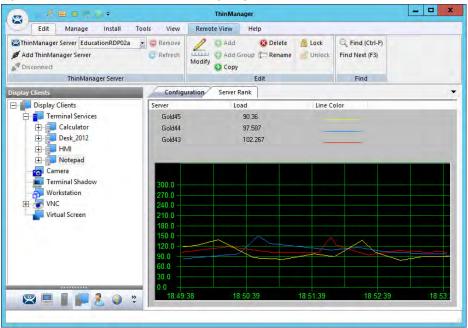


Figure 164 - SmartSession Load Balancing Graph

ThinManager uses the following formula to calculate SmartSession load balancing.

SmartSession Load = (CPUwt x CPU%) + (RAMwt x RAM%) + (SessionWt x Session%)

The load = (CPU weight x the CPU Use%) + (Memory weight x Memory Use%) + (Session weight x Session Number%)

The Weight is configurable in the Display Client Wizard. The % range is configurable in the Remote Desktop Server Wizard.

SmartSession Weights

If you are concerned with one of the SmartSession measurements processor, memory, or sessions—you can increase the weight of that component to make its measurement a bigger factor. Change weights on the SmartSession Settings page of the Display Client Wizard.

mart Session Settings Enter the Smart Session weights fo	or this Disp	olay Client	
Smart Session Weights			
CPU Utilization Weight		1.0	÷
Memory Utilization Weight	-	1.0	
Sessions Weight		1.0	<u></u>
Queuing			
Queue Time Min	0 Sec	Max	120 Sec

Figure 165 - SmartSession Settings Page of the Display Client Wizard

Field	Description
CPU Utilization Weight	The CPU mulitplier.
Memory Utilization Weight	The Memory multiplier.
Session Weight	The Session multiplier.
Queue Time Min (s)	Time a terminal waits in the queue before being sent to a Remote Desktop Server that has another terminal connecting. The terminal may wait longer than this value to connect if the CPU of the Remote Desktop Server exceeds the Maximum CPU Utilization defined on the SmartSession Configuration page of the Remote Desktop Server Configuration wizard.
Queue Time Max (s)	Maximum time a terminal waits in the queue before being sent to the Remote Desktop Server to log in regardless of the load.
Infinite	When checked, ThinManager waits until the CPU utilization of the Remote Desktop Server regains an acceptable range before sending other terminals to it to log in.

When you check SmartSession on the Remote Desktop Services and Workstation Options page, <u>Figure 157</u>, the SmartSession Settings page appears before the AppLink page. The SmartSession Settings page allows you to change the weight of each SmartSession load balancing component.

Increasing the weight of one of the components increases its value and makes it more sensitive to overload of that resource. For example, if you are concerned with the CPU being taxed on the servers, you can increase the CPU Utilization Weight to make that value increase the SmartSession Load.

SmartSession Ranges

Normally, ThinManager uses the full ranges of CPU and RAM to determine the SmartSession load. You can adjust those ranges in the Remote Desktop Server Wizard.

To open the Remote Desktop Server Wizard and adjust ranges, follow these steps.

1. Double-click the desired server on the Remote Desktop Servers branch of the Display Servers tree.

The Remote Desktop Server Wizard appears.

2. In the Remote Desktop Server Wizard, click Next until the SmartSession Configuration page appears.

Figure 166 - SmartSession Configuration Page

CPU Utilization	Minimum	0.0	%
	Maximum	100.0	%
Memory Utilization			
	Minimum	0.0	%
	Maximum	100.0	%
Sessions			
	Minimum	0	
	Maximum	50	
Values are not prevented and Maximum values repre			w the minimum. Minimum n" respectively.

Field	Description
CPU Utilization	The percentage of CPU usage on the Remote Desktop Server.
Memory Utilization	The percentage of Memory usage on the Remote Desktop Server.
Sessions	The number of sessions on a Remote Desktop Server.
Minimum	The value that ThinManager uses as the starting point of the load. A value below the Minimum is considered to be unused.
Maximum	The value that ThinManager considers the parameter as reaching 100% utilized and is unavailable.

Each resource that ThinManager measures for SmartSession load balancing has an adjustable range. The CPU Utilization and the Memory Utilization fields use a scale of 0...100%. The Sessions resource is based on 50 sessions, where 0 sessions is 0%, 25 sessions is 50%, and 50 sessions is 100% utilization.

If you are concerned about using all your resources on a server, you can lower the Maximum setting. For example, if you change the Sessions Maximum to 25, that means 25 sessions is 100% utilization, and ThinManager considers the server less available. Likewise, if you change the CPU Utilization Maximum to 75%, that tells ThinManager that the server is loaded at 75% CPU utilization, which leaves some spare CPU available. These numbers can be left at the default settings unless you notice a performance problem. Then the Weights or Ranges can be tweaked through trial and error to determine the best performance.



Values are not prevented from exceeding the maximum or minimum. The values represent the levels that 'No Utilization' or 'Full Utilization' is reached.

3. Set the Minimum and Maximum values accordingly, and click Finish.

Queuing

During failover, Queuing smooths the transition from one server to another.

At startup, a session usually requires more resources to initialize than it needs to run. If a server fails and all of its terminals switch to a back-up server, the many session startups may overload and strain the new server. This scenario is especially true with HMIs, SCADAs, and other applications that demand resources.

When a terminal first starts an application that uses SmartSession, ThinManager checks the resources of the member servers and sends the terminal to the server with the lightest load—the one with the most available resources.

Queuing acts like an intelligent bottleneck. When ThinManager detects all the servers have depleted their resources, it waits until the loads drop and resources become available before the server assignments are given to the terminals. Without Queuing, the terminals switch immediately, which places a demand on the system that greatly slows performance until all the sessions initialize and reach stable load levels.

CPU Utilization Weight 1.0 Memory Utilization Weight 1.0	
Memory Utilization Weight 1.0	
Sessions Weight 1.0	
Queuing	
Queue Time Min 0 Sec Max 120	Sec

Figure 167 - SmartSession Settings Page of the Display Client Wizard

Queuing is automatically applied to SmartSession Display Clients. The default settings provide a minimum wait time of 0 seconds and let terminals connect after 120 seconds even if the load does not decrease.

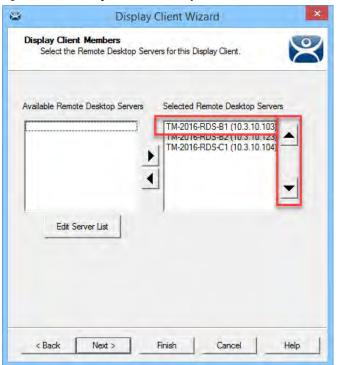
If the server is hampered by the default settings, try a longer interval. Check Infinite to keep the terminal waiting until the load decreases to an acceptable level. However, if the server has a problem, such as a memory leak, then the resources may never decrease enough to allow the terminals to connect. It is better to increase the Max field to a longer interval.

SmartSession load balancing and Queuing can be applied to a display client with a single member Remote Desktop Server. This configuration allows the single server to have the terminals connect in an orderly fashion, spreading the demand for start-up resources instead of all connecting at the same time and overloading the server.

Enforce Primary

ThinManager uses a list of Assigned Remote Desktop Servers to which the terminal can connect. The top Selected Remote Desktop Server is considered the primary Remote Desktop Server.

Figure 168 - Primary Remote Desktop Server



The thin client connects to the Remote Desktop Servers in the order of the Selected Remote Desktop Servers list. If the terminal fails to connect to the first one, it tries the second one, then the third one, until it finds a listed server that allows a connection.

With Enforce Primary, the top Remote Desktop Server in the list is considered the Primary Remote Desktop Server, and the terminal always tries to connect to this server. If the terminal is running on the primary server, and the server fails, then the terminal switches to a back-up server. However, the terminal monitors the primary Remote Desktop Server. If the primary Remote Desktop Server becomes available, then the terminal switches back to its assigned Primary Remote Desktop Server.

Failover

ThinManager has a failover feature, where you can assign two or more Remote Desktop Servers to a terminal. If the first server fails, the terminal detects it and switches to the back-up server, which prevents downtime and loss of productivity.



It is a best practice to use Failover in every ThinManager system.

Here are the requirements for Failover.

- Two or more servers
- The same applications installed in identical locations on each server
- The same Windows accounts on each server

Figure 169 - Display Clients Without Failover and With Failover

-	Display	Client Wizard	×	-	Display	Client Wizard	×
	Client Members t the Remote Desktop Serv	ers for this Display Client.	\otimes		li ent Members the Remote Desktop Ser	vers for this Display Client.	\otimes
TM-2016-	Remote Desktop Servers RDS-B2 (10.3.10.123) RDS-C1 (10.3.10.104)	Selected Remote Desktop Serv TM-2016-RDS-81 (10.3.10.10)		Available Re	emote Desktop Servers	Selected Remote Desktop Se TM-2016-RDS-B1 (10.3.10.1 TM-2016-RDS-C1 (10.3.10.1 TM-2016-RDS-B2 (10.3.10.1	03) 04)
	Edit Server List	,		Ed	lit Server List		
< Back	Next >	Finish Cancel	Help	< Back	Next >	Finish Cancel	Help

To configure Failover, follow these steps.

- 1. Define multiple Remote Desktop Servers using the Remote Desktop Server Wizard. For more information, see <u>Defining Remote Desktop</u> <u>Servers in ThinManager on page 54</u>.
- 2. Add two or more servers to the Selected Remote Desktop Servers list on the Display Client Members page of the Display Client Wizard.

Figure 170 - Terminal Connected to First Remote Desktop Server



The Terminal connects to the first Remote Desktop Server in the Selected Remote Desktop Server list.



Figure 171 - Terminal Connected to Second Remote Desktop Server

If the first Remote Desktop Server fails, the terminal detects it, disconnects, and tries the next server in the Selected Remote Desktop Servers list. It launches the same display client with the same credentials.

The speed in which server failure is detected can be modified on the Monitoring Configuration page of the Terminal Configuration Wizard.

To open the Terminal Configuration Wizard, follow these steps.

- 1. Click the Terminals icon at the bottom of the ThinManager navigation pane.
- 2. Right-click a terminal in the Terminals branch, and choose Modify.

The Terminal Configuration Wizard appears, opened at the first page.

3. Click Next until the Monitoring Configuration page appears.

*	Terminal Co	nfiguration Wiz	zard	×
	ng Configuration at the setting for how often the Remote nal.	Desktop Server statu	is monitored by this	\aleph
Connec	tion Monitor Settings			_
Connec	tion Monitor Settings Pre-set Monitor Intervals	Fast		
Connec		Fast	▼ Seconds	
Connec	Pre-set Monitor Intervals	Fast 5 4	Seconds Seconds	
Connec	Pre-set Monitor Intervals Monitor Interval	Fast 5 4 1 4 3 4		

30 Seconds

Primary Up Delay

Connection Timeout

< Back

Next>

Field	Description
Pre-set Monitor Intervals	·
Custom	Allows administrator to change settings from defaults.
Fast/Medium/Slow	A set rate for the frequency with which the Remote Desktop Server status is checked.
Monitor Interval (s)	Time the terminal waits before it attempts to reconnect.
Monitor Timeout	Time interval between reconnection attempts.
Monitor Retry	Number of times the terminal tries to reconnect before failover.
Primary Up Delay Multiplier	A constant used to generate the Primary Up Delay time.
Primary Up Delay	A delay—usually, 3060 seconds—added to allow a Remote Desktop Server to fully boot before the terminal tries to log in. Equal to the Monitoring Interval multiplied by the Primary Up Delay Multiplier. Prevents a terminal that uses Enforce Primary from a return to its primary Remote Desktop Server before it is ready.

Finish

Cancel

Help

When a ThinManager Ready thin client or ThinManager Compatible thin client connects to a Remote Desktop Server and starts a session, it forms a secure socket connection with a heartbeat. If the connection is lost, the terminal tries to reconnect. If it fails, it connects to the next Remote Desktop Server in the Selected Remote Desktop Servers list.

Using the Fast setting, a terminal waits five seconds, tries to reconnect; waits one second, tries to reconnect a second time; waits a second, tries to reconnect a third time; then switches to the other server. This takes 10...20 seconds in a real-world scenario.

There are other settings, which include a custom setting; but the slower settings are usually not needed with today's fast networks.

The terminal can switch to a backup in 10...20 seconds, but the applications need to load. If you do not want to wait for the application to load, you can use Instant Failover. See <u>Instant Failover on page 141</u> for more information.

Instant Failover

A Display Client configured with Instant Failover (see <u>Figure 157 on page 127</u>) sends the terminal to connect to two Remote Desktop Servers at startup, which gives it two active sessions.



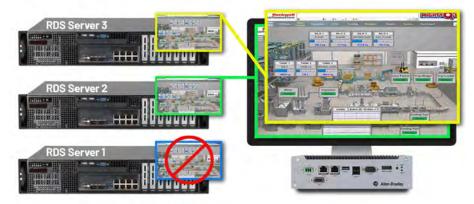
You may need a second license from your application vendor in order to use Instant Failover.

Figure 173 - Instant Failover with Two Active Sessions



If the first Remote Desktop Server fails, the session of the second Remote Desktop Server session is immediately displayed, which eliminates any downtime due to Remote Desktop Server failure.

Figure 174 - Terminal with Instant Failover and Backup Sessions



An Instant Failover display client has two active sessions; so, if one Remote Desktop Server fails, the display client starts a session on a third Remote Desktop Server if there is one in the Selected Remote Desktop Servers list.

These are the requirements for Instant Failover.

- Two or more servers
- The same applications installed in identical locations on each server
- The same Windows accounts on each server
- The Display Client needs Instant Failover checked on the Remote Desktop Services and Workstation Options page Display Client Wizard



Check Allow Auto-Login (see Figure 157 on page 127) so switching is automatic and does not require a user to log in to start the session.

Camera Display Clients

IP camera video feed can be displayed on ThinManager Ready thin clients and ThinManager Compatible thin clients.

- Configure the camera device according to the camera vender guidelines and add to your network.
- Define the camera as a Camera Display Server.
- Create a Camera Display Client and add camera output as overlays. See <u>Camera Display Clients on page 142</u>.
- Add the Camera Display Client to a Terminal. See <u>Terminal Configuration Wizard in ThinManager on page 209</u>.

Camera Display Client applications for the Terminal are defined using the Display Client Configuration Wizard.

To define a Camera Display Client application for the terminal, follow these steps.

1. Click the Display Clients icon at the bottom of the ThinManager navigation pane.

Figure 175 - Add Camera Display Client

Edit Manage Install Tools	s View	Remote View Help	
This Manager Come Descendent		Hemote Hemote Heip	
	🗢 Remove 🕑 Refresh	O Add O Delete ≦ Löck O Add Group ⊡ Rename ≦ Unlock Modify O Copy	C, Find (Ctrl-F) Find Next (F3)
ThinManager Server	ļ	Edit	Find
Display Clients	Summa	ry	•
🖃 🛄 Display Clients	Attribute	Value	
Remote Desktop Services	IP Cam	era Display Client Summary	
Camere Termin Add Display Client		Camera Clients 0	
Workst Add Display Client Gro	oup		
Virtual Screen	c		,

2. Right-click on the Camera branch and choose Add Display Client.

The Display Client Wizard appears, opened at the Client Name page, which sets the name and type of Display Client.

Client Name Enter the D	Visplay Client name.
Display Client	Name
Client Name	
□ Set a Disp	olav Name
Type of Displa	ay Client
Camera	+
Teamera	
Display Client	
1	Change Group
Create at least o	one camera overlay

Figure 176 - Camera Display Client Name Page of the Display Client Wizard

3. Complete the required fields.

Field/Setting	Description
Client Name	Use to name the Display Client.
Set a Display Name	Allows assignment of a different name to display in the ThinManager tree.
Type of Display Client	Choose Camera, which creates a Display Client that allows the use of IP cameras.
Change Group	Launches the Select Display Client dialog box, which allows you to add this Display Client to a Display Client Group.
Permissions	Launches the Permissions dialog box, which allows Relevance permissions to be set.

The wizard starts like the Remote Desktop Services Display Client Wizard but changes at the Overlay Layout page.

Figure 177 - Overlay Layout Page

Choose Camera Layout	2x1	
isplay Size 1024x768	Camera_2	Add Överlay Remove Överlay Reset Scale Snap

Complete the required settings. Camera feeds are laid out on the Overlay Layout page of the Display Client Wizard.

Setting	Description
Choose Camera Overlay	Choose a setting from the pull-down menu to set the layout of the displays from a single overlay to multiple overlays on the Display Client. Choices include formats from a single camera to 16 camera displays.
Display Size	Sets the display resolution size.
Add Overlay	Launches the Custom Overlay dialog box, which allows you to define the name, size, and location of the camera display.
Remove Overlay	Removes a highlighted overlay from the Display Client.
Permissions	Launches the Permissions dialog box, which allows Relevance permissions to be set.
Reset Scale	Adjusts all Overlays to fit within the screen.
Snap	Check to align the edges of the overlays, side by side.

You can either use a camera overlay template or lay out a custom overlay.

Camera Overlay Template

The wizard provides a number of layouts. Use the Choose Camera Layout pull-down menu to choose a camera grids.

Figure 178 - 2x1 and 3x3 Grid Templates

8	Display Client Wiza	rd 💌	😂 Display Client Wiza	ard 🔀
Overlay Layout Select the size	t ze and location of the IP camera ove	rlays 🔀	Overlay Layout Select the size and location of the IP camera over	erlays
Choose Camera L	ayout 2x1	And Diverlay Remove Diverlay	Choose Camera Layout	Add Dveilay Remove Dveilay
Display Size Create at least on	1024x768 💌		Display Size 1024x768 Create at least one camera overlay	
< Back	Next > Finish	Cancel Help	< Back Next > Finish	Cancel Help

Once a template is selected, click Next.

The Overlay Cameras page appears, where the wizard lets you add a camera per grid.

Figure 179 - Overlay Cameras Page

8	Displ	ay Client Wiza	rd	
Overlay Came Select the	eras cameras available	in the overlay		۴
Overlay Name	Overlay_1			
Position / Size				
Left	Тор	Width	Height	
0	0	512	768	
			Add Delete	
			Set Initial Camera	
			Overlay Options	
< Back	Next >	Finish	Cancel He	ln.

Complete the required fields on the Overlay Camera page for each overlay.

Setting	Description	
Overlay Name	Automatically generated, but can be changed as needed.	
Position/Size		
Left	Sets the left edge location of the overlay (in pixels).	
Тор	Sets the top edge location of the overlay (in pixels).	
Width	Sets the overlay width (in pixels).	
Height	Sets the overlay height (in pixels).	

Setting	Description
Cameras to Show	
All Cameras Available	Makes all cameras available. Clear the checkbox to add specific cameras via Add.
Add	Use to add a camera to the overlay.
Delete	Deletes a camera from the overlay.
Set Initial Camera	Sets the initial camera from a series of cameras.
Overlay Options	Launches the Overlay Options dialog box.

The gray-shaded area represents the overlay to which you are assigning cameras. By default, All Cameras Available is checked, which makes all cameras available in that overlay.

Click Set Initial Camera, which opens a dialog box with a list of cameras from which you select to be displayed first.

Figure 180 - Select Initial Camera Window

Select Initial Camera	×
Cameras USB_102	OK Cancel

Choose the camera to be displayed first, and click OK.

Figure 181 - Overlay Cameras Page

)verlay Name	Overlay_1		
Position / Size - Left 0 Cameras to sho	Top 0	- Width 512	Height 768
All Cameras	s Available	_	Add Delete
			Set Initial Camera
			Overlay Options

To limit the overlay to a smaller set of cameras, clear the All Cameras Available checkbox and click Add.

The Select Camera or Group dialog box appears.

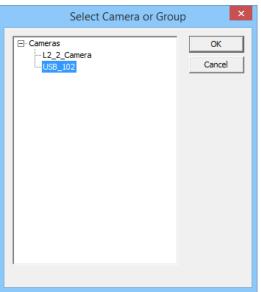


Figure 182 - Select Camera or Group

Choose a camera and click OK.

Repeat until all the desired cameras are chosen.

Figure 183 - Selected List of Cameras

verlay Name	Overlay_1		
Position / Size - Left	Top 0	- Width 512	Height 768
Cameras to sho All Cameras USB_102 L2_2_Camera	Available		Add Delete Set Initial Camera
			Overlay Options

If multiple cameras are chosen, the top-listed camera appears first.

Overlay Options

Once the cameras for the overlay are added, click Overlay Options.

The Overlay Options dialog box appears.

Figure 184 - Overlay Options

C	overlay Options	
General Options		OK
Enable Overlay		
✓ Interactive		Cancel
☐ Scale	-	
Crop		
Show Complete	Camera Name	
Border Size	1edium 💌	
Title Options		
Title Position	Тор 💌	
Title Size	Normal	
Cycling Options		
Enable Cycling		
Cycle Time (secs)	0	

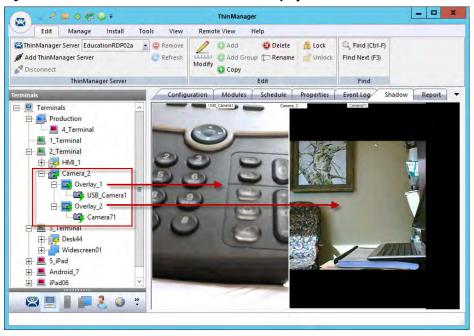
Choose the Overlay Options for the camera display, and click OK.

Option	Description
General Options	
Enable Overlay	Makes the overlay visible at startup. Clear this setting to start the display client with the camera in a disabled, nonvisible state. The TermMon ActiveX Control can be used by an application to enable the overlay.
Interactive	Allows user on the terminal to interact with the overlay. If the user clicks in the overlay area, they can perform functions such as switching cameras and making the overlay full screen.
Scale	Scales camera frames to the size of the overlay window. Aspect ratio is maintained.
Сгор	Crops the camera frame if it is larger than the camera overlay. When combined with the Scale option, the overlay area is entirely filled.
Show Complete Camera Name	Allows the entire path of the camera to be displayed. The path includes any groups of which the camera is a member.
Border Size	Determines the size of the overlay outside border.
Title Options	
Title Position	Position of the camera name within the overlay.
Title Size	Size of the camera name when displayed within the overlay. Choose Don't Show Title to display no camera name.
Cycling Options ⁽¹⁾	
Enable Cycling	Cycles between the cameras assigned to the overlay.
Cycle Time	Time (in seconds) that the overlay displays each camera before switching to the next camera.

 Cycling Options are not available when All Cameras Available is checked on the Overlay Cameras page of the Display Client Wizard. Individual cameras must be listed in the pane in the Cameras to show section of the Overlay Cameras page.

On the Overlay Cameras page, click Finish.

Figure 185 - Shadow of a Terminal with a Camera Display Client



Once a Terminal has a Camera Display Client added and is rebooted, the camera images become visible.

When the Camera Display Client is selected, the Terminal makes a connection to the camera and requests the feed using the administrative account entered when the camera was defined as a display server. This connection is active only if the camera display client is active. If you switch to another display client, then the Terminal drops the connection to the camera.

The overlays and cameras are shown with green lightning bolts when active and red lightning bolts when inactive.

Custom Overlays

You can create custom overlays instead of using the templates.

To create a new Camera Display Client, right-click on the Camera branch of the Display Client tree and choose Add Display Client.

Figure 186 - Add Overlay

ð	Di	splay Client Wiz	zard	×
Overlay La Select t		ion of the camera ove	days	×
Choose Can	nera Layout	Custom	Add Overla Remove Ove	
Display Size	1024x768	· ·		
	1024x768	-		

Click Add Overlay.

The Custom Overlay dialog box appears.

Figure 187 - Custom Overlay

	Custom	Overlay	×
Overlay Name	Phone		ОК
			Cancel
Position / Size	Top 25	Width 480	Height 360

The Custom Overlay window defines the boundaries of the overlay.

Enter the position of the overlay, in pixels, using the Left and Top fields.

Define the size of the overlay, in pixels, in the Width and Height fields.

Click OK when done.

8	Dis	play Client	Wizard		×
Overlay Layo Select the	out size and locatio	n of the camer	a overlays		\aleph
Choose Camer	a Layout	Custom	_		
1				Add Ove	anday
				Remove O	verlay
1					
Display Size	1024x768	+	I		
100 M 10 M 100 M	4	-			
Create at least	one camera ove	erlay			
< Back	Next >	Finish	Can	icel	Help

Figure 188 - Overlay Layout Page of the Camera Display Client Wizard

Once the Custom Overlay window is closed, the Overlay Layout page shows the boundaries of the custom overlay.

Click Add Overlay to add more overlays.

Figure 189 - Second Overlay

Custom Overlay						
Overlay Name	Wall		ОК			
			Cancel			
Position / Size	Тор 200	Width 320	Height 240			

Additional overlays can be added with the Add Overlay button.

Figure 190 - Overlay Cameras Page

	Dispi	lay Client Wi	zaru	
Overlay Layout Select the size	and location	of the camera ove	days	\mathfrak{L}
Choose Camera La	yout	Custom		•
			Ad	d Overlay
	ſ		Rem	ove Overlay
Display Size	1024x768			
Display Size Create at least one		• ay		

The Display Client Wizard continues to add a camera or cameras to the overlays as it did for the configured templates.

Figure 191 - Multiple Custom Camera Overlays

	as ameras available i	in the overlay	>
Overlay Name	Phone	- 4	
Position / Size	Top 25	Width 480	Height 360
Cameras to sho	20 July 10 Jul		
USB_102			Add
			Delete
			Set Initial Camera
			Overlay Options

The wizard allows you to add cameras to each overlay in turn. The Overlay Cameras page also allows you to edit the Left and Top positions and the Height and Width.

Click Finish when done.

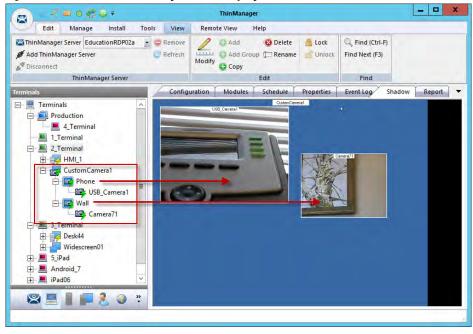


Figure 192 - Two Custom Overlays in One Display Client

Once the Camera Display Client is assigned to a Terminal and the Terminal is restarted, the display client with the custom overlays is shown on the Terminal.

Adding a Camera to an Existing Application

Camera overlays are added to an application using the Remote Desktop Services Display Client Wizard. An overlay covers the screen of that display client in the area you define. You can hide and reveal the overlay with the TermMon ActiveX from ThinManager. See <u>Cameras and the TermMon</u> <u>ActiveX on page 157</u>.

To add a camera to an existing application, follow these steps.

1. Double-click on a Remote Desktop Services Display Client to open the Remote Desktop Services Display Client Wizard and click Next to navigate to the Display Client Options page.

Figure 193 - Display Client Options Page

3	Display Client Wizard	×
Display Clier Select the	nt Options options that apply to this Display Client	\approx
Client Option	8	
Allow D	isplay Client to be tiled	
Allow D	isplay Client to be moved	
Include	Camera Overlays	
I Include	Virtual Screen Overlays	
-Connection (Options	
Always	maintain a connection	
	t at boot-up	
T Disconr	ect in the background	
< Back	Next> Finish Can	cel Help
- Duon	Those Printer Corr	пор

- 2. Check Include Camera Overlays, which adds an Overlay Layout page to the end of the wizard.
- 3. Click Next to navigate to the Overlay Layout page of the wizard.
- 4. Click Add Overlay.

The Custom Overlay dialog box appears.

Figure 194 - Overlay Layout Page of the Display Client Wizard

	Display Client Wizard	
Overlay Layout Select the size a	nd location of the camera overlays	R
Choose Camera Layo	out Custom	*
		Add Overlay
		Remove Overlay
	Custom Overlay	×
Overlay Name	Phone	ок
		Cancel
Position / Size	Top Width	Height
600	300 320	240
	- 1	and the second
< Back	lext> Finish C	Cancel Help

- 5. Enter the position of the overlay, in pixels, using the Left and Top fields.
- 6. Define the size of the overlay, in pixels, in the Width and Height fields

7. Click OK.

The Overlay Layout page shows the boundaries of the custom overlay.

Figure 195 - Overlay Layout F	Page
-------------------------------	------

8	Dis	splay Client Wizar	d ×
Overlay Lay Select the		on of the camera overlay:	s 😤
Choose Camer	a Layout	Custom	×
			Add Overlay
			Remove Overlay
	-	_	
Display Size	1024x768	<u>.</u>	
_			
< Back	Next >	Finish	Cancel Help

8. Click Next to continue the wizard.

The Overlay Cameras page appears.

Figure 196 - Overlay Cameras Page

8	Displa	ay Client Wizar	rd 📉
Overlay Car Select the	neras e cameras available i	n the overlay	\approx
Overlay Name	Phone		
Position / Si Left 600	ze Top 300	Width 320	Height 240
Cameras to	show eras Available		Add
			Delete
			Set Initial Camera
			Overlay Options
< Back	Next>	Finish	Cancel Help

9. Specify the cameras—check All Cameras Available or click Add to launch the Select Camera or Group dialog box to select a camera for the overlay.

Figure 197 - Select Camera or Group

a. Highlight the desired camera and click OK. b. Repeat as needed.

Figure 198 - Overlay Cameras Page

8	Displa	ay Client Wizar	d 🗾
Overlay Camera Select the ca	as meras available i	n the overlay	\approx
Overlay Name	Phone	-	
Position / Size - Left 600	Top 300	Width 320	Height 240
Cameras to sho All Cameras USB_102			Add
030_102			Delete
			Set Initial Camera
			Overlay Options
	The second se		e a 1
< Back	Next>	Finish	Cancel Help

10.When the cameras are chosen and the options configured, click Finish to close the wizard.

The camera is displayed in the display client when it is added to a Terminal configuration and the Terminal is restarted.

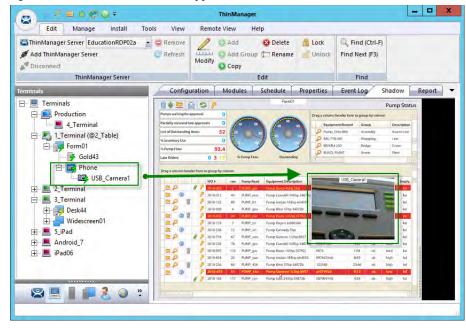


Figure 199 - Embedded Camera in Application



Camera overlays added to an application cover the screen of that display client in the area you defined via the Overlay Cameras page. You can hide and reveal the overlay with the TermMon ActiveX from ThinManager.

The TermMon ActiveX Control file (termmon.ocx) is on the ThinManager CD. It is also available in the Download section at <u>http://downloads.thinmanager.com/</u>.

The Control must be registered before it can be used. Copy the termmon.ocx file to the computer where you want to use it. Register the file by executing

```
regsvr32 <path\termmon.ocx>
```

Once registered, it can be added to the application and used to control the camera overlays.

Available Commands for Use with Cameras

Commands	Description
CameraOverlayEnable	Used to enable a camera overlay. This method requires two parameters: the first parameter is the name of the Display Client the overlay is on, and the second parameter is the name of the overlay.
CameraOverlayDisable	Used to disable a camera overlay. This method requires two parameters: the first parameter is the name of the Display Client the overlay is on, and the second parameter is the name of the overlay.
CameraOverlayCycleStart	Used to start camera cycling for a camera overlay. This method requires two parameters: the first parameter is the name of the Display Client the overlay is on, and the second parameter is the name of the overlay.
CameraOverlayCycleStop	Used to stop camera cycling for a camera overlay. This method requires two parameters: the first parameter is the name of the Display Client the overlay is on, and the second parameter is the name of the overlay.
Camera0verlaySwitchNext	Used to switch to the next camera in a camera overlay list. This method requires two parameters: the first parameter is the name of the Display Client the overlay is on, and the second parameter is the name of the overlay.

_	 				

Commands	Description
CameraOverlaySwitchPrev	Used to switch to the previous camera in a camera overlay list. This method requires two parameters: the first parameter is the name of the Display Client the overlay is on, and the second parameter is the name of the overlay.
CameraOverlayFullscreenEnter	Used to make the current camera in a camera overlay enter full screen. This method requires two parameters: the first parameter is the name of the Display Client the overlay is on, and the second parameter is the name of the overlay.
CameraOverlayFullscreenExit	Used to make the current camera in a camera overlay exit full screen. This method requires two parameters: the first parameter is the name of the Display Client the overlay is on, and the second parameter is the name of the overlay.
CameraOverlaySwitchByName	Used to change cameras in a camera overlay. This method requires three parameters: the first parameter is the name of the Display Client the overlay is on; the second parameter is the name of the overlay; and the third parameter is the name of the camera. The camera name must include the full path if the camera is in a camera group.
CameraOverlayMove	used to change the position of a camera overlay. This method requires four parameters; the first parameter is the name of the Display Client the overlay is on; the second parameter is the name of the overlay; the third parameter is the x location; and the fourth parameter is the y position.
CameraOverlayResize	Used to change the size of a camera overlay. This method requires four parameters: the first parameter is the name of the Display Client the overlay is on; the second parameter is the name of the overlay; the third parameter is the width; and the fourth parameter is the height.
CameraOverlayResizeMove	Used to change the size and position of a camera overlay. This method requires six parameters: the first parameter is the name of the Display Client the overlay is on; the second parameter is the name of the overlay; the third parameter is the x position; the fourth parameter is the y position; the fifth parameter is the width; and the sixth parameter is the height.

Available Commands for Use with Cameras

Terminal Shadow

The Terminal Shadow display client allows one ThinManager thin client to shadow another. You can shadow one, specific thin client or have a menu of Terminals to shadow at will.

Terminal Shadow is valuable because it allows a user to shadow another Terminal without needing to launch ThinManager to use the ThinManager shadow function.

The ThinManager Terminal Shadow sends the screen display from the shadowed Terminal to the other Terminal. It does not redirect the display from the Remote Desktop Server, but sends the images from the actual shadowed Terminal.

The Terminal Shadow feature is set up and configured as a Terminal Shadow Display Client.

Shadow Any Terminal

The Terminal Shadow display client can be created with a list of Terminals that can be shadowed. This is a great troubleshooting tool because a station can be given a chance to view other Terminals to monitor problems or to analyze problems without having to travel to the specific problem area.

Edit Manage	Install Tools	View	Remote View	Help			
ThinManager Server Docur Add ThinManager Server Disconnect			Add G Modify Copy	😢 Delete roup 🚛 Rename	Unlock	C Find (Ctrl-F) Find Next (F3)	
ThinManag	ger Server			Edit		Find	
Display Clients		Summar	v				
Display Clients		Attribute		0	/alue		
🕀 🗾 Remote Desktop S	Services	Termina	l to Terminal Sh	adow Display			
E Camera		Total Terr	minal to Terminal Sh	adow Clients	0		
Workstation	Add Display Clie	nt					
		a she are					
- VNC	Add Display Clie	nt Group					
	Add Display Clie	nt Group					

1. To launch the Display Client Wizard, right-click on the Terminal Shadow branch of the Display Clients tree and select Add Display Client.

The Client Name page appears.

Figure 200 - Display Client Tree of ThinManager

Figure 201 - Client Name Page of the Terminal Shadow Display Client Wizard

Enter the Display	Client name.		2
Display Client Name			-
Client Name	Shadow_Any		
Set a Display Na	ime		
Display Name	Shadow		
Type of Display Clier	nt		
Terminal Shado		-	
Trommar Shade			
Display Client Group	1		
]		Change Grou	P

- 2. Enter a name for the Terminal Shadow display client.
- 3. (Optional) Click Set a Display Name to configure the display client to display an alternative name in the ThinManager Server tree.
- 4. Click Next.

The Display Client Options page appears.

Display Client Select the o	options that apply to this Display	y Client	\geq
Client Options			
Allow Dis	play Client to be tiled		
Allow Dis	play Client to be moved		
Include (Camera Overlays		
Include \	/irtual Screen Overlays		
Connection O	ptions		
Always m	aintain a connection		
Connect			
T Disconne	ect in the background		

Figure 202 - Display Client Options Page

5. Check the following options as needed.

Setting	Description
Client Options	
Allow Display Client to be tiled	Allows the display client to be tiled.
Allow Display Client to be moved	Allows a Display Client to be moved from screen to screen. A movable display client can be anchored with a setting on the Screen Options page of the Terminal Configuration Wizard.
Include Camera Overlays	Allows an IP camera overlays to be added to this display client.
Include Virtual Screen Overlays	Allows a virtual screen overlay to be added like a camera overlay.
Connection Options	
Always maintain a connection	Keeps a session active, reconnecting and restarting if it is closed. Clear the checkbox to allow the user to close a session without an automatic start of another session.
Connect at boot-up	Starts a session for the Display Client at boot up. Clear the checkbox so a user action is required to start the session.
Disconnect in the background	In a MultiSession configuration, disconnects once it is moved into the background. Use to require fewer resources.

6. Click Next.

The Terminal Shadow Display Client appears.

Terminal Shadow Display Client Select the terminal to shadow. Image: Terminal to Shadow Image: Terminal to Shado		Displa	ay Client Wiz	zard	
Image: All Terminals Available Add Image: Add Image: Add Image: Delete Image: Add Image: Add Image: Add Image: Add<					1
Add Delete Shadow Display Client Options	Terminal to Sha	adow			_
Delete Delete Shadow Display Client Options		als Available			
Shadow Display Client Options				Ådd	
Shadow Display Client Options				Delete	1
Screen to Shadow All Screens 💌					
	✓ Interactiv	e Shadow	All Screens	<u>.</u>	

Figure 203 - Terminal Shadow Display Client Page

The Terminal Shadow Display Client page of the Terminal Shadow Display Client wizard is unique.

- 7. (Optional) Check All Terminals Available to add all of the Terminals to the Shadow menu.
- 8. (Optional) Clear the All Terminals Available checkbox and click Add to launch the Select Terminal or Group dialog box to select specific Terminals. See <u>Shadow a Specific Terminal</u>.

Shadow a Specific Terminal

You can use the Terminal Shadow Display Client to shadow a specific Terminal, duplicating the display to another thin client. This can be helpful to provide a worker access to the HMI in various places in a large station, like a commercial oven at a baking line.

To shadow a specific terminal, follow these steps.

1. Right-click on the Terminal Shadow branch of the Display Clients tree and choose Add Display Client.

The Client Name page appears.

Figure 204 - Client Name Page

Client Name Enter the Dis	play Client name.
lient Name	Shadow_L2_02
Type of Display	
Display Client G	roup Change Group
	Permissions

- 2. Enter a name for the display client in the Client Name field.
- 3. Click Next.

The Display Client Options page appears.

Figure 205 - Display Client Options Page

	nt Options
	Allow Display Client to be tiled
~	Allow Display Client to be moved
F	Include Camera Overlays
Г	Include Virtual Screen Overlays
Con	nection Options
V	Always maintain a connection
	Connect at boot-up
Г	Disconnect in the background
-	

The Terminal Shadow Display Client page appears.

	Display Client Wi hadow Display Client he terminal to shadow.	Luid
Terminal to		Add
	isplay Client Options active Shadow o Shadow All Screen	

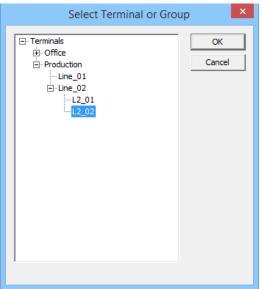
Figure 206 - Terminal Shadow Display Client Page

The Terminal Shadow Display Client page of the Terminal Shadow Display Client wizard is unique.

4. Clear the All Terminals Available checkbox and click Add.

The Select Terminal or Group dialog box appears.

Figure 207 -	Select 1	Ferminal	or Group	Window
--------------	----------	----------	----------	--------



5. Highlight a single group or a Terminal to add to the Shadow menu and click OK. For a Terminal, repeat as needed to select all the Terminals you want.

The selected Group or Terminals are displayed in the Terminal to Shadow frame.

Figure 208 - Terminal Shadow Display Client Page

Terminal to Shao	dow			_
All Terminals				
Production\Lin	ne_02\L2_02		Add	
			Delete	
			Delete	1
	Client Ontions			
Shadow Display	and the second second	All Screens	_	

- 6. Check Interactive Shadow to allow the shadowing user to interact with the shadowed Terminal. Clear the Interactive Shadow checkbox to allow the shadow user read-only access.
- 7. Choose which screen of a MultiMonitor thin client to shadow from the Screen to Shadow pull-down menu.
- 8. Click Finish.

Shadow of the Terminal

The Terminal Shadow display clients are added to the Terminal like other display clients.

Display Clier Select the	nt Selection Display Clients to use o	on this terminal			×
	Clients Desktop_103 Desktop_104 Excel amera eminal Shadow Shadow_2yy Shadow_L2_D2 /orkstation	Sr	elected Display Clin	-	•
v	NC irtual Screen Display Clients	v Next>	Finish	Ovenide	Help

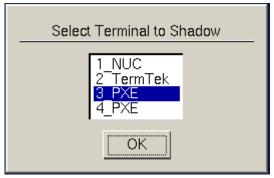
Figure 209 - Display Client Selection Page of the Terminal Configuration Wizard

The Terminal Shadow display clients have an icon of a Terminal and a monitor session.

- 1. Move the desired Terminal Shadow display clients to the Selected Display Clients list. Double-click on them or use the arrows to move a highlighted display client.
- 2. Click Finish to save the configuration and restart the Terminal to send the configuration to the Terminal.

The Select Terminal to Shadow dialog box appears when there are Terminal Shadow Display Clients with multiple Terminals.

Figure 210 - Shadow Menu



3. Highlight the Terminal you want to shadow and click OK.

You are connected to the Terminal and display the screen from the shadowed thin client.

Display Client Group Selector During Shadow

The Terminal Shadow display client is displayed in the Group Selector Menu of the Terminal to which it is assigned. The group selector shows the local display clients assigned to the Terminal.

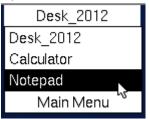
When the local Group Selector menu is shown, the Group Selector of the remote Terminal is hidden.

Figure 211 - Local Terminal Menu Selector

Shadow_Any
Desk_2012
Shadow_Any
Hide
EndShadow
Main Menu

To use the remote Terminal's Group Selector, choose Hide on the Local Group Selector, which hides the local selector and shows the Remote Group Selector.

Figure 212 - Remote Terminal Menu Selector



Once the Remote Group Selector menu is used, the local Terminal reverts to the Local Group Selector.



	ThinManager	x
Edit Manage Install Edit Manage Install Interactive Send Keys Scaled to Window Zoom In Go Full Screen Zoom Out	1 Tools View Remote View Help	
	Connect	
Terminals Terminals	Configuration Modules Schedule Properties Event Log Sh Shadow_Any Desk_2012 Shadow_Any Hide End Shadow Main Menu	adow Report •
⊞ ≝ 4,9xt	Desk_2012 Desk_2012 Calculator Notepad Main Menu	elector
8 <u>9</u> 1 2 0) ;; [(]	× >

<u>Figure 213</u> shows the Group Selector menus for both the Local and the Remote Group Selectors.

Workstation Deployment

Microsoft built RDP into their workstation operating systems so that a permitted user can make a connection to a workstation and transfer the desktop session to another computer. RDP allows ThinManager to capture a session on a Windows XP Pro, Vista Pro, Windows 7, or Windows 10 computer and transfer it to a thin client. This ability is very helpful as it allows applications that are not RDS-compliant to be run on a workstation, but the user can receive the session on a hardened industrial thin client instead of a PC.

Transferring a workstation session to a thin client requires the following.

- Turning on the Remote transfer on the PC
- Creating a Workstation Display Client
- Applying the Workstation Display Client to a Terminal

The workstation ca be a physical computer or a virtual desktop.

Step 1 – On the PC

To enable the Remote Desktop function on the workstation, follow these instructions. This example uses Windows XP. Consult Microsoft instructions for more detail.

- 1. Go to the workstation Control Panel and open the System Properties, or right-click My Computer and choose Properties.
- 2. Click the Remote tab.

Figure 214 - System Properties for XP Workstation

General	Computer	Name	Hardware	Advanced
System Res	tore	Automa	tic Updates	Remote
Select the location.		nis compute	r can be used from	another
Remote Assist	ance			
Allow Rem	ote Assistance	invitations	to be sent from this	computer
What is Re	emote Assistar	ice?		
			A	dvanced
lemote Deskt	and the second second			
	to connect re	motely to the	iis computer	
Full compu	iter name:			
xp_56				
What is Re	emote Desktop	<u>0</u> 2		
			Select Remo	ote Users
For users to have a pass		tely to this c	computer, the user a	ccount must
	ewall will be o to this compu		allow Remote Desi	ktop

- 3. In the Remote Desktop section, check Allow users to connect remotely to this computer.
- 4. Click Select Remote Users.

The Remote Desktop Users dialog box appears, which shows the users authorized to connect to the computer to transfer the session.

Figure 215 - Remote Desktop Users Window

and a state of the set of	rs group can connect even if they are not listed.
admin1	admin5 September 2015
admin2	ThinMan
admin4	
burns already h	
Add	Remove
o create new i	user accounts or add users to other groups, go to Control User Accounts.

5. Click Add.

The Select Users dialog box appears, from which you can authorize users.

Figure 216 - Select Users Window

Select Users		? 🛛
Select this object type:		
Users	Object	Types
From this location:		
XP28	Locat	ions
Enter the object names to select (examples):		
XP28\Operator	Check	Names
Advanced	ОК С	ancel

- 6. Enter the desired users to the text box.
- 7. Click Check Names to validate the users you entered.
- 8. Click OK to add the users.
- 9. Close all the windows to finish the tasks.

Step 2 - Workstation Display Client

Create a Workstation Display Client to act as a template for workstation deployment. The Workstation Display Client gets assigned to a specific workstation when it is applied to a terminal.

1. Open ThinManager to the Display Clients tree.

Figure 217 - Access the Workstation Display Client Wizard

<u>8</u> *	ThinManager	- • ×
Edit Manage Install Tools View	Remote View Help	
CarbinManager Server TM11AIO CRemove	<u>O</u> Add <u>O</u> Delete <u>O</u> Add Group <u>Find Group <u>Find Next (F3)</u> Modify <u>O</u> Copy </u>	
ThinManager Server	Edit Find	
Display Clients	Summary	•
E Display Clients	Attribute Value	
E Remote Desktop Services	Workstation Display Client Summary Total Workstation Display Clients 0	
B Terminal Shadow G _ Works taxan Works taxan Works taxan → Works taxan Add Display Client B Virtual Add Display Client Group		
Display Servers		
Display Clients		
Terminals		
2 Users		
Locations		
🙁 🙆 🙁		

2. Right-click on the Workstation branch of the Display Clients tree of ThinManager and choose Add Display Client.

The Client Name page of the Workstation Display Client Wizard appears.

Figure 218 - Client Name Page

	Display Client Wizard
Clie	ent Name Enter the Display Client name.
-D	isplay Client Name
C	lient Name Legacy_HMI
F	F Set a Display Name
	Display Name HMI
- 1	ype of Display Client
D	isplay Client Group
	Change Group
	< Back Next > Finish Cancel Help

The Client Name Page of the Workstation Display Client wizard is similar to other Display Client Option pages.

- 3. Enter a unique name and select the Next button.
- 4. (Optional) Check Set a Display Name to show an alternative name in the ThinManager Server tree.
- 5. Click Next.

The Display Client Options page of the Workstation Display Client Wizard appears, which is similar to other Display Client Options pages except for the Start Virtual Machine if necessary checkbox. Figure 219 - Display Client Options Page

3	Display Client Wizard
Dis	play Client Options Select the options that apply to this Display Client
Cli	ent Options
F	Allow Display Client to be tiled
F	Allow Display Client to be moved
Г	Include Camera Overlays
Ţ	Include Virtual Screen Overlays
٢	Delay until Relevance User present
Co	nnection Options
F	Always maintain a connection
F	Connect at boot-up
J.	Disconnect in the background
-Vir	tual Workstation Options
F	Start Virtual Machine if necessary
-	
-	
<	Back Next > Finish Cancel Help

- 6. (Recommended) Check Start Virtual Machine if necessary.
- 7. Click Next.

The Remote Desktop Services and Workstations Options page of the Workstation Display Client appears, which is similar to other display clients wizards with one exception—Application Link.

Figure 220 - Remote Desktop Services and Workstation Options Page

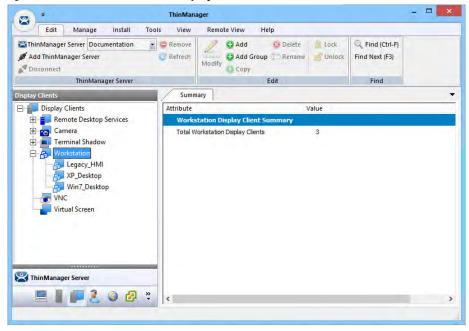
Ren	Display Client Wizard
	Select the options for this Display Client
-Co	nnection Options
	I Allow Auto-Login
ſ	C Application Link
1	☐ SmaitSession
	Enforce Primary
	☐ Instant Failover
<	Back Next > Finish Cancel Help

8. Leave the Application Link checkbox cleared in order to deploy the workstation as a desktop.

9. Click Finish to close the wizard.

The completed display clients are displayed in the Workstation branch of the Display Clients tree.

Figure 221 - Workstations in the Display Client Tree



Add the Workstation Display Client to the Terminal

- 1. Double-click on the Terminal in the Terminal branch of the ThinManager tree to open the Terminal Configuration Wizard.
- 2. Click Next until the Display Client Selection page appears.

Figure 222 - Display Client Selection Page

8	Termin	al Conf	iguration Wizard	()	×
	ay Client Selection elect the Display Clients to use on th	nis termina	d -		\otimes
Available	e Display Clients	_	Selected Display Clie		_
□	Camera		Alarms		•
	Edit Display Clients	*		Dvemide	
	< Back	Next >	Finish	Cancel	Help

- 3. Highlight the workstation to be added and click the right-facing arrow to add it to the Selected Display Clients list.
 - a. If the workstation uses a different Windows account than the Terminal, highlight the workstation in the Selected Display Clients list, and then click Override to change the Windows account that is used for logging in.

The Override Settings dialog box appears.

Figure 223 - Override Settings

Override Settings for 'Legacy_HMI' Display Client		2
Display Name	Override	~
Windows Login Settings	Override	~
Username	Searc	h
Password		
Verify Password		
	Override	Γ
Domain		
AppLink Command Line Command Line Options	Override	
-Video Settings	Override	~
Resolution Color Depth 240x320	•	
	OK Car	ncel

- b. Check Override in the Windows Login Settings section and enter the workstation's correct user account credentials to the Username and Password fields. Enter the credentials manually or click Search.
 - The Search for AD User dialog box appears. Search pulls a user account from the Active Directory as shown on page 57.
- c. Check Override in the Video Settings section to choose Resolution and Color Depth from the pull-down menus.
- d.Click OK to return to the Display Client Selection page.

Display Clients with an override display a yellow plus sign on their icon.

Figure 224 - Override Indicator

8	Termi	nal Conf	iguration Wizard	t)	×
Display Client Se Select the Disp	election lay Clients to use on	this termina	I.		times
Available Display Clier	its		Selected Display Cli	ents	
Camera Termin Works Works	e Desktop Services a al Shadow tation egacy_HMI /in7_Desktop P_Desktop Screen	•	Alams		•
Edit Displa	ay Clients	Next >	Finsh	Cancel	Help

4. Click Next.

The Workstation Display Client shows a new page—the Complete the Workstation Display Client Configuration Page appears, where you add the workstation you want to transfer to the Terminal. There are two options, using a physical workstation or a VCenter virtual workstation.

Figure 225 - Complete the Workstation Display Client Configuration Page

8		Terminal Config	uration wizard	1	
		ation Display Client Con orkstations to add to this dis			×
Select workstat Selected Works		isplay Client 'Win7_Desktop'			
				<u> </u>	
Add Workst	ation	Add Virtual Workstation	ſ	Remove	
				Edit	
Add one or mon	e worksta	tions to this display client			

5. Click Add Workstation to add a physical workstation.

The Add Workstation dialog box appears, which allows you to specify a workstation by IP address and name.

Figure 226 - Add Workstation

Add W	/orkstation
Workstation IP Address	192 . 168 . 1 . 104
Workstation Display Name	WKSN_104
	Add Cancel

6. Complete the Workstation IP Address and Workstation Display Name fields.

You may also use this dialog box to point to a virtual workstation. Just complete the fields with the virtual machine's IP address and name.

- 7. Click Add.
- 8. (Optional) If your virtual machines are on a VCenter Server that is defined in ThinManager, click Add Virtual Workstation button on the Complete the Workstation Display Client Configuration page.

The Add Virtual Workstation dialog box appears, which is populated by any VCenter Servers you have defined in ThinManager.

Figure 227 - Add Virtual Machine

	Add Virtual Worksta	ation
Selec Selec	Select VCenter Server V_Fifty	<u> </u>
	Available Virtual Workstations	-
	U_Fifty □ □ □ □ □ □ ha-datacenter □ □ □ □ 2012_1_DC □ □ □ □ 2012_RDS_2a	Add
-		

- a. Choose the VCenter Server from the Select VCenter Server pull-down menu.
- b. From the Available Virtual Workstations pane, expand the VCenter tree.
- c. Highlight the desired virtual workstation and click Add.

The workstation appears in the Selected Workstations pane on the Complete the Workstation Display Client Configuration page.

Figure 228 - Com	plete the V	Vorkstation Dis	play Client	Confid	juration Pa	age
------------------	-------------	-----------------	-------------	--------	-------------	-----

*	Terminal Configuration Wizard
Cor	nplete the Workstation Display Client Configuration Select one or more workstations to add to this display client
	ct workstations for Display Client 'XP_Desktop' cted Workstations
V	Fifty/ha-datacenter/XP_28
-	Add Workstation Add Virtual Workstation Remove
	KBack Next > Finish Cancel Help

d. (Optional) Add a second workstation as a backup, if desired.

Workstations can have only one connection to a remote user as they use a one-to-one model instead of the one-to-many model of Remote Desktop Services.

ThinManager has an error check system that prevents a workstation from being deployed twice. A dialog box appears if a duplicate workstation is added.

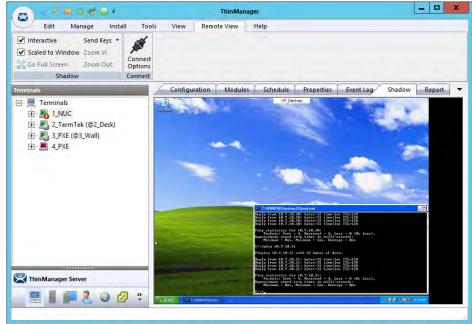
Figure 229 - Duplicate Workstation Warning





A workstation can be added multiple times as a backup but only once as the primary workstation.

Once the Workstation Display Client is added to a Terminal and the Terminal is restarted, the Terminal connects to the workstation and transfers the workstation display to the Terminal.



VNC Shadow

ThinManager can connect to a VNC Server and send the VNC shadow to a Terminal as a VNC Display Client.

In order to do so, follow these steps.

- 1. Define the VNC Server as a Display Server source as shown in <u>VNC</u> Servers on page 98.
- 2. Create a Display Client to deploy the source on a client.

Shadow Any VNC Server

A VNC Display Client can be created that allows the user to select from a list of all the VNC Servers.

Figure 230 - XP Workstation on a Thin Client

Figure 231 - Display Clients Tree

Edit Manage Install Tools View Remove ThinManager Server Documentation Remove Add Delete Lock Add ThinManager Server Refresh Modify Add Group Rename Unlock Pisplay Clients Edit Find Display Clients Camera Camera Workstation VIC Display Clients Vic Display Client Add Display Client Add Display Client Group Total VNC Display Clients Vis Add Display Client Group Vis Add Display Client Group	Edit Manage Install Tools View Remote View Help Image: Server Documentation Image: Remove Image: Add Image: Delete Image: Dock Image: Find (Ctrl-F) Image: Server Image: Refersh Image: Refersh <th></th>	
Add ThinManager Server Connect Disconnect ThinManager Server ThinManager Server Compy Edit Find Next (F3) Find Next (F3) Find Fi	Add ThinManager Server C Refresh Modify Q Add Group Rename Unlock Find Next (F3) Disconnect ThinManager Server Edit Find Summary Edit Find Display Clients Summary Remote Desktop Services VIC Display Clients Camera O Terminal Shadow O	
Summary Display Clients Remote Desktop Services Camera Terminal Shadow Morkstation Morkstation Morkstation Vi Add Display Client Group	isplay Clients Summary Summary Attribute Value VilC Display Client Summary Camera Total VNC Display Clients 0	
Display Clients Attribute Value Image: Camera Vi/C Display Client. Summary Image: Camera Total VNC Display Clients 0 Image: Camera Vi/C Display Clients 0 Image: Camera Vi/C Display Clients 0 Image: Camera Vi/C Display Clients 0	Display Clients Attribute Value Image: Second Construction Vil C Display Client Summary Vil C Display Clients Image: Construction Total VNC Display Clients 0	
Image: Common Services VI/C Display Client Summary Image: Common Services Total VNC Display Clients 0 Image: Common Services Image: Common Services 0 Image: C	Image: Construct and the second sec	
Camera Camera Terminal Shadow Camera Total VNC Display Clients Conversion	Camera Convers Convers Convers Convers Convers Convers Convers Converse Converse	
Terminal Shadow Workstation V Add Display Client Add Display Client Group	Terminal Shadow	
Add Display Client Vi Add Display Client Group	🕀 – 🔂 Workstation	
Vi Add Display Client Group		
	Add Display Client	
	Add Display Client Group	
	ThinManager Server	

To shadow any VNC server, follow these steps.

1. Right-click on the VNC branch of the Display Clients tree and choose Add.

The Display Client Wizard appears.

Figure 232 - VNC Display Client

*	Display Client Wizard
1	Client Name Enter the Display Client name.
	Display Client Name Client Name VNC_045 Set a Display Name
	Type of Display Client
	Display Client Group Change Group
	< Back Next > Finish Cancel Help

- 2. Enter a Client Name and follow the wizard like other display clients.
- 3. (Optional) Click Set a Display Name to configure the display client to display an alternative name in the ThinManager Server tree.

4. Click Next until the VNC Display Client page appears.

×
Add
Delate

- 5. Click All VNC Servers Available to make all VNC servers available to shadow.
- 6. (Optional) Clear the Interactive Shadow checkbox to turn it off.
- 7. Click Finish to create the display client.

Once the VNC Display Client is added to a Terminal and the Terminal is restarted, the VNC Display Client is available.

When you choose a VNC display client with multiple VNC servers, a menu that lists all available VNC servers appears.

Figure 233 - VNC Server Menu



8. Highlight the desired VNC server and click OK.

The VNC server you chose is shadowed.

Shadow a Specific VNC Server

The VNC Display Client can be configured to show the output from a specific VNC server.

To configure a VNC Display Client to shadow a specific VNC server, complete these steps.

1. Right-click on the VNC branch of the Display Clients tree and choose Add Display Client.

The Display Client Wizard for Terminal Shadow appears.

Figure 234 - VNC Display Client Wizard

	Display Client Wizard	×
Client Na Enter	a me the Display Client name.	R
Client N	Client Name Iame VNC_045 a Display Name	
VN	-	
Display	Client Group Change Group	1
< Back	Next> Finish Cancel	Help Í

- 2. Complete the Client Name field.
- 3. (Optional) Click Set a Display Name to configure the display client to display an alternative name in the ThinManager Server tree.
- 4. (Optional) Click Change Group to put the display client into a group.
- 5. Click Next to follow the wizard like other display clients.

Figure	235 -	VNC D	isplay	Client	Page
--------	-------	-------	--------	--------	------

NC Displa Select th	y Client e VNC Servers to be inclu	uded		5
				V
Select VNC	Servers			-
	Servers Available			
			Add	
			Delete	1
				-
VNC Displa	y Client Options			
	y Client Options			

- 6. Clear the All VNC Servers Available checkbox.
- 7. Click Add.

The Select VNC Server or Group dialog box appears.

Figure 236 - Select VNC Server of Group

Select VNC Server or Gro	oup ×
⊡- Terminals Cobalt Emerald	OK Cancel
,	

8. Highlight the VNC server you want to shadow and click OK.

The chosen VNC server is added to the list to shadow on the VNC Display Client page.

	Display Client Wi	zard
NC Display Clier Select the VNC	nt Servers to be included	
Select VNC Server	rs	
All VNC Serve	rs Available	
Cobalt		Add
		Delete
VNC Display Client	and the second sec	

Figure 237 - Chosen Server Added to VNC Display Client Page

- 9. (Optional) Click Add to repeat the process and add other VNC servers.10.Click Finish to create the display client when done.
- 11. Clear the Interactive Shadow checkbox to turn it off. This puts the shadow in a read-only mode.

Once the VNC Display Client is added to a Terminal and the Terminal is restarted, the VNC Display Client is available.

If you have a single VNC server listed, the display client automatically shows you that shadow. If you add multiple VNC servers to the list, the VNC display client presents the menu with all the listed servers in it.

Virtual Screens

This is a feature that allows you to divide a screen into separate overlays. It allows you to deliver MultiMonitor functionality to a single physical monitor.

The method of creating the Virtual Screen overlays follows the methods of the Camera Display Clients.

Virtual Screen Display Client Wizard

Virtual Screens are defined using the Display Client Configuration Wizard.

To define Virtual Screens, follow these steps.

1. Click the Display Clients icon at the bottom of the ThinManager tree.

8 *		ThinManager			- 🗆 🗙
Edit Mana	ge Install T	ools View	Remote View Help		
Firmware Package Package	Boot Loader	Licenses License Mode Licensing	TermCap Database TermCap Reports		
Display Clients	DOULTHES	Summar			
Display Clients		Attribute		Value	
	ktop Services		creen Display Client Sur		
Camera			al Screen Display Clients	0	
Ac	dd Display Client				
Ad	dd Display Client Gro	up			
		<			3
	i 🗊 🕝 🕴	<			>

Figure 238 - Launch the Virtual Screen Wizard

2. Right-click on the Virtual Screen branch, and choose Add Display Client.

The Client Name page of the Display Client Wizard appears.

The wizard starts like the Remote Desktop Services Display Client Wizard, but changes at the Select or Create the Virtual Screen Layout page.

		· ·
Display Client Nan	ne	
Client Name	QuadScreen01	
F Set a Display	Name	
_		
Type of Display C	lient	
Virtual Scree	en	
Display Client Gro	up	
1	Change Gro	oup

Figure 239 - Client Name Page of the Display Client Configuration Wizard

- 3. Complete the Client Name field to name your display client.
- 4. Click Next to continue through the wizard until the Select or Create the Virtual Screen Layout page appears.

hoose Layout	Custom		-
isplay Size	1024x768	•	
		1	
			Add
			Remove
			Set Order

Figure 240 - Select or Create the Virtual Screen Layout Page

5. Complete the page per the following descriptions.

Setting	Description
Choose Layout	Use the pull-down menu to choose from templates or Custom, which requires the addition of at least one overlay via Add. See <u>Predefined Templates on page 185</u> and <u>Custom Overlays on page 193</u> for more information.
Screen Resolution	Use the pull-down menu to choose the of the Virtual Screen display client.
Add	Launches the Custom Overlay dialog box, which allows customer overlays to be defined.
Remove	Removes a highlighted overlay.
Set Order	Launches the Set Stacking Order of Virtual Screens dialog box, which allows the screens to be prioritized.

Predefined Templates

The Choose Layout drop-down has a number of templates that allow you to add anywhere from one to sixteen virtual screens.

hoose Layout	2x2		
Creen Resolution	1024x768	-	
			Add
			Remove
-			Set Order

- 1. Choose a template from the Choose Layout pull-down menu.
- 2. Choose a display resolution from the Screen Resolution pull-down menu.
- 3. Click Next.

The Virtual Screen Configuration page appears.

Figure 242 - Virtual Screen Configuration Page

Position / Size		creen	
Position / Size	VirtualScreen_1		
and the second se			No. of Concession, Name
	Тор	Width	Height
0	0	512	384
			Add
			Screen Options
< Back Ne	ext >	Finish	Cancel Help

The wizard allows display clients to be added to each overlay just as the Camera Display Client Wizard allows you to add a camera to each overlay.

4. Click Add to add a Display Client to the overlay.

The Select Display Client dialog box appears, which lists all display clients.

Figure 243 - Select Display Client Dialog

Select Display Client
Calculator Camera 1 Desk2012 Desk43 Desk44 Desk45 Form01 Form02 Form03 HMI_1 HMI_2 Shadow_Cobalt VNC_Any
OK Cancel

- 5. Highlight the desired Display Client and click OK.
- 6. Repeat as needed for the overlay.

The Display Client appears in the Selected Display Clients field. Each overlay may have one or more display clients in the overlay.

Figure 244 -	 Virtual Screen 	Configuration	Showing <i>I</i>	Ap	plied Dis	play	y Client

8	Display	Client Wizar	d 💌
Virtual Screen Select the op	Configuration otions for this Virtual	Screen	\approx
Virtual Screen	VirtualScreen_	1	
Position / Size - Left	Top 0	Width 512	Height 384
Selected Displa	y Clients		Add
			Screen Options
< Back	Next >	Finish	Cancel Help

- 7. Click Add to add more display clients.
- 8. (Optional) Highlight a display client and click Screen Options to apply virtual screen options.

The Virtual Screen Options dialog box appears.

Figure 245 - Virtual Screen Options

Virtual Screen Optio	ns ×				
Allow Display Clients to move to/from screen					
✓ Show Display Client Selector Selector Options					
🔲 Enable Tiling	Tiling Options				
🗌 Virtual Screen Specific Mouse Button Mapping	Mouse Button Mapping				
 Show Virtual Screen Border Virtual Screen Always Visible Hide Virtual Screen at Startup Virtual Screen is view only Allow Full-screen Show Messages Use Terminal Setting 					
Swap Options Swap Destination None					
✓ Swap on empty Virtual Screen ✓ Show "Swap" in Selector Menu					
Enable Single-swap mode					
	DK Cancel				

Content

Option	Description
Allow Display Clients to move to/from screen	Allows movement of a display client from one overlay to the other, much like the movement of display clients between monitors on a MultiMonitor thin client.
Show Display Client Selector	Shows the pull-down selector at the top of the overlay. Click Selector Options to configure.
Selector Options	Use to configure selector options.
Enable Tiling	Allows tiling of Display Clients within the overlay if you have multiple display clients.
Tiling Options	Use to configure tiling options.
Virtual Screen Specific Mouse Button Mapping	Enables Mouse Button Mapping to configure the mouse with use with the Virtual Screens.
Mouse Button Mapping	Use to define mouse buttons as hotkeys.
Virtual Screen Display Option	IS State of the second s
Show Virtual Screen Border	Shows a border between the overlays.
Virtual Screen Always Visible	If the user switches to a different display client, this overlay remains visible even though its display client is hidden.
Hide Virtual Screen at Startup	Hides the Virtual Screen at startup. It is intended to be used with the TermMon ActiveX, which toggles the overlay visibility.
Virtual Screen is view only	Displays the Display Client in the Virtual Screen, but makes it view-only and not interactive.
Allow Full-screen	Allows a Display Client to appear full screen and not show the sidebar.
Show Messages	Allows for control of the status message shown in the upper-left corner of the Terminal display.
Use Terminal Setting	Sets the Virtual Screen to follow the configuration of the Terminal.
Yes	Turns on the status messages.
No	Turns off the status messages.
Swap Options	
Swap Destination	Allows the location of the Virtual Screen, moved during a swap, to be specified.
Swap on empty Virtual Screen	Move the highlighted Virtual Screen to an empty Virtual Screen when selected from the pull-down Selector.
Show "Swap" in Selector Menu	Adds the Swap option to the pull-down Selector menu.
Enable Single-swap mode	Allows a single mouse click in a Virtual Screen window to initiate the swap.

9. Choose the Virtual Screen Options per the following descriptions.

10.Click Selector Options to configure the selector options.

The Display Client Selector Options dialog box appears.

Figure 246 - Display Client Selection Options

Virtual Screen Optio	ns ×	
Allow Display Clients to move to/from screen		
Show Display Client Selector	Selector Options	
Enable Tiling	Tiling Options	
🗌 Virtual Screen Specific Mouse Button Mapping	Mouse Button Mapping	
Display Client Selector O	ptions ×	
Auto-hide Selector Tile on Selector activation Selector Menu Size Normal	OK Cancel	
Swap Options Swap Destination None	•	
💌 Swap on empty Virtual Screen		
Show "Swap" in Selector Menu		
Enable Single-swap mode		
	OK Cancel	

Choose from the following Display Client Selector options.

Option	Description
Auto-hide Selector	Hides the pull-down menu Display Client selector unless the mouse is positioned over it. Clear this checkbox to show the selector at the top-center of the screen.
Tile on Selector activation	Adds the tiling command to the pull-down menu when Auto-hide Selector is checked.
Selector Menu Size	Use this pull-down menu to set the font size of the text in the Display Client selector.

- 11. Click OK to close the Display Client Selector Options dialog box.
- 12. Click Virtual Screen Specific Mouse Button Mapping to activate the Mouse Button Mapping button.
 - a. Click Mouse Button Mapping.

The Mouse Button Mapping dialog box appears.

Figure 247 - Mouse Button Mapping Dialog Box

Button 1 (Left Mouse)	Default	-	^
Button 2 (Middle Mouse)	Default	-	
Button 3 (Right Mouse)	Swap	-	
Button 4 (Scroll Wheel Up)	Swap Full Screen	^	
Button 5 (Scroll Wheel Down)	Go to next display dient Go to previous display dient		
Button 6	Log on Relevance User Main Menu	~	
Button 7	Default	•	
Button 8	Default	-	
Button 9	Default	•	

13. Complete the Mouse Button Mapping dialog box per the following settings. Each mouse button can be configured with a different function. Use Button 1 (Left Mouse) for touch screens without a mouse.

Setting	Description
Default	Leaves the button with its original action.
Calibrate Touch Screen	Initiates the touch screen calibration program.
Tile	Initiates the tiling of display clients.
Swap	Exchanges display clients in Virtual Screens.
Full Screen	Expands an overlay to Full Screen.
Go to next display client	Navigates to the next display client in the list.

14. Click Next to continue to the next overlay once all the dialog windows are closed.

The Display Client Wizard navigates from overlay to overlay, which allows you to add display clients to each one.

Figure 248 - Virtual Screen Configuration Page

8	Displ	ay Client Wiza	rd	
	een Configuration ne options for this Virt			\aleph
Virtual Scree	n VirtualScree	n 2.]
Position / S Left 512	Dize Top	- Width 512	Height 384	
- Selected D	isplay Clients 02		Add Delete	1
			Screen Options]
< Back	Next >	Finish	Cancel	Help

15. Click Finish when the configuration is done.

Add a Virtual Screen to a Terminal

Virtual Screen Display Clients are added to a Terminal as any other Display Client.

1. Double-click on the Terminal in the Terminal tree.

The Terminal Configuration Wizard appears.

2. Click Next until the Display Client Selection page appears.

8	Terr	minal Co	nfiguration	Wizard	x
	Client Select ct the Display Cl		on this terminal		\approx
Available Di	isplay Clients		Selected Dis	play Clients	_
	mOverlay01 Screens01	*			- 1
	w_Cobalt	= .	1		
VNC_		-			
Desk2			1		-
Desk4					
Desk4		~			
Edit	t Display Clients			Overrid	e
< Bac	k Next	. 1	Finish	Cancel	Help

Figure 249 - Display Client Selection Page of the Terminal Configuration Wizard

3. Double-click or highlight the Virtual Screen Display Client in the list of Available Display Clients and click the right-facing arrow to move it to the Selected Display Clients pane.

Once the Virtual Screen Display Client is in the Selected Display Clients list it is added to the Terminal.

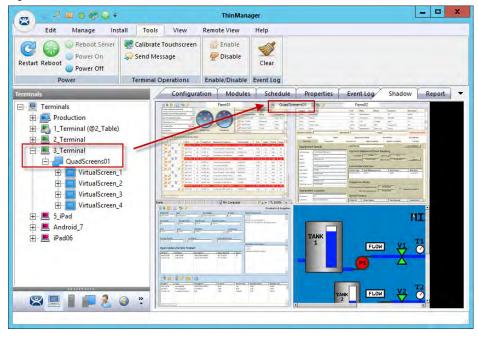
Figure 250 - Selected Display Clients

Available Display Clien	e		Selected Display Clients	
CustomOverlay01 Shadow_Cobalt VNC_Any Calculator Desk2012 Desk43 Desk44 Desk45 Form01	10.1	••	QuadScreens01	1
Edit Display Cl	ients	1	Override	<u>.</u>

4. Click Finish and restart the Terminal to apply the change.

<u>Figure 251</u> shows the QuadScreen01 Virtual Screen Display Client on a Terminal.

Figure 251 - Virtual Screen on the Terminal



The screen has four virtual screens added and showing.

If Enable Tiling is checked on the Virtual Screen Options dialog box, <u>Figure 267</u> on page 201, then the display clients in an overlay are tiled as shown here.

Figure 252 - Tiling within an Overlay



Custom Overlays

ThinManager provides the option of building and defining custom overlays instead of using the predefined templates. This section shows an example of a custom Virtual Screen display client with four custom overlays.

Define Virtual Screens with the Display Client Configuration Wizard.

- 1. Click the Display Clients icon at the bottom of the ThinManager tree.
- 2. Right-click on the Virtual Screen branch and choose Add Display Client.

The Client Name page of the Display Client Wizard appears.

Figure 253 - Display Client Wizard for Virtual Screens

	ThinManager	- • ×
Edit Manage Inst	all Tools View Remote View Hein	
Restart Reboot Power Off Power Power	Client Name Enter the Display Client name.	
Display Clients Display Clients Image: State of the state of th	Client Name Widescreen01	-
Camera Camera Camera Camera Control Shadow Control	Type of Display Clent	
	Permissions < Back Next > Finish Cancel Help	
	· · · · · · · · · · · · · · · · · · ·	>

- 3. Complete the Client Name field to name your display client.
- 4. Click Next until the Select or Create the Virtual Screen Layout page appears.

Figure 254 - Custom Overlay Layout

oose Layout	Custom	<u> </u>
splay Size	1920x1080 💌	
		Add
		Remove
		Set Order

The initial Virtual Screen is a blank canvas and needs at least one overlay added.

5. Click Add.

The Custom Overlay dialog box appears.

Figure 255 - Custom Overlay Layout

	hoose Layout	Custom		-
Position / Size		Custo	m Overlay	x
Left Top Width Height	Overlay Name	Main		
	Left	and the second s		And and a second s

Complete the Custom Overlay field settings per the following descriptions to set the size and location of the custom overlay.

Setting	Description
Overlay Name	Provides a name to the overlay.
Position/Size	
Left	Sets the position of the left edge of the overlay.
Тор	Sets the position of the top edge of the overlay.
Width	Sets the width of the overlay.
Height	Sets the height of the overlay.

This example creates a 1440 x 1080 overlay that is touching the upper-left corner.

6. Click OK to accept the settings.

The created Overlay is shown in Overlay window when done.

Figure 256 - Created Overlay

8	Display Client Wizard	×
	the Virtual Screen Layout nfigured virtual screen layout or create	e a custom
Choose Layout	Custom	-
Display Size	1920x1080 -	
		Add Remove Set Order
< Back	Next > Finish C	ancel Help

7. Click Add.

The Custom Overlay dialog box appears again. The example in <u>Figure 257</u> uses an overlay that is 1440 pixels from the left edge and has a screen resolution of 480 x 360 pixels.

Figure 257 - Custom Overlay #2

	Custom	Overlay	x
Overlay Name	Side01		OK Cancel
Position / Size Left 1440	Top 0	Width 480	Height 360

8. Click OK to accept the settings.

Figure 258 - Display of Created Overlay

Choose Layout	Custom	•
Display Size	1920x1080 💌	
		Add
		Remove
		Set Order
		-

9. Click Add.

The Custom Overlay dialog box appears for the next overlay.

Figure 259 - Custom Overlay #3

	Custom	Overlay	x
Overlay Name	Side02		Cancel
Position / Size Left 1440	Тор 360	Width 480	Height 360

This example uses an overlay that is 1440 pixels from the left edge, 360 pixels from the top, and has a screen resolution of 480 x 360 pixels.

Click OK to accept the settings and return to the Select or Create the Virtual Screen Layout page.

Figure 260 - Display of Created Overlay

8	Display Client Wizard	x
	the Virtual Screen Layout figured virtual screen layout or create	a custom
Choose Layout	Custom	-
Display Size	1920x1080 💌	
		Add Remove Set Order
< Back	Next > Finish Ca	ancel Help

Click Add to launch the Custom Overlay dialog box for the next overlay.

Figure 261 - Custom Overlay #4

	Custom	Overlay	x
Overlay Name	Side03		ОК
			Cancel
Position / Size Left 1440	Тор 720	Width 480	Height 360

<u>Figure 261</u> uses an overlay that is 1440 pixels from the left edge, 720 pixels from the top, and has a screen resolution of 480 x 360 pixels.

Click OK to accept the settings and return to the Select or Create the Virtual Screen Layout page.

Figure 262 - Display of Created Overlay

noose Layout	Custom	-
isplay Size	1920x1080 💌	
	_	Add
		Remove
		Set Order

Figure 262 shows the completed layout of the overlays.

10.Click Set Order.

The Set Stacking Order of Virtual Screens dialog box appears. This is important when the overlays overlap.

Set	t Stacking Order o	f Virtual S	creens ×
,	Virtual Screens		
Side02 Main			Тор
Side03 Side01			Up
			Down
			Bottom
1			
		ОК	Cancel

Figure 263 - Set Stacking Order of Virtual Screens

11. Highlight the virtual screen and click Top, Up, Down, or Bottom per their respective descriptions to set the priority of stacked overlays.

Field/Buttons	Description	
Virtual Screens	Lists the overlays added to the virtual screen.	
Тор	Moves a highlighted overlay to the top of the list.	
Ир	Moves a highlighted overlay higher on the list.	
Down	Moves a highlighted overlay lower on the list.	
Bottom	Moves a highlighted overlay to the bottom of the list.	

12. Click OK to return to the Select or Create the Virtual Screen Layout page. 13. Click Next.

The Virtual Screen Configuration page appears, where you add display clients to the overlays. Each custom overlay needs a display client.

Figure 264 - Adding Display Clients to the Virtual Screens
--

	Displ	ay Client Wi	zard	
Artual Screen Select the op	Configuration otions for this Virt			Y
Artual Screen	Main			
Position / Size -	Тор		Height	
0 Selected Displa	0 v Cliosta	1440	1000	
Selected Displa	y Gierits		- Ado	+ 1
			Dele	
			Dele	te
1			Screen Opt	ione
< Back	Next >	Finish	Cancel	Help
				Those

The wizard shows one overlay at a time. Display clients can be added as shown in <u>Predefined Templates on page 185</u>.

Figure 265 - Adding Display Clients to the Virtual Screens

8	Displ	ay Client Wiza	rd	x
	n Configuration options for this Virt			\aleph
Virtual Screen	Main			
Position / Size	Top 0	- Width 1440	Height	
- Selected Disp HMI_1			Add	
		1	Screen Options	1
< Back	Next >	Finish	Cancel	Help

14. Click Add.

The Select Display Client dialog box appears, where you can select a display client from a list of all display clients.

Figure 266 - Select Display Client

	Select Display Client	x
Calculator Camera 1 Desk2012 Desk43 Desk44 Desk45 Form01 Form02 Form03 HMI_1 HMI_2 Shadow_Cobali VNC_Any	t	
	OK Cancel	

- 15. Highlight the desired Display Client and click OK to return to the Virtual Screen Configuration page.
- 16. Click Screen Options.

The Virtual Screen Options dialog box appears.

Figure 267 - Virtual Screen Options

Virtual Screen Option	ns 🗶						
I Allow Display Clients to move to/from screen							
▼ Show Display Client Selector Selector Options							
Enable Tiling Options							
✓ Virtual Screen Specific Mouse Button Mapping	Mouse Button Mapping						
Virtual Screen Display Options Show Virtual Screen Border Virtual Screen Always Visible Hide Virtual Screen at Startup Virtual Screen is view only Allow Full-screen Show Messages Use Terminal Setting							
Swap Options Swap Destination None	•						
Swap on empty Virtual Screen							
☑ Show "Swap" in Selector Menu							
Enable Single-swap mode							
c	K Cancel						

17. Choose the Virtual Screen Overlay of	ptions	per the fol	lowing
descriptions.		_	-

Option	Description
Allow Display Clients to move to/from screen	Allows movement of a display client from one overlay to the other, much like the movement of display clients between monitors on a MultiMonitor thin client.
Show Display Client Selector	Shows the pull-down selector at the top of the overlay. Click Selector Options to configure.
Selector Options	Use to configure selector options.
Enable Tiling	Allows tiling of Display Clients within the overlay if you have multiple display clients.
Tiling Options	Use to configure tiling options.
Virtual Screen Specific Mouse Button Mapping	Enables Mouse Button Mapping to configure the mouse with use with the Virtual Screens.
Mouse Button Mapping	Use to define mouse buttons as hotkeys.
Virtual Screen Display Option	15
Show Virtual Screen Border	Show a border between the overlays.
Virtual Screen Always Visible	If the user switches to a different display client, this overlay remains visible even though its display client is hidden.
Hide Virtual Screen at Startup	Hides the Virtual Screen at startup. It is intended to be used with the TermMon ActiveX, which toggles the overlay visibility.
Virtual Screen is view only	Displays the Display Client in the Virtual Screen, but makes it view-only and not interactive.
Allow Full-screen	Allows a Display Client to appear full screen and not show the sidebar.
Show Messages	Allows for control of the status message shown in the upper-left corner of the Terminal display.
Use Terminal Setting	Sets the Virtual Screen to follow the configuration of the Terminal.
Yes	Turns on the status messages.
No	Turns off the status messages.
Swap Options	
Swap Destination	Allows the location of the Virtual Screen, moved during a swap, to be specified.
Swap on empty Virtual Screen	Move the highlighted Virtual Screen to an empty Virtual Screen when selected from the pull-down Selector.
Show "Swap" in Selector Menu	Adds the Swap option to the pull-down Selector menu.
Enable Single-swap mode	Allows a single mouse click in a Virtual Screen window to initiate the swap.

18. Click Mouse Button Mapping.

The Mouse Button Mapping dialog box appears, where you configure actions for the mouse buttons through pull-down menus.

Figure 268 - Mouse Button Mapping

Mouse Button Mapping						
Iouse Button Action						
Button 1 (Left Mouse)	Default	•				
Button 2 (Middle Mouse)	Default	•				
Button 3 (Right Mouse)	Swap	•				
Button 4 (Scroll Wheel Up)	Default	• =				
Button 5 (Scroll Wheel Down)	Default	•				
Button 6	Default	•				
Button 7	Default	•				
Button 8	Default					
Button 9	Default	-				
	ОК	Cancel				

- 19. Click OK to return to the Virtual Screen Options dialog box.
- 20.Click OK on the Virtual Screen Options dialog box to return to the Virtual Screen Configuration page, which repeats for each overlay.

Figure 269 - Each Overlay is Configurable

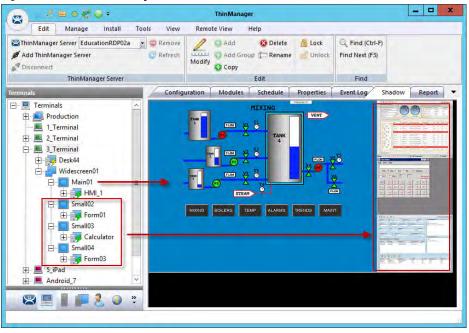
8	Display Client Wizan	d 🗶	8	Displa	ay Client Wiza	rd X	۵	Disp	lay Client Wiza	nd	*
	n Configuration aptions for this Virtual Screen	\approx		en Configuration options for this Vin		\approx		Configuration ptions for this Vir			st
Vitual Sover	Side(1		Vibuel Somen	SdH02			Vitual Somen	Side(0)		H	
Position / Size Left 	Top Wiath 0 480	Height 360	- Position / Su Laft (1440	тор (360	Width [480	Height	Poston / Sur Laft [144]	Tep. 720.	Wiath [450	Height 360	
Selected Dapa	ay Clerits		Selected Da	pay Clerits			Selected Dag	ay Clients			
Form(01		Add	Gerca	NO.		Add Delete	Form02			Add	
		Screen Options				Screen Options				Screen Options	
<back [<="" td=""><td>Net - Freih</td><td>Cancel Help</td><td>< Back</td><td>Net</td><td>Freih</td><td>Cancel Help</td><td><back< td=""><td></td><td>Freih</td><td>Cercel He</td><td>6</td></back<></td></back>	Net - Freih	Cancel Help	< Back	Net	Freih	Cancel Help	<back< td=""><td></td><td>Freih</td><td>Cercel He</td><td>6</td></back<>		Freih	Cercel He	6

- 21.Click Next to go to the next overlay. The wizard navigates to each overlay, which allows the selection of display clients and settings.
- 22.Click Finish button when done.

Once the Virtual Screen wizard is finished, the Virtual Screen can be added to a Terminal. The Terminal shows the Virtual Screens once it is restarted.

<u>Figure 270 on page 203</u> shows the main overlay with an HMI and the three smaller overlays along the side, each with their own display client. These overlays could have multiple display clients and be tiled, if desired.

Figure 270 - Custom Overlay in Action



Display Client Override on Virtual Screens

Virtual Screens do not allow an override in the Terminal Configuration Wizard.

Figure 271 - Display Client Selection Page Error

	Client Selection t the Display Clients to u	use on this terminal	2
Available Dis	play Clients	Selected Display Clients	
Custor	Overlay01	QuadScreens01	
1	Invalid	Display Client Type	
Car	nnot override settings	for a Virtual Screen Display Client	
Car	nnot override settings	for a Virtual Screen Display Client	
E0		ОК	
E0		ОК	

Virtual Screens do not allow an override on the Display Client Selection page of the Terminal Configuration Wizard. It is done from the ThinManager tree instead.

1. Double-click on the Virtual Screen under the Terminal in the Terminal tree of ThinManager.

The Display Client Wizard appears.



	ThinManager	- 🗆 X
Edit Manage Inst	Display Client Wizard	
Power Off Power Terminals	Select the options for this Virtual Screen	
⊡ Terminals 	Position / Size	~
P 1 Terminal (@2_Table D 2_Terminal D 3_Terminal D 0 3_Terminal D 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Left Top Width Height 0 0 512 384 Selected Display Clients	8
	Desk44 Delete Desk45 Terminal Override	
iPad06	Screen Options	
	K Back Next > Finish Cancel Help	~

2. Click Next until the Virtual Screen Configuration page appears. The Terminal Override button is enabled.

3. In the Selected Display Clients pane, highlight the display client you want to alter and click Terminal Override.

The Override Settings dialog box for that display client appears, which allows normal display client overrides. See Display Client Selection page on page 233 for details.

Figure	273 -	Override	Settings	s Page
--------	-------	----------	----------	--------

Override Settings for 'Desk43' Display	Client ×
Windows Login Settings	Override
Username	Search
Password	
Verify Password	
	Override 🗖
Domain	
AppLink Command Line Command Line Options	Override 🗖
 Video Settings	
Resolution Color Depth	Override 🗖
240x320 256 Colors	
Cancel	OK

4. Click Override in the sections to which the changes apply and click OK.

On Virtual Screen Configuration page, a yellow plus sign on the Display Client indicates that it has a changed setting.

Virtual Screen	VirtualScreen	1_1	
Position / Size - Left	Top 0	Width 512	Height 384
Selected Displa Form01 Desk43 Desk44 Desk45	y Clients		Add
			Screen Options

5. Click Finish.

Notes:

Devices

Terminal Configuration

There are five types of Terminals that can be used in a ThinManager system.

- ThinManager-ready thin client
- ThinManager-compatible thin client
- aTMC for Android Devices
- iTMC client for iOS, iPads, and iPhones
- WinTMC client for Windows PCs and Surface tablets

Two steps are required to add a device: first, the device needs to be pointed to the ThinManager Server to receive a configuration, then a configuration created in ThinManager for the device to download.

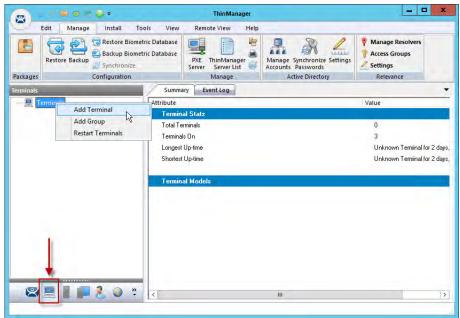
In this section, we explain the configuration of the device in ThinManager, then show how to connect each hardware device to ThinManager.

Terminal Configuration Wizard in ThinManager

To configure the device in ThinManager, follow these steps.

1. Click the Terminals icon at the bottom-left of ThinManager to display the Terminals tree.

Figure 275 - Terminal Branch of the ThinManager Tree



2. Right-click on the Terminals branch and choose Add Terminal.

The Terminal Configuration Wizard appears, opened at the Terminal Name page.

Terminal Name Page

The first page of the Terminal Configuration Wizard is the Terminal Name page.

Figure 276 - Terminal Name Page

	Terminal Configuration Wizard
Terminal Nan Enter the n choose to	e ame for this terminal, select the terminal group to which this terminal belongs, or opy the configuration from another terminal.
Terminal Nam	
Teminal_1	Description
	be a unique name using letters, numbers, hyphens (-), and es (_) only.
Terminal Grou	
Copy Settings	Change Group
Copy Settings	Change Group
	ttings from another Terminal

1. Complete the Terminal Name page per the following descriptions.

Field/Button	Description
Terminal Name	Specifies the terminal name in ThinManager. Enter a name for the Terminal in 15 characters or less.
Description	Launches the Terminal Description dialog box, where you can add extra information about the Terminal.
Terminal Group	Adds the terminal to a group of terminals via Change Group.
Change Group	Launches tree from which to select group for terminal to join. See <u>Use Groups</u> for Organization on page 244 for details.
Copy Settings from another Terminal	Click to activate Copy From.
Copy From	Allows quick creation of terminal in that it launches the Select Terminal dialog box with a tree that allows you to apply a terminal configuration that already exists to the new terminal. See <u>Copy Settings from another Terminal on</u> <u>page 242</u> for details.
Permissions	Applies Relevance permissions to the Terminal. See <u>Permission-deployed</u> <u>Applications in Relevance on page 401</u> for details.

a. (Optional) Click Description.

The Terminal Description dialog box appears.

Figure 277 - Terminal Description Dialog Box

	Terminal D	escription	x
Terminal Description			
	Test Bed Area, Secor	nd Floor	<
Custom Variables	[]		
Property	Value		Add
			Delete
			Edit
		ОК	Cancel

b.Complete the Terminal Description dialog box per the descriptions that follow.

Field/Button	Description
Terminal Description	Allows an extensive description to be added to the Terminal when the Terminal names are industrialized, like "USP_MX10_L1_qty" or "Prod_TrayPkgShrkWrp_OIT".
Custom Variables	Allow a variable to be applied for advanced functionality.
Add	Opens the Custom Variable dialog box for adding a custom variable.
Delete	Deletes a highlighted custom variable.
Edit	Click to change the settings for the highlighted variable in the Custom Variable dialog box.

Custom variables allow a single display client to be created with a custom variable as part of the path. Each user, Terminal, or location has specific data in the custom variable to modify the content that the display client delivers, which allows one display client to do the work of many.

Additionally, a custom variable can pass specific data to an application through the TermMon ActiveX.

2. (Optional) Add a Custom Variable. a. Click Add.

The Custom Variable dialog box appears.

Figure 278 - Custom Variable Dialog Box

	Custom Variable
Name Value	✓ Hide Value

b.Complete the Custom Variable dialog box per these steps.

Field/Button	Description	
Name	Assigns the name to the custom variable.	
Value	Assigns the value or content to the custom variable.	
Hide Value	Obscures the text in the Value field. Clear the checkbox to display the value.	
OK	Accepts the changes and closes the dialog box.	
Cancel	Closes the dialog box without changes saved.	

c. Click OK to close the Custom Variable dialog box. d.At the Terminal Description dialog box, click OK. e. At the Terminal Name page, click Next.

The Terminal Hardware page appears.

Terminal Hardware Page

The Terminal Hardware page allows you to specify the make and model of the Terminals you are adding.

Figure	279 -	Terminal	Hardware	Page of t	he Terminal	Configuration	1 Wizard

Select the r	manufacturer and mo	del of this terminal.	Z
Use this to confi	gure the type of hard	ware for this terminal.	
Make / OEM	ACP		-
Model	DC-40-100		•
DEM Model	DC-40-100		
Video Chipset	MediaGX		
Terminal Firmwa	re Package	Model Default	
		Terminal will run	Package 5
Terminal ID ar	nd IP Address		
Terminal ID	None	_	Clear
reminal ID	None	-	Edit

1. Complete the Terminal Hardware page per the descriptions that follow.

Field/Button	Description
Make/OEM	Choose the make of the hardware from the pull-down menu.
Model	Choose the model of the hardware from the pull-down menu.
OEM Model	Displays the actual model as listed in the TermCap.
Video Chipset	Displays the video chipset used once the terminal connects to ThinManager as listed in the TermCap.
Terminal Firmware Package	Use the pull-down menu to change the firmware package that the terminal uses. Must be enabled in Package Manager (Manage>Packages).
Clear	Removes the Terminal ID identifier from the configuration of an active terminal. The MAC address of the terminal is used for the Terminal ID. Clearing the Terminal ID frees hardware that is already tied to a configuration and allows the terminal to be tied to a different configuration without deleting its original configuration. It also allows the make and model of the hardware to be changed.
Edit	Launches the Edit Terminal ID dialog box that allows for the manual change of the MAC address of the configuration. Allows for the replacement of an old terminal by entering the MAC address of the replacement. Entering the new MAC address allows the new terminal to boot and retrieve its configuration without selecting the terminal from the list. Once a MAC address is registered within ThinManager, you can assign a static IP address to it if the Terminal is PXE Booting and if the ThinManager PXE Server is set to Not Using Standard DHCP Server. See Figure 372 on page 276.

Use the correct Make and Model if you can, which allows you to configure the Terminal to match the capabilities of the hardware used.

When a Terminal connects to its configuration for the first time, ThinManager adjusts the configuration to match the actual hardware used and not the preconfigured hardware selected to prevent errors. The default model, the ACP DC-40-100, is used because it has limited video resolutions that every modern Terminal can use. If a different model is assigned to this configuration, it may end up with the lower video resolutions.

ThinManager uses the MAC address to identify the Terminals. The Terminal ID field is automatically populated when hardware is associated with the configuration.

Figure 280 - PXE Boot Confi	guration for ThinMana	ger-compatible	Thin Clients
-----------------------------	-----------------------	----------------	--------------

Terminal Han	dware	onfiguration Wizard	
Select the f	manuracturer and m	odel of this terminal.	
Use this to confi	igure the type of har	dware for this terminal.	
Make / OEM	GENERIC		•
Model	PXE		•
DEM Model	PXE		
OEM Model Video Chipset	PXE Unknown		
	Unknown are Package	Model Default Terminal will run f	Package 7

- 2. Configure the ThinManager-compatible thin clients as GENERIC/PXE as they use PXE boot to download their firmware.
- 3. Configure the PXE Server in ThinManager at Manage>PXE Server. See <u>PXE Server and PXE Boot on page 264</u> for information.
- 4. Click Next.

The Terminal Options page appears.

Android Devices

ThinManager has an Android application that allows the Android to run an RDP session that is controlled and managed by ThinManager.

	Terminal Co	onfiguration Wizard
Ferminal Ha	ndware e manufacturer and m	odel of this terminal.
Jse this to co	nfigure the type of ha	rdware for this terminal.
Make / OEM	GENERIC	2
Model	Android Device	- <u>-</u>
DEM Model	Android	
/ideo Chipset	UNKNOWN	
Ferminal Firmv	vare Package	Model Default
-		Terminal will run Package 7
Terminal ID	and IP Address	Clear
Terminal ID	None	Edit

• Choose GENERIC/Android Device as the Make and Model of the client.

Apple Devices

Ferminal Hard Select the r	nanufacturer and moo	del of this terminal.	
lse this to confi	gure the type of hard	ware for this terminal.	
Make / OEM	Apple		
Model	iOS Device		-
OEM Model	iOS		
Video Chipset	UNKNOWN		
Ferminal Firmwa	re Package	Model Default	-
-		Terminal will run f	ackage 7
Terminal ID ar	id IP Address	[r	-
	None	L	Clear

Figure 282 - Hardware Configuration for Apple iPad

• Choose Apple/iOS Device as the Make and Model of the client.

WinTMC Clients

ThinManager has a PC application that allows the PC to run an RDP session that is controlled and managed by ThinManager.

Figure 283	3 - Hardware	Configuratio	n for WinTMC	Clients

3	Terminal Co	onfiguration Wizard	
Terminal Ha Select the	rdware manufacturer and mo	odel of this terminal.	×
Use this to co	figure the type of har	dware for this terminal.	
Make / OEM	GENERIC		
Model	WinTMC		•
OEM Model	WinTMC		
Video Chipset	UNKNOWN		
Terminal Firmv	are Package	Model Default	-
Tominal ID	and IP Address	Terminal will run F	Package 7
- reminario	and in Address	[r	Clear
Teminal ID	None		Edit
< Back	Next >	Finish Cancel	Help

• Choose GENERIC/WinTMC as the Make and Model of the client.

Terminal Options Page

The Terminal Options page starts the configuration process.

Figure 284 - Terminal Options Page of the Terminal Configuration Wizard

8
_
Help

1. Complete the Terminal Options page per these descriptions.

Setting/Button	Description			
Terminal Options				
Allow replacement at the terminal if off line	Allows the terminal to appear in the replacement list during a new terminal connection.			
Put Terminal in Admin Mode at Startup	Turns the Terminal on without showing the display clients, which is useful to use as the Terminal to register HID cards or fingerprint scans.			
Enforce Boot Priority	Allows you to set an order for the Terminals to boot when many reboot at once.			
Priority Settings	Launches the Boot Priority Settings dialog box.			
Terminal Schedule				
Set Schedule	Makes Schedule active.			
Schedule	Launches the Event Schedule dialog box for the terminal.			
Terminal Effects				
Enable Terminal Effects	Allows the desktops in MultiSession to slide smoothly into the desktop instead of appearing instantaneously.			
Show terminal status messages	Allows the Terminal to display status messages in the upper-left corner of the screen. Clear the checkbox to hide the messages from the operator.			
Shadowing				
Allow terminal to be shadowed	Sets the Shadowing setting, which allows configuration of Shadowing Options.			
No	Prevents the Terminal from being shadowed by anyone.			
Ask	Asks the user to allow shadowing. The user must click Yes in a message dialog box before shadowing is allowed.			

Setting/Button Description	
Warn	Displays a dialog box that alerts that the Terminal that it is to be shadowed, but does not require user input before shadowing is allowed.
Yes	Allows shadowing to occur without warning or user input.
Allow Interactive Shadow	Allows users with Shadowing permission to interactively shadow the Terminal. Clearing this checkbox puts it into a read-only mode.

a. Click Priority Settings.

The Boot Priority Settings dialog box appears.

Figure 285 - Boot Priority Settings

Boot Pi	riority Settings
Boot Priority	0
Maximum wait time (seconds)	0
Reboot Lower Priority Termin	nals on startup
	OK Cancel
	OK Cancel

b. Complete the Boot Priority Settings dialog box per the descriptions that follow.

Setting	Description
Boot Priority	Sets the priority level of the terminal, with 1 as the highest priority and 99 as the lowest. The higher the number, the lower the priority.
Maximum wait time (seconds)	Sets the maximum interval the Terminal waits before starting to reboot.
Reboot Lower Priority Terminals on startup	Reboots lower priority (higher number) Terminals when this Terminal reboots, which is useful if the lower priority Terminals are running an application that has a dependency on the higher priority (lower number) Terminal.

c. Click OK.

2. Click Next to continue the configuration.

The Terminal Mode Selection page appears.

Terminal Mode Selection Page

The Terminal Mode Selection page sets the modes used by the Terminal.

Figure 286 - Terminal Mode Selection

×	Terminal Configuration Wizard
	al Mode Selection ect the operating modes for this terminal
Termin	nal Mode
	I Enable Relevance User Services
	F Enable Relevance Location Services
	F Enable MultiMonitor
	Enable MultiStation
-	
_	< Back Next > Finish Cancel Help

1. Complete the Terminal Mode Selection page per these descriptions.

Setting	Description
Enable Relevance User Services	Uses Permissions and the membership of an Access Group to grant or deny access to applications, Terminals, or locations. See <u>Permission-deployed Applications in</u> <u>Relevance on page 401</u> for details.
Enable Relevance Location Services	Allows the Terminal to be assigned a Location and use the Relevance location features. <u>Relevance Location Services on page 493</u> .
Enable MultiMonitor	Allows you to configure the Terminal to use two to five monitors depending on the hardware capability. <u>MultiMonitor on page 353</u> .
Enable MultiSession	An advanced MultiMonitor function that allows multiple users to share a single MultiMonitor Terminal. It is not active unless MultiMonitor is activated. See <u>Select Hotkey Dialog Box on page 227</u> .

ThinManager uses Display Clients to deploy applications. Check Use Display Clients to use them. If you clear the Use Display Clients checkbox, you lose other functions like MultiMonitor, TermSecure, MultiSession, and Instant Failover. See Figure 379 on page 282.

2. Click Next.

The Display Client Selection page appears.

Display Client Selection Page

The Display Client Selection page allows the applications to be assigned to the Terminal.

8	Termin	al Configuration Wizard	
	nt Selection e Display Clients to use on th	nis terminal	>
Came	te Desktop Services	Selected Display Clients	•
Edit	Display Clients	Override	
	< Back	Next> Finish Cance	Help

1. Move created display clients from the Available Display Clients list to the Selected Display Clients list to add them to the Terminal configuration. Double-click or highlight the display client and use the right arrow.

Figure 288 - Display Client Selection Page of the Terminal Configuration Wizard

3	Termina	I Configuration Wizard	×
Display Client Select the [Selection Display Clients to use on this	steminal	tema
Camera Car Car Car Termina Worksta Worksta Worksta	Desktop Services meras I Shadow stion	Selected Display Clients	•
	isplay Clients	Override Next > Finish Cance	Heip

The addition of two or more display clients is MultiSession, which provides the ability to deploy applications from different servers with ease.

2. Click Override.

The Override Settings dialog box appears.

Figure 289 - Override Settings Dialog Box

Display Name			Override	Г
Windows Login Settin	igs		Override	1
Username	Operator036@	production	Searc	
Password	L		Password Op	tions
			Override	Г
Domain	1		Verify U	lser
AppLink Command Lir Command Line Optic			Override	ŗ
/ideo Settings			Override	
R 1024>	tesolution	Color Depth 256 Colors]	

The Override Settings page allows you to change the user account used for logins, add a command line option, or change the resolution.

If you are in a domain, you can use the Search button to pull a user account from the Active Directory. See <u>User Accounts in the Terminal Configuration</u> <u>Wizard on page 230</u>.

3. Click OK.

The Override Settings window closes.

Figure 290 - Override Indicator Icon

		Configuration Wizard	
Display Client Se Select the Displ	lection ay Clients to use on this	terminal	\approx
Camera Camera Camera Comminal Sha Workstation Comminal Sha Comminal Sha Commin	ktop Services adow	Selected Display Clients	•
Edit Displa		Override	el l Help

If a Display Client has a setting overridden, then the Display Client shows a Changed icon in the Selected Display Clients list.

4. Click Next on the Display Client Selection page.

The Terminal Interface Options page appears.

Terminal Interface Options Page

The Terminal Interface Options page sets the methods to switch between display clients when using MultiSession.

Figure 291 - Terminal Interface Options Page

Terminal Configu	ration Wizard
Terminal Interface Options Select the display client selector and main r on the terminal.	menu options that will be available
Display Client Selection Options	
I Show Selector on Terminal	Selector Options
F Enable Tiling	Tiling Options
C Screen Edge Display Client Selection	
Allow Display Clients to move to/from s	creen
Main Menu Options	Main Menu Options
Pin Pad Options	Pin Pad Options
< Back Next > Fi	inish Cancel Help

A single display client needs no additional navigation on the Terminal. However, if you have multiple display clients on the Terminal, you need to have a method to switch between the sessions. The Terminal Interface Options and Hotkey Configuration pages allow you to configure switching methods.

1. Complete the mouse options for switching as described here.

Setting/Button	Description		
Display Client Selection Options			
Show Selector on Terminal	Displays an on-screen pull-down menu that can be activated by mouse.		
Selector Options	Launches the Display Client Selector Options dialog box, which contains settings for tiling sessions when using MultiSession.		
Enable Tiling	Allows Display Clients to be tiled on the monitor to provide an overview of all sessions at once.		
Tiling Options	Launches the Tile Options dialog box, which has the settings for tiling sessions when using MultiSession.		
Screen Edge Group Selection	Activates a feature that switches windows if the mouse is moved off screen.		
Allow Display Clients to move to/ from screen	Allows a display client to be moved to any active screen on a MultiMonitor thin client.		
Main Menu Options	Shown when the Enable Relevance User Services is checked on the Terminal Mode Section page.		
Pin Pad Options	Opens the Pin Pad Options dialog box, which allows you to configure the PIN pad when using a Personal Identification Number instead of a password.		

a. Click Selector Options.

The Display Client Selector Options dialog box appears.

The Display Client Selector is hidden in the top center of the Terminal screen and is revealed when the mouse is moved to the center of the top edge.

Figure 292 - Display Client Selector Options

Display Client Selector Optio	ns 🗙
✓ Auto-hide Selector	ОК
Tile on Selector activation	Cancel
Selector Menu Size Normal 💌	

b.Complete the Display Client Selector Options dialog box as described.

Setting	Description
Auto-hide Selector	Hides the pull-down Display Client Selector menu until the mouse hovers over the top-center of the screen. Clear the checkbox to show the pull-down Display Client Selector at the top-center of the screen.
Tile on Selector activation	Tiles the sessions when an auto-hid selector is activated.
Selector Menu Size	Sets the size of the text in the Display Client Selector.

c. Click OK to accept changes.

d.Click Tiling Options.

The Tile Options dialog box appears.

Figure 293 - Tiling Options

Tile Options	×
 Show Grid Tile Inactivity Time (secs) Tile Display Clients at startup Include Main Menu as tile Tile Interactive 	OK Cancel

The Tile Options window has several settings for tiling sessions when using MultiSession.

e. Complete the Tile Options dialog box as described.

Setting	Description
Show Grid	Shows tiled sessions in a grid with each grid labeled with the session name while the session is loading.
Tile Inactivity Time (secs)	Sets the length of time that the Terminal screen stays focused on a selected session before reverting to a tiled state due to inactivity.
Tile Display Clients at startup	Shows the sessions tiled when the Terminal first connects to its sessions.
Include Main Menu as tile	Includes a session displaying the TermSecure Main Menu.
Tile Interactive	Allows a user to click into a tiled session and control it interactively without switching focus to a single session. To focus on a single session, use the Display Client Selector pull-down menu or the tiling hotkey (CTRL + T), if enabled.

f. Click OK to accept changes.

g.Click Main Menu Options.

The Main Menu Options dialog box appears.

Figure 294 - Main Menu Options

Main Menu Options	x
 Allow reboot / restart Show Main Menu on Selector Show Virtual Keyboard 	OK Cancel

The Main Options dialog box that has the settings for Main Menu when using Relevance User Services. It is not visible unless Relevance User Services is chosen on the Terminal Mode Selection page.

2. Complete the Main Menu Options dialog box as described here.

Setting Description	
Allow Reboot/Restart	Adds a terminal Restart and Reboot button on the Main Menu.
Show Main Menu on Selector	Lists the Main Menu as an option on the Display Client Selector pull-down menu.
Show Virtual Keyboard	Launches a virtual keyboard with the Main Menu open so the operator can log in manually.

a. Click OK.

b.Click Pin Pad Options.

The Pin Pad Options dialog box appears.

Figure 295 - Pin Pad Options Window

Pin Pad Options	×
Reverse PIN Pad Button Order	
PIN Pad Size	50 💌
Show Feedback	v
ОК	Cancel

The Pin Pad Options dialog box allows you to configure the PIN pad when using a Personal Identification Number instead of a password.

3. Complete the Pin Pad Options dialog box as described here.

Setting	Description
Reverse Pin Pad Button Order	Changes the pin pad from 1-2-3 on the top row like a phone to 7-8-9 on the top row like a calculator.
Pin Pad Size	Sets the size of the pin pad as a percentage of the screen.

4. Click Next on the Terminal Interface Options page.

The Relevance Options page appears.

Relevance Options Page

The Relevance Options page allows the setting of the Relevance options.

Figure 296 - Relevance Options Page

	Terminal Configuration Wi	zard
	e Options he types of Relevance Resolvers to use on t illy choose an assigned location for this client	
- Assigned	Location	Change Clear
☐ Use ☐ Allo ☐ Enf ☐ Con	ed Resolver Types	Г¢

Choose the Options before assigning a location, which locks the Options. If you need to change an option, click Clear to clear the location, change the option, and then reassign the Location.

1. Choose the Options as described here.

Setting	Description
Assigned Location	
Change	Launches the Select Location dialog box.
Clear	Clears the Assigned Location.
Enabled Resolver Types	
Enable QR Code Location Ids	Allows the scanning of a QR code to determine the location.
Enable Bluetooth Locations	Allows the use of Bluetooth beacons to determine the location.
Enable GPS Locations	Allows the Global Positioning System of the mobile device to determine the location.
Enable Wi-Fi Locations	Allows the signal strength of Wi-Fi access points to determine the location.
Use Force Transfer to restore Assigned Location	Lets an operator restore a transferred session without asking permission.
Allow Selection of the Location manually	Lets the user select the location manually from a menu on the mobile device. If this checkbox is cleared, then the user must use a Resolver.
Enforce fencing on a manual Location selection	Allows a manual login anywhere from that Terminal, which could be helpful on a control room Terminal. When chosen, this enforces fencing on that Terminal when a location is selected manually.
Confirm before entering a location	Enables a dialog box that is shown each time a user enters an area.
Resolver Update Interval	The frequency that the resolver updates.

Regarding Enable Resolver Types, Relevance has several methods of resolving the location to allow specific applications to get sent to specific locations. Each method selected requires configuration to associate a location with the Resolver data. 2. Click Change.

The Select Location dialog box appears.

Figure 297 -	Select Location	Window
--------------	-----------------	--------

	Select Location	x
- Locations - 1_Desk - 2_Table - 3_Wall		OK Cancel

The created Locations are displayed in the Select Location tree.

3. Highlight the desired Location and click OK.

Once the Location is assigned, the Options are locked.

Figure 298 - Location Assigned

	Terminal Configu	uration Wizard	
Select	ce Options the types of Relevance Resolve ally choose an assigned location		٢
-Assigned	Location	Change Clear	
- Options - - Enal	Ind Resolver Types Enable QR Code Location Enable Bluetooth Location Enable GPS Locations Enable WrFi Locations		
	e Force Transfer to restore Assig ow selection of Location manual force fencing on manual Location infirm before entering a location ver Update Interval	ly.	
< Back	Next > Finis		Help

4. Click Clear to clear the location and make the options available if you need to change an option, then re-assign the Location.

5. Click Next.

Select Hotkey Dialog Box

The Select Hotkey dialog box allows you to configure hotkeys for display client switching.

Figure 299 - Select Hotkey

Select Hotkey			×
Hotkey Action	Tile	•	ОК
	Tile Swap Full Screen Go to next display client Go to previous display client Instant Failover Calibrate Touchscreen Log on Relevance User Log off Relevance User Log in to location	^	Cancel
€ Alt	Log out of location t Force failover to next dis		

1. Complete the Select Hotkey dialog box per these descriptions.

Setting	Description
Tile	Initiates the Tiling of display clients.
Swap	Exchanges display clients in Virtual Screens.
Full Screen	Expands an overlay to Full Screen.
Go to next display client	Navigates to the next display client in the list.
Go to previous display client	Navigates to the last-used display client.
Instant Failover	Allows hotkey switch between different sessions of a terminal using MultiSession.
Calibrate Touchscreen	Initiates the touch screen calibration program.
Log on Relevance User	Opens the Relevance Login dialog box.
Log off Relevance User	Logs off the Relevance User.
Log in to location	Opens a login dialog box.
Log out of location	Logs off the user from the location.
Set keyboard focus to a screen	Directs the output of the keyboard to the specified screen. Note : to use this setting, the terminal must have MultiMonitor enabled. Set the Hotkey parameter to designate which screen receives the output.
Force failover to next display server	Allows you to fail over the active Remote Desktop Display Server set on a specified Display Client to another listed Remote Desktop Display Server. The failover affects the designated Display Clients only, and it does not disable or fail over the Display Server elsewhere. This setting is effective for Display Clients configured for Failover, instant Failover, and SmartSession. Note : this setting does not work on Display Clients set to Enforce Primary.

a. (Optional) Choose Enable Instant Failover Hotkey, and then click Change Hotkey, which allows the hotkeys to be changed from the default.

The Select Hotkeys dialog box appears.

Figure 300 - Select Hotkeys for Instant Failover

	Select Hotkeys	x
Instant Failover Hotkey Control Key Alt Key	F9 💽	OK Cancel

The default hotkey for Instant Failover switching is set to Control+F9.

- b. Click Alt Key or choose another function key from the pull-down menu.
- c. Click OK to accept changes.
- d. (Optional) Click Enable Display Client Hotkeys, and then click Change Hotkeys, which allows the MultiSession switching hotkeys to be changed from the defaults.

The Select Hotkeys dialog box appears.

Figure 301 - Select MultiSession Switching Hotkeys

	Select Hotkeys	x
Next Display Client Hot Control Key Alt Key	key Page Down ▼	OK Cancel
Previous Display Client	Hotkey Page Up	

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

- e. Click Alt Key or use the pull-down menu to select another hotkey.
- f. Click OK to accept changes or Cancel to close.
- g. (Optional) Choose Enable Tiling Hotkey, and then click Change Hotkey, which allows the hotkey to be changed from the default.

Figure 302 - Select SessionTiling Hotkeys

	Select Hotkeys	X
Tile Hotkey	t 💌	OK Cancel

The default hotkey for SessionTiling activation is set to Control+t.

- h.Click Alt Key or use the pull-down menu to select another hotkey.
- i. Click OK to continue or the Cancel button to close without accepting changes.
- 2. Click Next on the Hotkey Configuration page to continue the configuration.
- 3. Click Mouse Button Mapping.

The Mouse Button Mapping dialog box appears, which allows you to configure actions for the mouse buttons through pull-down menus.

Figure 303 - Mouse Button Mapping

Mous	e Button Mapping	x
Nouse Button Action		
Button 1 (Left Mouse)	Default	• ^
Button 2 (Middle Mouse)	Default	•
Button 3 (Right Mouse)	Swap	•
Button 4 (Scroll Wheel Up)	Default	· =
Button 5 (Scroll Wheel Down)	Default	•
Button 6	Default	•
Button 7	Default	•
Button 8	Default	•
Button 9	Default	
	r	
	OK	Cancel

- 4. Click OK to accept any setting changes and close the window.
- 5. Click Next on the Hotkey Configuration page.

The Log In Information page appears, which is used to specify a Windows Account that is used to log on to all Display Clients assigned to the Terminal automatically. See <u>Figure 304 on page 230</u>.

User Accounts in the Terminal Configuration Wizard

Each Terminal needs a unique Windows account to start sessions on Windows Remote Desktop Servers.

These Windows accounts can be created locally on each Remote Desktop Server or in an Active Directory for domain accounts using standard Windows procedures. You can apply Microsoft security as desired.

Figure 304 - Log In Information Page

Jsemame	Information	 Search
assword		
Verify Password		

Leaving the Windows Log In Information fields blank forces the user to manually log in to their sessions, which is useful for office settings or shared Terminals. Each user logs in with their personal account and gets the privileges that the administrator granted them.

Local Windows User Accounts

Complete the Windows Log In Information fields with an established Windows account to allow the Terminal to log in automatically and start sessions without user action. Completing this page is useful in industrial settings, where the Terminals are public and always run.

Figure 305 - C	ompleted Loc	ı in informa	ition Page
----------------	--------------	--------------	------------

lsemame	terminal_03	Search
assword	*****	
erify Password		
lomain		_

1. Complete the Log In Information page as described here.

Setting	Description
Username	A local Windows account.
Password	The password for the local Windows account. Complete this field if you want the Terminal to log in automatically.
Verify Password	Confirm the password. Complete this field if you want the Terminal to log in automatically.
Domain	Complete this field to use a domain Windows account.

Leave the fields blank to require the user to log in manually each time the Terminal connects.

Individual display clients can be set to require a manual login by clearing the Allow Auto-Login checkbox on the Remote Desktop Services and Workstation Options page of the Display Client Wizard. See <u>Figure 138 on page 112</u>.

Individual display clients can be set to use a different Windows account than the Terminal by using the Override button on the Display Client Selection page of the Terminal Configuration Wizard. See <u>Figure 222 on page 172</u>.

2. Click Next to continue the configuration.

Active Directory User Login Account

A ThinManager Server in a domain can pull an Active Directory account into the Username field using the Search button. This launches a series of dialog boxes, which allow you to select a domain user account for the Terminal login account.

1. Click Search.

The Search for AD User dialog box appears, which allows you to select an Active Directory user.

Figure 306 - Search for AD User Window

		Search for AD User	x
Filter	Contains	Recurse	Locations Search
Name		User Principal Name	
,		0	Cancel

2. Complete the Search for AD User dialog box per these descriptions.

Button/Setting	Description	
Locations	Opens the Select AD Location to Search dialog box to select the Organizational Unit (OU) to search.	
Search	Searches the selected OU and populates the Name field with the OU members.	
Filter	Filters the results with either the Contains or Starts With function and what you type into text field.	
Recurse	Sets the Search function to search nested Windows Security Groups when you search a Windows Security Group. The Choose AD Synchronization Mode must be set to Security Group on the Active Directory System Settings dialog box to work, which is launched from Manage>Active Directory>Settings.	

3. Click Locations.

The Select AD Location to Search dialog box appears.

Figure 307	- Select AD	Location	to Search
------------	-------------	----------	-----------

ОК	Cancel
	ion to Search

4. Highlight the branch of the Active Directory tree that contains your administrative user account and click OK. Highlighting an Active Directory branch reopens the Search for AD User window with the list of domain users from that branch.

The OU is propagated to the location field of the Search for AD User dialog box.

Figure 308 - Search Organizational Unit

		Search fo	or AD User		x
Hannibal					Locations
Filter	Contains	•		Recurse 🗖	Search
Name		User Principal Na	ame		
1				ОК	Cancel

5. Click Search.

The list of domain users from that branch are populated to the dialog box.

Figure 309 - Search for AD User Window

	Search for AD User	X
Hannibal Filter Contains	Recurs	Locations
Name Becky Thatcher Huck Finn Mark Twain Tom Sawyer	User Principal Name bthatcher @Education.local hfinn@Education.local mtwain@Education.local tsawyer @Education.local	
,		OK Cancel

6. Highlight the desired user and click OK.

The domain user is added to the Username field of the Log In Information page.

Figure 310 - Domain User Added to Username Field

windows Log Isemame	In Information hfinn@Education.local	Search
assword		Password Options
omain	1	Verify
	1	- Volay

- 7. Type the correct password into the Password field.
- 8. Click Verify to check whether the password entered is correct.

a. If you receive a message of an invalid account, click OK and try again.

Figure 311 - Invalid Account Message



b. If you receive verification, click OK..

Figure 312 -	Valid Password	Message
--------------	----------------	---------

Jsemame	In Information	Search
assword		Password Options
Domain	Account Verify Account information is va	lid

9. Click Next to continue in the configuration wizard.

The Video Resolution page appears.

Video Resolution Page

The Video Resolution page of the Terminal Configuration Wizard lets you choose the Resolution, Color Depth, Refresh Rate, and Rotation for your monitor.

The resolutions in the pull-down menus are dependent on the make and model of hardware used.

Figure 313 - Video Resolution

Ferminal Configuration Wizard					×
fideo Resolution Select the video resolution for thi	is terminal.				×
Select Video Resolution					_
These are the resolutions	supported by the Thin	I Client model	you selected.		
Resolution	Color Dep	oth	Refresh	Rate	
1280x1024	64K Colors	•	70Hz	•	
Rotation	0 degrees				
	-	_			
					_

Setting	Description
Resolution	Choose the desired screen size from the pull-down menu, which lists the sizes available for the hardware chosen on the Terminal Hardware page. Note : WinTMC configurations offer a Full Screen option.
Color Depth	Choose the desired color depth from the pull-down menu, which contains the values available for the hardware chosen on the Terminal Hardware page.
Refresh Rate	Choose the desired refresh rate for the monitor from the pull-down menu, which contains the values available for the hardware chosen on the Terminal Hardware page. Adjustment to this setting can fix issues where the screen pans.
Rotation (for portrait mode)	Choose the desired rotation (0°, 90°, 180°, or 270°) from the pull-down menu to set the clockwise rotation of the attached monitor. Note : Available for terminals that use Firmware 9.1 and later.



Match the Resolution and Color Depth settings to your monitor's specifications for a clear picture.

1. After making your choices, click Next.

WinTMC Settings

A Terminal configured as a WinTMC Terminal displays a WinTMC Settings page in the configuration wizard for WinTMC clients. These only apply to connections made by the WinTMC application.

Figure 314 - WinTMC Settings Page

Win TMC Set Select the	tings local devices to be redirected, the experience settings and client control settings.
-Redirect Loc	al Resources
Γ	Redirect Serial Ports
Г	Redirect Drives
Г	Redirect Printers
Г	Redirect Sound
Г	Redirect Smart Cards
Client Control	Settings
F	Allow client to be closed
,	Allow client to be sized
5	Always maintain monitor connection
1	Show display clients as separate windows
Experience S	ettings
F.	Show desktop background
F.	Show window contents while dragging
F.	Show menu / window animations
5	Show themes
	Disable NLA

1. Complete the WinTMC Settings page per these descriptions.

Setting	Description
Redirect Local Resources	
Redirect Serial Ports	Makes local serial ports available in a session. ⁽¹⁾
Redirect Drives	Makes local drives available in a session. ⁽¹⁾
Redirect Printers	Makes your local printer available in a session.
Redirect Sound	Allows audio played in your session to play locally. ⁽¹⁾
Redirect Smart Cards	Makes your smart card available in a session. ⁽¹⁾
Client Control Settings	
Allow client to be closed	Enables your user to close the client (WinTMC program).
Allow client to be sized	Enables your user to resize the client.
Always maintain monitor connection	Keeps the monitoring connection active when WinTMC is closed to allow shadowing. Clear this checkbox to release the WinTMC license when the WinTMC program is closed but denies shadow access.
Show display clients as separate windows	Displays multiple Display Clients as separate windows rather than in one window shell.
Experience Settings	
Show desktop background	Enables your user to select a Windows Desktop Background. If not selected, the background is a solid color.
Show window contents while dragging	Allows the window contents to be shown while the window is being dragged.
Show menu/window animations	Enables menu/window animations on the client.
Show themes	Enables your user to select a Windows Theme.
Disable NLA	Disables the user of Network Level Authentication for the client.

(1) Does not work when you connect to a Remote Desktop Server running Windows 2000 or earlier.



These functions may be denied by user policies or Remote Desktop Server configuration. Check the Microsoft Local Policy, Group Policy, and Remote Desktop Services Configuration.

2. Click Next.

Mobile Device Settings

A Terminal configured as an Android or Apple iOS Terminal displays a Mobile Device Options page.

Figure 315 - Mobile Device Options

	Terminal Configuration Wizard
	vice Options Service Options
Toolbar But	tons
	I Show Scan Data Button
	Show Scan Resolver Button
	I ✓ Show User Login Button
- Sound Opti	ons
	✓ Play Location Sounds
_	I Play User Login Sounds
- User Interfa	ace Settings
	Show Zoom Map
	Show Toolbar
	✓ Allow Exit to ThinManager Server List
	✓ Allow Terminal to sleep
	< Back Next > Finish Cancel Help

The Mobile Device Options page has several settings that control the user experience on mobile devices. It is displayed only when configuring an Android or iPad Terminal. This page allows you to disable features normally displayed in the mobile apps.

1. Complete this page per the these descriptions.

Setting Description			
Toolbar Buttons			
Show Scan Data Button	Clear this checkbox to hide the Scan Data button.		
Show Scan Resolver Button	Clear this checkbox to hide the Scan Resolver button.		
Show User Login Button	Clear this checkbox to hide the User Login button.		
Sound Options			
Play Location Sounds	Plays a sound when a location is entered.		
Play User Login Sounds	Plays a sound when the user logs in as a TermSecure or Relevance user.		
User Interface Settings			
Show Zoom Map	Clear this checkbox to hide the screen map while zooming.		
Show Toolbar	Clear this checkbox to hide the app toolbar.		
Allow Exit to ThinManager Server List	Clear this checkbox to prevent the user from leaving the app to switch ThinManager Servers.		
Allow Terminal to sleep	Clear this checkbox to keep a tablet from going into sleep mode.		

2. Click Next.

Module Selection

	Terminal Configuration Wizard
Module Sel Select th	ection e modules that load on this terminal at boot up.
	Installed Modules
Module	
	Mávetta Movetanon
	Möve Up. Möve Down
Add	Move Up. Move Down
Add	

Figure 316 - Module Selection Page of the Terminal Configuration Wizard

Modules are components that provide additional functions to a Terminal but are not required for running the basic configuration. Modules include touchscreen and sound drivers, dual Ethernet port modules, USB drives, screen savers, and so on.

1. Click Add to launch the Attach Module to Terminal dialog box, which allows you to choose a module to add to the Terminal.

Figure 317 - Attach Module to Terminal

Attach Module to Terminal				
Module Type	Touch Screen Show Advance	 d Modules □		
DMC TSC Series To Dupapro Touch Scri		^		
Dynapro Touch Screen Driver eGalax Touch Screen Driver Elographics Touch Screen Driver Gunze AHL Touch Screen Driver Hampshire TSHARC Touch Screen Driver Infra-T Touch Screen Driver MicroTouch Touch Screen Driver PanJit TouchSet Touch Screen Driver PenMount Touch Screen Driver Touch Control Touch Screen Driver				
USB Touch Screen Driver Zytronic Touch Screen Driver				
OK Cancel				

2. Click OK to add the module and return to the Module Selection page.

Modules are covered in detail in <u>Modules on page 317</u>.

3. Click Next on the Module Selection page to continue the configuration.

The ThinManager Server Monitor List page appears.

Fiaure 318 -	ThinManage	r Server	Monitor	List Pac	ıe
--------------	------------	----------	---------	----------	----

8	Terminal Co	onfiguratio	n Wizard	x
ThinManage This termin Servers in	r Server Monitor I nal will establish a mo this list.	List nitoring connec	tion to all Thin Man	ager 🔀
Available Thin1	Manager Servers	Selected	Thin Manager Servi	ers
Edit S	erver List			•
< Back	Next >	Finish	Cancel	Help

The ThinManager Server Monitor List page is a legacy page from early versions of ThinManager and is not used. This page was used before Auto-Synchronization was added to ThinManager. This page was needed to list the ThinManager Servers for the Terminals. Auto-Synchronization does this automatically; so, the page does not appear when using Auto-Synchronization.

However, the ThinManager Monitor List page remains as part of the configuration wizard to prevent problems when upgrading from an old ThinManager system to a modern one.

4. Click Next to continue the configuration.

The Monitoring Configuration page appears, which sets the speed with which failover is detected and initiated.

Figure 319 - Monitoring Cor	nfiguration	Page
-----------------------------	-------------	------

8 T	erminal Configuration Wizard	x
Monitoring Configu Select the setting monitored by this	for how often the Terminal Server status is	\aleph
Connection Monitor Pre-set Monitor Inter Monitor Interval Monitor Timeout Monitor Retry Primary Up Delay M Primary Up Delay Connection Timeout	Invals	
< Back N	ext Cancel	Help

A thin client creates a socket connection to the Remote Desktop Server. If the socket is disconnected, the Terminal tries to reconnect and fails over based on these settings.

5. Complete the Monitori	ing Configuration base	ed on these descriptions.
j. dempièce die memeer	ing comigaration bab	ea en incese accernptioner.

Setting Description		
Pre-set Monitor Interval		
Fast/Medium/Slow	These setting have a set rate for the frequency whith which the Remote Desktop Server status is checked.	
Custom	Allows the administrator to change the settings from the defaults.	
Monitor Interval	The period of time the Terminal waits after losing the socket connection before it tries to reconnect.	
Monitor Timeout	The period of time the Terminal waits between tries.	
Monitor Retry	The number of times the Terminal tries to reestablish a connection before failing over.	
Primary Up Delay Multiplier	A constant used to generate the Primary Up Delay time.	
Primary Up Delay	A delay added (usually set to 30 or 60 seconds) to allow a Remote Desktop Server to get fully booted before the Terminal tries to login. This time period is equal to the Monitoring Interval multiplied by the Primary Up Delay Multiplier. This setting prevents a Terminal using Enforce Primary from switching back to its primary Remote Desktop Server before it is ready.	
Connection Timeout	The amount of time in which a Terminal tries to connect to a Remote Desktop Server before giving up to try the next server.	

The Fast setting is a good setting to use.

Faster rates cause a quicker failover, but more frequent checks on Remote Desktop Server status cause more network traffic. Slower rates cause less traffic, but they slow the failover speed a little.

6. Click Finish to save the settings.

Copy Settings from another Terminal

You can copy the settings from one Terminal during the creation process to speed the configuration.

To create a new Terminal, follow these steps.

1. Right-click on the Terminals branch and choose Add Terminal.

The Terminal Name page of the Terminal Configuration Wizard appears.

Figure 320 - Terminal Name Page

*	Terminal Config	uration Wizard		
	Name he name for this terminal, select the termina e to copy the configuration from another ter		rminal belongs, or	0
Terminal	Name			-
Boiler	03		Description	
	must be a unique name using letters, numberscores (_) only.	ers, hyphens (-), and		
	4		Change Group	
Copy Se			c	
I✓ Co	by Settings from another Terminal		Copy From	
-				
		Permissions		

- 2. Check Copy Settings from another Terminal.
- 3. Click Copy From.

The Select Terminal dialog box appears, which shows a tree with all of the created Terminals.

Figure	321 -	Select	Termi	inal
--------	-------	--------	-------	------

4. Highlight a Terminal and click OK.

The dialog box closes and the configuration is applied from the highlighted Terminal to the new Terminal.

5. Click Next.

The Terminal Hardware page appears, where the new Terminal gets Terminal hardware applied to it.

Figure 322 - Terminal Hardware Page

Select the manufacturer and mo	odel of this terminal.	
Jse this to configure the type of har	dware for this terminal.	
Make / OEM GENER	NC	
Model PXE		<u>.</u>
OEM Model PXE		
Video Chipset Unknown		
nuco cripact on criminowit		
Terminal Firmware Package	Model Default	-
Terminal Firmware Package	the second second	 Terminal will run Package S
	the second second	Teminal will run Package S Clear
Terminal Firmware Package	the second second	
Terminal Firmware Package	the second second	Teminal will run Packag

6. Choose the hardware Make and Model to make Finish available.

You should also verify the Username and Password on the Windows Log In Information page since every Terminal needs a unique Windows account login. See <u>Figure 676 on page 500</u> for more details.

Use Groups for Organization

ThinManager allows the consolidation of Terminals into Terminal Groups. which are used like folders to organize the Terminals into functional or geographic groups. The Group Setting checkbox allows settings to be applied to all members of the group to speed configuration and change deployment.

Any group setting is passed down to its members.

The Group Terminal Configuration Wizard is launched from the Terminals branch of the ThinManager tree.

1. Click the Terminal icon at the bottom of the ThinManager tree to open the Terminals tree.

Figure 323 - Add Group Command

8		e 🛛 🕫		ThinManager			x
	Edit Manag	ge Install To	ols View	Remote View Help			
	Restore Backu	Restore Biomet		PXE ThinManager Server Server List	Manage Synchronize Settings Accounts Passwords	 Manage Resolvers Access Groups Settings 	
Packages		Configuration	-	Manage	Active Directory	Relevance	
Terminals	-		Summ	ary Event Log			•
- Inner	Add	Terminal	Attribute			Value	
		Group		al Stats		-	_
		art Terminals		erminals		3	
			Termina			3 1. Terminal for 14 minu	Q. 1
			100000	t Up-time t Up-time		3 Terminal for 13 minu	
				t up∙time ∋ Up•time		3_Terminai for 13 minu 20 minutes	ttes
			Average	e op-une		20 minutes	
			Termin	al Models			
			PXE			3	
			Termir	als for which running Firm	ware does not match Installed F		
			None				
-							_
×		2 🥥 👻	<		IB		>
-							1

2. Right-click on the Terminals branch and choose Add Group.

The Terminal Configuration Wizard appears. The wizard for the Group parallels the Terminal Configuration Wizard since the group is a collection of Terminals.

Figure 324 - Add Group Menu

8_	200	2 9 =		ThinManager		- - x
	dit Man	age Install Too	ols View	Remote View Help	j.	
	Restore Back	Synchronize		PXE ThinManager Server Server List	Manage Synchronize Settings Accounts Passwords	 Manage Resolvers Access Groups Settings
Packages		Configuration		Manage	Active Directory	Relevance
Ferminals	_		Config	guration Modules S	chedule Event Log Report	
🖃 💻 Te	rminals		Attribute		Value	
Þ 🧾	Production	Add Terminal	C			1
	E Line	There a community		me	Production	
1.	📃 Line	Add Group		scription	None	
Ð 🛃	1_Termi	Restart Terminals				
	2_Termi	Modify				
	3_Termi	Rename				
	4_Termi	Сору				
		Delete	Ctrl+D			
1.94						
×		📕 🧶 🥥 😤	<		ш	>
-						

3. (Optional) Right-click on a group and choose Add Group to add a subgroup, which adds a group under the highlighted group.

Figure 325 - Change Group Button

8	Terminal Configuration Wizard
E	inal Name Inter the name for this terminal, select the terminal group to which his terminal belongs, or choose to copy the configuration from nother terminal.
Tem	ninal Name
	4_Teminal
	This must be a unique name using letters, numbers, hyphens (-), and underscores (_) only.
	Description
Tem	ninal Group
	Change Group
Cop	y Settings
	Copy Settings from another Terminal Copy From
	Permissions
¢ E	Back Next > Finish Cancel Help

4. Click Change Group to add a Terminal.

The Select Terminal Group dialog box appears, which lists the groups and subgroups.

Figure 326 - Select Terminal Group

	Sel	ect Terminal G	roup 💌	
Te	⊡- Terminals ⊡- Production Line_1 Line_2		OK Cancel	
Te				
Cc				

5. Expand the tree as needed, highlight the desired group, and click OK.

The Terminal is assigned to the selected group.

6. Click Finish to close the wizard and apply the changes before you continue. If you need to adjust the configuration, close the wizard and then reopen it.

Figure 327 - Group Membership

	ThinManager	_ _ X
Edit Manage Instat	Tools View Remote View Help Terminal Configuration Wizard Terminal Name Enter the name for this terminal, select the terminal group to which this terminal belongs, or choose to copy the configuration from	 Manage Resolvers Access Groups Settings
Packages Configure Terminals Production Production Line_1 Line_2 Line_2 1_Terminal (@1_Desk)	another terminal. Terminal Name Stemmos This must be a unique name using letters, numbers, hyphens (-), and underscores (_) only. Description Terminal Group	Refevance
2_Terminal	Production/Line_1 Copy Settings Copy Settings from another Terminal Copy From	
× <u>- 1 - 2</u> 4	Permissions)

The group appears in the Terminal Group field, and the Terminal appears nested in the group in the Terminals tree.

Moving Out of a Group

A Terminal can be removed from a group by moving it to the Terminals branch of the Select Terminal Group dialog box.

1. Double-click on the Terminal you want to change in the Terminals tree.

The Terminal Name page of the Terminal Configuration Wizard appears.

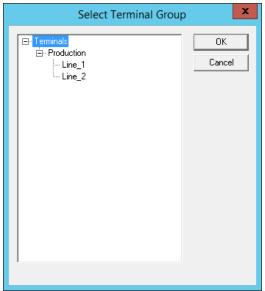
Figure 328 - Change Group Button on the Terminal Name Page

*	Terminal Configuration	n Wizard 🛛 💌
this te	Name the name for this terminal, select the term minal belongs, or choose to copy the co er terminal.	
Teminal	Name	
4_T	eminal	
	must be a unique name using letters, nur underscores (_) only.	nbers, hyphens (-),
		Description
Teminal	Group	
Proc	Juction\Line_1	Change Group
Copy Set	tings	
Γ¢	Copy Settings from another Terminal	Copy From
	Permissions	
Back	Next > Finish	Cancel Help
2 Black	Next > Finish	Cancel Help

2. Click Change Group.

The Select Terminal Group dialog box appears.

Figure 329 - Select Terminal Group Window



- 3. Choose the top-level Terminals in the Terminal Group tree and click OK.
- 4. In the Terminal Configuration Wizard, click Finish.

The changes are applied. If you need to adjust the configuration, close the wizard, then reopen it.

Figure 330 - Terminals Tree Showing Ungrouped Terminal

🕿 🔄 🖉 🔍 🖉 🔍 🔻	ThinManager	
Edit Manage Install Tool		
Restore Backup Biometri Restore Backup Piometri Synchronize Configuration	100 Terminal Carbinstead Minned	e Report
Terminals Constraints Production Line_1 Line_2 Line_2 Terminal (@1_Desk) CTerminal	Att Terminal Name This must be a unique name using letters, numbers, hyphens (-), and underscores (_) only. Description	
4_Terminal	Terminal Group	
	Copy Settings	
	Permissions	
🕿 📃 📕 📕 🤱 🥥 😤		

Once the wizard is closed, the ThinManager Terminals tree shows the Terminal under the Terminals branch and the Terminal Group field of the Terminal Name page is empty.

Use Groups for Configuration

ThinManager Terminal Groups can be used for faster configuration as you only have to make a configuration change once to have it deployed to all the Terminals in the group. You can use Group Setting with every setting in the Group Configuration Wizard.

Adding display clients is easy when you use Group Settings.

1. In the Terminals tree, double-click on a Terminal.

The Terminal Group Name page of the Terminal Configuration Wizard appears.

2. Click Next until the Display Client Selection page appears.

<u>Figure 331</u> shows that Line_1 group has three Terminals with a single display client assigned.

😦 🔌 🖄 🖬 🛛 💐 😡 🔻	ThinManager		x
Restore Backup Biom	Display Client Selection Select the Display Clients to use on this terminal		
Production Produc	Available Display Clients Selected Display Clients Selected Display Clients WNC_Any Calculator Desk43 Desk45 HMI_2	vance	
S 🗉 📔 🖉 🔅 🔅	Edit Display Clients Override		

Figure 331 - Display Client Deployed With Group Settings

- 3. Check Group Setting.
- 4. Change the Selected Display Clients.
- 5. Click Finish.
- 6. Restart the Terminals.

Figure 332 shows that the Line_1 group had its group display clients changed one time, and the change was propagated to all the member Terminals.

8 2	😐 o 🛃	() ;		ThinMana	ger			-		x
Edit	Manage	Install Tool	View Rer	note View	Help					
	19 5	a Restore Biometrie	8	Termir	al Configura	tion Wizard	x	Resolver	5	
	ore Backup	Backup Biometrie	Display Clie	nt Selection			(0)	iroups		
ackages		Configuration	Select the	e Display Client	s to use on this te	minal	\sim	nce		
erminals					-	C	ietting 🔽			
🗌 💻 Termini			Available Display	v Clients	Selec	ted Display Clients	ietting IV			_
E Pro			Shadow_C			IMI_1	-			
		ninal	VNC_Any	-	- 	alculator				
	н 🗾		Desk2012					_		
	🗄 🛃 Ca		Desk43		_			_		
	🗄 😼 HI		Desk45		•		-			
	🗄 🙀 Ca		HMI_2				_			
Ð	4_Tern									
	1 1141	lculator								
	Line_2	1.11	Edit Disp	play Clients		Override				
⊞- 🛃 1_T	erminal (@1	_Desk)								
						1				
		1 🕥 »	< Back	Next >	Finish	Cancel	Help	-		>
	and and									14

Figure 332 - Display Clients Deployed With Group Settings

To demonstrate the effects of using Group Setting, the following figures show the Group Configuration Wizard on the left and the Terminal Configuration Wizard of a member Terminal on the right.

Terminal Configuration Wizard	Terminal Configuration W	lizard
Terminal Group Name Enter the name for the terminal group	Terminal Name Enter the name for this terminal, select the terminal this terminal belongs, or choose to copy the configu- another terminal.	group to which iration from
Group Name	Teminal Name	
This must be a unique name using letters, numbers, hyphens (-), and underscores (_) only.	Terminal This must be a unique name using letters, number and underscores (_) only.	s, hyphens (-),
Description		Description
Terminal Group	┌─ Teminal Group	
Production Change Group	Production\Line_1	Change Group
	Copy Settings	
	Copy Settings from another Terminal	Copy From
Permissions	Permissions	
Back Next > Finish Cancel Help	<back next=""> Finish</back>	Cancel Help

The left figure shows the opening screen of the Group Configuration Wizard while the right figure shows the Terminal Configuration Wizard of a group member.

The Group Configuration Wizard does not show the Terminal Hardware page since that is an individual selection, not a group selection. The Terminal Configuration Wizard shows the Terminal Hardware page, where you select the hardware for the individual device.

Figure 334 - Terminal Group Options and Terminal Options Pages

□ Put Terminal in Admin Mode at Statup □ Put Terminal Schedule □ Terminal Schedule	placement al terminal if off line minal in Admin Mode at Startup dule
Image: Constraint of the constr	placement al terminal if off line minal in Admin Mode at Startup dule
□ □ Put Terminal in Admin Mode at Startup □ □ Put Terminal Schedule □ Terminal Schedule □ □ Terminal Schedule □ □ Terminal Schedule □ □ □ □ □ □ Terminal Schedule □	minal in Admin Mode at Startup
Terminal Schedule Terminal Scher	
□ Set Schedule □ Set Sch □ Terminal Effects □ Group Setting IV	
Terminal Effects	
	a Terminal Effects
	erminal status messages
Group Setting 🔽	
	al to be shadowed WARN +
	iteractive Shadow

On the left, Group Settings is checked in the Group Configuration. On the right, the Terminal Configuration inherits Group Settings; therefore, Group Settings is dimmed.

Figure 333 - Terminal Group Name and Terminal Name Pages

Terminal Mode		- Terminal Mode
I Use Display Clients	Group Setting 🔽	🖙 Use Display Clients
		F Enable MultiMonitor
		🗖 Enable MultiStation
Enable Relevance User Services	Group Setting 🔽	₩ Enable Relevance User Services
☑ Enable Relevance Location Services	Group Setting 🔽	F Enable Relevance Location Services

Figure 335 - Group Terminal Mode Selection and Terminal Mode Selection Pages

In the Terminal Configuration Wizard on the right, Enable MultiMonitor is available because that is based on the hardware selected and not the group membership.

8	Terminal Con	figuration Wizard	x	8	Termin	al Conf	iguration Wizard	x
	i ent Selection he Display Clients to use o	on this terminal	\aleph		Tient Selection the Display Clients	to use or	n this terminal	\approx
Available Displ		Group Selected Display Clients	etting 🔽	Available Disp		- 7	Selected Display Clients	_
VNC_Any Desk201: Desk43 Desk44		Calculator		VNC_Ar Desk20	12	*	Calculator	4
Desk45	<u> </u>	1	•	Desk45		4		-
Edit Di	isplay Clients	Överride	_	Edit [Display Clients		Oven	dê
< Back	Next >	Finish Cancel	Help	< Back	Next >]F	inish Cancel	Help

Choose display clients on the Group Configuration Wizard and check Group Setting to assign those display clients to all member Terminals. You cannot add or subtract from the list in the Terminal Configuration Wizard.

The Group Setting is great when all members of a group run the same applications. If they need different applications, then clear the Group Setting checkbox and assign the display clients individually.

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Terminal Configuration Wizard Ferminal Interface Options Select the display client selector and main menu options that will be available on the terminal.	Terminal Configuration Wizard Terminal Interface Options Select the display client selector and main menu options that will be available on the terminal.
Group Setting 🔽	Display Client Selection Options
Show Selector on Terminal Selector Options	F Show Selector on Terminal Selector Options
Enable Tiling Tiling Diptions Soreen Edge Display Client Selection	Enable Tilling, Tiling Options Spreen Edge Display Client Selection
Main Menu OptionsMain Menu Options	Main Menu Options

On the left, the Group Configuration has Group Settings checked. On the right, the Terminal Configuration has the settings dimmed because it is inheriting the Group Settings.

Figure 338 - Group Hotkey Configuration and Terminal Hotkey Configuration Pages

	Group Setting 🔽		
minal Hotkeys		Terminal Hotkeys	
 Enable Instant Failover Hotkeys 	Change Hotkeys	Intersection Instant Failurer Hotkeys	Change Holkeys
Enable Display Client Hotkeys	Change Hotkeys	Enable Display Client Hotkeys	Change Hotkeys
Enable Tiling Hotkey	Change Hotkey	F Enable Tiling Hotkey	Change Hotkey
Enable Main Menu Hotkey	Change Hotkey	🔽 Enable Main Menu Hofkey	Change Holkey

On the left, the Group Configuration has the Group Settings checked. On the right, the Terminal Configuration has the settings dimmed because it is inheriting the Group Settings.

Figure 337 - Group Terminal Interface Options and Terminal Interface Options Pages

Vindows Log In Information		Windows Log In Information	
semame	Search	Usemame Test02@Edu	cation Jocal Search
assword		Password	Password Options
erify Password			
main		Domain	Verify

Figure 339 - Group Log In Information and Terminal Log In Information Pages

The Group Log In Information page is dimmed and does not allow a group user account to be added. This is because each Terminal needs a unique Windows account to log in to Remote Desktop Servers.



Use a unique Windows account for each Terminal.

Figure 340 - Group Video Resolution and Terminal Video Resolution Pages

*	Terminal Configuration	Wizard	8	Termina	I Configuration	Wizard	x
	D Resolution e video resolution for this group	×		Resolution act the video resolution	for this terminal.		X
Th	P Resolution Group ese are the resolutions supported by the del you selected.	o Setting T	Select	Video Resolution These are the resolu model you selected.	tions supported by th	e Thin Client	
1024	Resolution Color Depth	Refresh Rate	ſ	Resolution	Color Depth 64K Colors	Refresh Rate	
< Back	Next > Finish	Cancel Help	< Bac	sk Next >	Finish	Cancel	Help

The video resolution can be applied to all members of a group. However, if you have to add a differently sized monitor in an emergency, you must clear the Group Settings checkbox and apply the resolutions individually.

Since switching monitors is a task that almost anyone can do, it can be better to set the video resolutions individually.

Figure 341 - WinTMC Settings

8	Terminal Configuration Wizard
	esolution t the video resolution for this terminal.
-Select V	/ideo Resolution
	These are the resolutions supported by the Thin Client model you selected.
10	Resolution Color Depth Refresh Rate
< Back	K Next > Finish Cancel Help

The Group Configuration Wizard has a WinTMC Settings page, which allows configuration of WinTMC clients with Group Settings.

The WinTMC Settings page does not appear in the Terminal Configuration Wizard unless GENERIC/WinTMC is chosen as the Make and Model on the Terminal Hardware page.

Figure 342 - Mobile Device Group Options



The Group Configuration Wizard has a Mobile Device Group Options page, which allows mobile clients to be configured with Group Settings.

This page does not appear on the Terminal Configuration Wizard unless GENERIC/Android Device or Apple/iOS are chosen as the Make and Model on the Terminal Hardware page.

Figure 343 - Group Module Selection and Terminal Module Selection

8	Terminal Configuration Wizard	X Terminal Configuration Wizard X
	Selection for this Group ct the modules that load on Terminals in this group at boot up.	Module Selection Select the modules that load on this terminal at boot up.
	Installed Modules	Installed Modules
Module RDI	Packages P Senal Port Redirection Module 5,6,7,7,1,99.	Module RDP Serial Port Redirection Module USB Touch Screen Driver
Ad	Move Up Move Down	Move Up Move Down
< Bac	k Next > Finish Cancel Help	<back next=""> Finish Cancel Help</back>

Modules can be added at the Group and Terminal levels. Modules selected for a group display a Group icon on the Module Selection page of its members.

The left-side image in Figure 343 shows a module added to the group configuration. The image on the right shows that module on the Terminal with the Group icon to show from where it originated. Also in the image at right, the USB touch screen module was added to the Terminal, but does not show a group icon.

Figure 344 - Terminal Group Name and Terminal Name

Monitor Timeout T 🚽 Seconds Monitor Timeout T 🚽 Seconds	
Monitor Retry 3 🛨 Monitor Retry 3 🛨	
Primary Up Delay Multiplier	
Primary Up Delay 30 Seconds Primary Up Delay 30 Seconds	
Connection Timeout	

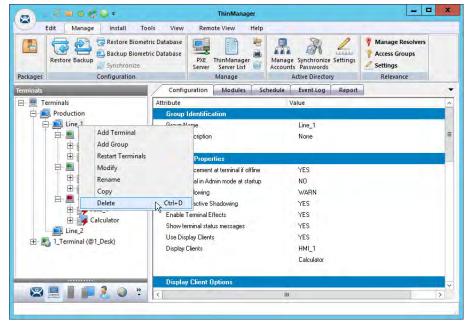
In <u>Figure 344</u>, the Group Configuration on the left has the Group Settings selected. The Terminal Configuration on the right has the settings dimmed because it is inheriting the Group Settings.

Deleting Old Groups

Follow these steps to delete an unnecessary group.

1. Click the Terminals icon at the bottom-left of ThinManager to open the Terminals tree.

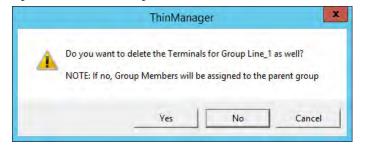
Figure 345 - Delete Option on Group Right-click Menu



2. Right-click on the group and choose Delete.

The Delete dialog box appears.

Figure 346 - Delete Dialog Box



IMPORTANT Read the dialog box before taking an action to prevent the loss of needed Terminals.

- 3. Click Yes, No, or Cancel.
 - a. Click Yes to delete the group **and** member Terminals.
 - b.Click No to delete the group but leave the Terminals under the Terminals tree.
 - c. Click Cancel closes the dialog without deletion.

8	🖴 o 😒 🤤 🕈		ThinManager		
Edit	Manage Install 1	ools View	Remote View Help		21
	Restore Biom		PXE ThinManager	Manage Accounts Passwords	Manage Resolvers Access Groups Settings Relevance
Packages	Configuration		Manage	Active Directory	Relevance
erminals		Summ	ary Event Log		
E Ermina		Attribute			Value
E Pro	Line 2		al Stats		
i interest	2_Terminal	Total Termina			4
	3_Terminal	0 5000	iis ∪n t Up•time		3 1. Terminal for 1 hour, 24
	4 Terminal	Contraction of the second	t Up-time		2 Terminal for 1 hour, 24
	erminal (@1_Desk)		t Up•time		2_reminarior r nour, 2.
		Arologi	op une		2 Hours, 4 minutes
		Termin	al Models		
		PXE			4
		Termin	als for which running Firm	ware does not match Installed F	
		None			
	2 3 3 ×	<		18	

The Terminals from Line_1 are now nested under the Production group in the Terminals tree.

EXAMPLE	The two active Terminals from the Line_1 group are showing the Alert icon, indicating that they must be restarted to load the changed configurations.
	comparations.

IP Configuration

These are the five types of Terminals that can be used in a ThinManager system.

- ThinManager-ready thin clients
- ThinManager-compatible thin clients
- WinTMC client for Windows PCs
- iTMC client for iOS, iPads, and iPhones
- aTMC client for Android mobile devices

Each type has a different method for connecting to ThinManager to receive its configuration.

A ThinManager-ready thin client is shipped from the factory with the ThinManager BIOS onboard. A ThinManager-ready thin client requires these two things to connect to the ThinManager system.

- An IP Address for the client
- The ThinManager Server Address to retrieve the needed boot file and configuration

A ThinManager-ready thin client can use Dynamic Host Configuration Protocol (DHCP) or a static IP address for the client and ThinManager Server IP address. Its BIOS instructs it to download the firmware.

A ThinManager-compatible thin client is a common off-the-shelf thin client that lacks the ThinManager BIOS. ThinManager-compatible thin clients do not store static IP addresses; so, each of them requires DHCP to assign the client IP address. The ThinManager Server IP address and bootfile name can be provided by a DHCP server or the ThinManager PXE Server.

A ThinManager-compatible thin client requires these three things to connect to the ThinManager system.

- PXE Boot enabled in ThinManager
- An IP Address for the client
- The ThinManager Server Address to retrieve the needed boot file

The WinTMC client is a ThinManager client that runs on a Windows operating system and provides a centrally managed connection to the Remote Desktop Server.

Each client PC requires these two things to connect to the ThinManager system.

- The installation of the WinTMC program
- The IP address of the ThinManager Server

The iTMC client is a ThinManager client that runs on an Apple iOS operating system and provides a centrally managed connection to the Remote Desktop Server.

Each iPad requires these three things to connect to the ThinManager system.

- The installation of the iTMC program from the Apple App Store
- Membership on the ThinManager Server network
- The IP address of the ThinManager Server

The AndroidTMC client is a ThinManager client that runs on the Android operating system and provides a centrally managed connection to the Remote Desktop Server.

Each Android device requires these three things to connect to the ThinManager system.

- The installation of the aTMC program from the Google Play Store
- Membership on the ThinManager Server network
- The IP address of the ThinManager Server

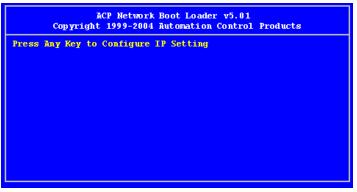
ThinManager-ready Thin Client IP Configuration

DHCP

A ThinManager-ready thin client is shipped from the factory set to use DHCP (Dynamic Host Configuration Protocol).

1. After the Terminal is turned on, a prompt to press any key to configure the IP setting appears. Press the space bar.

Figure 348 - IP Configuration Prompt Page



The IP Configuration Menu appears.

Figure 349 - IP Configuration Menu Page

ACP Network Boot Loader v5.0 Copyright 1999-2004 Automation Contro	
IP Configuration Menu	
 (A) Terminal IP Address = DHCP (B) Primary ThinManager Server IP Address = Secondary ThinManager Server IP Address (F) Password Status : Disabled (G) Load Default Values (H) Help 	
(Q) Abort Changes and Exit (S) Save Changes and Exit	
Select Letter:	

Out of the box, ThinManager-ready thin clients use DHCP, which passes out IP addresses However, the thin client also needs the IP address of the ThinManager Server. The IP address can be provided by the DHCP server using Option 066, Boot Server Host Name.

Figure 350 - Microsoft DHCP Server

Scope Options	? ×
General Advanced	1
Available Options Available Options 064 NIS+ Domain Name 065 NIS+ Servers Ø66 Boot Server Host Name 067 Bootfile Name Image: Image	Description A The name o A list of IP a TFTP boot Bootfile Nan
ÖK Canc	el <u>A</u> pply

2. Check option 066 Boot Server Host Name, and enter the IP address of the ThinManager Server in the String value field to have the DHCP server send the IP address to the ThinManager-ready thin clients.

PCs and laptops that use DHCP ignore this setting.

Static IP Addressing

Most models of ThinManager-ready thin clients allow the usage of static IPs, which are set on the IP Configuration Menu.

1. Press any key at the IP Configuration Prompt page.

The IP Configuration Menu appears.

Figure 351 - IP Configuration Menu - Static IP

	ACP Network Boot Loader v5.01 Copyright 1999-2004 Automation Control Products
IP Co	nfiguration Menu
(B) Pr (C) Se (D) Ro (E) St (F) Pa	rminal IP Address 192.168.3.115 imary ThinManager Server IP Address = 192.168.3.11 condary ThinManager Server IP Address = 192.168.3.12 uter IP Address = 0.0.0.0 bhet Mask = 255.255.255.0 issword Status : Disabled ad Default Values Plp
	ort Changes and Exit we Changes and Exit
Select	Letter:

2. Press A to allow the client IP address to change from DHCP to static.

3. Type the static IP address for the client, including the separating periods, and press Enter.

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

Setting	Configuration	Description
(A)	Terminal IP Address	A unique address for the Terminal.
(B)	Primary ThinManager Server IP Address	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 connects 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 not used, set to 0.0.0.0.
(E)	Subnet Mask	Set to 0.0.0.0.
(F)	Password Status	Set this to your subnet mask. 255.255.255.0 is a standard setting. IMPORTANT: Do not forget this password.
(G)	Load Default Values	Resets the ThinManager-ready thin client to the original IP values.
(H)	Help	Launches Help to explain the IP Configuration Menu.
(Q)	Abort Changes and Exit	Cancel any setting changes and let the Terminal continue to boot with the old settings.
(S)	Save Changes and Exit	Apply any changes and allow the Terminal to continue to boot with the new settings.

4. 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.

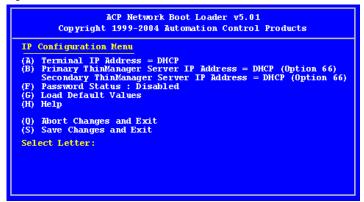
Hybrid IP Addressing

ThinManager-ready thin clients with Boot Loader 5.01 and later can use DHCP to assign the Terminal IP address. However, they can assign the ThinManager Server IP address as a static IP in the IP Configuration Menu, as well.

1. Boot your thin client and press the spacebar when prompted on the IP Configuration Prompt page.

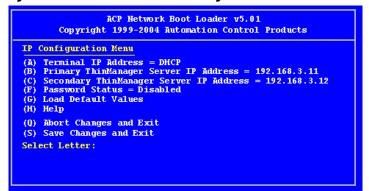
The IP Configuration Menu appears.

Figure 352 - Boot Loader Default Values



- 2. Press B to add a static IP for the ThinManager Server.
- 3. Type the address.

Figure 353 - DHCP with Static ThinManager Server



- 4. Once a ThinManager Server is assigned, type C to allow a redundant secondary ThinManager Server to be assigned.
- 5. Type S to save the changes and allow the connection to the ThinManager Server.

The Terminal nows boot using DHCP.



The Escape key lets you exit the entry field and return to the IP Configuration Menu.

Firmware Download

Once the ThinManager-ready thin client is configured, the Terminal connects to the ThinManager Server and downloads the firmware and configuration.

Figure 354 - Firmware Download

ACP Network Boot Loader v5.01 Copyright 1999-2004 Automation Control Products
Status:Loading from ThinManager Server 192.168.3.11
Terminal IP Information
Model: XA1300 IP Method: Static Terminal IP: 192.168.3.173 Primary ThinManager Server: 192.168.3.11 Secondary ThinManager Server: 192.168.3.12 Router: 192.168.3.36 Subnet Mask: 1255.255.255.0 MAC Address: 0123456789ABCD Multicast IP and Port: None
Download Progress Meter

If the static IP address for the Terminal is a duplicate of another IP address on the network, an error message is displayed, and the firmware download stops.

Figure 355 - Duplicate IP Address Error

	work Boot Loader v5.01 2004 Automation Control Products
	on the Network with this Terminal's IP t Resolve this Conflict to Continue el to Restart
Terminal IP Information	
Model: XA1300 IP Method : Static Terminal IP : 192.168.3 Primary ThinManager Ser Secondary ThinManager S Router : 192.168.3.36 Subnet Mask: 1255.255.2 MAC Address: 0123456789	ver : 192.168.3.11 erver : 192.168.3.12 255.0
Down	load Progress Meter

A Terminal with an error message needs to be rebooted and the IP address corrected, see <u>Figure 355</u>.

Add and Configure Thin Clients

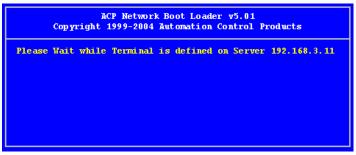
Connect and Start Wizard

When a Terminal is turned on for the first time, it initiates the Create New Terminal mode given one of the conditions that follow are true.

- No Terminals are defined in ThinManager.
- All the defined Terminals are currently connected.
- All the defined Terminals that are turned off have the Allow replacement at terminal if off line checkbox cleared on the Terminal Group Options page. See Figure 334 on page 250.

When a Terminal enters the Create New Terminal Mode, the Terminal launches the Terminal Configuration Wizard on the ThinManager Server. The Terminal displays a dialog box that indicates to wait until the configuration is finished before you proceed.

Figure 356 - Create New Terminal Mode Screen



Preconfigure and Select Configuration

The Replace or Create New Terminal Mode is initiated when a Terminal is turned on for the first time and Allow replacement at terminal if off line is checked on the Terminal Group Options page. See <u>Figure 334 on page 250</u>,

This Terminal is undefined on Server 192.168.3.11 Choose the terminal to Replace or Action			
Terminal	Group		
Annex1A	Annex		
Annex1B	Annex		
Annex2C	Annex		
Boiler1	Boilers		
Boiler3	Boilers		
Parts1	Parts		
Shipping 2	Shipping		
Create New Terminal			

The dialog box displays all the offline Terminals that the Terminal can replace. Groups are displayed, which requires a pull-down menu to the desired Terminal.

Highlight the desired Terminal name using the keyboard and press Enter.

The Terminal retrieves the selected configuration and assumes its identity.

If a Terminal has previously connected to ThinManager and received its configuration, rebooting it does not give it a choice of configurations, but applies its normal configuration.

PXE Server and PXE Boot

A ThinManager-ready thin client is shipped from the factory with the ThinManager BIOS onboard. A ThinManager-ready thin client can use DHCP or static for the client and ThinManager Server IP addresses. Its BIOS instructs it to download the firmware.

A ThinManager-compatible thin client is a common off-the-shelf thin client that lacks the ThinManager BIOS. ThinManager-compatible thin clients do not store static IP addresses; so, each of them requires DHCP to assign the client IP address. The ThinManager Server IP address and boot file name can be provided by a DHCP server or the ThinManager PXE Server.

A ThinManager-compatible thin client requires three things to connect to the ThinManager system.

- An IP Address for the device.
- The ThinManager Server Address to retrieve the needed boot file.
- The Boot File name.

PXE Server Modes

There are four modes or methods that a ThinManager-compatible thin client can use to receive information.

- Using standard DHCP server
- Using standard DHCP server on this machine
- Using standard DHCP server with Boot Options (PXE Disabled)

- Not using standard DHCP server
- Table 2 ThinManager-compatible Thin Client IP Sources

Mode/Method	Device IP	ThinManager IP	Boot File Name
Using Standard DHCP	DHCP Server	ThinManager	ThinManager
Using Standard DHCP on machine	DHCP Server	ThinManager	ThinManager
DHCP with Boot Options	DHCP Server	DHCP Option 066	DHCP Option 067
Not Using Standard DHCP	ThinManager	ThinManager	ThinManager

Using Standard DHCP Server

Use the Using standard DHCP server mode when you have an existing DHCP server in your system to pass out the IP addresses.

1. Choose Manage>PXE Server to open the PXE Server Wizard.

The PXE Server Configuration page appears.

Figure 358 - PXE Server Configuration Wizard

8	PXE Server Wizard	×
	er Configuration / Disable PXE Server	st
The ThinMa PXE booting	anager PXE Server allows the use of terminals that support Intel g.	
	☑ Enable PXE Server	
< Back	Next > Finish Cancel H	elp

2. Check Enable PXE Server and click Next.

The Network Interface Configuration page appears.

Figure 359 - Network Interface Configuration Page of PXE Server Configuration

	PXE Server Wizard
	t Interface Configuration t the settings for each network interface
Select In	erface to Configure
Microsof	Hyper-V Network Adapter
Interface	Primary IP Address 10.3.10.153
	rver Mode
	Using standard DHCP server
	Using standard DHCP server on this machine
	Using standard DHCP server with Boot Options (PXE Disabled)
	Using standard DHCP server with Boot Options (PXE Disabled) Not using standard DHCP server
6	
(IP Addr	[*] Not using standard DHCP server
(IP Addr ([×] Not using standard DHCP server ess Conflict Detection
(IP Addi (Not using standard DHCP server ess Conflict Detection ARP
(– IP Addr (Not using standard DHCP server ess Conflict Detection ARP None Allow New PXE clients

Setting	Description
Select Interface to Configure	Pull-down menu allows the network interfaces to be configured individually if ThinManager Server has multiple network cards.
PXE Server Mode	
Using standard DHCP server	Uses existing DHCP server to provide client IP addresses while the ThinManager PXE server provides the ThinManager IP and boot file name.
Using standard DHCP server on this machine	Required to provide the PXE information when a standard DHCP server is installed on the same computer as the ThinManager Server. Additionally, Port UDP-4011 must be open on the computer.
Using standard DHCP server with Boot Options (PXE Disabled)	Allows DHCP server to provide all needed information. Use if your DHCP server is configured to use Option 066 (Boot Server Host Name) with the ThinManager Server IP address. You must use Option 067 (Boot file name) set to <i>acpboot.bin</i> .
Not Using standard DHCP server	Allows PXE thin clients to connect to ThinManager, which provides all necessary information, through the selected network interface. Clear this checkbox if you only want known clients to connect.
IP Address Conflict Detection	
ARP	Checks for conflicts in the Address Resolution Protocol.
None	Does not check for conflicts in the Address Resolution Protocol.
Allow New PXE Clients	Allows unknown PXE thin clients to connect to ThinManager through the selected network interface. Clear the checkbox to allow only known clients to connect, which is a security feature that can prevent the provision of PXE information to new PXE boot ThinManager-compatible thin clients.

	PXE Server Wizard	
	erface Configuration e settings for each network interface	
Select Interfac	se to Configure	
Microsoft Hyp	per-V Network Adapter	*
nterface Prim	nary IP Address 10.3.10.153	
PXE Server © Us	Mode sing standard DHCP server	
⊙ Us		
େ Us ୮ Us	sing standard DHCP server	bled)
ତ Us ମ Us ମ Us	sing standard DHCP server sing standard DHCP server on this machine	bled)
€ Us C Us C Us C No	sing standard DHCP server sing standard DHCP server on this machine sing standard DHCP server with Boot Options (PXE Disa	bled)
€ Us C Us C Us C No	sing standard DHCP server sing standard DHCP server on this machine sing standard DHCP server with Boot Options (PXE Disa ot using standard DHCP server Conflict Detection	bled)
♥ Us ♥ Us ♥ Us ♥ Us ♥ Not	sing standard DHCP server sing standard DHCP server on this machine sing standard DHCP server with Boot Options (PXE Disa of using standard DHCP server Conflict Detection	bled)

Figure 360 - Synchronized Network Interface Configuration Page

A synchronized ThinManager Server has a pull-down menu for the network interface on both ThinManager Servers.

The easiest method of PXE boot is if you have an existing DHCP server.

3. Choose Using standard DHCP server and click Finish.

The PXE Server Initialization dialog box appears.

Figure 361 - PXE Server Initialization Dialog



The PXE server initializes and becomes active.

When the ThinManager-compatible thin client is turned on, it requests the DHCP and PXE information. The DHCP server responds with the client IP address. ThinManager responds with the PXE boot information, and the thin client connects to ThinManager.

Using Standard DHCP Server on this Machine

Use the Using standard DHCP server on this machine mode when you have an existing DHCP server in your system to pass out the IP addresses, and it is installed on the ThinManager Server.

Figure 362 - Using standard DHCP server on this machine

	PXE Server Wizard
	nterface Configuration he settings for each network interface
Select Interf	ace to Configure
Microsoft H	yper-V Network Adapter
Interface Pr	imary IP Address 10.3.10.153
PXE Serve	er Mode
CI	Using standard DHCP server
•	Using standard DHCP server on this machine
C 1	Using standard DHCP server with Boot Options (PXE Disabled)
CI	Not using standard DHCP server
-IP Address	s Conflict Detection
G,	ARP
C	None
	Allow New PXE clients
< Back	Next > Finish Cancel Helo
COUCK	Next > FINISH Cancel Help

This mode optimizes the PXE server when the ThinManager Server is installed on the same machine as the DHCP server.

Port UDP-4011 must be open for this setting, and it is also required for Unified Extensible Firmware Interface (UEFI) boot PXE clients.

Using standard DHCP server with Boot Options

Use the Using standard DHCP server with Boot Options mode when you have an existing DHCP server and want it to provide all the information.

The DHCP server needs to be configured to provide Option 66, Boot Server Host Name, and Option 67, Bootfile Name.

On the DHCP Server

1. Choose Start>Administrative Tools>Computer Management on your Microsoft DHCP server to open the Microsoft DHCP Service.

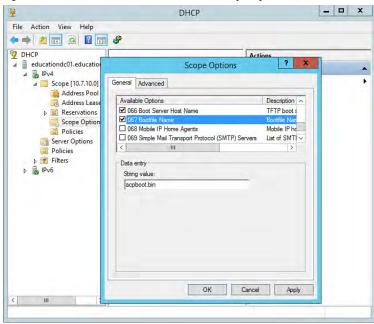


Figure 363 - Microsoft 2012 Server DHCP Scope Options

2. Right-click on Scope Options in the Scope tree and choose Configure Options.

The Scope Options dialog box appears.

- 3. Scroll to and check Option 066 Boot Server Host Name. Type the IP address of the ThinManager Server in the String value field. If you use a redundant pair of ThinManager Servers, enter both IP addresses separated by a space.
- 4. Scroll to and check Option 067 Bootfile Name. Type acpboot.bin in the String value field.

The DHCP server is allowed to provide the boot information to both ThinManager-ready thin clients using the default DHCP and ThinManager-compatible thin clients via PXE boot. DHCP server is able to do this because we configured a DHCP to provide IP addresses, the ThinManager Server IP address as Option 066 and the acpboot.bin bootfile as Option 067.

In ThinManager

- 1. Choose Manage>PXE Server to open the PXE Server Wizard.
- 2. On the PXE Server Configuration page, check Enable PXE Server.
- 3. Click Next.

The Network Interface Configuration page appears.

Figure 364 - Network Interface Configuration Page

	PXE Server Wizard
	k Interface Configuration sct the settings for each network interface
Select In	terface to Configure
Microso	ft Hyper-V Network Adapter
Interface	Primary IP Address 10.3.10.153
4	erver Mode Using standard DHCP server Using standard DHCP server on this machine Using standard DHCP server with Boot Options (PXE Disabled) Not using standard DHCP server
IP Add	ress Conflict Detection
1	ARP
1	S None
ſ	Allow New PXE clients
< Bac	k Next > Finish Cancel Help

- 4. In the PXE Server Mode section, choose Using standard DHCP server with Boot Options (PXE Disabled).
- 5. Click Finish.

The PXE server is configured.

When the ThinManager-compatible thin client is turned on, it makes a DHCP request. The DHCP server responds with the client IP address, ThinManager IP address, and name of the bootfile to download. The ThinManager-compatible thin client connects to ThinManager.

Not using standard DHCP server

Use the Not using standard DHCP server mode when you do not have an existing DHCP server. This mode is configured to give ThinManager the ability to pass all the information needed to boot.

ThinManager only passes IP addresses to terminals making a PXE request. It ignores traditional DHCP requests.

1. To open the PXE Server Wizard, choose Manage>PXE Server.

The PXE Server Configuration page appears.

- 2. Check Enable PXE Server.
- 3. Click Next.

The Network Interface Configuration page appears.

Figure 365 - Network Interface Configuration Page

8	PXE Server Wizard	2
	nterface Configuration he settings for each network interface	×
Select Interfa	ace to Configure	
Microsoft H	yper-V Network Adapter	•
Interface Pri	imary IP Address 10.3.10.153	
⊢ PXE Serve	er Mode	
CL	Jsing standard DHCP server Jsing standard DHCP server on this machine Jsing standard DHCP server with Boot Options (PXE Dis	sabled)
CL CL	Using standard DHCP server on this machine	sabled)
	Using standard DHCP server on this machine Jsing standard DHCP server with Boot Options (PXE Dia	sabled)
	Using standard DHCP server on this machine Jsing standard DHCP server with Boot Options (PXE Dis Not using standard DHCP server Conflict Detection	sabled)
CL CL FI IP Address © A	Using standard DHCP server on this machine Jsing standard DHCP server with Boot Options (PXE Dis Not using standard DHCP server Conflict Detection	sabled)

- 4. Click Not using standard DHCP server.
- 5. (Optional) Click ARP to have the IP Address Conflict Detection check for conflicts in the Address Resolution Protocol.
- 6. (Optional) Check Allow New PXE clients to control whether ThinManager gives PXE information to new PXE boot ThinManager-compatible thin clients.
- 7. Click Next.

The IP Address Range Configuration page appears.

Figure 366 - IP Address Range Configuration	Figure 366 - IF	, Address F	Range Co	nfiguratio
---	-----------------	--------------------	----------	------------

*	P>	(E Server Wizar	rd	x
1	P Address Range Configu Configure each range of IP			\approx
F	Beginning IP Address	Ending IP Address	1	_
-	Add	Delete	-	Edit
E	< Back Next>	Finish	Cancel	Help

The ThinManager Server needs to have a range of IP addresses added so that it can give the ThinManager-compatible thin clients their IP addresses.

8. Click Add.

The IP Address Range dialog box appears.

Figure	367	- IP	Address	Range
--------	-----	------	---------	-------

IP Add	Iress Range 🛛 🗙
Starting IP Address	
Ending IP Address	0.0.0.0
Subnet Mask	255 . 255 . 255 . 0
Router IP Address	0 . 0 . 0 . 0
Exclusions	ervations Advanced
Clear IP Assignments	
	OK Cancel

9. Complete the IP Range dialog box per these descriptions.

Setting	Description		
Starting IP Address Type the first IP address for the PXE Server to assign.			
Ending IP Address	Type the last IP address for the PXE Server to assign.		
Subnet Mask	The subnet mask of the network.		
Router IP Address	If needed, type the IP address of your router. Leave as 0.0.0.0 if not needed.		
Buttons	·		
Exclusions	Launches the Exclusions dialog box to exclude a specific IP address from the available page.		

Setting	Description
Reservations	Launches the Reservations dialog box that allows you to reserve a specific IP address to be assigned to a thin client based on the thin client MAC add address.
Advanced	Launches the Advanced IP Range Settings dialog box, which allows the addition of DHCP options.
Clear IP Addignments	Clears the settings from the IP Address Range dialog box.

Exclusions

To add an exclusion to the IP address range, complete these steps.

1. On the Exclusions dialog box, click Add.

The Exclusion Range dialog box appears.

Figure 368 -	Exclusions and	Exclusion	Range	Dialog	Boxes
--------------	-----------------------	-----------	-------	--------	-------

	Ex	clusions	C
Begin	ning IP Address Ending IP ,	Address	-
	Exclu	sion Range	
	Exclusion Start IP Address	10 . 7 . 10 . 153	
	Exclusion End IP Address	10 . 7 . 10 . 156	
		OK Cancel	
	AUU EUIL	Delete	
		ОК]

- 2. Type the Exclusion Start IP Address.
- 3. Type the Exclusion End IP Address.



To exclude a single IP address, enter it in the Exclusion Start IP Address field.

- 4. Click OK to close the Exclusion Range dialog box.
- 5. Click OK to close the Exclusions dialog box.

The range of IP addresses to exclude from assignment is complete.

Reservations

Reservations allow you to assign a specific IP address to a thin client each time it boots. This can be done in the PXE Server or in the Terminal Configuration Wizard.

Reservations in the PXE Server

To add a Reservation, complete these steps.

1. On the IP Address Range dialog box, click Reservations.

The Reservations dialog box appears.

2. Click Add.

The Reservation dialog box appears.



	Reservations x
Unduran Address Cores	ndenul Jacoburana Add TD Address
	Reservation X
Hardware Address (MAC)	
Secondary Hardware Address (MAC)	
IP Address	255 . 255 . 255 . 255
	OK Cancel
	ОК

- 3. Type the MAC address from the ThinManager-compatible thin client in the Hardware Address (MAC) field.
- 4. Type a secondary MAC address if the ThinManager-compatible thin client has two NICs. These MAC addresses are often on the serial number label.
- 5. Type the IP Address you want to assign to it.
- 6. Click OK on the Reservation dialog box.
- 7. Click OK on the Reservations dialog box.

The IP address range is displayed on the IP Address Range Configuration page when the IP Address Range dialog box is closed.

Figure 370 - IP Address Range in PXE Server

Destantes ID Address	Contract ID Address	-
Beginning IP Address 10.7.10.150	Ending IP Address 10.7.10.159	
Add	Delete	Edit



The ThinManager PXE server is not a true DHCP server. It only issues IP addresses to PXE boot devices. It does not assign IP addresses to other computers, laptops, or devices.

Reservations in the Terminal Configuration Wizard

ThinManager has an easy way to reserve IP addresses for PXE boot thin clients.

Follow these steps.

1. Turn on the device and associate it with a configuration.

Figure 371 - Original Assigned IP Address

		ThinManager				~ □	x
	ools View Rem	ote View Help			_		
ThinManager Server EducationRDP02a Add ThinManager Server Disconnect ThinManager Server	Refresh Modify		A Lock	G Find (Ctrl-F Find Next (F3) Find	7		
Terminals	Configuration	Modules Schedule	Properties	Event Log	Shadow	Report	•
🖃 💻 Terminals	Attribute	Vi	alue				~
🕀 🧾 Production	Terminal Inform	ation					
🕀 🛃 1_Terminal (@1_Desk)	IP Address.		10.7.10.152				-
2 Terminal	TerminaLID	000C29EF1AC3					
	Firmware Version	7.2.0				=	
	Firmware Package	7.2.debug					
	Hardware Model		PXE				
	Network Boot ROI	M Version	PXE				
	Boot Loader Versi	on	2.3				
	Up Time		2 hours, 51 mi	nutes			
	Relevance Pro	perties					
	Current Location						
	Terminal CPU I	nformation					
	Vendor		GenuineIntel				
	Name		Intel(R) Core(1	FM) i7-2630QM CF	PU @ 2.00GI	Hz	~
🚬 😫 📃 📗 🚛 🤶 🍛 🤻	<	IB					>

Figure 371 shows the original IP address.

2. Turn off the device. You cannot change the IP address of a Terminal that is on.

The Terminal icon in the tree turns red.

- 3. Double-click on a turned off Terminal in the ThinManager tree to open the Terminal Configuration Wizard.
- 4. Navigate to the Terminal Hardware page and click Edit.

The Edit Terminal Id page appears, which is only be active on Terminals that are off.

Figure 372 - Edit Terminal ID Window

	Hardware t the manufacturer ar	nd model of this terminal.
	E	dit Terminal Id
Terminal Io	d (MAC)	000C29EF1AC3
Secondary	/ MAC Address (optic	onal)
-IP Addre	ess (for PXE clients) -	
🔽 Stati	ically assign IP Addre	ss
Static IF	P Address	10 . 7 . 10 . 158
		OK Cancel
Terminal	I ID 000C29EF1A	Clear

- 5. Check Statically assign IP Address, which allows you to set a static IP reservation when addresses are assigned with the ThinManager PXE server.
- 6. Click OK to close the Edit Terminal Id page.
- 7. Click Finish to close the Terminal Configuration Wizard.
- 8. Right-click the Terminal, and choose Restart.

It is now assigned the new IP address.

Figure 373 - Newly Assigned IP Address

Edit Manage Install T	ools View	Remote View	Help					
ThinManager Server EducationRDP02a Add ThinManager Server Disconnect ThinManager Server		Modify O Copy	😮 Delete oup (🗖 Rename Edit	A Lock	G Find (Ctrl-F Find Next (F3) Find)		
		Ý	v v	Y			· · · · · ·	1
Terminals	Configur	ation Modules	Schedule	Properties	Event Log	Shadow	Report	
🖃 💻 Terminals	Attribute		Va	alue				^
 Production 1_Terminal (@1_Desk) 	Terminal	Information						
	IP Address	IP Address		10.7.10.158				-
2_Terminal	Terminal ID			000C29EF1A0	3			
	Firmware Version			7.2.0				88
	Firmware Package			7.2.debug				1
	Hardware Model			PXE				
	Network Boot ROM Version			PXE				
	Boot Loader Version			2.3				-
	Up Time			0 minutes				
	Relevand	e Properties						
	Current Lo	cation						1
	Terminal	CPU Information						
	Vendor			GenuineIntel				
	Name			Intel(R) Core(T	FM) i7-2630QM CF	PU @ 2.00G	Hz	~
- 🙁 💻 📗 🚛 🧎 🥥 🤻	<		18				I I	>



An advantage of using ThinManager to assign IP addresses is, if you do a replacement, the replacement Terminal is assigned the reserved IP address.

Local WinTMC Configuration

WinTMC is a PC application that allows ThinManager to manage the RDP connections between the PC and Remote Desktop Servers. Also, WinTMC provides enhanced features like failover and Instant Failover, which standard RDP connections lack.

The WinTMC needs to be installed on the PC, then it needs to be configured to point to ThinManager to receive its configuration.

When WinTMC starts, Configure is displayed on the ThinManager splash screen.

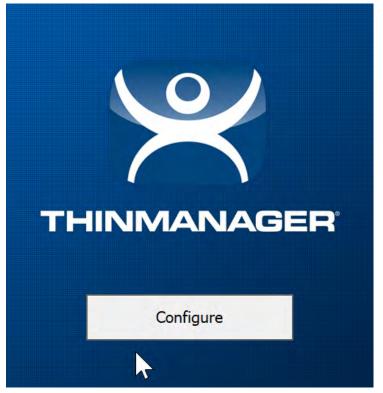


Figure 374 - WinTMC Splash Screen

1. Click Configure to specify the ThinManager Server(s) to use.

The Add New ThinManager Server dialog box appears.

Figure 375 ·	- WinTMC ThinM	1anager Server	List Configuration

Add New ThinManager Server $$ $ imes$	
Description	
ThinManager	
Primary	
192.168.1.15	
Secondary	
192.168.1.16	
OK Cancel	

The ThinManager Server List allows the WinTMC to be pointed to one or more ThinManager Servers to retrieve its configuration.

- 2. Type the IP address or name of your ThinManager Servers in the Enter new ThinManager Server Name or IP Address field and click OK to add them to the Current ThinManager Server list.
- 3. Click Move Up and Move Down to change the list order of ThinManager Servers with which WinTMC tries to connect.
- 4. Click Delete to remove unneeded ThinManager Servers.
- 5. (Optional) Click Set Password to password protect this configuration menu.

Once a password is configured, it is required to change the configuration when a user clicks Configure when WinTMC is started.

If OK is clicked without entering a ThinManager Server, an error dialog reminds you to enter a ThinManager Server address.

1	No ThinManager Server Specified
	No ThinManager Server Specified 🛛 🔀
	You must specify at least one ThinManager Server
	(OK

Once the local configuration is set, WinTMC connects to a ThinManager Server and attempts to retrieve its configuration.

Terminal Replacement Dialog
Select a Terminal to Replace X
Remote1 - Terminal Remote2 - Terminal UNIT1 - Terminal UNIT2 - Terminal UNIT3 - Terminal UNIT4 - Terminal WorkStation1 - Terminal Workstation2 - Terminal
Create a new Terminal OK

If the WinTMC PC has not been defined, the user is prompted with a dialog box to allow for the creation of a new configuration or to replace an existing Terminal configuration on the ThinManager Server.

This functionality is similar to that of the create/replacement menu on a Thin Client. Select the thin client configuration you want to assume. Once the WinTMC is assigned a configuration, you do not need to make a selection again.

WinTMC Configuration in ThinManager

To create a WinTMC client in ThinManager using the Terminal Configuration Wizard, follow these steps.

1. Choose GENERIC from the Make/OEM pull-down menu and WinTMC from the Model pull-down menu on the Terminal Hardware page.

Figure 376 -	WinTMC So	ettings in	Terminal	Hardware
--------------	-----------	------------	----------	----------

k.	Terminal Co	nfiguration Wizard	
Terminal Han Select the	dware manufacturer and mod	del of this terminal.	P
Use this to conf	figure the type of hard	ware for this terminal.	
Make / OEM	GENERIC		
Model	WinTMC		•
OEM Model	WinTMC		
Video Chipset	UNKNOWN		
Terminal Firmwa	are Package	Model Default	-
Teminal Firmwa	are Package	Model Default Teminal will run	Package 7.
	are Package nd IP Address	1	
-Terminal ID ar	nd IP Address	1	Package 7. Clear
		1	

The Terminal ID populates with the name of the PC once the WinTMC client is tied to a PC.

The Terminal Configuration Wizard for a WinTMC client is the same as for a thin client with a few exceptions—the Video Resolution page and the WinTMC Settings page.

Figure 377 - Video Resolution for WinTMC

*	Terminal Configuration Wizard
Vic	Select the video resolution for this terminal.
-ș	elect Video Resolution
	These are the resolutions supported by the Thin Client model you selected.
	Resolution Color Depth
	FullScreen 🔄 64K Colors 💌
-	< Back Next > Finish Cancel Help

The Video Resolution for WinTMC includes a setting for FullScreen, which populates with whatever resolution the PC client runs.

Also, you may choose from set resolutions.



WinTMC that runs on computers with multiple monitors can run as MultiMonitor WinTMC clients.

Figure 378 - WinTMC Settings

Sele	IC Settings ect the local devices to be redirected, the experience settings and nt control settings.
	ct Local Resources
	Redirect Serial Ports
	Redirect Drives Redirect Printers
N	Redirect Sound
	Redirect Smart Cards
Client	Control Settings
1	Allow client to be closed
V 1	Allow client to be sized
	Always maintain monitor connection
1 3	Show display clients as separate windows
Experie	ence Settings
₹ :	Show desktop background
₹ :	Show window contents while dragging
₹.	Show menu / window animations
	Show themes
FI	Disable NLA

The Terminal Configuration Wizard includes a WinTMC Settings page for WinTMC clients. These settings only apply to connections made by the WinTMC application and include the following.

Setting	Description			
Redirect Local Resources				
Redirect Serial Ports	Makes local serial ports available in a session. ⁽¹⁾			
Redirect Drives	Makes local drives available in a session. ⁽¹⁾			
Redirect Printers	Makes your local printer available in a session.			
Redirect Sound	Allows audio played in your session to play locally. ⁽¹⁾			
Redirect Smart Cards	Makes your smart card available in a session. ⁽¹⁾			
Client Control Settings				
Allow client to be closed	Enables your user to close the client (WinTMC program).			
Allow client to be sized	Enables your user to resize the client.			
Always maintain monitor connection	Keeps the monitoring connection active when WinTMC is closed to allow shadowing. Clear this checkbox to release the WinTMC license when the WinTMC program is closed but denies shadow access.			
Show display clients as separate windows	Displays multiple Display Clients as separate windows rather than in one window shell.			
Experience Settings				
Show desktop background	Enables your user to select a Windows Desktop Background. If not selected, the background is a solid color.			
Show window contents while dragging	Allows the window contents to be shown while the window is being dragged.			

Setting	Description
Show menu/window animations	Enables menu/window animations on the client.
Show themes	Enables your user to select a Windows Theme.
Disable NLA	Disables the user of Network Level Authentication for the client.

(1) Does not work when you connect to a Remote Desktop Server running Windows 2000 or earlier.



These functions may be denied by user policies or Remote Desktop Server configuration. Check the Microsoft Local Policy, Group Policy, and Remote Desktop Services Configuration.

MultiMonitor WinTMC

ThinManager supports MultiMonitor for WinTMC if the PC runs Windows on multiple video cards. If the PC successfully runs multiple monitors on the host OS, then WinTMC can run MultiMonitor on up to five monitors.

Figure 379 - MultiMonitor - Enable MultiMonitor

*	Terminal Configuration Wizard	x
1	Ferminal Mode Selection Select the operating modes for this terminal	\aleph
f	Terminal Mode	
	Use Display Clients	
	Enable MultiMonitor Enable MultiStation	
	Enable TermSecure	
4	< Back Next > Finish Cancel	Help

MultiMonitor requires the use of Display Clients.

- 1. Check Use Display Clients to enable Enable MultiMonitor.
- 2. To configure a WinTMC client for MultiMonitor use, check Enable MultiMonitor.
- 3. Click Next.

The Terminal Configuration Wizard displays the MultiMonitor Video Settings page, Monitor Layout page, and Display Client Selection page as it does for thin clients.

WinTMC Modules

WinTMC clients cannot use the ThinManager modules because they are running Windows locally. Touch drivers, sound drivers, printers, and so on must be installed through the local Windows operating system instead of relying on ThinManager modules.

Mobile Devices

ThinManager supports Microsoft tablets with WinTMC, Apple iPads and iPhones with iTMC, and Android devices with aTMC.

Apple iPad 2 is supported, but Bluetooth requires iPad 4.

Currently, ThinManager supports Android 5.0 and higher.

Configure an iPad in ThinManager

A configuration needs to be created in ThinManager so that the mobile device can join the system as a Terminal.

1. Open ThinManager and click the Terminal icon to show the Terminals branch of the tree.

Figure 380 - ThinManager Terminal Configuration Wizard

	ThinManager	- 🗆 X
Edit Manage Insta	Terminal Configuration Wizard	
ThinManager Server Educations Add ThinManager Server Disconnect ThinManager S	Terminal Name Enter the name for this terminal, select the terminal group to which this terminal belongs, or choose to copy the configuration from another terminal.	hd (Ctrl-F) lext (F3) jind
Terminals	Terminal Name	•
- E Terminals	5_iPab	Value
Production I Production	This must be a unique name using letters, numbers, hyphens (-), and underscores (_) only.	4
🕀 🛄 2_Terminal	Description	3
庄 💻 3_Terminal		2_Terminal for 14 hours, 15 m
	Terminal Group Change Group	3_Terminal for 13 hours, 40 m 21 hours, 5 minutes
	Copy Settings	
	Copy Settings from another Terminal	4
	Permissions	F
	< Back Next > Finish Cancel Help	
	150	>

2. Right-click on the Terminals branch and choose Add Terminal.

The Terminal Configuration wizard appears.

3. Type the name for your mobile device in the Terminal Name field and click Next.

The Terminal Hardware page appears.

Figure 381 - Terminal Hardware Page

Terminal Configuration Wizard	Termi
ware anufacturer and model of this terminal.	erminal Hardware Select the manufacture
ure the type of hardware for this terminal.	se this to configure the typ
Apple	ake / OEM Apple
iOS Device	odel iOS Dev
iOS	EM Model iOS
UNKNOWN	deo Chipset UNKNO
Terminal will run Package 7.	eminal Firmware Package
(e)	Terminal ID and IP Addres
	Terminal ID None
Terminal will run Package	Terminal ID and IP Addres

- 4. Choose Apple/iOS Device from the pull-down menus for the make and model of hardware.
- 5. Click Next.

The Terminal Mode Selection page appears.

Figure 382 - Terminal Mode Selection Page

	Terminal Mode Selection Select the operating modes for this terminal						
Term	inal Mode						
	Enable Relevance User Services						
	☐ Enable Relevance Location Services						
	Enable MultiMonitor Enable MultiMonitor ■						
	🏳 Enable MultiStation						
	< Back Next > Finish Cancel	Help					

An iPad can run as a traditional client and have an application sent to it without using Relevance.

- 6. Check Enable Relevance User Services and Enable Relevance Location Services to control content by user permission or location.
- 7. Click Next.

The Relevance Options page appears, which allows you to assign a location to the iPad. You may not want to assign the iPad to a location, but have it interact with different locations.

Figure 383 - Relevance Options Page

8	Terminal Con	figuration	Wizard	
Se	ance Options ect the types of Relevance Re tionally choose an assigned loc			Y
- Assigr	ned Location		Change Clear	
- Option	ns nabled Resolver Types F Enable QR Code Loca Enable Bluetooth Loca Enable GPS Locations Enable Wi-Fi Location	ations s		
	Use Force Transfer to restore / Allow selection of Location ma Enforce fencing on manual Lo Confirm before entering a locat solver Update Interval	nually cation selection		

The Relevance Options page allows you to enable various Resolver types. Check the ones you want to use from the iPad.

Setting	Description
Enabled Resolver Types	
Enable QR Code Location Ids	Allows the scanning of a QR code to determine the location.
Enable Bluetooth Locations	Allows the use of Bluetooth beacons to determine the location.
Enable GPS Locations	Allows the Global Positioning System of the mobile device to determine the location.
Enable Wi-Fi Locations	Allows the signal strength of Wi-Fi access points to determine the location.

Each method selected requires configuration to associate a location with the Resolver data.

8. Click Next.

The Mobile Device Options page appears, which has several settings that control the user experience on mobile devices.

Figure 384 - Mobile Device Options

tton r Button tton
is and the second s
is and the second s
is
s
nager Server List
ep

This page allows you to disable features normally displayed in the mobile apps.

9. Complete the Mobile Device Options page per these descriptions.

Setting	Description			
Toolbar Buttons				
Show Scan Data Button	Clear this checkbox to hide the Scan Data button.			
Show Scan Resolver Button	Clear this checkbox to hide the Scan Resolver button.			
Show User Login Button	Clear this checkbox to hide the User Login button.			
Sound Options				
Play Location Sounds	Plays a sound when a location is entered.			
Play User Login Sounds	Plays a sound when the user logs in as a TermSecure or Relevance user.			
User Interface Settings				
Show Zoom Map	Clear this checkbox to hide the screen map while zooming.			
Show Toolbar	Clear this checkbox to hide the app toolbar.			
Allow Exit to ThinManager Server List	Clear this checkbox to prevent the user from leaving the app to switch ThinManager Servers.			
Allow Terminal to sleep	Clear this checkbox to keep a tablet from going into sleep mode.			

10.Complete the wizard as you would for any other thin client.

Configure an iPad for ThinManager

The iPad needs to have the iTMC client installed. The iTMC application can be downloaded from the Apple App Store for free.

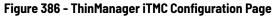
- 1. Go to the Apple App Store.
- 2. Type ThinManager in the search field.
- 3. Choose the iTMC application and click Open.

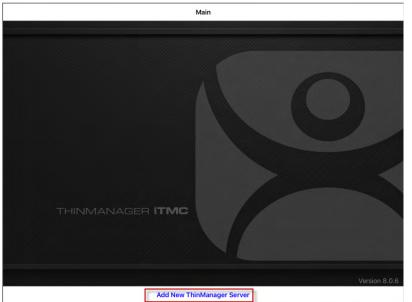
It downloads and installs on your iPad.

Figure 385 - ThinManager iTMC Icon on iPad



4. Press the iTMC icon to launch the iTMC program.





5. Press Add New ThinManager Server at the bottom of the configuration page to add a ThinManager Server connection.

The Primary ThinServer Name or IP Address dialog box appears.

Add New ThinManager Server Enter the Primary ThinServer Name or IP Address 10.7.10.62 Cancel 5 C đ 1 2 3 4 5 6 7 8 9 0 $\overline{\mathbf{x}}$ @ \$ & : ; () return " undo ? 1 #+= #+= ABC ABC 0

Figure 387 - ThinManager Server Name or IP Address Dialog Box

6. Type the IP address of your primary ThinManager Server and click OK.

The Add ThinManager Server page appears.

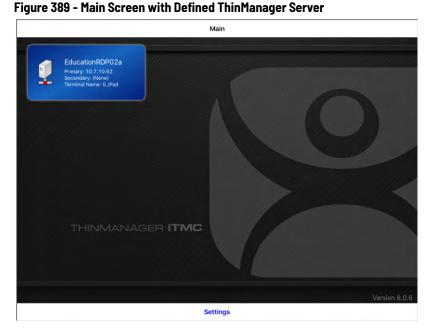
Cancel	Cancel			Add Th	Add ThinManager Server					
DESCRIPTION	ų									
EducationRI	DP02a									
PRIMARY TH	NMANAGER SER	VER IP								
10.7.10.62										
SECONDARY	THINMANAGER	SERVER IP								
⊨ e .										
50	ð									
1	2	3	4	5	6	7	8	9	0	$\langle \times \rangle$
-	1	:	;	¢)	\$	&	@	re	turn
#+=	unde	D			?	1	,	"	1	#+=
ABC	Q								ABC	

- 7. Type the name of the primary ThinManager Server in the Description field.
- 8. Type the IP address of a secondary ThinManager Server in the Secondary ThinManager Server IP field if you have one.
- 9. Click Save in the upper-right corner of the page.

You are returned to the Main page.

Associate the iPad to the Configuration

Once the ThinManager Server is defined on the iPad, you must associate the hardware to the iTMC configuration you created.



The defined ThinManager Server is displayed on the Main screen.

1. Press the ThinManager Server.

You are connected to that ThinManager Server.

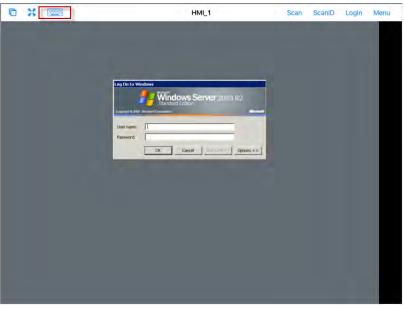
A Pick Replacement page appears, which allows you to choose the newly created Terminal configuration or launch the Terminal Configuration Wizard when you click Create New Terminal.

Figure 390 - Pick Replacement

<main< th=""><th>EducationRDP02a</th><th></th><th>Memili.</th></main<>	EducationRDP02a		Memili.
РСК # 	REPLACEMENT Cancel Create new Terminal Production 5_JPad	•	Treffed (s a se france a se
			.*

2. Press your newly defined Terminal to choose the configuration you created for the iPad.

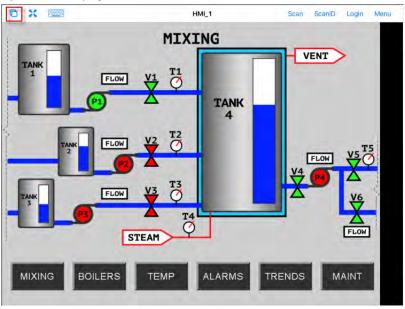
Figure 391 - iTMC Client Session



Once the iTMC client connects, the display client assigned in ThinManager is launched.

3. Press the Keyboard icon in the upper-left corner to launch the keyboard.

Figure 392 - Display Client Session on iPad

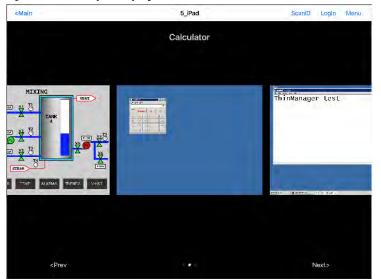


The iPad displays one session at a time.

- 4. In MultiSession configurations, when you use more than one display client, use a finger swipe to minimize and switch display clients.
- 5. Press the Cascade icon in the upper-left corner to show all the available display clients and navigate amongst them.

Menu

Figure 393 - Multiple Display Clients



6. Press a minimized display client to open it in full screen.

iTMC iPad Gestures

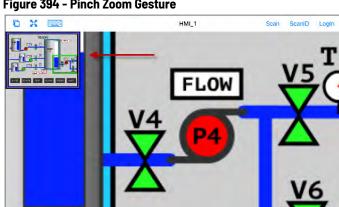


Figure 394 - Pinch Zoom Gesture

The iPad program can use multiple figure gestures to control the application.

FLOW

1. Zoom in by using two fingers to expand the screen.

Figure 395 - Main Menu

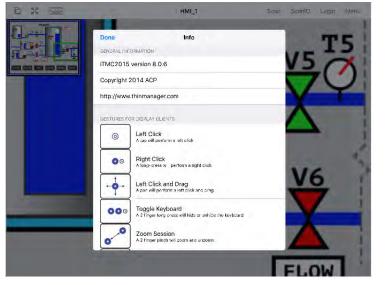
© X 📟		HMI_1	Scan	ScanID	Login Manu
	Cancel ACTIONS Login Usur Login 11 + 15-core Seam D Bioan a relevance (d) Seam	Main Menu	Steri	V5	T5
	Use the scanner as INFORMATION Info Cestures and active About	a heyboard verdige for this display of ent esign inte écoure into, Locato și 110		∆ ve	5
		_			

The complete list of supported gestures is on the Info page.

2. To open the Info page, press Menu in the upper-right corner to launch the Main Menu, then press Info.

This launches a list of gestures.

Figure 396 - Info Page of the iPad Program



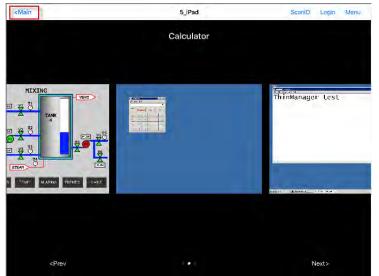
Gestures	Description
Left-click	A tap performs a left-click.
Right-click	A long press performs a right-click.
Left-click and Drag	Pans in the session.
Toggle Keyboard	A two-finger long press hides or reveals the keyboard.
Zoom Session	A two-finger pinch zooms in and zooms out.
Pan Session	A two-finger pan allows you to pan while zoomed in.
Toggle Menu Bar	A three-finger long press hides or reveals the top menu bar.
Next Display Client	A three-finger swipe left moves you to the next display client.
Previous Display Client	A three-finger swipe right moves you to the previous display client.



If your three-finger commands do not work, choose Settings>General>Accessibility and turn off the Zoom feature. Close the iTMC App

1. Double-click Home and swipe the app, or return to the Main Menu, to close the iTMC app.

Figure 397 - Multiple Display Clients

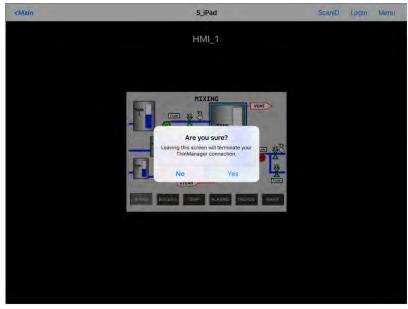


Main is displayed when the display clients are minimized.

2. Touch Main.

A dialog box prompts for confirmation of connection termination.

Figure 398 - Close Application Dialog



3. Click Yes.

The iTMC connection closes and you are returned to the Main Menu.

Configure an Android Device in ThinManager

A configuration needs to be created in ThinManager so that the mobile device can join the system as a Terminal.

- 1. Open ThinManager and click the Terminal icon to show the Terminal branch of the tree.
- 2. Right-click on the Terminals branch and choose Add Terminal.

The Terminal Configuration Wizard launches.

Figure 399 - ThinManager Terminal Configuration Wizard

	ThinManager	_ <u> </u>			
Edit Manage Inst	Terminal Configuration Wizard	nd (Ctrl-F)			
M Add ThinManager Server Disconnect ThinManager S	Terminal Name Enter the name for this terminal, select the terminal group to which this terminal belongs, or choose to copy the configuration from another terminal.	lext (F3)			
Termīnals	Terminal Name	· · · · · ·			
E E Terminals	Android_7	Value			
Production I_F Production	This must be a unique name using letters, numbers, hyphens (-), and underscores (_) only.				
⊕ ■ 1_Terminal (@1_Desk) ⊕ ■ 2 Terminal	Description	6			
		3 2 Terminal for 3 days, 17 hou			
🕀 💻 5_iPad	Terminal Group	3_Terminal for 3 days, 16 hou			
庄 💻 iPad06.	Change Group	5 days, 13 hours, 41 minutes			
	Copy Settings				
	Copy Settings from another Terminal Copy From	4			
		2			
	Permissions	F			
	< Back Next > Finish Cancel Help				
S 😫 📃 👘 💭 💄	1×1	>			

3. Type the Terminal Name for your mobile device and click Next.

The Terminal Hardware page appears.

Figure 400 - Terminal Hardware Page

Terminal Hard Select the r	dware manufacturer and model	of this terminal.	
Use this to confi	igure the type of hardwa	re for this terminal.	
Make / OEM	GENERIC		
Model	Android Device		•
OEM Model	Android		
OEM Model Video Chipset	Android		
	UNKNOWN	Model Default	-
Video Chipset	UNKNOWN	Model Default Terminal will rur	T Package 7.
Video Chipset	UNKNOWN re Package		
Video Chipset Terminal Firmwa — Terminal ID ar	UNKNOWN re Package nd IP Address		n Package 7. Clear
Video Chipset Terminal Firmwa	UNKNOWN re Package		

- 4. Choose Generic/Android Device from the Make/OEM and Model pull-down menus.
- 5. Click Next.

The Terminal Mode Selection page appears.

6. Complete the wizard as you would for any other thin client.

Configure an Android for ThinManager

The Android device needs to have the aTMC client installed. The aTMC application is a free download from the Google Play app.

Figure 401 - aTMC at the Google Play Store



1. In the Google Play App Store, search for ThinManager and install the aTMC application.





2. Once installed, press the aTMC program to launch it from the desktop icon.

The Add New ThinServer dialog box appears, where your first action is to define the ThinManager Server.

Figure 403 - Add New ThinServer Dialog Box

A 🖿 🔤	<u>گ</u>							e 29	9% 🔲 4:23 P
😤 a1	MC - Ad	d New Thin	Server						
Descriptic Educatic		а							
Primary 10.7.10.6	52								
Secondar	у								
6	in.	ļ	þ	123		80	(T)		1
	1	2 @	3 * 4	4 ^s 5	% 6	^ 7 ⁸	8	9 (0)
q	w	¹ e	r	t	у	u	i o	p *	
	a	S	d f	g	h	1 J 1	k "	-1.	Next
Ŷ	z	х	С	v	b -	n	m′!	?	Û
¢	1@#	Ų			. 				:-)
			\rightarrow			Ċ			

- 3. Type the ThinManager Server name in the Description field.
- 4. Type the Primary ThinManager Server IP address in the Primary field.
- 5. (Optional) Type the Secondary ThinManager Server IP address in the Secondary field.



If you have only one ThinManager Server, you need to click Next to cycle to Done.

A 🖪 🗳			📋 🤶 29% 🔲 4:23 PM
aTMC - Add New T	hinServer		
Description EducationRDP02a			
Primary 10.7.10.62			
Secondary			
	Cancel	Add	
	Ċ	Ð	

6. Click Add.

The aTMC app shows your ThinManager Server listed.

Associate the Android Device to the Configuration

Once the ThinManager Server is defined on the tablet, associate the hardware to the aTMC configuration you created.

The aTMC Start Screen shows the registered ThinManager Server.

Figure 405 - aTMC Start Screen

A 🗖 🖄			🛛 🛜 🛊 29% 🔲 4:24 PM
📯 атмс			
EducationRDP02a 10.7.10.62			
		Settings	
	ſ		

1. Touch the ThinManager Server to connect.

The aTMC connects to the ThinManager Server.

Figure 406 - Connecting Status

1 m 1 to A B'	-			□ ? ‡	1:48 PM
				a di	
	Connecting				
		Cancel			
	4	~	-		
	D	Ξ.	Ð		

Once the aTMC connects to the ThinManager Server, the Select a Terminal to Replace dialog box appears.

Figure 407 - Select a Terminal to Replace

▲ ◘ ₫				🗐 🛜 🖡 28% 🛄 4:24 PM
ThinClientActivity	-			SCAN
	Select Terminal to	Replace:		
	Create new	Terminal		
	Production		•	
	5_iPad			
	Android_7			
	iPad06			
	_	Cancel		le l
	t)		D .	

- 2. Choose an existing Terminal configuration or click Create new Terminal.
 - a. If you click Create New Terminal, a Terminal Configuration Wizard launches on the ThinManager Server that lets you configure the aTMC as a new Terminal.

Once connected, the Android device displays the applications assigned in ThinManager. If the Android client uses MultiSession, then the display clients are shown on tabs at the top of the screen.

Figure 408 - aTMC Client CALCULATOR DESK43 HML_1 🛜 🛊 28% 🔲 4:25 PM A 🗖 🖄 Android_7 LOGIN SCANID SCAN MIXING VENT T1 V1 FLOW TANK 4 T2 FLOW ₩2 FLOW 67 ₩4 T3 FLOW Δ P3 Δ T4 FLOW STEAM 5

Notes:

Active Directory User Login Account

A ThinManager Server in a domain can pull an Active Directory account into the Username field of the Log In Information page of the Terminal Configuration Wizard. See <u>Figure 413 on page 303</u>.

1. Click Search, which launches a series of dialog boxes that allows you to select a domain user account for the Terminal login account.

The method is the same on Display Servers, Terminals, and Relevance Users.

A Search for AD User dialog box appears that allows you to select an Active Directory user.

Figure 409 - Search for AD User Dialog Box

	Search for AD User	x
Filter	Recurse Contains	Locations Search
Name	User Principal Name	
,	ОК	Cancel

Buttons Description

Locations	Opens the Select AD Location to Search dialog box to select the Organizational Unit (OU) to search.			
Search	Searches the selected OU and populates the Name field with the OU members.			
Options				
Filter	Filters results with either the Contains or Starts With function and what is entered into the text box.			
Recurse	Sets the Search function to search nested Windows Security Groups when searching a Windows Security Group. The Choose AD Synchronization Mode must be set to Security Group on the Active Directory System Settings dialog box to work. Choose Manage>Active Directory>Settings to open the Active Directory System Settings dialog box.			

Search for Active Directory Location The Search for AD User dialog box has a Location button that allows you to search the Active Directory locations.

Search for Active Directory User

2. Click Locations.

The Select AD Location to Search dialog box appears.

Figure 410 - Select AD Location to Search Dialog Box

Select AD Loca	tion to Search	x
Education.local ACP_Education Computers Computers ForeignSecurityPrincipals Hannibal Hannibal HocationAccounts B- Managed Service Accounts B- Program Data B- Station01 B- System TestOU_01 B- Users		
	ОК	Cancel

3. Highlight the branch of the Active Directory tree that contains your administrative user account and click OK.

The organizational unit is listed as the location.

Figure 411 - Search Organizational Unit

		:	Search for AD	User	x
Hannibal					Locations
Filter	Contains	•		Recurse 🗖	Search
Name		User	r Principal Name		
r				ОК	Cancel

4. Click Search to populate the dialog box with the users.

	Search for AD User	×
Hannibal Filter Contains	Recurse	Locations Search
Name Becky Thatcher Huck Finn Mark Twain Tom Sawyer	User Principal Name bthatcher @Education.local hfinn @Education.local mtwain @Education.local tsawyer @Education.local	
,	OK	Cancel

5. Highlight the desired user and click OK.

The domain user is added to the Username field of the Log In Information page.

Figure 413 - Remote Desktop Server Name–Domain

8	Terminal Configuration	n Wizard
	ormation he log in information to log in automatic tion blank or fill only some of the fields i	
Windows	Log In Information	
Usemame	hfinn@Education.local	Search
Password	******	Password Options
Domain		Verify
< Back	Next > Finish	Cancel Help

- 6. Type the password in the Password field.
- 7. Click Verify to check whether the password you entered is valid.
- 8. Once it is verified, click Next to continue with the wizard.

Figure 414 - Invalid Account Message



a. If the dialog box indicates an invalid password, click OK and try again.

Figure 415 - Valid Password Message

Usemame	In Information	Search
Password		Password Options
Domain	Account Verify Account information is valid OK	Venfy

b. If the dialog box indicates a valid user account, click OK to close the Account Verify dialog box.

9. Click Next to continue the configuration wizard.

Packages

Firmware, Packages, and Modules

Firmware is the basic operating system that thin clients run. It is downloaded and expanded into memory, where it serves as an operation system.

Modules are additional functions that a thin client may use. These include touch screens, keyboard modules, and sound modules.

Packages contain a version of firmware and the modules that belong with it.

In the past, ThinManager made all of the firmware changes backward compatible so that a 12-year-old x86 thin client could run the same firmware as the latest model of thin client. This limited what ThinManager could do to take advantage of new hardware.

ThinManager 6.0 introduced a new approach to firmware and modules called Packages. ThinManager has the ability to run different versions of the firmware on different thin clients. Legacy thin clients can run Package 5 that is equal to the ThinManager 5 firmware while newer thin clients can run Package 6 and later. As new hardware is released, you are able to run even newer packages to take advantage of new features.

A package, the firmware version and the modules that go with it, can get assigned by default to a thin client, or you can override the setting and run a different package.

This is particularly helpful in validated systems. If new hardware is purchased that requires new firmware, you can assign a new package to the new hardware while the existing thin clients can continue to run the original validated package.

Packages, firmware, and modules are included with ThinManager and are registered automatically during ThinManager installation and service package updates. Packages may be updated occasionally and can be downloaded from the ThinManager web site at <u>http://downloads.thinmanager.com/</u> and applied to ThinManager.

Update Packages and Files

ThinManager allows updates of Packages. Also, you can update just the firmware or specific modules if needed.



Firmware and modules get updated automatically during Service Pack upgrades. This section shows how to update firmware and modules without an update to a Service Pack.

- 1. Download new components from the ThinManager web site at http://downloads.thinmanager.com/.
- 2. Choose Install>Firmware Package from the ThinManager menu bar.

A file browser appears, which allows you to install a * . pkg file.

3. Choose Install>Firmware.

A file browser appears, which allows you to install a * . fw file. Also, you can use this command to load a new version of the legacy firmware.acp firmware file

4. Choose Install>Module.

A file browser appears, which allows you to install a * .mod file.

ThinManager uses a Boot Loader and a Chain Loader during PXE boot.

5. Choose Install>Boot Loader.

A file browser appears, which allows you to install a * . bin file.

6. Choose Install>Chain Loader.

A file browser appears, which allows you to install a * . bin file.

ThinManager uses a Terminal Capabilities Database, or TermCap, to aid in configuring the thin clients.

- 7. Choose Install>TermCap Database.
 - A file browser appears, which allows you to install a * . db file.

Figure	416 -	Package	Installation
--------	-------	---------	--------------

	Ope	n		
€ + ↑	A_ACP_Misc 🕨 Firmware	v Ċ	Search Firmware	P
Organize 👻 New fo	lder			
🛠 Favorites	Name		Date modified	Туре
E Desktop	termpack-5.0.1.pkg		4/12/2012 11:38 AM	PKG File
🚺 Downloads	termpack-5.0.5.pkg		12/26/2013 1:01 PM	PKG File
🔚 Recent places	termpack-6.0.13.pkg		1/8/2014 3:09 PM	PKG File
	termpack-6.0.16.pkg		4/17/2014 1:23 PM	PKG File
📳 This PC	termpack-7.1.0.pkg		4/17/2015 11:36 AM	PKG File
	<	m		
File	<	iii. V	Firmware Package (*.pk	g) 🗸

8. Choose Install>Firmware Package.

A file browser appears, which allows you to install a *.pkg file.

Figure 416 shows a folder with three firmware package versions.

9. Highlight the desired firmware package and click Open.

Figure 417 - Firmware Installation

8	Open			
🔄 🔹 🕈 📕 « A_A	CP_Misc 🕨 Firmware	V C S	Search Firmware	Q
Organize 👻 New folder			III 🔹	
🔶 Favorites	Name		 Date modified 	Туре
Desktop	firmware-6.0.3.fw		4/13/2012 2:17 PM 4/26/2012 12:14 PM	FW File
🗓 Recent places	firmware-6.0.104.fw		4/1/2014 10:38 AM	FW File
💭 This PC	firmware-7.0.2.fw		4/1/2014 10:34 AM	FW File
Network		10		
	e: firmware-7.0.2.fw	1 1	All Firmware (*.fw;firmv	vare acr. M
, including		I		Cancel

10.Choose Install>Firmware.

A file browser appears, which allows you to install a * . fw file.

a. Also, use this command to load a new version of the legacy firmware.acp firmware file.

Figure 417 on page 307 shows a folder with several versions of firmware.

11. Highlight the desired firmware and click Open.

Figure 418 - Module Installation

3		Open)
€ • ↑ ∭ « .	A_ACP_Misc 🕨 Firr	mware	v Ċ	Search Firmware		,o
Organize - New fol	lder			8 55 *		0
🔆 Favorites	Name	÷		Date modified	Туре	
E Desktop	icaclient12	-6.0.1.mod		6/1/2012 10:53 AM	Movie	Cli
🚺 Downloads	sb_sound-	5.0.0.mod		6/12/2012 6:25 AM	Movie	Cli
🔚 Recent places	🔳 sound-5.0.	2.mod		6/12/2012 6:24 AM	Movie	Cli
	🔳 sound-6.0.	1.mod		6/8/2012 4:19 PM	Movie	Cli
	<	i	1			
File	< name: sound-6.0.1		1	Module Files (*.mod)		*

12.Choose Install>Module.

A file browser appears, which allows you to install a * . mod file.

Figure 418 shows a folder with two sound modules.

13. Highlight the desired module and click Open.

Customizing Packages

ThinManager allows you to run different packages on different models or individual Terminals. You can modify a package by copying it and making changes to it.

Modules and packages are normally updated with service packs and releases. You can download updated modules at <u>http://downloads.thinmanager.com/</u> when needed.

1. Choose Manage>Packages.

The Package Manager appears.

Figure 419 - Package Manager

	Package Manager
Model Specific Default Packag	e
Manufacturer	ACP
Model	DC-30-100
Package	Termcap Model Default
Allow Chain Loader	N
Allow the setting of	of the Package in Terminal Configuration
Install Package	
Edit Packages	OK Cancel

2. Click Edit Packages.

The Edit Firmware Packages dialog box appears.

Figure 420 - Edit Firmware Packages Dialog Box

		Package Manager	x
Mo	del Specific Default Pack	age	
		Edit Firmware Packages	×
	Select Package	6	Сору
	Package Settings -		Delete
	🗆 Lock		Rename
			Backup
			Done
	dit Packages		OK Cancel

3. Choose the package version you want from the Select Package pull-down menu to modify in the Select Package dialog box and click Copy.

The Package Name dialog box appears.

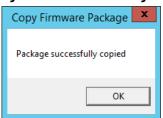
Figure 421 - Package Name Dialog Box

Edit Firmwa	are Packages X
Packag	ge Name
Enter name of new package	6_B
	OK Cancel
	Done

4. Type a name for the new package in the Enter name of new package field.

Success is confirmed in the Copy Firmware Package dialog box.

Figure 422 - Success Dialog



- 5. Click OK.
- 6. Click Done on the Edit Firmware Packages and OK on the Package Manager dialog boxes.

Figure 423 - Modules Dialog Box

E Firmu mwart Mod ickage Packages	ules Chain Loader Licenses TermCap Database	Reports Reports		
ninals		ent Log		
Termin Termin Pro To Pro To T	Installed Modules Module Type All Modules	▼ Package	All Packages	
 □ = □ <li< td=""><td>Description AMD Geode Video Driver AMD cst53x Sound Driver AMD cst53x Volta Driver ATI Mach64 Video Driver</td><td>Package Version 6 6.00 5 5.00 7 7.11 7.2 7.11 7.2 7.11 7.2 7.01 5 5.00 6 6.02 7 7.1100 5 5.00 7.199 7.1100 7.2.debug 7.2100 6 6.00 7.1.99 7.1.100 7.1.93 7.1.0 7.1.93 7.1.0 7.2.debug 7.2.0</td><td>License Required A NONE NONE NONE NONE NONE NONE NONE NON</td><td>inal for 3 days, 17 ho mal for 3 days, 16 ho 13 hours, 41 minutes</td></li<>	Description AMD Geode Video Driver AMD cst53x Sound Driver AMD cst53x Volta Driver ATI Mach64 Video Driver	Package Version 6 6.00 5 5.00 7 7.11 7.2 7.11 7.2 7.11 7.2 7.01 5 5.00 6 6.02 7 7.1100 5 5.00 7.199 7.1100 7.2.debug 7.2100 6 6.00 7.1.99 7.1.100 7.1.93 7.1.0 7.1.93 7.1.0 7.2.debug 7.2.0	License Required A NONE NONE NONE NONE NONE NONE NONE NON	inal for 3 days, 17 ho mal for 3 days, 16 ho 13 hours, 41 minutes
8 🗉	Install Module	lule from All Terminals	Done	

7. Choose Install>Modules.

The Modules dialog box for that server appears.

8. Click Install Module.

A file browser appears, which you can use to navigate to your downloaded modules.

8		Open)
🕐 👘 🕈 📕 🦇	A_ACP_Misc ► Fi	irmware v	Ċ	Search Firmware	Q
Organize 👻 New fo	lder				
🔆 Favorites	Name	*		Date modified	Туре
📃 Desktop	egalax_to	ouch-6.0.5.mod		2/24/2014 9:59 AM	Movie Cli
📕 Downloads	icaclient	12-6.0.1.mod		6/1/2012 10:53 AM	Movie Cli
🔢 Recent places	B sb_sound	1-5.0.0.mod		6/12/2012 6:25 AM	Movie Cl
	🔳 sound-5.	0.2.mod		6/12/2012 6:24 AM	Movie Cli
🛀 This PC	🔳 sound-6.	0.1.mod		6/8/2012 4:19 PM	Movie Cl
🗣 Network					
	<	ill			
F 1	and the second			5.4 1 1 ET /* B	
File	e name: egalax_tou	uch-6.0.5.mod	*	Module Files (*.mod)	*

9. Highlight the needed module and click Open.

A dialog box appears, which allows the selection of a package you want to add the module.

Figure 425 - Select Firmware Package Dialog Box

Figure 424 - File Browser

nstalled Modules	Select Firmv	/are Package(s)	
Module Type	Select the packages to which t	his module should be applied.	•
Description			uired 🔨
AMD Geode Video Driv AMD Geode Video Driv	Available Packages		_
AMD Geode Video Driv AMD Geode Video Driv	6 6_8	Install	
AMD Geode Video Driv AMD Geode Video2 Dr AMD cs553x Sound Dr		Install For All Packages	
AMD cs553x Sound Dr AMD cs553x Sound Dr		Create New Package	
AMD cs553x Sound Dr AMD cs553x Sound Dr		Cancel	
ATI Mach64 Video Driv ATI Mach64 Video Driv			
ATI Mach64 Video Driv ATI Mach64 Video Driv			v

10. Highlight your copied module and click Install.

The new module is added to that package.

11. Click Done on the Modules dialog box to finish.

You can lock a package on the Edit Firmware Packages window.

- 🗆 X 🦉 🖴 🛛 🥶 🥥 🕫 ThinManager 8 Edit Manage Install Help Tools View Remote View Restore Biometric Database Testore Biometric Database . -R 0 Manage Resolvers -P Access Groups . PXE ThinManager Manage Synchronize Settings Settings Server Accounts Passwords Packages x Relevance Package Manager Model Specific Default Package - 💻 Terminals Value Edit Firmware Packages x 🕀 🧾 Production 🕀 🛃 1_Terminal (@1_D 7 • Select Package Copy 🕀 🛄 2_Terminal 🛨 💻 3_Terminal Delete Package Settings 2 Terminal for 3 days, 17 hou 🗄 💻 5_iPad 3 Terminal for 3 days, 16 hou Rename ₩ Lock 🕀 💻 Android_7 5 days, 13 hours, 41 minutes 🗄 💻 iPad06 Backup 4 Done 2 Edit Packages Cancel OK 😫 📃 📗 🚛 🤱 🥥 🤻

12. Choose Manage>Packages on the ThinManager menu bar.

The Package Manager dialog box appears.

Figure 426 - Edit Firmware Packages Dialog Box

13. Click Edit Packages.

The Edit Firmware Packages dialog box appears.

14. Choose the package from the Select Package pull-down menu and check Lock.

The package is locked.

Configuring Packages for a Model of Thin Client

ThinManager allows you to change the package for all units of a make and model.

1. Choose Manage>Packages.

The Package Manager dialog box appears.

Figure 427 - Package Manager

	Package Manager
Model Specific Default Package	
Manufacturer	ACP
Model	DC-30-100
Package	Termcap Model Default
Allow Chain Loader	v
Allow the setting of	the Package in Terminal Configuration
Install Package	
Edit Packages	OK Cancel

- 2. Choose your Manufacturer and Model from the pull-down menus.
- 3. Choose the Package you want from the pull-down.

This becomes the Model Default.

4. Click OK.

The Package Manager dialog box closes.

Older makes and models have fewer options than newer, more powerful makes and models.

Figure 428 - ACP DC-30-100 Firmware

Package Manager	x
Model Specific Default Package	
Manufacturer ACP 💌	
Model DC-30-100	
Package Termcap Model Default	
Allow Chain Loader Termcap Model Default	
Allow the setting of the Package in Terminal Configuration	
Install Package	
Edit Packages OK	Cancel

<u>Figure 428</u> provides an example of limited package availability for the DC-30-100, an older model, as it can only run package 5. This is set in the TermCap as the default package.

Figure 429 - ACP TC3500 Firmware

	Package Manager
Model Specific Default Package	
Manufacturer	ACP 👤
Model	TC3000 💌
Package	Termcap Model Default
Allow Chain Loader	5 6 6_B
Allow the setting of	7 7_B Termcap Model Default
Install Package	
Edit Packages	OK Cancel

<u>Figure 429</u> shows package options for the more recent ACP TC3000, which can run several versions of firmware and custom firmware.

Figure 430 - New Default Firmware

	Package Manager
⊢Model Specific Default Packag Manufacturer	ACP 💌
Model	TC3000
Package	<u>5_</u> B
Allow Chain Loader	v
Allow the setting o	f the Package in Terminal Configuration
Install Package	
Edit Packages	OK Cancel

The firmware package chosen from the Package pull-down menu sets that firmware as the default to run on any Terminal of that make and model.

Configure Packages for an Individual Thin Client

Packages can be changed for an entire series of thin clients or for an individual thin client. This change is done in the Package Manager dialog box.

1. Choose Manage>Packages.

The Package Manager dialog box appears.

Figure 431 - Package Manager

Package Manager	
Model Specific Default Package	
Manufacturer ACP 💌	
Model TC3000 💌	
Package 6_B	
Allow Chain Loader 🛛 🔽	
Allow the setting of the Package in Terminal Configuration	
Install Package	
Edit Packages OK Cancel	

- 2. Check Allow the setting of the Package in Terminal Configuration, which allows you to override an individual thin client's package setting.
- 3. Click OK.

The Package Manager dialog box closes.

4. Double-click on the Terminal in the Terminal branch of the ThinManager tree.

The Terminal Configuration Wizard appears.

5. Click Next until the Terminal Hardware page appears.

	Terminal Co	nfiguration Wizard
Terminal Ha Select the	rdware manufacturer and mo	del of this terminal.
Use this to cor	figure the type of hard	ware for this terminal.
Make / OEM	ACP	
Model	TC3000	•
OEM Model	TC3000	
Video Chipset	S3 Savage4	
Terminal Firmw	are Package	Model Default
	aloriadiago	Terminal will run Package 6 B
- Terminal ID a	and IP Address	
	None	Clear
Terminal ID	TACHE	Edit

The Terminal Firmware Package pull-down menu allows you to pick a different package to run once you allow individual firmware on the Package Manager dialog box.

Figure 432 on page 315 shows that Package 6_b that was used in the previous example.

Once the firmware setting is allowed on the Package Manager dialog box, it appears in the Terminal Firmware Package pull-down menu on the Terminal Hardware page, which allows you to choose it for that individual Terminal.

Use this to configure the type of hardware for this terminal. Make / OEM ACP Model TC3000 OEM Model TC3000 Video Chipset S3 Savage4	
Model TC3000 OEM Model TC3000	
OEM Model TC3000	•
	•
Video Chipset S3 Savage4	
Terminal Firmware Package Model Default	<u>.</u>
Terminal ID and IP Address	
Terminal ID None 7_B Model Default Edit	

Figure 433 - New Terminal Firmware Package Setting

- 6. Choose the Terminal Firmware Package from the pull-down menu.
- 7. Click Finish.

The Terminal Configuration Wizard closes.

8. Highlight the Terminal in the ThinManager Servers tree and choose Tools>Reboot from the ThinManager menu.

The Terminal reboots, and the ThinManager splash screen for that firmware is displayed.

Modules

Modules are components and drivers for the Terminals that are not needed for the basic boot but can be added to enhance the features and functions of the Terminals.

Modules are added to Terminals individually or through Terminal Groups.

ThinManager divides the modules into a number of categories, or types, to make navigation of the module list easier. Although details on the specific modules follow, the types and modules include the following.



Certain modules are used in limited, specific cases and are considered advanced modules. These are marked with a (*). See Advanced Modules for details.

This manual covers the details of a dozen modules. The first covers the general steps with the Key Block Module. The other modules cover the individual configuration.

Module List

ICA* - see ICA Modules on page 322.

- Citrix ICA UseAlternateAddress Module
- Citrix ICA wfclient.ini Extension Module

Keyboard – See <u>Keyboard Modules on page 323</u>.

- Key Block Module
- Key Block Single Key Module
- Keyboard Configuration Module
- On-Screen Keyboard Configuration Module
- RF Ideas pcProx USB Module
- Share Keyboard and Mouse Controller Module
- Share Keyboard and Mouse Follower Module

Language - See Language Modules on page 326.

• Language Selection Module

Local Storage - See Local Storage Modules on page 327.

- USB Flash Drive Module
- USB Memory Card Reader Module (Package 5 only)

Miscellaneous - See Miscellaneous Modules on page 328.

- Add Serial Port
- Bluetooth Module

- Firmware Update Module
- Local Printer Module
- MultiStation Configuration Module
- Redundant Ethernet Module
- Serial to TCP Module
- TermMon ActiveX Configuration
- Time Zone Redirection Module
- TMTerm DLL Configuration Module
- USB to Serial Module
- User Override Module

Mouse - See Mouse Modules on page 332.

- Locate Pointer Module
- Mouse Configuration
- Serial Mouse Driver
- Share Keyboard and Mouse Controller Module
- Share Keyboard and Mouse Follower Module

Network - See <u>Network Modules on page 334</u>.

- Domain Name System Module
- Second Network Module
- Third Network Module

RDP - See <u>RDP Modules on page 336</u>.

- RDP Experience Module
- RDP Port Module
- RDP Serial Port Redirection Module
- RDP Session IP Module
- Smart Cart Module

Relevance - See <u>Relevance Modules on page 337</u>.

- Bluetooth Module
- DigitalPersona UareU Fingerprint Reader
- RF Ideas pcProx Module
- RF Ideas pcProx USB Module
- RF Ideas pcProx Sonar Module
- TermMon ActiveX Configuration Module
- USB Flash Drive Module
- USB ID Reader Module

Screen Saver - See Screen Saver Modules on page 344.

- MultiSession Screen Saver Module
- Screen Saver Module

Sound - See Sound Modules on page 346.

• Universal Sound Module

TermSecure - See TermSecure Modules

- Bluetooth Module
- DigitalPersona UareU Fingerprint Reader
- RF Ideas pcProx Module
- RF Ideas pcProx USB Module
- RF Ideas pcProx Sonar Module
- TermMon ActiveX Configuration Module
- USB Flash Drive Module
- USB ID Reader Module

Touch Screen - See Touch Screen on page 348.

- Arista ARP-16XXXAP-ACP Touch Screen Driver
- CarrollTouch Touch Screen Driver
- Contec Touch Screen Driver (Package 5 only)
- DMC Touch Screen Driver (Package 5 only)
- DMC TSC Series Touch Screen Driver
- Dynapro Touch Screen Driver
- eGalax Touch Screen Driver
- Elographics Touch Screen Driver
- Gunze AHL Touch Screen Driver
- Hampshire TSHARC Touch Screen Driver
- Intra-T Touch Screen Driver
- MicroTouch Touch Screen Driver
- Panjit TouchSet Touch Screen Driver
- PenMount Touch Screen Driver
- Ronics Touch Screen Driver (Package 5 only)
- Touch Control Touch Screen Driver
- Touch International IR Touch Screen Driver (Package 5 only)
- USB Touch Screen Driver
- Xycom 33XX Touch Screen Driver (Package 5 only)
- Zytronic Touch Screen Driver

Video Driver - See Video Driver Modules on page 351.

- Custom Video Mode Module
- Monitor Configuration Module

Add a Module

1. Double-click on your Terminal.

The Terminal Configuration Wizard appears.

2. Click Next until the Module Selection page appears.

Figure 434 - Module Selection Page

Module Se Select t	election the modules that load on this terminal at boot up.
	Installed Modules
Module	j.
	Marine Her T. Monore Themas
	Möve Up. Möve Down
Add	

3. Click Add.

The Attach Module to Terminal dialog box appears.

Figure 435 - Attach Module to Terminal Window

Attach	Module to Terminal	x
Module Type	Keyboard Show Advanced Module	• s
RF Ideas pcProx US Share Keyboard and	tion Module d Configuration Module	
1	Cance	1

Modules can be viewed by category or as a whole.

- 4. Choose a module category from the Module Type pull-down menu.
- 5. Highlight a module and click OK.

	Terminal Configuration Wizard
	Selection ct the modules that load on this terminal at boot up.
	Installed Modules
Module	
Key	Black Module
	Move Up Move Do
_	Move Up Move Do
Ad	Move Up Move Do
Ad	

Figure 436 shows the Key Block Module in the Installed Modules pane.

The Key Block Module has configurable settings.

6. Highlight the Key Block Module and click Configure.

The Module Properties dialog box appears, in which settings can be configured.

Figure 437 - Module Proper	ties
----------------------------	------

		Module Properties	;		x
			_		
Block Ctrl	NO		-		^
Block Ctrl+Alt+Del	YES		•		
Block Ctrl+Alt+Enter	YES		•		
Block Ctrl+Esc	YES		•		
Block Alt	NO		•		≡
Block Alt+F4	NO		•		
Block Alt+F	YES NO	<u>}</u> ₹			
Block Alt+Tab	NO	v	•		
Block Alt+Space	NO		•		
Block Windows Key	YES		•		
Plack Manu Kau	luo.				×
Set to Default					
				Done	Cancel

7. Use the pull-down menu to change a parameter or type a new setting.

By default CTRL+ALT+DEL, CTRL+ALT+ESC, and CTRL+ESC are blocked.

- a. To change other key combinations, change the respective pull-down value to Yes.
- 8. Click Done to close the Module Properties dialog box.

Figure 438 - Modules Tab for a Terminal

8_	∠ = 0 👷 🛛 ∓		ThinManager						x
	Edit Manage Install	Tools View Rem	ote View He	lp				_	
Packages	Restore Backup Bion Restore Backup @ Backup Bion Synchronize Configuration		ThinManager Server List Manage	Manag	e Synchronize ts Passwords Active Directory		 Manage Res Access Grou Settings Relevance 	ps	
Terminals	-	Configuration	Modules	Schedule	Properties	Event Lo	og Shadow	Report	•
E- 💻 Te	erminals	Attribute			/alue				-
œ 🧾	Production	Installed Modul	les						
± .	1_Terminal (@1_Desk)	Module	Module			Module			
Ð 📕	2_Terminal	Download	Download			key_block.mod			
Ð 🛓	3_Terminal	Block Ctrl			NO				
	5_iPad	Block Ctrl+Alt+Del			YES				
Ē-	Android_7	Block Ctrl+Alt+Ent	er		YES				
±	liPad06	Block Ctrl+Esc	YES						
		Block Alt		NO					
		Block Alt+F4			YES				
		Block Alt+F			NO				
		Block Alt+Tab			NO				
		Block Alt+Space			NO				
		Block Windows Key			YES				
		Block Menu Key			NO				
		Block Print Key			NO				
×		<			01				>

The module and settings are displayed on the Modules tab when the Terminal is highlighted.



The 3_Terminal shows the red Configuration Indicator icon to indicate that the configuration changed when the module was added, but it has yet to be restarted to load the new configuration.

Individual Module Details

ThinManager 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, Touch Screen, and Video.

ICA Modules

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 advanced Citrix users to specify connections to Citrix Servers.

Configuration includes Use Alternate Address, Browser Protocol, and HttpBrowser Addresses.

Citrix ICA wfclient.ini Extension Module

The Citrix ICA wfclient.ini Extension Module is used by advanced Citrix users. This module allows up to 8 strings of text to be added to the wfclient.exe for passing Citrix parameters.

Keyboard Modules

Keyboard Modules are modules used to control or alter keyboard behavior.

Key Block Module

The Key Block module traps certain keystrokes and prevents them from being sent to the Remote Desktop Server for processing.

Key combinations to be blocked can be configured by in the Module Properties. To launch Module Properties, follow these steps.

1. Highlight the module on the Module Selection page and click Configure.

A Module Properties dialog box appears.

2. Choose the parameter to change in the Module Properties dialog box and choose the Value in the pull-down menu.

The key combinations that have a value of YES are blocked from reaching the Remote Desktop Server.

Key Block Single Key Module

The Key Block Single Key Module lets you block a single key combination from being sent from the Terminal to the session.

Figure 439 - Key Block Single Key Module Properties

	Module Properties	:
Modifier Key to Block	CTRL	*
Set to Default	Done Cancel]

Add and configure the Key Block Single Key Module to block a single set of key combinations.

You can set ALL, CTRL, ALT, or CTRL+ALT as the modifier key(s) and set A-Z, F1-F12, and ESC, Tab, Backspace, and so on as the key to block.

If you have multiple keys to block, add the Key Block Single Key Module once for each combination and configure them accordingly.

Keyboard Configuration Module

The Keyboard Configuration Module allows you to set the keyboard language and control the behavior of the Caps Lock and Number Lock on the Terminal.

Figure 440 - Keyboard Configuration Module Properties

	Module Properties
Num Lock State	On_At_Startup
Caps Lock State	Off_At_Startup
Scroll Lock State	Off_At_Startup
Repeat Delay (ms)	500 💌
Repeat Rate (chars/sec)	30
Disable Repeat for Enter Key	NO
Keyboard Layout	English(UnitedStates)
Use Event Interface	NO
Set to Default	
	Done Cancel

The Keyboard Configuration parameters include the following.

Parameters	Description
Num Lock State	Allows the Number Lock to be set to On at startup, Off at startup, always On, or always Off.
Cap Lock State Allows the Caps Lock to be set to On at startup, Off at startup, always On, or always	
Scroll Lock State	Alows the Scroll Lock to be set to On at startup, Off at startup, always On, or always Off.
Repeat Delay (ms)	Sets the amount of time that a key needs to be held down before it starts repeating the keystroke. If this parameter is set to Disable, a key sends only one keystroke even if the key is held down.
Repeat Rate (char/sec)	Sets the number of characters per second that a held down key sends.
Disable Repeat for Enter Key	When set to Yes, it prevents the Enter key from repeating if it is held down.
Keyboard Layout	Alows the thin client to use keyboards other than the default English (United States) keyboard map.

On-Screen Keyboard Module

The On-Screen Keyboard Module allows you to configure an on-screen keyboard for touch screens. The configuration of the launch of the keyboard through a long touch or hold is done within the Touch Screen Module. The settings in the on-screen keyboard are configured in the On-Screen Keyboard Module.

Parameters	Description
Show Keypad	Adds the keypad to the display.
Show Function Keys	Adds the function keys to the display.
Show Control Key	Adds the Control key to the display.
Show Alt Key	Adds the ALT key to the display.
Num Lock State	Turns the numbers lock on or off on launch.
Inactivity Timeout (seconds)	Sets the duration of the idle time that closes the keyboard.
Keyboard Scale Percentage	Sets the width of the keyboard as a percentage of the screen.
Font Size	Sets the font size of the keys.

RF Ideas pcProx USB Module

The RF Ideas pcProx USB Module uses a USB device that allows a Terminal to use RF Ideas pcProx cards as TermSecure ID cards.

ThinManager supports the RDR-xx81AKx family of card readers from RFIdeas. These include the serial RDR-6081AK2 reader and RDR-6081AKU (Package 5, 6, or 7), RDR-80582AK0 (Package 6 or 7), and RDR-80081AKU (Package 7.1.4 and later) USB readers.

These are the parameters.

Parameters	Description
Mode	Allows the device to be used in TermSecure Mode, Wedge, or TermMon mode.
TermSecure	Sends data to ThinManager for use with TermSecure.
Wedge	Sends data straight to the session as a keyboard wedge.
TermMon	Sends data to the TermMon ActiveX that you embed in your application.
Allow Manual TermSecure Login	When set to Yes, allows a Relevance user to log in to a Terminal without a TermSecure ID device. If set to No, TermSecure users must use a TermSecure ID device to log in.
Prompt for TermSecure Password	When set to Yes, requires a TermSecure user to enter their password for access even if the password is configured in ThinManager.

See <u>Card and Badge Configuration for a Relevance User on page 473</u> for details.

Share Keyboard and Mouse Module

The Share Keyboard and Mouse Module allows several thin clients to be controlled with a single keyboard and mouse without the need of a KVM switch (Keyboard/Video/Mouse).

Share Keyboard and Mouse has a Controller module that is added to the controlling Terminal and a Follower module that is added to the dependent Terminals.

Share Keyboard and Mouse allows you to place several monitors connected to thin clients, side-by-side or top-to-bottom. The Share Keyboard and Mouse Controller module is loaded on the center thin client.

1. Add the IP addresses of the secondary follower thin clients to configure it.

The other Terminals receive the Share Keyboard and Mouse Follower module.

2. Once the Share Keyboard and Mouse Controller Module is added to a Terminal, highlight it in the Installed Module dialog box and click Configure.

Setting	Description
Left Terminal IP Address	Enter the correct IP address for the Follower Terminal on the left of the Controller Terminal, if used, and click Set.
Right Terminal IP Address	Enter the correct IP address for the Follower Terminal on the right of the Controller Terminal, if used, and click Set.
Top Terminal IP Address	Enter the correct IP address for the Follower Terminal on the top of the Controller Terminal, if used, and click Set.
Bottom Terminal IP Address	Enter the correct IP address for the Follower Terminal on the bottom of the Controller Terminal, if used, and click Set.
Allow Interactive Shadow of Controller	Normally, a Terminal with the controller module loaded is blocked from interactive shadow. If you want to allow interactive shadowing on the Controller, highlight the Allow Interactive Shadow of Controller parameter, choose Yes from the Value pull-down menu, and click Set.
Controller IP Address	Enter the IP address of the Controller Terminal and click Set to allow the follower module to be configured to connect to a specified Controller.

These are the configuration settings.

The Share Keyboard and Mouse Follower module is loaded on the secondary thin clients using the same methods in which other modules are loaded.

3. Click Done when finished.

Once the ThinManager Enabled thin clients are booted, the mouse on the master thin client can be moved seamlessly into the other desktops. The keyboard is active on whatever screen the mouse pointer is present.

This feature allows an operator to have control of several displays with only one keyboard and mouse. The mouse movement is seamless, which allows access to displays without switching.



A Controller Share Keyboard and Mouse session cannot be interactively shadowed in ThinManager unless it is configured to allow it.

The keyboards and mice for the follower thin clients can be left attached but stowed away until a multi-user configuration is needed.

Language Modules

The Language modules allow different languages to be used by the terminal.

Language Selection Module

The Language Selection Module sets the language on the terminal. You can use the Keyboard Configuration module to set the keyboard language and set the language in the session.

Local Storage Modules

The Local Storage modules allow the use of USB ports on thin clients. By default, the USB ports are not active for security reasons.

USB Flash Drive Module

By default, USB ports are disabled in the ThinManager system. You can use the USB ports for keyboards and mice, but not USB flash drives. For USB flash drives, you need to allow the port to be used with the USB Flash Drive Module.

Also, the USB port works with a device that functions as a keyboard wedge.

Figure 441 - USB Flash Drive Module Properties

	N	Iodule Properties		x
	Drive Access Rights in Session	None	•	
	Use with TermSecure	NO	•	
	Allow Manual Logon	YES	•	
	Prompt for Password	NO	•	
Se	et to Default			
			Done	Cancel

The USB Flash Drive Module has several parameters.

Parameter	Description
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 None sets the flash drive to access only the unique serial number to make it usable as a TermSecure ID device
Use with TermSecure	 YES allows the device to be a TermSecure identifier NO in conjunction with a ReadWrite Access Rights allows the device to be used as a remote storage drive
Allow Manual Login	 Yes allows a Relevance user to log in to a Terminal without a TermSecure ID device No requires TermSecure users to use a TermSecure ID device to log in
Prompt for Password	Yes requires a Relevance User to enter their password for access even if the password is configured in ThinManager.



USB does not map to the session like serial does. If you want to add a USB device that requires a driver to be installed, such as a printer, you can use an IP-to-USB converter that allows you to address the device and mount the drives from the session.

USB Memory Card Reader Module

The USB Memory Card Reader Module allows USB card readers to connect to a Terminal.

These are the USB Memory Card Reader Module parameters.

Parameter	Description
Number of Slots in Reader	Sets the number of slots that the card reader uses.
Read Only Access	 Yes limits the user to reading the card. No allows the user to read and write to the card.

Miscellaneous Modules

These are modules that do not fit into other categories.

Add Serial Port

The Add Serial Port Module is used only to configure the serial ports of daughter boards that add additional serial ports to Terminals.

1. Add a module for each additional serial port.

Each module lets the user configure one additional port.

These are the Add Serial Port Module parameters.

Parameter	Description
Port Number	Set to the port number of the new port.
Port Address	Set to the port address of the new port.
IRQ	Set to the IRQ of the new port.
UART	Set to the chipset type for the new port.

Barcode Configuration Module

This module sets the protocols that a tablet uses to scan barcodes.

Bluetooth Module

See the <u>Relevance Modules on page 337</u> for more information.

Firmware Update Module

The Firmware Update module allows a ThinManager-ready thin client with an embedded firmware to be updated.

ThinManager enables some models of Terminals to store the firmware with Disk On Chip or Compact Flash storage so that the unit does not have to download the entire firmware at boot. Instead, the unit can boot locally and download just the configuration to save bandwidth. This is most commonly used with units that connect over low-bandwidth networks, like wireless networks or WANs. These units can use the Firmware Update module to download and flash new firmware when the firmware is updated in ThinManager. The ability to update stored firmware Terminals eliminates the need to send the Terminal back to the manufacturer to update the firmware.



The firmware download can vary depending on the bandwidth of the connection and the size of the update. It is recommended that updates be done over a wired LAN versus a wireless connection.

The Firmware Update module has three configurable parameters.

Parameter	Description
Confirm at Terminal	 Yes prompts the operator to choose between an immediate firmware update or an update at the next Terminal boot. No causes the firmware download to take place immediately.
Force Update	Yes forces the Terminal to always download the firmware for an update. Ordinarily, a stored firmware Terminal with the Firmware Update module checks firmware version numbers at boot and only downloads a new firmware if the versions are different.
Disable Update	Prevents the download and flash of a new firmware if it is installed. This allows the administrator to select the time of update instead of an automatic update.

The module downloads firmware when it detects a different firmware. Since this only happens at the first reboot after updating the ThinManager firmware, it is safe to leave this module added to Terminals permanently when Force Update is set to No. It does not need to be added and removed each time the firmware is updated. However, since it updates when the firmware is different, it tries to update the firmware if you boot it from a ThinManager server with older firmware.

Firmware Update Program

Once the new firmware is downloaded, an update program runs on the Terminal to rewrite the new firmware to the storage. The program displays a warning, which state that the Terminal must not be reset or powered off during the process, which usually takes around 30 seconds. If you ignore the warning, the stored firmware can be corrupted; so, it is important to leave the Terminal alone for that time period.

IMPORTANT	The Terminal must not be reset or powered off during the brief period that the update program writes the firmware to the firmware storage device. It is recommended that you update firmware over a wirdd AN wreat or wirdgate comparison
	wired LAN versus a wireless connection.

Stored Firmware Terminal Configuration

A stored firmware Terminal loads the firmware locally before it connects to the ThinManager server. The stored firmware Terminals have a setup program that allows configuration of the connection.

1. Press any key to enter the program when prompted during the boot process.

A setup screen is displayed.

2. Save or discard changes before the boot process resumes.

Instant Failover Module

The Instant Failover Module is to be used only with Terminal configurations that use the legacy "Individual Remote Desktop Servers" method instead of the preferred Display Clients method.

Since the use of Display Clients is a preferred method of getting Remote Desktop Services sessions versus using the legacy "Individual Remote Desktop Servers," the module is hidden from view unless Show Advanced Modules is checked.

Instant Failover allows a Terminal to connect to a session on two Remote Desktop Servers. Both sessions are active, but only one is displayed. If the first Remote Desktop Server fails, the second session is displayed immediately, which eliminates any downtime due to Remote Desktop Server failure. See <u>Instant Failover on page 141</u> for details.



The Instant Failover Module is used only with Terminals that use Individual Remote Desktop Servers. Terminals using Display Clients have Instant Failover checked in order to use it. (See Figure 138 on page 112). **Do not use the Instant Failover module while using Display Clients.**

The Instant Failover function requires an Instant Failover license for each Terminal that uses it.

Instant Failover Configuration with Use of Individual Remote Desktop Servers

The thin client cascades both sessions, with the primary in front. You cannot see the secondary session as it is hidden behind the primary session. There is an option that allows one to switch between sessions with a hot key.

Parameter	Description
Hot Key Session Switching	Set to Enabled for the hotkey combination to toggling between sessions.
Hotkey Combination is CTRL+	The value of the hotkey is defaulted to CTRL+F9, but it can be assigned to any function key.

Local Print Module

The Local Print Module simplifies printing through the parallel port on thin clients.

There are three steps.

- 1. Install the print driver on the Remote Desktop Servers to which the client connects.
- 2. Add the Local Print Module to the thin client as described in Add a Module on page 319.
- 3. Configure the Print Driver Name parameter in the module to contain the print driver's 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.
 - a. Choose Start>Settings>Printers to launch the Printer Property page for a printer and choose the appropriate printer.

The Printer Queue dialog box appears.

b.Choose Printer>Properties to launch the Printer Properties page.

The Advanced tab on the Printer Properties page contains the Print Driver name.

c. Type the Print Driver name into the appropriate field on the Local Print Module.



When printing from the client, the printer is displayed as Printer/username/session number.

MultiStation Configuration Module

The MultiStation Configuration Module allows you to specify how many keyboards and mice are at each station.

The settings include these.

Setting	Description
Station Number	Specifies the station number to configure.
Number of Keyboards	Sets the number of keyboards at the selected station.
Number of Mice	Sets the number of mice at the selected station.

Redundant Ethernet Module

Adding the Redundant Ethernet Module to a Terminal with dual network ports allows the Terminal to use the second port as a backup. The Terminal has one IP address, but it can have the ports plugged into two switches to have redundant paths to the Remote Desktop Servers.

The Redundant Ethernet Module has no configurable settings. Plug each network port into different switches on the same network.

The Terminal boots from the first available network port and downloads the configuration. If the first network path fails, it seamlessly switches to the backup port to prevent interruption of service.

Terminal Shadow Module

This module needs to be installed in ThinManager, but it is not applied to a Terminal. A Terminal automatically downloads this module if it is needed.

TermMon ActiveX Configuration Module

This configures the TermMon ActiveX control that collects Terminal information and can perform Terminal functions. It is listed as both a Miscellaneous Module and a TermSecure Module, but is described in the <u>TermSecure Modules</u> section.

See <u>TermMon ActiveX Configuration on page 343</u> for details.

Time Zone Redirection Module

The Time Zone Redirection Module allows a Terminal to display local time when it is connected to a Remote Desktop Server in another time zone.

- 1. Highlight the Time Zone parameter to activate the Value pull-down menu that contains time zones.
- 2. Click Set to accept the changes.
- 3. Allow time zone redirection in the Group Policy Console of the Windows Remote Desktop Servers.

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 for Server 2003 or Local Computer Policy\Computer Configuration\Administrative Templates\Windows Components\Terminal Services\Remote Desktop Server\Device and Resource Redirection for Server 2008 of the Group Policy.

See Microsoft documentation for information on Group Policy.

TMTerm DLL Configuration Module

The TMTerm DLL Configuration module is used to communicate with the Terminal sessions from another Terminal or computer.

Setting	Description
Allow Connections from	 ANY_IP allows you to configure the communication from any computer List allows you to limit communication to specified computers.
IP Address list (comma separated)	Allows you to list the IP addresses of computers authorized to retrieve the TermMon data. Separate multiple computer IP addresses with a comma.

USB to Serial Module

The USB to Serial module allows you to map the USB ports to serial ports if you are using a USB-to-Serial device plugged into the Terminal.

User Override Module

The User Override Module is a temporary module that allowed users of ThinManager 3.1 to use the User Override function in Display Clients. It is no longer needed in ThinManager 3.2 and later.

See Display Client Override for the current method of User Override.

Mouse Modules

Mouse Modules can configure mouse functions in the ThinManager system.

Locate Pointer Module

The Locate Pointer Module adds a large crosshair to the cursor when it becomes active after being idle, which allows you to see its location quickly. This feature is particularly helpful in a MultiMonitor system.

Figure 442 - Locate Pointer Module

Modul	le Properties
Locate Pointer Hotkey	NONE
Locate Pointer Hotkey Modifier	CTRL
Home Pointer Hotkey	NONE
Home Pointer Hotkey Modifier	CTRL
Locator Inactivity Time (seconds)	300
Home Pointer Inactivity Time (seconds	1800
Locator Display Time (seconds)	3
J	
Set to Default	
	Done Cancel

The settings include these.

Setting	Description
Locate Pointer Hotkey	Allows you to set a hotkey to make the cursor appear.
Locate Pointer Hotkey Modifier	Allows you to set the modifier key to activate the hotkey to show the pointer cursor.
Home Pointer Hotkey	Allows you to set a hotkey that moves the cursor to the center of the main screen.
Home Pointer Hotkey Modifier	Allows you to set the modifier key that moves the cursor to the center of the main screen.
Locate Inactivity Time (seconds)	Sets the length of the idle time before the locate pointer cursor is activated.
Home Pointer Inactivity Time (seconds)	Sets the length of the idle time before the locate pointer cursor is moved to the center of the main screen.
Locate Display Time (seconds)	The length of time that the locate pointer crosshair cursor is displayed when activated.

Mouse Configuration Module

The Mouse Configuration Module allows USB or PS/2 mice to be configured and allows the use of two mice. These are the Mouse configuration settings.

Setting	Description Allows both a PS/2 mouse and USB mouse to be used on a Terminal. Define which mouse is considered the primary mouse.			
Primary Mouse Type				
Mouse Protocol	Allows the selection of different protocols used by the mouse.			
Scroll Mouse	When set to Yes, allows a scroll mouse to function on a Terminal.			
Acceleration Multiplier	Allows the mouse movement to be slowed down or sped up.			
Acceleration Threshold (pixels)	The number of pixels a mouse must move before the acceleration multiplier takes effect.			
Left Button	Disables the left mouse button when set to Disabled.			

Setting	Description	
Right Button	Disables the right mouse button when set to Disabled.	
Scroll Button	Disables the scroll button when set to Disabled.	
Scroll Wheel	Disables the scroll wheel when set to Disabled.	

1. To change a parameter, highlight the parameter and choose a new value from the Value pull-down menu.

2. Click Set to accept the new parameter value.

PS/2 Mouse Module

The PS/2 Mouse Module is the predecessor 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.

Setting	Description
Primary Mouse Type	Allows both a PS/2 mouse and USB mouse to be used on a Terminal. Define which mouse is considered the primary mouse.
Scroll Mouse	When set to Yes, allows a scroll mouse to function on a Terminal.
Acceleration Multiplier	Allows the mouse movement to be slowed down or sped up.
Acceleration Threshold (pixels)	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 thin clients.

Setting	Description
Mouse Type	Defines what type of mouse is used.
Serial Port	Set this value to the serial port number used for the mouse.

Share Keyboard and Mouse Modules

See Share Keyboard and Mouse Modules on page 334.

The Share Keyboard and Mouse Master module is licensed for each master thin client. The Share Keyboard and Mouse Follower module is free. Each controller module can have 1...4 follower units. Future releases expand the number of replicas that the master can control.

Network Modules

Domain Name System Module

The Domain Name System Module allows you to specify a DNS server for a Terminal without the need to turn on DNS for the entire ThinManager Server system.

Second Network Module

The Second Network Module allows you to use the dual network ports on a Terminal on different networks.

Add the Second Network Module and configure the second port.

The Terminal always boots from the first port; but once booted, it enables the second port and allows communication on both networks. This is useful for separating IP camera bandwidth from the process control network, for example.

Figure 443 - Second Network Module

	Module Properties	x
IP Method	STATIC	•
IP Address (Static Only)	0.0.0.0	
NetMask (Static Only)	255.255.255.0	
Router (Static Only)	0.0.0.0	
Set to Default		
		Done Cancel

The settings include these.

Setting	Description
IP Method	Allows the second port to use DHCP or a static IP.
IP Address (Static Only)	Allows the second port to be assigned a static IP address.
NetMask (Static Only)	Allows the second port to be assigned a subnet mask.
Router (Static Only)	Allows the second port to be assigned a router.

Third Network Module

The Third Network Module allows you to configure a third network port to connect to a different network than the first network port on Terminals with three network ports.

Parameter	Description			
IP Method	Allows you to choose a static IP or use DHCP.			
IP Address (Static Only)	Allows you to set a static IP address if Static was the chosen IP method.			
NetMask (Static Only)	Allows you to set a NetMask if Status was the chosen IP method.			
Router (Static Only)	Allows you to set a static IP address for a router if Static was the chosen IP method.			

These are the Third Network Module parameters.

RDP Modules

RDP Experience Module

The RDP Experience Module allows a session to add features when connected to a Windows 2003 Remote Desktop Server with RDP.

These are the RDP	n ' x 11	
These are the RIDU	Evnerience Modula	norometere
These are the RDT	LADUICULC MOUUN	, parameters.
	1	1

Parameter	Description		
Allow Desktop Background	If set to Yes, allows a Terminal to show a desktop background.		
Show Window Contents While Dragging	If set to Yes, allows a Terminal to show window contents while dragging.		
Allow Menu and Window Animation	If set to Yes, allows a Terminal to show window and menu animations.		
Allow Themes	If set to Yes, allows a Terminal to show a desktop theme.		
Allow Font Smoothing	If set to Yes, uses the Microsoft font smoothing in the session.		
Duplicate Server Connect Delay (seconds)	Adds a delay when a Terminal is creating multiple connections to a Remote Desktop Server and, normally, displays an error message that the server is busy. Add a delay to possibly minimize that error message.		
Enable Network Level Authentication	Allows you to turn off NLA (Network Level Authentication) for that Terminal.		
Use Hardware Scaling When Available	If set to Yes, uses the local video hardware for scaling.		

Enable RDP Experience in Windows Group Policy Editor in order to use these features. See Microsoft documentation for details.

RDP Port Module

The RDP Port Module allows the port that RDP uses to communicate to the Remote Desktop Server with to be changed from the default 3389.

• Type the new port number for RDP in the RDP Server Port Number (decimal) field.

RDP Serial Port Redirection Module

The use of serial ports on a thin client presents a paradox: the session runs on a Remote Desktop Server and not the thin client. If you connect a serial device to the thin client and reference it in the session, the session looks at the local serial ports on the server and not the remote serial ports on the Terminal where the device is attached.

Adding the RDP Serial Port Redirection Module maps the remote ports on the Terminal to the local ports in the session. If the session references COM Port 1, it is sent to the Terminal COM Port 1.

The RDP Serial Port Redirection Module has no configuration, add it to map the remote COM Ports.

RDP Session IP Module

The RDP Session IP Module allows a Terminal to use an alias IP address for a specific Display Client session.

The RDP	Session II	, module	has	three	settings
THE RDI	0000101111	mouule	IIas	unce	securitys.

Setting	Description
Group Name	Specifies the Display Client to use.
Session IP Address	The IP address to use as the alias.
Session IP Address for Instant Failover	The IP address to use for a backup session if the Display Client is configured to use Instant Failover.

Smart Card Module

The Smart Card module must be added to use a Smart Card Reader and Smart Cards.



Network Level Authentication (NLA) must be disabled on the Remote Desktop Servers to use a smart card as a login device. It can be left enabled if you are using the smart card to send information to the active session.

Relevance Modules

Bluetooth Module

ThinManager supports Bluetooth 4.0 USB adapters as resolvers for Relevance. A Bluetooth USB adapter can be plugged into a thin client USB port to provide a Bluetooth beacon that does not require batteries. The Bluetooth module allows you to configure the USB adapter.

Figure 444 - Bluetooth Module

Modu	le Properties
Device Number	0
Advertising Mode	
Advertising Name	
	ACP-(BD_ADDR)
Custom Advertising Name (16 char ma Advertising Interval (Milliseconds)	250
UUID (iBeacon Only)	1111111-2222-3333-4444-55555555
Major Number (0-65535) (iBeacon Onl	y) 1
Minor Number (0-65535) (iBeacon Onl	1 (ب
Set to Default	
	Dura Court
	Done Cancel

The Bluetooth Module has several settings.

Setting	Description	
Device Number	Add this module for each device added and assign each device a different number. ThinManager sorts out which is which.	
Advertising Mode	Allows you to set the transmission mode of the USB adapter.	
ACP	Sets the adapter to transmit in the ACP protocol.	
iBeacon	Sets the adapter to transmit in the iBeacon protocol. You must assign a UUID, a major number, and a minor number.	
Disabled	Stops the transmission from the adapter.	
Advertising Name	Allows you to choose which naming convention is used to identify the Bluetooth USB adapter.	
ACP-{BD_ADDR}	Transmits the Bluetooth address of the USB adapter with the "ACP-" prefix.	
ACP-{Terminal Name}	Transmits the Terminal name of the client that hosts the USB adapter with the "ACP-" prefix.	
BD-Address	Transmits the Bluetooth address of the USB adapter.	
Terminal Name	Transmits the Terminal name of the client that hosts the USB adapter.	
Custom	Allows you to set a custom advertising name in the Custom Advertising Name (16 char max) field.	
Custom Advertising Name (16 char max)	Allows you to set a Custom Advertising Name if Custom is chosen in the Advertising Name pull-down menu. You are limited to 16 characters.	
Advertising Interval (Milliseconds)	Sets the frequency of the Bluetooth signal.	
UUID (iBeacon Only)	Each iBeacon has a Universally Unique Identifier (UUID). Allows you to associate your iBeacon to the Terminal if iBeacon was chosen from the Advertising Mode pull-down menu.	
Major Number (0-65535) (iBeacon Only)	Allows you to add the iBeacon major number for registration.	
Minor Number (0-65535) (iBeacon Only)	Allows you to add the iBeacon minor number for registration.	



iBeacon USB adapters normally have a UUID, a major number, and a minor number assigned to them. These must be added to the Bluetooth Module in the appropriate fields.

Thin Manager[®] with Relevance[®] filters Bluetooth adapters by default and only shows Bluetooth beacons with the ACP prefix. If you use the BD-Address, Terminal Name, or Custom advertising names you must turn off the ACP filter, which is done in the Relevance Settings dialog box.

1. From the ThinManager menu bar, choose Manage>Relevance>Settings.

The Relevance Settings dialog box appears.

Figure 445 - Relevance Settings Dialog Box

Relevance Settings			×
Location Transfer Timeout	15] se	conds	
Location Transfer Extension Time	15 se	conds	
Bluetooth Device Name Filter Prefix	ACP-		
iBeacon GUIDs			
			Add
			Delete
			Edit
Enable iPhone Beacons			
Allow New Resolvers to be registered			
		ОК	Cancel

Setting	Description
Location Transfer Timeout (seconds)	The amount of time an operator has to allow a session to transfer during a normal Transfer.
Location Transfer Extension Time (seconds)	The amount of time that a transfer can wait when user selects More Time during a transfer.
Bluetooth Device Name Filter Prefix	Allows you to filter Bluetooth beacons by their prefix.
iBeacon GUIDs	Lists the registered iBeacon devices.
Enable iPhone Beacons	Check to allow the ThinManager Beacon application on an iPhone to work as a beacon to identify the location of the Relevance user. This setting tells the client application (iTMC or aTMC) to look for devices that run ThinManager Beacon, which a free iPhone application available from the App Store [®] .
Allow New Resolvers to be registered	Check to allow new resolvers to be added. Clear this checkbox to prevent the addition of new resolvers unless an administrator re-enables this setting.
a1	

2. Clear or change the Bluetooth Device Name Prefix if you use the BD-Address, Terminal Name, or Custom advertising names.

The iTMC application can show the Bluetooth beacons it is receiving.

3. Click Menu in the upper-right corner of the iTMC menu bar.

The Main Menu appears.

4. Click View Bluetooth Beacons to see the Bluetooth beacons.

Figure 446 - Bluetooth Beacons in iTMC Application

Done	Bluetooth
STATUS	
Scanning Bluetooth State: On	
BLUETOOTH BEACONS	
ACP-1_Terminal RSSI: -68 (avg) : -68 (last reading) Fransmission Interval: 0.379 secor	nds (avg) : 0.153 seconds (last reading)
ACP-9059AF08ADB5 RSSI: -75 (avg) : -78 (last reading)	

Figure 446 on page 339 shows a beacon using the ACP-{Terminal Name} advertising name.

iPhone Beacon

To use your iPhone as a beacon, follow these steps.

1. Choose Manage>Relevance>Settings.

The Relevance Settings dialog box appears.

- 2. Check Enable iPhone Beacons.
- 3. Launch the ThinManager Beacon app on your iPhone.

The ThinManager Beacon app is available at the App Store. Once the app is turned on, the iPhone can be used as a beacon.

DigitalPersona UareU Fingerprint Reader

ThinManager supports the DigitalPersona UareU Fingerprint Reader biometric reader from Crossmatch to add another element of security to a ThinManager system.

See <u>Fingerprint Reader on page 484</u> for more details.

Figure 447 - DigitalPersona UareU Fingerprint Reader Module

Mc	dule Properties		x
			- 1
Mode	TermSecure	•	
Data Format	ISO_19794_2_2005	•	
Show Status Messages	YES	•	
Allow Manual Logon	NO	•	
Prompt for TermSecure Password	NO	•	
Set to Default			
	Done	Cancel	

The DigitalPersona UareU Module has several settings.

Setting	Description
Mode	Allows you to use the reader with TermSecure, TermMon ActiveX, or as a TermMon Lookup device.
Data Format	Allows you to choose the data format used by the biometric reader.
Show Status Messages	Displays activity messages in the upper-right corner of the Terminal.
Allow Manual Logon	Can be set to No to require access only through the biometric device.
Prompt for TermSecure Password	Set to Yes to require a password in addition to fingerprint scan.

RF Ideas pcProx Modules



On the Biometric Device Configuration page of the ThinManager Server Configuration Wizard, check Support Finger Print Readers to use a fingerprint scanner. Set the data format here, as well.

ThinManager supports card readers from RF Ideas for use with badges in TermSecure. There is a serial RF Ideas pcProx Module and a USB RF Ideas pcProx Module.

Serial RF Ideas pcProx Module

This module is used with the RFIdeas pcProx Enroll Series 81 readers like RDR-xx81AKx.

Figure 448 - RF Ideas pcProx Module Parameters

operties 🛛 🗙
•
•
•
•
-
Done Cancel
· · · · · · · · · · · · · · · · · · ·

These are the parameters.

Parameter	Description
Port	Choose the port on which the RF Ideas pcProx card reader is installed.
Number of Data Bits	As different cards use different numbers of data bits in their format, this sets the number of data bits to match that used by the card as an identifier. The choices are 26, 37, or Raw.
Use Facility Code	Set to Yes to require the addition of the card's Facility Code to the Card/Badge ID number.
Allow Manual Login	 Yes allows a Relevance user to log in to a Terminal without a TermSecure ID device. No requires TermSecure users to use a TermSecure ID device to log in.
Prompt for Password	Set to Yes to require a TermSecure user to enter their password for access even if the password is configured in ThinManager.
Zero Pad Facility Code and ID	Adds a zero to the number string. This is rarely needed.

USB RF Ideas pcProx USB Module

This module is used with the RDR-6081AKU, RDR-80582AKo, and RDR-80082AKo USB RFIdeas pcProx readers.

Figure 449 - RF Ideas pcProx USB Module

Module Pr	operties ×	
Model Mode Bits in ID Number (AK0 Only) Bits in Facility Code (AK0 Only) Zero Pad Facility Code and ID (AK0 Only) Allow Manual TermSecure Logon	RDR-6081AKU TermSecure 16 8 NO YES	
Prompt for TermSecure Password NO Expose Card ID to TermMon ActiveX Control NO		
Set to Default	Done Cancel	

These are the RF Ideas USB pcProx Module parameters.

Parameter	Description
Model	Allows you to choose between the RDR-6081AKU, RDR-80582AKO, and RDR-80082AKO USB pcProx card reader.
Mode	 TermSecure Mode allows the card to be used with TermSecure as a login device Wedge Mode allows the data to be sent to the session as a character string TermMon Mode allows the data to be sent to the TermMon ActiveX
Bits in ID Number (AKO Only)	As different cards use different numbers of data bits in their format, this sets the number of data bits to match that used by the card as an identifier.
Bits in Facility Code (AKO Only)	As different cards use different numbers of data bits in their format, this sets the number of data bits of the Facility Code.
Zero Pad Facility Code and ID (AKO Only)	Adds a leading 0 to the Facility Code if needed.
Allow Manual TermSecure Login	 Yes allows a Relevance user to log in to a Terminal without a TermSecure ID device. No requires TermSecure users to use a TermSecure ID device to log in.
Prompt for TermSecure Password	Set to Yes to require a TermSecure user to enter their password for access even if the password is configured in ThinManager.
Expose Card ID to TermMon ActiveX Control	Allows the card data to be sent to the TermMon ActiveX without using it as a Relevance User identifier.

To configure a parameter, follow these steps.

- 1. Highlight the parameter.
- 2. Change the value.
- 3. Click Set to apply the new value.
- 4. Click Done to accept the changes.

Once the Terminal has the module added, it needs to be restarted for the changes to take effect.

- 5. Click Finish to close the Terminal Configuration Wizard.
- 6. Right-click on the Terminal in the ThinManager tree and choose Restart.

RFIdeas pcProx Sonar Module

RF Ideas has a sonar device that can be a pointer to the operator. It becomes active when a Relevance User logs on and measures the time for a sonar echo.

If the user walks away without logging off, the sonar detects the absence because of the increase in the time interval of the echo.

Figure 450 - RFIdeas pcProx Sonar Module

Module Properties	ĸ
Walk-Away Modifier CTRL+ALT	-
Set to Default Done Cancel	

Parameter	Description
Walk-Away Modifier	Allow you to use a key combination to trigger to turn off
Walk-Away Key	the sonar.
Walk-Up Modifier	Allow you to use a key combination to turn on the sonar.
Walk-Up Key	

TermMon ActiveX Configuration

This configures the TermMon ActiveX control that collects Terminal information and can perform Terminal functions.

Normally, the TermMon ActiveX, when registered on a Remote Desktop Server, allows a Remote Desktop Server session to communicate with its Terminal and act upon it without the need of the TermMon ActiveX module. The TermMon ActiveX module can be added to the Terminal configuration to either deny the default Remote Desktop Server to Terminal access or to allow access to other sessions and PCs.

Parameter	Description
Allow ActiveX Connections	 Yes allows the ActiveX control to function. No prevents any ActiveX communication to the Terminal, which includes the default Remote Desktop Server to Terminal access.
Only Allow Connections from Session	 Yes allows other Remote Desktop Server sessions and PCs to communicate to the Terminal with the ActiveX functions. No restricts communication to that between the Terminal and a session on the Remote Desktop Server belonging to the Terminal, provided that Allow ActiveX Connections is set to Yes.

See Registering the Control on page 731 of the ThinManager for Relevance 11.2 User Manual 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.

See <u>Figure on page 327</u> in Local Storage Modules for details.

Wavetrend Tag Reader (Package 5 Only)

The Wavetrend Tag Reader Module allows a Terminal to use Wavetrend RFID cards as TermSecure ID cards. This logs in a user through TermSecure when they approach the Terminal and logs them out when they leave the area. The distance required to log in and log out isconfigurable in the module.

These are the parameters.

Parameter	Description
Port	Specifies which COM Port the reader is attached to as the WaveTrend Tag Reader Module connects to a thin client through the serial port.
Use Vendor Code	When set to YES, the vendor code is included as part of the identifier number.
Allow Manual Login	 YES allows a Relevance User to use the hotkey to initiate logins, or the device. NO forces a Relevance User to use a device to login.
Prompt for Password	 NO allows the device to login without a password. YES forces every Relevance 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 required to register as "Entered."
Exit Sensitivity	The number of reads below the Exit Signal Strength required to register as "Exited."

Screen Saver Modules

The use of ThinManager Screen Savers is recommended because they run on the client. A Microsoft screen saver running in a session can utilize processing power that could be better applied to another session.

MultiSession Screen Saver Module

The MultiSession Screen Saver Module is a screen saver that allows the different sessions of a MultiSession client to cycle.

Мо	odule Propertie	s X
Mode Start Delay Time in secs Switch Interval in secs (Cycle only	Cycle 300 /) 15	
Set to Default		Done Cancel

Figure 451 - 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.

These are the parameters.

Parameter	Description
Mode	 Cycle switches between all active sessions on the Terminal. GotoFirstGroup switches the Terminal to the main session when it is inactive.
Start Delay Time in secs	The number of seconds of inactivity that the Terminal allows before the screen saver starts.
Switch Interval in secs (Cycle mode only)	The number of seconds the Terminal displays each session when using the Cycle mode.

Screen Saver Module

Screen Saver Module loads a screen saver on the client. The screen saver runs when the Terminal is idle to protect the monitor. Since the screen saver runs on the client, it saves CPU resources on the Remote Desktop Server.

This module has a Disable Time Period function that disables the screen saver during working hours so that the screen is visible during those hours.

Figure 452 - Screen Saver Module

Module	e Properties X
Screen Saver	BlankScreen
Wait Time in Minutes	30
Use Disable Time Period	NO
Disable Start Hour (0-23)	0
Disable End Hour (0-23)	0
Force Off when Start Hour Reached	NO
Set to Default	
	Done Cancel

The Screen Saver Module configuration includes these parameters.

Parameter	Description	
Screen Saver	The graphic displayed when the screen saver is active.	
Wait Time in Minutes	The length of time that the Terminal must 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 can be used to prevent the screen saver from running during normal business hours.	
Disable Start Time (0-23)	Sets the start of the disabled time block. 0 is Midnight and 23 is 11:00 p.m.	
Disable End Time (0-23)	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	Set to Yes to turn the screen saver off when the Disable End Time is reached.	

Sound Modules

Many ThinManager-ready thin clients and ThinManager-compatible thin clients have audio ports for speakers.

The use of sound from a thin client requires several things.

- Hardware with a Line Out/Speaker plug
- Amplified speaker(s)
- Universal Sound Driver Module
- 1. Plug the speaker(s) into the Line Out plug on the Terminal.
- 2. Add the module.
- 3. Connect to the Remote Desktop Server.

Universal Sound Driver

The Universal Sound Driver Module activates ThinManager to send the correct sound driver for that Terminal. This module can be added to any thin client that has an audio jack to enable sound.

Module Prope	rties	
Audio Bandwidth (ICA Only)	HIGH	
Sound In Session	ENABLED	
Terminal Sound Effects	ENABLED	
Only Play Sound in Foreground Session (RDP Only	ND 💌	
Master Volume Level (0 - 100)	85	
Start Sound Volume Level (0 - 100)	60	
Sound Effects Volume Level (0 - 100)	60	
Sound Card Number	1	
Playback Device Number	AUTO 🔽	
Set to Default		
	Done Cancel	

The Universal Sound Module has several settings.

Setting	Description
Audio Bandwidth (ICA Only)	Set to Low, Medium, or High bandwidth when using Citrix ICA.
Sound in Session	 Enabled allows sound generated within the session to be played through the Terminal. Disabled turns off the session sounds, but system sounds are generated during TermSecure login for audio feedback during the login process.
Terminal Sound Effects	Set to Enabled to allow Terminal sound effects like TermSecure login sounds on the Terminal.
Only Play sound in Foreground Session	Turns off the sound in background sessions when using MultiSession.
Master Volume Level (0-100)	Sets the master volume for the Terminal.
Start Sound Volume Level (0- 100)	Sets the master volume for the Terminal.
Sound Effects Volume Level (0-100)	Sets the level for sound effects on the Terminal.
Sound Card Number	Lets you specify which sound card to use if you have multiple sound cards.
Playback Device Number	Lets you choose the playback device output of the sound card.

TermSecure Modules

There is a legacy category for TermSecure that was superseded by the Relevance category.

The modules in the TermSecure list are identical to the modules in the Relevance list. See <u>Relevance Modules on page 337</u>.

These are the modules.

- Bluetooth Module
- DigitalPersona UareU Fingerprint Reader
- Serial RF Ideas pcProx Module
- USB RF Ideas pcProx USB Module
- RFIdeas pcProx Sonar Module
- TermMon ActiveX Configuration Module
- USB Flash Drive Module

- USB ID Reader Module
- Wavetrend Tag Reader (Package 5 Only)

Touch Screen

ThinManager supports over a dozen serial touch screen controllers and a universal USB driver. You must add the proper driver for the controller. Some manufacturers are not consistent and use different controllers for different product lines.

Serial Drivers

Each serial touch screen has a specific touch driver based on the touch controller of the monitor. You must add the appropriate driver that matches the touch controller.

- Arista ARP-16XXXAP-ACP Touch Screen Driver
- CarrollTouch Touch Screen Driver
- Contec Touch Screen Driver (Package 5 only)
- DMC Touch Screen Driver (Package 5 only)
- DMC TSC Series Touch Screen Driver
- Dynapro Touch Screen Driver
- Elographics Touch Screen Driver
- Gunze AHL Touch Screen Driver
- Hampshire TSHARC Touch Screen Driver
- MicroTouch Touch Screen Driver
- Panjit TouchSet Touch Screen Driver
- PenMount Touch Screen Driver
- Ronics Touch Screen Driver (Package 5 only)
- Touch Control Touch Screen Driver
- Touch International IR Touch Screen Driver (Package 5 only)
- USB Touch Screen Driver
- Xycom 33XX Touch Screen Driver (Package 5 only)
- Zytronic Touch Driver



The touch controller is the important component. Many manufacturers make touch screen monitors, but fewer make the controller. You need the module that matches the controller.

	Module	Properties			x
S	erial Port	COM1		•	<u>^</u>
M	fonitor Number	1		•	
D	ouble Touch Area (pixels)	10			
D	ouble Touch Time (milliseconds)	1000		•	≡
т	ouch De-bounce Timeout (milliseconds)	0		•	
s	wap XY Coordinates	NO		•	
н	lold Down Time (milliseconds)	DISABLED		•	
н	lold Down Area (pixels)	20			
	Hold Down Action	RightClick		•	
N	lumber of Calibration Points	5		•	
c	alibration Margin Percentage	10		•	~
Set to	Default				
			Done	Cancel	

Some, but not all, touch screen modules have parameters that can be modified, which may include these.

Parameter	Description
Connection	
Serial Port	Sets the COM port that a serial touch screen is connected to.
Baud Rate	Sets the speed used for communication between the Terminal and the touch screen on some serial touch screens.
Monitor Number	Used to specify which monitor in a MultiMonitor scheme uses for the touch screen. MultiMonitor thin clients with multiple touch screens need a module loaded for each touch screen used.
Touch Settings	
Double Touch Area (pixels)	Sets the size of the area that a second touch registers as a double-touch.
Double Touch Time (milliseconds)	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.
Swap XY Coordinates	If X and Y are reversed, this setting corrects the orientation.
Hold Down Time (milliseconds)	When enabled, initiates the Hold Down Action when the touch is held for the configured time
Hold Down Action	Sets the action that a long touch initiates, includes Right-Click and OnBoard Keyboard.
Hold Down Area (pixels)	Sets the size of the area that a second touch registers as a right-click.
Calibration	
Number of Calibration Point	Sets the number of calibration points that the calibration program uses during the calibration process.
Calibration Margin Percentage	Sets the distance from the edge of the screen at which calibration points are displayed.
Calibration Hotkey	Allows a function key to be set as a hotkey so that the calibration can be launched from a keyboard.
Calibration Hotkey Modifier	Adds CTRL or ALT to the hotkey to launch the calibration from the keyboard, if desired.
Calibration Hold Down Time (seconds) When enabled, launches the calibration program when the screen is touched for the assigned number of seconds. Cannot be used with the Right-Click Hold Time.	
Clean Time	Sets an idle time before the calibration to allow you to clean and wash a touch screen. The calibration waits until you are done touching the screen while cleaning.
Calibration (entered automatically)	Set automatically by machine. These are the values set during the calibration process.

Parameter	Description	
Miscellaneous		
Hide Mouse Cursor	Hides the mouse cursor if a mouse is not present.	
Orientation (entered automatically)	Set automatically by machine. Used at the direction of Tech Support in error correction.	

USB Touch Screen Driver

USB touch screens are easy to use as they use a standardized format. The USB Touch Screen Driver should work for all USB touch screens.

Figure 455 - USB Touch Screen Module

Module	Properties	x
Monitor Number	1	^
Double Touch Area (pixels)	10	
Double Touch Time (milliseconds)	1000 💌	
Touch De-bounce Timeout (milliseconds)	0 🔹	=
Swap XY Coordinates	NO	
Hold Down Time (milliseconds)	DISABLED	
Hold Down Action	RightClick 🔹	
Hold Down Area (pixels)	20	
Number of Calibration Points	5 🗸	
Calibration Margin Percentage	10 💌	
Calibration Hotkey	NONE	~
Set to Default		
	Done Cance	!

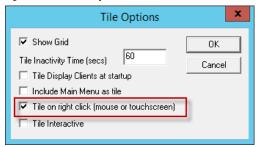
Some, but not all, touch screen modules have parameters that can be modified, including these.

Parameter	Description		
Connection			
Monitor Number	Used to specify which monitor in a MultiMonitor scheme uses for the touch screen. MultiMonitor thin clients with multiple touch screens need a module loaded for each touch screen used.		
Touch Settings			
Double Touch Area (pixels)	Sets the size of the area that a second touch registers as a double-touch.		
Double Touch Time (milliseconds)	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.		
Swap XY Coordinates	If X and Y are reversed, this setting corrects the orientation.		
Hold Down Time (milliseconds)	When enabled, initiates the Hold Down Action when the touch is held for the configured time.		
Hold Down Action	Sets the action that a long touch initiates, includes Right-Click and OnBoard Keyboard.		
Hold Down Area (pixels)	Sets the size of the area that a second touch registers as a right-click.		
Calibration			
Number of Calibration Point	Sets the number of calibration points that the calibration program uses during the calibration process.		
Calibration Margin Percentage	Sets the distance from the edge of the screen at which calibration points are displayed.		

Parameter	Description
Calibration Hotkey	Allows a function key to be set as a hotkey so that the calibration can be launched from a keyboard.
Calibration Hotkey Modifier	Adds CTRL or ALT to the hotkey to launch the calibration from the keyboard, if desired.
Calibration Hold Down Time (seconds)	When enabled, launches the calibration program when the screen is touched and held for the assigned number of seconds. Cannot be used with the Right-Click Hold Time.
Clean Time	Sets an idle time before the calibration to allow you to clean and wash a touch screen. The calibration waits until you are done touching the screen while cleaning.
Calibration (entered automatically)	Set automatically by machine. These are the values set during the calibration process.
Miscellaneous	
Hide Mouse Cursor	Hides the mouse cursor if a mouse is not present.
Orientation (entered automatically)	Set automatically by machine. Used at the direction of Tech Support in error correction.

The Right Click Hold Time (milliseconds) setting allows you to send a right-click to the session. Check Tile on right click setting, in the Tile Options dialog box, to allow a user to switch screens on a touch screen without a keyboard or mouse.

Figure 456 - Tile Options



The Tile Options dialog box appears when Tiling Options is clickeed on the Terminal Interface Options page of the Terminal Configuration Wizard.

Video Driver Modules The method of downloading video drivers was changed in ThinManager 3.0. In previous versions, all video drivers were contained in the firmware and were downloaded at boot. In ThinManager 3.0, the video was split out of the firmware and each thin client only downloads the video driver that it needs.

One does not need to add the video module to the Terminal, but must only have the video module installed in ThinManager to make it available. As each Terminal connects to ThinManager, it downloads the correct module.

These modules are normally installed with ThinManager.

Custom Video Mode Module

ThinManager-ready thin clients are designed for use with traditional computer monitors. The TermCap lists the standard resolutions for each Terminal. Some TVs, when used as a monitor, use a different non-traditional mode line. The Custom Video Mode Module allows a different set of parameters to be sent to the Terminal with use with the monitor. This module is normally not needed and is used under direction of the ThinManager technical support staff.

Monitor Configuration Module

The Monitor Configuration Module allows the manual configuration of a monitor. This is generally used at the direction of ThinManager tech support as most monitors are supported automatically by ThinManager.

Parameter	Description
Monitor 1 Connection Type	Allows you to choose the connection type of your first monitor.
Monitor 2 Connection Type	Allows you to choose the connection type of your second monitor.
Monitor 3 Connection Type	Allows you to choose the connection type of your thirde monitor.
Monitor 4 Connection Type	Allows you to choose the connection type of your fourth monitor.
Monitor 5 Connection Type	Allows you to choose the connection type of your fifth monitor.
Enable TwinView for nVidia Adapters	Enables TwinView.

MultiMonitor

The MultiMonitor method uses specific ThinManager-ready thin clients that have multiple video ports built into the hardware. Each MultiMonitor thin client can have from two to five monitors attached. These monitors can be configured to merge into an expanded desktop, called "spanned" by ThinManager; or can display individual desktops, called "screened" by ThinManager; or combinations of "spanned" and "screened" sessions.

MultiMonitor

Figure 457 - MultiMonitor Thin Client with Four Monitors

WinTMC supports MultiMonitor sessions on PCs that run Windows on multiple desktops.

MultiMonitor is configured in the Terminal Configuration Wizard or the Group Configuration Wizard.

Figure 458 - Terminal Hardware

Terminal Hare Select the r	dware manufacturer and mode	el of this terminal.	
Use this to confi	igure the type of hardwa	are for this terminal.	
Make / OEM	Arista		•
Model	BoxPC240		•
OEM Model	BoxPC240-ACP		
Video Chipset	Via Unichrome		
Video Chipset Terminal Firmwa Terminal ID ar	ire Package	Model Default Terminal will r	un Package 7.

1. On the Terminal Hardware page of the Terminal Configuration Wizard, choose a MultiMonitor-capable thin client to initiate MultiMonitor configuration.

Figure 459 - MultiMonitor - Enable MultiMonitors

8	Terminal Configuration	Wizard
	Mode Selection the operating modes for this terminal	×
Terminal	Mode	
-	Display Clients	
-	ble MultiMonitor	
	ble Relevance User Services	
	ble Relevance Location Services	
1.00		
< Back	Next > Finish	Cancel Help

MultiMonitor requires the use of Display Clients.

- 2. On the Terminal Mode Selection page, check Use Display Clients to make the Enable MultiMonitor terminal mode available.
- 3. Click Next until the MultiMonitor Layout page appears.

MultiMonitor Layout Page

The MultiMonitor configuration process changed in ThinManager 11.1.

Figure 460 - Monitor Layout

Ionitor Layout Select the phy	sical monitor layout.		×
olor Depth	64K Colors		Add
			Delete
			Edit
	4	2	Reset Scale
	· · ·	-	Choose Layout

The default setting shows two monitors. You can add more as needed.

Setting	Description
Add	Launches the Monitor Properties dialog box and adds a new monitor.
Delete	Deletes a highlighted monitor.
Edit	Opens the Monitor Properties dialog box of a highlighted monitor, where the resolution can be changed.
Reset Scale	Centers the monitors in the configuration wizard. Also, you can use the scroll wheel of the mouse to zoom in and out.
Choose Layout	Allows you to select from layout templates. Otherwise, you can drag monitors to a location.

The monitor resolution is set in the Monitor Properties .

1. Click Add.

The Monitor Properties dialog box appears, where the monitor resolution is set when you create another monitor.

Figure 461 - Monitor Properties

Monitor Properties	×
Resolution	1920x1080 💌
Rotation	0 degrees 💌
Refresh Rate	60Hz 💌
	OK Cancel

Setting	Description			
Resolution	Choose the desired video resolution for the monitor from the pull-down menu.			
Rotation	Choose the clockwise rotation, in degrees, for a monitor from the pull-down menu. Use when the monitor is in vertical, portrait mode versus horizontal, landscape mode.			
Refresh Rate	Choose the refresh rate for the monitor from the pull-down menu.			

2. Click OK to return to the Monitor Layout page.

Figure 462 - Monitor Layout Page

Monitor Layou Select the p	t hysical monitor layout			×
Color Depth	64K Colors	•		 Add
				Delete
				Edit
	1 2 3		6.7	Reset Scale
				Choose Layout

Once the necessary monitors are added, drag them to move them.

Color Depth	64K Colors	-		Add
		_		Delete
	1	2		Edit
	3	4		Reset Scale
				Choose Layou
	5	6	7	

Figure 463 - Monitor Layout - Rearranged

The Screen Layout page of the Terminal Configuration Wizard allows you to logically segment the monitors. Each letter represents a unique group of monitors. Sessions on monitors that share the same letter are called "Spanned" sessions and logically act like a single monitor. Sessions on monitors that have a unique letter are called "Screened" sessions, and the session appears on the specified monitor only.

Spanned monitors must form a rectangular shape and have the same resolution.

All monitors start as Screen A.

Screer	E	▼E	iit Properties	
1	А	в	E	
	С	D		

Figure 464 - Monitor Layout - Screen Letters Assigned

3. Choose the screen letter from the Screen pull-down menu to change a monitor letter designation, and then click a monitor icon, which applies the monitor letter to the screen.

Monitors can share a desktop if they have the same letter designation. They must be the same resolution and form a rectangle; they cannot be askew.

4. Click Edit Properties.

The Screen Options dialog box appears, where you can configure monitor properties.

Figure 465 - Screen Options Dialog Box

creen Options		×
Main Monitor		OK
Allow Display Clients to move to/from screen		Cancel
☑ Show Display Client Selector	Selector Options	
I Enable Tiling	Tiling Options	
🔽 Screen Specific Mouse Button Mapping	Mouse Button Mapping	
□ Use Microsoft Extended Desktop		
Main Desktop Monitor	-	
MultiStation Options		
🔽 Station has a keyboard		
🔽 Station has a mouse		
📕 Screen Edge Display Client Selection	1	

Setting	Description
Main Monitor	Sets which monitor has the mouse focus on boot and displays the Relevance Main Menu.
Allow Display Clients to move to/from screen	Allows you to move Display Clients from monitor to monitor because it lets you open the Display Client in a different monitor.
Show Display Client Selector	Makes the Group Selector pull-down menu available.
Selector Options	Makes the Display Client Selector Options dialog box appear.
Auto-hide Selector	Check to hide the Group Selector pull-down menu. Clear the checkbox to display the Group Selector.
Tile on Selector Activation	If selected, tiles the sessions when an auto-hide selector is activated.
Select Menu Size	Allows you to change the size of the Group Selector.
Enable Tiling	Shows all Display Clients assigned to a monitor in a tiled mode, if selected. Select one tile to display it on the full monitor.
Tiling Options	Opens the Tile Options dialog box that configures tile options.
Show Grid	Displays grid lines when it is tiled.
Tile Activity Time (secs)	Sets the time before the monitor reverts to tiled mode when a single screer is displayed.
Tile Display Clients at start up	Configures the monitor to show the display clients in tiled mode at startup.
Include Main Menu as tile	Adds a tile with the Main Menu in it, which is handy for terminals with touch screens.
Tile Interactive	Changes the behavior of the mouse. Instead of a switch from tiled mode to single display client, it allows the user to click in the tiled session and use th session in the tiled mode.
Screen Specific Mouse Button Mapping	Allows you to assign actions to mouse buttons.
Mouse Button Mapping	be configured with one of these actions. ⁽¹⁾ Calibrate Touch Screen Tile Swap Full Screen Go to next display client Go to previous display client Log on Relevance user Main Menu Left Mouse Button Right Mouse Button Scroll Up Scroll Down Virtual Keyboard Disable Button
Use Microsoft Extended Desktop	Apply the Microsoft Extended Desktop to a spanned set of monitors. With the Microsoft Extended Desktop, an expanded application stops at the monitor boundary as it does in Windows. Without the Microsoft Extended Desktop, an expanded application fills the entire desktop.
Main Desktop Monitor	Sets which monitor of a spanned set is the primary desktop.
MultiStation Options	Applies to MultiStation, a feature where a MultiMonitor thin client can suppor several users by adding multiple keyboards and mice. It is turned on by selecting the selecting the Enable MultiStation checkbox on the Terminal Mode Selection page of the Terminal Configuration Wizard.
Station has a keyboard	Use this checkbox if you are using a keyboard with MultiStation.
Station has a mouse	Use this checkbox if you are using a mouse with MultiStation.
Screen Edge Display Client Selection	Allows you to switch between display clients by moving the mouse to either

The Reset Scale button on the Monitor Layout page makes monitor configuration easier to see once in order.

 Touch Screen Modules have a Hold Time that can convert a long touch to a right-click. Use the Mouse Button Mapping feature to apply any of these actions to the long hold. The Display Client Selection page of the Terminal Configuration Wizard appears, where Display Clients are assigned to the screens.

MultiMonitor Display Client Selection Page

Figure 466 - Display Client Selection

5. Click Next to continue.

change to this higher resolution.

Screen	A	-	-	-	-	
Available Disp	olay Clients					
T S	mote Desktop S mera	Services		Screen A		
ter Ter	minal Shadow orkstation			Desktop		
	C					Up
1 Virt	ual Screen					Down

The desktop of a spanned session is limited to 4096×2048 in Server 2008 R2 and earlier. The resolution of a Server 2012 is 8196 x 8196. The Use Session Size Limits pull-down menu on the MultiMonitor Video Setting page allows you to

The selection of monitor resolution on the MultiMonitor Video Settings page can affect the number of monitors that you can add to a spanned session.

- 1. From the Screen pull-down menu, choose the screen.
- 2. Highlight a display client in Available Display Clients list and use the right-facing arrow to move it to the Screen list on the right side of the dialog box.

Terminal Configuration Wizard	le l
Display Client Selection Select the Display Clients to put on	each screen or station
Screen E 💌	
Available Display Clients	
Remote Desktop Services Alams Boiler Calibrate Desktop HMI HMI_2 Reports Shipping Camera Cameras	Screen E
Edit Display Clients	Override

3. In the Screen pull-down menu, change the screen letter to choose a different screen to which to apply the display client. The icon of the screen changes color to show which screen is being edited.

Multiple display clients can be added to each screen.

4. Click Override.

The Override Settings dialog box appears, where you can apply customized settings to the display client.

Override Function

By default, Microsoft restricts each user to a single session on a serve. Keep this setting to prevent conflicts. If it is disabled, then a user creates multiple sessions, which consumes licenses and resources, which makes it more difficult to connect to the proper session.

Figure 468 - Limit Number of Sessions

	1	Local Group Policy Editor	×
File Action View Help			
◆ → 2 💼 8 1 🖬 7			
Game Explorer Game Explorer Game Explorer Internet Explorer Internet Explorer Internet Explorer Internet Explorer Internet Explorer Internet Scheduler Maintenance Scheduler Network Projector Online Assistance Portable Operating System Presentation Settings Remote Desktop Setwices RD Licensing Printer Redirection Profiles RD Connections Roker RD Connection Broker RD Connection Broker RD Connection Broker RD Connection Broker RD Connections Environme Security Session Time Limits Temporary folders Sserch	Connections Unit number of connections Edit policy setting Requirements At least Windows Server 2003 Description: Specifics whether Remote Desktop Services limits the number of simultaneous connections to the server. You can use this setting to restrict the number of Remote Desktop Services sessions that can be active on a server. If this number is server is buy and to try again later. Restricting the number of sessions improve performance because fewer assions are demanding system resource.By allow numinited number of services buy and to try again later. Restricting the number of sessions improve performance because fewer assions are demanding system resource.By allow numinited number of services buy and to try again later. Restricting the number of sessions improve performance because fewer assions are demanding system resource.By allow numinited number of allow to number of allow to number of services testions and Remote Desktop for administration allows two Remote	Setting Automatic reconnection Allow users to connect remotely by using Remote Desktop 5 Congrue keep-alive connection interval Configure keep-alive connection interval Configure keep-alive connection interval Configure keep-alive connection interval Configure keep-alive control of Remote Desktop Services use Set rules for remote control of Remote Desktop Services use Select network detection on the server Select network detection on the server Select network detection contextors Restrict Remote Desktop Services users to a single Remote D	Con
Security Center Shutdown Options Smart Card Sound Recorder	Desktop Services sessions. To use this setting, enter the number of connections you want Extended \Standard \	× .	 3

MultiMonitor has an Override function that allows Display Clients on a MultiMonitor thin client to log in with different user accounts or video resolutions. This prevents conflicts between monitors over a single session.

This could be necessary to run duplicate copies of a program on the same thin client.

Figure 469 - Remote Desktop Server Users

-x ThinManager = × Edit Manage Install Tools View **Remote View** Help 0 Restore Q SN 13 🖾 Backup . Manage Synchronize Settings Accounts Passwords Access Groups PXE ThinManager Synchronize đ Server Server List Configuration Active Directory TermSecure Packages Manage Configuration Properties Schedule -Users Sessions Graph **Display Servers** E- m Session Туре ~ 😑 🧧 Terminal Servers administra. Education6 bthatcher C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\mixing. 🛨 📑 EducationRI bthatcher calc.exe Cameras hfinn calc.exe hfinn C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\mixing. mtwain C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\mixing.. mtwain C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\Form01 -Test01 Test02 C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\Form01 Test02 C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\Form02 Test02 C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\mixing Test04 C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\Form01 Test04 C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\Form02. Test04 C:\Program Files\Internet Explorer\iexplore.exe -k C:\HMI\mixing. < > tsawyer m \mathbb{X} * ÎŰ >

In reality, a user can log in to a Remote Desktop Server multiple times as long as they are running different applications. Each Username/Application needs to be unique.

It is common to want to run the same application twice on MultiMonitor displays. Typically, that presents a problem. However, the Override function solves this issue.

Figure	470 -	Override	Button
--------	-------	----------	--------

	ent Selection ne Display Clien		each screer	n or station		>
Screen	В	•	1-	_		
Available Dis	play Clients					
 A sub-sub-sub-sub-sub-sub-sub-sub-sub-sub-	Alams Boiler Calibrate Desktop HMI HMI_2 Reports Shipping amera eminal Shadow			Screen B Boiler Calibra HMI Ship	ate	Up Down
Edit	Display Clients				Ov	enide

- 1. Highlight a Display Client assigned to the MultiMonitor thin client on the Display Client Selection page.
- 2. Click Override.

The Override Settings dialog box appears.

Figure 471 - Override Settings

Display Name	
Display Name	Override 🔽
Windows Login Settings	Override 🔽
Username	
Password	
Verify Password	
	Override
Domain	
AppLink Command Line	
Command Line Options	Override Г
Video Settings	
Resolution	Override Color Depth
240x320 💌 25	56 Colors 🔄

3. Click Override to activate the respective override setting and allow customization.

Setting	Description
Display Name	Allows the display client to show a different name than the one originally listed.
Windows Login Settings	Allows different credentials to be used for the display client.
AppLink Command Line	Allows different command line parameters to be applied to the program.
Video Settings	Allows the resolution of the display client to be changed from the monitor setting.



When multiple user accounts are used on a Terminal, it does not affect the "Per Device" TS/RDS CAL count, but it requires more "Per User" TS/RDS CALs.

Figure 472 - Display Client Selection

Display Client Selection Select the Display Clients to put or	n each screen o	r station		>
Screen B 💽				
Remote Desktop Services Alams Boiler Calibrate Desktop HMI HMI_2 Reports Shipping Camera		Screen B Boiler Calibrate HMI Shipping		Up Down
Edit Display Clients	-	1	Override	

<u>Figure 472</u> shows the Override button and the Plus icon for a Display Client with its properties overridden.

4. Repeat for any display client that requires a different user account.

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 (Keyboard/Video/Mouse) switch.

Share Keyboard and Mouse Module

Left Master Right

Shared Keyboard and Mouse Module

The Share Keyboard and Mouse module can be used by placing several monitors connected to ThinManager-ready thin clients side-by-side or top-tobottom. 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 follower thin clients. The other Terminals receive the Share Keyboard and Mouse follower module.

Place three Terminals and their monitors side-by-side.

Master Thin Client Configuration

Figure 473 - Share Keyboard and Mouse Layout

One thin client needs to be configured as the Master. It is the dominant Terminal whose keyboard and mouse are used to control the grouped Terminals.

1. Double-click the center Terminal in the ThinManager tree.

The Terminal Configuration Wizard appears.

- 2. Click Next until the Module Selection page appears.
- 3. Click Add.

The Attach Module to Terminal dialog box appears.

4. Highlight Share Keyboard and Mouse Master Module and click OK.

The module appears in the Installed Modules list of the Module Selection page.

5. Highlight Share Keyboard and Mouse Master Module and click Configure.

The Module Properties dialog box appears.

Мо	dule Properties
Left Terminal IP Address Right Terminal IP Address Top Terminal IP Address Bottom Terminal IP Address Allow Interactive Shadow of Maste	192.168.1.101 192.168.1.103 NONE NONE ™ NO ▼
Set to Default	Done Cancel

Figure 474 - Share Keyboard and Mouse Master Module

The Share Keyboard and Mouse Master module has a few settings.

Setting	Description
Left Terminal IP Address	Enter the IP address of the left Terminal, if present.
Right Terminal IP Address	Enter the IP address of the right Terminal, if present.
Top Terminal IP Address	nter the IP address of the top Terminal, if present.
Bottom Terminal IP Address	Enter the IP address of the bottom Terminal, if present.
Allow Interactive Shadow of Master	controls whether the master Terminal is allowed to be controlled by a remote user.

- 6. Click Done.
- 7. Restart the ThinManager-ready thin client to apply the changes.

Replica Thin Client Configuration

The other Terminals in the group need the Replica module.

1. Double-click each Terminal in the ThinManager tree.

The Terminal Configuration Wizard appears.

- 2. Click Next until the Module Selection page appears.
- 3. Click Add.

The Attach Module to Terminal dialog box appears.

4. Highlight Share Keyboard and Mouse Follower Module and click OK.

The module appears in the Installed Modules list of the Module Selection page.

5. Highlight Share Keyboard and Mouse Follower Module and click Configure.

The Module Properties dialog box appears.

Module Properties	×
Master IP Address ANY	
Set to Default	Done Cancel

Figure 475 - Share Keyboard and Mouse Follower Module Properties

The Share Keyboard and Mouse Follower Module Properties dialog box has one parameter that allows the replicas to point to a master.

Setting	Description
Master IP Address	Set to ANY, then this Terminal can be added to several master Terminals and controlled from any. To prevent confusion, a single master Terminal can be defined in the field.

6. Click Done.

7. Restart the ThinManager-ready thin client to apply the changes.

Once the ThinManager-enabled thin clients are booted, the mouse on the master thin client can be moved seamlessly into the other desktops. The keyboard is active in the screen on which the mouse pointer is present.

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.



A Controller Share Keyboard and Mouse session cannot be interactively shadowed in ThinManager unless that parameter is activated.

The keyboards and mice for the follower thin clients can be left attached, but stowed away until a multi-user configuration is needed.

Share Keyboard and Mouse with MultiMonitor

Share Keyboard and Mouse module use fell out of favor when the MultiMonitor hardware was introduced. It is easier to use a single MultiMonitor thin client to show multiple displays than to use several thin clients and the Share Keyboard and Mouse module.

The Share Keyboard and Mouse module made a comeback once people realized they could tie several MultiMonitor thin clients together to provide a wall of monitors in a control room.

Figure 476 - MultiMonitor with Share Keyboard and Mouse



MultiMonitor Shared Keyboard and Mouse Module

The configuration of the Controller and Follower Share Keyboard and Mouse modules are the same with MultiMonitor thin clients as they are with single monitor thin clients.

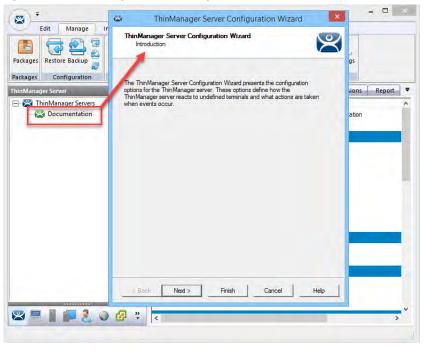
ThinManager Server Configuration Wizard

The ThinManager Server Configuration Wizard allows the configuration of global ThinManager settings. It can be launched one of these ways.

- Choose Edit>Modify while the ThinMan icon is highlighted in the ThinManager tree
- Double-click on the ThinManager icon in the ThinManager tree
- Right- click the ThinMan icon and choose Modify

Introduction Page

Figure 477 - ThinManager Server Configuration Wizard



Importance of Page: This displays introductory information.

Unknown Terminals Page

Figure 478 - Unknown Terminals

this ThinManager Server.		
Jnknown Terminals		
Allow unknown terminals to connect		V
uthentication Required for Replacement	None	•
Password	1-	-
Confirm Password	1	
Enable Terminal Auto Create		
Auto Create Mask	AutoTerm	
Local Terminal Settings		
Require Authentication to change local se	ettings	E
	ettings	F

Importance of Page: Controls creation and replacement of Terminals through use of passwords and auto-creation.

Setting	Description
Allow unknown terminals to connect	Allows the addition of new Terminals to the ThinManager Server. Clear this checkbox to prevent replacements and new Terminals.
Authentication Required for Replacement	Controls replacement authorization.
None	Allows a Terminal to be added without authentication.
ThinManager Password	Allows you to set a password so that only authorized personnel can add Terminals to the ThinManager Server. Check to enable the password fields and allow the addition of a password.
Windows Account	Requires that the replacer enter their Windows account on the Terminal as it is being replaced. ThinManager checks and allows the replacement if the replacer is a member of a Windows Security Group that has the Allow Terminal Replacement task granted.
Enable Terminal AutoCreate	Check to allow the auto-creation of an array of Terminals as described in Auto-Creation of Terminals.
AutoCreate Mask	Base name used in the array of Terminals when using Auto-Creation of Terminals.
Require Authentication to change local settings	Requires authentication from a Windows Group that was granted the Edit Local ThinManager Server List function on the ThinManager Security Page in the ThinManager Server Configuration Wizard. This applies to mobile devices like iTMC, aTMC, and WinTMC.

Why Change from Default Settings? Require a password to control who adds Terminals. Use auto-creation to help with some large deployments.

Click Next to continue, Finish to save and close, or Cancel to close and not save.

Terminal Replacement Page

Figure 479 - Terminal Replacement

\$ ThinManager Server Configuration Wizard	1
Terminal Replacement Select whether replacement of offline terminals is allowed on this ThinManager Server.	0
Replacement	
Check the "Enable Replacement" box to allow new terminals to replace offline terminals	
Enable Replacement	
Allow replacement only with like model	
Allow Terminal Creation during replacement	

Importance of Page: Sets the global setting for enabling replacement of offline Terminals.



Terminals that are turned on cannot be replaced until they are turned off.

These are the settings on the Terminal Replacement page.

Setting	Description
Enable Replacement	Gives global permission for Terminals to be replaced. Clear this checkbox to prevent the appearance of all Terminals in the replacement list when a new Terminal is added, which makes Create New Terminal the only option. Also, this feature is available for the Group and Terminal level on the first page of the wizard. However, if this checkbox is cleared in the ThinManager Server Configuration Wizard, to check it in a Terminal Configuration Wizard has no effect.
Allow replacement only with like model	Prevents the replacement of a Terminal with a different model to prevent configuration changes. For example, only a PXE can replace a PXE, or only an Android can replace an Android.
Allow Terminal Creation during replacement	Normally, a Terminal displays the Create New Terminal option during replacement. Clear this checkbox to remove that option and only allow a Terminal replacement, not a new configuration.

Why Change from Default Settings? Clear the checkbox to prevent the appearance of all Terminals in the replacement list when a new Terminal is added, which makes Create New Terminal the only option.

Click Next to continue, Finish to save and close, or Cancel to close and not save.

Historical Logging Page

Figure 480 - Historical Logging

	ThinManager Se	rver Config	uration Wizard
Selec	I Logging t the items to log and ho ation.	w long to mainta	in the logged
- Historica	l Data		
Mainta	in Historical Log for	I	days
			Clear History
Event Lo	og -		
Mainta	in Event Log for	7	days
Choose	e events to log		
✓ Ten ✓ Ten ✓ Ten ✓ Use	Manager Server Start/S minal Server Monitor Com minal Monitor Connection minal Configuration Chan r Configuration Change I ware Installation Events mCap Database Installati	nnection Events n Events nge Events Events	< III >
			Clear Event Log

Importance of Page: Sets the duration that logs are maintained.

These are the settings for the Historical Logging page.

Setting	Description
Maintain Historical Log for X days	Determines the length of time that the Remote Desktop Server CPU and memory data from the Remote Desktop Server Graph tab is stored. See Details Pane for an example of the graph.
Maintain Event Log for X days	Determines how long the event log is kept.
Choose events to log	Determines which events are stored in the log.
Buttons	
Clear History	Erases the Historical log.
Clear Event Log	Erases the Event log.

Why Change from Default Settings? You can add Remote Desktop Server events and Relevance User events that are not collected by default. You can change the duration of the logs.

Click the Event Log tab to show the events for the highlighted tree icon.

Event Log Tab

Figure 481 - Event Log Tab

ThinManager Server Add ThinManager Server Content ThinManager Server ThinManager Server ThinManager Server	Refresh		😵 Delete ip 📺 Rename Edit	Lock	Find (Ctr Find Next (F.			
Terminals	Configuration	Modules	Schedule	Properties	Event Log	Shadow	Report	
Terminals Production 2. Terminal (@1.Desk) 2. Terminal 3. Terminal 3. Terminal 4. S. j.Pad 4. Android_7 4. J. Pad06	Event User Session Establi User Session Ended User Session Ended User Session Ended User Session Ended User Session Ended User Session Establi User Session Establi User Session Ended User Session Ended User Session Ended User Session Establi User Session Establi User Session Establi User Session Establi User Session Ended User Session Ended	on Server Gold43 shed on Server Gold4- on Server Gold4- on Server Gold4- hed on Server Gold4- hed on Server Gold4- on Server Gold4- on Server Gold4- shed on Server Gold4- shed on Server Gold4- shed on Server Gold4- on Server Gold4- on Server Gold4- on Server Gold4- on Server Gold4- on Server Gold4- on Server Gold4-	5 for Display Ché 5 for Display Ché 1 for Display Ché 1 for Display Ché 5 for Display Ché 5 for Display Ché 0 dd45 for Display Ché 0 dd45 for Display Ché 1 for Display Ché	nt Calculator. The Client Desk43. The in th Client Alexta. The in th HML_1. The un th HML_1. The un client Calculator th Calculator. The Client Desk43. The in th HML_1. The un Client Calculator. The Client Calculator. The Client Desk43. The in th Desk43. The in th Calculator. The Client Calculator. The Client Calculator. The Client Calculator. The Client Calculator. The Client Calculator. The Client Calculator. The Calculator. The Calculator. The Calculator. The Calculator. The Calculator. The Calculator. The Calculator.	e user manually log ser manually log ser manually log er manually log e user manually log e user manually log er manually log er manually log ser manually log eser manually log e user manually log e user manually log e user manually log	gged off gged off logged off gged off gged off logged off logged off gged off gged off gged off gged off gged off	User	~

Double-click on an event to view its details in the Event Details dialog box.

Figure 482 - Event Details

	Event Details	x
Date Time User	03/01/16 19:07:38	ОК
Event Type Source Type Source Description	TerminalSessionEvent terminal 1_Terminal User Session Established on Server Gold45 for Display Calculator	Previous Next Client
Event Details User Session Established	on Server Gold45 for Display Client Calculator	×

Click OK or Cancel to close.

Click Next to continue, Finish to save and close, or Cancel to close and not save.

System Schedule Page

Figure 483 - System Schedule

*	ThinManager Server Configuration Wizard	×
Syst	tem Schedule Edit the system schedule	\mathfrak{C}
Sys	stem ScheduleEdit Schedule	
	Back Next > Finish Cancel 1	Help

Importance of Page: Allows schedules to be setup for ThinManager and the ThinManager system.

Button	Description
Edit Schedule	Launches the Event Schedule dialog box. See <u>Scheduling on page 391</u> for details.

Why Change from Default Settings? Automate backups, reports, and actions with the Scheduler to save time.

Click Next to continue, Finish to save and close, or Cancel to close and not save.

Access to ThinManager can be assigned to Windows User Groups on the ThinManager Security Groups page.

Security Groups Page

Figure 484 - ThinManager Security Groups

dows User Group Permissions	indows User Group	-	-	-	lete Group
Connect Shadow Interactive Shadow Reset Sessions Kill Processes Reboot Terminal Servers Connect to Terminal Servers Logoff TermSecure Users Administer ThinManager Servers		emissions		A	dd Group
Shadow Interactive Shadow Reset Sessions Kill Processes Reboot Terminal Servers Connect to Terminal Servers Logoff TermSecure Users Administer ThinManager Servers	ailable		Allowed		-
			Interactive S Reset Session Kill Processe Reboot Tem Connect to Logoff Tem	ons es ninal Servers Terminal Serv Secure User	vers s
	Ш	>	< 111		>

Importance of Page: Normally, administrators are the only people who have access to ThinManager functions. This page allows access to be granted to people so they can perform specific jobs without being elevated to the administrator role.

Setting	Description
Windows User Group	Shows the group that is being configured.
Field	
Available	Shows the ThinManager functions that are available to the Windows group displayed in the Windows User Group dialog box. Double-click these functions to add them to the Allowed list.
Allowed	Shows the ThinManager functions that are granted to the Windows group displayed in the Windows User Group dialog box. Double-click these functions to remove them from the Allowed list.
Button	
Delete Group	Removes the highlighted group in the Windows User Group dialog box.
Add Group	Launches the New Window Group dialog box where a new Windows group can be added to the configuration.

Why Change from Default Settings? To create a Windows Group and to grant access to ThinManager functions that allow people to use ThinManager without being an administrator.

ThinManager allows different levels of access and functionality based on standard Windows groups. By default, only members of the Windows Administrator group have the ability to connect to ThinManager and use the application. The ThinManager Security Groups allows other Windows groups to be granted privileges in ThinManager. ThinManager comes with privileges predefined for six groups. Each of these groups (except Administrators) must be created on the domain controller or in the Local Users and Groups on the Computer Management console. Members must be added before they can be used.

Windows User Group	Description
Administrators	The Microsoft-defined Administrators group is given all privileges by default in ThinManager. Double-click a Windows User Group Permission to move it from the Allowed list to the Available list and deny particular permissions.
ThinManager Administrators	Provides full permission to do anything within ThinManager. This includes the power to log off 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 cannot be removed from the Allowed list and are dimmed.
ThinManager Interactive Shadow Users	Members of this group can interactively shadow a Terminal.
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 they cannot interact with the session.
ThinManager Shadow Users	Members of this group can shadow a Terminal, but not interactively.
ThinManager Users	This is a view-only permission. They cannot log off sessions, kill processes, send messages, restart Terminals, or calibrate touch screens. ThinManager Users cannot shadow a Terminal.

Click Add Group in a non-domain ThinManager Server to launch the New Windows Group dialog box, which allows the configuration of additional Windows User Groups.

Figure 485 - New Windows User Group

New W	indows Group	×
_	Enter Windows	User Group Name
		and t
1	OK	Cancel

Type a Windows Group name in the Enter Windows User Group Name field of the New Windows Group dialog box and click OK to add the Windows User Group to the pull-down menu.



This does not create the user group on any servers, it just adds the name of a group that exists to the list that ThinManager maintains.

Click Add Group in a domain ThinManager Server to launch the Select Security Group dialog box, which allows you to add Active Directory groups and configure their permissions in ThinManager.

Select Security Group	x
	^
⊕ - TestOU_01 ⊖- Users	
Denied RODC Password Replication Group DHCP Administrators DHCP Users	≡
. DnsAdmins ⊕- DnsUpdateProxy	
⊕- Domain Admins ⊕- Domain Computers ⊕- Domain Controllers	~
Manual Entry OK Cancel	

The Manual Entry field allows you to enter a local Windows User Group.

Figure 487 - ThinManager Security Groups Page

Domain Admins		-	3	Delete G	
indows User Group Permissior vailable	ns	Allowe	d		
Shadow Create Display Clients Create Terminal Servers Modify Terminals Modify Users Modify Display Clients Modify Terminal Servers Install Files Calibrate Touchscreens		Connect Interactive Shado Reset Sessions Kill Processes Reboot Terminal Connect to Termin Logoff Term Secu Administer ThinM Create Terminals		Servers inal Servers ure Users lanager Servers	
	~	<	III	>	
< >		<	ш		

Choose the group from the Windows Users Group pull-down menu.

Double-click a function in the Available list of the Windows User Group Permissions section to grant that permission to the group. Members of the Windows User Group have the selected permissions at their next login.

Although ThinManager has Windows User Groups preconfigured with privileges, these groups were not created on the Remote Desktop Servers. These are merely templates for groups that can be created. If you need a new Windows group, create the Windows User Group using standard Microsoft methods.



The ThinServer service may need to be stopped and restarted to load the new ThinManager Security Group settings.

Click Next to continue the ThinManager Server Configuration Wizard, Finish to save and close, or Cancel to close and not save.

Event Selection Page

Figure 488 - Event Selection

😂 Thir	Manager Server Configuration W	/izard X
Event Selection Select the en	on vents that will generate e-mails or Windows me	ssages.
Select the event event type.	type and then configure the notifications you w	vant for that
Event Notificati	ons	
Event Type	Active Directory Account Events	-
Notifications fo	r the selected Event Type	
	🔽 E-mail	
	SMS Message	
	I Windows Message	
Please enter an S	SMTP Server.	
< Back	Next > Finish Cancel	Help

Importance of Page: ThinManager has event notification. E-mails, SMS Messages, or Windows messages can be sent by ThinManager to identify changes in the setup, configuration, or status.

These are the settings for Event Selection page.

Windows User Group	Description
Event Type	Lists the events that can trigger a message. Choose the desired event and notification type. You can choose multiple events.
Email	Check to send an e-mail message when that event occurs. The e-mail must be set up on the next page of the wizard.
SMS Message	Check to send an SMS message when that event occurs. The SMS Messaging system must be defined on the next page of the wizard.
Windows Messages	Check to send a message to a Terminal when that event occurs. The Terminal must be defined on the next page of the wizard.

Why Change from Default Settings? Information about these events can be useful. The event must be checked to add the notification.

The ThinManager Server Stop/Start, Remote Desktop Server Monitor Connection, and Terminal Monitor Connection events can indicate the failure of the ThinManager Server, Remote Desktop Server, or Terminal.

Sharing information on configuration changes, firmware, TermCap, or license installation can be useful when management is shared among a group. Send an e-mail to all group members to keep them informed of all changes.

Click Next to continue, Finish to save and close, or Cancel to close and not save.

Email or Windows Messaging Recipients Page

* ThinManager Server Configuration Wizard E-mail or Windows Message Recipients Enter the e-mail addresses to receive e-mails, and select the terminals that will receive Windows messages. E-Mail E-mail Addresses Add Delete Settings SMS (Text Message) SMS Recipients Add Delete Messages Terminals Add Delete Please enter an SMTP Server. Click 'Settings' to configure SMTP < Back Next > Finish Cancel Help

Figure 489 - Email or Windows Messaging Recipients Page

Importance of Page: It defines which users are notified of event changes from the Event Selection page.

Windows User Group	Description		
Fields			
E-Mail Addresses	ThinManager sends an e-mail message to the addresses in this text box when an event is chosen on the Event Select page.		
SMS Recipients	ThinManager sends an SMS message to the addresses in this text box when an event is chosen on the Event Select page.		
Terminals	ThinManager sends a message to the Terminals in this text box when an event is chosen on the Event Select page.		
E-mail Buttons			
Add	Click to make the Enter the E-mail address dialog box appear, where you can type an e-mail address.		
Delete	Click to delete a highlighted e-mail address from the E-mail Addresses list.		
Settings	Click to make the Email Server Settings dialog box appear, where you can configure the e-mail settings in the Email Server Settings dialog box.		

Windows User Group	Description
SMS (Text Message)	
Add	Opens the SMS Message Recipient dialog box to add a phone number to the distribution list.
Delete	Deletes a highlighted number from the SMS Recipients list.

Figure 490 - Enter the E-mail Address Window

Enter the E-mail address	x
	OK Cancel

Click Add in the E-mail section to open the Enter the E-mail Address dialog box, where you can add an e-mail address to the notification list.

Click OK to accept the setting or Cancel to close the dialog box and not save.

Click Settings in the E-mail section of the Email or Windows Message Recipients page.

The Email Server Settings dialog box appears, which allows you to configure the SMTP mail server.

Figure 491 - E-mail Server Setting Window

	Email Server Settings	х
SMTP Server Settings	25	
SMTP Authentication Username Password I		
Email Message Settings – E-mail Return Address Email Subject Prefix	thinserver@thinmanager.com	
	OK Cancel	

SMTP Sever Settings Description

SMTP Server	Type the name of the SMTP Server.	
SMTP Port	Type the number of the SMTP Port.	
SMTP Authentication		
Username	Type the Username to allow the use of authentication for the connection to the SMTP server.	
Password	Type the Password to allow the use of authentication for the connection to the SMTP server.	
Use SSL	Check to allow the use of the SSL (Secure Socket Layer) to communicate with the SMTP server.	
Email Message Settings		
Email Return Address	Allows you to configure a sender account for replies.	
Email Subject Prefix	Allows you to configure a subject line for emails.	

Click OK to accept the setting or Cancel to close without saving.

Figure 492 - SMS Message Recipient

	-
SMS Messa	ge Recipient 🛛 🗙
Cell Phone Number Cell Phone Service Provider Cell Provider Email to SMS server	AT&T
	OK Cancel

The SMS Message Recipient dialog box allows you to add a phone number to the SMS distribution list.

Setting	Description
Cell Phone Number	Type a phone number.
	Allows you to specify what network the cell phone uses. Each service provider uses a unique account; so, the correct account is important.

Click OK to accept the setting or Cancel to close without saving.

Figure 493 - Select Terminal

	Email Server Settings
SMTP Server Settings	25
SMTP Authentication Username Password I Use SSL	
Email Message Settings E-mail Return Address Email Subject Prefix	thinserver@thinmanager.com
	OK Cancel

The Select Terminal dialog box lists the Terminals configured on the ThinManager Server. Highlight the desired Terminal and click OK.

<u>Figure 494</u> shows the Email or Windows Messaging Recipients page populated with different recipients.

	e Windows messages.
E-Mail	E-mail Addresses
Add	hfinn@hannibal.org
Delete	tsawyer@hannibal.org
Settings	
SMS (Text Messa	ge) SMS Recipients
Add	(555) 867-5309@mms.att.net
Delete	
Messages	-
	Terminals
Add Delete	2_Terminal
ease enter an SM	TP Server. Click 'Settings' to configure SMTP





In Figure 494, the SMTP server was not set up properly and an error message was displayed as a reminder.

Click Next to continue, Finish to save and close, or Cancel to close and not save.

Multicast Configuration Page Figure 495 - Multicast Configuration Page

	erver conlig	uration Wizard
Multicast Configuration Select the options for Multic	ast.	
TFTP Settings		
Maximum Packet Size	1432	Advanced
Enable Firewall Compatib	le TFTP	Set to Defaults
I Enable Multicast		
Frable Smart Multicast		
✓ Set Don't Fragment Flag		

Importance of Page: Allows Multicast to be configured for ThinManager Servers.

Setting	Description
Maximum Packet Size	Allows the firmware download packet size to be changed, if needed.
Enable Firewall Compatible TFTP	Enables the firewall friendly TFTP (Trivial File Transfer Protocol) to be used to send firmware to the thin client. This setting makes it easier to get through a firewall.
Enable Multicast	Check to enable multicast.
Enable Smart Multicast	Check to enable Smart Multicast.
Set Don't Fragment Flag	Check to tell the switch to keep the packets together instead of breaking them into fragments. This setting adds the Don't Fragment header in the network packets used to deliver firmware to the thin clients. Network hardware, such as switches and routers, will not break these packets apart. Checked by default because the thin client cannot rejoin fragmented packets.
Advanced	Click to display the advanced settings.
Set to Defaults	Click to return the settings back to the defaults.

Why Change from Default Settings? You may need to change the settings if there is a conflict with another multicast server on the network.

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 the load on the ThinManager Server when multiple Terminals boot concurrently. Multicast is especially useful for low-bandwidth connections and highly utilized networks.

Smart Multicast allows the Terminal firmware to be sent directly to the Terminal while a single Terminal boots. If additional Terminals request the Terminal firmware at this time, the firmware is multicast so that all Terminals can receive the firmware from a single data stream. If Smart Multicast is disabled, the firmware is always sent as a multicast transmission.

Multicast is only available on Terminals with ThinManager Boot Loader Version 5.0 and later. No local Terminal configuration is needed to use Multicast.

When a ThinManager error check determines that a Terminal's multicast download failed, the firmware download is switched to unicast. The thin client continues to try to use multicast at each boot, but uses unicast if multicast continues to fail.

Figure 496 - Advanced Multicast Options

ThinManager	Server (Config	urati	on Wizard
Multicast Configuration Select the options for Mul	ticast.			
TFTP Settings				
Maximum Packet Size	1432			Basic
Enable Firewall Compare	tible TFTP			Set to Defaults
Frable Multicast				
Finable Smart Multicast				
Multicast Settings				
Address		224	. 100	. 100 . 100
Port		1	758	(1-65535)
Time-to-Live (TTL)		-	60	(1-255)
IGMP Settings				
Version			2	(1.2)
Time-to-Live (TTL)			1	(1-255)
< Back Next >] Fini	ish	0	ancel Hel
There are a second and a second			-	

Importance of Page: It allows the change of multicast settings if there is a conflict with another multicast server on the network.

Setting	Description
Multicast Settings	
Address	IP address used for Multicast transmissions.
Port	Destination port used for Multicast transmissions.
Time-to-Live (TTL)	Maximum number of router hops for Multicast packets. Set to 255 to allow for unlimited hops.
IGMP Settings	Internet Group Management Protocol
Version	Sets the IGMP version for use with multicast-capable routers.
Time-to-Live (TTL)	Sets the time-to-live value for IGMP packets.

Why Change from Default Settings? Change these if a conflict develops.

Click Next to continue, Finish to save and close, or Cancel to close and not save.

	miniviar	nager Server Configuration	on Wizard
	ow Configurati elect the shadow		>
Shac	dow Options		
Sh	adow Port	5900	
	lack Nex		

Shadow Configuration Page

Importance of Page: It allows the change of the shadow port.

Setting	Description
	ThinManager uses port 5900 as the default shadow port. Enter a different port number into the Shadow Port field to change the port used if it is in conflict with another process's use of the port.

Why Change from Default Settings? ThinManager uses the save port as VNC. If VNC is installed on a WinTMC PC, then there could be a conflict between shadow services. If this happens, the port can be changed in ThinManager.

Click Finish to accept changes or select Cancel to close without making changes.

Biometric Device Configuration Page

Figure 498 - Biometric Device Configuration

8	ThinManager Server	Configuration Wizard	
	etric Device Configuration iometric Device Options		2
	ANSI Fingerprint Readers		
N N	Support Finger Print Readers Fingerprint storage format	ANSI INSITS 378-2004	
	False Match Probability	1/10,000	

Navigate to the Biometric Device Configuration page.

Setting	Description
Support Finger Print Readers	Enables the use of readers.
	From the pull-down menu, choose the data format you plan to use. There are two formats: ISO_19794_2_2005 and ANSI_378_2004.
False Match Probability	Sets the sensitivity of the read. 1/100 is less sensitive than 1/1,000,000.

Click Finish to accept the changes.

Reports

ThinManager has the ability to run reports, show data, and collect data on the ThinManager system. These reports can show the event log, configurations, uptimes, and other data.

A Report tab on the Details pane shows a report for a highlighted ThinManager Server, Terminal, Terminal group, Remote Desktop Server, TermSecure user, or Relevance User group.

Reports can be scheduled to be run and saved as *.html or *.CSV files for storage or further analysis.

Selecting Reports

The reports are displayed on a Report tab in ThinManager.

1. Choose View>Select Reports from the ThinManager menu.

The Select Reports dialog box appears, which allows the selection of which report to display.

Figure 499 - Select Reports

OK System Report Event Log Terminal Report Terminal Configuration Changes Terminal Server Report Terminal Server Resource Event: ▼ TermSecure User Report TermSecure Login/Logout Event ▼

The Select Reports dialog box has four fields that determine which report is displayed on the report tab.

Setting	Description
	Choose the report to display on the Report tab when the ThinManager Server is highlighted.

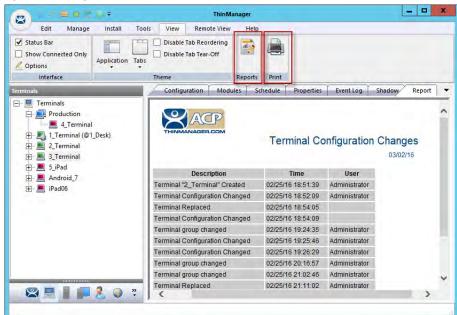
Setting	Description
Terminal Report	Choose the report to display on the Report tab when a Terminal or Terminal group is highlighted.
Remote Desktop Server Report	Choose the report to display on the Report tab when a Remote Desktop Server is highlighted.
Relevance User Report	Choose the report to display on the Report tab when a Relevance User or Relevance User or Relevance User Group is highlighted.

2. Use the pull-down list to select the desired reports.

Report Tab

The reports chosen in the Select Reports dialog box are displayed on the Report tab in ThinManager.

Figure 500 - Report Tab



3. Highlight the desired ThinManager Server, Terminal, Terminal group, Remote Desktop Server, or Relevance user, then click the Report tab to display the report.

Print Report

- 4. Choose one of the following methods to start the process to print a report.
 - a. Click the Report tab and choose View>Print from the ThinManager menu.
 - b.Right-click on the report inside of the Details pane.

The Print dialog box appears with all the printers defined on the ThinManager Server.

Figure 501 - Print Dialog Box

þ			Print		
General	Options	1			
Selec	t Printer				
		DF (redirected LaserJet Pro N		6 (2014) (redirected	Micre d 10) 👼 Micre
1	HP Laser	Jet P1006 (redi	rected 10)		📻 Send
<		111			>
Statu		Ready		Print to file	Preferences
Comn	nent:				Find Printer
Page	Range				
• A				Number of copies	: 1 🗘
OS	election	O Curre	ent Page		
OP	ages:	1		Collate	3-6-6
		ingle page numb or example, 5-12		1	1 22 33
-					
			Pri	nt Cancel	Apply

5. Highlight the desired printer and click Print to print the report.

Report Template Installation

ThinManager installs a number of reports into the ThinManager folder at installation. The default location is C:\Program Files\Automation Control Products\ThinManager\ReportTemplates.

New Reports are added to service packs and new releases. Additional report templates can be downloaded from <u>http://downloads.thinmanager.com/</u> as they become available.

1. Choose Install>Reports from the ThinManager menu to install new reports.

The Reports dialog box appears.

Figure 502 - Reports

	Reports	X
Report Templates	Files	O Images, Finished Reports etc.
Report Description	Report Type	Report Template
Terminal Shadow Events (HTML)	terminal	TerminalShadowEve
TermSecure Login/Logout Events (HTML)	user	UserLoginEventTerr
Event Log (HTML)	system	eventlogtemplate.hti
IP Leases Report (HTML)	system	ipleasestemplate.htn
Terminal Statistics Report (HTML)	system	terminalstatstemplate
Terminal Uptime Report (HTML)	system	terminaluptimetempla 😑
TSCAL Cache Report (CSV)	system	TSCALReportTemp[
Terminal Login Settings (CSV)	system	TerminalAutoLoginS
Terminal Configuration Changes (CSV)	terminal	TerminalConfigChan
Properties of All Terminals (CSV)	system	TerminalPropertiesT
Terminal Server Resource Events (CSV)	terminal server	TerminalServerResc
Terminal Session Events Log (CSV)	terminal	TerminalSessionEve
Terminal Shadow Events (CSV)	terminal	TerminalShadowEve 🗡
< III		>
Install Delete		ОК

2. Click one of the following radio buttons.

Setting	Description
Report Templates	Click to browse for *.html files.
SQL Files	Click to browse for *.sql files.
Images, Finished Reports, etc.	Click to browse for assorted files.

3. Click Install.

Figure 503 - File Browser

1	ThinMan 🕨 ReportTemplates 🛛 🗸 🖒	Search ReportTemplate	es p
Organize	lder		
☆ Favorites	Name	Date modified	Туре
E Desktop	eventlog.sql	5/7/2015 9:53 PM	SQL File
📕 Downloads	terminalautologinsetting.sql	5/7/2015 9:53 PM	SQL File
🔚 Recent places	terminalconfigchanges.sql	5/7/2015 9:53 PM	SQL File
	terminalserverresourceevents.sql	5/7/2015 9:53 PM	SQL File
🛀 This PC	terminalsessions.sql	5/7/2015 9:53 PM	SQL File
	terminalshadowevents.sql	5/7/2015 9:53 PM	SQL File
👊 Network	terminaluptime.sql	5/7/2015 9:53 PM	SQL File
	termprops.sql	5/7/2015 9:53 PM	SQL File
	TSCAL_licensecache.sql	5/7/2015 9:53 PM	SQL File
	🔲 userlogins.sql	5/7/2015 9:53 PM	SQL File
	<		
File	name: terminalshadowevents.sql	SQL Queries (*.sql)	
		Open	Cancel

Each report has an *.html or *.CSV component and an *.sql component.

- 4. Click the Report Templates radio button, browse to the new *.html file, and click Open to install.
- 5. Click the SQL Files radio button, browse to the new *.sql file, and click Open to install.

Once these two components are added, the report is available.

Scheduling

Reports can be scheduled to run once at a specified time or regularly at a specific time. The reports are saved as *.html files for storage or further analysis.

Scheduling is available for more than to run reports. Schedules can be created for these items.

- The System in the ThinManager Server Configuration Wizard
- Terminals in the Terminal Configuration Wizard
- Remote Desktop Servers in the Remote Desktop Server Configuration Wizard
- TermSecure Users in the Relevance User Configuration Wizard

System Scheduling of Reports

Reports are scheduled on the ThinManager Server Configuration Wizard. Follow these steps to schedule report generation.

1. Right-click on the ThinManager Server icon and choose Modify.

The ThinManager Server Configuration Wizard appears.

Scheuuini	9		

3	ThinMan	ager Server Configuration Wiz	ard 🗾 🕑
Syste	System Schedule Edit the system schedule		\aleph
Syst	em Schedule	Edit Schedule	
			_
<	Back Next	> Finish Cancel	Help

Figure 504 - ThinManager Server Configuration Wizard - System Schedule

- 2. Click Next until the System Schedule page appears.
- 3. Click Edit Schedule.

The Event Schedule dialog box appears.

Figure 505 - Event Schedule

	E	Event Schedule		x
Select Event Catego	ry system		•	
Event Type	Time			
Add	Edit	Delete]	ОК

4. Click Add.

The Schedule dialog box appears, which allows system events configuration.

Figure 506 - Schedule Window

Schedule
Event Type
Run Report 🗸 🗸
Report Template File
Event Log (CSV)
Report Output File
Repeat Interval C Once Only C Time Interval I veekly / Daily C Monthly C Yearly
Weekly Schedule Monday Tuesday Wednesday Thursday Friday Saturday Sunday
Time 4:00 PM

Setting	Description
Event Type	Choose the event.
Backup Biometric Database	Choose to schedule automatic backup of the biometric (fingerprint) data, which is kept in a separate database.
Backup Configuration Database	Allows an automatic schedule of the configuration database.
Run Report	Allows you to run a report and save it as an *.html file on a regular basis.
Report Template File	Allows you to select the type of report and whether to save it as *.html or *.CSV.
Report Output File	Applies the naming convention to the saved reports.
Auto Generate Filename	Check to save the file to the ThinManager folder with the report name and a time stamp as its title. Clear the checkbox to type a desired filename, which must end in .html or *.CSV, depending on the template.
Repeat Interval	Sets the frequency of report generation.
Time Sets the time of report generation and changes based on the Report In field can allow dates, days, hours, or intervals to be set for the report.	

There are a few changes that allow the filename to be modified with a timestamp for identification purposes. If you do not use a timestamp, the file is overwritten each time the report is run.

- %c Adds date and time
- %h adds hour (0-24)
- %M adds minute (0-59)
- %x adds date
- %X adds time

Once the report is configured, click OK to accept the report schedule.

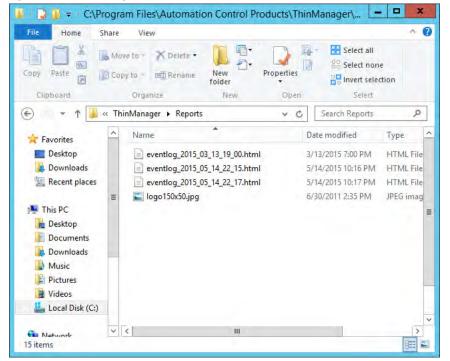
Figure 507 - Event Schedule

	Event Schedule	×
Select Event Category	rstem	•
Event Type	Time	
Backup Configuration Database Run Report	every Wednesday at 04:00 PM every Friday at 04:00 PM	
Add	Edit Delete	ОК

The scheduled report is displayed in the Event Schedule dialog box.

Setting	Description
Add	Adds another report schedule.
Edit	Edits the schedule of a highlighted report.
Delete	Deletes the schedule of a highlighted report.
ОК	Accepts the schedules and closes the dialog box.

When a report is run, the files are saved to be viewed.



Once the report is run, it can be opened in a web browser if it is in *.HTML format or in a spreadsheet application if in *.CSV format.

Figure 508 - Saved Reports

Figure 509 - Report Shown in Browser

TN A-Z List Command		///////////////////////////////////////)1_ThinManager_UserGuide/eventlog	_2015_05	1 값 🔛 🥖 > 🦳 Othe
TN A-2 Dist Command	***				» 🔄 Othe
		Event Lo	g		03/13/15
Event Type Synchronization	Type system	Name system	Description Not Synchronized	Time 03/13/15 14:16:32	User
ThinServer	system	ThinServer	ThinServer Service started	03/13/15 14:16:32	system
MonitorConnection	terminal	C03FD56D3FC0	Monitor Connection Established	03/13/15 14:20:09	
TerminalSystemEvent	terminal	C03FD56D3FC0	Received Configuration from ThinManager Server 10.7.10.31	03/13/15 14:20:09	
TerminalSessionEvent	terminal	C03FD56D3FC0	Session Established on Server Green12 for Display Client HMI	03/13/15 14:20:10	
TerminalSessionEvent	terminal	C03FD56D3FC0	Session Established on Server Green12 for Display Client Desk_12	03/13/15 14:20:10	
MonitorConnection	terminal	C03FD56D3FC0	Monitor Connection Lost	03/13/15 14:21:07	
MonitorConnection	terminal	C03FD56D3FC0	Monitor Connection Established	03/13/15 14:21:11	
TerminalSystemEvent	terminal	C03FD56D3FC0	Received Configuration from ThinManager Server 10.7.10.31	03/13/15 14:21:11	
TerminalSessionEvent	terminal	C03FD56D3FC0	Session Established on Server Green12 for Display Client HMI	03/13/15 14:21:11	
TerminalSessionEvent	terminal	C03FD56D3FC0	Session Established on Server Green12 for Display Client Desk_12	03/13/15 14:21:11	
MonitorConnection	terminal	C03FD56D3FC0	Monitor Connection Lost	03/13/15 18:34:36	
MonitorConnection	terminal	C03FD56D3FC0	Monitor Connection Established	03/13/15 18:34:43	
TerminalSystemEvent	terminal	C03FD56D3FC0	Received Configuration from ThinManager Server 10.7.10.31	03/13/15 18:34:43	

Once the report is generated the data can be saved or reformatted, as desired, using standard HTML tools.

Schedule Configuration Backups

It is a good idea to back up your ThinManager configuration before you make any major changes. You can use the Scheduler to do this automatically.

To schedule report generation, follow these instructions.

1. Right-click the ThinManager Server and choose File>Modify.

The ThinManager Server Configuration Wizard appears.

2. Click Next until the System Schedule page appears.

Figure 510 - System Schedule Page

ThinM	anager Server Configuration Wizard	3
System Schedule Edit the system	schedule	×
System Schedule	Edit Schedule	

3. Click Edit Schedule.

The Event Schedule dialog box appears.

Figure 511 - Event Schedule

			Event S	Schedule		X
Sele	ct Event Categor	y	system		•	
Eve	ent Type	Time				
	n Report n Report	every Fr on 03/0	iday at 04:00 PM 2/16 at 04:45 PM			
	Add		Edit	Delete]	ОК

4. Click Add.

The Schedule dialog box appears, which allows system events, like configuration backups, to be created.

Figure 512 - Schedule Dialog Box

Schedule
Event Type
Backup Configuration Database
Backup File
Auto Generate Filename Browse
Repeat Interval C Once Only C Time Interval © Weekly / Daily C Monthly C Yearly
Weekly Schedule Monday U Tuesday Wednesday Thursday Friday Saturday Sunday
Time 8:00 PM 📩

Create a system event based on these settings.

Setting	Description
Event Type	Choose Backup Configuration Database from the pull-down menu.
Repeat Interval	Click Weekly/Daily.
Weekly Schedule	Check a day.
Time	Choose a time.

5. Click OK to accept the changes.

A weekly backup allows you to have a current configuration available in case you need one.

Notes:

Relevance

Introduction

Relevance extends control and management within the ThinManager system. It is integrated into ThinManager with the XLr license.

Relevance is the how to provide what you need, where and when you need it.

Relevance has two main functions: the Relevance User Services and the Relevance Location Services.

Fig	jure 513 -	Terminal	Mode Se	election I	Page of	f the T	[erminal (Config	uration	Wizard

	Terminal Conf	iguration Wizard	
Terminal Han Select the	dware manufacturer and mode	of this terminal.	>
Use this to conf	igure the type of hardwa	re for this terminal.	
Make / OEM	GENERIC		•
Model	Android Device		•
OEM Model	Android		
Video Chipset	UNKNOWN		
Teminal Firmwa	are Package	Model Default Terminal will ru	n Package 7.
- Terminal ID ar	nd IP Address		1
Terminal ID	None	-	Clear Edit
Terminal ID	None	-	Clear Edit

Relevance User Services, formerly known as TermSecure, grants and denies access to applications based on permissions and membership in Access Groups.

To activate Relevance User Services, check Enable Relevance User Services on the Terminal Mode Selection page of the Terminal Configuration Wizard.

See <u>Relevance User Services Introduction on page 400</u> for details.

Relevance Location Services is Location-based computing. It is not just sending an application to a mobile device, but a way to enable the location to

determine the content sent to the device. The mobile device allows the user to interact with the location.

To activate Relevance Location Services, check Enable Relevance Location Services on the Terminal Mode Selection page of the Terminal Configuration Wizard.

See <u>Relevance Location Services on page 493</u> for details.

Relevance Location Services has two types of locations: Assigned and Unassigned.

Assigned locations are those that have a Terminal and monitor at the given location, much like traditional computing. Relevance adds additional functions to the location. These functions allow mobile devices to interact with the location and Shadow the Terminal, Clone the applications, or Transfer control of the location to the mobile device.

Unassigned locations are those that lack a permanent Terminal and monitor, and all of the content is sent to the mobile device, which becomes the Terminal.

Relevance User Services Introduction

Relevance User Services, formerly TermSecure, is a ThinManager feature that allows users to use a ThinManager-ready thin client to access user-specific or Terminal-specific Display Clients. Relevance User Services does not replace the Windows login, but adds an additional layer of security and control to the it.

Relevance User Services has two main functions: hiding applications from unauthorized users and deploying applications to a user at any location.

• With Permission Deployed Applications, you can assign a display client to a Terminal and keep it hidden from users until they log in with the correct Permissions. A user with the proper Relevance User credentials is able to reveal and access the hidden application.

An example of how to apply this function would be to allow a supervisor to initiate a product change in regard to a recipe program. This belongs to the station on the floor, but you want to prevent operators from initiating the change.

• With Roaming User-specific Applications, you can assign Display Clients to a Relevance user, and they can get access to their applications from any Terminal in the system. This function can be initiated by either manual login or the use of an authentication device.

Roaming User-specific Applications allow a user to leave one Terminal and log in to a different Terminal and reconnect to their session. Essentially, the session follows the user from Terminal to Terminal.

An example use for this function could include a quality control worker's ability to retrieve reports assigned to them anywhere they log in.

Permission Deployed Applications are controlled with Permissions, which is covered in <u>Permission-deployed Applications in Relevance</u>.

Roaming User-specific Applications are controlled by adding the Display Client to the Relevance User configuration. This is covered in <u>Assign Roaming Display Clients to a Relevance User on page 420</u>.

The Relevance User Services section is organized into several sections to walk through the process.

Permission-deployed Applications – See <u>Permission-deployed Applications in</u> <u>Relevance</u>.

- <u>Relevance Access Group Creation on page 404</u>
- Create the Relevance User without a Windows Account on page 413
- Add Access Group to a Display Client on page 407
- Configure Terminals for Relevance on page 409
- Log On to Relevance on page 417

User-specific Applications – See <u>Assign Roaming Display Clients to a</u> <u>Relevance User on page 420</u>.

- <u>Create the Relevance User via Active Directory on page 423</u>
- Create login strategies on <u>420</u>
- Add User-specific Display Clients on page 430
- <u>Configure Terminals for Relevance on page 409</u>
- Log On with a Relevance User Account on page 436

Using Active Directory to Create Relevance Users – See <u>Password and Account</u> <u>Management on page 462</u>.

<u>Batch Create Relevance Users using Active Directory OU on page 457</u>

Permission-deployed Applications in Relevance

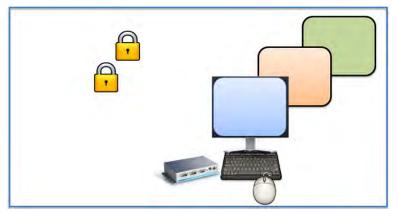
Relevance User Services can use Access Group Permissions to control access to display clients on a Terminal. Since the display clients belong to the Terminal, they are started with the Terminal's Windows account. The Relevance user does not need a Windows account to start the session.

The scenario described in this section to explain the concept of Access Groups, Permissions, and Relevance Users does not have a Windows account tied to it. Window accounts are covered in Create the Relevance User via Active Directory<u>Create the Relevance User via Active Directory on page 423</u>.

Permission-deployed Applications Diagrams

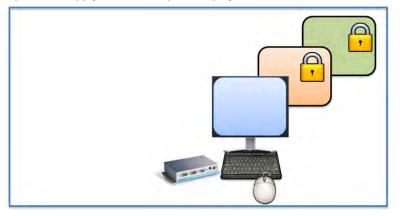
This section is a graphical representation of controlling access to display clients by using the Permission tied to Access Groups.

Figure 514 - Create Access Groups



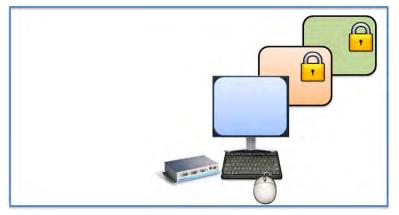
See <u>Relevance Access Group Creation on page 404</u>.

Figure 515 - Apply Access Groups to Display Clients



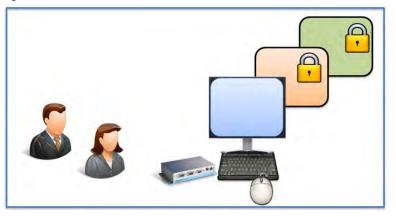
See <u>Add Access Group to a Display Client on page 407</u>.

Figure 516 - Configure Terminals for Relevance



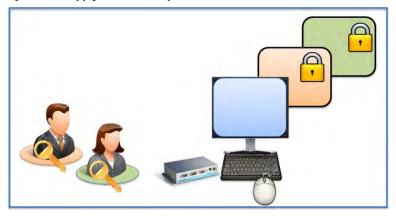
See <u>Configure Terminals for Relevance on page 409</u>.

Figure 517 - Create Relevance Users



See <u>Create the Relevance User without a Windows Account on page 413</u>.

Figure 518 - Apply Access Groups to Relevance Users



See <u>Create the Relevance User without a Windows Account on page 413</u>.



Figure 519 - Log In with Access Group Permission Unlocks Display Client

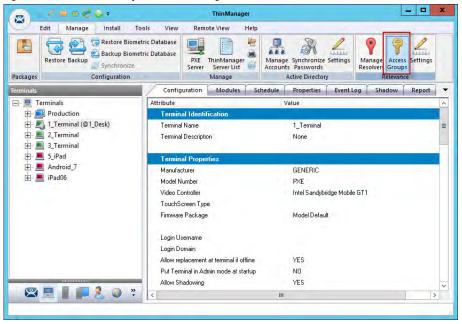
See Log On to Relevance on page 417.

Figure 520 - Different Permissions Grant Access to Different Display Clients

See Log On to Relevance on page 417.

Relevance Access Group Creation

Figure 521 - Access Groups on ThinManager Menu Bar



To create a Relevance Access Group, follow these steps.

1. Choose Manage>Access Groups in the Relevance section of the ThinManager menu bar.

The Access Groups dialog box appears.

Figure 522 - Access Groups Dialog Box

Access Groups	x
Unrestricted All Users All Terminals All Locations	<u> </u>
	Edit
	Add
	Delete
	Calc Permissions

2. Click Add.

The Access Group dialog box appears, which lets you define an Access Group.

Figure 523 - Access Group Dialog Box

	Access Group	X
Enter Group Name	Maintenance	ОК
	Select Windows Security Group	Cancel
		Edit Members

3. Type a name for your Access Group in the Enter Group Name field and click OK.

Figure 524 - Access Groups Dialog Box

Access Groups	×
Unrestricted All Users All Terminals All Locations Maintenance	<u> </u>
	Edit
	Add
	Delete
	Calc Permissions

The newly created Access Group appears in the list on the Access Groups dialog box, available for use to grant or deny access to display clients.

Windows Security Groups can be added as Access Groups in a domain.

To add Windows Security Groups as Access Groups, follow these steps.

- 1. Click Add on the Access Groups dialog box.
- 2. The Access Group dialog box appears.

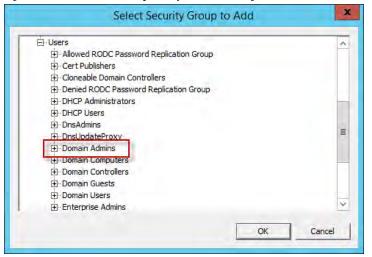
Figure 525 - Access Group Dialog Box

	Access Group	x
Enter Group Name		OK
	Select Windows Security Group	Cancel
	· · · · · · · · · · · · · · · · · · ·	Edit Members

3. Click Select Windows Security Group.

The Select Security Group to Add dialog box appears, which displays the Active Directory tree.

Figure 526 - Select	Security Grou	ıp to Add D	ialog Box
---------------------	---------------	-------------	-----------



4. Highlight the desired Windows group and click OK.

The Windows security group is populated to the Enter Group Name field of the Access Group dialog box.

Figure 527 - Access Group Dialog Box

	Access Group	X
Enter Group Name	Domain Admins	ОК
	Select Windows Security Group	Cancel
		Edit Members

5. Click OK.

The Windows Security Group is added to the list on the Access Groups dialog box, and it is now available for use to grant or deny access to display clients.

Acc	ess Groups X
Unrestricted All Users All Terminals All Locations Maintenance	DK
Domain Admins	Edit
	Add
	Delete
	Calc Permissions

Figure 528 - Windows Security Group as Access Group

Add Access Group to a Display Client

You must add the Access Group to the Display Client that you want to hide from unauthorized users. This example uses Formo1 and Formo2.

Relevance Access Group	Display Client	Relevance User
Maintenance	Form01	Mike, Bob
Supply	Form02	Steve, Bob

1. Double-click on the desired display client in the ThinManager tree.

The Display Client Wizard appears.

Figure 529 - Client Name Page

1	Disp	lay Client Wi	izard	
Client Nam Enter the	e : Display Client nam	e.		×
Client Name	Form01			
Type of Dis	play Client		_	_
Termin	ial Services	*	l.	
				_
			Permiss	ions
< Back	1 mar 1	Finish		11.1.
< Back	Next >	Finish	Cancel	Help

2. Click Permissions

The Permissions dialog box appears.

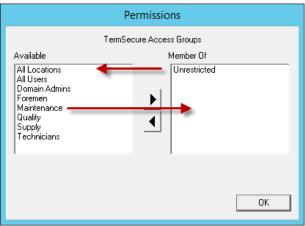


Figure 530 - Display Client with Permissions Dialog Box

Display clients are members of the Unrestricted group by default.

- 3. Highlight Unrestricted in the Member Of list and click the left arrow to remove it from the list.
- 4. Highlight the desired Access Group and click the right arrow to add the Access Group to the Member Of list. A display client can have several Relevance Access Groups added to it.

Figure 531 - New Group Membership

Pe	ermissions
TermSe	cure Access Groups
Available All Locations All Users Domain Admins Foremen Quality Supply Technicians Unrestricted	Member Of Maintenance
	ОК

The Permissions dialog box shows the Relevance Access Group membership.

- 5. Click OK to accept the change.
- 6. On the Client Name page, click Finish to close the Display Client Wizard and accept the changes.

Edit Manage Install	Tools View	Remote View Help			
ThinManager Server EducationRDP02a Add ThinManager Server Disconnect	😰 😅 Remove Q Refresh	Modify Copy	Delete <u>A</u> Lock Rename Cunlock	Find (Ctrl-F) Find Next (F3)	
ThinManager Server		Edit		Find	
Display Clients	Config	juration Server Rank			
Display Clients	A Attribute		Value		
😑 🗾 Terminal Services	Protocol	for connections of this client	RDP		
E Calculator	Allow Au	uto-login	YES		
🕀 🚺 Desk2012	Enforce	Primary Server	NO		
Desk43	Instant F	Failover	NO		
🕀 🔂 Desk44	Termina	Servers	Gold43		
🕀 📃 Desk45					
E Form01	= SmartS	ession			
Form02	SmartSe	ession	NO		
E Form03					
⊞	Linked	Application			
	Linked	Application Path	C:\Program Fil	es\Internet Explorer\iexp	olore.exe -k C:\HMI
Camera	Linked A	Application Command Line Option			
Workstation	Linked A	Application Initial Directory			
THE VNC					
Virtual Screen	v Releva	ance Access Groups			
	Member	Of	Maintenance		
	* <		IB		>

Figure 532 - Display Client Configuration Properties

- 7. Highlight the display client in the Display Client tree and click the Configuration tab to quickly view Relevance membership. Scroll down to the bottom of the Configuration tab to see Relevance Group membership.
- 8. <u>Figure 532</u> shows that this process was repeated to assign Supply to Formo2.

Configure Terminals for Relevance

Each Terminal can be configured to allow Relevance logins.

1. Double-click on a Terminal in the ThinManager tree.

The Terminal Configuration Wizard appears.

Figure 533 - Default Terminal Permissions

8	Terminal Configuration Wizard
Ent	al Name er the name for this terminal, select the terminal group to which terminal belongs, or choose to copy the configuration from ther terminal.
	Permissions
	TermSecure Access Groups
Availa	ble Member Of
Foren Maint Qualit Supp	ain Admins nen enance
	Permissions
	, announce
Ba	Initial Section Cancel Help

By default, Terminals are members of the Unrestricted Access Group, which allows any user to use the Terminal. Leave it this way unless you want to require a Relevance login to allow any access at all.



Setting an Access Group in Permissions for a Terminal locks users out of the Terminal until they log in with a Relevance User account.

Relevance Access is configured on the Terminal Mode Selection dialog box.

Figure 534 - Terminal Mode Selection

*	Terminal Configuration Wizard	
Ter	minal Mode Selection Select the operating modes for this terminal	X
Te	erminal Mode	
	T Enable Relevance User Services	
	✓ Enable Relevance Location Services	
	F Enable MultiMonitor	
	F Enable MultiStation	
	< Back Next > Finish Cancel	Help

2. Check Enable Relevance to enable Relevance logins on the Terminal.



You must use Display Clients with Relevance.

You may use Relevance User Services in combination with MultiMonitor and/or Relevance Location Services.

3. Click Next until the Display Client Selection page appears.

Figure 535 - Display Client Selection

8	Termina	al Con	figuration Wizar	d 💌
	Client Selection t the Display Clients	to use or	n this terminal	R
Available Dis Shadou VNC_4 Calcula Desk2 Desk44 Desk44 Form03 HML2	w_Cobalt Any ator D12 3 4 5 3	•	Selected Display Clie HMI_1 Fom01 Fom02	rits
Edit	Display Clients		Finish Cance	override

4. Add the display clients to the Terminal.

In <u>Figure 535 on page 411</u>, HMI_1 is Unrestricted, Form01 is restricted to Maintenance, and Form02 is restricted to Supply.

5. Click Next until the Terminal Interface Options page appears.

When Enable Relevance is checked on the Terminal Mode Selection page, a Main Menu Options button is displayed on the Terminal Interface Options page.

6. Click Main Menu Options.

The Main Menu Options dialog box appears, which configures the Relevance Login Menu.

Figure 536 - Terminal Interface Options Page

	Main M	enu Options		×
	eboot / restart		ОК	
The second second		elector	Cancel	
□ Show'	Virtual Keyboard			
Options				
			Main Menu Op	otions
otions			Pin Pad Opti	
	♥ Show	Allow reboot / restart Show Main Menu on S Show Virtual Keyboard Options	Allow reboot / restart Show Main Menu on Selector Show Virtual Keyboard Options	C Allow reboot / restart Cancel Show Virtual Keyboard Options Main Menu O;

Setting	Description
Allow reboot/restart	Adds Reboot and Restart to the menu.
Show Main Menu on Selector	Adds the Relevance Main Menu to the Display Client pull-down menu.
Show Virtual Keyboard	Shows a virtual keyboard to the login process. Use to display an on-screen keyboard for touch screens.

7. Click OK to accept the changes.

Figure 537 - Pin Pad Options Dialog Box

3	Terminal Configuration Wizard
Sel	al Interface Options ect the display client selector and main menu options that will be available the terminal.
Displa	y Client Selection Options
V	Si Pin Pad Options 🗾 🛚
F	E
E	So Reverse Pin Pad Button Order
F	Al Pin Pad Size 50 💌
- Main I	
-Main I	
	OK Cancel
Die De	
FINFe	ad Options Pin Pad Options
	< Back Next > Finish Cancel Help
-	

Setting	Description
Reverse Pin Pad Button Order	Changes the PIN pad from 1-2-3 on the top row, like a phone, to 7-8-9 on the top row, like a calculator.
Pin Pad Size	Sets the size of the PIN pad as a percentage of the screen size.

The Pin Pad Options dialog box allows you to configure the PIN pad when using a Personal Identification Number instead of a password.

8. Click Next.

The Hotkey Configuration page appears.

Figure 538 - Hotkey Configuration Page

Terminal Hotkeys	
Enable Instant Failover Hotkeys	Change Hotkeys
I Enable Display Client Hotkeys	Change Hotkeys
	Change Hotkey
I Enable Main Menu Hotkey	Change Hotkey

When Enable Relevance is checked on the Terminal Mode Selection page, an Enable Main Menu Hotkey is displayed on the Hotkey Configuration page. This allows you to set a keyboard hotkey to launch the Relevance menu.

- 9. Click Finish to apply the changes.
- 10.Reboot the Terminal after changes are made.

Create the Relevance User without a Windows Account

The Relevance User Configuration Wizard is launched from the Relevance User branch of the ThinManager tree.

1. Click the User icon at the bottom of the ThinManager tree.

The Relevance User tree appears.

2. Right-click on the Relevance User branch and choose Add User.

The Relevance User Configuration Wizard appears.

Edit Manage Insta	II Tools View Remote View Help	
	Belowance User Configuration Witzard X	nd (Ctrl-F)
Add ThinManager Server	TermSecure User Information Enter TermSecure username, password and permission information.	lext (F3)
ThinManager S	The second se	ind
ers	Relevance User Information	
Relevance Users	AD User Name	
	Search	
	Customize Password Options	
	Group	
	Change Group	
	Copy Settings	
	Copy Settings from another User	
	Permissions	
	a second s	
	s Back Next> Finish Cancel Help	-

Figure 539 - User Branch of the ThinManager Tree

The first page of the Relevance User Configuration Wizard is the Relevance User Information page that creates the Relevance User account.

Relevance Users with display clients assigned to them must be tied to a Windows account.

If a Relevance User does not have a display client assigned to them, and they only use the Permissions to access a display client that belongs to the Terminal, then the user does not need a Windows account.

In this scenario, a Windows account is not needed because the display client belongs to the Terminal and is getting logged in with the Terminal's account. A Permission is applied to the user.

Active Direct	ory User	
Relevance Use	and the second se	
User Name	Mike	
Password		
Verify Passwor	d [
Group		Change Group
Copy Settings		
	ings from another User	Copy From

Figure 540 - Relevance User Information Page

- 3. To create a Relevance User that is not an Active Directory user, first, clear the Active Directory User checkbox.
- 4. Type a name in the User Name field.
- 5. Type a password into the Password and Verify Password fields.

A dialog box appears if the passwords do not match.

6. Click Permissions.

The Permissions dialog box appears.

Figure 541 - Permissions Dialog Box

	Permissions	
	TermSecure Access Groups	
Available Foremen Quality Supply Technicians	Member Of Maintenance	
		ОК

7. To add your Relevance Access Group to your created user, double-click on the Access Group in the Available list to move it to the Member Of list.

8. Multiple Access Groups

Permissions						
Ten	mSecure Access Groups					
Available Foremen Quality Technicians	Member Of Maintenance Supply					
	ОК					

A Relevance User can be a member in multiple Access Groups.

9. Click OK button to accept the changes.

These are the only settings needed for a Relevance User to unlock hidden applications: a Relevance User name and membership in a Relevance Access Group. The wizard has other settings that are described in <u>Relevance</u> <u>Configuration Wizard on page 428</u>.

Relevance Results

Use the information in this table to follow the example in Figure 542.

Relevance Access Group	Display Client	Relevance User
Maintenance	Form01	Mike, Bob
Supervisor	Form02	Steve, Bob

The 3_Terminal is using Relevance with the unrestricted HMI_1 display client and the restricted Form01 and Form02 display clients.

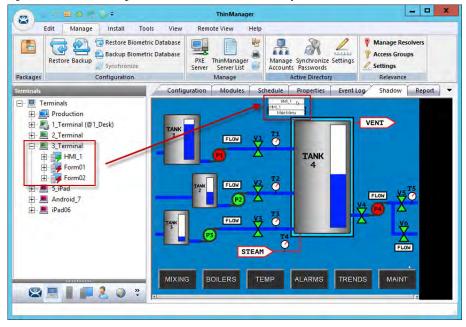


Figure 542 - ThinManager Shadow of Thin Client Example

The example in <u>Figure 542</u> shows the ThinManager tree and the shadowed display of the thin client.

- The Terminals tree shows three display clients assigned to 3_Terminal. The lightning bolt indicator for the hidden display clients are red to show that it does not have a connection. Only HMI_1 is visible on the Terminal because it is unrestricted.
- <u>Figure 542</u> shows the group selector in the shadow and displays the unhidden display client in the selector, along with the option to launch the Main Menu.

Log On to Relevance

To log in a Relevance User on a Terminal, follow these steps.

- 1. Go to a Terminal that has Enable Relevance checked on the Terminal Mode Specification page.
- 2. Log in one of these ways.
 - Open the display client selector pull-down menu and choose Main Menu.
 - Press the CTRL+m hotkey to launch the Main Menu if the hotkey was checked.

The Main Menu is displayed on the Terminal.

Figure 543 - Relevance Main Menu



3. Click Log In.

A virtual keyboard is displayed if Show Virtual Keyboard is checked on the Main Menu Options dialog box when configuring the Terminal for Relevance on the Terminal Interface Options page.

-			_	-	_		-	-	1	1		1	
	1	2	3 4	5	6	7	8	9	0	+	=	Back	Space
Tab	q	w	e	r	t	У	u	i	0	р]	1	1
Caps	a	s	d	f	g	h	j	ĸ	1	;	,	Er	iter
Shi	ft	z	×	с	۷	b	n	m	,			/	Del
	Done	9			Sp	ace			-			Ŷ	¥
					Π	Relevance Enter Use	r Name			THIN		NAG	ER

Figure 544 - Relevance Log On Screen with Virtual Keyboard

Figure 545 - Relevance Log On



4. Type your Relevance user name in the Enter User Name field and click OK.

Figure 546 - Password Dialog Box

Relevance Log On				
Enter Password:				
Cancel	OK			
	<u></u>			

- 5. Type the password in the Enter Password field.
- 6. Click OK.

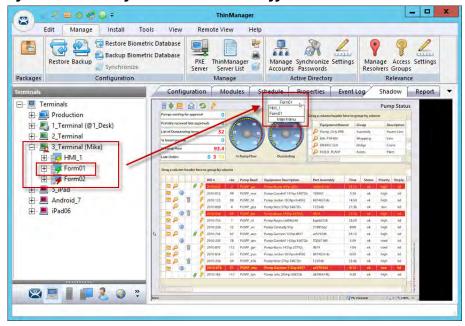


Figure 547 - ThinManager with Relevance User Logged On

<u>Figure 547</u> shows Relevance User, Mike, logged in to the Terminal, his name in parentheses.

Notice that the group selector on the shadowed Terminal now has the hidden display client showing in the pull-down menu. The lightning bolt icon now shows a connection.

The Relevance Users tree lists the users.

Figure 548 - Relevance Users Tree

Edit Manage Install Tools View Remote View Help Edit Manage Install Tools View Remote View Help Edit Manage Install Tools View Remote View Help Manage Active Directory Resolvers Groups Manage Config Schedule Event Log Report Tribute Value	
Packages Configuration Config Schedule Event Log Report Users Config Schedule Event Log Report	•
	•
- Relevance Users Attribute Value	
	~
Bob Identification	
-2 Mike (3_Terminal) Name Mike	
Steve User Description None	=
Login Information	
Windows UserName	
Windows Domain	
Properties	
Display Clients Not Selected	
Terminal Interface Options	
Show Display Client Selector Menu YES	
Auto-Hide Display Client Selector Menu NO	
Tile on Display Client Selector Activation NO	
Enable Tiling NO	~
🔊 📃 📗 📮 🤰 🔍 : < 👘 👘	>

A user that is logged in to a Terminal with Relevance shows a different icon and the name of the Terminal to which they are logged in. In <u>Figure 548</u>, Mike is logged in to 3_Terminal.

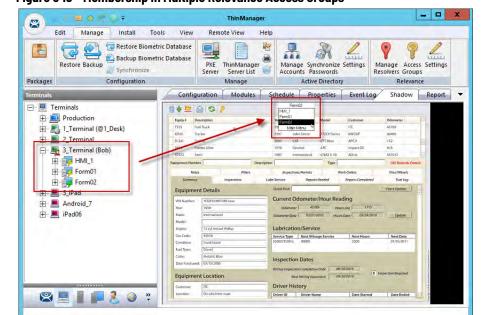


Figure 549 - Membership in Multiple Relevance Access Groups

A Relevance User can be a member of multiple Relevance Access Groups.

In Figure 549, Bob is a member of both Maintenance and Supply. When he is logged in, the display clients for both Maintenance and Supply are displayed. They are hidden when he logs off.

Log Out of Relevance

The Relevance User can log out by one of these actions.

- Open the Relevance Main Menu on the Terminal and click Log Off
- Right-click on the Relevance User in the ThinManager tree and choose • Logoff User
- Restart or reboot the Terminal that has a Relevance User logged in

Figure 550 - Main Menu

	MAIN MENU
Switc	h User Log Off About Cancel
Button	Description
Switch User	Logs off the Relevance User and disconnects any sessions from Display Clients assigned to the user. It opens the Login screen for another Relevance User.
Log Off	Logs off the Relevance User, and logs off any sessions from Display Clients assigned to the user, and

Assign Roaming Display Clients to a Relevance User

Relevance can assign a user-specific display client to a Relevance User. This display client is accessible from any Terminal or location that has been configured with Relevance User Services. Relevance Users require a valid Windows account since they log in to a Windows session of their own.

returns to the Terminal's display.

Roaming Display Clients in Relevance Diagrams

The following is a graphical representation of the process to assign user-specific display clients to a Relevance user to allow the application to follow the user anywhere they need to go.

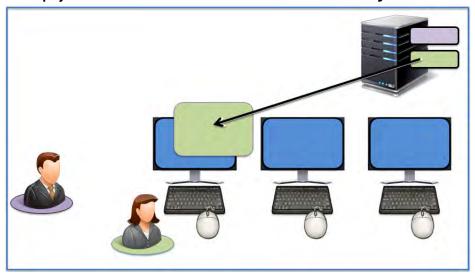
Create Relevance Users and Display Clients



Assign the Display Client to the Relevance User



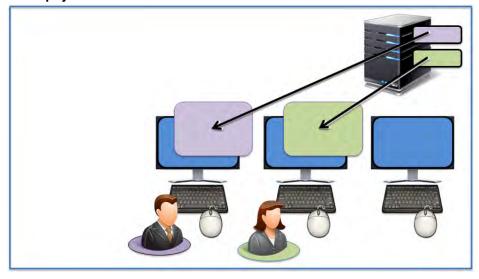
The Display Client is sent to the Terminal where the Relevance User Logs In



The Display Client follows the Relevance User



The Display Client Follows the Relevance User



Create the Relevance User via Active Directory

ThinManager Active Directory integration allows a Relevance User to have its Windows user account drawn from the Active Directory. You allow ThinManager to store the password to streamline password management.

The Relevance User Configuration Wizard is launched from the Relevance User branch of the ThinManager tree.

1. Click the User icon at the bottom of the ThinManager tree.

The Relevance User tree appears.

2. Right-click on the Relevance User branch and choose Add User.

The Relevance User Configuration Wizard appears.

Figure 551 - User Branch of the ThinManager Tree

8 -	ThinManager	- 🗆 ×
Edit Manage	Relevance User Configuration Wizard	×
Packages Restore Backup	Relevance User Information Enter Relevance usemame, password and permission information.	×
Packages Configuration	Active Directory User	
□- 8 Relevance Users	AD User Name Customize Password Uptions PIN Options	Search
	Group Change Group Copy Settings Copy Settings from another User Copy From Permissions	
8 - 1 - 2 -		Cancel Help >

The first page of the Relevance User Configuration Wizard is the Relevance User Information page that creates the Relevance User account.

Relevance Users that have display clients assigned to them must be tied to a Windows account. If a Relevance User does not have a display client assigned to it, and it only uses the Permissions to access a display client that belongs to the Terminal, then it does not need a Windows account.

This scenario assigns display clients to the Relevance User so a valid Windows account is needed.

Figure 552 - Relevance User Information

8	Re	levance User	r Configuratio	on Wizard	x
	vance User Inf inter Relevance u		ord and permission	information.	$temp{}$
Rele	ctive Directory Us evance User Infor D User Name		IptionsPin C	Dptions	earch
Grou	qu		_	Change Gro	pup
Cop	y Settings	tings from anothe	er User	Copy Fro	n
			Permissions	1	
	« Back	Next >	Finish	Cancel	Help

The first page of the Relevance User Configuration Wizard is the Relevance User Information page that creates the Relevance User account.

- 1. Click Active Directory User, which allows you to draw the user account from the Active Directory.
- 2. Click Search.

The Search for AD User dialog box appears, which begins the Active Directory process.

Figure 553 - Search for AD User Dialog Box

Search for AD User	X
Recurse Security Groups	Locations
Name User Principal Name	
ОК	Cancel

3. Click Locations.

The Select AD Location to Search dialog box appears from which you can choose a location.

Figure 554 - Select AD Location to Search Dialog Box

Select AD Location to	Search	x
	OK Cance	3

4. Highlight the AD location you want to select the user from and click OK, which populates the location into the Locations field in the Search for AD User dialog box.

Figure 555 - Search for AD User - Location Selected

		Search for AD User	x
Users	Contains 💌	Recurse Security Groups 🗖	Locations
Filter	·	ser Principal Name	
		ОК	Cancel

5. Once the Location has been selected, click Search to populate the user field with users from the highlighted location.

Figure 556 - Search for AD User Dialog Box - Users

	Search for AD User	X
Users		Locations
Filter Contains	Recurse Security Groups	Search
Name	User Principal Name	
Adam Adams Adam Brown	admin1@Education.local admin2@Education.local	
Administrator Guest krbtgt Pburns thinman2	administrator@Education.local pburns@Education.local thinman2@Education.local	
1	OK	Cancel

6. Highlight the desired user account from the Active Directory members and click OK.

The user account is populated to the AD User Name field of the Relevance User Information page. See <u>Figure 557</u>.

Figure 557 - Relevance User Information

8	Re	elevance User Configura	tion Wizard
	ance User In ter Relevance	formation usemame, password and permiss	ion information.
	ve Directory Us ance User Info		
AD	User Name	Adam Brown	
Group	,	Customize Password Dptions Pir	n Options Change Group
Copy	Settings		
		ttings from another User	Copy From
	« Baok	Permissions Next > Finish	S Cancel Help

7. Click Permissions to apply membership in Access Groups as described in See <u>Permission-deployed Applications in Relevance on page 401</u>.

8. Click Finish if you only need a Permission applied.

Button/Setting	Description
Customize	Launches the User Description dialog box. See <u>Relevance User Settings for Non-domain Users on</u> page 441.
Password Options	Choose Manage>Active Directory>Settings on the ThinManager menu to configure in the Active Directory System Settings.
Pin Options	Launches the Pin Maintenance Options dialog box. See <u>Relevance User Settings for Non-domain Users</u> on page <u>441</u> .
Change Group	Launches the Choose User Group dialog box. See <u>Relevance User Settings for Non-domain Users on page 441</u> .
Copy Settings from another User	Allows the user to inherit the properties of another user.
Copy From	Opens the Select User dialog box that allow you to select the user from which to inherit properties.

9. Click Next if you want to apply user-specific display clients.

Figure 558 - Active Directory Password Page

Active Directory Password	-			
Allow Thin Manager to	store passwo	ord		
Password		_		Verify
			Re-	Sync Account
Password Maintenance				
Allow Thin Managert	o rotate pass	sword		
₩ Use System Defaults				
Minimum Password Leng	,th	20	-	
Maximum Password Leng	gth	60	-	
Rotate Password every		0	days	
Authorization Caching				
Cache authorization is	s disabled			Change

Setting	Description		
Active Directory Password			
Allow ThinManager to store password	Allows ThinManager to store the Active Directory password in an encrypted form. Clear the checkbox for ThinManager to require a password each time the session logs on.		
Password	Type the password.		
Verify	Checks with Active Directory to validate the password.		
Re-Sync Account	Sends the typed password to the Active Directory.		
Password Maintenance			
Allow ThinManager to rotate password	Check to allow ThinManager to update the Active Directory password per the schedule you set.		
Use System Defaults	Uses the system defaults set at Manage>Active Directory>Settings.		

Setting	Description
Minimum Password Length	Sets the minimum amount of characters the password must contain to be valid.
Maximum Password Length	Sets the maximum amount of characters the password must contain to be valid.
Rotate Password every n days	Sets the number of days between scheduled password changes. This setting is propagated from the Password Maintenance Options dialog box when Force User to change password periodically is checked.

If Allow ThinManager to store password is checked, then you can have the Windows password stored in ThinManager, which allows a fingerprint scan to send the Windows password automatically for authentication.

Check Allow ThinManager to store password to use the system defaults, or clear the Use System Defaults checkbox to customize the password settings.

- 10.Type the user password in the Password field and click Verify to check your password against the Active Directory.
 - a. If the password is incorrect, a dialog box appears to indicate account information is not valid.

Figure 559 - Account Verify Dialog - Not Valid



b. If the password is correct, the dialog box appears to show a positive result.

Figure 560 - Account Verify Dialog - Valid

Account Verify	x
Account information is valid	
ОК	

- 11. Click OK.
- 12. Click Next on the Active Directory Password page.

The Card/Badge Information page appears.

Relevance Configuration Wizard

The next page in the Relevance Configuration Wizard is the Card/Badge Information page.

Card / Ba	dae Login
	ser will use a card or badge to log in
Enter	Card/Badge ID number
	Prompt for Password Prompt for Pin
Biometric	Login
p)	
F	Prompt for Password
FF	Prompt for Pin
Manual Lo	ogin -
	Prompt for Password
FF	Prompt for Pin

You can tie a Relevance User to a HID card and validate with a card scan, or you can associate a user fingerprint to the account and have a fingerprint scan validate the user.

These methods are covered in <u>Card Readers and Fingerprint Scanners on</u> page 473.

1. Check Prompt for Password or Prompt for Pin, as a secondary credential, for the Card/Badge Login, Biometric Login, or Manual Login.

Setting	Description
Prompt for Password	If checked, requires the user to enter a password.
Prompt for Pin	If checked, requires the user to enter their PIN.

2. Click Next to continue.

The Relevance Resolver Selection page appears.

Figure 562 - Location Resolver

	e Resolver		figuration Wiza		8
Relevance	Resolvers				
Name		Туре	Action	4	
Add	s Prompt for Pa		di		
	s Prompt for Pi	n			

Relevance allows a Resolver to pass the specific user's credentials for a login.

3. Click Add.

The Choose a Relevance Resolver dialog box appears.

- 4. Choose the resolver from the Resolver Name pull-down menu.
- 5. Choose User Login from the Choose Action pull-down menu.
- 6. Click OK to apply the resolver.

The user logs in when the resolver is activated.

Setting	Description
Prompt for Password	If checked, requires the user to enter a password.
Prompt for Pin	If checked, requires the user to enter their PIN.

7. Click Next to continue.

The Display Client Selection page appears.

Add User-specific Display Clients

Roaming applications require that display clients are assigned to individuals.

Figure 563 - Display Client Selection Page

*	Relevance User Configuration Wizard
	ay Client Selection Select "Yes" to specify Display Clients for this user.
Add	User-specific Display Clients?
	C Yes
	No
	user-specific clients will be added to the clients specified in the terminal juration.
< 8	Back Next > Finish Cancel Help

The Display Client Selection page has one setting, Add User-specific Display Clients?

Setting	Description
Yes	User can be assigned display client of their own that they can access from any Terminal that has Relevance enabled. You can also assign the user Permissions to let them access hidden applications.
No	User is able to access display clients that belong to the Terminal they log in to only. Use with Permissions to grant access to applications hidden with Access Group Permissions.

8. Click Next to continue.

Figure 564 - Display Client Specification Page

Relevance User Configuration Wizard						
Client Specification the Display Clients to which the	nis user can connec	t.	times			
olay Clients	Select	ed Display Clients				
mote Desktop Services mera minal Shadow Shadow_Any Shadow_Boiler Shadow_Line 1 Shadow_Line 2 orkstation IC tual Screen	~	Shadow_Any	•			
Edit Display Clients	Next >	Override Finish Cancel	Help			
	lient Specification the Display Clients to which the olay Clients mote Desktop Services mera minal Shadow Shadow_Any Shadow_Boiler Shadow_Line1 Shadow_Line2 orkstation IC tual Screen dit Display Clients	Lient Specification the Display Clients to which this user can connect play Clients Select mote Desktop Services mera minal Shadow Shadow_Any Shadow_Line1 Shadow_Line2 prkstation IC ual Screen dt Display Clients 	Liert Specification the Display Clients to which this user can connect. play Clients Selected Display Clients mote Desktop Services Image: Shadow_Any Shadow_Any Shadow_Any Shadow_Line1 Shadow_Line2 Shadow_Line2 V orkstation V IC V ual Soreen V			

The Display Client Specification page allows Display Clients to be assigned to the Relevance User if Add User-specific Display Clients is set to Yes.

- 9. Move a Display Client that you want the Relevance User to use from the Available Display Clients list to the Selected Display Clients list. Use the Right Arrow to move a highlighted Display Client, or double-click a display client to move it.
- 10. To add a new Display Client, click Edit Display Clients to launch the Display Client Wizard. See <u>Remote Desktop Services Display Clients on</u> <u>page 109</u> for details.
- 11. Click Next to continue.

Figure 565 -	Terminal	Interface	Options
--------------	----------	-----------	---------

erminal Interface Options Select the group selector and main menu options that will I terminal. Display Client Selection Options ✓ Use Terminal Settings ✓ Show Selector on Terminal ✓ Enable Tiling	Selector Options
Use Terminal Settings V Show Selector on Terminal	Selector Options
Use Terminal Settings V Show Selector on Terminal	Selector Options
-	Selector Options
🖵 Enable Tiling 🔄	
	Tiling Options
🔽 Screen Edge Display Client Selection	
Allow Display Clients to move to /from screen	
-	Main Menu Options
< Back Next > Finish	Cancel Help

The Terminal Interface Options page sets the menus and hotkeys for the Relevance User so a Terminal using MultiSession needs to have a method to switch between sessions. This is similar to the page in the Terminal Configuration Wizard.

Group Selector Options allow on-screen switching of sessions.

Setting	Description
Use Terminal Settings	Check to let the Relevance User inherit the properties that are configured for use with the Terminal.
Show Group Selector on Terminal	Check to display an on-screen pull-down menu that can be activated by mouse.
Enable Tiling	Check to allow the sessions to be tiled so that the user can make a visual selection of the desired selection.
Screen Edge Group Selection	Check to activate a feature that switches windows if the mouse is moved off screen.
Allow Display Clients to move to/from screen	Check to give the user the ability to move display clients from screen to screen.
Selector Options	Launches the Group Selector Options dialog box.
Tiling Options	Launches the Tile Options dialog box.
Main Menu Options	Launches the Main Menu Options dialog box, which allows configuration of the Relevance Main Menu.

12. Select the Next button to continue.

The Terminal Hotkey Options page appears.

Figure 566 - Terminal Hotkey Options

Select the hotkeys that will be available on	the terminal.
Terminal Hotkeys	
☐ Use Terminal Settings	
Enable Instant Failover Hotkey	Change Hotkey
I Enable Display Client Hotkeys	Change Hotkeys
Finable Tiling Hotkey	Change Hotkey
Enable Swap Hotkey	Change Hotkey
Enable Fullscreen Hotkey	Change Hotkey
	Mouse Button Mapping

Terminal Hotkeys on the Terminal Hotkey Options page allows the selection of keyboard combinations that allow switching between sessions. This is similar to the page in the Terminal Configuration Wizard.

Setting	Description
Use Terminal Settings	Check to let the Relevance User inherit the properties that were configured for use with the Terminal. Clear the checkbox to let the user receive the settings as configured for them.
Enable Instant Failover Hotkeys	Check to allow the hotkey switch between the two active sessions of a Display Client that uses Instant Failover. The Terminal needs to use a display client with Instant Failover for this to be active.
Enable Display Client Hotkeys	Check to allow the hotkey switch between different sessions of a Terminal that uses MultiSession.
Enable Tiling Hotkey	Check to allow SessionTiling activation by a hotkey combination. Check Enable Tiling on the Terminal Interface Options page for this to be active. See <u>Terminal Interface Options on page 433</u> .
Enable Swap Hotkey	Check to allow a hotkey to swap virtual screens instead of a mouse click.
Enable Fullscreen Hotkey	Check to allow a full-sized virtual screen with a hotkey.
Mouse Button Mapping	Click to open the Mouse Button Mapping dialog box, which allows functions to be assigned to mouse buttons. See <u>Figure 247 on page 189</u> .
Change Hotkeys	Click to allow the hotkeys to be changed from the default.

13. Click Next to continue.

The User Options page appears.

Figure 567 - User Options

	Options lect options for this user.			5
-Log Ir	n / Log Out Options			-
Inac	tivity Timeout	120		
Res	et Sessions at Logout	F		
Acti	vate Display Client at Log In	E		
	nal Effects Enable Terminal Effects			
	owing v terminal to be shadowed Allow Interactive. Shadow	YES	•	1

The User Options page has a few options for the user experience.

Setting	Description						
Log In/Log Out Opt	ions						
Inactivity Timeout	Relevance logs a Relevance User off of the Terminal after this much inactive time has passed.						
Reset Sessions at Logout	Check to log off a session when the Relevance User logs off.						
Activate User Group at Log In	Check to display the Relevance User's first Display Client when the user logs in to the Terminal.						
User Schedule							
Set Schedule	Check to enable Schedule.						
Schedule	Click to launch the Event Schedule dialog box and allow a schedule to be created for Terminal events.						
Terminal Effects							
Enable Terminal Effects	Check to allow the use of Terminal Effects, which currently includes sliding Windows and message rollups.						
Shadowing							
Allow Terminal to be shadowed	 Allows the configuration of these Shadowing Options. No - Prevents the Relevance Users from being shadowed. Ask - Displays a message dialog box that prompts for a positive response before the shadow is allowed. Warn - Displays a message dialog box, which alerts the Terminal that it is to be shadowed, but does not require a positive response before the shadow is allowed. Yes - Allows shadow to occur without warning or recipient input. 						
Allow Interactive Shadow	Allows members with Interactive Shadow privileges to shadow this Relevance User. Click the Shadow tab on the Details pane to initiate the shadow. Clear this checkbox to prevent shadowing from within ThinManager.						

14. Click Finish to complete the configuration.

The Relevance User tree shows the display clients assigned to the user.

15 Relevance

8 280037	ThinManager		 1)
	Tools View Remote View Help		
Interactive Send Keys * Scaled to Window Zoom In Go Full Screen Zoom Out Shadow Conn	ons		
ets	Config Schedule Event Log	Report	
- 🤶 Relevance Users	Attribute	Value	
🖻 🙎 Adam Brown	Identification		
🕀 🐺 Form03	Name	Adam Brown	
1	User Description	None	
	Login Information		
	Active Directory User	YES	
	Store Active Directory Password	NO	
	Active Directory User	admin2@Education.local	
	Properties		
	Display Clients	Form03	
		Desk2012	
	Terminal Interface Options		
	Show Display Client Selector Menu	YES	
	Auto-Hide Display Client Selector Menu	NO	
🙁 💻 📕 🔳 🧏 🥥 🦉	<	ш	>

Figure 568 - Relevance User with User-Specific Display Clients

Log On with a Relevance User Account

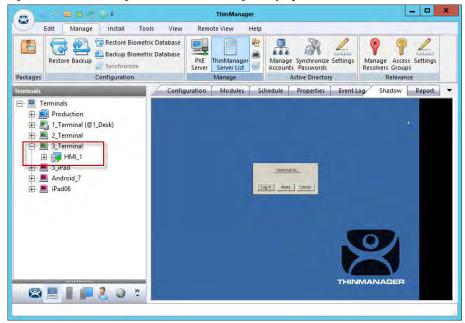
To log in a Relevance User on a Terminal, go to a Terminal that has Enable Relevance checked on the Terminal Mode Specification page.

Follow these instructions to log in.

- 1. Open the display client selector pull-down menu and choose Main Menu.
- 2. Press CTRL+m to launch the Main Menu if the hotkey was checked.

The Main Menu is displayed on the Terminal.

Figure 569 - ThinManager Console with a Single Display Client on Terminal



The Terminal tree shows the Terminals and display clients assigned to the Terminals.

Figure 570 - Relevance Main Menu



3. Click Log In on the Main Menu dialog box.

Figure 571 - Relevance Log On Screen with Virtual Keyboard
--

4	1	2	3	3	4 5	6	7	8	9	0	+	=	E	BackSpace	
Tab	q		w	e	r	t	У	u	i	0	р		[1 /	
Caps	;	a	s	d	f	g	h	j	k	1	;	3		Enter	
Shi	ift		z	x	с	v	b	n	m	,			1	/ Del	
	Dor	ne				Sp	ace			*		+	3	۴.	¥
							Relevance Enter Use Cancel		N,		THIN			AGE	R

A virtual keyboard is displayed if Show Virtual Keyboard was checked on the Main Menu Options dialog box when you configured the Terminal for Relevance on the Terminal Interface Options page. See <u>Figure 536 on page 412</u>.

Figure 572 - Relevance Log On Dialog Box

	ce Log On ser Name
Cancel	ОК

4. Type your Relevance User Name and click OK.

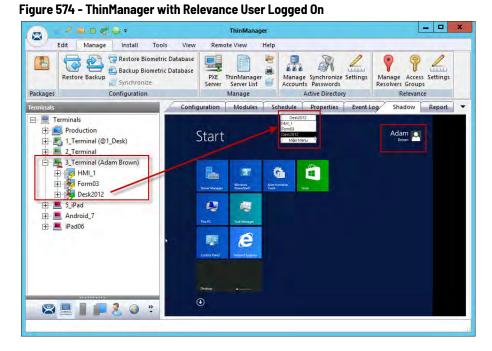
The Password Dialog box appears.

Figure 573 - Password Dialog

Relevance Log On			
Cancel			

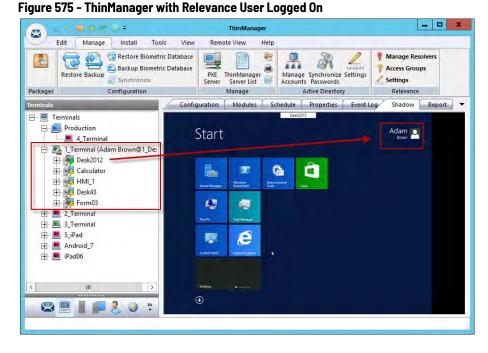
5. Type the password and click OK.

If the user has valid Windows credentials, the user is logged in.



The Terminal displays the name of the Relevance User in parentheses. Figure 574 shows Adam Brown logged in to the Terminal.

The group selector on the Terminal shows the Relevance User's display client in the pull-down menu selector. Now, the lightning bolt icon shows a connection.



When a Relevance User logs off from a Terminal, the sessions disconnect by default and remain in an idle state on the Remote Desktop Servers.

If the Relevance User logs in from another Terminal, then Relevance connects the user to their session, and the sessions are displayed at the new Terminal.

Figure 576 - Relevance User Tree

8	20080+	ThinManager	X
	dit Manage Install	ools View Remote View Help	
Packages	Restore Backup Bion	tric Database PXE ThinManager Manage Synchronize Settings M	anage Access Settings solvers Groups Relevance
Usets		Config Schedule Event Log Report	-
E- 🤱 Re	levance Users	Attribute Value	^
Ξ.2	Adam Brown (3_Terminal)	Identification	
Ē		Name Adam Brown	
Ē	Desk2012	User Description None	
		Login Information	
		Active Directory User YES	
		Store Active Directory Password NO	- M
		Active Directory User admin2@Education.local	
		Properties	
		Display Clients Form03	
		Desk2012	
		Terminal Interface Options	
		Show Display Client Selector Menu YES	
-		Auto-Hide Display Client Selector Menu NO	×
R	💻 📕 📕 🧶 🥥 🤻	< III	>
			.41

The Relevance Users tree lists the users.

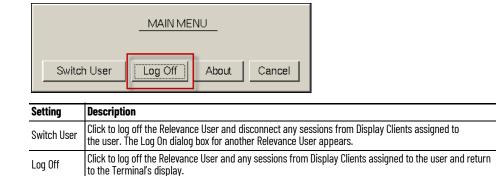
A user that is logged in to a Terminal with Relevance shows a different icon as well as the name of the Terminal. Adam Brown is logged in to 3_Terminal in Figure 576.

Log Out of Relevance

The Relevance User can be logged out by one of these methods.

- Open the Relevance Main Menu on the Terminal and click Log Off.
- Right-click on the Relevance User in the ThinManager tree and choose Logoff User.
- Restart or reboot the Terminal that has a Relevance User logged in.
- The Inactivity Timeout set on the User Options page is reached.

Figure 577 - Main Menu



Roaming Applications for Non-domain Users

Each Relevance User who has their own display client assigned must be tied to a Windows User account. When a user is created from the Active Directory, then the Relevance User account is the Windows user account. When you create a Relevance User who is not from the domain, you have a few options to assign the Windows account.

and the second	usemame, password and permiss	
Active Directory Us		
- Relevance User Info User Name	Jimmy	
	Journal	
Password		
Verify Password	1.1	
	Customize	
	Password Options Pir	n Options
-		
Group		-
		Change Group
Copy Settings	ttings from another User	Copy From
	Permissions	
	Permissions	1

Figure 578 - Non-active Directory Relevance User

Clear the Active Directory User checkbox to create a Relevance User who is not in the Active Directory.

Button	Description
Customize	Click to launch the User Description dialog box.
Password Options	Click to launch the Password Maintenance Options dialog box.
Pin Options	Click to launch the Pin Maintenance Options dialog box.
Change Group	Click to launch the Choose User Group dialog box.
Permissions	Click to launch the Permissions dialog box.

Relevance User Settings for Non-domain Users

In <u>Figure 578</u>, the Relevance User Information page has several buttons that configure user settings.

1. Click the Customize button.

The User Description dialog box appears, which allows a verbose description to be associated with the user account that is displayed in the Configuration detail pane.

Figure 579 - User Description Dialog Box

	User Des	cription		×
lser Description				
This field lets you p	rovide a verbose des	cription		^ ~
Custom Variables				
Property Custom Variable	Value And its value			Add
				Delete
				Edit
			ок	Cancel
na De	scription			

Setting	Description
User Description	Allows you to type a verbose description to be added to the user account.
Add	Click to open the Custom Variables dialog box.

Custom variables allow for the creation of a single display client with a custom variable as part of the path. Each user, Terminal, or location has specific data in the custom variable to modify the content that the display client delivers, which allows one display client to do the work of many.

2. Click Add.

The Custom Variable dialog box appears, which allows you to add a custom variable. A custom variable can be used to pass information to the AppLink display client or to the TermMon ActiveX that you embed in your application.

Figure 580 - Custom Variable Dialog Box

Name Custom Variable Value And its value Image: Hide Value OK		Custom Variable
	Name	Custom Variable
	Value	And its value

Setting	Description
Name	Type the name of the custom variable.
Value	Type the value or content to be assigned to the custom variable.
Hide Value	Check to obscure the custom variable value. Clear this checkbox to show the value.

3. On the Relevance User Information page, click Password Options.

The Password Maintenance Options dialog box appears.

Figure 581 - Password Maintenance Options

Password Maintenance Options	ĸ
Password Complexity Requirements	1
Minimum Password Length	
Must contain numbers Must contain symbols Must contain upper and lower case letters	
Password Maintenance	1
Allow User to change password	
□ Force User to change password at next login	
Force User to change password periodically	
User must change password every days	
Authorization Caching	1
Cache authorization is disabled Change	
OK Cancel	

The Password Maintenance Options dialog box allows user password configuration.

Setting	Description
Password Complexity F	Requirements
Minimum Password Length	Type the length requirement.
Must contain numbers	Check to add the number requirement to the password.
Must contain symbols	Check to add the symbol requirement to the password.
Must contain upper and lower case letters	Check to add the mixed-case requirement to the password.
Password Maintenance	
Allow User to change password	Check to allow a user to change the password. Clear the checkbox to prevent a password change by the user.
Force User to change password at next login	Check to prompt the user to change their password at the next login.
Force User to change password periodically	Check to prompt the user to change their password at the interval set in the User must change password every $__$ days field.
User must change password every days	Type the interval for password changes.
Authorization Caching	
Change	Click to open the Authorization Cache dialog box.

4. Click Change.

The Authorization Cache dialog box appears.

Figure 582 - Authorization Cache Dialog Box

Authori	zation Cache	x
Cache authorization for	0	minutes
Clear Authorization Cache fo	r this user	Clear
	ОК	Cancel

Setting	Description
Cache Authorization for _ minutes	Type the time interval for which the password to be cached. A user enters their password once, and it is cached and provided for the duration.
Clear	Click to remove cache authorization for the user and require the user to enter a password.

When a user has a cached password, the Password Maintenance Options dialog box appears with the cache interval indicated.

Figure 583 - Password Maintenance Options

Password Complexity Requireme	nts	
Minimum Password Length	0	
Must contain numbers Must contain upper and low	I [™] Must contain sym er case letters	bols
Password Maintenance		
Allow User to change pass	word	
Force User to change pass	sword at next login	
Force User to change pass		
	sword periodically	days
Force User to change pass	sword periodically	days
Force User to change pass User must change password e	word periodically	

5. On the Relevance User Information page, click Pin Options.

The Pin Maintenance Options dialog box appears, which allows the configuration of a Personal Identification Number, or PIN.

Figure 584 - Pin Maintenance Options

Pin Maintenance Options
Pin Options Minimum Pin Length 4 Maximum Pin Length 4 Use a temporary Pin
Pin Maintenance Require User to change Pin every 0 days Require User to change pin at next login
User Pin Pin Verify Pin
OK Cancel

Setting	Description			
Pin Options				
Minimum Pin Length	Type the minimum length requirement for the PIN.			
Maximum Pin Length	ype the maximum length requirement for the PIN.			
Pin Maintenance				
Use a Temporary Pin	Check to allow use of a PIN for the duration set in the Authorization Cache dialog box, which is launched when Change is clicked on the Password Maintenance Options dialog box. See <u>Figure 583</u> .			
Require User to change Pin every days	Type the frequency with which the PIN needs set.			
Require User to change pin at next login	Check to require the user to create a new PIN the next time they login.			
User Pin				
Pin	Type the PIN.			
Verify Pin	Type confirmation of the PIN.			

The Pin Maintenance Options dialog displays the amount of time for which the Temporary Pin is valid.

Figure 585 - Pin Maintenance Options

Pin Maintenance Options
Pin Options Minimum Pin Length Maximum Pin Length 4
Use a temporary Pin Temporary Pin is valid for 1 hour, 0 minutes
Pin Maintenance
Require User to change Pin every 0 days
Require User to change pin at next login
User Pin
Pin
Verify Pin
OK Cancel

6. Click Change.

The Authorization Cache dialog box appears, where you can set the duration the Temporary Pin.

Figure 586 - Authorization Cache Dialog Box



- 7. Type the cache authorization duration or click Clear to clear Authorization Cache.
- 8. On the Relevance User Information page, click Change Group. See <u>Figure 568 on page 436</u>.

The Choose User Group dialog box appears, which allows you to select the Relevance User group in which to nest the user.

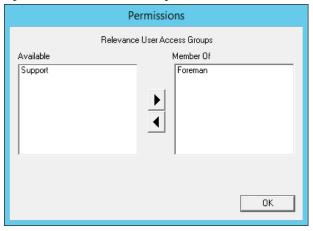
Figure 587 - Choose User Group

□- Users □K □K □Cancel □

9. Click Permissions.

The Permissions dialog box appear.

Figure 588 - Permissions Dialog Box



The user can be granted permissions by moving the desired Access Group from the Available list to the Member Of column.

The Relevance User Configuration Wizard is the same until the Windows Log In information page.

Windows Log In Information Page

Windows Log In					
Use Terminal	Configuration L	ogin Informati	on		
Same as Rel	evance User us	semame/pass	sword		
Usemame	1			Search	
Password	-		_		
Verify Password	-				
Domain	-				
Domain	4				

If you chose to assign a display client to the user by selecting the User-specific Display Clients on the Display Client Selection page (see <u>Figure 563 on</u> <u>page 431</u>), then you must provide a Windows account to start the session.

This page is not displayed if the Relevance User is selected from the Active Directory.

The Windows Log In Information page provides four session log on options.

Setting	Description
Use Terminal Configuration Login Information	Check to use the Terminal's username and password to log on the Relevance User automatically to the Remote Desktop Server. Since a different account is used at each Terminal, this does not keep a consistent session for the Relevance User.
Same as Relevance User username/ password	Check to use the Relevance User's username and password to log on to the Remote Desktop Server automatically. The Relevance User username and password must match a Windows User username and password to get authenticated by Windows. If the Relevance User is selected from the Active Directory, then this is the default behavior.
Use the Username, Password, Verify Password, and Domain fields	The Relevance User can use an alias username and password to log on to the Remote Desktop Server automatically, which allows you to tie the Relevance User account to a different Windows account. This allows you to hide the actual Windows account from the user.
Blank Username and Password fields	The Relevance User can be required to log on to the Remote Desktop Servers manually. To do this, clear the checkboxes and leave the Username, Password, and Domain fields empty. When a Relevance User logs in with their Relevance account, they are prompted to enter a valid Windows account and password.

Relevance User Groups

Relevance Users can be organized into Relevance User Groups, just as Terminals can be organized into Terminal Groups. This section shows the configuration of a Relevance User Group.

Restore	Configuration	etric Database	PXE ThinManager Server Server List Manage		Manage Access Settings Resolvers Groups Relevance
Isers =- 🤽 Relevance (+- 🧕 Adam	 Add User 	Sumn	ary Event Log	Value	
2 Mark	Add User Group Modify Rename Copy Delete	Ctrl+D	sers ogged in	3 0	
		<		DI	

Figure 589 - Add User Group Command

1. Click the User icon at the bottom of the ThinManager tree, right-click on the Relevance Users branch of the tree, and choose Add Relevance User Group.

The Relevance User Group Information page of the Relevance User Configuration Wizard appears.

Figure 590 - Relevance User Group Information Page

8	Re	levance Use	r Configurati	on Wizard	x
		oup Information ce User Group na			\mathfrak{C}
-Grou Us Pa	D Synchronizatior up Name ser Name assword enfy Password	Foremen	1	=	
Grou	qu	Password (Options Pin (Options Grou Change Gro	p Setting 「
			Permissions	L	
	« Back	Next >	Finish	Cancel	Help

Setting	Description			
AD Synchronization Group	Check to access the AD Security Group field.			
AD Security Group	e the name of the Organization Unit to which a user belongs.			
Search	Click to select a Security Group to Synchronize.			
User Name	Type the user name of your user's login. It can be a unique ThinManager user name, a Windows user name, or one listed in Active Directory.			
Password	Type the password for the user. If you are using a Windows account for the Relevance User, you should use the actual Windows password for automatic login, or leave this field blank for a manual login. If the Relevance User account is an alias for a Windows account, the password is used as the Relevance password and not the Windows password.			
Customize	Click to launch the User Description dialog box and allow custom variables to be applied to the Relevance User.			
Password Options	Click to launch the Password Maintenance Options dialog box, where you can specify password length, complexity, and longevity.			
Pin Options	Click to launch the PIN Maintenance Options dialog box, where you can specify the Personal Identification Number length, complexity, and longevity.			
Group Setting	Check to apply the setting to all members of the group.			
Change Group	Click to launch the Choose User Group dialog box, which allows you to assign the user to a group.			
Permissions	Click to apply permissions to the group.			

Active Directory Integration allows a Relevance Group to be formed and populated straight from the Active Directory. See <u>Batch Create Relevance</u> <u>Users using Active Directory OU on page 457</u>.

2. Click Permissions.

The Permissions dialog box appears.

Figure 591 - Permissions Dialog Box

	Permissions
	TermSecure Access Groups
Available Maintenance Quality Supply Technicians	Member Of Foremen
	✓ Also apply to users in group

- 3. Highlight the desired permission in the Available list and click the rightfacing arrow to move it to the Member Of list.
- 4. Highlight the group and check Also apply to users in group, which applies the permission to all group members.
- 5. Click OK to close and apply.
- 6. On the Relevance User Group Information page, click Customize.

The User Description dialog box appears, which allows a verbose description to be associated with the user account. The description is displayed in the Configuration detail pane.

Figure 592 - User Description Dialog Box

	User Des	cription	x
User Description			
			<u>^</u>
			~
Custom Variables			
Property	Value		Add
			Delete
			Edit
1			
		ОК	Cancel

Setting	Description
User Description	Type a description, which is added to the user account. The text field allows a verbose description.
Add	Click to launch the Custom Variable dialog box to add a custom variable.

Custom variables allow a single display client to be created with a custom variable as part of the path. Each user, Terminal, or location has specific data in the custom variable to modify the content that the display client delivers, which allows one display client to do the work of many.

Additionally, a custom variable can pass specific data to an application through the TermMon ActiveX.

Figure 593 - Custom Variable Dialog Box

	Custom Variable X
Name Value	
	Hide Value

Setting	Description		
Name	Type the name of the custom variable.		
Value	Type the value or content to assign to the custom variable.		
Hide Value	Check to obscure the custom variable value. Clear the checkbox to show the value.		
OK	Click to accept the changes and close the dialog box.		

7. On the Relevance User Group Information page, click Next.

The Display Client Selection page appears.

Figure 594 - Display Client Selection Page

	Relevance User	Configuration Wizard
	ay Client Selection Select "Yes" to specify Display	Clients for users in this group.
Add	I User-specific Display Clients?	Group Setting 🔽
	Yes	
	C No	

- 8. Click Yes to specify Display Clients for this user.
- 9. Click Next.

The Display Client Specification page appears.

vailable Display Clients		Selected Display Clients	oup Setting 🔽
PLC_Desktop Shadow_Any Shadow_Boiler Shadow_Line1 Shadow_Line2 ManagerOffice Packing_Machines Alams Boiler	<	ForemanOffice	
Edit Display Clients		Override	_

Figure 595 - Display Client Specification Page

- 10.Double-click the display clients in the Available Display Clients list for the group to move them to the Selected Display Clients list.
- 11. Check Group Settings.
- 12. Click Next to continue the group configuration.

The Windows Log In Information page appears.

Figure 596 - Windows Log In Information Page

		Group	p Setting 🥅
'indows Log In Informati			
Use Terminal Configur			
Same as TermSecure	User usemame/pa:	ssword	
emame			
ssword			
rify Password		_	
main			

Setting	Description
Group Setting	Check to apply setting to all members of the group.
Use Terminal Configuration Login Information	Check to allow the Relevance User to use the terminal credentials for the application.
Same as TermSecure User username/password	Check when a Windows account is used for the Relevance User account.
Username/Password/Verify Password	These are dimmed because every user needs a unique Windows account. Therefore, a group setting is not allowed.
Domain	Type the domain if domain accounts are used.

The rest of the wizard follows the Relevance User Configuration Wizard.

13. Click Next to continue or Finish to close and save the settings.



Any member of this group receives the Group Settings. Change a Group Setting and that change affects all members.

Add a Relevance User to a Relevance User Group

Relevance Users can be added to the Relevance Group.

1. Right-click on the Relevance Users branch in the ThinManager tree and choose Add User.

The Relevance User Information page of the Relevance User Configuration Wizard appears.

8	Re	levance User Configuration	Wizard	
	nce User Ini er Relevance (formation usemame, password and permission inf	formation.	9
☐ Activ	ve Directory Us	er		
Releva	ance User Info	mation		_
User	Name	Jimmy		
Pass	word			
Verifi	y Password			
Group		Password Options Pin Opti	Change Group	
Carry	Settings			_
Copy 3		ttings from another User	Copy From	
		Permissions		
	« Back	Next> Finish	Cancel Hel	,

Figure 597 - Relevance User Information Page

- 2. Type a name for the Relevance User in the User Name field.
- 3. Click Change Group.

The Choose User Group dialog box appears.

Figure 598 - Choose User Group Dialog Box

Choose User Group
Image: Users OK Image: Foremen Cancel

4. Highlight your Relevance Users Group and click OK to close the window and accept the changes.

The Relevance User Group is displayed in the Group field.

Figure 599 - Relevance User Group Displayed

	nce User Info	evance User Configuration Wizard ormation semame, password and permission information.	\otimes
	e Directory Use nce User Infor		
User	Name	Jimmy	
Pass	word	*****	
Verify	Password		
Group	Foremen	Password Options Pin Options Change Group	
-Copy S		tings from another User Copy From	
		Permissions	
	« Back	Next > Finish Cancel H	elp

5. Click Finish to accept the configuration.

Once a Relevance User has joined a group, the user is displayed in the tree under the group.

Figure 600 - Group Membership

Firmware imware ackage Packages	Boot Loader	Licenses TermCap Database Licensing TermCap Reports			
iers	DODITINES	Config Schedule	Event Log Report		
- 🤱 TermSecure Use	15	Attribute	Value		
🕀 👤 Adam Brow	n	User Description Properties Disclose Clients	None ForemanOffic		
		Display Clients	Foremanumic	e	
		Manual Login Card / Badge Login Biometric Login			-

Batch Create Relevance Users using Active Directory OU

You can create Relevance Users in a batch by either selecting one Windows Security Group or multiple Active Directory organizational units (OU). This is so because a user can only reside in one OU, but they can be members in multiple Security Groups. Limiting to a single Security Group prevents duplicate accounts.

1. Choose Manage>Active Directory>Settings.

The Active Directory System Settings dialog box appears.

Figure 601 - Active Directory System Settings

8	2 🖬 0 🥐 🖏	÷	ThinManager			x
	dit Manage	Install Tools	View Remote View Help		_	
Packages	Restore Backup	Restore Biometric Data Backup Biometric Data Synchronize nfiguration		Manage Synchronize Accounts Passwords Active Directory	Manage Access Settings Resolvers Groups Relevance	
Jsets		10	Config Schedule Event Lo	g Report		
🖃 🤶 Rel	evance Users	Attri	bute	Value		^
	Foremen		Active Directo	ry System Settings	X	
ı ک ک	Adam Brown	🔽 Ena	able Active Directory Integration			
2	Mark	Active	e Directory Default Password Settings	5		
- 2	pburns		Password Change Interval	1		
			Minimum Password Length	20		
			Maximum Password Length	60		
		Active	e Directoy Synchronization Mode			
		Ch	noose AD Synchronization Mode	Security Group	·	
			Synchronize every	1 minutes		
				Start Sync Now		
No/		0 »		ОК	Cancel	~
×		\$				>



Active Directory	System Settings
✓ Enable Active Directory Integration	
Active Directory Default Password Settings	
Password Change Interval	1
Minimum Password Length	20
Maximum Password Length	60
Active Directoy Synchronization Mode	
Choose AD Synchronization Mode	Organizational Unit
Synchronize every	1 minutes
	Start Sync Now
	OK Cancel

2. From the Choose AD Synchronization Mode pull-down menu, choose either Organizational Unit or Security Group.

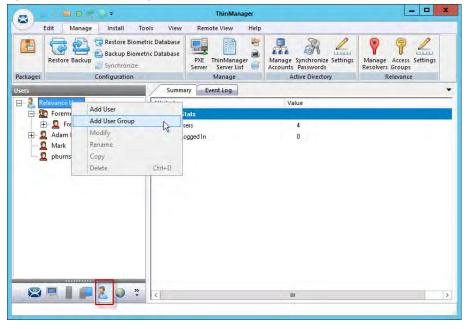
This manual shows the batch creation of Relevance Users using Active Directory Organizational Units.



Since a user can be in several Windows Security Groups, but only one Organizational Unit, you can only select one Windows Security Group as a Relevance User Group, but you can add many Organizational Units.

3. Click OK to close.

Figure 603 - Add User Group Command



Relevance User Groups are defined using the Relevance User Configuration Wizard.

- 1. Click the User icon at the bottom of the ThinManager tree.
- 2. Right-click on the Relevance Users branch and click Add User Group.

The Relevance User Configuration Wizard for the Relevance User Group appears.

Figure 604 - Relevance User Group Information Page

Relevance User Configuration Wizard	Relevance User Configuration Wizard
Relevance User Group Information Enterthe Relevance User Group name	Relevance User Group Information Erter the Relevance User Group name.
C AD Synchronization Group	AD Synchronization Group Group Name
User Name Password Verly Password	Organizational Unit
Customize Password Options PIN Options Ginup Seeing	Customer
Group	Grange Grange Grange
Persuscent	Permagona
chap Walts cent Cancel Help	Tance Help

3. Check AD Synchronization Group.

The User Name field becomes an Organizational Unit field.

R	Relevance User Configuration	on Wizard
	ance User Group Information ter the Relevance User Group name.	×
	Synchronization Group p Name	
	Security Group	Search
	Customize Password Options Pin O	ptions
Grou		Change Group
Please	Permissions	1
	Kew Finish	Cancel Help

Figure 605 - Relevance User Group Information Page

4. Click Search.

The Select AD Location to Search dialog box appears, which lists the Organizational Units for the domain that the ThinManager Server is a member.

Figure 606 - Select AD Location to Search

Select AD Loca	ation to Search	x
Education.local B - ACP_Education Computers Domain Controllers F-ForeignSecurityPrincipals H-Innibal B - LocationAccounts B - Managed Service Accounts B - Program Data S - Station01 B - System B - TestOU_01 B - Users		
	ОК	Cancel

5. Highlight the desired Organizational Unit and click OK.

The Relevance User Group appears in the Organizational Unit field.

Figure 607 - Relevance User Group

AD Synchronizatio	n Group	
iroup Name	Hannibal	
nyanizationai UNIC	J. ICH HALVOI	Search
Customize	Password Options	
iroup		
1		Change Group

6. Select Next.

The Display Client Selection page appears.

Once a Relevance User Group is created, Group Setting appears on each page.

Figure 608 - Group Settings

	Relevan	nce User Con	figuration	Wizard	
Display Client Selection Select "Yes" to specify Display Clients for users in this group.					۶
				Group Setting	g 🔽
Add I	Jser-specific Displa	ay Clients?			
	Yes				
	C No				

7. Check Group Setting to apply the setting to all members of the group, which speeds configuration.

8. Click Finish now or click Next to complete the entire wizard.

Once you click Finish, the Relevance User Group is created. Depending on the Active Directory size, it may take some time to populate the Relevance User Group.

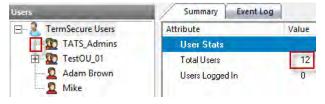
Figure 609 - Hannibal Relevance User Group

	ThinManager
	ools View Remote View Help
Restore Backup Packages Configuration	
Users	Config Schedule Event Log Report
🖃 🤶 Relevance Users	Attribute Value
E Soremen	Identification
🖨 🌇 Hannibal	Name Hannibal
Becky Thatcher Huck Finn Mark Twain Tom Sawyer Adam Brown HML2 Mark pburns	User Description None
🙁 📃 📔 📕 🤱 🕥 😤	۲ (U)

Once populated, all members of the Organizational Unit appear as members of the Relevance User Group.

Users added to AD are populated to the ThinManager tree. Users deleted from AD are removed from the ThinManager tree.

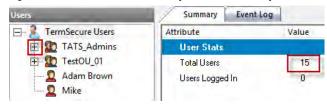
Figure 610 - Relevance User Group Created but Not Populated



When the Relevance User group is first created, it does not have an expansion box and the user count does not increase.

9. Highlight the Relevance User branch in the ThinManager tree to monitor the Total Users count to see if the users are created.

Figure 611 - Relevance User Group Created and Populated



Once ThinManager has imported the Relevance Users, the user count increases and the expansion box appears.

Password and Account Management

ThinManager has tools to manage domain accounts and passwords.

Active Directory

Manage Accounts Management

The first tool is the Manage Accounts tool.

1	Manage Install Tools View Restore Biometric Database Backup Bockup Biometric Database Synchrönize Configuration	PXE ThinManager	Manage Synchronize Settings Accounts Passwords	 Manage Resolvers Access Groups Settings Relevance
ickages	configuration	Manage	Active Directory	Relevance
mīnals — 💻 Terminals	Ma	anage Active Directory	Accounts	x W Report
Produ	Active Directory Accounts			
	Username	Managed by ThinManager	Password Synchronized La	ast Pass A
⊟ - <mark>≣</mark> 1_Terr	loc_user01@education.local loc_user02@education.local test01@education.local	NO NO NO NO	N/A 0: N/A 0: N/A 0:	5/12/15 2/19/16 2/19/16 2/03/16
	test04@education.local test05@education.local	NO NO NO	N/A 0: N/A 0:	2/03/16 2/03/16 2/03/16 ≡ 3/11/16
Andro	test02@education.local admin2@education.local		N/A 0: N/A 0:	2/03/16 2/03/16 3/10/16 3/11/16
	bthatcher@Education.local mtwain@Education.local tsawyer@Education.local	NO NO NO	N/A 0: N/A 0:	2/03/16 2/03/16 2/03/16
	Edit Remove	III Convert		Cancel

1. Choose Manage>Manage Accounts.

The Manage Active Directory Accounts dialog box appears, which lists all the AD user accounts that are referenced in ThinManager.

Figure 613 - Password Maintenance Options Dialog Box

	Manage Active Directory Accounts	x
Active Directory Account Username user 1@education.loc loc_user01@education loc_user02@educatio	Allow ThinManager to manage password Use System Default Password Settings Password Complexity Requirements	d Last Pass ^ 05/12/15 02/19/16 02/19/16
test01@education.lo test03@education.lo test04@education.lo test05@education.lo hfinn@education.loci	Minimum Password Length 20 Maximum Password Length 60 Password Maintenance	02/03/16 02/03/16 02/03/16 02/03/16 03/11/16 02/03/16
test02@education.lo admin2@education.lc hannibal bthatcher@Education mtwain@Education.lc tsawver@Education.lc	Rotate Password every 0 days Re-Sync Account	02/03/16 03/10/16 03/11/16 02/03/16 02/03/16 02/03/16
Edit	OK Cancel	Cancel

2. Double-click on an account.

The Password Maintenance Options dialog box appears, where you can have ThinManager manage the account's password.

Figure 614 - Password Maintenance Options

Password Maintenanc	e Options 🛛 🗙
 Allow ThinManager to manage passwor Use System Default Password Settings 	
Password Complexity Requirements Minimum Password Length Maximum Password Length	21 60
Password Maintenance	
Rotate Password every	0 days
	Re-Sync Account
0	K Cancel

3. Check Allow ThinManager to manage password to add the account to the list of managed accounts with which you can use the system defaults.

Clear the Use System Default Password Settings checkbox to customize the password settings.

Setting	Description
Minimum Password Length	The minimum number of characters a password can have.
Maximum Password Length	The maximum number of characters a password can have.
Rotate Password every days	The number of days in which the password must be changed.

4. Click OK to accept the changes, or click Cancel to close and not save.

On the Manage Active Directory Accounts dialog box, the account is displayed as a managed account.

Figure 615 - Manage Active Directory Accounts

Username	Managed by ThinManager	Password Synchronized	Last Pass
user1@education.local	NO	N/A	05/12/15
loc_user01@education.local	NO	N/A	02/19/16
loc_user02@education.local	NO	N/A	02/19/16
test01@education.local	NO	N/A	02/03/16
test03@education.local	YES	NO	02/03/16
test04@education.local	NO	N/A	02/03/18
test05@education.local	NO	N/A	02/03/16
	NO	N/A	03/11/16
hfinn@education.local	NO	N/A	02/03/16
test02@education.local	NO	N/A	02/03/16
admin2@education.local	NO	N/A	03/10/16
hannibal	NO	N/A	03/11/16
bthatcher@Education.local	NO	N/A	02/03/16
mtwain@Education.local	NO	N/A	02/03/16
tsawver@Education.local	NO	N/A	02/03/16
<	10		>

Convert Accounts

Domain accounts that were used in previous versions of ThinManager can be converted to a managed account with the Convert function.

Figure 616 - Legacy Domain Log In

Password		rmSecure User Configuratio	on moura
Use Terminal Configuration Login Information Same as TermSecure User username/password Username pburns Search Password Password Pomain education Jocal Verify			n
Same as Tem/Secure User username/password Jsername pburns Password	Windows Log I	n Information	
Usemame pbums Search Search Domain education Jocal Venfy			
Password	Same as Te	rmSecure User username/password	
Domain education Jocal Verify	Usemame	pbums	Search
	Password	J	
Password Options	Domain	education.local	Verify
			Password Options
	< Back	Next > Finish	Cancel He

<u>Figure 616</u> shows a domain account that was entered in an earlier version of ThinManager that did not have Active Directory integration.

Figure 617 - Manage Active Directory Accounts

Username	Managed by ThinManager	Password Synchronized	Last Passwo
test02@education.local	NO	N/A	04/24/15 15
test01@education.local	YES	YES	05/12/15 2:
test03@education.local	NO	N/A	04/24/15 15
test04@education.local	NO	N/A	04/24/15 15
administrator@Education.local	NO	N/A	04/14/15 17
pburns@education.local	NO	N/A	04/03/15 11
user5@education.local	NO	N/A	05/12/15 21

1. Choose Manage > Manage Accounts.

The Manage Active Directory Accounts dialog box appears.

2. Highlight the legacy account and click Convert.

The Convert Accounts to Managed Accounts dialog box appears.

C	onvert Accounts to Managed	Accounts	×
Unmanaged Accounts			
Account	Status		
pburns@education.local			onvert
		Password	Options
<	W		ОК

Figure 618 - Convert Accounts to Managed Accounts

- 3. Highlight the legacy account and click Convert.
- 4. The Manage Active Directory Accounts dialog box shows that the account is now managed by ThinManager. See <u>Figure 619 on page 465</u>.

Figure 619 - Manage Active Directory Accounts

Username	Managed by ThinManager	Password Synchronized	Last Passwo
test02@education.local	NO	N/A	04/24/15 15
test01@education.local	YES	YES	05/12/15 21
test03@education.local	NO	N/A	04/24/15 15
test04@education.local	NO	N/A	04/24/15 15
administrator@Education.local	NO	N/A	04/14/15 17
pburns@education.local	YES	NO	04/03/15 11
user5@education.local	NO	N/A	05/12/15 21

5. Double-click on a legacy domain account.

The Password Maintenance Options dialog box appears for that account.

Figure 620 - Password Maintenance Options

Password Maintena	nce Options 🛛 🗙
 Allow ThinManager to manage pass Use System Default Password Setting 	
Password Complexity Requirements—	
Minimum Password Length	20
Maximum Password Length	60
Password Maintenance	
Rotate Password every	0 days
	Re-Sync Account
	OK Cancel

6. Check Allow ThinManager to manage password to add the account to the list of managed accounts with which you can use the system defaults.

Clear the Use System Default Password Settings checkbox to customize the password settings.

Setting	Description
Minimum Password Length	The minimum number of characters a password can have.
Maximum Password Length	The maximum number of characters a password can have.
Rotate Password every days	The number of days in which the password must be changed.
Re-Sync Account	Launches the Synchronize Active Directory Account dialog box, which allows you to re-synchronize the password in ThinManager with the password in the Active Directory.

7. Click OK to accept the changes or click Cancel to close without saving.

Synchronizing the Active Directory account requires a Domain Administrator password.

Figure 621 - Synchronize Active Directory Account

Synchronize Active Directory Account	x
Active Directory Admin Account	
Password	
I Auto-Generate Password	
New Password	
OK Cancel]

- 8. Enter domain admin credentials.
- 9. Check Auto-Generate Password to have ThinManager automatically create a password.

Clear the Auto-Generate Password checkbox to enter your own password in the New Password field.

10.Click OK to synchronize the password or click Cancel to close without saving.

An acknowledgment dialog box appears, which indicates a successful synchronization.

Figure 622 - Password Reset Dialog

Sync	hronize Active Directory Account	x
Active Director	y Admin Account	
Username	Password Reset	
Password	Password set successfully	
🗌 Auto-Ger		
New Passwo	ОК	
	OK Cancel	

Synchronize Password

1. Choose Manage>Synchronize Passwords.

The Synchronize Active Directory Passwords dialog box appears, which allows the synchronization of passwords for many accounts at once.

Figure 623 - Synchronize Active Directory Passwords

Restore Backup	Install Tools View Restore Biometric Database Backup Biometric Database Synchronize	Remote View Help	age Synchronize Settings	 Manage I Access Gr Settings 		
Packages	Svno	chronize Active Directory P	asswords	x	ice	_
ermīnals					dow	
- 💻 Terminals	Select Accounts to Synchronize Pas	sswords				
+ D Production	Username	Managed by ThinManager	Password Synchronized	Last Pa		
- ■ 1_Terminal (@	user 1 @education.local loc_user 0 2 @education.local loc_user 0 2 @education.local test 0 1 @education.local test 0 3 @education.local test 0 3 @education.local test 0 5 @education.local test 0 5 @education.local dmin 2 @education.local test 0 2 @education.local that ther @Education.local that wain @Education.local taswyre @Education.local taswyre @Education.local	NO NO	NO NO NO NO NO NO NO NO NO NO NO NO NO N	05/12/ 02/19/ 03/21/ 03/21/ 03/21/ 03/21/ 03/21/ 03/21/ 03/21/ 03/21/ 03/21/ 03/31/ 02/03/ 02/03/ 02/03/ 02/03/ 02/03/		
8 2 1 1	< ✓ Generate Passwords Password	01	Set P	asswords OK		>

2. Click Set Passwords.

The Active Directory Domain Administrator dialog box appears.

Active Directory Domain Administrator Log In

Username		Managed by ThinManager	Password Synchronized	Last Pa
user 1@educati	ion.local	NO	NO	05/12/
oc_user01@ed	ducation.local	NO	NO	02/19/
oc_user02@ed		NO	NO	02/19/
est01@educa	tion.local	NO	NO	03/21/
est03@educa	tion.local	NO	NO	03/21/
est04@educ	Activ	e Directory Domain Admi	nistrator	03/21/
est05@educ	Activ	e Directory Domain Admi	listrator	03/21/
				03/31/
nfinn@educa	User Name		OK .	02/03/
est02@educ		,		03/21/
admin2@educ	- ·		Cancel	03/10/
nannibal	Password			03/31/
thatcher@E				02/03/
ntwain@Educ				02/03/
sawyer@Educ		NO	NO	02/03/
burns@educa	ition.local	NO	NO	03/21/
<		Ш		>
-				
Generate Pa	sswords		Set Do	sswords

This action requires a Domain Administrator account.

Figure 624 - Active Directory Domain Administrator Log In

Active	Directory Domain Administ	rator
User Name	administrator@education	OK
Password	*******	Cancel

3. Type the credentials in the appropriate fields and click OK.

Figure 625 - Synchronizing Passwords

Synchronizing Passwords	
✓ Setting password for test01@education.local	
	-
ОК	

The selected accounts have their passwords synchronized between ThinManager and the Active Directory.

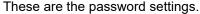
Settings

1. Choose Manage>Settings (Active Directory).

The Active Directory System Settings dialog box appears, which contains the settings for the passwords.

- 🗆 X 🖉 🖻 o 🛃 🜍 🕫 ThinManager 8 Edit Manage Install Tools View Remote View Help Restore Biometric Database Manage Synchroniz Accounts Password -Manage Resolvers ۲ P Access Groups Restore Backup PXE ThinManager Server Server List Settings Settings Packages Configuration Manage Active Directo Delava Configuration Modules Schedule Properties = Event Log Shadow E 📃 Terminals Active Directory System Settings 🕀 🧾 Production - 🗐 1_Terminal (@2_Tab 🔽 Enable Active Directory Integration 🕀 💻 2_Terminal - Active Directory Default Password Settings 🛨 💻 3_Terminal 1 Password Change Interval 🕀 💻 5_iPad 🗄 💻 6_Terminal Minimum Password Length 20 🛨 💻 Android_7 60 Maximum Password Length 🕂 💻 iPad06 GT1 Active Directoy Synchronization Mode -Organizational Unit Choose AD Synchronization Mode Synchronize every minutes Start Sync Now Cancel OK 🙁 📃 🛔 📁 🤱

Figure 626 - Active Directory System Settings



Setting	Description	
Password Change Interval	The number of days before the password must be changed.	
Minimum Password Length	The minimum number of characters a password can have.	
Maximum Password Length	The maximum number of characters a password can have.	
Choose AD Synchronization Mode	Use with batch creation of TermSecure Users. You can generate users from one Windows Security Group or multiple Organizational Units.	
Synchronize every minutes	Type how frequently ThinManager synchronizes with the Active Directory. Password communication is encrypted for security.	
Start Sync Now	Manually start the synchronization between the ThinManager Server and the Active Directory.	

Shortcut Method to Add Relevance Access Groups

Quickly add members to Relevance Access Groups through the Relevance Access Group Wizard.

1. Choose Manage> Access Groups from the ThinManager menu.

The Access Groups dialog box appears.

Figure 627 - Access Groups Dialog Box

	Access Groups
Unrestricted All Users All Terminals All Locations Maintenance Domain Admins Supply Quality Foremen Technicians	OK Edit Add Delete Calc Permissions
1	

Relevance Access groups can be added, deleted, or edited by highlighting the access group and selecting the appropriate button.

2. Highlight the desired Relevance Access Group and click Edit.

The Access Group dialog box appears.

Figure 628 - Access Group Dialog Box

Access Group			
Enter Group Name	Foremen Select Windows Security Group	OK Cancel	
		Edit Members	

3. Click Edit Members.

The Access Group Members dialog box appears.

Figure 629 - Access Group Members

Access Group Members					
C Terminals			Users	C Locations	OK Cancel
Relevance Us	er Name	Path			Add

4. Click Terminals, Display Clients, or Users to configure that category and click Add.

The Select Relevance User dialog box appears, with a tree of the configured Relevance Users and Relevance User groups.

Figure 630 - Select Relevance User

5. Highlight the desired Relevance User and click OK for each addition.

The Access Group Members dialog box shows the members of the Relevance Access Group.

Figure 631 - Access Group Members

	Ad	cess Group N	lembers	×
C Terminals	C Display Clients	☞ Users	C Locations	OK Cancel
Relevance Us	er Name Pa	h		Add

6. Highlight the members of the Relevance Access Group and click Remove to remove members.

Display Clients and Relevance Users can be added by the same process of adding.

Relevance User Schedule

Relevance Users and Relevance User Groups have a schedule on the User Options page of the Relevance User Configuration Wizard.

Figure 632 - User Options Page

8	TermSecure User Configuration Wizard	
	r Options Select options for this user.	×
Log	g In / Log Out Options	1
R	activity Timeout 120 seconds Reset Sessions at Logout IT ictivate Display Client at Log In IV	
	er Schedule Schedule	
1 2 2	minal Effects Finable Terminal Effects	
A	adowing low terminal to be shadowed YES 💽 Allow Interactive Shadow	
<	Back Next> Finish Cancel He	lp

1. Check Set Schedule and click Schedule.

The Event Schedule dialog box appears, which lists events for the Relevance User or Relevance User Group.



The Schedule for Relevance User Groups feature is the same as for individual Relevance Users. The advantage of the Schedule for Relevance User Groups feature is that it allows you to apply scheduled events to a whole group of users rather than the requirements to configure each event for each user.

Figure 633 - Event Schedule

	Event Sc	hedule	x
Event Type Disable User Enable User	Time every Friday at 09:00 PM every Monday at 06:00 AM		
Add	Edit	Delete	ОК

Setting Description

Add	Launches a Schedule dialog box, which allows an event to be configured.
Edit	Allows a highlighted event to be changed.
Delete	Removes a highlighted event.
OK	Accepts changes and closes the Event Schedule dialog box.

2. Click Add.

The Schedule dialog box appears, which has several configuration settings.

Figure 634 - Schedule Dialog Box

Schedule
Event Type
Disable User
Repeat Interval
C Once Only C Time Interval
Weekly / Daily C Monthly C Yearly
Weekly Schedule
Monday
Tuesday Every Day
🔲 Wednesday
Thursday
🔽 Friday
🗖 Saturday
🗖 Sunday
Time 3:00 PM
Cancel

Setting	Description	
Event Type	Choose an event from the pull-down menu.	
Disable User	Prevents a user login through Relevance, or disconnects a session.	
Enable User	Allows a user to become active again.	
Repeat Interv	val	
Once Only	Shows a Select Date field for the event.	
Weekly/Daily	Shows a Weekly Schedule list for the event to run. The Every Day button selects all the days in the list.	
Monthly	Shows a Select Day of Month field for the event.	
Yearly	Shows a Select Date field for the event.	

Time Allows the selection of the time that the event should occur.

- 3. Click OK to close the Schedule dialog box.
- 4. On the Event Schedule dialog box, click Add to add another event to the Event Schedule or click OK to close the Event Schedule window and return to the Terminal configuration.

Card Readers and Fingerprint Scanners

Card and Badge Configuration for a Relevance User

ThinManager has the ability to use Prox (proximity) cards for Relevance logins, which requires these actions.

- Add a card reader to the ThinManager-ready thin client
- Add the card reader module to the Terminal configuration
- Associate the card number to the Relevance User configuration

ThinManager has support for the RF Ideas Inc. serial RDR-6081AK2 pcProx card reader and the USB RDR-6081AKU and RDR-80582AK0 pcProx card readers (www.rfideas.com).

Configure a Terminal with the Card Reader Module

1. Double-click on the Terminal in the tree.

The Terminal Configuration Wizard appears.

2. Click Next until the Module Selection page appears.

Figure 635 - Module Selection Page

8	Tern	ninal Configuration Wizard	×
	e Selection lect the modules that le	pad on this terminal at boot up.	\approx
	Inst	alled Modules	
Modu	le		
1		Mava Up	Move Down
	\dd	Configure.	Remove
	< Back Ne	ext > Finish Car	ncel Help

- 3. Click Add.
- 4. The Attach Module to Terminal dialog box appears.

Figure 636 - Attach Module to Terminal

Attach Module to Terminal			
Module Type	Relevance Show Adv	vanced Modules	
Bluetooth Module DigitalPersona UareU Fingerprint RF Ideas pcProx Module RF Ideas pcProx USB Module RFIdeas pcProx USB Module			
TermMon ActiveX Configuration Module USB Flash Drive Module			
	[]		
	OK	Cancel	

5. Choose Relevance from the Module Type pull-down menu.

6. Highlight an RF Ideas pcProx Module and click OK.



- Use the RF Ideas pcProx Module for serial devices.Use the RF Ideas pcProx USB Module for USB devices.
- 7. Click OK to attach the module to the Terminal.

The module can be configured once it is attached to a Terminal.

Figure 637 - Module Selection

8	Terminal Configuration Wizard
Module Se Select t	enction emodules that load on this terminal at boot up.
_	Installed Modules
Module RF Ide	pcProx Module
1	Move Up Move Down
Add	Configure Remove
_	ack Next > Finish Cancel Help

8. Highlight the RF Ideas pcProx Module and click Configure.

The Module Properties dialog box appears.

Figure 638 - Serial pcProx Card Module Properties

	Module Properties	x	
Port	COM1	•	
Number of Data Bits	26	•	
Use Facility Code	YES	•	
Allow Manual Logon	YES	•	
Prompt for Password	NO	•	
Zero Pad Facility Code and ID	NO	•	
Set to Default			
		Done Cancel	

The RF Ideas Serial pcProx Module has parameters that can be configured.

Setting	Description
Port	Choose the port on which the serial RF Ideas pcProx card reader is installed.
Number of Data Bits	Different cards use different numbers of data bits in their format. Sets the number of data bits to match that used by the card as an identifier. The choices are 26, 37, or Raw.
Use Facility Code	Set to Yes to add the card's Facility Code to the Card/Badge ID number.
Allow Manual Logon	Set to Yes to allow a Relevance User to log in to a Terminal without a TermSecure ID device. Set to No so TermSecure users must use a TermSecure ID device to log in.
Prompt for Password	Set to Yes to require a TermSecure User to enter their password for access even if the password is configured in ThinManager.
Zero Pad Facility Code and ID	Adds a leading 0 to the Facility Code if needed.



The USB RDR-6081AKU does not have the Facility Code option. Do not use the Facility code on serial pcProx card readers if you are using a mix of both USB RDR-6081AKU and RDR-6081AK2 serial devices.

Figure 639 - USB pcProx Card Module Properties

Module Properties			
Model	RDR-6081AKU	-	
Mode	TermSecure		
Bits in ID Number (AK0 Only)	16		
Bits in Facility Code (AK0 Only)	8		
Zero Pad Facility Code and ID (AK0 Only)	NO		
Allow Manual TermSecure Logon	YES 💌		
Prompt for TermSecure Password	NO 💌		
Expose Card ID to TermMon ActiveX Contro	ND 🗸		
·			
Set to Default			
1	Done Cancel		

The RF Idea	as USB pcProx	Module has para	meters that can	be configured.

Setting	Description
Model	Choose from these different USB pcProx card readers. RDR-6081AKU RDR-6011AKU RDR-80582AKO RDR-80082AKO
Mode	Choose from TermSecure, Wedge, and TermMon modes.
TermSecure Mode	Allows the card to be used with TermSecure as a login device.
Wedge Mode	Allows the data to be sent to the session as a character string.
TermMon Mode	Allows the data to be sent to the TermMon ActiveX.
Bits in ID Number (AKO Only)	Different cards use different numbers of data bits in their format. Sets the number of data bits to match that used by the card as an identifier.
Bits in Facility Code (AKO Only)	Different cards use different numbers of data bits in their format. Sets the number of data bits of the Facility Code.
Zero Pad Facility Code and ID (AKO Only)	Adds a leading zero to the Facility Code if needed.

Setting	Description
Allow Manual TermSecure Logon	Set to Yes to allow a Relevance User to log in to a Terminal without a TermSecure ID device. Set to No so TermSecure users must use a TermSecure ID device to log in.
Prompt for TermSecure Password	Set to Yes to require a TermSecure User to enter their password for access even if the password is configured in ThinManager.
Expose Card ID to TermMon ActiveX Control	Allows the card data to be sent to the TermMon ActiveX without incorporating TermSecure.

To configure a parameter, follow these steps.

- 1. Highlight the parameter.
- 2. Change the value.
- 3. Click Done to accept the changes.

Once the Terminal has the module added, restart it to apply the changes.

4. On the Module Selection page, click Finish.

The Terminal Configuration Wizard closes.

5. Right-click on the Terminal in the ThinManager tree and choose Restart.

Configure ThinManager for Automatic User Configuration

A card reader can be used to associate cards with TermSecure Users using wizards.

1. Choose View>Options from the ThinManager menu.

The Options dialog box appears.

Figure 640 - Options Dialog Box

Options	x	
General Options Display "Create New Terminal" dialog for unknown terminals. Display "Create New User" dialog for unknown users.		
Icon Options		
License Options Warn if license will expire within 10 day(s). A value of 0 disables warning.		
OK Cancel		

- 2. Check Display "Create New User" dialog for unknown users.
- 3. Click OK to accept the change.

Now, when an unknown ID device (USB key or ID card) is read by a Terminal, the Relevance User Configuration Wizard appears. Also, when a new ID is scanned or an undefined USB key is inserted, the Enter Card/Badge ID number is automatically populated in the Relevance User Configuration Wizard.

Automatically Apply the Card to a Configuration

Once ThinManager has Display "Create New User" dialog for unknown users checked, a card scanned on a Terminal can be used to associate cards with Relevance.

1. Pass an HID card over the card reader on the Terminal.

The Relevance User Configuration Wizard appears.

Figure 641 - Card/Badge Information

8	Relevance User Configuration Wizard	x
	Replacement ssign this card number to an existing user or create a new user	st
	New Card Number : 18354074	
	"Assign Card Number to Existing User" to replace the card number of an g user. To create a new user click "Next".	
	Assign Card Number to Existing User	
	TermSecure User to replace:	
	<pre></pre>	elp

Once the card reader has scanned an unknown Prox card, a Relevance User Configuration Wizard is launched associated with the new card number.

2. Click Assign Card Number to Existing User.

The Relevance User Replacement page appears.

3. Click Next if you want to create a new Relevance User for this card instead of associating it with a previously created TermSecure User.

The User Replacement Page allows you to select an existing Relevance User to associate the card.

Figure 642 - User R	eplacement Di	ialog Box
---------------------	---------------	-----------

4. Select a Relevance User from the tree and click OK.

The Relevance User Information page for the selected user appears.

Figure 643 - Relevance User Configuration Wizard

8	Re	elevance User Configura	tion Wizard
	r Relevance	formation usemame, password and permiss	sion information.
Active	e Directory Us	ser	
Relevar	nce User Info	mation	
AD U	ser Name	Paul Bums	
-Group -		Customize Password Dptions Pir	n Options Change Group
	1		
Copy Se		ttings from another User	Copy From
		Permissions	5
-	« Baok	Next > Finish	Cancel Help

The Password and Permissions can be modified at this time if it is not an Active Directory user.

5. Click Next.

The Card/Badge Information page appears with This user will use a card or badge to login checked.

The serial number of the HID card is populated to the Enter Card/Badge ID number field.

Figure 644 - Card/Badge Information Page

8	Relevance User Configuration Wizard
	/ Badge Information nter card/badge information if user has one.
	/ Badge Login This user will use a card or badge to log in Enter Card/Badge ID number [185345] Prompt for Password
Biom	Prompt for Pin etric Login
Mar	Prompt for Password Prompt for Pin
Man	Prompt for Password Prompt for Pin
1	< Back Next > Finish Cancel Help



Click Prompt for Password or Prompt for Pin for the Card/Badge Login, the Biometric Login, or a Manual Login to require a secondary credential.

Setting	Description
Prompt for Password	Check to require the user to enter their password.
Prompt for Pin	Check to require the user to enter their PIN.

6. Click Finish to accept the changes.

The card can now be used to login at Terminals configured with card readers.

Manually Apply the Card to a Configuration

Although the easiest method for assigning a card or badge is automatic as described in the previous section, ThinManager can be configured for manual entry.

To configure a Terminal to allow a device, follow these instructions.

1. In the Options dialog box, clear the Display "Create New User" dialog for unknown users check box to manually complete the Enter Card/Badge ID number field. You can find the Card/Badge ID number in the event log.

- 2. Turn the Relevance User Event Log on in the ThinManager Server Configuration Wizard.
- 3. Have the appropriate hardware on the Terminal, either a USB or Serial ProxCard reader.
- 4. Add the appropriate module.
- 5. Use the device once to have the device's identifier entered to the event log.
- 6. Open the Relevance User Configuration Wizard and enter the ID number to tie the Relevance User to the device.
- 7. Login with the ID device.

Event Log

The Event Log is configured in the ThinManager Server Configuration Wizard.

- 1. Click the ThinManager Server icon to access the ThinManager Server branch of the ThinManager tree.
- 2. Double-click on the ThinManager Server icon or choose Edit>Modify from the menu to open the ThinManager Server Configuration Wizard.
- 3. Click Next until the Historical Logging page appears.

Figure 645 - Historical Logging Page

@ (B O F U =_	ThinManager	X
Edit Manage In	ThinManager Server Configuration Wizard	
Interactive Send Keys Scaled to Window Zoom In Go Full Screen Zoom Out	Historical Logging Select the items to log and how long to maintain the logged information.	
Shadow	Historical Data	
ThinManager Server	Maintain Historical Log for days	nchronization Event Log 🔻
E- X ThinManager Servers	Clear History	onRDP02a
	Event Log Maintain Event Log for 7 days Choose events to log	8
	✓ ThinManager Server Start/Stop Events ✓ Terminal Server Monitor Connection Events ✓ Terminal Monitor Connection Events ✓ Terminal Configuration Change Events ✓ User Configuration Change Events ✓ Hormical Enstallation Events ✓ Termicap Database Installation Events ✓	'n
	Clear Event Log	
	< Back Next > Finish Cancel Help	

All events can be selected to be logged, but the Relevance User Configuration changes checkbox is critical to the TermSecure Device detection.

4. Check Relevance User Configuration changes and click Finish.

Device Identifier Number

Next, the HID card needs to be scanned to help find the ID number.

1. Pass the HID card over the pcProx Card scanner attached to a Terminal.

A TermSecure dialog box is displayed.

Figure 646 - TermSecure Dialog Box

Relevance Message
18354075 Is Not a Valid User ID
OK

The ID device does not work; so, the Terminal sends a message with the ID device's identifier number.

2. Record the number displayed.

This number is also entered in the event log if the Terminal Events are checked in the ThinManager Server Configuration Wizard.

- 3. Open ThinManager.
- 4. Highlight the Terminal in the tree and click the Event Log tab.

The ID for the device is entered in the log.

Figure 647 - ThinManager Event Log

		Thi	nManager					
Edit Manage	Install Tools	View Remote Vi	ew Help	_				
Status Bar Show Connected Only Coptions	Application Tabs	Disable Tab Reorderin	ng 🔯	4				
Interface	1	heme	Reports	Print				
erminals		Configuration	Modules	Schedule	Properties	Event Log	Shadow	
🔲 Terminals		Event			User		Time	
+ D Production	1	Login attempt failed for	ard id 183540	74			Fri Apr	1 17:29
Innand	D. 10	Session Established on	Server Gold44	for Display Clie	nt HML 1		Fri Apr	1 17:29
🕀 🗾 1_Terminal (@1_	Desk)	Received Configuration						1 17:29 5
🕀 💻 2_Terminal	100 C	Monitor Connection Est	ablished	Se corre			Fri Apr	1 17:29
🕀 💻 3_Terminal		Terminal successfully a	uthorized to boo	ot .			Fri Apr	1 17:28
🕂 💻 4_Spare		Monitor Connection Los	t				Fri Apr	1 17:28
🕂 💻 5 iPad		Restart Terminal			Adminis	rator	Fri Apr	1 17:28
and the second s		Login attempt using bior	netric reader fai	led			Fri Apr	1 17:17
🕀 💻 6_Terminal		User Pburns logged off					Fri Apr	1 17:17
🕀 💻 Android_7		Login attempt using bior	metric reader fai	iled			Fri Apr	1 17:17
🕂 💻 iPad06		User Ended Session on	Server 2012_F	DS_2a for Dis	play Cli		Fri Apr	1 17:17
		User Session Establishe	d on Server 20	12_RDS_2a fo	r Displ		Fri Apr	1 17:17
		User Pburns logged in					Fri Apr	1 17:17
		Monitor Connection Est					Fri Apr	
		Monitor Connection Los					Fri Apr	1 16:33
		Session Established on	Server Gold44	for Display Clie	nt HMI_1		Fri Apr	1 16:10
		Received Configuration		iger Server 10.	7.10.62		Fri Apr	
		Monitor Connection Est					Fri Apr	
		Terminal successfully a		it.			Fri Apr	
		Monitor Connection Los					Fri Apr	
		Session Ended on Terr		Display Client V			Thu Ma	
) 🗿 🛃 🔅	Terminal Shadow Ende	4	DI	Administ	refor	ThuMa	· 21 21- "

Next, the ID number needs to be associated with the Relevance User.

- 5. Open the Relevance User Configuration Wizard for the user you want to associate with that ID card.
- 6. Click Next until the Card/Badge Information page appears.

Figure 648 - Card/Badge Information Page
--

-	Relevance User Configuration Wizard		- • ×
Edit Mana	Card / Badge Information Enter card/badge information if user has one.	2	
Packages Restore Backu	Card / Badge Login	ings	
Packages Configurat	This user will use a card or badge to log in		
lsers	Enter Card/Badge ID number 185345		•
TermSecure User	Prompt for Password Prompt for Pin		^
	Biometric Login		H
	Manual Login	P	
	Prompt for Password Prompt for Pin		
812	< Back Next > Finish Cancel Help		× >

- 7. In the Card/Badge Login section, check This user will use a card or badge to log in.
- 8. Type the ID Identifier from the earlier steps into the Enter Card/Badge ID number field.



Click Prompt for Password or Prompt for Pin for the Card/Badge Login, the Biometric Login, or a Manual Login to require a secondary credential.

Setting	Description
Prompt for Password	Check to require the user to enter their password.
Prompt for Pin	Check to require the user to enter their PIN.

Now, the Terminal is configured, the ID device is identified, and the Relevance User is configured to use the device.

9. Click Finish button to complete the configuration.

Figure 649 - Event Log

			ThinMa	nager			5	×
Edit Manage Insta	II Tools	View	Remote View	Help				
Interactive Send Keys Scaled to Window Zoom In Go Full Screen Zoom Out Shadow	Connect Options Connect							
ferminals	-	Con	figuration M	odules Schedu	le Properties	Event Log	Shadow	6
🖃 🛄 Terminals		Event		2	User		Time	1
Production Production Comparison Production Produ		Leminal S User Pour User Session E Received Monitor C Terminal S Terminal S Terminal S User Adar Terminal S Terminal S Terminal S Terminal S	ion Established on ns logged in Stablished on Servi Configuration from onnection Establish ruccessfully authori onnection Löst. Co erminal Shadow Ended Configuration Chang ion Established on	zed to boot nnection timed out ged Server 2012_RDS_ Server Gold43 for D	2a for DispL. Chent HML_1 10.7.10.62 Adminisis Adminisis System System System Adminisis Adminisis Adminisis	rator rator rator rator rator rator	Mon Apr Mon Apr	413! 413! 413! 413! 413! 413! 413! 413!

10.Rescan the card that now is associated with a Relevance User account.

The Event Log shows the results of the successful login. The Terminal has the Relevance User added to its icon in the tree, while the Relevance User icon shows the name of the Terminal to which it is logged in.

Fingerprint Reader

ThinManager supports the DigitalPersona UareU models 4500 and 5160 fingerprint readers as biometric readers. These can be used as identifiers for TermSecure.

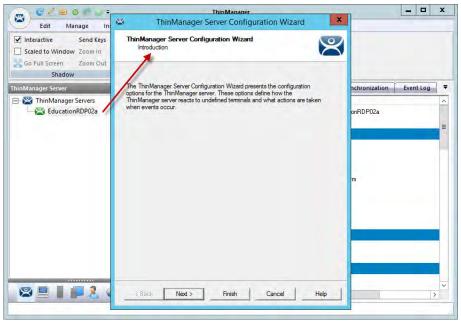
The DigitalPersona UareU model 4500 fingerprint scanner has these requirements.

- Activation in the ThinManager Server Configuration Wizard
- The unit is plugged into a Terminal and the DigitalPersona UareU Fingerprint Reader module added to the Terminal
- The user fingerprint scanned in TermSecure to associate a user with the fingerprint.

Fingerprint Reader in ThinManager

The DigitalPersona UareU fingerprint reader must be activated in the ThinManager Server Configuration Wizard.

Figure 650 - ThinManager Server Configuration Wizard



1. Double-click on the ThinManager Server icon in the ThinManager branch of the ThinManager Server tree.

The ThinManager Server Configuration Wizard appears.

2. Click Next until the Biometric Device Configuration page appears.

Biometric Device Configuration Biometric Device Options	×
ISO/ANSI Fingerprint Readers	
Support Finger Print Readers	
Fingerprint storage format	ANSI INSITS 378-2004 -
False Match Probability	1/10,000 -

Figure 651 - Biometric Device Configuration Page

Setting	Description
Support Finger Print Readers	Check to enable the use of readers.
Fingerprint storage format	Choose the data format you plan to use from the pull-down menu. • ISO IEC 19794_2_2005 • ANSI INSITS 378_2004
False Match Probability	Sets the sensitivity of the read. 1/100 is less sensitive than 1/1,000,000.

3. Click Finish to accept the changes.

Fingerprint Reader on the Terminal

You must add the DigitalPersona UareU Fingerprint Module to a Terminal if you plan on plugging a DigitalPersona UareU fingerprint reader into the Terminal.

1. Double-click on the Terminal icon in the Terminal branch of the ThinManager Server tree to open the Terminal Configuration Wizard.

Figure 652 - Terminal Mode Selection Page

Ten	minal Mode					
	I Enable Relevance User Services					
Enable Relevance Location Services						
	T Enable MultiMonitor					
	F Enable MultiStation					

- 2. Click Next until the Terminal Mode Selection page of the Terminal Configuration wizard appears.
- 3. Check Enable Relevance User Services to make the fingerprint reader work with TermSecure.
- 4. Click Next until the Module Selection page appears.
- 5. Click Add on the Module Selection page.

The Attach Module to Terminal dialog box appears.

Figure 653 - Attach Module to Terminal

	Alla	ch Module to Terminal
Module	Module Type	Relevance
RF Id		Show Advanced Modules 🗔
	Bluetooth Modul	e areU Fingerprint Reader
		2Dewr

6. Choose Relevance from the Module Type pull-down menu, highlight the DigitalPersona UareU Fingerprint Reader module, and click OK to add the module to the Terminal.

Mo	dule Properties
Mode	TermSecure
Data Format	ISO_19794_2_2005 💌
Show Status Messages	YES
Allow Manual Logon	NO
Prompt for TermSecure Password	NO
Set to Default	
	Done Cancel

Figure 654 - DigitalPersona UareU Fingerprint Reader Module Properties

7. On the Module Selection page, highlight the DigitalPersona UareU Fingerprint Reader module and click Configure.

The Module Properties dialog box appears.

The DigitalPersona UareU Fingerprint Reader module has several configurable settings.

Setting	Description			
Mode	Allows you to choose the Mode.			
TermSecure	Used to identify a Relevance User.			
TermMon	Sends the fingerprint data to the TermMon ActiveX.			
TermMon Lookup	Allows the TermMon ActiveX to identify the user without the need for them to log in.			
Data Format	 Sets the data format for the fingerprint reader. It should match the configuration in the ThinManager Server Configuration Wizard. These are the data formats. ISO_19794_2_2005 ANSI_378_2004 DigitalPersona 			
Show Status Messages	Set to YES to show a brief message in the upper-right corner of the Terminal for each fingerprint reader event.			
Allow Manual Logon	Set to NO so that a user must use the fingerprint reader to log on. Set to YES to use the fingerprint scanner or log on manually.			
Prompt for TermSecure Password	Set to YES for the user to be required to enter a password in addition to the fingerprint scan. Set to NO so the fingerprint scan is enough to allow a log on.			

Fingerprint Reader for the Relevance User

Fingerprint data is associated with a user in the Relevance User Configuration Wizard.

Figure 655 - Relevance User Configuration Wizard	Figure	655 -	Relevance	User	Config	uration	Wizard
--	--------	-------	-----------	------	--------	---------	--------

OCLEOSU+	ThinManager	>
Edit Manage In	stall Tools View Remote View Help	
Interactive Send Ke	Relevance User Configuration Wizard	
Scaled to Window Zoom In Go Full Screen Zoom O Shadow	Relevance User Information Enter Relevance usemame, password and permission information.	
5	Active Directory User	
Relevance Users	Relevance User Information	Time
Adam Brown Agent Pourns Desk2012 Test05	AD User Name Pound Search	Mon Apr 413:5 Mon Apr 413:5 Mon Apr 413:5 Mon Apr 413:5 Fri Apr 117:148: Fri Apr 117:17: Fri Apr 117:17: Fri Apr 117:17:
	Group	Fri Apr 1 17:17:2
	Change Group	
	Copy Settings	
	Copy Settings from another User Copy From	
-	Permissions	
	< Back Next > Finish Cancel Help	
2 💻 🛔 📁 🤶 🖵		

1. Open the Relevance Users branch of the ThinManager tree and double-click on the Relevance User whose fingerprints you want to register.

The Relevance User Configuration Wizard appears.

Figure 656 - Card/Badge Information Page

8	Relevance User Configuration Wizard
	I / Badge Information Enter card/badge information if user has one.
-Car	nd / Badge Login This user will use a card or badge to log in Enter Card/Badge ID number Prompt for Password Prompt for Pin
- Bio	Prompt for Pin
Ma	nual Login For Prompt for Password For Prompt for Pin
Í	< Back Next > Finish Cancel Help

The Card/Badge Information page has an Enroll Fingerprint button that begins the registration process.

1. Click Enroll Fingerprint.

The Enroll Fingerprint dialog box appears.



Click Prompt for Password or Prompt for Pin for the Card/Badge Login, the Biometric Login, or a Manual Login to require a secondary credential.

Setting	Description
Prompt for Password	Check to require the user to enter their password.
Prompt for Pin	Check to require the user to enter their PIN.

Figure 657 - Enroll Fingerprint

Enroll Fingerprint	x
Enrollment Terminal	Change
Select Finger to Enroll Right Index Finger	Start Enrollment
Mr Mr	Delete Enrollment
	ОК

2. Click Change.

The Select Terminal Group dialog box appears, where you can select the Terminal that has the fingerprint scanner to use for registration.

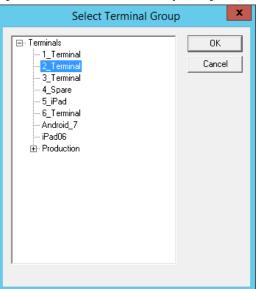


Figure 658 - Select Terminal Group Dialog Box

3. Highlight the Terminal that has the fingerprint scanner to use for registration and click OK.

Now, this Terminal is registered as the Enrollment Terminal in the Enroll Fingerprint dialog box.

Figure 659 - Enroll Fingerprint

	Enroll Fingerprint	X
Enrollment Terminal	2_Terminal	Change
Select Finger to Enroll	Right Index Finger	Start Enrollment
200V	5 Mg	Delete Enrollment
		ок

4. Choose the finger you want to enroll in the Select Finger to Enroll pull-down menu.

A crosshair appears on the finger chosen.

5. Click Start Enrollment.

The enrollment requires four scans of the fingerprint.

6. Place the finger on the scanner.

The blue light should turn red, and then back to blue. Leave the finger on the scanner until the red light turns off.

Figure 660 - Enrollment Started

Enroll Fingerprint	×
Enrollment Terminal	Change
Select Finger to Enroll Right Index Finger	Start Enrollment
Enrollment of Right Index Finger started	Delete Enrollment
	ок

A status message indicates progress.

Figure	661	-	Scan	Status
--------	-----	---	------	--------

Enroll Fingerprint	x
Enrollment Terminal	Change
Select Finger to Enroll Right Index Finger	Start Enrollment
Finger Scanned 2 time(s). Scan Finger again	Delete Enrollment
	ок

The enrollment requires four scans of the fingerprint.

7. Repeat until complete.

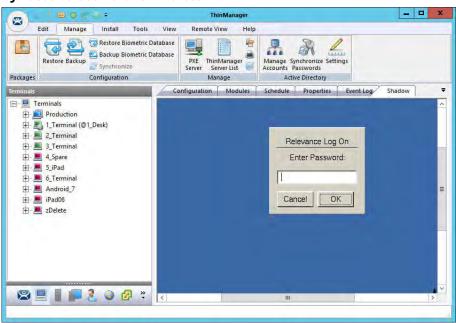
Figure 662 - Enroll New Finger

	Enroll Fingerprint	x
Enrollment Terminal	2_Terminal	Change
Select Finger to Enroll	Right Middle Finger	Start Enrollment
PON	S Str	Delete Enrollment
Fing	erprint Enrollment complete.	
-		ок

Once the finger has been scanned and enrolled, the scanned finger appears green in the Enroll Fingerprint dialog box.

8. Choose a new finger from the Select Finger to Enroll pull-down menu.

Figure 663 - Shadow of a Terminal Scan



If Prompt for Password was checked on the Card/Badge Information page, then a dialog box appears with a request for the Windows password for the Windows account. See <u>Figure 656 on page 488</u>.

<u>Figure 664 on page 492</u> shows a Relevance User logged in to a Terminal that uses a DigitalPersona UareU Fingerprint Reader.

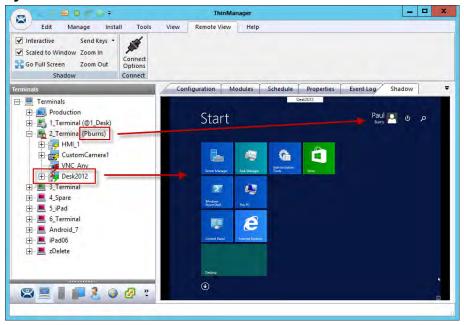


Figure 664 - Shadow of a Terminal Scan

The Terminal icon shows a user logged in, it names the user, and the Desktop2012 application shows a user login to show that display client was assigned through the Relevance User.

Relevance Location Services

Relevance is mobile computing based on location. It does not just send an application to a mobile device, but it is a way to enable the location to determine the content sent to the device. The mobile device allows the user to interact with the location.

Relevance is the how to provide what you need, where and when you need it.

There are two types of locations in Relevance: Assigned and Unassigned.

Assigned locations are those that have a Terminal and monitor at the given location, much like traditional computing. Relevance adds functions to the location that allow mobile devices to interact with it. These interactions include Shadow the Terminal, Clone the applications, or Transfer the control of the location to the mobile device.

Unassigned locations are those that lack a permanent Terminal and monitor, and all of the content is sent to the mobile device.

In ThinManager, you deploy applications by defining a Terminal, configuring it with applications and a user account, which allows the operator to access the applications needed. See <u>Figure 665 on page 493</u>.

Figure 665 - ThinManager Deployment



The Relevance method starts with location creation. The application, user account, and Terminal are added to the location. See <u>Figure 666</u>.

Figure 666 - Relevance Assigned Location



Relevance can deploy applications to locations without Terminals. Your mobile device becomes the Terminal. See <u>Figure 667</u>.

Figure 667 - Relevance Unassigned Location



Create a Location with the Location Configuration Wizard

The first task is to create a location and apply the application and user account to the location which will then be assigned to the Terminal.

Figure 668 - Location Configuration Wizard

	ThinManager	hand the state of
Edit Manage Install Interactive Send Keys Scaled to Window Zoom In Go Full Screen Zoom Out Shadow Conn	Enter Name for this location	
vections	Location Name Location Name	
	Copy Settings	
\ ₩ = 2 2	Permissions Bask Next > Finish Cancel Help	

- 1. Click the Locations (globe) icon in the Tree Selector at the bottom of the tree to open the Locations branch.
- 2. Right-click on the Locations branch and choose Add Location.

The Location Configuration Wizard appears.

- 3. Type the Location Name in the field.
- 4. Click Next to continue.

The Location Options page has several configurable options that control the remote access.

Figure 669 - Location Options Page

Options Inactivity Timeout	300	secs	
Resolver Signal Loss Timeout	15	secs	
Activate Display Client at Log In	1		
Enforce Location Fencing	Г		
Inherit from parent Locations	2		
Allow Local Access			
Allow Remote Access			
Reset Cloned Sessions on Logout	F		
Allow Location to be selected manually	F		

Setting	Description	
Inactivity Timeout	Time interval in which a Relevance user is logged off for inactivity.	
Relevance ID Signal Loss Timeout	Time interval before a Relevance user is logged off due to lack of a signal.	
Activate Display Client at Log In	Check to bring the display client to the forefront when the Relevance user logs in.	
Enforce Location Fencing	Check to control access in an area with nested locations. If local fencing is enforced, the user must be within the fence to access the sub-locations.	
Inherit from Parent Locations	Check to allow nested sub-locations to inherit the parent display clients.	
Allow Local Access	Check to allow a Relevance user to access the location from that location. Clear this checkbox to allow remote access only.	
Allow Remote Access	Check to allow a Relevance user to access the location from a remote site. Clear this checkbox to allow access at the location only.	
Reset Cloned Sessions on Logout	Check to close any cloned sessions once they are disconnected.	
Allow Location to be selected manually	I Allowed Manually Selected Location Actions, Llear this checkboy to require the Relevan	

Figure 670 - Location Options Page

Options				
Inactivity Tim	eart	300		
		15	-	
	nal Loss Timeout	1	secs	
	play Client at Log In			
	ation Fencing	-		
Allow Local	arent Locations	2		
Allow Remot				
201000 0000000	d Sessions on Logout	T.		
the second second second second	on to be selected manually	V		
Allowed Manu	ally Selected Location Actions	1		1
	Allow Shadowing			
	Allow Shadowing			
	Allow Cioning			

These are the actions you can select manually. You can allow all or none. The defaults are fine, but you have the option to customize the settings as needed.

Setting	Description
Allow Shadowing	Check to allow a duplicate of the display to be shown on mobile device.
	Check to allow the user to launch the same applications as the location but using their Windows account.
Allow Transfer	Check to allow the display to be moved from the location to the mobile device.

5. Choose the manual connections of your choice. Cleared checkboxes are not available in the manual selection menu.

Available Display	Clients	Se	lected Display Clien	ts	
Shadow1 Beta CustomOver QuadScreen Widescreen Shadow_Co	ns01 01 016		HMI_1		•
Edit Displ	ay Clients		1	Vemide	

Figure 671 - Remote Desktop Server Selection

- 6. Select the display clients you want displayed on the Location.
- 7. Click Override.

The Override Settings dialog box appears, which allows you to add a different user name to a highlighted display client.

8. Apply the desired display clients to the location and select Next to continue.

A location with a display client requires a Windows username.

8	Location Configuration Wizard
	In information ows usemame and password information.
- Windows Log	In Information
Usemame Password Verify Passwor Domain	d
< Ba	ck Next > Finish Cancel Help

Setting	Description
Username	Type a valid Windows username.
Password	Type the password.
Verify Password	Type the password.
Domain	Click Search and the Search for AD User dialog box appears.

The Search for AD User window allows you to reference users from the Active Directory.

Figure 673 - Search for AD User

	Search for AD User	x
Filter	Recurse Security Groups	Locations Search
Name	User Principal Name	
	0	K Cancel

9. Click Locations.

The Select AD Location to Search dialog box appears, where you can choose users.

Figure 674 - Select AD Location to Search

-Education.local -ACP_Education -Computers -Domain Controllers -ForeignSecurityPrincipals -Hannibal -LocationAccounts -Managed Service Accounts -Forgram Data -Station101 -Fystou_01	ation to Search	×
⊞- Users	OK Cance	

10. Highlight the domain branch you want to use and click OK.

The Location for the search is added.

Search for AD User

		Search for AD User	x
Station01			Locations
Filter	Contains	Recurse Security Groups	Search
Name		User Principal Name	
1			
		ОК	Cancel

11. Click Search to fetch the user accounts and populate the Search for AD User dialog box.

Figure 675 - Populated Search for AD User

	Search for AD User	X
Station01		Locations
Filter Contair	Recurse Security Groups	Search
Name	User Principal Name	1
Class1 Class1a	Class1@Education.local Class1a@Education.local	
Class1b	Class 1b@Education.local	
Class 1c Class 1d Class 1e	Class 1c@Education.local Class 1d@Education.local Class 1e@Education.local	
	OK	Cancel

12. Highlight the domain user you want and click OK.

This references the user for the Terminal log in account. The Location is now configured to use an Active Directory user account.

Figure 676 - Windows Log In Information Page

	In information ws usemame and password information.		
-Windows Log	n Information		
Usemame Password	Class 1b@Education local	Search	
Domain	1	Verify Password Options	

13. Select Next to continue.

The Relevance Resolver Selection page appears, which allows the association of Resolvers to the location.

	Location Co	onfiguration Wi	zard	2
	Resolver Selection elevance Resolvers to this	location		
Relevance Re	solvers			
he	Туре	Action]
<		111	>	•
			>	
Add	Delete	Edit	>	
			>	
			>	
			>	
			>	

Resolvers include the following.

- QR Codes
- Bluetooth Beacons
- Wi-Fi Access Points
- GPS

The configuration of Relevance Resolvers is explained later in <u>Using the</u> <u>Mobile Device to Add Resolver Codes on page 523</u>.

14. Click Finish to create the Location.

Figure 678 - Location with Assigned Display Clients

Edit Manage Install T Interactive Send Keys • Scaled to Window Zoom In Go Full Screen Zoom Out Shadow Conne	ns		
ocations	Configuration Event Log Usage	e	
- Q Locations	Attribute	Value	
E OLOC_1	Location Identification		
- HML1	Location Name	Loc_1	
Form03	Location Description	None	
	Location Configuration		
	Inactivity Timeout	300	
	Signal Loss Timeout	15000	
	Activate Location Display Client at Login	YES	
	Enforce Fencing for Sub-Locations	NO	
	Inherit Parent Display Clients	YES	
	Allow Local access	YES	
	Allow Remote access	YES	
	Reset Cloned Sessions at Logout	NO	
	Allow Location to be selected manually	YES	
	Manual Selection Actions		
🙁 💻 🛔 📖 🤶 🖉	» <	NO	>

The Location tree shows the created Locations and the display clients assigned to it.

Add a Location to a Terminal

Now, the newly created location must be attached to a Terminal.

This following instructions show how to add a Location to an already configured Terminal. You can create the Terminal from scratch and add the location as you configure the Terminal.

Figure 679 - Terminal Configuration Wizard

	∓ ThinManager	_ 🗆 X
Edit Manage	Install Tools View Remote View Help	
✓ Interactive Send Ke	Terminal Configuration Wizard	
Scaled to Window Zoom In Go Full Screen Zoom O Shadow	Terminal Name Enter the name for this terminal, select the terminal group to which this terminal belongs, or choose to copy the configuration from another terminal.	
Terminals	Terminal Name	t Log Shadow 🔫
🖃 💻 Terminals	2 Teminal	^
	This must be a unique name using letters, numbers, hyphens (-), and underscores (_) only.	
	Description	
	Terminal Group	
🕀 💻 6_Terminal	Change Group	1.1.1.1.1.1.1.1
⊕ ■ Android_7 ⊕ ■ iPad06	Copy Settings	
🕀 💻 zDelete	Copy Settings from another Terminal	
	Permissions	
	Back Next > Finish Cancel Help	~
	· · · · · · · · · · · · · · · · · · ·	>

1. Click the Terminal icon on the Tree Selector at the bottom of the tree.

The Terminals branch appears.

2. Double-click a Terminal or right-click and choose Modify.

The Terminal Configuration Wizard appears.

	Terminal Configuration Wizard	
-	ninal Mode Selection Select the operating modes for this terminal	>
Ter	minal Mode	
	 Enable Relevance User Services Enable Relevance Location Services 	
	Enable MultiMonitor	
	☐ Enable MultiStation	
		_

3. Click Next until the Terminal Mode Selection page appears. There are two Relevance checkboxes.

Setting	Description
	Check to use the ThinManager Relevance Access to control access to applications.
Enable Relevance Location Services	Check to allow the Terminal to use Locations in its configuration.

- 4. Check Enable Relevance Location Services to use Locations.
- 5. Click Next to navigate to the Display Client Selection page.

Figure 681 - Remove Display Clients on the Display Client Selection Page

8	Terminal Configu	uration Wizard	x	8	Terminal	Configuration Wi	zard	x
	ent Selection e Display Clients to use on this te	minal	×		ient Selection the Display Clients to use	e on this terminal		\approx
Available Displa	etay01 ens01 en01b bobat	ted Display Clerts		Available Displ	1 Silverlay01 Second Diagram Content of the second	Selected Display Cli	ents	-
	play Clients Back Next > 1	Override	Help		isplay Clients Back Next >	Finish	Override	Help

6. Highlight existing display clients in the Selected Display Clients list and click the left arrow to remove them from an existing Terminal.

Leave the Selected Display Clients list blank if you are configuring a new Terminal.

The user accesses the display clients through the location, not the Terminal.

7. Click Next and continue to the Relevance Options page.

Figure 682 - Relevance Options Page

ř.	Terminal Configuration Wizard
	e Options he types of Relevance Resolvers to use on this client. Optionally an assigned location for this client
-Assigned	Change
Options Ena	oled Resolver Types ✓ Enable QR Code Location Ids ✓ Enable Bluetooth Locations ✓ Enable GPS Locations
A VI	Enable Wi-Fi Locations
	onfirm before entering a location ver Update Interval 3000 ms
	Back Next > Finish Cancel Help



Choose Options prior to a Location. Once the Location is assigned, Options are locked. Click Clear to clear the Location if you need to change an option and then reassign the Location.

Options	Description
Use Force Transfer to restore Assigned Location	Check to allow the operator to take a transferred session back without the need to wait for the other device to approve of the transfer.
Allow selection of Location manually	Check to let the user manually select the location from a menu on the mobile device. Clear the checkbox so the user must use a Resolver.
Enforce fencing on manual Location selection	Check to enforce the fencing on a location during manual selection.
Confirm before entering a location	Check so you are notified as you enter a fence and asks for an acknowledgment.
Enable Resolver Types	Relevance has several methods to resolve the location to allow specific applications to get sent to specific locations.
Enable QR Code Location Ids	Check to allow the scanning of a QR code to determine the location.
Enable Bluetooth Locations	Check to allow the use of Bluetooth beacons to determine the location.
Enable GPS Locations	Check to allow the Global Positioning System of the mobile device to determine the location.
Enable Wi-Fi Locations	Check to allow the signal strength of Wi-Fi access points to determine the location.

Each method selected requires configuration to associate a location with the Resolver data.

8. Click Change.

The Select Location dialog box appears with the created Locations displayed in the Selection Location tree.

Figure 683 - Select Location Dialog Box

	Select Location	x
E- Locations		OK Cancel

9. Highlight the desired Location and click OK.

The Location is displayed in the Assigned Location field once it is assigned to the Terminal.

Figure 684 - Location Assigned

	Later of			۶
Assigned Loc Loc_1	ation			Change Clear
- Options - Enabled	Enable E Enable G	IA Code Location Iluetooth Locations GPS Locations Wi-Fi Locations		
F Allow F Enfor F Confi	Force Transfer to restor selection of Location r ce fencing on manual irm before entering a loc Update Interval	manually Location selection	m ms	
< Ba	ick Next >	Finish	Cancel	Help

Once the Location is assigned, the Options are locked.



If you need to change an option, click Clear, change the option, and then reassign the Location.

10.Once the location is assigned, click Next until the Log In Information page appears.

Figure	685 -	Log	In	Inforn	nation	Page
--------	-------	-----	----	--------	--------	------

8	Terminal Configuration W	/izard
	nation og in information to log in automatically. L n blank or fill only some of the fields to for	
Windows Lo	g In Information	
Usemame		Search
Password		-
Verify Passwo	rd	
Domain		-
< Back	Next > Finish	Cancel Help

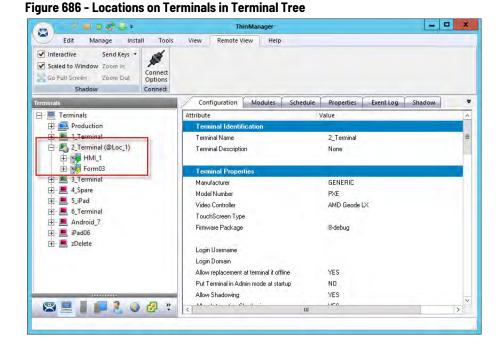
Typically, a preconfigured Terminal is assigned a user account to allow it to log in to the servers. However, this is not needed now because it uses the user account assigned to the location.

- 11. Leave the Username and Password fields blank.
- 12. Once the Username is cleared, click Finish to complete the wizard.

Once the wizard is closed, you must restart the Terminal to load the changes.

13. Right-click on the Terminal in the tree and choose Restart Terminal to load the new configuration.

The application now runs on the location that is assigned to the Terminal.



The tree shows location icons to show which display clients are from the location.

In Figure 686, the terminal 2_Terminal is using location Loc_1.



The user should see no difference in the application deployment between a Terminal with display clients deployed with Locations and a Terminal without Locations.

The big difference Relevance makes is when a mobile device interacts with the location.

Mobile Device Interactions
with RelevanceWhen you add a location to a Terminal does not seem like it makes any
difference. The application runs the same on the Terminal versus a location on
a Terminal. The difference is the mobile-device interaction a user can have
with that location.

Configuration of mobile devices is covered in Mobile Devices on page 283.

Relevance uses Resolvers to define the location.

- Manual Selection allows user to select the location manually from a menu on the mobile device.
- QR Code can be created to define a location.
- Bluetooth allows the use of Bluetooth beacons to determine the location.
- GPS allows the Global Positioning System of the mobile device to determine the location.
- Wi-Fi allows the signal strength of Wi-Fi access points to determine the location.
- iBeacon the Apple® Inc. version of Bluetooth

Resolvers are identified and marked using the mobile device; so, it is important to configure a mobile device for identifying the resolvers in Relevance.

•	

- The iTMC application can be installed for free from the App Store® on iTunes®.
- The aTMC application can be downloaded for free from the Google Play™ store.
 The WinTMC client for Windows[®] can be downloaded at the ThinManager website at http://downloads.thinmanager.com/.

Two pages of the Terminal Configuration Wizard enable mobile devices.

The first page that covers interaction with a Location is the Relevance Options page, which lets you select which Resolver methods you want to use. These are listed in the Enable Resolver Types section.

Figure 687 - Relevance Options

3	Terminal Co	onfiguration Wiz	ard	X
Select	ce Options t the types of Relevance Res e an assigned location for thi		ient. Option	ally 😤
Assigned	Location			Change
			-	Clear
Options En	🔽 Enable Blu	R Code Location Ids Jetooth Locations PS Locations		
-	I Enable Ui I Enable Wi	i-Fi Locations		

1. Check the Resolvers you want to use and Allow selection of Location manually.

Each method selected requires configuration to associate a location with the Resolver data.

These are the Options.

Options	Description
Use Force Transfer to restore Assigned Location	Check to allow the operator to take a transferred session back without the need to wait for the other device to approve of the transfer.
Allow selection of Location manually	Check to let the user manually select the location from a menu on the mobile device. Clear the checkbox so the user must use a Resolver.
Enforce fencing on manual Location selection	Check to enforce the fencing on a location during manual selection.
Confirm before entering a location	Check so you are notified as you enter a fence and asks for an acknowledgment.
Enable Resolver Types	Relevance has several methods to resolve the location to allow specific applications to get sent to specific locations.

Options	Description
Enable QR Code Location Ids	Check to allow the scanning of a QR code to determine the location.
Enable Bluetooth Locations	Check to allow the use of Bluetooth beacons to determine the location.
Enable GPS Locations	Check to allow the Global Positioning System of the mobile device to determine the location.
Enable Wi-Fi Locations	Check to allow the signal strength of Wi-Fi access points to determine the location.

2. Click Next to navigate to the Mobile Device Options page, which has several settings that control the user experience on mobile devices. This page allows you to disable features normally displayed in the mobile apps.

Figure 688 - Mobile Device Options

ŀ.	Terminal C	Configuration	Wizard	
Mobile Device O Mobile Device				>
Toolbar Buttons				
Show	Scan Data Button			
Show	Scan Resolver Bu	tton		
✓ Show	User Login Button			
- Sound Options				
Play L	ocation Sounds			
	ser Login Sounds			
User Interface Set	tings			
Show	Zoom Map			
Show				
Allow I	Exit to ThinManage	er Server List		
L				
< Back	Next >	Finish	Cancel	Help

Options	Description	
Toolbar Buttons		
Show Scan Data Button	Clear this checkbox to hide the Scan Data button.	
Show Scan Resolver Button	Clear this checkbox to hide the Scan Resolver button.	
Show User Login Button	Clear this checkbox to hide the User Login button.	
Sound Options	·	
Play Location Sounds	Check to play a sound when a location is entered.	
Play User Login Sounds	Check to play a sound when the user logs in as a TermSecure or Relevance user.	
User Interface Settings	·	
Show Zoom Map	Clear to hide the screen map while zoomed in.	
Show Toolbar	Clear to hide the app toolbar.	
Allow Exit to ThinManager Server List	Clear to prevent the user from leaving the app to switch ThinManager Servers.	

3. Click Finish to complete the configuration of the mobile Terminal.

Notes:

Manual Interaction with Locations

A mobile device can connect to a Location and manually interact with the applications.

1. Connect the mobile device to the ThinServer and connect as shown in <u>Mobile Devices on page 283</u>.

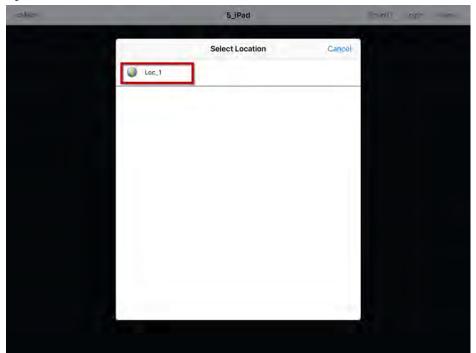
Figure 689 - Main Menu on a Mobile Device

<main< th=""><th></th><th>5_iPad</th><th>Scaniti ogin Menu</th></main<>		5_iPad	Scaniti ogin Menu
	Cancel	Main Menu	
	ACTIONS		/
	Login User Login a TermSecure	Savet by home	
	Login Location Manually select a log	senios from a list.	
	ScanD Scan a televacere ide	muliar to perform invaction	
	INFORMATION		
	Info Gestures and app ve	rsion info.	
	About IP Addresses, Term5	incure Into, Location Into	
	View Bluetooth Be	acons	
	View WiFi Access	Point	

- 2. Launch the Main Menu from the mobile device menu bar.
- 3. Press Login Location, which manually connects to a Location.

The Select Location dialog box appears, which lists all Locations that are allowed to have a manual configuration. In <u>Figure 690 on page 512</u>, only one Location is created.

Figure 690 - Select Location



4. Press the Location.

The Select Action dialog box appears.

If a No Actions dialog box appears, it indicates one of two possibilities.

- There were no Actions checked on the Location Options page of the Location Configuration Wizard
- A Relevance Permission was applied and the user is not a member of a permitted access group

Figure 691 - No Actions Error



a. If received, click Ok to close the dialog box and select another location.

cMain 5_IPad ord orgin Memory

Figure 692 - Actions for Manual Interaction

There are three manual interactions between a mobile device and a location.

Interaction	Description
Shadow	Duplicates the graphic output of the Location screen and sends it to the mobile device.
Transfer	Sends the graphic output of the location to the mobile device instead of the location. Requires the operator to manually allow the transfer.
Clone	Creates a duplicate session for the mobile device using the configuration of the location and the user credentials of the mobile device.

Shadow

Shadow duplicates the graphic output of the location and sends it to the mobile device.

Figure 693 - Shadow



The mobile user sees the exact display as the location.

Figure 694 - Main Menu

<main-< th=""><th></th><th>5_iPad</th><th>Scaniti</th><th>apgin Menu</th></main-<>		5_iPad	Scaniti	apgin Menu
	Cancel	Main Menu	/	
	ACTIONS		/	
	Login User Login & TermSecure	User by name		
	Login Location Manually select a lo	parios from a list.		
	ScanID Scan a relevance id	millim to perform ius action		
	INFORMATION			
	Info Gestures and app vi	ension Info		
	About IF Addresses, Term	Secure Into, Location Into		
	View Bluetooth B	eacons		
	View WiFi Access	Point		
	_			

- 1. Open the mobile program, select your ThinManager Server, and press Menu in the upper-right corner to launch the Main Menu dialog box.
- 2. Press Login Location on the menu.

The Select Location dialog box appears.

Figure 695 - Select Location Menu

othes	5_iPad) np
	Select Location	Cancel	

3. Press a Location.

The Select Action dialog box appears, which list the actions allowed at the location.

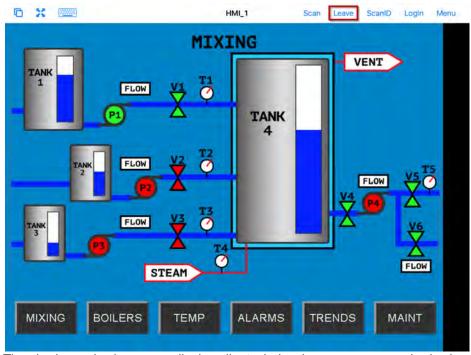
Figure 696 - Select Action Dialog Box

Main		5_iPad	i⇒niti opin ≬lunu
	Cancel	Select Action for Loc_1	1
	Shadow		
	Transfer		
	Clone		

4. Press Shadow to connect and shadow the Location.

Figure 697 shows the shadow of the location.

Figure 697 - iTMC Shadowing Location



The shadow only shows one display client window because you are shadowing the location and are receiving the current graphic output from the location.

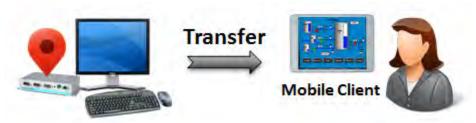
5. Press Leave to end the shadow.

Transfer

Transfer is similar to Shadow except that the user must allow the transfer at the location, which prevents someone from taking the session while the

operator is busy with a process. Also, it allows a mobile user to take sole control of the location.

Figure 698 - Transfer



1. Open the mobile program, select your ThinManager Server, and press Menu in the upper-right corner to launch the Main Menu dialog box.

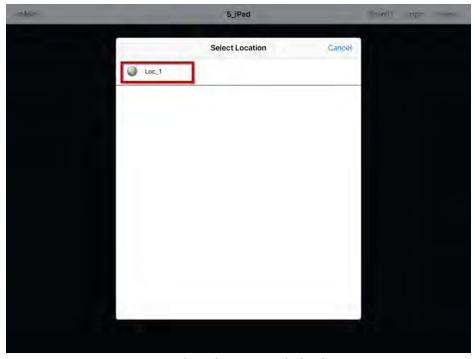
Figure 699 - Main Menu on a Mobile Device

	5_iPad	Scanlit a ogini Menu
Cancel	Main Menu	
ACTIONS		
Login User Login a TemSecure	User by name	
Login Location Manually select a lo		
ScanID	million to perform av eption	
INFORMATION		
Info Gestures and app vi	ersion info	
About IP Addresses, Term	Secure Into, Location Into	
View Bluetooth B	eacons	
View WiFi Access	Point	

2. In the Main Menu, press Login Location.

The Select Location dialog box appears, where you can manually connect to a Location. It lists all Locations that are allowed to have a manual configuration. Figure 700 on page 517 shows only one Location was created.

Figure 700 - Select Location



- 3. Press Location to open the Select Action dialog box.
- Figure 701 Actions for Manual Interaction

- «Main-	-	5_iPad	(2mm) agin (Juno)
	Cancel	Select Action for Loc_1	
	Shadow		
	Transfer		
	Clone		

4. Press Transfer from the Select Action dialog box.

<</td> 5_iPad ScanD Login Menu

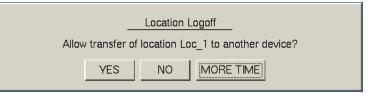
Figure 702 - Wait for Transfer Permission Message

The user of the location must allow the transfer. This communication prevents the mobile user from taking the session while the local user is performing a task.

Transfer at the Location

A dialog box is displayed at the location to allow the transfer.

Figure 703 - Location Logoff Dialog Box



1. The local user must press Yes to allow the transfer.

The mobile client is allowed to display the location display.

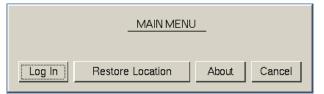
Figure 704 - Transferred Location Display



The Transfer shows all the display clients on the location instead of just showing the display output of the location.

- 2. The location display can be restored from the iTMC client or the location.
 - Press Leave on the iTMC client menu to restore the display to the location.
 - Also, you can press Restore Location at the location to restore the display.

Figure 705 - Main Menu at the Location



The Location displays the Main Menu during the transfer.

3. Press Restore Location to return the session.

A dialog box appears on the mobile client to warn the mobile user that the transfer ends soon.

Figure 706 - Location Logoff Dialog

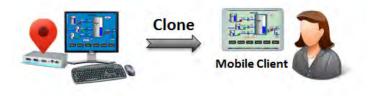


4. Press YES to allow the transfer back to the original location, NO to refuse the restoration, or MORE TIME to delay the restoration.

The amount of time that an operator has to acknowledge and allow the transfer can be set on the Relevance Setting dialog box. See <u>Bluetooth Beacons</u> on page 531 for details.

Clone duplicates the display clients of the location on the mobile device, but the sessions are created with the mobile device Windows user account.

Figure 707 - Clone



This allows a mobile user to get the HMI or other software and have independence from the user at the location.

Clone

Figure 708 - Main Menu on a Mobile Device

<main< th=""><th></th><th>5_iPad</th><th>Scanitz agin Menu</th></main<>		5_iPad	Scanitz agin Menu
	Cancel	Main Menu	
	ACTIONS		
	Login User	User by nome	
	Login Location Manually select a log	nation from a list.	
	ScanID	millim to perform an action	
	INFORMATION		
	Info Gestures and app ve	rsion into-	
	About IP Addresses, Terms	ecure Into, Location Into	
	View Bluetooth Be	acons	
	View WiFi Access	Point	

5. Press Login Location to open the Select Location dialog box, which lists all Locations that are allowed to have a manual configuration.

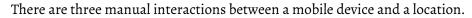
Figure 709 - Select Location

other		5_iPad	_	np-	
	Loc_1	Select Location	Cancel		
			-		

In <u>Figure 709</u>, only one Location was created.

Main	-	5_iPad	(2500) agin (duno
	Cancel	Select Action for Loc_1	
	Shadow		
	Transfer		
	Clone		

Figure 710 - Actions for Manual Interaction



Interaction	Description
Shadow	Duplicates the graphic output of the Location screen and sends it to the mobile device.
Transfer	Sends the graphic output of the location to the mobile device instead of the location. Requires the operator to manually allow the transfer.
Clone	Creates a duplicate session for the mobile device using the configuration of the location and the user credentials of the mobile device.

6. Press Clone.

The mobile device launches copies of the location's display clients, but uses the mobile device login.

Figure 711 - Cloned Session 0 % 🔤 @Loc 1 Login Menu ScanID Leave MIXING VENT TANK TANK 4 FLOW FLOW T3 FLOW T4 $\overline{\mathcal{O}}$ STEAM MIXING TRENDS MAINT BOILERS TEMP ALARMS

<u>Figure 711</u> shows a session running the same application, but with a different set of credentials.

7. Press Leave in the top corner to close the mobile client.

Using the Mobile Device to Add Resolver Codes

Resolvers help a mobile device know what location it is in. These can be configured to tell the mobile device what action to take.

These are Resolvers.

- QR Codes
- Bluetooth Beacons
- Wi-Fi Access Points
- GPS

Assignment of Resolvers

Because Resolvers can only be assigned to one location, they identify the Location for Relevance. Each location can have more than one Resolver and action assigned. You can use Permissions to assign a resolver several times with a different action tied to each set of permissions.

Fencing uses combinations of resolvers to limit actions to specific locations. An action can require presence in an area covered by a Bluetooth beacon or GPS site before a QR code can be scanned, which can prevent a user's departure from an area with a critical process. The Fence prevents the use of the application outside of the assigned areas.

QR Codes

Quick Response (QR) Codes are an improved form of barcode that can store text, numeral data, and URLs. QR Codes can be read quickly and easily. There are many programs which generate them, which include free sites on the web.

QR Codes provide pinpoint location as you need to be at the QR Code to read it, which allows a high degree of granularity in your configuration. You can put QR Codes anywhere and not worry about overlap of signals or interference.

One issue with QR Codes is that they are easy to duplicate. If you want to use Relevance to limit an operator to a particular location, then QR Codes should be coupled with other devices like Wi-Fi, GPS, or Bluetooth to provide Fencing. See Fencing and Sub-Locations on page 697 in the ThinManager with Relevance 11.2 User Manual for details.

The iTMC and aTMC programs use the built-in camera as a scanner to read the QR Codes. This is the procedure.

- 1. Create the QR Codes.
- 2. Launch the iTMC program and press Settings.
- 3. Select the Register QR Code command under Relevance Resolvers. If you have more than one ThinManager Server defined, you must pick the ThinManager Server on which you want the QR Code registered.
- 4. Scan the QR code in the camera window.
- 5. Enter a name and select Register.
- 6. Choose Manage>Manage Resolvers.

Resolver Management dialog box appears, where the QR code is registered and entered.

Figure 712 - Sample QR Code



Register QR Codes with an iPad

QR codes must be registered with a mobile device.

- 1. Open the iTMC program on the iPad.
- 2. Press Settings on the bottom to launch the Settings dialog box.

A selection menu will launch.

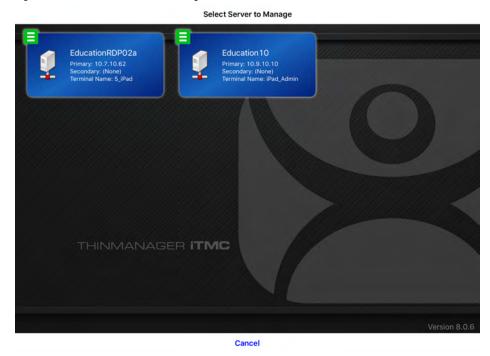
Figure 713 - iPad Settings Menu

Main	
EducationRDP02a Primary: 10.7.10.62 Secondary: (None) Terminal Name: 5. jPad	
Please Select	
Manage a Server	
Add a New Server	
Delete a Server	
Cancel	
THINMANAGER ITMC	
Version 8.0.	.6
Settings	

3. Press Manage a Server.

The Select Server to Manage screen appears.

Figure 714 - Select Server to Manage Screen



4. Press the ThinManager Server to which you want to apply the QR Codes.

The iTMC Settings page appears, which has the links to register the various resolvers.

Figure 715 - iTMC Settings Page

< Main	Settings	
RELEVANCE RESIDLVERS		
Register QR Code		
Register GPS Location		
Register Bluetooth Beacon		
Register WiFi Access Point		
LITHER		
Edit Background		
Email ACP		

5. Press Register QR Code to open the camera to scan and register the QR Code.

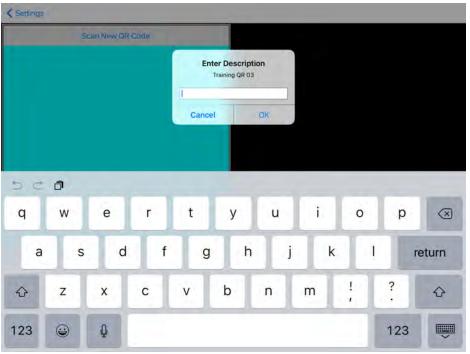
Figure 716 - Scan New QR Code



6. Point the camera at the QR Code. Once the QR Code is framed in the window, it reads the code and registers it.

Once the iTMC program reads the QR code, it asks you to name it.

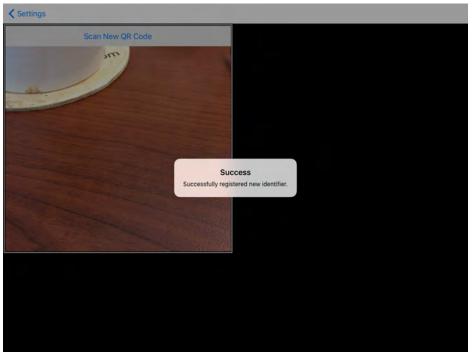




- 7. Type a description in the Enter Description dialog box.
- 8. Click OK.

The iTMC program confirms a successful registration.

Figure 718 - Successful Registration Confirmation



The Resolvers are listed in the Resolver Management dialog box.

	/7	ThinManager		- 🗆 X
Edit Manage	Install Tools View Restore Biometric Database Backup Biometric Database Synchronize		nchronize Settings	Manage Resolvers Access Groups Settings
ackages Co		Resolver Management		Relevance
rminals → Erminals → Production → 1.Terminal → 2.Terminal (©Loc → 3.Terminal → 4.Spare → 5.jPad → 6.Terminal → Android_7 ⊕ → iPad06	Name 器 (R-01 器 QR-03	Type QR Code QR Code	Add Delete Edit Search	Value 9 3 1_Terminal for 6 days; 2_Terminal for 2 days, 8 days; 5 hours; 16 min 1
	N	erminals for which running Firmware doe lone	OK	4 1 2

Figure 719 - QR Code in Resolver Management Dialog Box

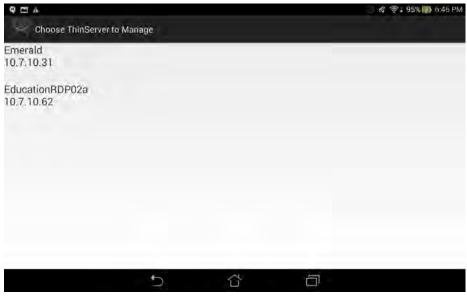
9. Choose Manage>Manage Resolvers from the ThinManager menu bar to open the Resolver Management dialog box.

Register QR Codes with an Android Device

QR codes need to be registered with a mobile device.

1. Open the aTMC program on the Android device.

Figure 720 - aTMC Home Screen



2. Press Settings on the bottom.

The Settings dialog box appears.

Figure 721 - Setting	js Menu			_
a (MC				
Emerald 10.7 (0.2)				
EducationRDP02a 10.7.10/62	Settings		-	
	Manage ThinServer			
	Add ThinServer			
	Remove ThinServer			
	and the second second	_	_	
		Settings		
	5	Ċ	<u> </u>	

3. The Setting menu provides these choices.

Setting	Description
Manage ThinServer	Press to open the Settings Menu and register resolvers.
Add ThinServer	Press to open the Add New ThinServer page, which lets you define a new ThinManager Server.
Remove ThinServer	Press to allow you to delete a defined ThinManager Server.

If you have multiple ThinManager Servers defined, you must select the ThinManager Server to which you want to apply the QR codes.

The Settings page contains the links to register the various resolvers.

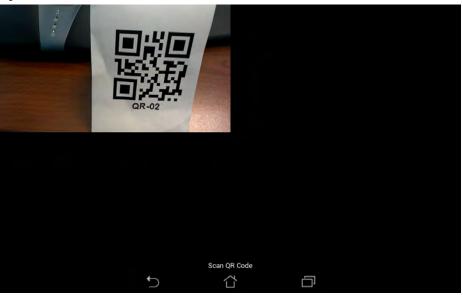
Figure 722 - aTMC Settings Page

9 🖽 🗛			🛜 🛛 97% 🖬 6:24 PM
Settings			
RELEVANCE RESOLVERS			
Register QR Code			
Register Bluetooth Beacon			
Register WiFi Access Point			
CAMERA			
Set Camera Location			
DEBUGGING			
Debug Logging: Disabled			
	5	Ċ [™]	

4. Press Register QR Code.

The camera opens to scan and register the QR Code.

Figure 723 - Scan New QR Code



5. Point the camera at the QR Code. Once it is framed in the window, it reads the code and registers it.

Once the aTMC program reads the QR code, it asks you to name it.

Figure 724 - Enter Description for QR Code

									4	
	gister OR (Ente	er Identifi	er Name						
		QR-0	2							
			Cancel	U	ise Data as Ni	ame	Ok			
QR-02										
1	2	3	4	5	6	7	8	9	0	•
48	@	#	\$	%	٨	&	*	C)	~
I	1			(14)		1.1	14-		D	one
1/	2	- (}	<	>	. (-	i.	-1	1
E	n			<u>_</u>				1	?	:-)
			\rightarrow				Ð			

6. Type the name for the Resolver in Enter Identifier Name dialog box.

7. Click Ok.

The aTMC program confirms a successful registration.

Saving screenshot.				
Regional OFIC				
	Success			
	040000			
	Resolver Successful	ly Registered		
		OK		
	5	~	5	
	2			

Figure 725 - Successful Registration Confirmation

8. Click OK.

The Resolvers are listed in the Resolver Management dialog box.

Figure 726 - QR Code in Resolver Management

🙁 🔍 🖉 🖉 🖉 🖉	(†	ThinManager		×
Edit Manage	Install Tools View Restore Biometric Database Backup Biometric Database Synchronize	Remote View Help	ynchronize Settings	lanage Resolvers ccess Groups ettings
Packages Co		Resolver Management		Relevance
Erminals Terminals Production 1.Terminal 2.Terminal 2.Terminal 2.Terminal 2.Terminal 3.Terminal 3.Terminal 3.Terminal 3.Terminal 4.Spare 5.JPad 5.Terminal 4.Spare 5.Terminal	Name 88 QR-01 188 QR-02 188 QR-03	Type QR Code QR Code QR Code	Add Delete Edit Search	Value 9 3 1_Terminal for 6 days, 2_Terminal for 2 days, 8 days, 5 hours, 16 min
⊞- 🖲 iPad06	Te	rminals for which running Firmware do	OK es not match Installed F	1 1 4 1 2

9. Choose Manage>Manage Resolvers from the ThinManager menu bar to open the Resolver Management dialog box.

Bluetooth Beacons

Thin Manager supports Bluetooth Beacons that use the Bluetooth Low Energy (LE) standard, which is part of the Bluetooth Core Specification Version 4.0. In order to work with these beacons, your mobile device also must support Bluetooth Version 4.0 or later. In the case of an iPad, this is any iPad (regular, Mini, or Air) that uses the Lightning connector.

Relevance can use Bluetooth beacons as location resolvers. These must be Low Energy Bluetooth beacons that provide a unique name in the Advertising Packet. See Fencing and Sub-Locations on page 697 in the ThinManager with Relevance 11.2 User Manual for details.

To add new beacons to the system, you can use the mobile device to find them, and add them in a manner similar to the other resolvers. In the case of these devices, you stand at the entry point and allow the device to get a few readings so that it can get an average measure of the signal strength at that point. It automatically adds 10 to this number for the exit point. You can adjust these in ThinManager in the Manage Resolvers section.

Here is how to define a Bluetooth beacon with a mobile device.

- 1. Place the Bluetooth beacons in the locations that you want.
- 2. Launch the iTMC or aTMC program and press Settings.
- 3. Press Register Bluetooth Beacon command under the Relevance Resolvers section. If you have more than one ThinManager Server defined, you must pick the ThinManager Server on which you want the Bluetooth beacons registered.
- 4. Choose the desired Bluetooth beacon from the generated list.
- 5. Type a name and press Register.
- 6. Choose Manage>Manage IDs.

The Resolver Management dialog box appears, in which the Bluetooth beacon is registered and entered.

Relevance Settings

The Relevance Settings dialog box has some settings that can affect Bluetooth beacons.

1. Choose Manage>Relevance Settings on the ThinManager menu bar.

The Relevance Settings dialog box appears.

Figure 727 - Relevance Settings

Releva	ance Setti	ings		x
Location Transfer Timeout Location Transfer Extension Time Bluetooth Device Name Filter Prefix	15	seconds seconds		
			Add Delete Edit	
Allow New Resolvers to be registered	V	ОК	Cance	

These are the settings available in the Relevance Settings dialog box.

Setting	Description
Location Transfer Timeout	Sets the time that an operator has to acknowledge and allow a Transfer. See <u>Transfer on page 515</u> .
Location Transfer Extension Time	Sets the interval of extra wait time that a refused transfer allows.
Bluetooth Device Name Filter Prefix	Enter a name in this field to limit the display of Bluetooth devices that have that prefix, which is helpful because ThinManager Bluetooth devices have an ACP prefix.
iBeacon GUIDs	Shows the registered iBeacons.
Add	Click to open the Enter iBeacon GUID dialog box, which allows definition of a new iBeacon.
Delete	Click to delete a highlighted iBeacon from the list.
Edit	Click to edit a highlighted iBeacon in the Enter iBeacon GUID dialog box.
Allow New Resolvers to be registered	allows new resolvers. Unchecking it will prevent unauthorized users from adding Bluetooth beacons.

Define Bluetooth Beacons on an iPad

Define a Bluetooth beacon similarly to how you define a QR code.

1. Open the iTMC program on the iPad.

Figure 728 - ThinManager iTMC Program



2. Press Settings on the bottom of the screen.

The Settings menu dialog box appears.

3. Press Manage a Server.

The Select Server to Manage screen appears.

Figure 729 - Select Configuration

<section-header>

4. Press the ThinManager Server on which you want to register the Bluetooth beacon.

The Settings page appears.

Figure 730 - Register Bluetooth Beacon Command on the Settings Page

Register QR Code Register GPS Location Register Bluetooth Beacon Register WiFi Access Point OTHER Edit Background Email ACP	
Register GPS Location Register Bluetooth Beacon Register WiFi Access Point OTHER Edit Background	
Register Bluetooth Beacon Register WiFi Access Point OTHER Edit Background	
Register WiFi Access Point OTHER Edit Background	
POTHER Edit Background	
Edit Background	
Email ACP	

5. Press Register Bluetooth Beacon on the Settings page.

The Register Bluetooth page appears, which lists the Bluetooth beacons the mobile device finds.

Figure 731 - Available Bluetooth Beacons

Settings	Register Bluetooth	
STATUS		
Scanning Bioetooth State: On		
BU JETCOTH BEACONS		
ACP-9059AF08ABF9 RSSI: -67 (avg) ; -68 (last reading) Transmission Interval: 0.966 seconds (avg) :	0.326 seconds (last reading)	
ACP-9059AF08ADB5 RSSI: -72 (avg) : -69 (last reading) Transmission Interval: 0.687 seconds (avg) : :),435 seconds (last reading)	
ACP-9059AF0865E7 RSSI: -78 (avg) : -82 (last reading) Transmission Interval: 0.687 seconds (avg) : -	2.184 seconds (läst reading)	
ACP-9059AF08A9AA RSSI: -79 (avg) : -81 (last reading) Transmission Interval: 0.691 seconds (avg) -	3.843 seconds (last reading)	
ACP-9059AF08AE92 RSSI: -88 (avg) · -88 (last reading) Transmission Interval: 0.268 seconds (avg) :	19.376 seconds (last reading)	
ACP-9059AF08AE88 RSSI: -92 (avg) : -93 (last reading) Transmission Interval: 7,443 seconds (avg) :	7.782 seconds (last reading)	

6. Press the desired Bluetooth beacon.

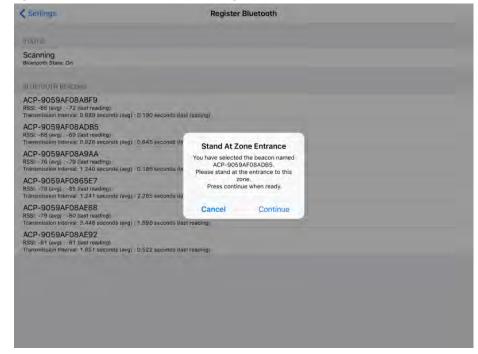
ACP-9059AF08ADB5 was chosen in Figure 731.



This ThinManager Server is using ACP as a filter in the Relevance Settings dialog box to limit the number of Bluetooth beacons shown. See <u>Bluetooth Beacons on page 531</u> for details.

The mobile device prompts you to go to the location that you want as the entrance point for the zone.

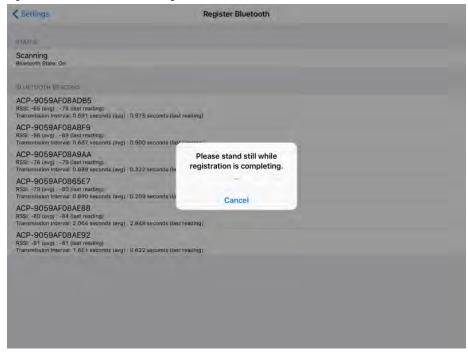
Figure 732 - Stand At Zone Entrance Dialog



7. Press Continue.

It can take a few seconds to allow the device to read the signal strength to create the resolver data.

Figure 733 - Please Wait Message



8. Do not move around while the device registers.

Once the data is collected and the Bluetooth beacon is registered, you are prompted to name the location.

Figure 734 - Enter Location Description

Settings			Regis	ster Blueton	oth				
STATUS									
Scanning Bluetooth Statu: On			Ente	r Descripti	on				
BLUFTOOTH BEACONS			ADB5		1				
ACP-9059AF08ADB5 RSSI: -65 (avg) : -65 (last rea Transmission Interval: 0.965	sding)	51 seconds (la.	Cancel		ок				
ACP-9059AF08ABF9 RSSI: -66 (avg) : -61 (last rea Transmission Interval: 0,963	ading)	51 seconds (last	reading)						
ACP-9059AF08A9AA RSSI: -77 (avg) : -77 (last rea	A adima)								
5									
1 2	3	4	5	6	7	8	9	0	$\langle \times \rangle$
5 c a 1 2 - /	3	4	5	6	7	8	9		æturn
	L		5 (6) ?			-		

9. Type a Description and click OK.

The program confirms successful Bluetooth registrations.

Figure 735 - Success Dialog Box

C Settings				Reg	ister Bluetoo	oth				
STATUS										
Scanning Bluetooth Sta	ate: On									
	BEACONS			Successfully	Success	identifier.				
RSSI: -67 (av	9AF08ADB5 (g): -70 (last read Interval: 2.070 s	ting) econds (avg) : D.7	80 seconds (las	t reading)		-				
ACP-905	9AF08ABF9									
ACP-905	9AF08A9AA									
50	a									
50	2	3	4	5	6	7	8	9	0	\otimes
		3	4	5 (6	7	8	9		(X)
		Ľ			6) ?		&	-		

10.Choose Manage>Manage IDs.

The Resolver Managemet dialog box appears, where the QR Code is registered and entered.

Figure 736 - Resolver Management

Name	Type	Add
ADB5	Bluetooth QR Cude	Delete
QR-02 QR-03	QR Code QR Code	Edit
		Search

Define Bluetooth Beacons on an Android

This is the procedure for defining a Bluetooth with an iPad.

- 1. Place the Bluetooth beacons in the locations that you want.
- 2. Press Settings.

The aTMC program is launched.

3. Press Register Bluetooth Beacon under the Relevance Resolvers section.

If you have more than one ThinManager Server defined, you must to pick the ThinManager Server on which you want the Bluetooth beacons registered.

- 4. Choose the desired Bluetooth beacon from the generated list.
- 5. Type a name and press Register.
- 6. Choose Manage>Manage IDs.

The Bluetooth beacon is registered and entered in the Resolver Management dialog box.

1. Open the aTMC program on the iPad.

Figure 737 - ThinManager aTMC Program

				N 7 13%
aTMC				
Emerald 10.7.10.31				
EducationRDP02a 10.7.10.62				
		Settings		
	5	۲ ۲	Ū	

2. Press Settings on the bottom.

The Settings dialog box appears.

Figure 738 - Settings Menu

9 🖽 🔺		☆ 奈‡ 73% ■ 4:24 PM
aTMC		
Emerald 10.7.10.31		
EducationHDP02a 10 7.10.62	Settings	
	Manage ThinServer	
	Add ThinServer	
	Remove ThinServer	
	Settings	
	5 Č	ð

3. Press Manage ThinServer.

The Choose ThinServer to Manage page appears.

Ф Ш А	■ 🕺 🛜 - 73% 🖬 4:24 PM
Choose ThinServer to Manage	
Emerald 10.7.10.31	
EducationRDP02a 10.7.10.62	

4. Press the ThinManager Server on which you want to register the Bluetooth beacon.

The Settings page appears.

Figure 740 - Register Bluetooth Beacon Command

9 🖽 🔺				🕺 😤 - 73% 🔜 4:24 PM
Settings				
RELEVANCE RESOLVERS				
Register QR Code				
Register Bluetooth Beacon				
Register WiFi Access Point				
CAMERA				
Set Camera Location				
DEBUGGING				
Debug Logging: Disabled				
	5	Ċ	ū	

5. Press Register Bluetooth Beacon.

The Bluetooth beacons that the mobile device finds are listed on the Register Bluetooth page.

Ф П 4	☆ - 73% ■ 4:24 PM
Select Bluetooth Device	
ACP-9059AF08ABF9 (90:59:AF:08:AB:F9) RSSI (Last): -72 RSSI (Avg): -66 LastUpdate: 0.3 sec ago UpdateInterval: 0.8 sec	
ACP-9059AF08A9AA (90;59:AF.08:A9:AA) RSSI (Last): -68 RSSI (Avg): -67 LastUpdate: 0.2 sec ago UpdateInterval: 0.8 sec	
ACP-9059AF08ADB5 (90:59:AF:08:AD:B5) RSSI (Last): -76 RSSI (Avg): -69 LastUpdate: 0.3 sec ago UpdateInterval: 1.2 sec	
ACP-9059AF08AE92 (90:59:AF:08:AE:92) RSSI (Last): -82 RSSI (Avg): -83 LastUpdate: 2.2 sec ago	

6. Press the desired Bluetooth beacon.

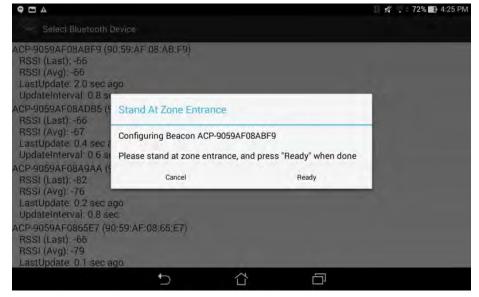
In Figure 741, ACP-9059AF08ABF9 was selected.



This ThinManager Server is using ACP as a filter in the Relevance Settings dialog box. See <u>Bluetooth Beacons on page 531</u> for details.

The mobile device prompts you to go to the location that you want as the entrance point for the zone.

Figure 742 - Stand At Zone Entrance Dialog Box



7. Press Ready.

• • •			🗍 💋 😴 = 72% 🚮 4:2	5 PM
Select Bluetooth	Device			
ACP-9059AF08ADB5 RSSI (Last): -53 RSSI (Avg): -65 LastUpdate: 0.4 sec		i)	-	
UpdateInterval 0.7 s ACP-9059AF0865E7 (Please Wait			
RSSI (Last): -65 RSSI (Avg): -68 LastUpdate: 0.1 sec UpdateInterval: 0.7 s	Please stand still	while signal strength re	adings are collected.	
ACP-9059AF08A9AA			1/10	
RSSI (Last): -73 RSSI (Avg): -77 LastUpdate: 0.3 sec		Cancel		
UpdateInterval: 0.7 s null (72:28:87:6E:DC:0 RSSI (Last): -84 RSSI (Avg): -84 LastUpdate: 0.1 sec	(3)			
	ţ,			

It can take a few seconds to allow the device to read the signal strength to create the resolver data.

Once the data is collected and the Bluetooth beacon is registered, you are prompted to name the location.

Figure 744 - Enter Location Description

•	₽														0 %	· 😨 = 7	2% 🛄 4:25 PM
Se Se	elect Blu							-									
ACP-905			En	ter Ider	tifie	Nan	ne										
	ast): -6		AB	-9													
LastUp Update ACP-905	date: 0. Interval 9AF08A	0.7 s		Cancel			Use I	Data a:	s Nam	e)	Ok				
RSSI (I	act) -6																
ABF9			_	_		_	_	_		_		_		_		_	
	1	2 @		3 *	4	\$	5	%	6		7	8	8	*	9	¢	0)
q	w	1	e	r	T	t		у	T	u		i	T	0		р	
	a	S		d	f	Τ	g	T	h	2	j	1 -	k	e -	1		Done
Ŷ	z		x	с	Τ	v		b	-	n	1	m	1	ļ	T	?	Ŷ
ф	1@#		Ų						í.				T	4	Т		
				1	/												

- 8. Type a Name for the location and click Ok.
- 9. Choose Manage>Manage IDs.

The Resolver Management dialog box appears with the Bluetooth beacon displayed.

		Add
ABF9	Bluetooth	
ADB5	Bluetooth	Delete
QR-01	QR Code	Edit
QR-02	QR Code	Edit
器 QR-03	QR Code	Search

Figure 745 - Resolver Management Dialog Box

Wi-Fi Access Points

This resolver is based on the BSSID (a MAC type address) of the Wireless Access Point (WAP) that the mobile device is connected to at the time.

Relevance can use Wi-Fi access points as location resolvers. Wi-Fi Resolvers work well in situations where there are multiple access points. Membership of a network give you access to functions in that area.

See Fencing and Sub-Locations on page 697 in the ThinManager with Relevance 11.2 User Manual for details.

Here is the procedure.

- 1. Install Wi-Fi access points in the areas you need.
- 2. Press Settings.

The mobile program launches.

3. Press Register Wi-Fi Access Point under the Relevance Resolvers section.

If you have more than one ThinManager Server defined, you must pick the ThinManager Server on which you want the QR code registered.

- 4. Select the access point from the generated list.
- 5. Type a name and press Register.
- 6. Choose Manage>Manage IDs.

The Resolver Management dialog box appears with the Wi-Fi Access Point registered and listed.

Define Wi-Fi Access Points with an iPad

The Wi-Fi resolver is defined like a Bluetooth beacon.

1. Open the **iTMC** program on the iPad.

Figure 746 - ThinManager iTMC Program

	Main	
EducationRDP02a Primary: 10.7.10.62 Secondary: (None) Terminal Name: 5 JPad	Education 10 Primary: 10.9.10.10 Secondary: (None) Terminal Name: iPad_Admin	
	Please Select	
	Manage a Server	
	Add a New Server	
	Delete Server	
	Cancel	
	Settings	

2. Press Settings on the bottom.

The Settings menu dialog box appears.

3. Press Manage a Server.

The Select Server to Manage page appears.

Figure 747 - Select Configuration



4. Press the ThinManager Server on which you want to register the Wi-Fi resolver.

Figure 748 - Settings Page of iTMC

K Main	Settings	
RELEVANCE RESOLVERS		
Register QR Code		
Register GPS Location		
Register Bluetooth Beacon		
Register WiFi Access Point		
OTHER		
Edit Background		
Email ACP		

5. Press Register Wi-Fi Access Point.

The Register Access Point page appears.

Figure 749 - Available Wi-Fi Access Points

Settings	Register Access Point	
INEC		
BSSID = 28:cf:e9:84:4a:a1		
Tap Here To Registe		

The mobile device allows you to register the Wi-Fi Access Point you are connected to and list it on the Register Access Points page.

6. Press the access point.

Once the data is collected and the Wi-Fi access point is registered, you are prompted to name the location.

Figure 750 - Enter Location Description

Settings	5			Regis	ter Access F	Point				
INFO										
BSSID = 1	28:cf:e9:84	4a:a1		Ent	er Descripti	on				
Tap Hens	To Register		_	ACP-Educat						
		_	-	Cance	(ок				
				-						
-		-	-		-	-	-	-	-	-
5 c	đ			_		_				
b ⊂ q	a w	е	r	t	у	u	1	0	р	$\langle \times \rangle$
q	w		-	-		u	_		1000	
	w	-	r f	t g	y h	u j	i k	0	1000	eturn
q	w		-	-		u j n	_	1	r ?	eturn
q	W	d	f	g	h	j	k			eturn

7. Type a description and click OK.

The program confirms successful Wi-Fi registrations with a Success dialog box.



< Settings	6			Regis	ster Access	Point				
INFØ BSSID = 2	28:cf:e9:84:4	la:a1								
Tap Hens	Tợ Regist⇒			Successful	Success y registered ne	w identifier.				
50	đ	-		-	_	_			_	
q	W	е	r	t	у	u	i	0	р	$\langle \times \rangle$
а	s	d	f	g	h	j	k	1	re	eturn
Ŷ	Z	x	с	v	b	n	m	!	?	Ŷ
123	٢	Q							123	

8. Choose Manage>Manage IDs.

The Resolver Management dialog box appears with the Wi-Fi resolver is registered and entered.

	Resolver Management	
Name	Туре	Add
ABF9	Bluetooth	-
ACP-Education	Wi-Fi Access Point	Delete
ACP-Terminal-1	Bluetooth	-
ADB5	Bluetooth	Edit
2 QR-01	QR Code	
器 QR-02	QR Code	Search
🐺 QR-03	QR Code	
		OK

Defining Wi-Fi Access Points with an Android

Wi-Fi access points are defined and registered like the Bluetooth beacon.

1. Open the aTMC program on the iPad.

Figure 752 - ThinManager aTMC Program

				n 🕆 🙃 † 73% 🚺
aTMC				
Emerald 10.7.10.31				
EducationRDP02a 10.7.10.62				
		Settings		
	t,	۲ ۲	ā	

2. Press Settings on the bottom.

The Settings page appears.

igure 753 - Settin 🤋 🗆 🔺				🖉 🕫 🕯 73% 🗊 4:24 PM
aTMC				
Emerald 10.7.10.31				
EducationRDP02a 10 7.10.62	Settings		_	-
	Manage ThinServer	1		
	Add ThinServer			
	Remove ThinServer			
		Settings		
	5		Ē	

3. Press Manage ThinServer.

The Choose ThinServer to Manage page appears.

Figure 754 - Select Configuration

9 C A				🛛 🚀 🤶 73% 🔜 4:24 PM	
Choose ThinServer to N	Manage				
Emerald 10.7.10.31					
EducationRDP02a 10.7.10.62					
le construction de la constructi					
	D	ŝ	Ū		

4. Press the ThinManager Server with which you want to register the Wi-Fi network.

The Settings page appears.

Figure 755 - Register Bluetooth Beacon Command

D 2 3 4 é			🗌 🚿 🤶 : 73% 🇊 8:58 PM
Settings			
RELEVANCE RESOLVERS			
Register QR Code			
Register GPS Location			
Register Bluetooth Beacon			
Register WiFi Access Point			
CAMERA			
Set Camera Location			
DEBUGGING			
Debug Logging: Disabled			
	►)	Ē	

5. Press Register Wi-Fi Access Point on the Settings page.

The Register WiFi BSSID dialog box appears.

Figure 756 - Register Configuration

C C Z A Ê				🕺 😤 🕈 73% 🂽 8:58 PM
Register WiFi Acco	ass Point			
	Basting With BOOK	0		
	Register WiFi BSSI	iD.		
	Register BSSID 28:cf:e	e9:84:4a:a0		
	1000			
	Cancel		Register	
	5	Ω		

The ThinManager Server lets you register the wireless network to which you are connected.

6. Press Register.

Once the Wi-Fi access point is identified, you are prompted to name the location.

Figure 757 - Enter Location Description

-		▲ 🖻																
		ister W			inter	Ident	tifie	Nan	ne									
				A	CP-E	ducatio	on											
					c	ancel			Use	Data a	is Nam	e		Ok				
ACP-I	Edu	cation	A	CP-R	edu	ction	AC	P-Ed	luca	ting	ACF	P-Equ	uation	ACP-	Educa	ator	ACP-	Auct
	1		2	0	3	#	4	\$	5	%	6	*	7	8	*	9	(0)
q	1	w	1	e		r		t		у	1	u		i	0	1	р +	
	а		s		d		f		g		h		j	k		T		Done
Ŷ		z		х		с		۷		b	-	n		m /	Ţ		?	Ŷ
0		1@#		ų						<u> </u>	i.			1	÷			:-)
						1	1			$\langle \Box \rangle$				ī				

7. Type a Name for the Wi-Fi access point and press Ok to finish the registration process.

Figure 758	- Resolver	Management	Dialog Box
------------	------------	------------	------------

	Resolver Management	
Name	Type	Add
ABF9	Bluetooth	
TACP-Education	Wi-Fi Access Point	Delete
ACP-Terminal-1	Bluetooth	Edit
ADB5	Bluetooth	Edit
QR-01	QR Code	Search
器 QR-02 器 QR-03	QR Code QR Code	
3.8		
		OK
		OK

8. Choose Manage>Manage IDs.

GPS

The Resolver Management dialog box appears, where the Wi-Fi access point is registered and entered.

Relevance can use Global Positioning, or GPS, as a location resolver. The mobile program uses the build in GPS system to identify the location.

The Global Positioning System resolver type works well for outdoor areas. It can be used to create a large Parent Location. You set up so that you must be within the GPS area for other actions to take place.

When you assign the GPS resolver to a Location, you can set the range for altitude and radius from your initial point. This gives you the ability to create a rather large area for something like an oil field, a large processing facility, or an entire building complex. You can also use it for finer resolution of individual buildings, tanks, pump jacks, or other smaller outdoor areas. As you assign these types of resolvers, it is best to avoid overlap of GPS areas.

This is the procedure for using GPS.

- 1. Allow GPS on the mobile device and in the iTMC or aTMC program.
- 2. Launch the mobile program and press Settings.
- 3. Press Register GPS Location under the Relevance Resolvers section. If you have more than one ThinManager Server defined, you must pick the ThinManager Server on which you want the QR code registered.
- 4. Select the location to register.
- 5. Type a name for the location.
- 6. Choose Manage>Manage IDs.

The Resolver Management dialog box appears with the GPS location registered and entered.

Register GPS with an iPad

Define a GPS location similarly to how you define a Bluetooth beacon.

1. Open the iTMC program on the iPad.

Figure 759 - ThinManager iTMC Program



2. Press Settings on the bottom.

The Settings menu dialog box appears.

3. Press Manage a Server.

The Select Server to Manage page appears.

Figure 760 - Select Configuration

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 Full Cation 10

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 Full Cation 10

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 Full Cation 10

Select Server to Manage

4. Press the ThinManager Server on which you want to register the GPS location.

The Settings page appears.

Figure 761 - Register GPS Location

K Main	Settings	
RELEVANCE RESOLVERS		
Register QR Code		
Register GPS Location		
Register Bluetooth Beacon		
Register WiFi Access Point		
OTHER		
Edit Background		
Email ACP		

5. Press Register GPS Location.

The Register Location page appears with the GPS listed on it after the mobile device finds it.

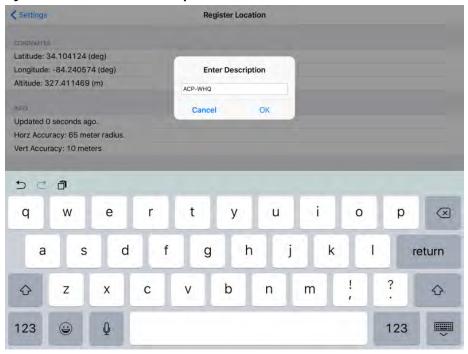
Figure 762 - Available GPS Location

Settings	Register Location	
CORDINATES		
Latitude: 34.104179 (deg)		
Longitude: -84.240714 (deg)		
Altitude: 326.762817 (m)		
INFO		
Updated 0 seconds ago.		
Horz Accuracy: 65 meter radius.		
Vert Accuracy: 10 meters		
Tup Here To Register Location		

6. Press Tap Here To Register Location.

Once the data is collected and the GPS location registered, you are prompted to name the location.

Figure 763 - Enter Location Description



7. Type the Location Description.

The program confirms a successful GPS location registration.

Figure 764 - Success Dialog

< Settings	ř.			Reg	jister Locatio	on				
CORDINALE	ŝ									
Latitude:	34.104124	(deg)								
Longitude	e: -84.24057	74 (deg)		-						
Altitude: 3	327.411469	(m)			Success					
				Successfully	registered new	v identifier.				
INSERS				-						
	0 seconds a	and the second second								
Horz Acci	uracy: 65 me	eter radius.								
Vert Accu	racy: 10 me	ters								
50	đ					_		_		
n d q	a w	е	r	t	у	u	si.	0	p	\otimes
-	w		r f	t g	y h	u j	i k	0	1000	⊗
q	w	-	-	-	-	u j n		-	1000	

8. Choose Manage>Manage IDs.

The Resolver Management dialog box appears with the registered GPS location displayed.

Figure 765 - Resolver Management

Name	Type	Add
ARE9	Bluetooth	
Y ACP WHQ	GPS	Delete
ACP Education	Wi Fi Access Point	- 10
ACP-Terminal-1	Bluetooth	Edit
ADB5	Bluetooth	Search
器 QR-01	QR Code	
2R-02	QR Code	
器 QR-03	QR Code	
		OK

Register GPS with an Android

GPS locations are defined and registered like the Bluetooth beacon.

1. Open the aTMC program on the tablet.

Figure 766 - ThinManager aTMC Program

			1 🐔 🖘 🕈 73% 🔜
aTMC			
Emerald 10.7.10.31			
EducationRDP02a 10.7.10.62			
		Settings	
	5	Ċ	

2. Press Settings on the bottom of the page.

The Settings dialog box appears.

Figure 767 - Settings Menu

9 🗖 🔺				\$\$ ₹ 73% ¥:24 PM
atMC				
Emerald 10.7.10.31				
EducationRDP02a 10.7.10.62	Settings	_	_	
	Manage ThinServer			
	Add ThinServer			
	Remove ThinServer			
		Settings		
	5	ά	Ð	

3. Press Manage ThinServer.

The Choose ThinServer to Manage page appears.

Figure 768 - Select Configuration

9 🖽 🔺				🕺 🛜 : 73% 🖬 4:24 PM	
Choose ThinServer to Mar	nage				
Emerald 10.7.10.31					
EducationRDP02a 10,7.10.62					
	5		E.		

4. Press the ThinManager Server with which you want to register the GPS locations.

The Settings page appears.

Figure 769 - Register GPS Location

C 2 2 4 @			🗐 🕸 🤶 73% 🔝 8.58 PM		
Settings					
RELEVANCE RESOLVERS					
Register QR Code					
Register GPS Location					
Register Bluetooth Beacon					
Register WiFi Access Point					
CAMERA					
Set Camera Location					
DEBUGGING					
Debug Logging: Disabled					
	Ð	Ū			

5. Press Register GPS Location.

The Register GPS Location page appears.

Figure 770 - Register GPS Locati	on		
			💡 🛯 🚀 奈 🕯 63% 🚮 10:15 PM
Register GPS Location			
	Lat	34° 6' 13.48" N	
	Lon	84° 14' 26.16" W	
	Accuracy	65.1 m	
	Age	0 sec	
Cancel		Register	
5		6 D	

6. Press Register.

Once the GPS location is identified, you are prompted to name the location.

Figure 771 - Enter Location Description

						9 Q J	《 帝:63% 🖬				
8	Registe	r GPS Lo		er Identi	fier Nar	ne					
			ACP	WHQ		_					
				C	ancel			Ok			
WHQ	WHY	wно									
	1	2	2	3 *	4 \$	5 %	6	7 🐁	8 *	9 (0)
q	1	N 1	е	r	t	у	u	i	0	р	
	а	S	d		f	g	h	j i	k	1	Done
Ŷ		z	x	с	v	b	n	m	1	?	Ŷ
ø	1(@#	Ŷ			Ĺ	-		4		 :-)
				\rangle		1	<i>7</i>				

- 7. Type the Name of the GPS location and press OK to finish the registration process.
- 8. Choose Manage>Manage IDs.

The GPS location is registered and entered in the Resolver Management dialog box.

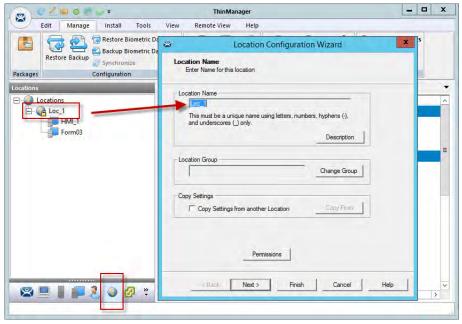
	Resolver Management	
Name	Туре	Add
	Bluetooth GPS	Delete
ACP Education	Wi Fi Access Point Bluetooth	Edit
8 ADB5 2 QR-01	Bluetooth QR Code	Search
QR-02	QR Code	
300 QK-03	QR Code	
		ОК

Figure 772 - Resolver Management

Add Actions to Resolver Codes

Resolvers can be applied to a location and have an action associated with them so that when a resolver is used, a particular action is launched.

Figure 773 - Location Configuration Wizard



- 1. Click the Locations icon at the bottom of the ThinManager tree.
- 2. Double-click a location to open the Location Configuration Wizard.

Figure	774 -	Relevance	Resolver	Selection	Page
--------	-------	-----------	----------	-----------	------

8	Lo	cation Configuratior	n Wizard	×
1	Relevance Resolver So Assign Relevance Res			
f	Relevance Resolvers			
[Name	Туре	Action	
	<	Ш)	
	Add De	lete Edit		
	< Back	Next > Finish	Cancel	Help

- 3. Click Next until the Relevance Resolver Selection page appears.
- 4. Click Add.

The Choose a Relevance Resolver dialog box appears, which has a pull-down menu that lets you select which resolver to configure.

Figure 775 - Choose a Relevance ID

Choose a Relevance Resolver						
	Only Show Unassigned Resolvers					
Resolver Name	ACP WHQ					
Resolver Description						
Resolver Type	GPS					
Choose Action						
	Settings					
	Permissions					
	OK Cancel					

- 5. Check Only Show Unassigned Resolvers to limit the list to unassigned resolvers, which prevents duplication.
- 6. Choose a resolver from the Resolver Name pull-down menu.

The Resolver Type indicates whether it is a QR code, Bluetooth beacon, GPS, or Wi-Fi resolver.

Figure 776 - Choose Action Selection

Choose a Relevance Resolver					
	Only Show Unassigned Resolvers				
Resolver Name	QR-01	•			
Resolver Description					
Resolver Type	QR Code				
Choose Action	Clone Force Transfer No Action Shadow Transfer View Only Shadow				

There are six actions that can be applied to the Relevance ID.

Action	Description
Clone	Creates a new duplicate session using the mobile device Windows account.
Force Transfer	Automatically diverts the location graphic to the mobile device.
No Action	Initiates no new action.
Shadow	Provides an interactive shadow on the mobile device.
Transfer	Diverts the location graphic to the mobile device after operator input.
View Only Shadow	Provides a shadow without allowance of any input from the mobile device.

Each location can have several Relevance IDs with different actions.

Figure 777 - Relevance ID Selection Page

8	Location Config	uration Wizard	x
	e Resolver Selection Relevance Resolvers to this location	n	
Relevance	Resolvers		
Name	Туре	Action	
QR-01 QR-02 QR-03	QR Code QR Code QR Code	Shadow Force Transfer Clone	
<	w	5	
Add	Delete E	dit	
	< Back Nexts I	Finish Cancel	Help

<u>Figure 777</u> shows a location with three QR codes, each with their own action. Scanning a code initiates the associated action.

Table 3 - QR Code Resolver Actions

QR Code Resolver	Action
QR-01	Shadow
QR-02	Force Transfer
QR-03	Clone

Normally, you use a single QR code and use Permissions to deploy the different functions. <u>Table 3</u> is just a simplified example to show the concept of different actions. See One QR Code, Multiple Actions on page 723 of the ThinManager with Relevance 11.2 User Manual.

Interact with the Location

The iTMC client can be used to interact with the location by a scan of the four resolvers configured with different actions in the previous example.

The iTMC screen has a menu bar at the top with several command buttons.

Figure 778 - iTMC Menu Bar

G	25		5_iPad	Scan	ScanID	LogIn	Menu	
---	----	--	--------	------	--------	-------	------	--

These are the button descriptions from right to left.

Button	Description			
Switch (cascaded square)	Press to switch between two or more Display Clients.			
Full Screen (four-arrow icon)	Press to make the display client full screen. Touching the screen with three fingers restores the view.			
Keyboard	Press to launch an on-screen keyboard.			
Name The center space displays the name of the Terminal, Relevance user, or display depending on the state of the Terminal.				
Leave	Press to end the action that was initiated by the original scan.			
can Press to allow the scan window to act as a keyboard wedge to pull data into the se				
Scan ID Press to open the Scan Identified window to scan QR codes to resolve a local or action.				
Login Press to open the Relevance login dialog box to allow you to log in with a Rele user name.				
Menu	Press to launch the Main Menu screen.			

1. Press Main Menu.

The Main Menu appears.

Cancel	Main Menu	
ACTIONS		
Login User Login a TermSecure	User by name	
Login Location Manually select a log	cation from a list	
ScanID Scan a relevance ide	entifier to perform an action	
Scan Use the scanner as	a keyboard wedge for this display client.	
INFORMATION Info Gestures and app ve	ersion info:	
Info Gestures and app ve About	ersion infò: Secure Info, Location Info	
Info Gestures and app ve About	Secure Info, Location Info	
Info Gestures and app ve About IP Addresses, TermS	Secure Info, Location Info	
Info Gestures and app ve About IP Addresses, Terms View Bluetooth Be	Secure Info, Location Info	

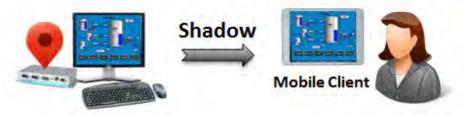
The Main Menu has a variety of functions. The state of the application determines what is displayed.

Function	Description		
ACTIONS			
Login User	Press to launch a dialog box for to log in as a Relevance user.		
Login Location	Press to manually select a location.		
Scan ID Press to open the Scan Identified window to scan QR codes to resolve a location or action.			
Scan	Press to allow the scan window to act as a keyboard wedge to pull data into the session.		
INFORMATION			
Info Provides version numbers and lists gestures to navigate the program.			
About Launches a dialog box with user, location, and network information.			
View Bluetooth Beacons Lists the Bluetooth beacons within range and their signal strength.			
View WiFi Access Point Lists the BSSID of the Wi-Fi network to which you are connected.			
Hide Map When Zoomed Normally, when the screen is zoomed, a map is provided so you can determin of the screen that is viewed. This feature hides the map during a zoom.			

Shadow

A Shadow duplicates the graphic output of the location and sends it to the mobile device. The mobile user sees the exact display as the location. See Figure 780 on page 562.

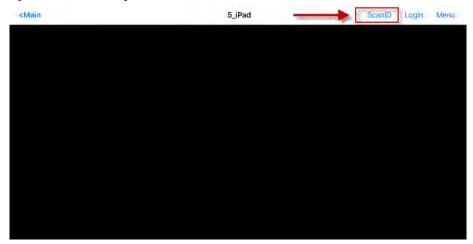
Figure 780 - Shadow



- 1. Launch the iTMC application.
- 2. Select your ThinManager Server on the configuration screen to run your iPad as a Terminal.

The Main Screen has a menu bar at the top with Main, ScanID, Login, and Menu.

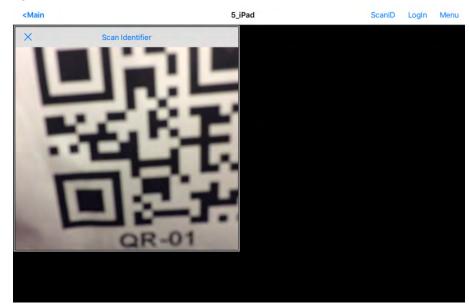
Figure 781 - ThinManager iTMC Main Screen



3. Press ScanID in the upper-right of the menu bar.

The Scan Identifier screen, which is the onboard camera, appears.

Figure 782 - Scan Identifier



4. Position the camera over the resolver code.

The device reads the code and acts on it.



The image of the QR code is blurry because it registers and closes as soon as it is in focus.

The iTMC client now shadows the location because the resolver had the shadow action applied to it.

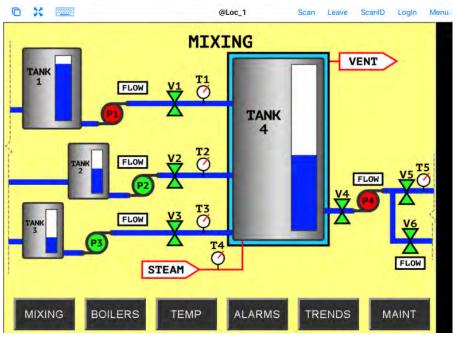


Figure 783 - Shadowed Session on iTMC Client

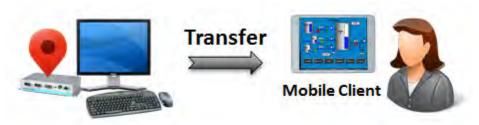
5. Press Leave to end the Shadow action.

Forced Transfer

Transfer sends the graphic output of the location to the mobile device instead of the location. Transfer can be done automatically with Forced Transfer or set to require the operator to manually allow the transfer.

Forced Transfer takes control without operator input, which prevents someone from taking the session while the operator is busy with a process. It also allows a mobile user to take sole control of the location.

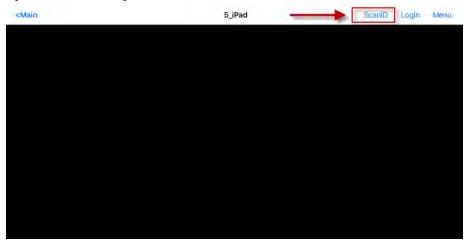
Figure 784 - Forced Transfer



- 1. Launch the iTMC application.
- 2. Select your ThinManager Server on the configuration screen to run your iPad as a Terminal.

The Main Screen has a menu bar at the top with Main, ScanID, Login, | and Menu.

Figure 785 - ThinManager iTMC Main Screen



3. Press ScanID near the upper-right corner.

The Scan Identifier screen, which is the onboard camera, appears.

Figure 786 - Scan Identifier



4. Scan the resolver associated with Forced Transfer. The display is ported to the mobile device.



The image of the QR code is blurry because it registers and closes as soon as it is in focus.

The display from the location is moved to the mobile device.

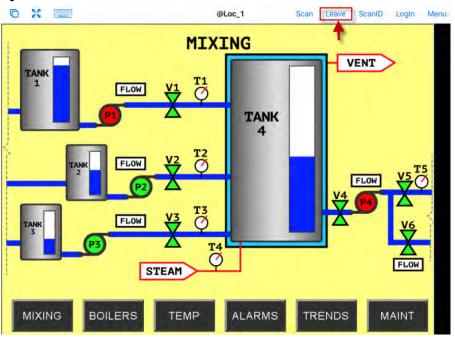


Figure 787 - Transfer on the Mobile Device

When the action of the resolver is Forced Transfer, the display at the location is automatically transferred to the scanning iTMC client.

Figure 788 - Forced Transfer at Location



5. Press Leave in the top menu bar or Leave Location on the Main Menu to end the transfer.

A message box is displayed on the client to explain that the display is transferred.

Figure 789 - Main Menu at the Location

MAIN MENU					
Log In	Restore Location	About	Cancel		

You can recall the display.

6. Go to the location and Press Restore Location.

The iTMC client displays a Location Logoff dialog box when a restoration request is initiated.

Figure 790 - Location Logoff Dialog Box



Yes	Press to allow the restoration of the display.
No	Press to refuse the restoration of the display.
More Time	Press to send a request to the location for more time. The location gets a message with Yes and No, which provides the power to allow more time or end the transfer.

Transfer

Transfer sends the graphic output of the location to the mobile device instead of the location. Transfer can be done automatically with Forced Transfer or set to require the operator to manually allow the transfer.

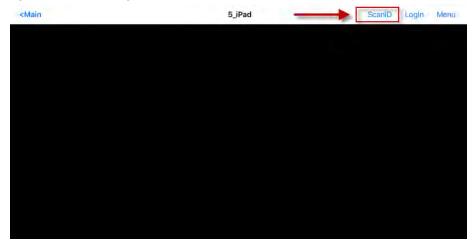
Transfer requires operator input to allow the transfer, which prevents someone from taking the session while the operator is busy with a process. Also, it allows a mobile user to take sole control of the location. Figure 791 - Transfer



- 1. Launch the iTMC application.
- 2. Select your ThinManager Server on the configuration screen to run your iPad as a Terminal.

The Main Screen has a menu bar at the top with Main, ScanID, Login, and Menu.

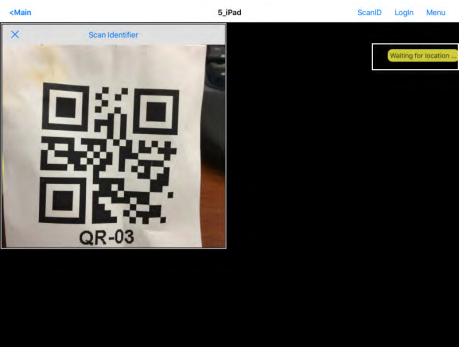
Figure 792 - ThinManager iTMC Main Screen



3. Press ScanID in the upper-right part of the menu bar.

The Scan Identifier screen, which is the onboard camera, appears.

Figure 793 - Scan Identifier



4. Scan the resolver associated with Transfer.

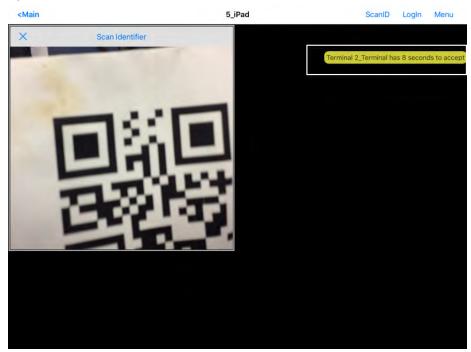
A request for transfer is sent to the location.



The image of the QR code is blurry because it registers and closes as soon as it is in focus.

A message is sent to the mobile device, which tells it that the location must respond.

Figure 794 - Transfer Notification



The scan initiates the transfer—this is not a forced transfer, but a manual transfer—which requires confirmation at the location.

The operator at the location is shown a dialog box that requires approval to transfer.

Figure 795 - Location Logoff Dialog Box

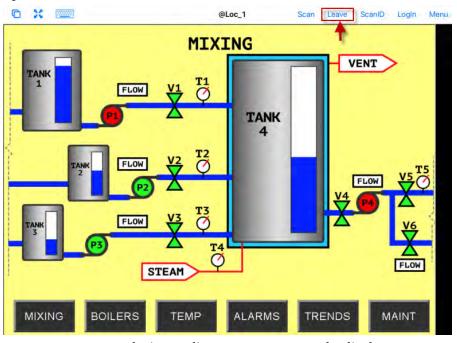
Location Logoff				
Allow transfer of location Loc_1 to another device?				
YES NO MORE TIME				

5. The operator at the location clicks Yes to allow the transfer.

The iTMC client is allowed to show the location display, which is moved from the location to the mobile device.

The location display can be restored from the iTMC client or the location.

Figure 796 - Transfer on the Mobile Device



6. Press Leave on the iTMC client menu to restore the display to the location.

Figure 797 - Main Menu at the Location



a. Alternatively, the operator at the Location, can click Restore Location on the Main Menu to restore the display.

On the iTMC client, the Location Logoff dialog box appears, which asks whether to transfer location display to another device.

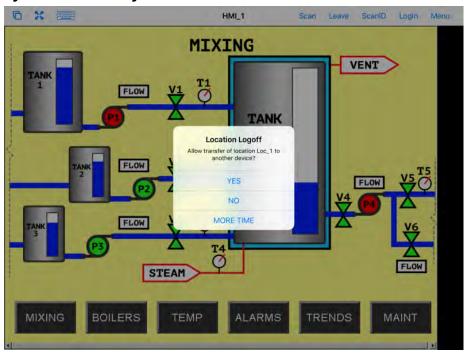


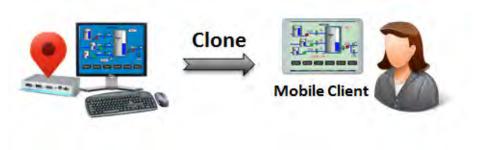
Figure 798 - Location Logoff on the Mobile Device

7. On to the iTMC client, press Yes to allow the transfer to the location.

Clone

Clone duplicates the display clients of the location on the mobile device, but the sessions are created with the mobile device Windows user account.

Figure 799 - Clone



Clone allows a mobile user to get the HMI or other software and have independence from the user at the location.

- 1. Launch the iTMC application.
- 2. Select your ThinManager Server on the configuration screen to run your iPad as a Terminal.

The Main Screen has a menu bar at the top with Main, ScanID, Login, and Menu.

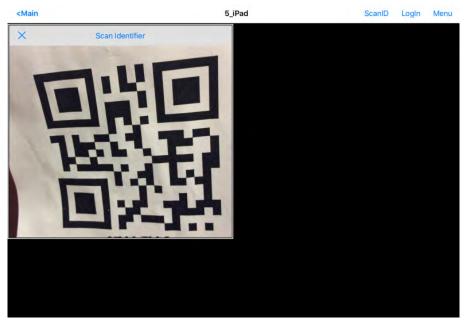
<Main 5_jPad ScanD Login Menu

Figure 800 - ThinManager iTMC Main Screen

3. Press ScanID on the right side of the menu bar.

The Scan Identifier screen, which is the onboard camera, appears.

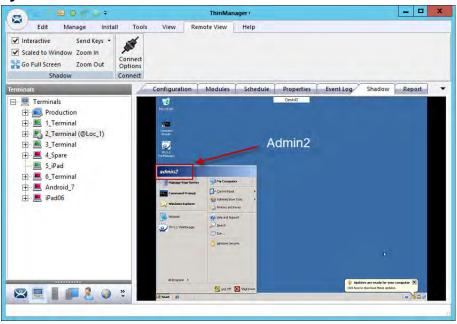
Figure 801 - Scan Identifier



4. Scan the resolver associated with Clone.

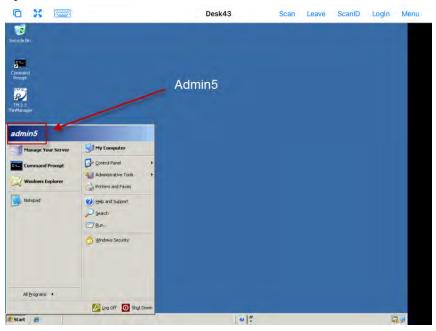
Relevance launches the display clients used at the location on the mobile device, but uses the mobile device account. Clone gives a mobile user the same applications as the location, but with an independent session instead of a shared as in Shadow. Clone does not take the session as in Transfer and Forced Transfer.

Figure 802 - Cloned Session



<u>Figure 802</u> is a shadow from ThinManager that shows the Terminal logged in as Admin2.

Figure 803 - Cloned Session



Clone duplicates the sessions on the location, but creates the sessions with the Windows user account of the mobile device.

<u>Figure 803</u> shows the iPad clone of the 2_Terminal, which runs the same applications, but logs in with the Windows account of the iPad, which is Admin5.

	The following terms and abbreviations are used throughout this manual. For definitions of terms not listed here, refer to the Allen-Bradley Industrial Automation Glossary, publication <u>AG-7.1</u> .
Access Group	Provides the Relevance permissions that control access to a location, application, or function.
Content	The data, sessions, or information delivered to a thin client, terminal, or mobile device. It could be an HMI, a document, access to a full desktop, a camera image, or a shadow of another client. Deployed as Display Clients.
Dynamic Host Configuration Protocol (DHCP)	A network protocol that enables a server to automatically assign an IP address to a computer from a defined range of numbers.
Fat client	A Terminal with a hard drive that connects to a server.
Fencing	Provides an additional security layer to restrict access to a location via a hierarchy that has a resolver at a top-level location that must be resolved before using a resolver of a lower level.
Location	A configured element that is used as an endpoint for content deployment. It can contain display clients for content, be assigned a Windows user account, contain resolver actions, and be assigned to a terminal. An individual location is configured in a manner similar to terminals and TermSecure users in ThinManager.
MAC Address	Media Access Control address, a unique identifier assigned to a network interface controller for use as a network address in communications within a network segment.
Mobile Device	Mobile devices are Apple, Android, or Windows devices that have the appropriate ThinManager application installed and configured so that they can interact with the ThinManager Platform through Relevance.
Preboot Execution Environment (PXE)	A standardized client-server interface that allows networked computers that are not yet loaded with an operating system to be configured and booted remotely by an administrator.
Relevance	Relevance is a function of ThinManager that controls access to applications and assets through Location or User Permissions.
Relevance ID	The unique ID and name assigned to a new resolver device when it is added to the system.
Remote Desktop Protocol (RDP)	Microsoft's proprietary protocol that provides a user with a graphical interface to connect to another computer over a network connection.
Remote Desktop Server (RDS)	A 2008 R2 or 2012 Terminal Server.
Resolver	A Bluetooth® beacon, GPS, iBeacon, QR code, or Wi-Fi access point that a mobile device uses to identify a particular area.

Resolver Actions	The functions that are authorized on a mobile device by a resolver, which include Shadow, Transfer, Forced Transfer, and Clone.	
SmartSession	Provides load balancing between member remote desktop servers. This feature uses CPU availability, memory usage, and session count on the remote desktop servers to determine the load on the servers. ThinManager polls the server every eight seconds to maintain accurate status levels. Thin clients connect to the Remote Desktop Server with the most available resources. When SmartSession is not used, polling is turned off by default.	
TermCap	Terminal Capability, a software library and database that enables programs to use display terminals in a terminal-dependent manner; describes the capabilities of hundreds of different display terminals in great detail.	
Terminal	A client that connects to a server.	
Terminal Server	A Windows computer that acts like a mainframe, allowing clients to log in, start sessions, and run apps on the server but display the results on a terminal.	
TermSecure	The former name for the security component of ThinManager that grants or denies access to content in Relevance.	
Thin client	A terminal without a hard drive that connects to a server.	
ThinManager	The graphic user interface component of the ThinManager system that is used to control and configure the ThinServer database.	
ThinManager Server	A computer running the ThinManager interface and the ThinServer service.	
ThinServer	A database engine that contains the ThinManager configuration. It runs as a Windows service that ThinManager hardware communicates with in order to receive firmware, configuration, and to get information related to the Relevance setup.	
Unified Extensible Firmware Interface (UEFI)	New BIOS format for ThinManager Compatible PXE boot thin clients. It requires Port UDP-4011 open.	
Uniform Resource Locator (URL)	Web address of a resource on the Internet or a locally stored file. The resource can be any type of file stored on a server, such as a Web page, a text file, a graphics file, or an application program.	

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