19Virtualization in ThinManager

19.1 Virtualization Overview

A virtual machine is an isolated and independent install of an operating system within a host operating system. It allows one computer to run several virtual computers on one physical device. Virtualization, the use of virtual machines, allows the quick deployment and repetition of computers, often by duplicating a folder with a few files.

ThinManager 4.1 includes virtualization tools to help manage virtual servers and virtual workstations in a thin client system.

19.2 VCenter Servers

VCenter is a virtual machine management tool from VMWare. It allows IT administrators to control and manage multiple ESX servers and their virtual machines in a single console.

ThinManager can connect to a VCenter Server and allow the control and management of the virtual machines.

🕿 ThinManager v6.0		
ThinManager v6.0 Edit Manage Install Tools View Rem UIV2008R2 Terminals UISplay Servers UIVCenter Servers UIVCenter Servers UIVCenter Servers TermSecure Users	otzView Help Summary Attribute VCenter Servers View Summary Total VCenter Server*	Value Z
For Help, press F1	<u> </u>	

VCenter Servers Branch in the ThinManager Tree

The ThinManager tree has a VCenter Servers branch.

Right-click on the VCenter Servers branch to add a VCenter Server. It will launch a VCenter Server Property Wizard.

😂 VCenter Server Prope	rty Wizard	×
Virtual Machine Hos Enter VM Host nam	tt Name e and IP Address	$\mathfrak{>}$
VCenter Server Name		
VCenter IP Address	255 . 255 . 255 . 255	Discover
Log In Information		
User Name		
Password		
Verify Password		
Please enter a VM Serv	/er name	
< Back Nex	t> Finish Can	cel Help

19.2.1.1 Virtual Machine Host Name

Virtual Machine Host Name Page

Importance of Page: Virtual Machine Host Name Page allows a VCenter Server to be defined for use within ThinManager.

Settings:

- VCenter Server Name Enter the name of the VCenter Server you wish to connect to.
- VCenter IP Address Enter the IP address of the VCenter Server.
- User Name Enter an administrative account on the VCenter Server to allow a connection.
- **Password** Enter the password of the administrative account.
- Verify Password Re-enter the password of the administrative account for verification.

Buttons:

• **Discover** – This button will fill in the IP address of the listed VCenter Server.

Why Change from Default Settings:

ThinManager won't connect to a VCenter Server unless you tell it to.

Select *Finish* to complete the configuration.

🖼 ThinManager v6.0		
Edit Manage Install Tools View Rem	oteView Help	
	Summary Recent Tasks	
	Attribute	Value
	VCenter Server Summary	
	Name	VCENTER4
	IP Address	10.3.10.8
E Display Clients	Port	Default
F- 😌 TermSecure Users		
	Datacenters	
	Folders	
	Virtual Machines	
	VCenter Server Connection Status	
	Connectior Status	Attempting to connect to VCenler Server
1	<u> </u>	
For Help, press F1		

Connecting to VCenter Server

Once the VCenter Server is defined and the VCenter Server Property Wizard is closed, ThinManager will connect to the VCenter Server.

🖀 ThinManager v6.0		
Edit Manage Install Tools View Rem	noteView Help	
□ 🛱 WIN20C8R2	Summary Recent Tasks	
	Attribute	Value
Usplay Servers	VCenter Server Summary	
	Name	VCENTER4
	IP Address	10.3.10.8
🗄 🔲 🛄 Display Clients	Port	Default
🗄 🖞 TermSecure Users	Balancia da	
	Folders	1
	Virtual Machines	45
	VCenter Server Connection Status Connection Status	Jonnected
For Help, press F1	<u></u>	

Connected VCenter Server

Once the VCenter Server has connected the VCenter Servers branch can be expanded to see the virtual machine information imported from the VCenter Server.



VCenter Server Tree Icons

The tree will show the defined VCenter Servers, datacenters in the VCenter Server, and virtual machines. The virtual machine icons show the state they are in; stopped, suspended, or running.

19.2.2 VCenter Server Right-Click Menus

The branches of the VCenter Server tree have various right-click menus:

- VCenter Servers:
 - Add vCenter Server Launches the VCenter Server Property Wizard to allow a VCenter Server to be defined.
- Defined VCenter Servers:
 - *Remove* Removes the defined VCenter Server from ThinManager.
- Datacenter:
 - o **Rename** Allows you to rename the datacenter.
 - o **Delete** Allows you to delete the datacenter.
- Virtual Machine:
 - 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 the virtual machine.
 - 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.

19.2.2.1 Snapshots

Snapshots save the state of the virtual machine in a file. Snapshots allow 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 pre-change state.

Right-clicking on the virtual machine and selecting *Snapshot*>*Take Snapshot* will launch the **Create Snapshot** window.

Create Snapshot	×
Snapshot Name	
Snapshot Description	
	*
	~
▼ Include Virtual Machine Memory Image	
Suspend Guest File System (requires VMWare Tools)	
OK Cance	!

Create Snapshot Window

The Create Snapshot window allows you to name the snapshot and enter a description.

Select OK to save the snapshot or Cancel to close without saving.

Multiple snapshots of a virtual machine can be taken.

Right-clicking on the virtual machine and selecting *Snapshot*>*Revert to Current Snapshot* will apply the last snapshot taken.

Right-clicking on the virtual machine and selecting *Snapshot>Snapshot Manager* will launch the **Snapshot Manager** window.

Snapshot Manager		
ThinServer5 ⊡ Snap-2012_4_13		Revert To Delete Delete All Edit
, Snapshot Name	,	
Snapshot Description		* *
Creation Date		OK

Snapshot Manager

The **Snapshot Manager** window shows all saved snapshots for the selected virtual machine. The **Snapshot Manager** window shows the name, description, and creation date of a highlighted snapshot.

Buttons:

- **Revert To –** This applies the selected saved snapshot.
- **Delete** This deletes a highlighted snapshot.
- Delete All This deletes all saved snapshots.
- Edit Opens the Create Snapshot window to allow changes to the name and description.
- OK Closes the Snapshot Manager.

A dialog box will require confirmation before changes are made.

Revert to Snapshot	X
Current virtual machine state will be lost. Revert to the selected snapshot?	
Yes No	



19.3 Virtual Terminal Servers

Virtual terminal servers can be added to ThinManager using two methods, **Add Terminal Server** and **Add Virtual Terminal Server**.

Add Terminal Server – You can define a virtual terminal server as a regular terminal server in the Terminal Server Wizard.

Right-click on the Terminal Server branch and select *Add Terminal Server* to launch the Terminal Server Wizard. Add the virtual terminal server as you would a regular terminal server. This doesn't give you any special configuration or tools.

Add Virtual Terminal Server – You can define a virtual terminal server as a virtual terminal server in the Terminal Server Wizard.

Right-click on the Terminal Server branch and select *Add Virtual Terminal Server* to launch the **Terminal Server Wizard**.

🕿 Terminal Server Wizard	x
Virtual Machine Selection Select the Virtual Machine to use as a Virtual Terminal Server	$\mathfrak{>}$
Choose a VCenter Server VCENTER5 Choose the Virtual Machine to add as a Virtual Terminal Server	
Image: Constraint of the second se	
< Back Next > Finish Cancel	Help

VCenter Server Virtual Machine Selection List

The second page of the **Terminal Server Wizard** will display a **Virtual Machine Selection Page**. Highlight the desired virtual machine and select the *Next* button.

🙁 Terminal Server Wizard	e e e e e e e e e e e e e e e e e e e	x
Terminal Server Name Enterthe Terminal Se	e ierver Name and Log In information .	\prec
Terminal Server Name Terminal Server IP	ThinServer3 10 . 3 . 10 . 173 Discover	
Log In Information		
Password		
Verify Password Domain		
	Schedule	
< Back Next :	> Finish Cancel Help	

Terminal Server Name Page

The **Terminal Server Wizard** will continue with the virtual terminal server filling in the fields.

These fields, and the schedule button, are the same as on the normal Terminal Server Wizard. See Terminal Services Display Servers for details.

Select *Next* to continue configuring the virtual terminal server, select *Finish* to save the configuration and close the wizard, or select *Cancel* to close the wizard without saving the changes.

🖺 ThinManager v6.0			
Edit Manage Install Tools View	Rem	otaView Help	
□ 🛱 WIN2008R2	*	Config Pioperlies Schedule Users Ses	sions Processes Graph Event Log Connect
🕂 🛄 Terminals		Attribute	Value
🗀 🖷 Display Servers		Terminal Server Identification	
Terminal Servers		Serve: Name	ThinServe:3
		IP Address	10.3.10.173
ThinServer3			
HinServer5	=	Terminal Server Configuration	
· · · · · · · · · · · · · · · · · · ·		Connection Types Supported	Remote Desktop Prctocol
		SmartSession	NO
VCENTER4			
		Data Collection Update Times	
🖃 📠 ACPDatacenter		SmartSession Update Time	3
📆 ThinServer3		Process Information Lpdate Time	5
👘 ThinServer4		Session Information Update Time	3
📆 ThinServer5			
🔂 ThinServer6			
🔂 TS5 - PXE3			
🔂 TS5 - PXE4	-	•	III. •
For Help, press F1			

Virtual Terminal Servers in the ThinManager Tree



Terminal Server Tree Icons

Virtual Terminal Servers will show a different icon than a standard terminal server.

A virtual terminal server that is defined as a standard terminal server will show the standard terminal server icon.

😂 Display Client Wizard		X
Display Client Members Select the Terminal Servers	for this Display Client.	\aleph
Available Terminal Servers TermServ1 (192.168.0.137) Win2008R2 (10.3.10.170)	Selected Terminal Servers ThinServer5 (10.3.10.175) ThinServer3 (10.3.10.173)	
Edit Server List		
< Back Next >	Finish Cancel	Help

Selected Terminal Servers in a Display Client

Virtual and standard terminal servers are treated identically when choosing display clients.

19.4 Virtual Workstations

Windows workstations, XP Pro, Vista Business, or Windows 7 Pro, can be virtualized for deployment as a desktop. ThinManager can deploy these virtual desktops to thin clients to limit the upkeep and management of the operator's workstation.

19.4.1 Workstation Display Clients

First a **Workstation Display Client** needs to be created. This will act as a template for the workstation deployment. Later when the Workstation Display Client is added to a terminal you will need to assign which virtual workstation.

Launch the **Workstation Display Client Wizard** by right-clicking on the Display Client branch of the ThinManager tree or by right-clicking on the Workstation Display Client branch of the ThinManager tree.

📽 Display Client Wizard	×
Client Name Enter the Display Client name.	times
Client Name SalesDesktop	
Type of Display Client	
	Permissions
< Back Next > Finish	Cancel Help

Client Name Page of Display Client Wizard

Enter a name for the Workstation Display Client. Select *Workstation* from the *Type of Display Client* drop-down if you launched the wizard from the Display Client branch.

Select *Next* to continue with the wizard.

81	Display Client Wizard	×
I	Display Client Options Select the options that apply to this Display Client	\approx
	Client Options Allow Display Client to be tiled Allow Display Client to be moved (MultiMonitor) Include IP Camera Overlays	
	Connection Options Image: Always maintain a connection Image: Connect at boot-up Image: Disconnect in the background	
	Virtual Workstation Options Start Virtual Machine if necessary	
	< Back Next > Finish Cancel Hel	p

Display Client Option Page of Display Client Wizard

The Workstation Display Client adds *Virtual Workstation Options* to the **Display Client Options** page of the Display Client Wizard. The *Client Options* and *Display Client Connection Options* are the same as other Display Clients. See Terminal Services Display Clients for details.

Virtual Workstation Options:

- **Start Virtual Machine if necessary:** This checkbox, if selected, will automatically start a suspended or stopped virtual machine when it connects.
- **Suspend Virtual Machine when not needed:** This checkbox, if selected, will suspend the virtual machine when the terminal is powered off.

Select *Next* to continue with the wizard.

🖾 Display Client Wizard		×
Terminal Services and Workstation Option Select the options for this Display Client	\$	$\mathfrak{>}$
Other Options SmartSession Application Link Enforce Primary Instant Failover Allow Auto-Login		
< Back Next> Finish	Cancel	Help

Terminal Services Display Client Options Page of Display Client Wizard

The Display Client presents the Display Client Wizard similar to the Terminal Services Display Client Wizard, with the exception of omitting the addition of terminal servers. Since workstations have a one-to-one relationship to the terminals the workstations are assigned when the terminal is configured.

Select **Finish** to accept the changes and close the wizard.



Display Client Icons

When the Workstation Display Client is created it will be added to the tree with the Workstation Display Client icon.

19.4.2 Terminals and Virtual Workstations

Workstations can only deploy their session once to a remote user so the workstation is assigned to its remote connection when the Workstation Display Client is applied to a terminal.

Open the Terminal Configuration Wizard for the terminal that you want to assign a workstation to.

😂 Terminal Configuration Wizard			
Display Client Selection Select the Display Clients to	use on this terminal		$temp{}$
Available Display Clients	Selected Displ	lay Clients ktop	ie
< Back Next >	Finish	Cancel	Help

Display Client Selection of the Terminal Configuration Wizard

The Workstation Display Clients will show up in the **Available Display Clients** list on the **Display Client Selection** page of the Terminal Configuration Wizard. Move the desired Workstation Display Client to the **Selected Display Client** list for deployment.



Workstation Display Client Icon

Workstation Display Clients have their own icon.

Select *Next* to continue the wizard.

😤 Terminal Co	nfiguration Wizar	d		X
Complete th Select on	e Workstation D e or more workstation	Sisplay Client C ons to add to this	Configuration display client	\varkappa
Select worksta Selected Work	ations for Display Cli estations	ent 'SalesDeskto	p'	
Add Work	station Add	Virtual Workstatio	on	Remove Edit
< Back	Next>	Finish	Cancel	Help

Complete the Workstation Display Client Configuration Page

The next page of the wizard is the **Complete the Workstation Display Client Configuration Page**.

Importance of Page: Each deployment of a Workstation Display Client needs to be tied to an available workstation.

Buttons:

- **Add Workstation** This button will launch a window that allows a workstation to be designated for use by this terminal.
- Add Virtual Workstation This button will launch a window that allows a virtual workstation to be designated for use by this terminal.
- **Remove** This button remove a highlighted workstation from the **Selected Workstation** list.
- *Edit* This button will re-open the window that allowed a workstation to be added to the *Selected Workstation* list.
- Arrows This button will change the loading order of the assigned workstations.

Fields:

• Selected Workstations – This textbox will display the workstations assigned to the terminal.

Why Change from Default Settings:

ThinManager won't connect to workstation unless you tell it to.

🕿 Terminal Configuration Wizard	23			
Complete the Workstation Display Client Configuration Select one or more work stations to add to this display client	$temp{}$			
Select workstations for Display Client 'SalesDesktop' Selected Workstations				
Add Workstation	1.			
Workstation IP Address				
Workstation Display Name	ľ			
Add Cancel				
Edit				
Add one or more workstations to this display client				
<back next=""> Finish Cancel</back>	Help			

Add Workstation Window

Selecting the *Add Workstation* button on the **Complete the Workstation Display Client Configuration Page** will launch the *Add Workstation* window.

Enter the name and address of the workstation in the appropriate fields.

Select *Add* to accept the configuration or select *Cancel* to close the window.

🔀 Termi	inal Configuration Wizard	8
Comp Se	lete the Workstation Display Client Configuration elect one or more workstations to add to this display client	\aleph
	Add Virtual Workstation	
Select	Select VCenter Server VCENTER5	
Select	Available Virtual Workstations	
Add or	Add Add ThinServer5 ThinServer6 ThinServer6 ThinServer6 TS5 - PXE3 TS5 - PXE4 TS5 - PXE5 TS5 - PXE6 TS6 - PXE1 TSL - PXE1 Vista TSL - PXE1 TSL - PXE1 TSL - PXE1 TSL - PXE1 TSL - PXE1	
< 8	ack Next> Finish Cancel	Help

Add Virtual Workstation Window

Selecting the *Add Virtual Workstation* button on the **Complete the Workstation Display Client Configuration Page** will launch the *Add Virtual Workstation* window.

The VCenter Server tree will be displayed in the *Available Virtual Workstation* pane. Highlight the desired virtual workstation and select the *Add* button to apply the virtual workstation to the terminal.

Select *Cancel* to close the window without accepting the configuration.

S Terminal Configuration Wizard	-X
Complete the Workstation Display Client Configuration Select one or more workstations to add to this display client	times
Select workstations for Display Client 'SalesDesktop' Selected Workstations	
VCENTER5'\ACP Datacenter\Vista	▲ ▼
Add Workstation Add Virtual Workstation	Remove Edit
< Back Next > Finish Cancel	Help

Complete the Workstation Display Client Configuration Page

Once a workstation or virtual workstation is assigned to the terminal it will be displayed in the **Selected Workstations** window.

😤 ThinManager v6.0						
Edit Manage Install Tools View RemoteView Help						
	4	Summary				
Erminals		Attribute	Value			
🗄 🛄 Group1		Virtual Machine Summary				
H:" Group2	Ш	Name	Vista			
El Terminal1	ш	Host Name				
	ш	IP Address				
Vista	=	GuestOS	Other (32-bit)			
🛨 🖬 Display Servers	ш	Memory Size	128 MB			
VCenter Servers	ш	CPU Count	1			
····· 🛃 VCENTER4	ш	Provisioned Storage	128.13 GB			
CENTER5	ш	Committed Storage	32.00 GB			
ACPDatacenter	ш					
ThinServer3	- 11					
ThinServer4						
TS5 - PXE3						
		< III.		*		
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Workstation in ThinManager Tree

The ThinManager tree will display the workstation icons for the terminal once the terminal is restarted to apply the configuration changes.