



**THINMANAGER**  
A Rockwell Automation Technology

# ThinManager Certification Test

## Lab 1

### Goal:

This lab leads you through a ThinManager configuration to test your knowledge of ThinManager by creating a basic deployment of ThinManager for a small factory. Deployment will include:

- Eight industrial thin clients in two lines of four.
- Two Shipping Department thin clients.
- Two Boiler Room thin clients.
- Four Office thin clients.

### The Why:

This lab was chosen to represent an initial installment and deployment of a typical ThinManager system.

The **Office** will be set up with 4 generic PXE boot thin clients, running a desktop without login information. This allows each user to access their own personal desktop.

A **Production Area** will be configured with two lines of four terminals. They each will be assigned a single application, an HMI, and configured to log in automatically so that the terminal will always be logged in. The Production units will be configured with touch screens.

The **Boiler** room will be deployed with Class1, Div. 2 terminals to prevent any sparks in the area. They will also have touch screens.

The **Shipping** terminals will be set up with a Shipping application but the terminals were configured with a manual login so that each worker gets their own individual copy of the application when at the station.

### Links:

This is an open book test. Feel free to use any resources, including:

ThinManual - <http://www.thinmanager.com/support/manuals/files/ThinManual-v9.pdf>

ThinManager Knowledge Base – <http://www.thinmanager.com/kb/index.php/Special:AllPages>

ThinManager with Relevance User Guide –  
<http://www.thinmanager.com/support/manuals/files/ThinManager-v9-UserGuide.pdf>

ThinManager Videos – <http://www.thinmanager.com/video/> for ThinManager demonstrations.

ThinManager Training Videos - <https://learn.thinmanager.com/> for ThinManager training.

Questions can be sent to [education@thinmanager.com](mailto:education@thinmanager.com)

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**Note:** ThinManager works with a variety of hardware from a number of ACP hardware partners. Although specific makes and models are used in this lab, it is meant as an example and not an endorsement.

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**Note:** You will need to get a Demo Code from <http://www.thinmanager.com/licensing/> to access the components of the ThinManager Program to run the labs. See [http://www.thinmanager.com/kb/index.php/Demo\\_Codes](http://www.thinmanager.com/kb/index.php/Demo_Codes) for instructions.

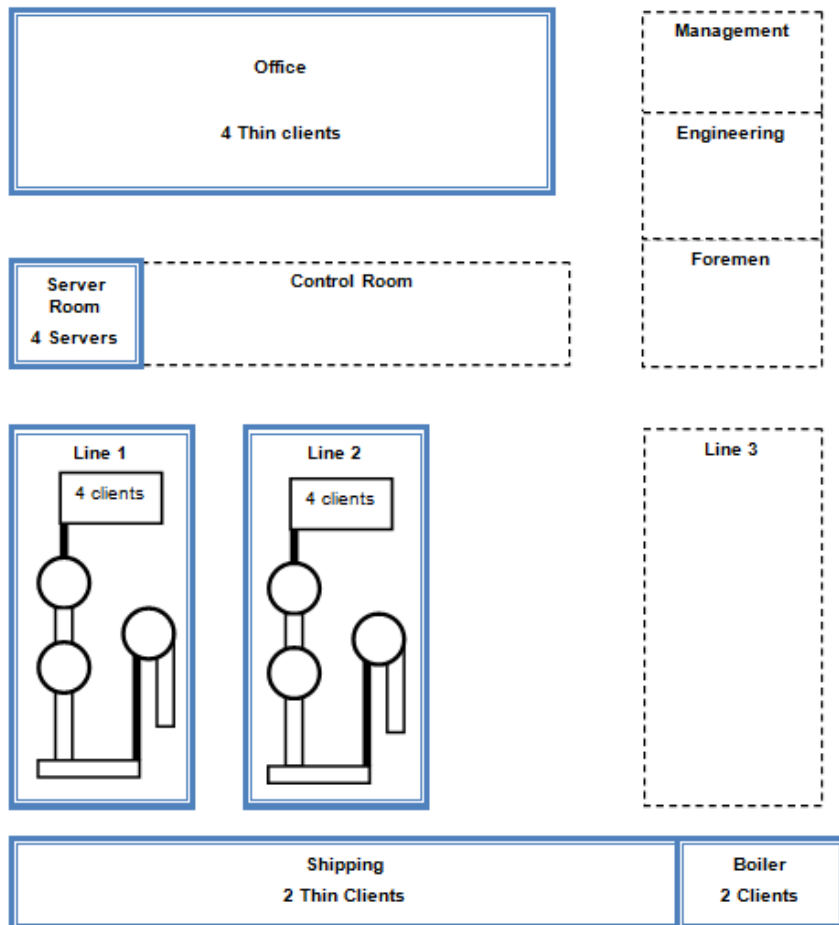
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## Submission:

- You must be registered on the training website to participate in the certification program. Registration is at <http://www.thinmanager.com/si/>
- When you are finished with this exercise please backup your completed ThinManager configuration by selecting **Manage > Backup** from the ThinManager menu bar.
- Name the configuration "**YourNameLab#.db**" so we can tell the submissions apart. My submission would be **PaulBurnsLab01.db**, for example.
- Return to the Training control panel at <http://www.thinmanager.com/si/instructions.php>.
- Upload your properly named configuration file using the **Lab 1 Upload Results** button.
- We will grade your lab and send you an email with the results as soon as we can. Please allow 2-4 weeks for the results.
- You may begin the next lab immediately without waiting for the results. Each lab builds on the configuration created in the previous lab. Start the new lab using the previous lab configuration.

## Factory Layout for the Lab:





## The How - Configuration Steps:

- Start with a clean configuration on a non-production server. This can be your individual laptop or desktop. This lab is designed for ThinManager 9.0.

If you have an existing installation and configuration you need to clear the configuration.

- Back up any current configuration in case you need it later by selecting **Manage>Backup**.
- Stop the ThinServer service
- Delete the **thinmanager.db**, and **thinmanager.db.bak** in the **Automation Control Products\ThinManager** directory if it is an existing install.
- Restart the ThinServer service. This will create a new blank **thinmanager.db** file.

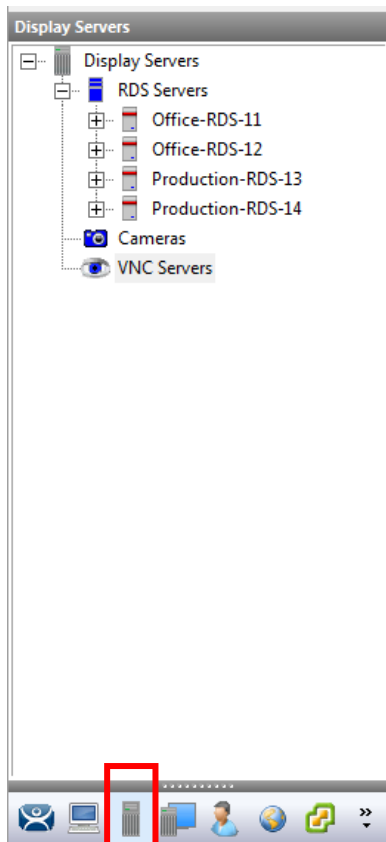
If this is a fresh installation you already have a clear configuration.

- You will need to get a **Demo Code** from <http://www.thinmanager.com/licensing/> to unlock all the features of the ThinManager Program to run the labs. See [http://www.thinmanager.com/kb/index.php/Demo\\_Codes](http://www.thinmanager.com/kb/index.php/Demo_Codes) for instructions.

- Create and configure the ThinManager components as described in this lab.

It is best to build the system from the bottom up, that is define the servers first, then the applications that will run, then the terminals.

## Display Servers:



Define four Remote Desktop Servers. These are where the sessions and applications will run.

Open the Display Server branch of the ThinManager tree by selecting the **Display Server** icon at the bottom of the tree. Right click on the **RDS Server** icon and select **Add Remote Desktop Server**.

Define this remote desktop server using the defaults except for:

- Office-RDS-11** = 192.168.1.11 with “administrator” as user and “12345” as password.

Define this remote desktop server using the defaults except for:

- Office-RDS-12** = 192.168.1.12 with “administrator” as user and “12345” as password.

Define this remote desktop server using the defaults except for:

- Production-RDS-13** = 192.168.1.13 with “administrator” as user and “12345” as password.

Define this remote desktop server using the defaults except for:

- Production-RDS-14** = 192.168.1.14 with “administrator” as user and “12345” as password.



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**Note:** In the real world you need to configure the Microsoft Servers.

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Microsoft Remote Desktop configuration includes

- 1) Adding the Remote Desktop Services Role.
- 2) Adding a Microsoft License Server and adding either Per Device or Per User Remote Desktop Services Client Access Licenses (RDS CALs).
- 3) Creating Windows user accounts for each terminal or user. Each terminal and user needs a unique account. Apply the desired security and group policies to the user accounts.

Microsoft Server 2012 configuration is covered in the knowledge base at

[http://www.thinmanager.com/kb/index.php/Windows\\_Server\\_2012\\_R2\\_RDS\\_Role\\_Installation](http://www.thinmanager.com/kb/index.php/Windows_Server_2012_R2_RDS_Role_Installation) .

### Display Clients:

Create four Remote Desktop Services Display Clients to deploy applications.

Open the **Display Client** branch of the ThinManager tree by selecting the **Display Client** icon at the bottom of the tree. Right click on the **Remote Desktop Services** icon and select **Add Display Client**. Define these display clients:

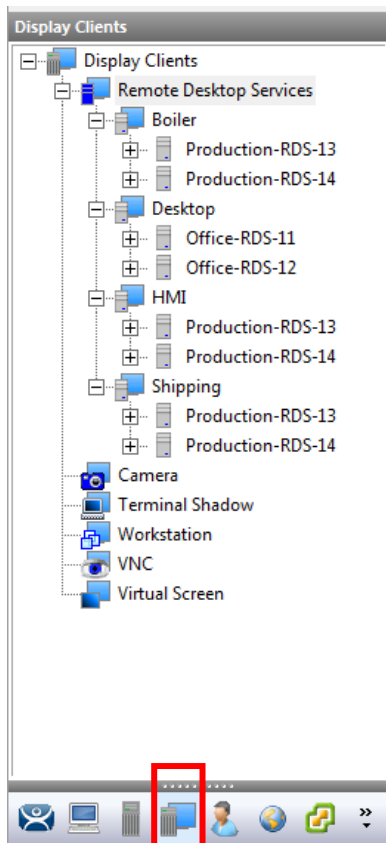
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**Note:** This lab uses generic program paths to launch hypothetical applications. In real life the configuration of an HMI would require you to use correct path to specify the program files for the application.

Information on specific methods for launching the various HMIs can be found in the Knowledge Base at

<http://www.thinmanager.com/kb/index.php/Special:AllPages>.

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### Desktop Display Client

- Create one display client named **Desktop**. Configure using the default settings except:
  - Uncheck **Allow Auto-Login** on the **Remote Desktop and Workstation Options** page. This sets the application so that each user must manually log in.
  - Use **Office-RDS-11** and **Office-RDS-12** for the Remote Desktop Servers on the **Display Client Member** page.

### Boiler Display Client

- Create one display client named **Boiler**. Configure using the default settings except:
  - Check **Application Link** and **Instant Failover** on the **Remote Desktop and Workstation Options** page. Instant Failover will launch two sessions, one on each server for immediate failover.
  - Use **Production-RDS-13** and **Production-RDS-14** for the Remote Desktop Servers on the **Display Client Member** page.
  - Use **C:\Program Files\HMI\boiler.exe** as the Program Path on the **AppLink** page.

### HMI Display Client

- Create one display client named **HMI**. Configure using the default settings except:
  - Check **Application Link** and **Enforce Primary** on the **Remote Desktop and Workstation Options** page. Enforce Primary will make the top server in the list the main server and the session will run there whenever it is available.
  - Use **Production-RDS-13** and **Production-RDS-14** on the **Display Client Member** page.
  - Use **C:\Program Files\HMI\hmi.exe** as the Program Path on the **AppLink** page.

### Shipping Display Client

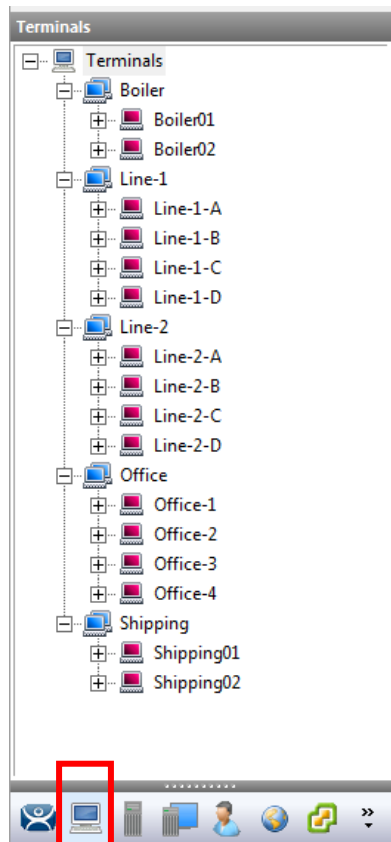
- Create one display client named **Shipping**. Configure using the default settings except:
  - Check **Application Link** on the **Remote Desktop and Workstation Options** page.
  - Use **Production-RDS-13** and **Production-RDS-14** on the **Display Client Member** page.
  - Use **C:\Program Files\Apps\ship.exe** as the Program Path on the **AppLink** page.



## Terminals:

Terminals can be created in Terminal Groups. In addition to acting as folders the **Group Setting** checkbox will speed configuration by using the **Group Setting** for all terminals added to the group.

### Create Terminal Groups



- Open the **Terminals** branch of the ThinManager tree by selecting the **Terminal** icon at the bottom of the tree. Right click on the **Terminal** icon and select **Add Group**.
- Define these Terminal Groups:
  - Office**. This group will have 4 thin clients.
  - Line1**. This group will have 4 thin clients.
  - Line2**. This group will have 4 thin clients.
  - Boiler**. This group will have 2 thin clients.
  - Shipping**. This group will have 2 thin clients.

You can use the groups as simple folders or use them to speed configuration with **Group Settings**.

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**Note:** Checking the **Group Setting** on any setting in the wizard will apply that setting to any member of the group, speeding configuration.

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The configuration needed is covered in the Terminals sections below.

The first terminal can be created by right clicking on the **Terminals** icon and selecting the **Add Terminal** command. Right clicking on this terminal and selecting the **Copy** command will allow you to configure the remaining terminals quickly. You will need to check the user account as each terminal needs a unique login account.

### Terminal Configuration:

#### Office Group:

Right click on the **Office** icon and select **Add Terminal**.

- Create one terminal named **Office-1**. Configure using the default settings except:
  - Generic : PXE** for make and model on the **Terminal Hardware** page.
  - Terminal Options>Allow terminal to be shadow set to Ask.
  - Desktop** as the display client on the **Display Client Selection** page.
  - Leave the Login blank on the **Log In Information** page so each user manually logs in. to get their own desktop based on group policy.
  - Video Resolution is 1920x1080.
- Right click on the **Office-1** icon and select **Copy**.
  - Enter **Office-2** as the name.
  - There is no Windows user account used so no changes are needed.



- Right click on the **Office-1** icon and select **Copy**.
  - o Enter **Office-3** as the name.
  - o There is no Windows user account used so no changes are needed.
- Right click on the **Office-1** icon and select **Copy**.
  - o Enter **Office-4** as the name.
  - o There is no Windows user account used so no changes are needed.

These terminals will have a desktop on an Office Remote Desktop Server. The user will log in manually so that each person gets their own unique desktop.

#### **Line-1 Group:**

Right click on the **Line-1** icon and select **Add Terminal**.

- Create one terminal named **Line-1-A**. Configure using the default settings except:
  - o **Logic Supply : TM100** for make and model on the **Terminal Hardware** page.
  - o **Terminal Options>Allow terminal to be shadow** set to **Warn**.
  - o **HMI** as the display client on the **Display Client Selection** page.
  - o **Operator01** with a password of **12345** on the **Log In Information** page so that the terminal automatically logs in.
  - o **Video Resolution** is 1024x768, 64K colors, 60 Hz
  - o Add the **USB Touch Screen Driver** module with these settings:
    - Hold Down Time (milliseconds) = 2000
    - Hold Down Action = RightClick
    - Calibration Hold Down Time (seconds) = 10
  - o Add the **Key Block Module** with the default settings to block **CTL+ALT+DEL**.
- Right click on the **Line-1-A** icon and select **Copy**.
  - o Enter **Line-1-B** as the name.
  - o Navigate to the **Log In Information** window and change the username to **Operator02** so that the terminal has a unique Windows account.
- Right click on the **Line-1-A** icon and select **Copy**.
  - o Enter **Line-1-C** as the name.
  - o Navigate to the **Log In Information** window and change the username to **Operator03** so that the terminal has a unique Windows account.
- Right click on the **Line-1-A** icon and select **Copy**.
  - o Enter **Line-1-D** as the name.
  - o Navigate to the **Log In Information** window and change the username to **Operator04** so that the terminal has a unique Windows account.

This will create four terminals with touch screens that automatically log in and run an HMI.



### Line-2 Group:

Right click on the **Line-2** icon and select **Add Terminal**.

- Create one terminal named **Line-2-A**. Configure using the default settings except:
  - o **Contec : BX-220** for make and model on the **Terminal Hardware** page.
  - o **Terminal Options>Allow terminal to be shadow** set to **Warn**.
  - o **HMI** as the display client on the **Display Client Selection** page.
  - o **Operator05** with a password of **12345** on the **Log In Information** page so that the terminal automatically logs in.
  - o **Video Resolution** is 1024x768, 64K colors, 60 Hz
  - o Add the **USB Touch Screen Driver** module with these settings:
    - Hold Down Time (milliseconds) = 2000
    - Hold Down Action = RightClick
    - Calibration Hold Down Time (seconds) = 10
  - o Add the **Key Block Module** with the default settings to block **CTL+ALT+DEL**.
- Right click on the **Line-2-A** icon and select **Copy**.
  - o Enter **Line-2-B** as the name.
  - o Navigate to the **Log In Information** window and change the username to **Operator06** so that the terminal has a unique Windows account.
- Right click on the **Line-2-A** icon and select **Copy**.
  - o Enter **Line-2-C** as the name.
  - o Navigate to the **Log In Information** window and change the username to **Operator07** so that the terminal has a unique Windows account.
- Right click on the **Line-2-A** icon and select **Copy**.
  - o Enter **Line-2-D** as the name.
  - o Navigate to the **Log In Information** window and change the username to **Operator08** so that the terminal has a unique Windows account.

This will create four terminals with touch screens that automatically log in and run an HMI.

### Boiler Group:

Right click on the **Boiler** icon and select **Add Terminal**.

- Create one terminal named **Boiler01**, use the defaults except for:
  - o **American Industrial Systems : IPC-TCND0U-15AX-A00C** for make and model on the **Terminal Hardware** page.
  - o **Terminal Options>Allow terminal to be shadow** set to **Warn**.
  - o **Boiler** as the display client on the **Display Client Selection** page.
  - o **Operator09** with a password of **12345** on the **Log In Information** page so that the terminal automatically logs in.
  - o Video Resolution is 1024x768, 64K colors, 60 Hz
  - o Add the USB Touch Screen Driver with these settings:
    - Hold Down Time (milliseconds) = 2000





- Hold Down Action = RightClick
- Calibration Hold Down Time (seconds) = 10
- Add the Key Block Module with the default settings to block **CTL+ALT+DEL**.
- Right click on the **Boiler01** icon and select **Copy**.
  - Enter **Boiler02** as the name.
  - Navigate to the **Log In Information** window and change the username to **Operator10** so that the terminal has a unique Windows account.

This puts two Class 1, Div 2 thin clients in the boiler room for safety. They have touch screens and will automatically log in and use Instant Failover to keep a session always visible.

### Shipping Group:

Right click on the **Shipping** icon and select **Add Terminal**.

- Create one terminal named **Shipping01**, use the defaults except for:
  - **Arista : 7824B-B01** for make and model on the **Terminal Hardware** page.
  - **Terminal Options>Allow terminal to be shadow** set to **Ask**.
  - **Shipping** as the display client on the **Display Client Selection** page.
  - Login blank on the **Log In Information** page so each user manually logs in.
  - Video Resolution is 1920x1080
  - Add the Key Block Module with the default settings to block **CTL+ALT+DEL**.
- Right click on the **Shipping01** icon and select **Copy**.
  - Enter **Shipping02** as the name.
  - There is no Windows user account used so no changes are needed.

This puts the Shipping application on the terminals but they won't be revealed until an authorized user logs in to the terminal.

### PXE Server:

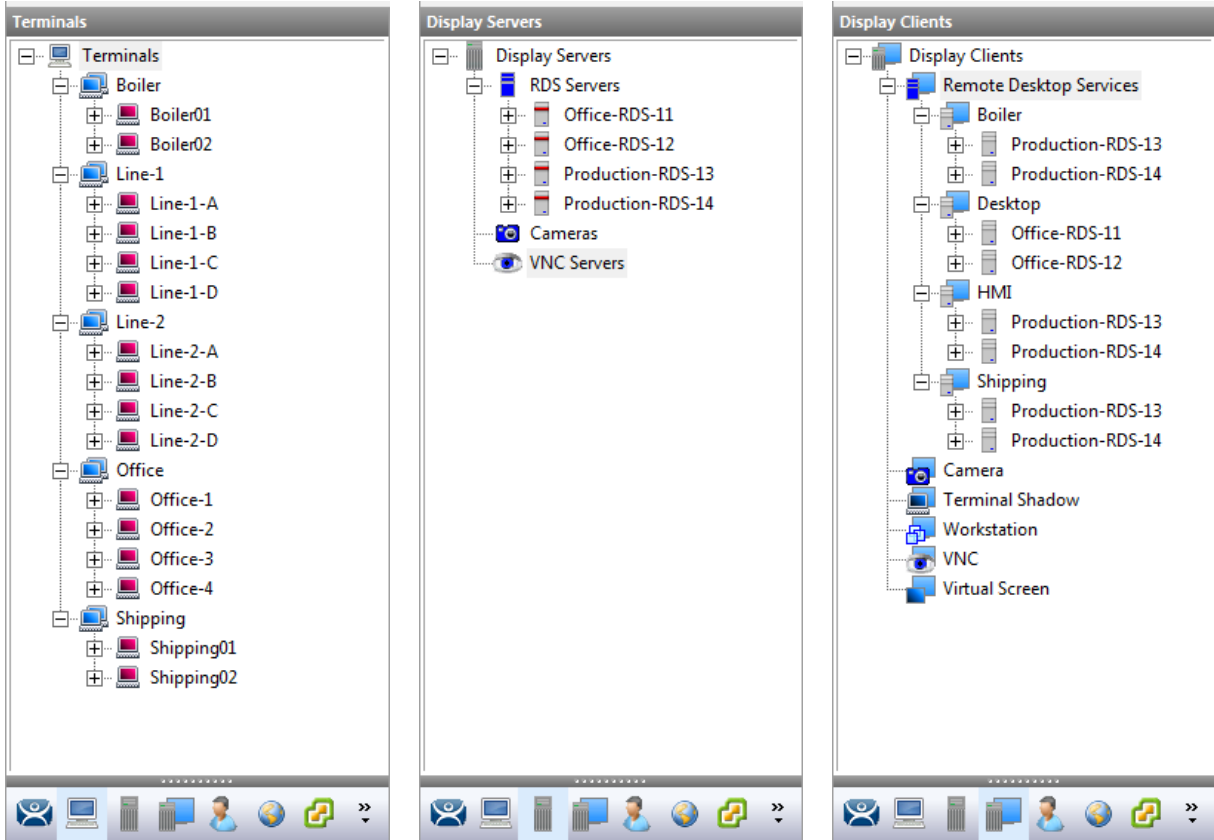
The PXE Server in ThinManager needs to be configured since the Office and Shipping terminals are generic PXE thin clients. If you have an existing DHCP server all you need to do to configure the PXE server is:

- Select **Manage > PXE Server** from the ThinManager menu bar and check the **Enable PXE Server** checkbox.
- Select the **Using standard DHCP server** radio button. This will provide the PXE configuration if you have a DHCP server configured already.



## Results:

Your ThinManager tree should look like this:



**Note:** The Terminals and RDS servers will show a red icon because ThinManager is not connecting to actual equipment. If it had a valid connection the icon would show the green icon.