



IP Cameras

Use the **F1** button on any page of a ThinManager wizard to launch Help for that page.

Visit www.thinmanager.com/TechNotes4/01_Intro/Manuals.shtml to download the manual, manual chapters, or the abridged ThinManual.

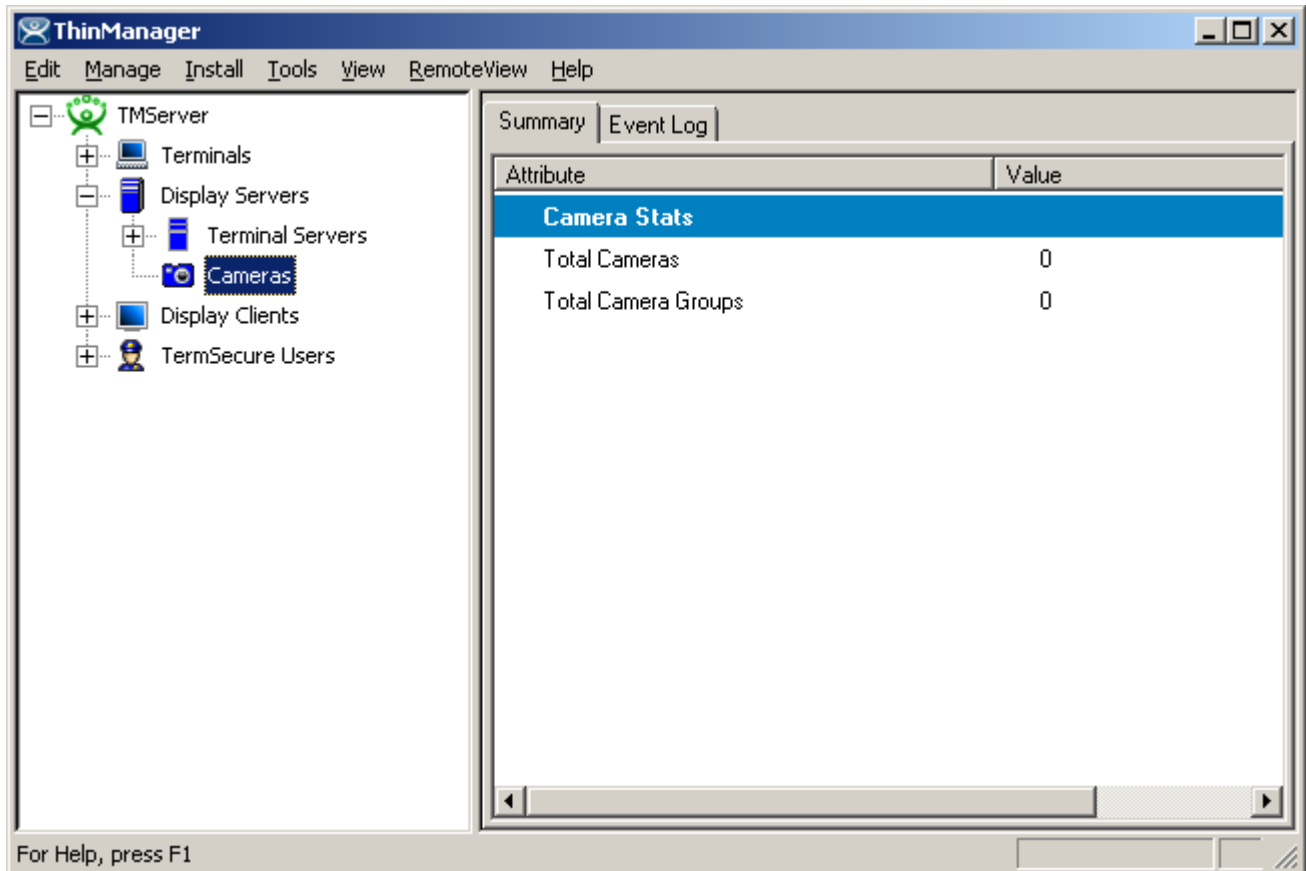
Overview

ThinManager 4.0 provides support for IP cameras. Most IP Cameras that conform to the mjpeg (motion jpeg) are supported. Video from the camera can be viewed as an overlay on top of a non Camera Display Client or as part of a Camera Display Client.

This Tech Note covers all aspects of the camera. **Camera Display Servers** and **Clients** are covered in http://www.thinmanager.com/TechNotes4/04_Configuration/Camera_DisplayServer.pdf and http://www.thinmanager.com/TechNotes4/04_Configuration/Camera_DisplayClient.pdf.

IP Camera Configuration

Before a camera can be added to a Display Client, the camera itself must be configured. The camera configuration wizard can be launched by right clicking on the **Cameras** branch of the ThinManager tree and selecting the **Add Camera** option.



Camera Branch of ThinManager Tree



IP Camera Display Server Configuration Wizard

Camera Name
Enter the camera name and network location

Camera Name and Group
Camera Name:

Camera Model
Make:
Model:

Camera Network Setup
IP Address:
Port:

< Back Next > Finish Cancel Help

Camera Configuration Wizard

The first page of the camera configuration wizard requires that a camera name be entered. Select the make and model of the camera you are configuring and the IP address and Port that has been previously assigned to the camera. The IP address and port are set by using the camera manufacturers configuration software or through the use of the camera's web browser interface.



The screenshot shows a window titled "Camera Configuration Wizard" with a close button (X) in the top right corner. Below the title bar, the text "Camera Authentication" is displayed in bold, followed by the instruction "Enter the camera username and password". To the right of this text is a small icon of a camera lens. The main area of the dialog contains three input fields: "Username", "Password", and "Verify Password". At the bottom of the dialog, there are five buttons: "< Back", "Next >", "Finish", "Cancel", and "Help".

Camera Authentication

On the next page of the camera configuration wizard, the user authentication information can be entered. If your camera requires authentication enter it on this page. If the camera has been configured to allow anonymous connections, leave the information blank. The terminal uses the authentication information when connecting to the camera. Authentication information is setup in the camera by using the camera manufacturers configuration software or through the use of the camera's web browser interface.



Camera Configuration Wizard

Camera Model Options
Select the camera model specific options

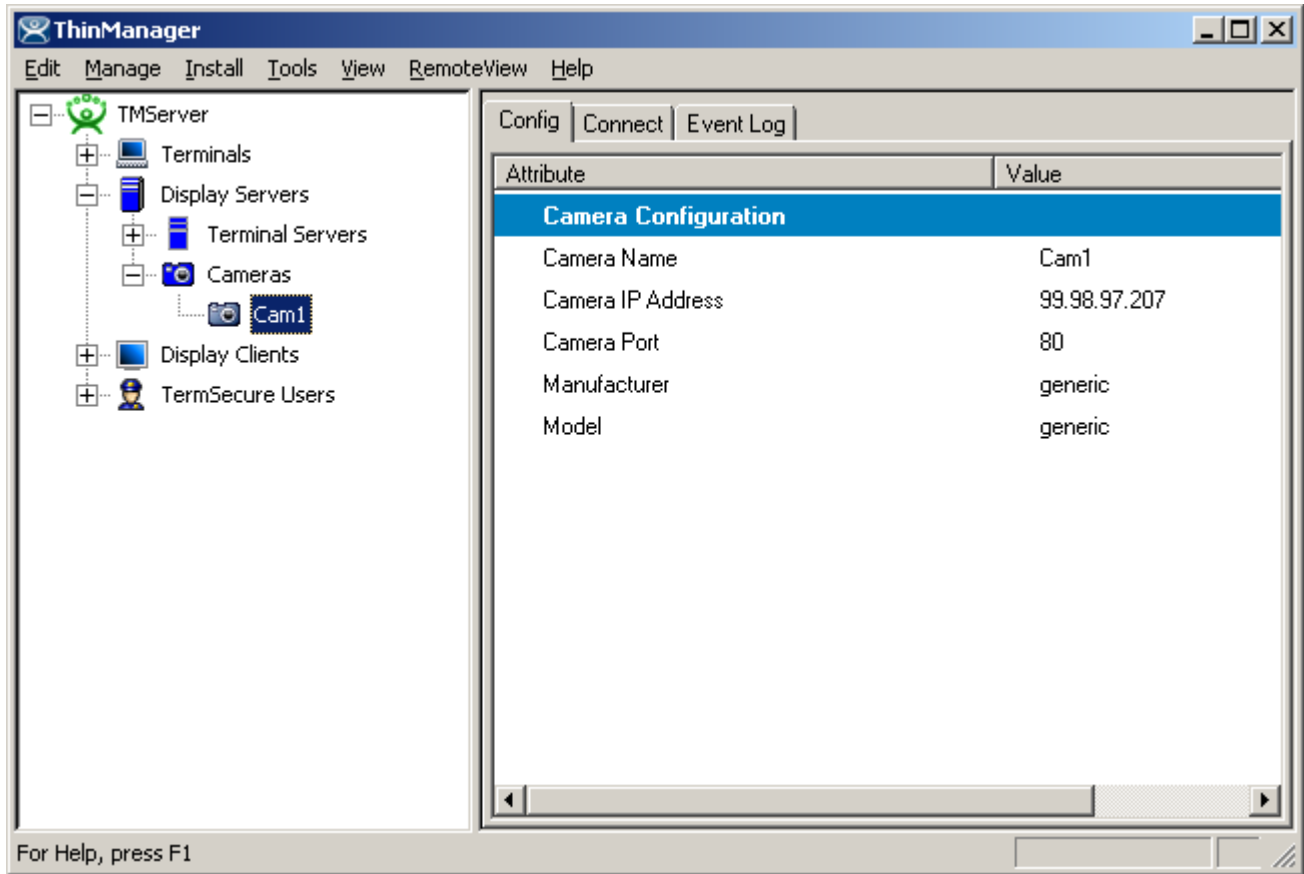
Include Camera Options

Resolution	320x240
Frames per second	10
Compression	10
Show Clock	NO
Show Date	NO
Show Text	NO
Text Position	TOP
Text	

< Back Next > Finish Cancel Help

Camera Model Options

Some cameras support additional configuration options. These options can be configured on this page. If you wish to use the default options then leave the **Include Camera Options** unchecked. The newly created camera will appear in the ThinManager tree as follows.



Camera Tree View

Cameras defined as Camera Display Servers will be shown under the Camera branch of the Display Servers in the ThinManager tree.



IP Camera Group Configuration

The camera group configuration wizard can be launched by right clicking on the **Cameras** branch of the ThinManager tree and selecting the **Add Camera Group** option.

A screenshot of the 'Camera Configuration Wizard' dialog box. The title bar reads 'Camera Configuration Wizard'. The main area is titled 'Camer Group Name' with the instruction 'Enter the camera group name'. Below this, there is a section labeled 'Camera Name and Group' containing a text box with 'CamGroup1' and a 'Change Group' button. At the bottom of the dialog are five buttons: '< Back', 'Next >', 'Finish', 'Cancel', and 'Help'.

Camera Configuration Wizard

Camer Group Name
Enter the camera group name

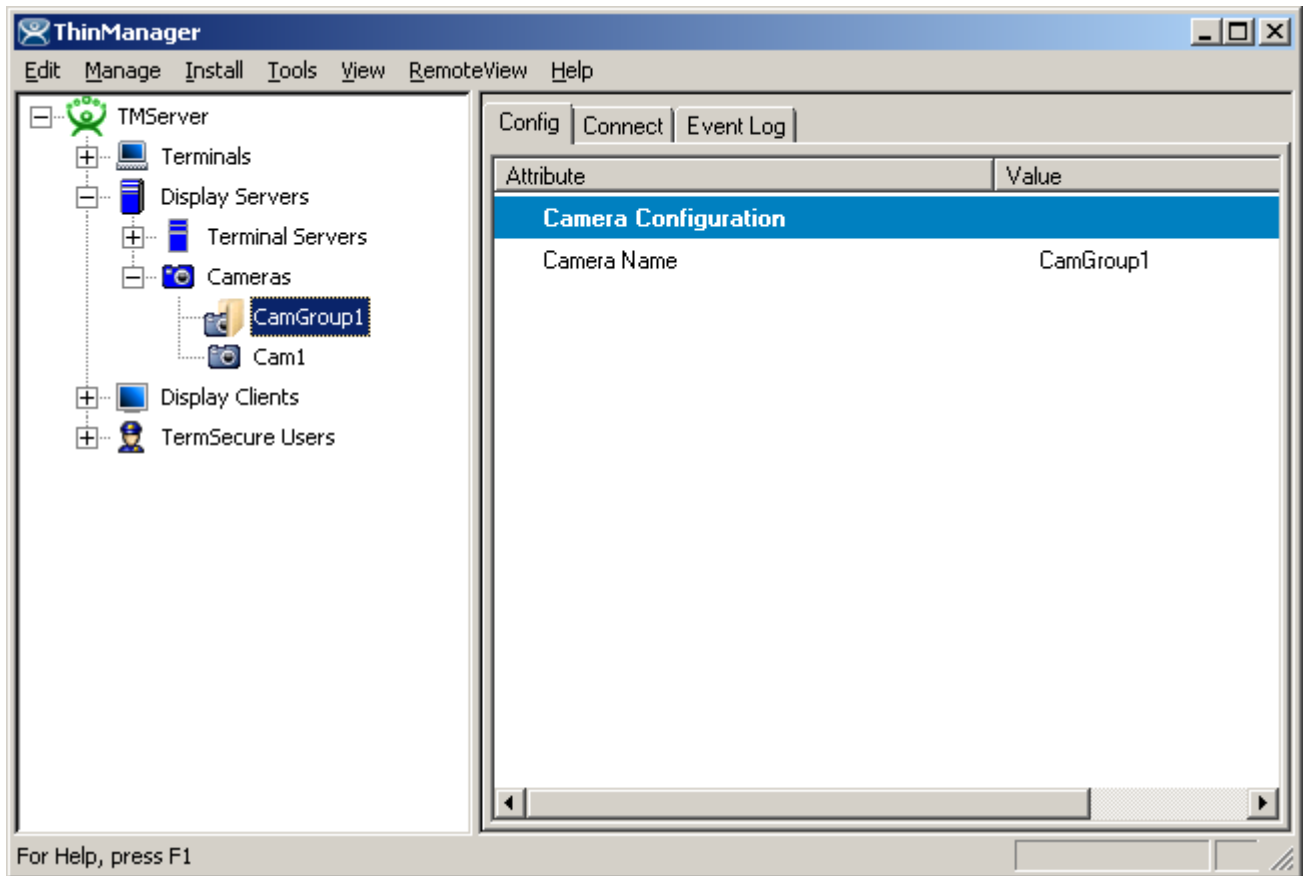
Camera Name and Group

Camera Name

< Back Next > Finish Cancel Help

Add Camera Group Wizard

Enter the Camera Group Name and select **Finish**. The Camera group will be shown in the ThinManager tree as follows.



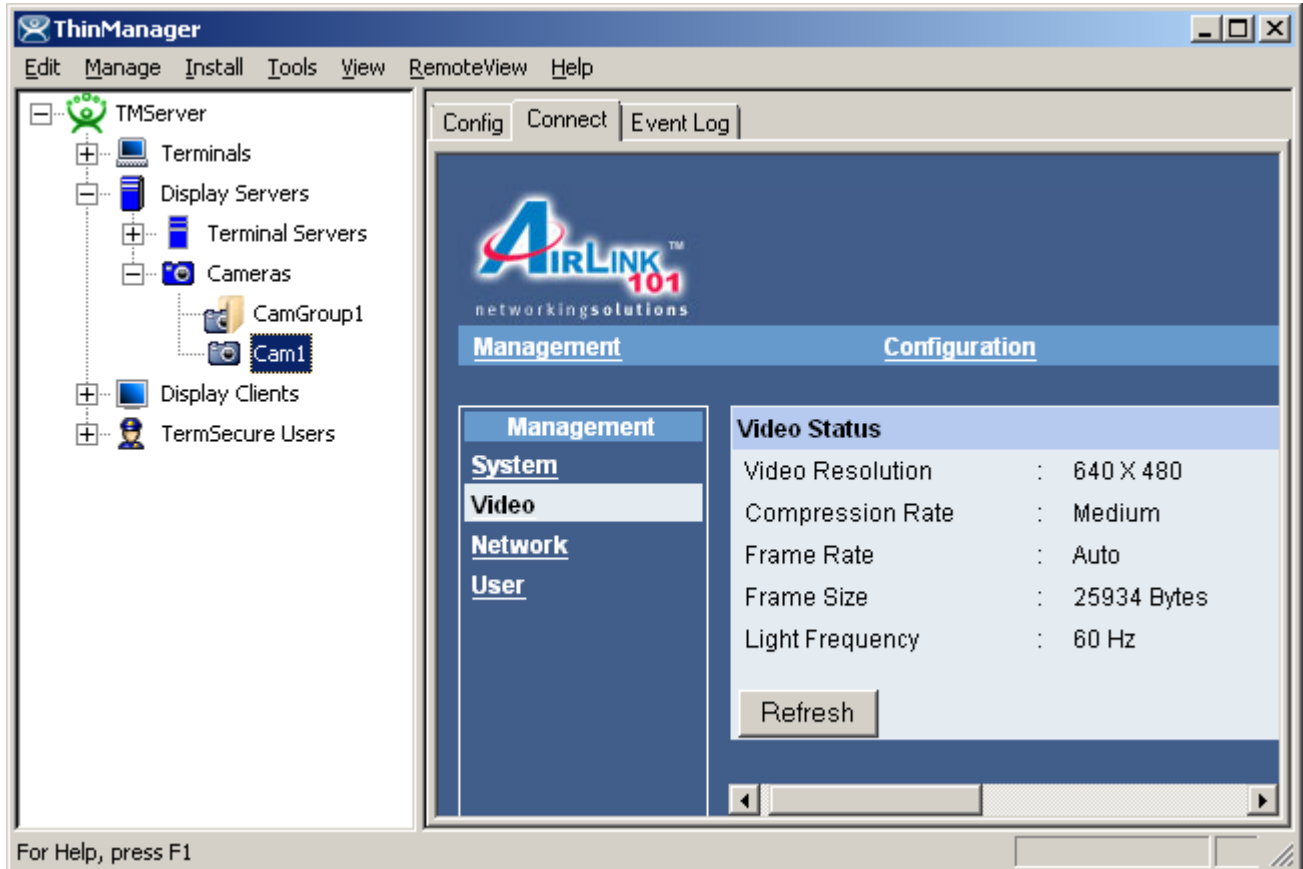
Camera Group Tree View

Camera Groups defined as Camera Display Server Groups will be shown under the Camera branch of the Display Servers in the ThinManager tree.



IP Camera Administration

Once a camera is configured in ThinManager, the **Connect** tab can be used to connect to the camera and perform camera administration from ThinManager.



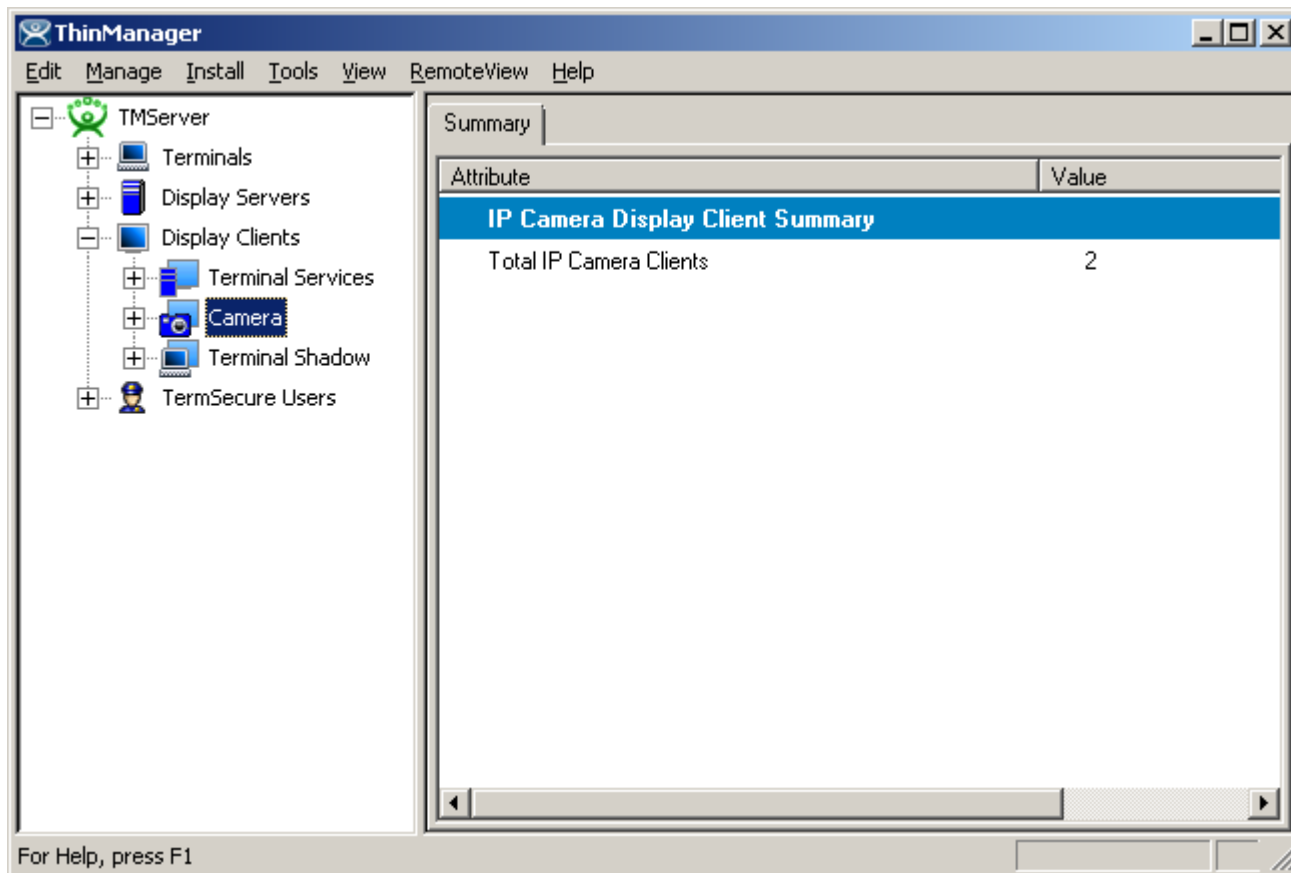
Camera Connect Tab

Camera log in information may be requested when using the connect tab. The authentication information entered during the camera configuration is not used when using the connect tab.



IP Camera Display Client

The Camera Display Client configuration wizard can be launched by right clicking on the **Camera** branch of the ThinManager tree and selecting the **Add Display Client** option.



Camera Display Client Tree View

Highlighting the Camera branch of Display Clients in the ThinManager tree will list a summary of defined Camera Display Clients



Display Client Wizard [X]

Client Name
Enter the Display Client name.

Client Name

Type of Display Client

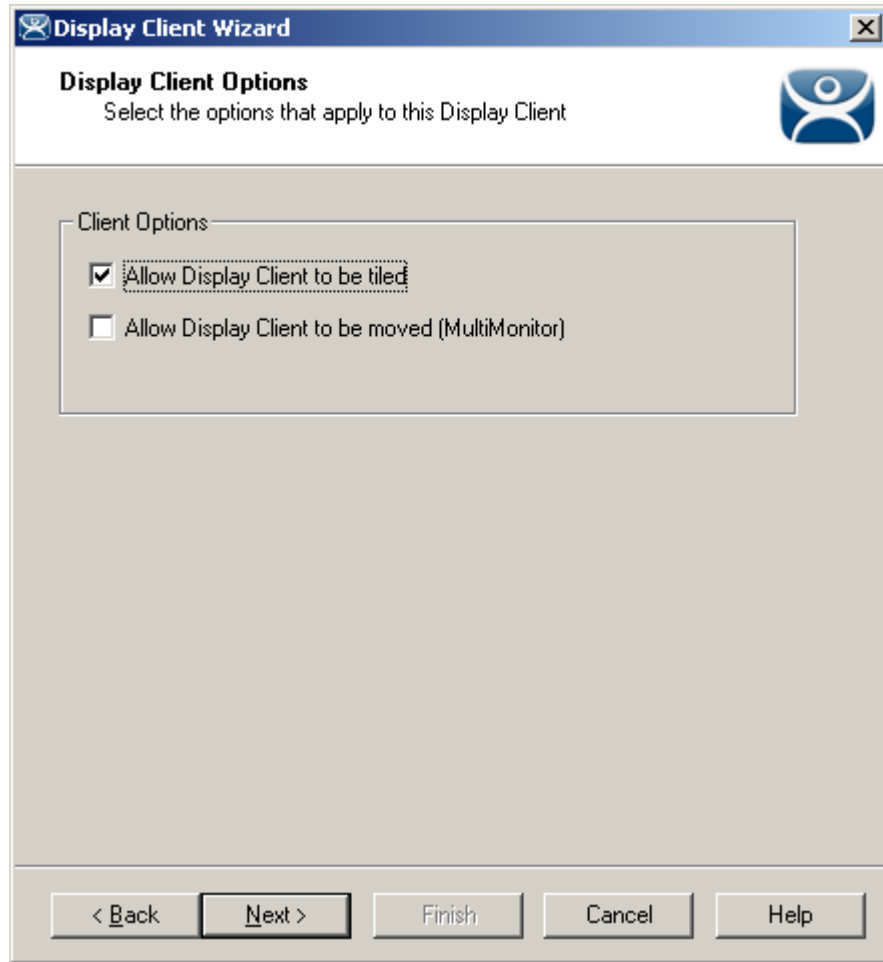
Permissions

Create at least one camera overlay

< Back **Next >** Finish Cancel Help

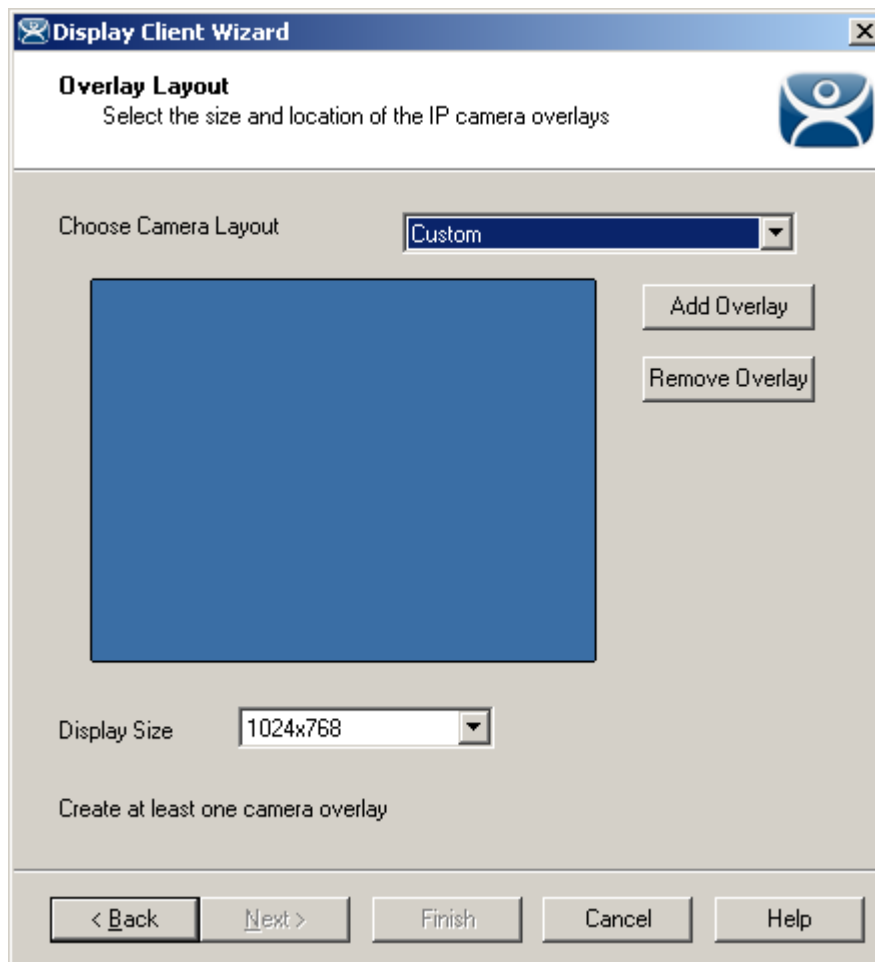
Camera Display Client Wizard – Name

Enter the name of the Display Client and any TermSecure permissions on this page.



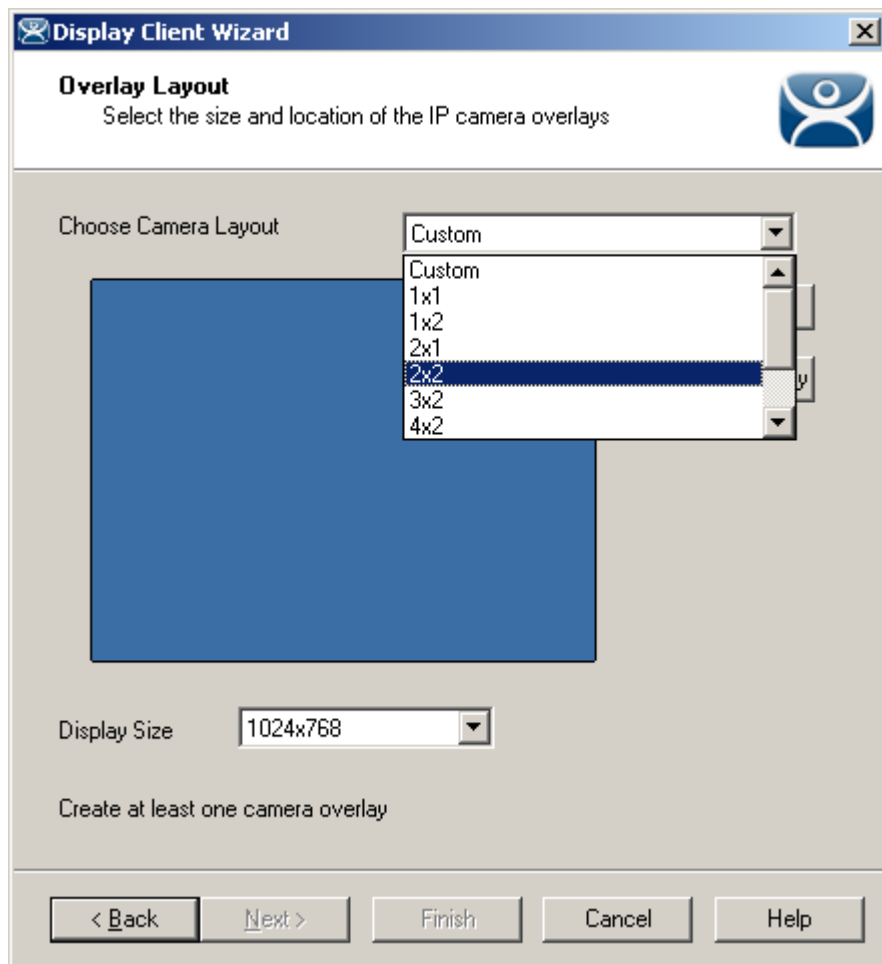
Camera Display Client Options

Select if this Display Client can be tiled and if when using MultiMonitor it can be moved to a different screen.



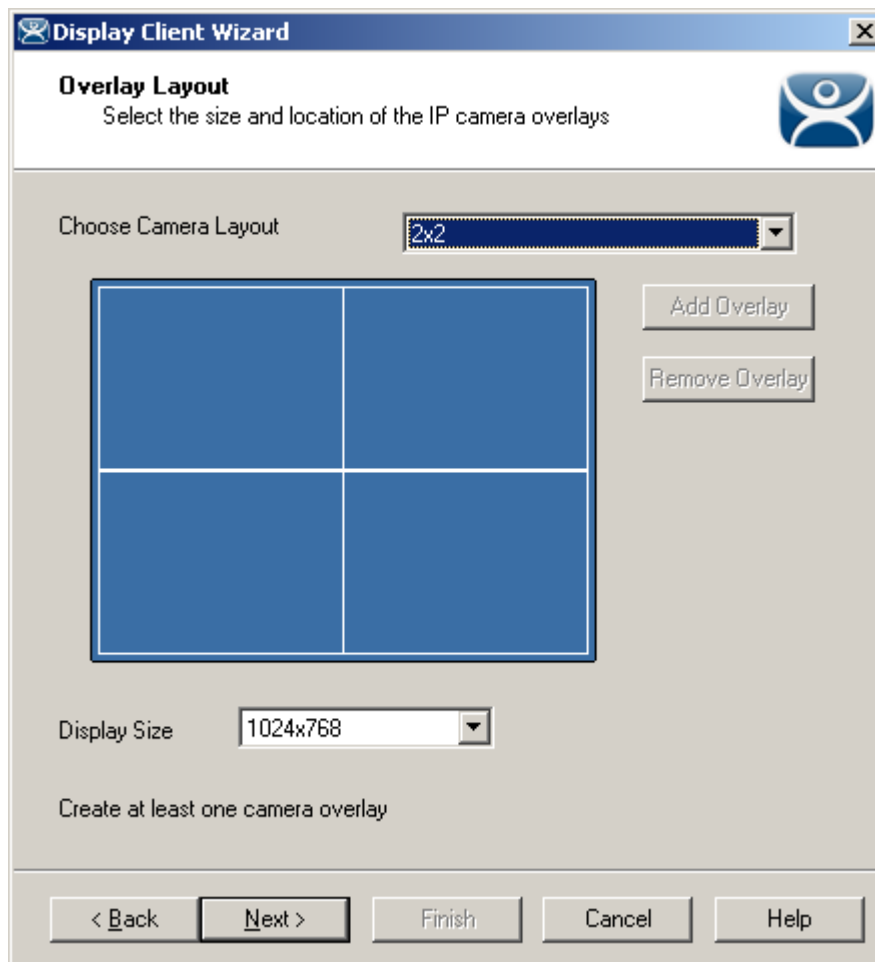
Camera Display Client Overlay Layout

This page determines the layout of the camera overlays. You can define your own custom layout or choose from predefined layouts. The Display Size selection should be set to the resolution of the terminal screen to which the Display Client will be added. The picture on this page represents the overlay layout.



Camera Display Client Layout Selection

Use the layout drop down to select the desired layout.



Camera Display Client 2x2 Layout Selection

Once a layout has been selected, it will be represented graphically. Select **Next** to configure the overlays.



Display Client Wizard

Overlay Cameras
Select the cameras available in the overlay

Overlay Name:

Position / Size

Left	Top	Width	Height
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="512"/>	<input type="text" value="384"/>

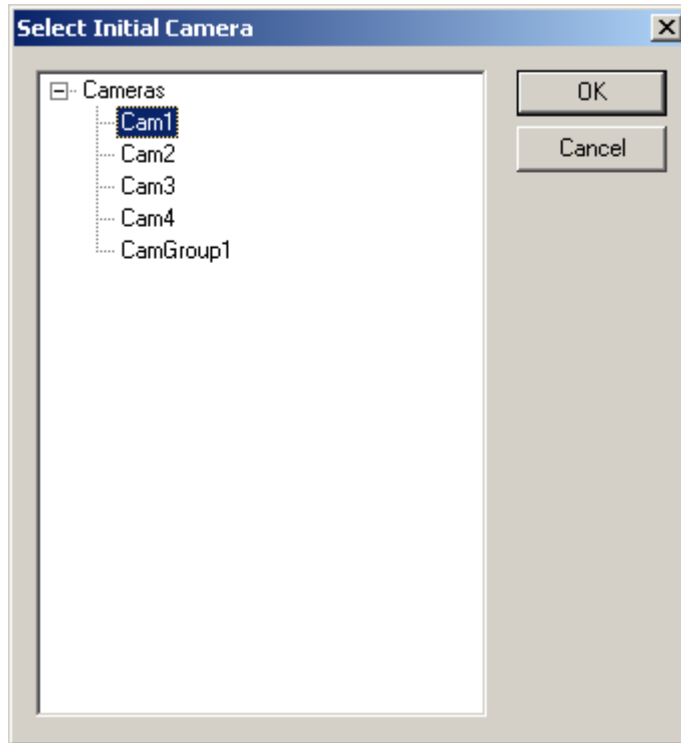
Cameras to show

All Cameras Available

< Back Next > Finish Cancel Help

Camera Display Client Overlay definition

Each overlay will be given a default name. The grey region of the screen representation is the overlay which is currently being configured. If the **All Cameras Available** checkbox is checked, all of the cameras will be available to be selected by the user at the terminal.




Set Initial Camera Dialog

Selecting the **Set Initial Camera** button allows the camera the overlay will start on at boot up to be selected.



Display Client Wizard

Overlay Cameras
Select the cameras available in the overlay

Overlay Name: 

Position / Size

Left	Top	Width	Height
<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="512"/>	<input type="text" value="384"/>

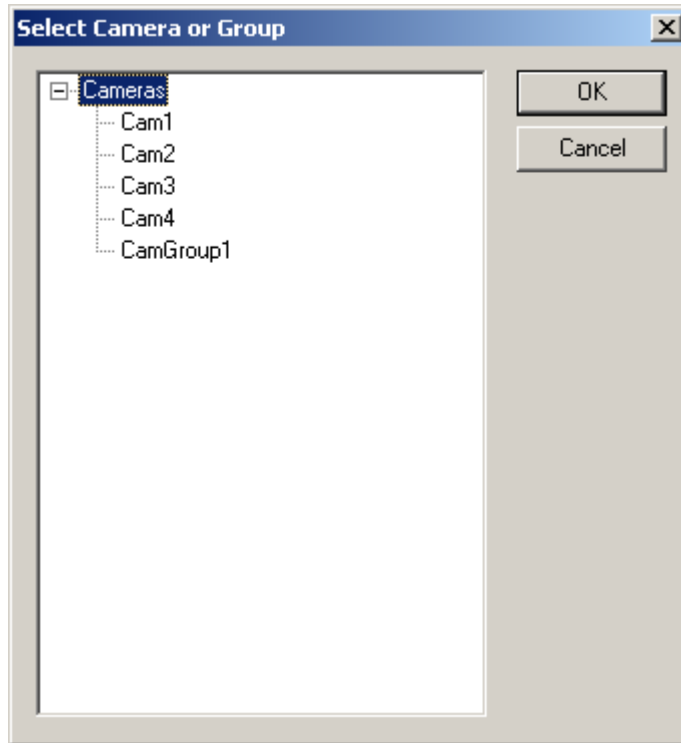
Cameras to show

All Cameras Available

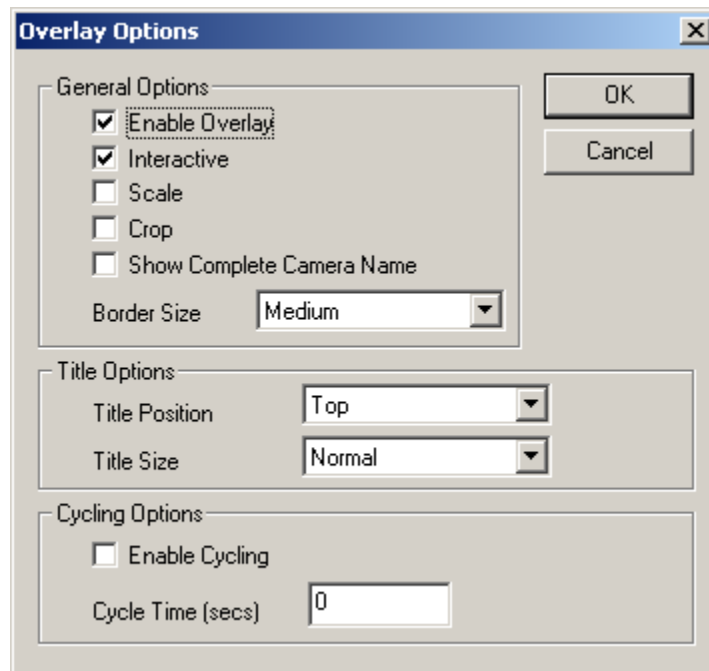
- Cam1
- Cam2

Overlay Camera Selection

If the **All Cameras Available** checkbox is unchecked, cameras must be added manually. Use the **Add** button to add cameras to the list. Adding more than one camera allows the user to select from these cameras at the terminal and allows the cycling between the listed cameras.



Camera Selection



Overlay Options

Clicking the **Overlay Options** button will allow the setting of additional overlay options.

General Options:

- **Enable Overlay** – This option allows the overlay to be started in a disabled non-visible state. The TermMon ActiveX Control can be used by an application to enable the overlay.



- **Interactive** – This option allows the user on the terminal to interact with the overlay. If the user clicks in the overlay area, he can perform functions such as switching cameras and making the overlay full screen.
- **Scale** – This option will scale camera frames to be to the size of the overlay window. Aspect ratio will be maintained.
- **Crop** – This option will crop the camera frame if it is larger than the camera overlay. This option when combined with the **Scale** option will always fill the entire overlay area.
- **Show Complete Camera Name** – Using this option allows the entire path of the camera to be displayed. The path includes any groups of which the camera is a member.
- **Border Size** – This setting determines the size of the overlay outside border.

Title Options:

- **Title Position** – This is the position of the camera name within the overlay.
- **Title Size** – This is the size of the camera name when displayed within the overlay. Set this to *Don't Show Title* if you do not want the camera name displayed.

Cycling Options:

- **Enable Cycling** – Check this setting to cycle between the cameras assigned to the overly.
- **Cycle Time** – This is the time in seconds that the overlay will display each camera before switching to the next camera.

The screenshot shows the ThinManager interface. On the left is a tree view of the system structure. On the right is a configuration window for 'CamClient1'.

ThinManager
Edit Manage Install Tools View RemoteView Help

Tree View:

- TMServer
 - Terminals
 - Display Servers
 - Display Clients
 - Terminal Services
 - Camera
 - CamClient1
 - Overlay_1
 - Overlay_2
 - Overlay_3
 - Overlay_4
 - Terminal Shadow
 - TermSecure Users

Config Server Rank

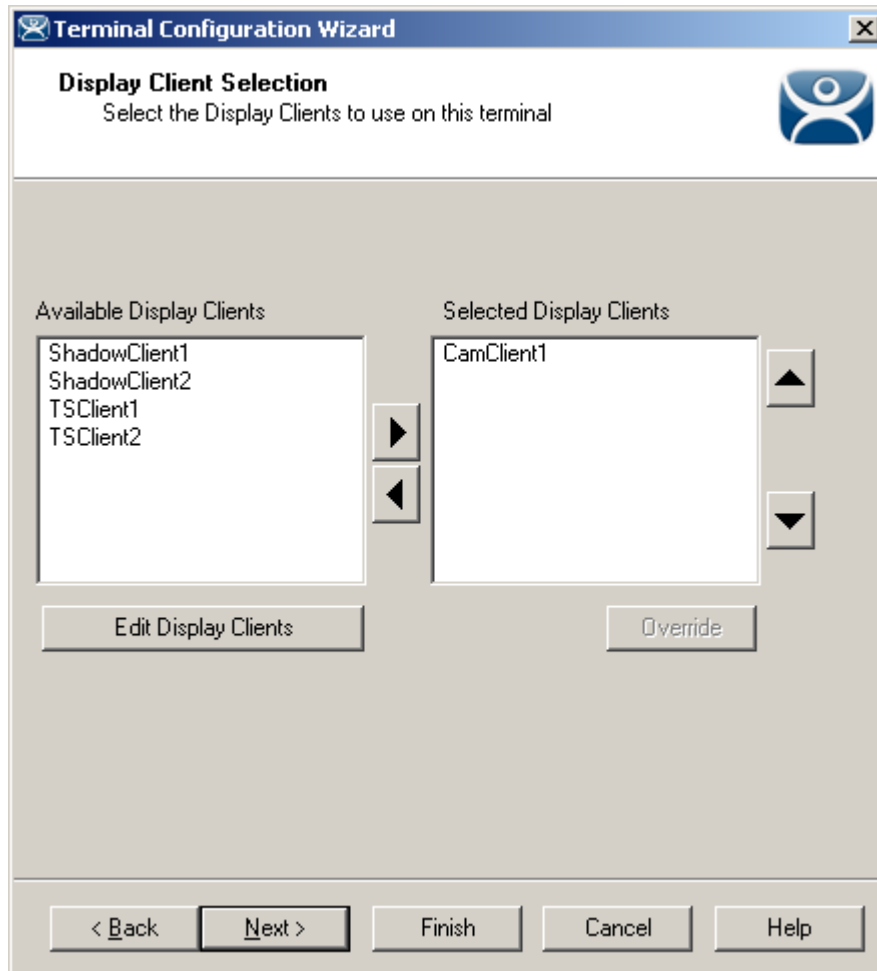
Attribute	Value
Display Client Configuration	
Display Client Name	CamClient1
Client Type	IP Camera
Display Client Options	
Allow client to be Tiled	YES
Client Can be moved (MultiMonitor)	NO
Camera Overlays	
Overlay Name	Overlay_1
Left Position	0
Top Position	0
Width	512

For Help, press F1

Camera Display Client Tree View

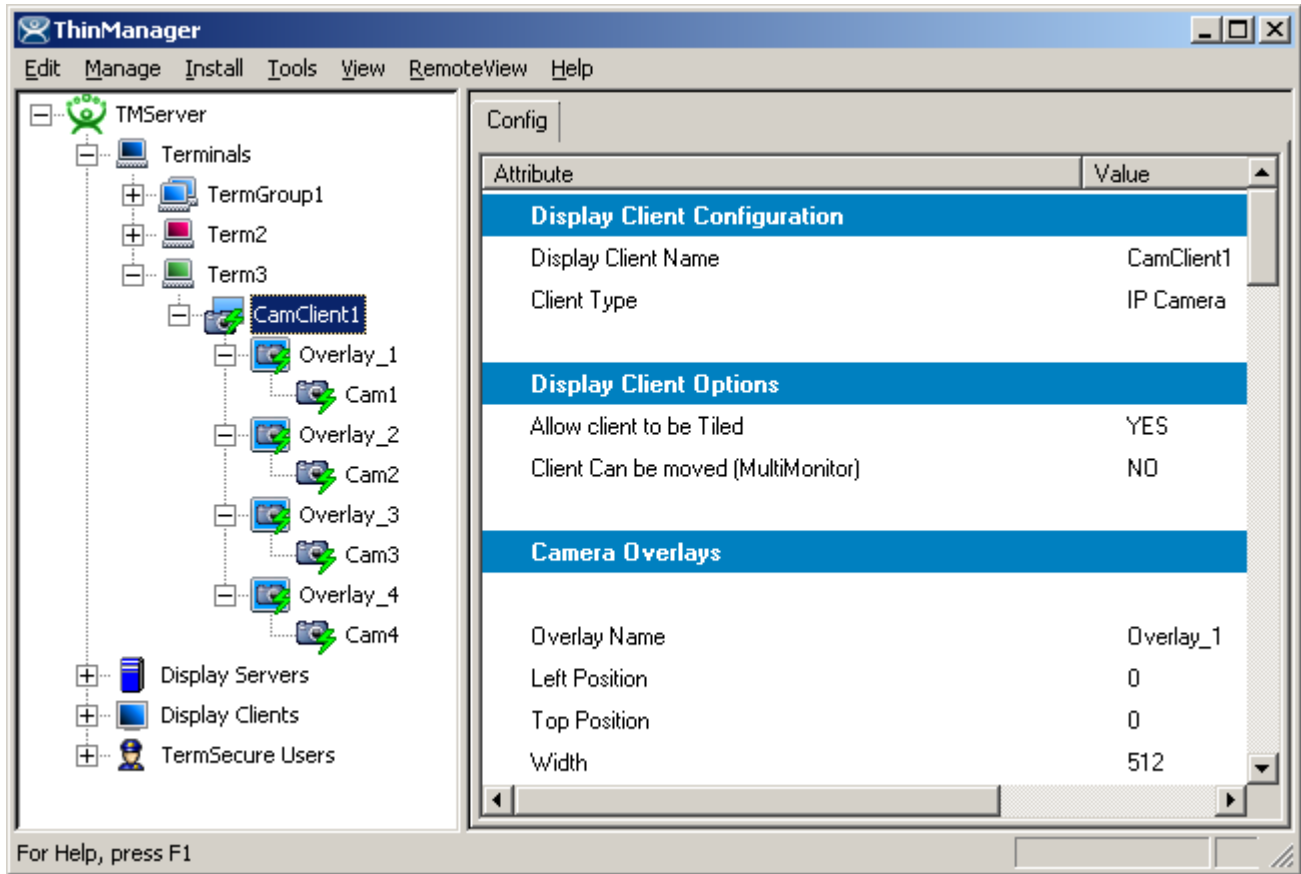


Once a Camera Display Client has been configured it will be reflected in the ThinManager tree under *Display Clients->Camera*.



Terminal Configuration Display Client Selection

During the terminal configuration, select the desired Display Clients for the terminal. Multiple Display Clients can be added to the configuration for a MultiSession configuration.

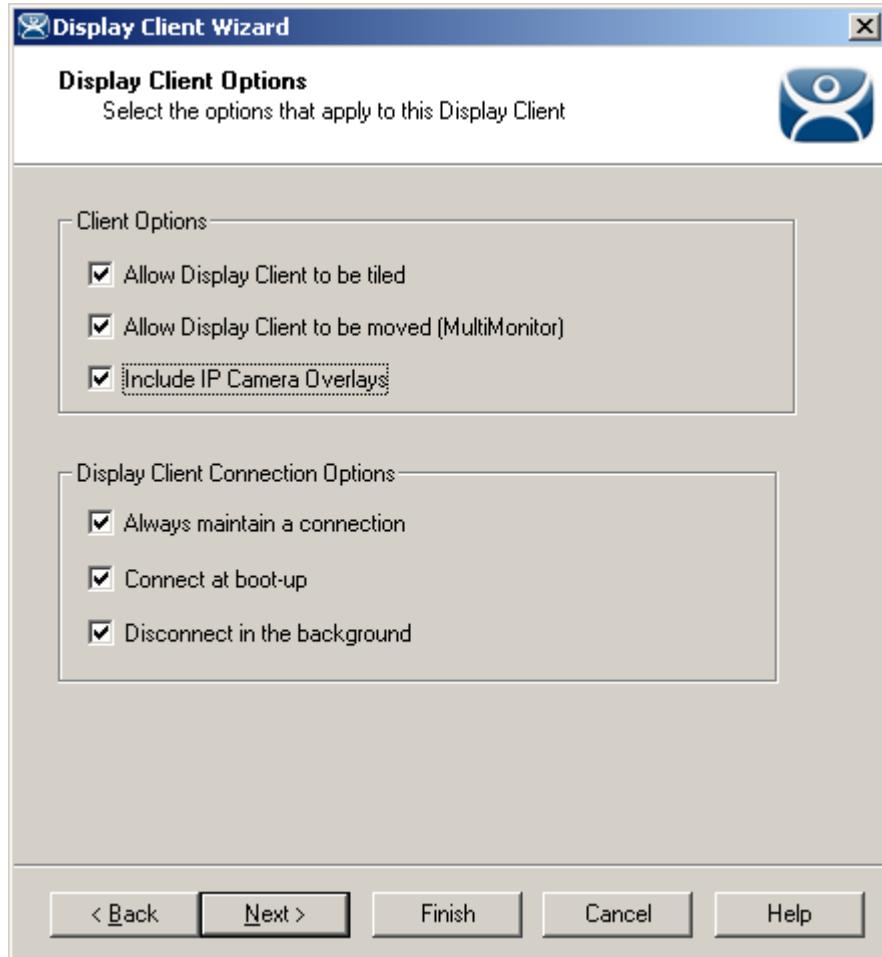


Camera Display Client Terminal Tree View

When the terminal is running, the Camera Display Client status will be reflected in the ThinManager terminal tree view. The status of each Camera Overlay and Camera will be displayed. A green lightning bolt on the Display Client icon represents that Display Client is in the foreground. A yellow lightning bolt on the Display Client icon represents that the Display Client is in the background. A green lightning bolt on the overlay icon represents an active overlay. A green lightning bolt on the camera icon represents an active connection to the camera.

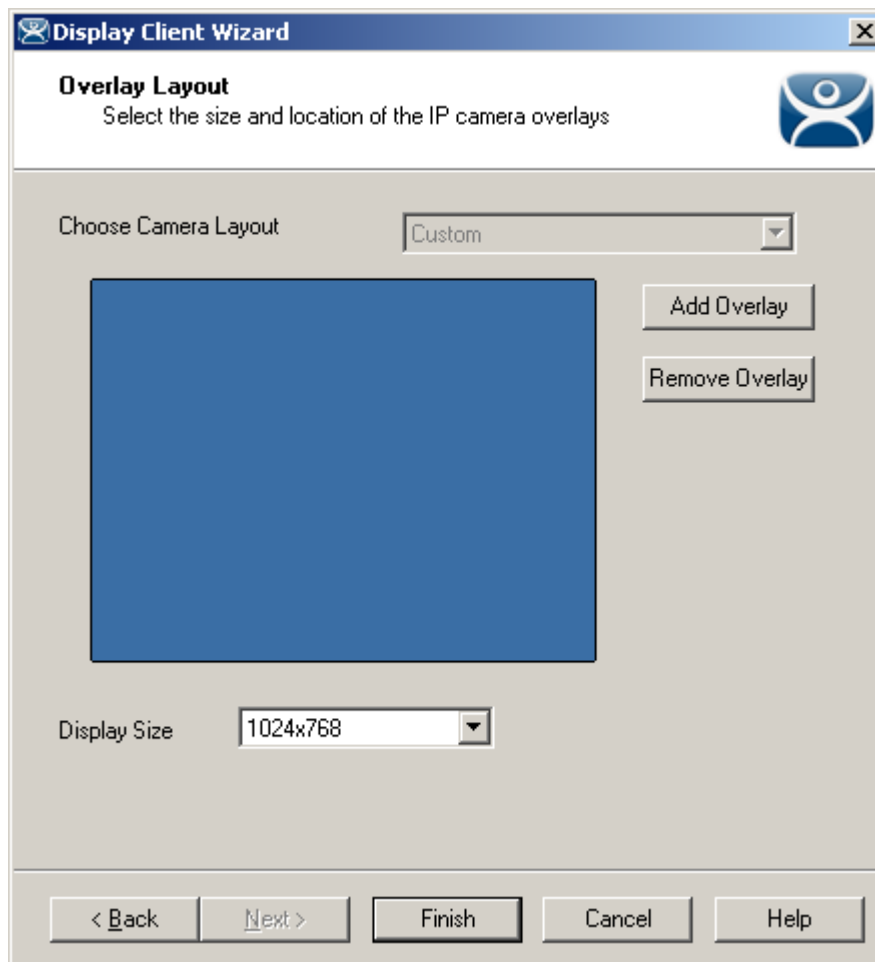


Adding a Camera Overlay to a Display Client



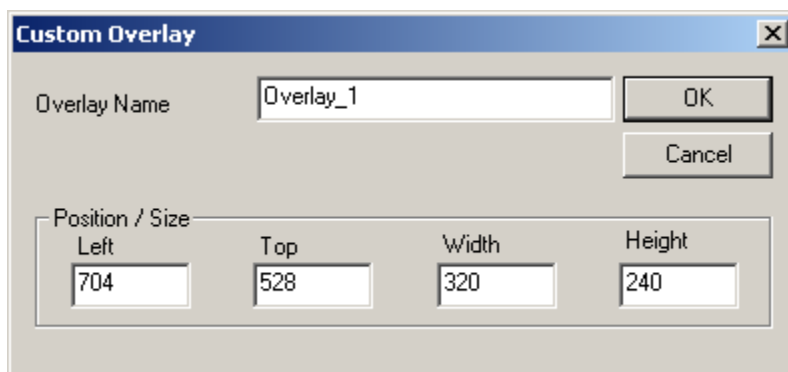
Terminal Configuration Display Client Options

During the terminal configuration check the ***Include IP Camera Overlays*** option to add camera overlays to a Display Client.



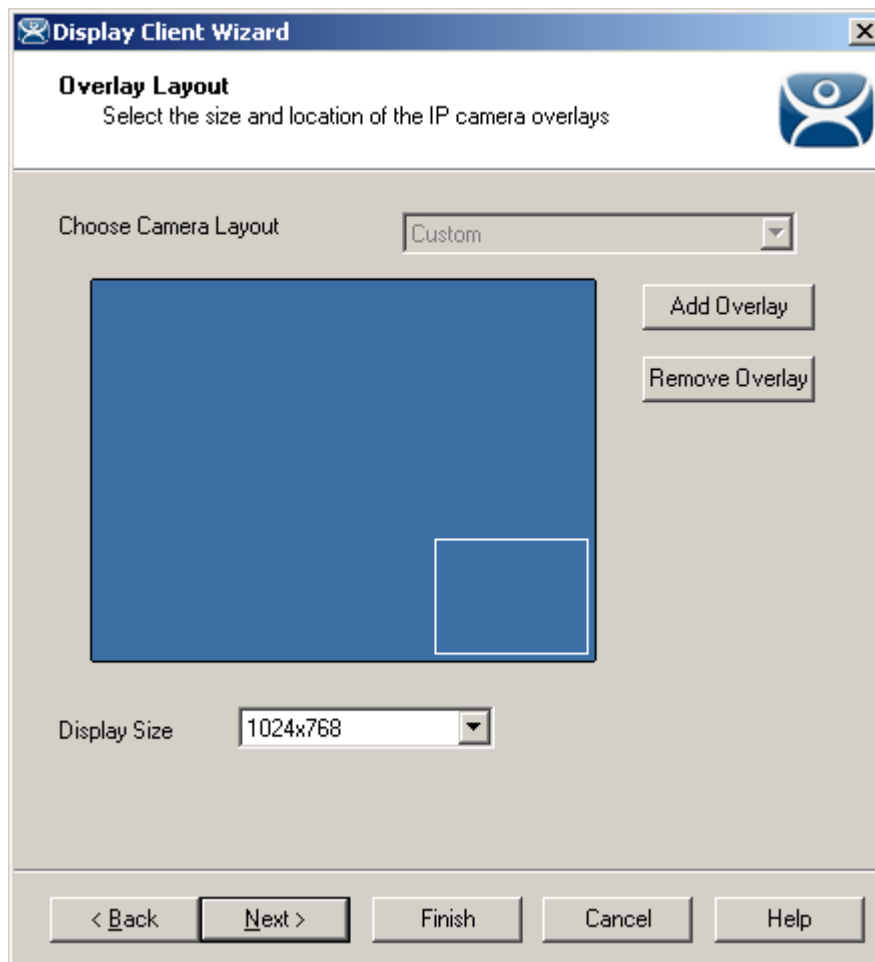
Terminal Configuration Overlay Layout

Camera Overlays can be configured before completing the Terminal Configuration wizard,



Terminal Configuration Add Camera Overlay

Clicking the **Add Overlay** button will allow the creation of the overlay. Enter the name position and size of the desired overlay.



Camera Overlay Layout

Once an overlay has been added, it will be represented as a white outlined square on the layout page. Selecting the **Next** button will allow the completion of the configuration camera overlays



Overlay Camera Selection

The camera overlay configuration can be completed as described in the **IP Camera Display Server Configuration Wizard** section.

Camera Overlays and TermMon ActiveX Control

Camera Overlays can be controlled by an application by using the TermMon ActiveX Control. The Control can be used to perform operations such as switching cameras and changing the overlay size and position. See TermMon ActiveX for details.