18 Multiple Monitors

18.1 Introduction to Multiple Monitors

ACP ThinManager has two methods of providing multiple monitors in a thin client system - the **Share Keyboard and Mouse** method and the **MultiMonitor** method.

The **Share Keyboard and Mouse** module allows several thin clients, each with a single video port, to be controlled with a single keyboard and mouse without the need of a KVM switch (Keyboard/Video/Mouse). The Share Keyboard and Mouse system ties several desktops together with a common mouse and keyboard so that the user has increased real estate under their control. Because each screen is still an independent desktop, programs don't need to be rewritten in a new resolution for a larger desktop. Instead, one would run the normal sized application on each of the desktops, allowing the operator to view different windows on different monitors.

See Share Keyboard and Mouse Modules for details on deployment.

The **MultiMonitor** method uses specific 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 ACP) or can display individual desktops (called "screened" by ACP), or combinations of "spanned" and "screened" sessions.

WinTMC now supports MultiMonitor if the PC has Windows running on multiple video cards.

See MultiMonitor for details on deployment.
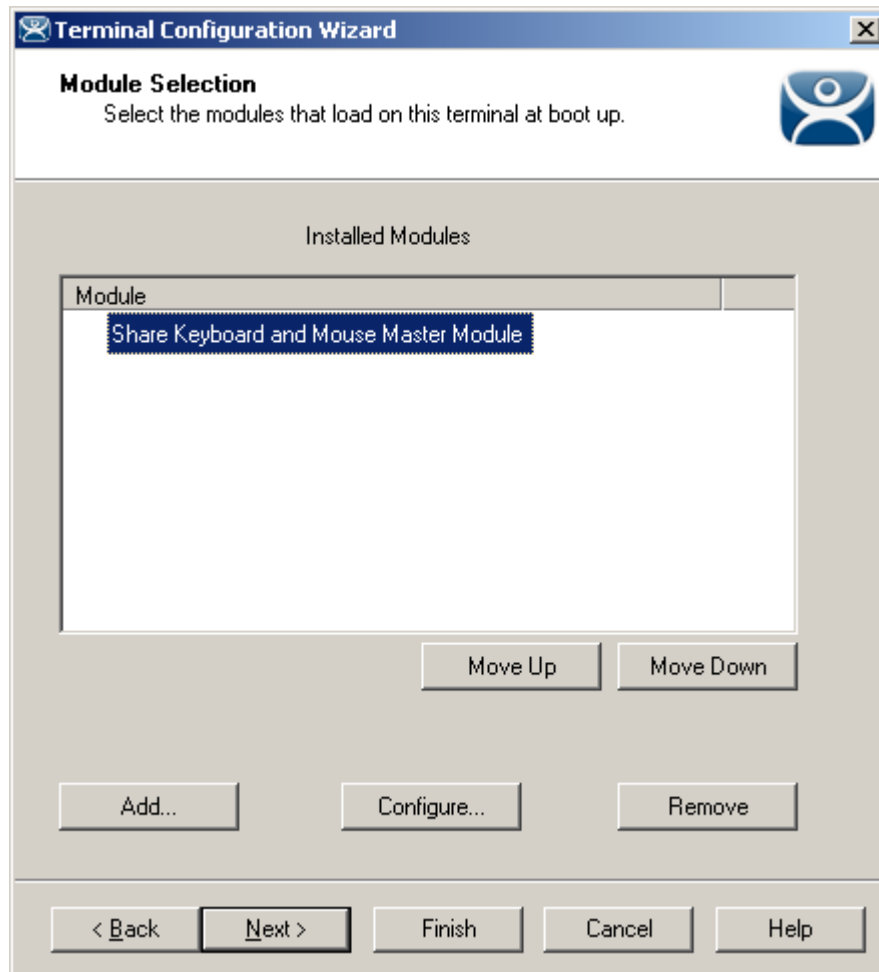
18.2 Share Keyboard and Mouse Modules

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).

The **Share Keyboard and Mouse** has a **Master** module that is added to the controlling terminal, and a **Slave** module that is added to the dependent terminals.

Left   Master   Right

Share Keyboard & Mouse Module
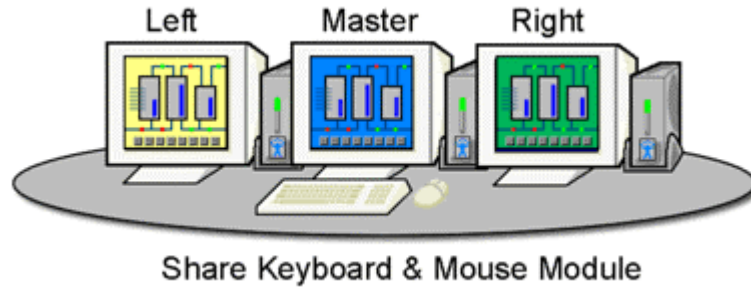
Shared Keyboard and Mouse Layout

The Share Keyboard and Mouse can be used by placing several monitors connected to thin clients side-by-side or top-to-bottom. The **Share Keyboard and Mouse Master module** is loaded on the center thin client. This module is configured by adding the IP addresses of the secondary slave thin clients. The other terminals receive the **Share Keyboard and Mouse Slave module**.

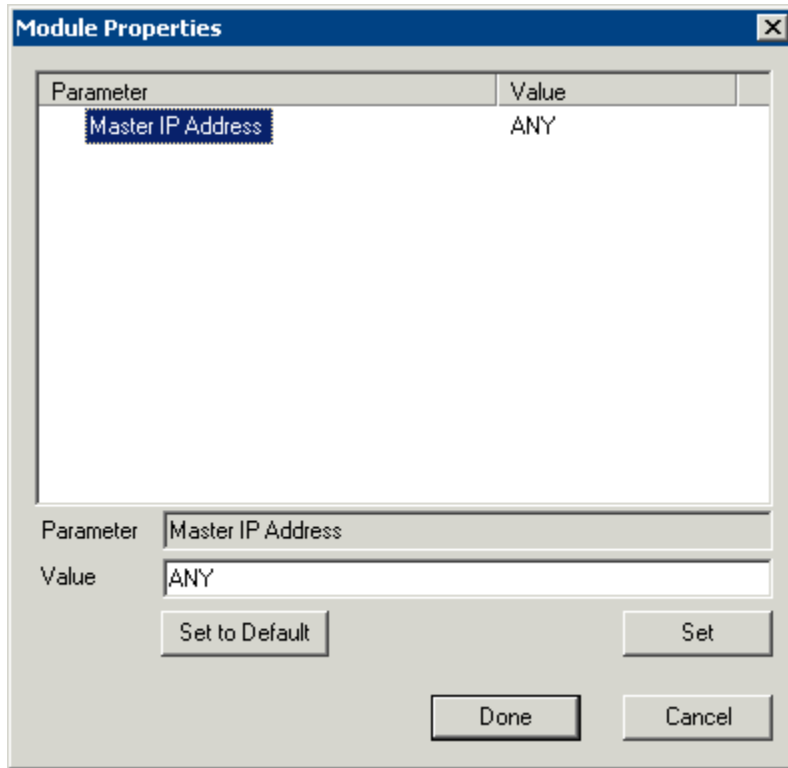*Share Keyboard and Mouse Master Module*

Once the **Share Keyboard and Mouse Master Module** is added to a terminal, it can be configured by highlighting it in the **Installed Module** window and selecting the **Configure** button.
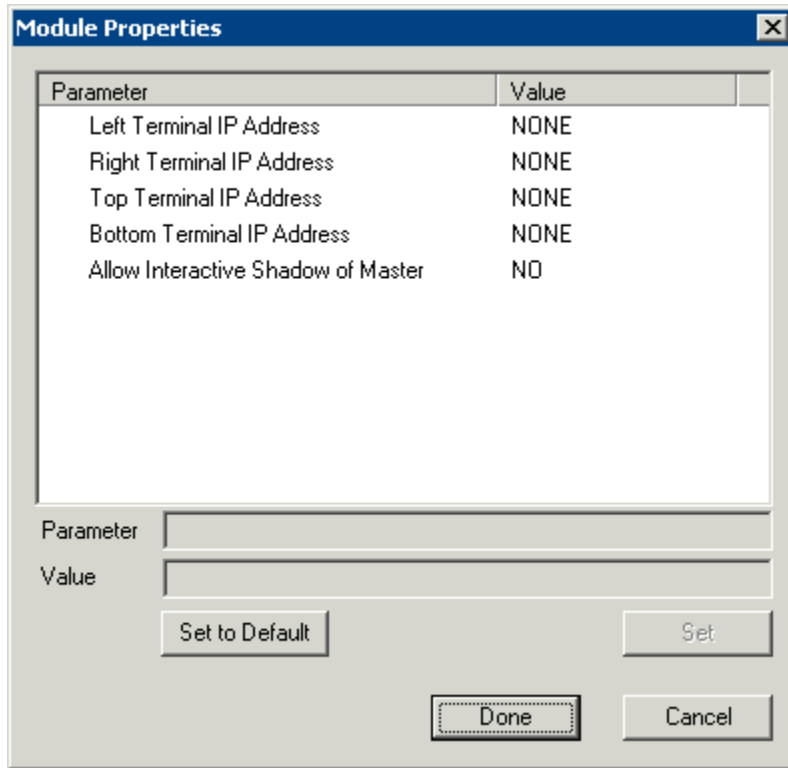
Share Keyboard and Mouse Master Module Properties

- ***Left Terminal IP Address*** - Enter the correct IP address for the Slave terminal on the left of the master terminal, if used, and select the ***Set*** button.

- ***Right Terminal IP Address*** - Enter the correct IP address for the Slave terminal on the right of the master terminal, if used, and select the ***Set*** button.

- ***Top Terminal IP Address*** - Enter the correct IP address for the Slave terminal on the top of the master terminal, if used, and select the ***Set*** button.

- ***Bottom Terminal IP Address*** - Enter the correct IP address for the Slave terminal on the bottom of the master terminal, if used, and select the ***Set*** button.

- ***Allow Interactive Shadow of Master*** - Normally a terminal with the master module loaded is blocked from interactive shadow. If you want to allow interactive shadowing on the master, highlight the ***Allow Interactive Shadow of Master*** parameter, select ***Yes*** from the ***Value*** drop-down, and select the ***Set*** button.

The **Share Keyboard and Mouse Slave module** is loaded on the secondary thin clients using the same methods as other modules are loaded.

Share Keyboard and Mouse Slave Module Properties

- • **Master IP Address** - This setting allows the slave module to be configured to connect to a specified master by entering the IP address of the master terminal, and selecting the **Set** button.

Select the **Done** button when finished.

Once the ACP Enabled thin clients are booted, the mouse on the master thin client can be moved seamlessly into the other desktops. The keyboard will be active in whatever screen the mouse pointer is on.

This allows an operator to have control of several displays with only one keyboard and mouse. The mouse movement is seamless, allowing access to displays without switching.

Note: A Master Share Keyboard and Mouse session cannot be interactively shadowed in ThinManager unless it is configured to allow it.

The keyboards and mice for the slave thin clients can be left attached, but stowed away until a multi-user configuration is needed.

The **Share Keyboard and Mouse Master module** is licensed for each master thin client. The **Share Keyboard and Mouse Slave module** is free. Each master module can have 1 to 4 slave units.

18.3 MultiMonitor

MultiMonitor is configured in the **Terminal Configuration Wizard** or the **Group Configuration Wizard**.
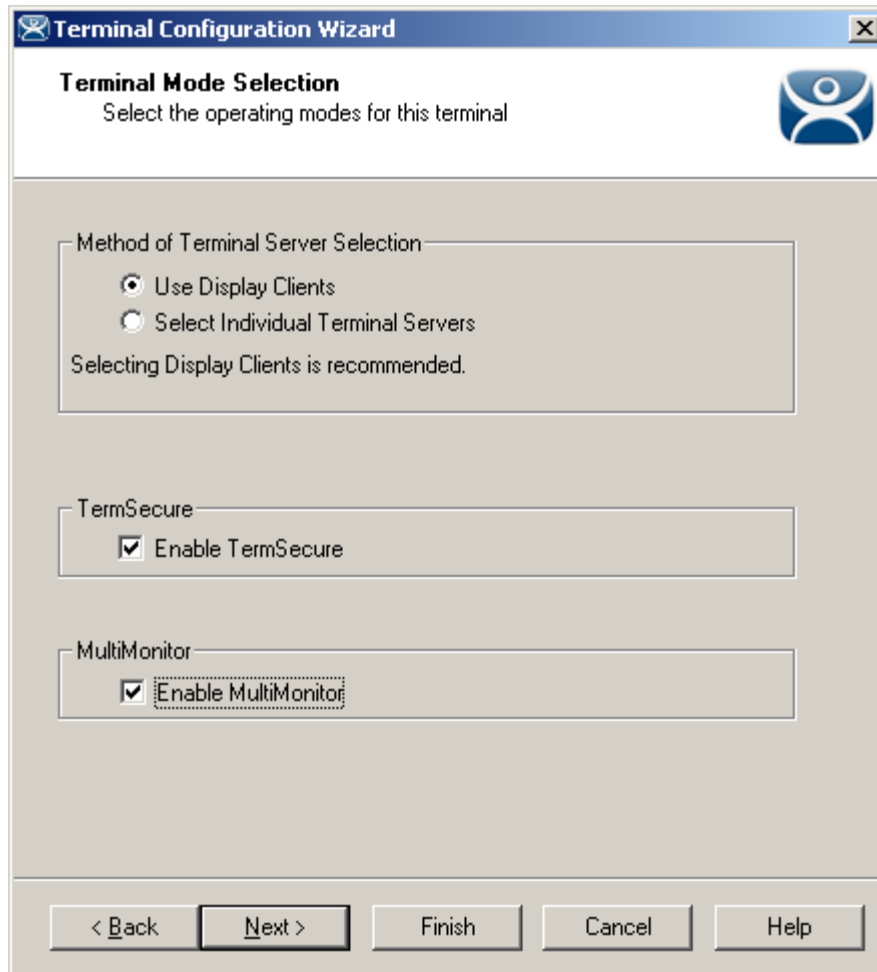
18.3.1.1   MultiMonitor Hardware Specification

MultiMonitor – Terminal Hardware

MultiMonitor configuration is initiated in the **Terminal Configuration Wizard** when a MultiMonitor-capable thin client is selected on the **Terminal Hardware** page.

Select the *Next* button to continue.

MultiMonitor – Enable MultiMonitor

MultiMonitor requires the use of Display Clients. Once the **Use Display Clients** checkbox is selected on the **Terminal Server Specification** page the **Enable MultiMonitor** checkbox becomes visible.

Select the **Use Display Clients** and the **Enable MultiMonitor** checkboxes, and then select the **Next** button.

Note: WinTMC now supports MultiMonitor if the PC has Windows running on multiple video cards. Selecting the **Enable MultiMonitor** checkbox will allow you to configure a WinTMC client for MultiMonitor use.

Select the **Next** button to continue.

18.3.1.2   MultiMonitor Monitor Configuration

MultiMonitor – Video Settings

The MultiMonitor Video Setting allows the user to choose how many monitors will be connected to the MultiMonitor thin client using the **Number of Monitors** radio button.

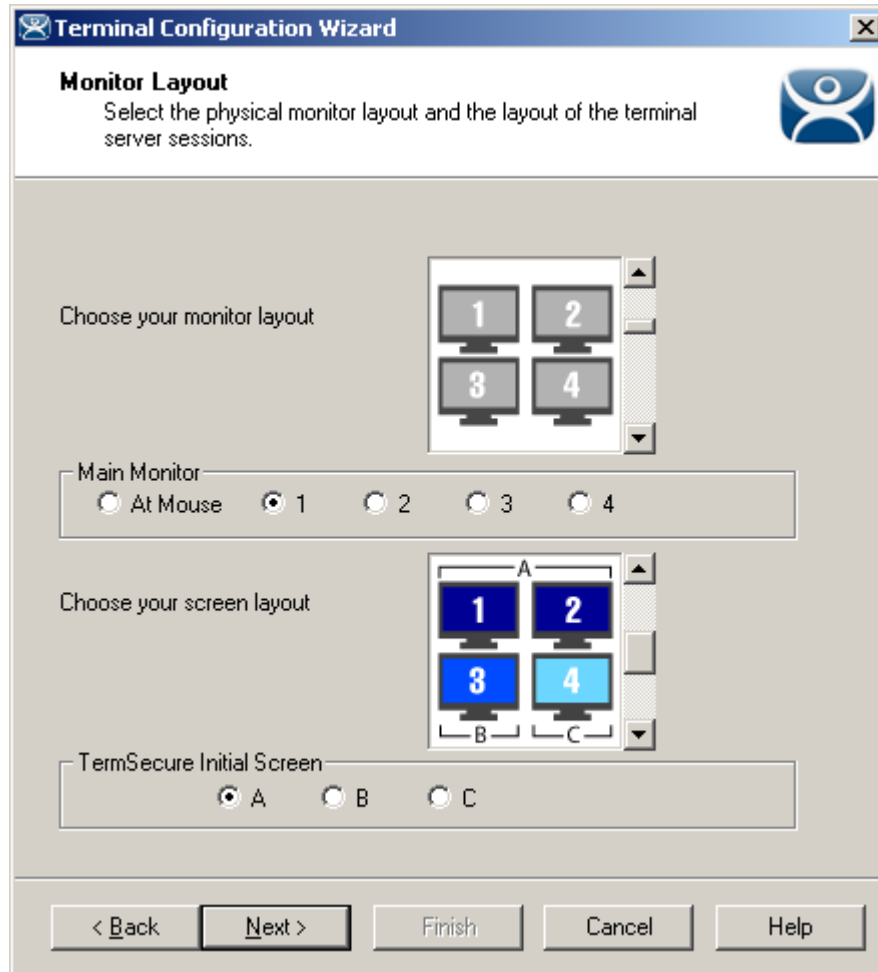The **Color Depth** dropdown allows the color depth to be set for all the monitors.

The **Resolution** and **Refresh Rate** can be set for each monitor using the dropdowns.
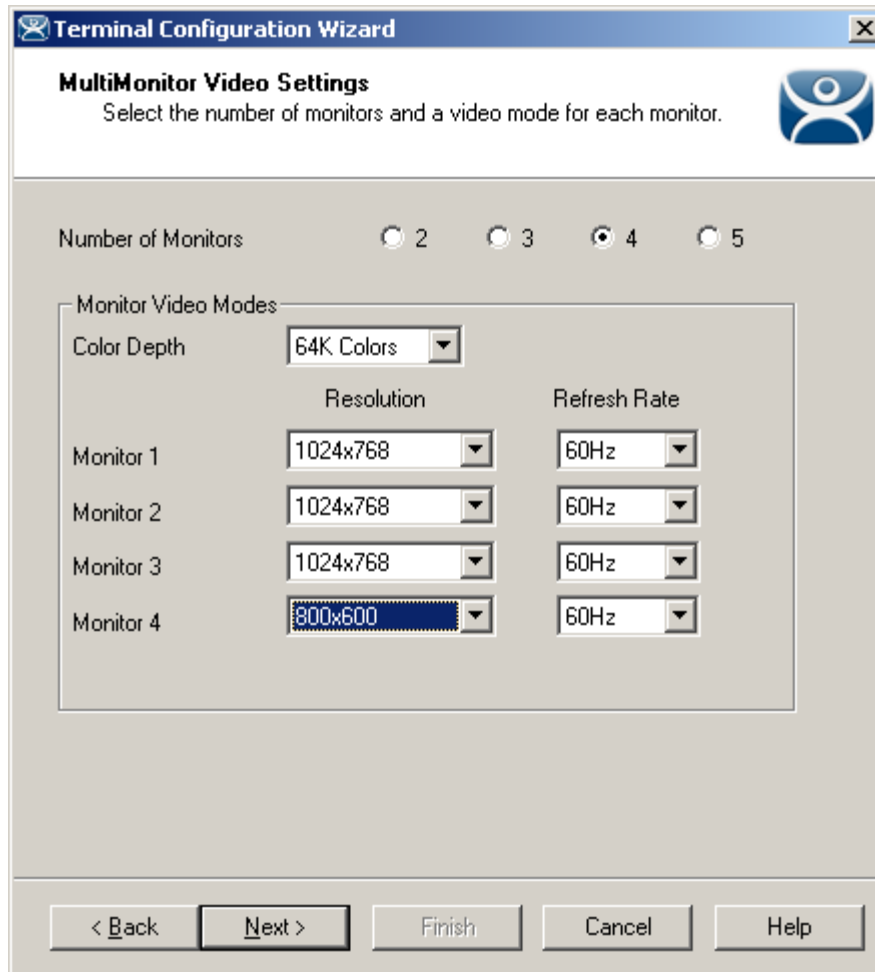
MultiMonitor – Video Settings

The monitors do not need to use the same resolutions but can be individually configured.

Select the **Next** button to continue.

18.3.1.3   MultiMonitor Monitor Layout Page

MultiMonitor – Monitor Layout

The Monitor Layout page allows the configuration of the MultiMonitors.

The *Choose your monitor layout* dropdown will display the various physical arrangements that the monitors can be placed in. Select the layout that matches your layout.

Sample Monitor Layouts

The *Main Monitor* radio button determines which screen is considered the main monitor. This monitor will display the TermSecure login window, Main Menu, and ThinManager messages.

The *Choose your screen layout* dropdown with allow the assignment of sessions to the monitors. The monitors can be combined into a "**Spanned**" session that contains two or more monitors or they can be configured to hold an individual session per monitor, called "**Screened**", or a combination of the two.
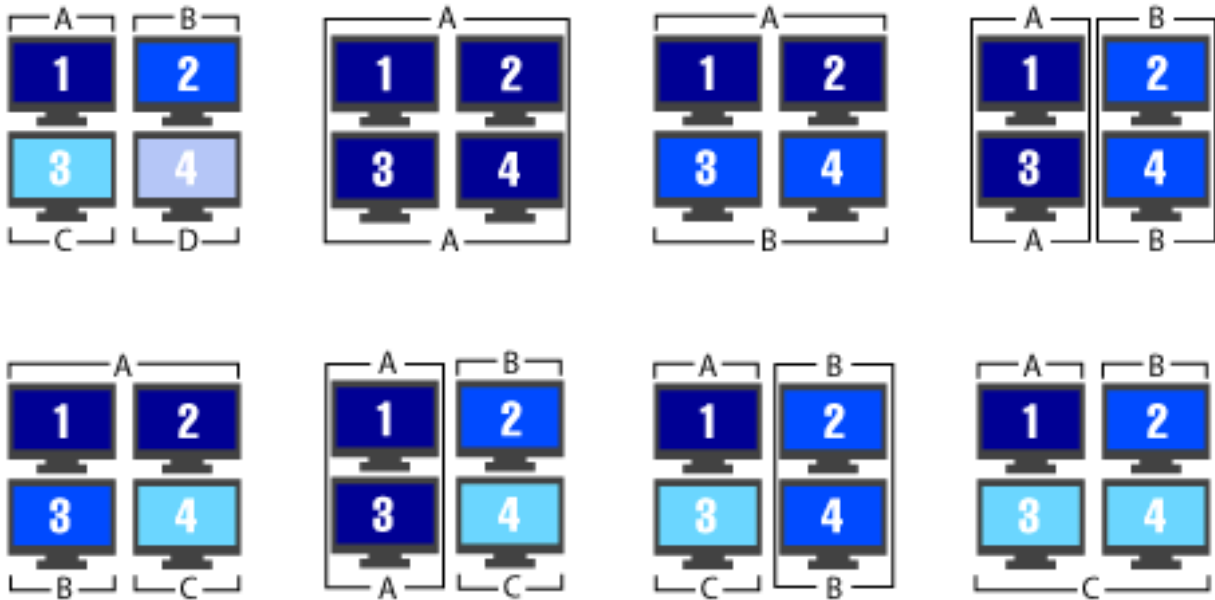
Samples of Four-Monitor Configurations

Note: The desktop of a spanned session is limited to **4096x2048**. 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.

The *TermSecure Initial Screen* radio button determines which screen is considered the main monitor for TermSecure. This monitor will display the TermSecure Main Menu window and messages.
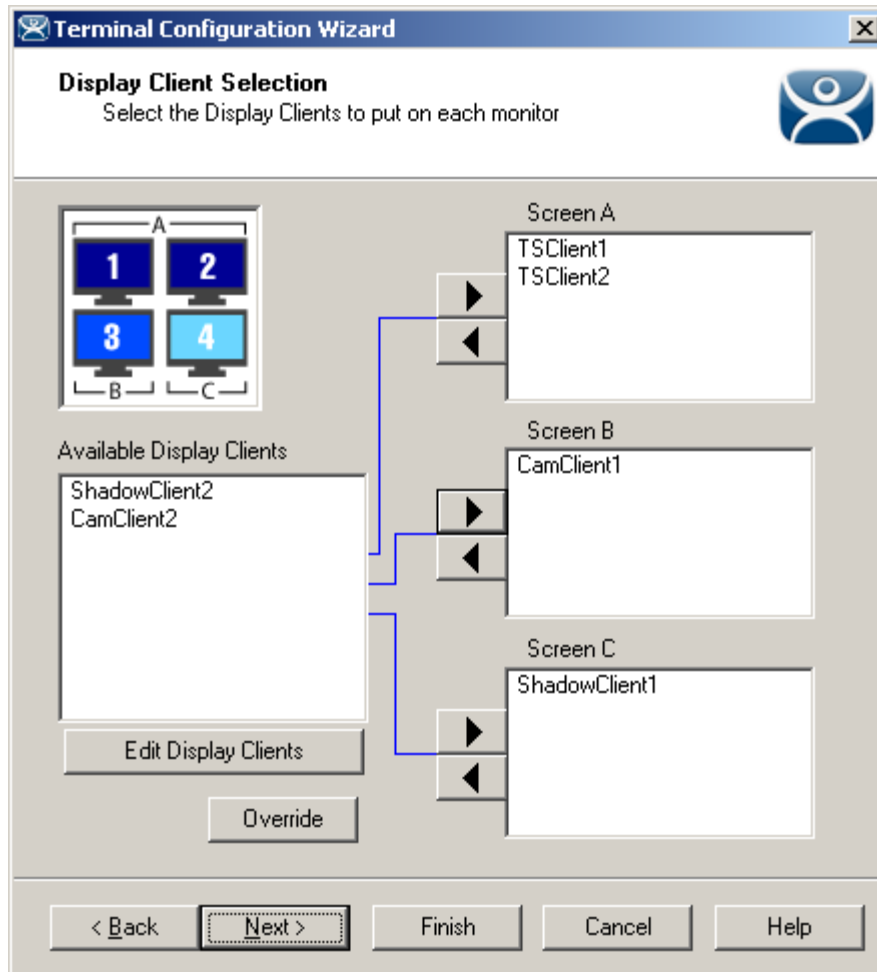
Select the *Next* button to continue.

18.3.1.4   MultiMonitor Display Client Selection Page
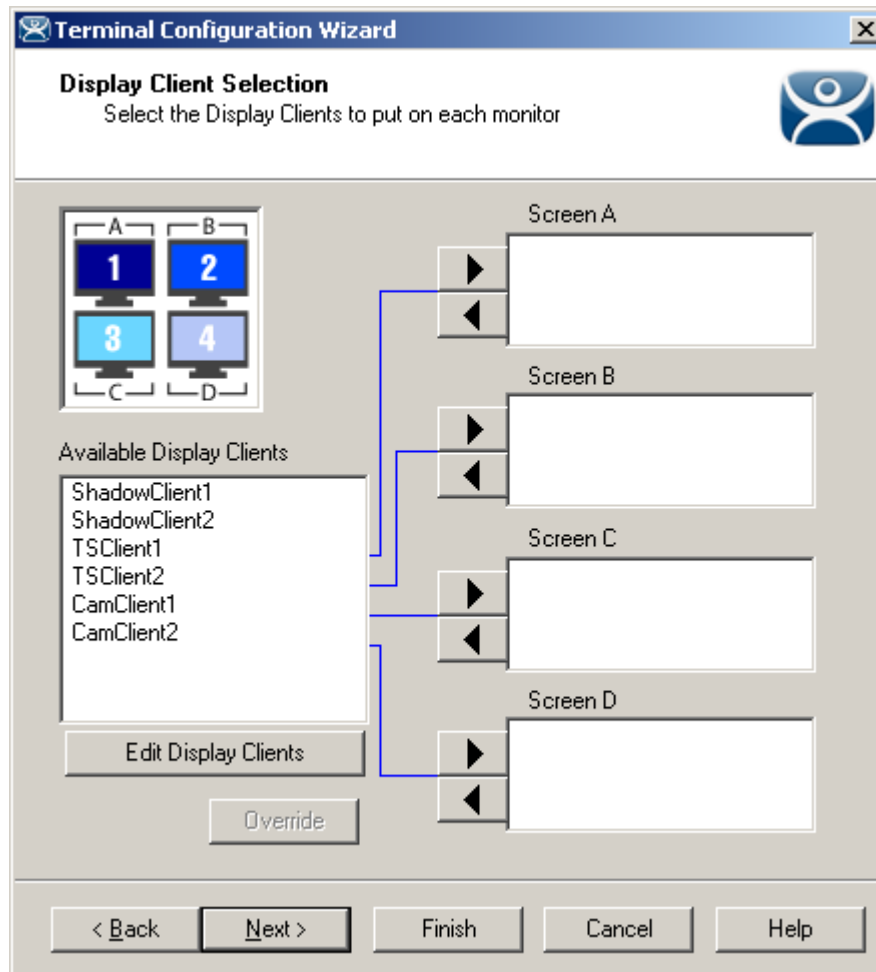
MultiMonitor – Display Client Selection

The **Display Client Selection** page allows Display Clients to be assigned to each screen.

MultiMonitor – Display Client Selection

Highlight the desired group and select the arrow to move it to the desired screen.

The number of available screens is based on the combination of screened and spanned sessions selected on the **Monitor Layout** page. Each screen can have more than one Application Group.

The *Override* button allows you to assign a different user account or video resolution to a Display Client. Highlight a Display Client and select the *Override* button to launch the **Override Setting** window.
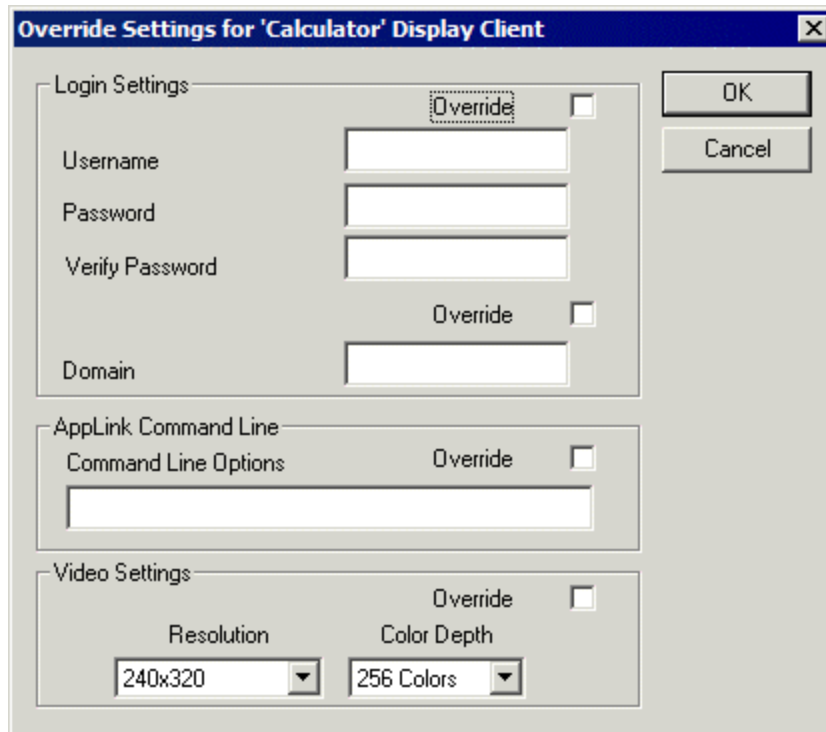
Override Setting Window

The override function is important when you want to run several copies of the same application on the MultiMonitor terminal because Microsoft limits each user to a single instance of an application by default. Without the override function you will get a single application that bounces from window to window.

Check the **Override** checkbox of the setting you desire to override and fill in the appropriate fields.

Select **OK** to accept the changes and select **Cancel** to cancel the changes.

Select the **Next** button to continue.

### *18.3.1.5   MultiMonitor Selection Configuration*
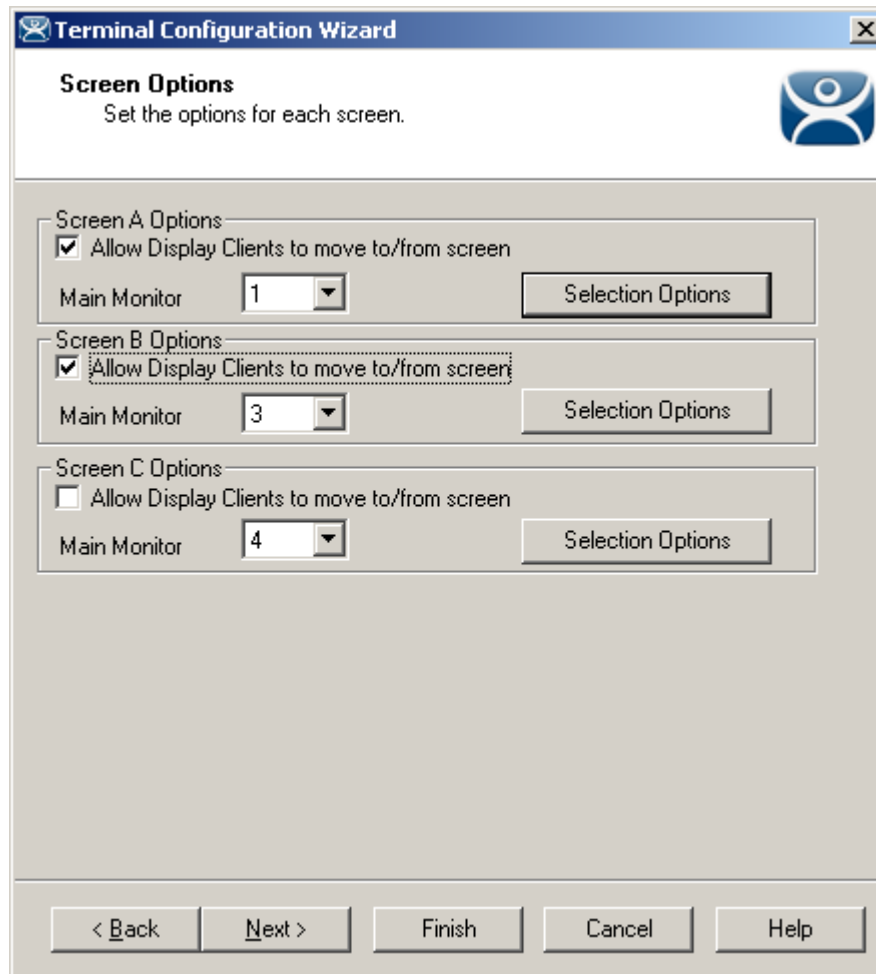
MultiMonitor - Screen Options

Terminals using MultiSession can be configured to allow sessions to be moved from monitor to monitor for user preference. This is configured by selecting the **Allow groups to move to/from screen** checkbox. If left unselected the sessions will stay in the assigned monitor.

The Screen Options settings are:

- *Allow groups to move to/from screen* – This checkbox, if selected, will allow a session from a MultiSession group to be moved to or from the monitor to suit a user's preference.

- *Main Monitor* – This drop-down sets what monitor in a spanned set will display the Display Client Selector menu.

- *Selector Options* – This button launches the **Group Selector Options** window to allow configuration of the Display Client selector.
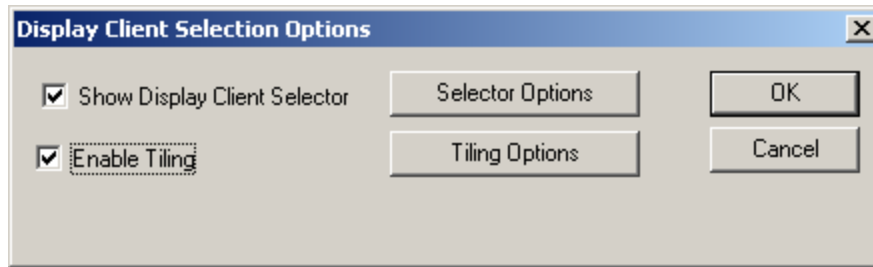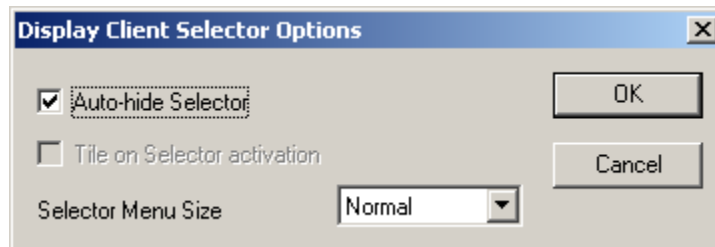
Group Selector Options Window

The Group Selector Options allows configuration of the Display Client selection when using MultiSession.

- **Show Group Selector** – This checkbox, if selected, will display the Display Client Selector to allow the user to switch between MultiSession groups.

- **Enable Tiling** – This checkbox, if selected, allows multiple sessions to be tiled to allow a visual selection.

The *Selector Options* button launches the **Group Selector Options** window.

Group Selector Options Window

The **Group Selector Options** Window has three settings.

- **Auto-hide Group Selector** – This checkbox, if selected, will hide the drop-down Display Client selector unless the mouse is hovering over the top center of the screen. This checkbox, if unselected, will show the drop-down Display Client selector at the top center of the screen.

- **Tile on Group Selector activation** – This checkbox, if selected, will tile the sessions when an auto-hid group selector is activated.

- **Group Selector Menu Size** – This drop-down sets the size of the text in the group selector.

The *Tiling Options* button launches the Tile Options window.
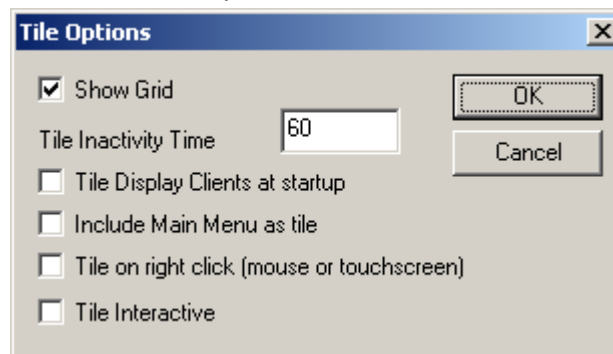
Tile Options Window

The **Tile Options** Window has five settings.

- *Show Grid* – This checkbox, when selected, will separate tiled sessions with black lines.

- *Tile Inactivity Time* – This is the amount of time in seconds that will elapse before an inactive session will revert to a tiled mode.

- *Tile Display clients at startup* – This checkbox, when selected, will tile the display clients when the terminal first connects.

- *Include Main Menu as tile* – This checkbox, when selected, will display the TermSecure Main Menu as a tiled group.

- *Tile on Right click (mouse or touch screen)* - This checkbox, when selected, will allow a right click in a session to activate tiling. Holding a finger on a touch screen will trigger tiling if the *Right Click Hold Time (milliseconds)* is used in the touch screen module.

- *Tile Interactive* – This checkbox, if selected, will allow a user to select a tiled session and interact with it without un-tiling the sessions.

18.3.1.6   Allow Group to Move Configuration

Each Display Client that is to be allowed to move needs to have this property configured in the **Display Client Wizard**. Open the **Display Client Wizard** for the desired Display Client and navigate to the **Display Client Options** page.
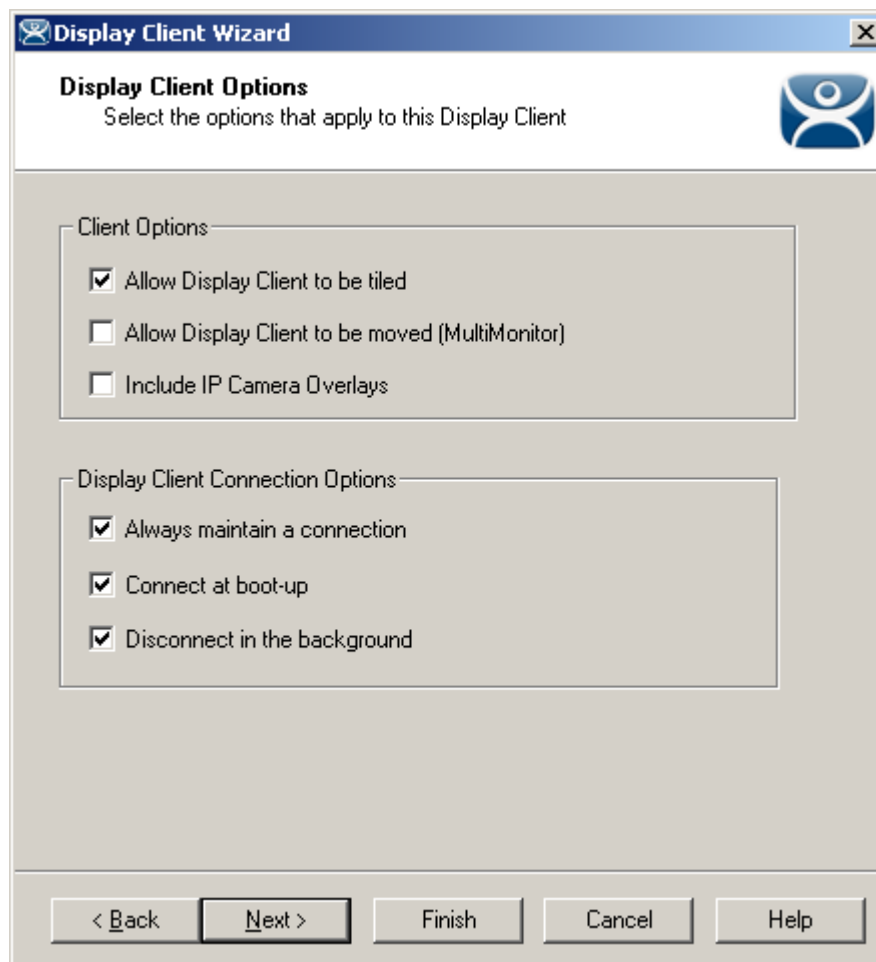
Display Client Wizard – Display Client Options

To configure a Display Client to be moved from one MultiMonitor screen to another, select the **Allow Group to be moved (MultiMonitor)** checkbox and select the **Finish** button to accept the change.

See Display Client List for details on the Display Client Wizard.