



## Terminal Services Display Clients

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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](http://www.thinmanager.com/TechNotes4/01_Intro/Manuals.shtml) to download the manual, manual chapters, or the abridged ThinManual.

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**Display Client** is the term used to denote the graphic rendering of the output from a Display Server. This could be a traditional Terminal Server session, IP Camera display, or a Terminal-to-Terminal Shadow session.

**Terminal Server Display Client** is the term used in ThinManager 4 for functions provided by Terminal Server Groups and Application Groups.

A **Terminal Server Display Client** is the display from a session running on a terminal server. This can be a session with a desktop but is more commonly a single application configured with **AppLink** to limit the user to a single application per session. **MultiSession** allows more than one AppLink display clients to be run at one time. SmartSession allows several terminal servers to be load balanced to performance.

Available options for Terminal Services Display Clients include:

- A **Standard Terminal Services Display Client** has the terminal servers listed in a pre-defined order. The terminal connects to the first available server in the list.
- The **SmartSession** option of Terminal Services Display Clients provides load balancing by using CPU availability, memory, and the number of sessions on the member terminal servers to determine the resource availability on member terminal servers. A ThinManager Ready thin client connects to the terminal server with the most available resources.
- The **AppLink** option provides the Initial Program function to members of a Terminal Services Display Client. When specifying the Initial Program function, a program is started instead of the desktop. Closing the program will terminate the connection.
- The **Instant Failover** option allows a terminal to connect to two terminal servers defined in a Terminal Services Display Client. The terminal will have an active session on two terminal servers but will only display one session. If the first terminal server fails, the session of the second terminal server is immediately displayed, eliminating any downtime due to terminal server failure.

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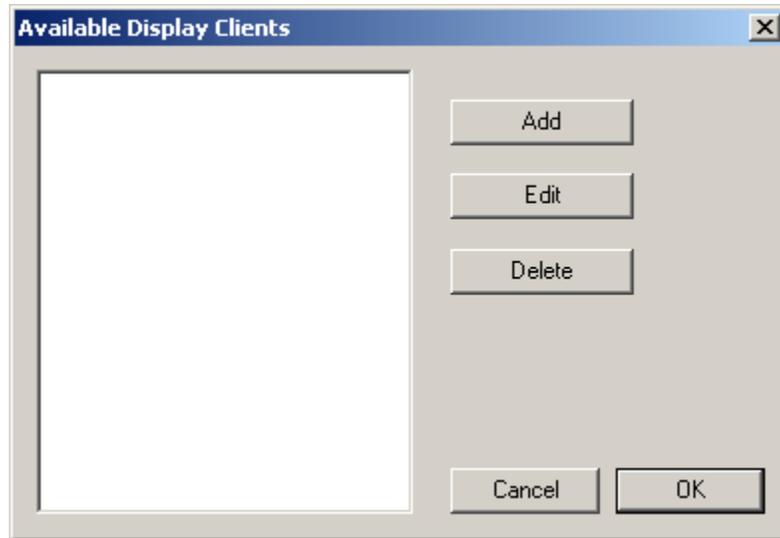
**Note:** The term **MultiSession** is used to describe a terminal that has been configured with two or more Display Clients. The user can switch between Display Clients using an on-screen menu or hot keys.

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These options can be combined on the same Display Client. For example, a Display Client could use SmartSession to choose the server connection order, Instant Failover to maintain a backup, while using AppLink to limit the terminal to a single application. Additionally, a terminal server may be a member of several Terminal Services Display Clients.

The **Display Client List Wizard** can be launched by either:

- Right clicking on the Display Client branch and choosing the **Add Display Client** command
- Right clicking on the Display Client branch and choosing the **Edit Display Client** command.



*Display Client List Wizard*

The opening window of the **Display Client List Wizard** will show any Display Clients that are defined or will be blank if none have been defined.

Select **Add** to create an new Display Client or select **Edit** to configure a highlighted Display Client.

Selecting the **Add** button will launch the **Display Client Wizard**.

## Display Client Wizard

The **Display Client Wizard** shows a series of configuration pages starting with the **Display Client Name Page**.

### Display Client Name Page:

The Display Client Name Page starts the configuration wizard, sets the name, and the type of Display Client.

Add a unique name in the **Client Name** field.

Choose Terminal Services from the **Type of Display Client** drop-down box.

Select the **Next** button to configure the group options..

### Display Client Options Page:

The Terminal Services Display Clients of ThinManager have the same function as the Terminal Server Groups from pre-3.2 versions of ThinManager. They allow a terminal to connect to a terminal server, login, and run a session. The specific terminal server that the terminal connects to is based on the Display Client configuration and options.

#### Settings:

- **Allow group to be tiled** – This allows the Display Client to be tiled in SessionTiling.
- **Allow Group to be moved (MultiMonitor)** – This allows an Display Client to be moved from one MultiMonitor screen to another when using MultiMonitor hardware.
- **Include IP Camera Overlays** –This will allow IP Camera overlays to be added to this Display Client.



- **Always maintain a connection** – This keeps a session active, reconnecting and restarting if the operator tries to close it. If unchecked, the user can close a session and another session won't start automatically.
- **Connect at boot-up** – If checked, the terminal will start a session for this Display Client at boot up. If unchecked, a user action is required to start the session.
- **Disconnect in background** – If checked, a Display Client being used in a MultiSession configuration will disconnect once it is moved into the background. This could be done to require fewer resources.

#### Terminal Services Display Client Type Page:

Each Terminal Services Display Client can use a single protocol to connect to the terminal servers. Select either the default Microsoft® Remote Desktop Protocol (RDP), the Citrix® ICA protocol, or the legacy Citrix Device Services.

Select **Next** to continue, **Finish** to save and close, or **Cancel** to close without saving.

#### Terminal Services Display Client Options Page:

This page sets the roles of the Display Client.

- **SmartSession Group** - This adds SmartSession to the Display Client which provides load balancing between member terminal servers. SmartSession uses CPU availability, memory, and the number of sessions on the member terminal servers to determine the load on the servers. ThinManager Ready thin clients connect to the terminal server in the Display Client with the most available resources.
- **Application Link Group** – AppLink lets the session launch a program instead of the desktop. Closing the program will end the connection and force a reconnection to a session running the application.
- **Enforce Primary** - This allows a ThinManager Ready thin client to connect to its original terminal server if that terminal server has failed and recovered. This is not available if SmartSession is selected.
- **Instant Failover** - This provides Instant Failover where the terminal will connect to two terminal servers in the Display Client. The terminal will have an active session on two terminal servers but will only display one session. If the first terminal server fails, the session of the second terminal server session is immediately displayed, eliminating any downtime due to terminal server failure.
- **Allow Auto-Login** - This lets the terminal will use the login information supplied in the terminal configuration to automatically logon to the terminal server. If unchecked, the user will be required to manually login to the terminal server.

Select **Next** to continue, **Finish** to save and close, or **Cancel** to close without saving.

#### Display Client Members Page:

This page allows the selection of the terminal servers that will be members of the Display Client. Adding multiple terminal servers to the **Selected Terminal Server** list will establish failover.

- **Available Terminal Servers** – This is the list of the terminals configured in the Terminal Server Configuration Wizard and available to the terminal. If the Available Terminal Server list box is empty the Terminal Server Configuration Wizard can be launched with the **Edit Server List** button to define the terminal servers.
- **Selected Terminal Servers** – This is the list of terminal servers that the Display Client will use. Move the terminal servers to this list with the left and right arrow or by double clicking on the name. Listing two or more terminal servers configures Failover. The terminal will connect to the terminal servers in the order listed unless SmartSession is



used. The terminal will connect to the terminal server with the lightest load if SmartSession is being used.

In a standard **Terminal Services Display Client**, the terminal will use the first listed terminal server as the primary server and will use the second listed terminal server as the secondary server.

If using **SmartSession**, the primary session will be on the server with the lightest load and the backup session will be on the terminal server with the second lightest load.

If the **Available Terminal Servers** column is empty, the **Terminal Server List Wizard** needs to be run to define the terminal servers. Select the **Edit Server List** to launch the **Terminal Server Configuration Wizard** and define the terminal servers.

If the Display Client is using the SmartSession option, the **Next** button will launch the **SmartSession Settings** page.

If the Display Client is not SmartSession Group the **Finish** button will complete the Display Client configuration.

### Display Client SmartSession Settings Page:

This page allows tweaking of SmartSession values by adjusting the weights of the SmartSession settings.

ThinManager multiplies the CPU utilization, Memory utilization, and number of sessions on the terminal server by the **Weight** shown to define the SmartSession terminal 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.

**Queuing** controls the rate that terminals connect to the terminal servers in the Display Client to allow processor intensive applications to load one at a time instead of many sessions forming at once, bringing the server to a halt. As terminals that use SmartSession Queuing boot, they request their terminal server from ThinManager. ThinManager will send the first terminal to the terminal server with the lightest load and will put the other terminals in a queue for the interval defined in the **Min\_Sec** field. This allows the terminal server load to stabilize and allows ThinManager to re-sample the loads and send the terminal to the terminal server with the lowest current load.

- **Min\_Sec** – This is the amount of seconds that a terminal will wait in the queue before being sent to a terminal server that has another terminal connecting. The terminal may wait longer than this value to connect if the CPU of the terminal server exceeds the **Maximum CPU Utilization** defined on the **SmartSession Configuration** page of the **Terminal Server Configuration** wizard.
- **Max\_Sec** – This is the maximum amount of seconds that a terminal will wait in the queue before being sent to the terminal server to login, regardless of the load.
- **Infinite** - If the **Infinite** checkbox is selected, ThinManager will wait until the CPU utilization of the terminal server has regained an acceptable range before sending other terminals to it to login.

If the Display Client uses the AppLink option, an **AppLink** page will be displayed by selecting the **Next** button.

### Display Client Linked Application Page:

This page configures the Display Client as an AppLink group where it will launch a single application in the session. . If the Display Client uses AppLink the user will not get a desktop or icons but will be limited to the application specified. Closing it will re-launch the program, assuring that it is always running.

- **Program Path and Filename** - Enter the path to the desired application in the field.
- **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 case you need to specify the working directory for the program when using a relative path for the initial program. This field may not be required.
- **Browse** – The Browse button will allow you to select the executable file using a file browser. Make sure the path is correct on all terminal servers.

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**Note:** Quotation marks may be needed when there is a space in the path.

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Selecting the **Finish** button will close the Display Client List wizard and display the created terminal server groups.