



LEARNING SERIES:

Why Use ThinManager to Manage Thin Clients?

www.thinmanager.com

Any explanation of ThinManager software requires an understanding of the underlying technology—Microsoft Remote Desktop Services and the Thin Client model. The items below should be helpful for the ThinManager discussion that follows.

Microsoft Remote Desktop Services

Remote Desktop Services, formerly known as Terminal Services, is a Microsoft® Windows® service that brings centralized computing (the mainframe architecture) to Windows servers. A properly configured remote desktop server allows many users to login and run independent sessions simultaneously on the server, each with its share of the server resources. Remote Desktop Services can be activated on any Windows 2008 or Windows 2012 Server.

Thin Client - Remote Desktop Server Relationship

Each thin client connects to a remote desktop server(s) and starts a session(s) via a standard Ethernet network. Keyboard and mouse activity are sent back to the corresponding session on the remote desktop server. The remote desktop server then processes the commands and generates the graphic screen update, which is passed back to the client. This makes the remote desktop server session virtually indistinguishable from a PC session.

If the client is a full-blown PC it is called a “fat client”. Fat clients require a standard operating system, maintenance, security patches and updates.

But because the application processing has been split from the user interface, the client could also be a machine with very limited resources. These special display machines, called Thin Clients, are “reduced” computer devices that lack a hard drive and don’t need the maintenance, patching, and updating that fat clients require.

Centralized Computing Benefits

Remote Desktop Services makes maintenance easier. Because the applications are running on the remote desktop server and not on the clients it is the remote desktop server that is maintained, not the clients. Applications are installed once on the server and are available to all the clients. Patches and upgrades are done on the remote desktop servers and not the clients.

While remote desktop services simulates a mainframe architecture, it is based on Microsoft’s standard operating systems so it is a true Windows environment—users can call up all their familiar applications and have them run as expected.

ThinManager – Managing all the Pieces

A small Thin Client network can be managed with a small level of difficulty, using the basic tools provided by Microsoft. However once the number of clients and Remote Desktop Servers begins to expand the system can quickly grow out of hand. And for larger systems users typically want much more power, flexibility, security and reliability than can be squeezed from the Windows operating system.

ThinManager® Thin Client management software was developed as an enhancement to Microsoft Remote Desktop Services. It was designed specifically to meet the demanding needs of industrial users who insist on 24-hour uptime, simple and reliable operation, as well as software and hardware that does not become obsolete just a few years after the purchase.

Some of the benefits of running ThinManager alongside Windows Remote Desktop Services are listed below.

Centralized Client Configuration

ThinManager allows compatible clients (ThinManager-Ready Thin Clients) to be configured in a central location instead of individually at each client. ThinManager-Ready Thin Clients do not have an embedded operating system so they do not grow obsolete or require re-flashing of firmware.

Centralized Management

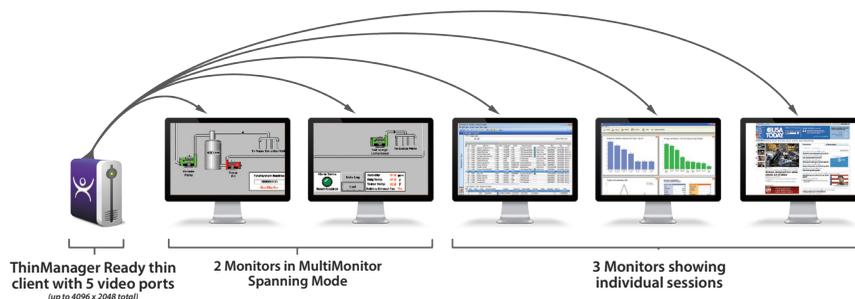
ThinManager allows the monitoring of the Thin Client from a central (local or remote) location. ThinManager shows what Thin Clients are active, what remote desktop servers they are assigned to, whether they are logged in, and even what applications they are running.

Shadowing

ThinManager allows ThinManager-Ready Thin Clients to be “shadowed” from within ThinManager. This allows the administrator to see exactly what is being run on the Thin Clients. ThinManager also allows the administrator to see what user is logged into a session and what applications and processes they are running. Users can configure most of the Microsoft Server parameters directly from within the ThinManager interface.

MultiMonitor

MultiMonitor allows ThinManager users to display up to five screens on a single Thin Client. While a few other Thin Client companies have started to offer multiple monitors, ThinManager is the first to allow the client to display a different session on each of the screens.



The MultiMonitor feature, combined with one of the MultiMonitor capable clients, can be used to span sessions across monitors or run individual sessions on each monitor. Touch screens are also supported, and if using a keyboard the single keyboard entry follows the mouse focus. "Sliding" the mouse off the edge of one screen moves it onto the adjacent screen.

Users can locate monitors at any location within the virtual space, and can even combine spanning and multiple sessions on a single Thin Client. For instance, two adjacent monitors might be used to span a single session while three other monitors are each used to display sessions running on other servers. ThinManager also includes a wizard for screen configuration.

Virtual Screens

ThinManager allows a desktop to be subdivided into sections and have different display client applications displayed on the same screen. This allows the simplified building of a composite application. Instead of integrating various applications into one master application you can deliver the separate display client apps to their own space on the screen.

Session Scaling allows you to display an active "thumbnail" of a display client application but click on it to expand it to full size by swapping it into a larger space.

Session Scaling

ThinManager can scale the application to fit the window. This allows you to run applications in resolutions that they weren't designed.

Failover

ThinManager allows the Thin Client to be assigned to multiple remote desktop servers at once. If the remote desktop server fails, the Thin Client will detect it and switch to a backup remote desktop server, preventing downtime.

Instant Failover

ThinManager also allows the Thin Client to logon to two remote desktop servers at once. The primary session will be displayed while the session from the backup remote desktop server is hidden. If the primary remote desktop server fails, the Thin Client will simply switch to the backup session, providing immediate failover.

Security with Relevance User Services

(formerly TermSecure™)

Customers such as pharmaceutical labs, power plants or chemical weapons disposal facilities require the highest security possible, and only ThinManager-Ready Thin Clients fit their functions. Relevance User Services adds an additional layer of security that prevents application execution or even network connectivity unless a user is validated. Once on the network, Relevance users do not have access to any Windows Usernames or passwords, and a lost or stolen ThinManager-Ready Thin Client contains no user data of any kind.

User Control

The end user can access only the applications and servers that he has been granted.



Supervisor Control

As the supervisor arrives and badges in, the applications and servers that are granted to him are visible on the terminal.



Authorized users still need quick access to their applications. As a user moves from client to client, Relevance User Services could be used to log them in and instantly connect them to the existing Remote Desktop Server sessions. Programs and applications follow them and appear on screen served up and ready to use as they approach. Walk away and applications will close.

This also works with different levels of management. For instance in a pharmaceutical lab, a manager will have a higher level of authorization than a technician. The manager can walk up to the technician's work station, log in with Relevance User Services, and see their own authorized applications. Walk away and their applications will close.

There are several devices that can be used to identify a user at a Relevance User Services enabled thin client:

- RFID proximity card (short or long range)
- HID card reader
- Fingerprint reader
- USB flash key
- Manual login

Use a combination of these authentications methods to greatly increase security.

SmartSession (Load Balancing)

ThinManager allows Thin Clients to connect to groups of remote desktop servers. ThinManager will poll the servers and determine their load based on CPU usage, memory usage and number of sessions. The Thin Client will then connect to the remote desktop server with the lightest load.

Thin Clients can also be queued up during a system restart. This allows a server to start the sessions one at a time to keep the server from being overwhelmed.

Multiple Session Support

ThinManager allows ThinManager-Ready Thin Clients to connect to multiple remote desktop servers and run multiple sessions - called MultiSession. These sessions are cascaded on the Thin Client and can be accessed with a hot key or a selector bar.

AppLink (Application Publishing)

ThinManager allows remote desktop servers to be configured so that only one application runs in the session. This can be used as a security tool to limit access to unwanted programs. AppLink, in combination with the MultiSession functionality, allows a ThinManager-Ready Thin Client to connect to sessions, each of which is a specific application. This simplifies the remote desktop server configuration. Instead of installing every application on every remote desktop server, remote desktop servers can be configured to concentrate on running fewer applications, reducing complexity and limiting conflicts between programs.

E-mail Event Notification

ThinManager can be configured to send e-mails, SMS text messages, or a local message to a designated operator's console when any of a number of specified events occur.

Quick Replacement

ThinManager-Ready Thin Clients can be replaced with a single click of the mouse, with the new unit assuming the old unit's identity and displaying the old unit's session. Configuration of the new unit (configuring IP addresses, adjusting serial drivers, etc.) is automatic.

Share Keyboard and Mouse

ThinManager allows a single keyboard and mouse to be shared among as many as 5 Thin Clients. The user is then able to slide the mouse off the screen of one client and have it move onto the screen of another, saving desk space.

ThinManager-Ready Dedicated Hardware

ThinManager-Ready Thin Clients are available from a number of manufacturers and every unit is able to connect to ThinManager right out of the box. All ThinManager-Ready Thin Clients are interchangeable so the customer is not limited to a single hardware provider.

ThinManager-Ready Thin Clients do not have an embedded operating system so they do not grow obsolete and require firmware updates via re-flashing. To update a thin client, one updates the firmware in ThinManager and reboots. As long as the hardware continues to run it will remain a viable client.

ThinManager-Ready Thin Clients are also more reliable due to the lack of a hard drive or other moving parts. ThinManager Ready thin clients are able to be configured to use either a static IP address or to use DHCP to receive an IP address.

PXE Boot

ThinManager is able to use a wide variety of generic thin clients through use of ThinManager's built in PXE server. Generic thin client hardware from companies like HP, Wyse, Lenovo and others that are able to Boot From LAN or PXE boot will connect to ThinManager, download the ThinManager firmware, and run as a ThinManager Compatible thin client .

You can check the list of ThinManager Compatible thin clients at:
http://www.thinmanager.com/kb/index.php/Supported_Hardware

WinTMC - ThinManager Windows Client

ThinManager's Windows client for installation on PCs allows the PC to become a managed fat client. This Windows client can be configured to make the PC look just like dedicated ThinManager-Ready hardware, and supports ThinManager features such as failover, SmartSession, and AppLink.

Relevance Location Services

ThinManager revolutionizes Mobility with Relevance. Locations can be created and content assigned to the location. The Location can be assigned to a terminal or can be assigned to a "spot on the wall" with a QR code, Bluetooth beacon, or GPS location.

Mobile devices, like the Apple iPad, Android, or Windows Surface, can interact with the location, either shadowing a location, or transferring the display client application to the mobile device.

Unassigned locations allow you to send content to locations without out the need of adding a wired terminal or kiosk. The mobile tablet is the operator interface.

Mobile Devices

ThinManager has client applications for Apple iPhones and iPads, Android tablets, and the Windows Surface tablet. These applications make the tablet a mobile terminal where content can be sent based on the user or location.

Reporting

ThinManager has a variety of reports that can be viewed or can be scheduled to run at a designated time.

Licensing Modes

ThinManager has two licensing models. The Standard model is a per connection license and is available in 5, 10, and 25-packs.

The Enterprise Server is an unlimited connection license. The cost per connection using Enterprise licenses becomes lower and lower as more units are installed.

The Enterprise Server License allows unlimited connections to two ThinManager Servers, a primary and a backup.

ThinManager XLR Licensing incorporates MultiMonitor, Relevance User Services, Relevance Location Services, Mobility, and WinTMC into the core ThinManager product.