

ThinIT v2
TCX
TCM

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This manual is based on v2.03 of ThinIT. Later versions may add new features and options not described here.

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Introduction

Benefits

ThinIT is a product that allows you to turn a fat-client PC into a thin-client. This removes the unreliability and overheads of Windows on the PC and also allows easy central administration. A ThinIT client is capable of accessing a remote Windows session with either Microsoft RDP or Citrix ICA. With suitable server-side software (e.g. Windows Server 2003, Citrix Presentation Server), it supports sound and thousands/millions of colours on screen. You do not need to shutdown the PC when you have finished using it, just switch it off. As ThinIT is so fast to install, a faulty machine can be got up and running extremely quickly.

ThinIT v2 includes support for local web-browsing (without running a remote Windows session), video streaming, conferencing, ssh and vnc.

The ThinIT TCX and TCM clients (TCM = Mobile) come with a specially optimised version of ThinIT v2 pre-installed. On these clients, ThinIT is contained in flash memory. This means there are no moving parts, so they run quickly, silently and reliably.

Installation

ThinIT TCX and TCM clients come with ThinIT v2 pre-installed. At the time of writing, ThinIT v2 has not been released for general desktop PCs (use ThinIT v1 which is documented elsewhere).

For TCX and TCM clients, no software installation is required. The clients simply need connecting to a standard mouse, keyboard and monitor along with a power connection from the included power supply.

Generally, all configuration of ThinIT clients is done centrally. Therefore, clients are simply plug-and-play. Once your network holds the settings for the first client, all subsequent clients simply need a network connection. The TCX and TCM clients include 10/100 Mbit wired Ethernet as standard. The mobile TCM also includes 802.11b/g 54Mbit wireless Ethernet. To connect a TCM to your wireless network, you will require your network name (SSID), plus details of any encryption settings in use. The SSID and encryption settings will need to be configured manually on each TCM client.

Please see the "*Management and Configuration*" chapter for more details.

Support

The installation and configuration of ThinIT software and clients is covered by our standard support terms. Our contact details can be found on the inside cover of this manual. Our support lines are manned from 9am - 5.30pm Monday to Friday (however, calls outside of these times will be answered if staff are available).

If your network is covered by a Precedence support contract and we have remote access to your network, we can configure your central ThinIT settings and also support individual clients.

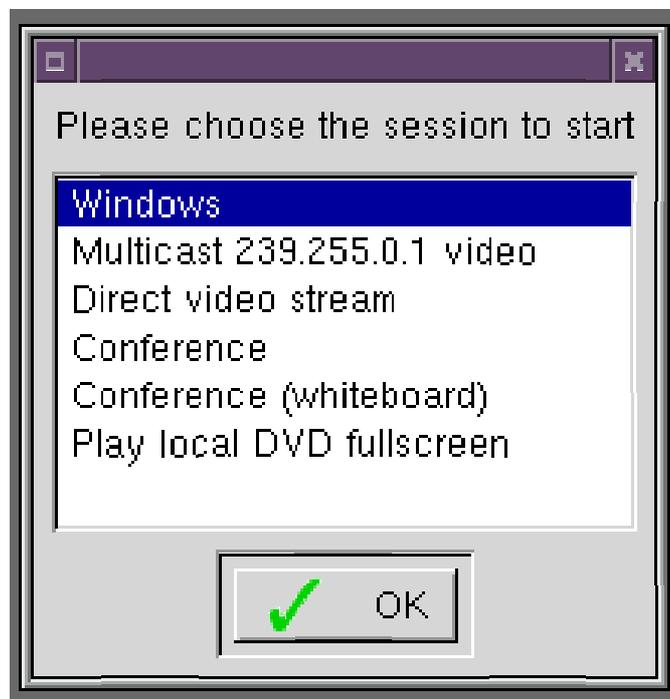
Development

Precedence Technologies listens to its customers. If you have an idea how ThinIT could be improved please get in touch. Improvements could include new session types, user interface improvements or new ways of working entirely!

Day to day usage

ThinIT v2 uses the concept of sessions to determine what network resources users can access. A session is a connection to a server or media type (e.g. a Citrix ICA login, a DVD playback, a video conferencing connection). ThinIT supports multiple types of session simultaneously.

In many circumstances, there will only be a single session configured and this will be set to start automatically, i.e. if it is a Citrix ICA connection, you will be connected immediately and be presented with the standard Windows logon screen. However, you can define multiple sessions and be presented with a menu of session types. In this situation, simply double click on the session you wish to launch.



The ThinIT session chooser

When you have finished using a ThinIT client, you can switch it off by using the power button. You do not need to shut the client down before switching it off.

Management and configuration

Overview

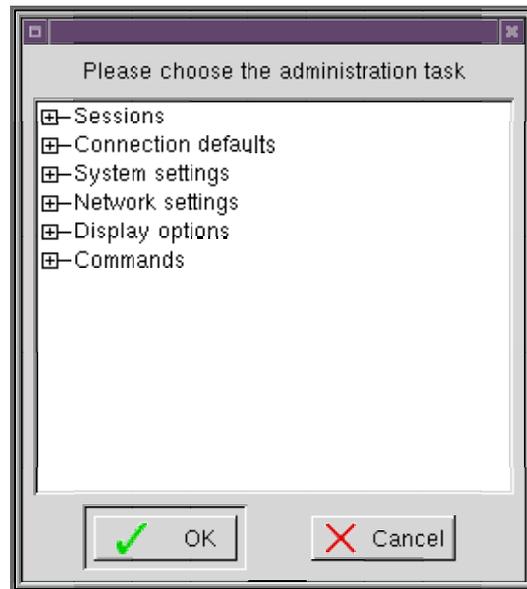
ThinIT clients can be locally configured or can get their settings from a central server. Central settings can be retrieved using HTTP, anonymous FTP or TFTP (the latter being the default). The configuration file syntax is detailed elsewhere. A copy of this document can be requested from our support department.

Local settings override central network settings. Central network settings are fetched each time the client boots, but a cached copy is kept locally to allow the client to be used even if the settings cannot be fetched on a particular occasion.

Local configuration and management

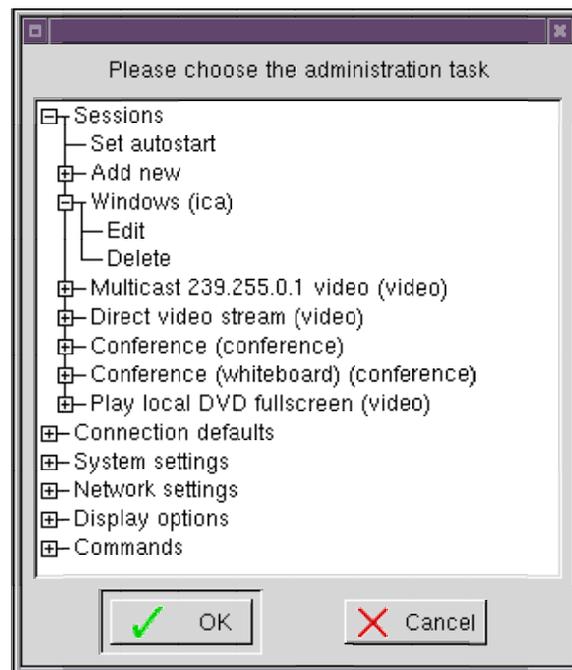
If you are not in a session (i.e. you see the session menu or a message saying "You have no sessions configured"), you can get into the local administration system by pressing F2 or by right-clicking on the desktop and choosing "Configure...". You will be asked to enter a password. By default, there is no password set.

If the client is set to autostart a full-screen session, it is a little more tricky to get into the administration system. In this case, right-click on the desktop before the session starts (e.g. if you are in an ICA session, close it down and you will have a couple of seconds before a new session starts). A menu will appear, but do not choose an item from the menu immediately. The menu will stay open even when the new session starts allowing you to choose the "Configure..." option.



The configuration window

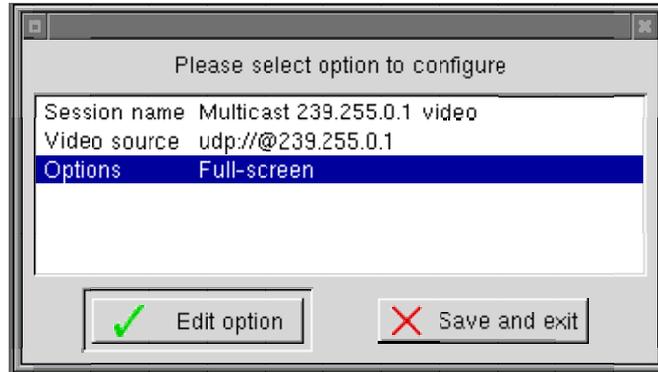
The menu items can be opened and closed by clicking the + and - boxes to the left of the text. So for example, to edit or delete an existing session, you should expand the "Sessions" menu and then the relevant session.



Altering an existing session

Configuring sessions

Using the configuration window, you can edit and delete existing sessions by expanding the menu for the chosen session. To add a new session, expand the *"Add new menu"* item and choose the session type to be created. Each session type's configuration is presented in a similar way. To edit an option, double-click the item and make the required changes.



Editing a video streaming session

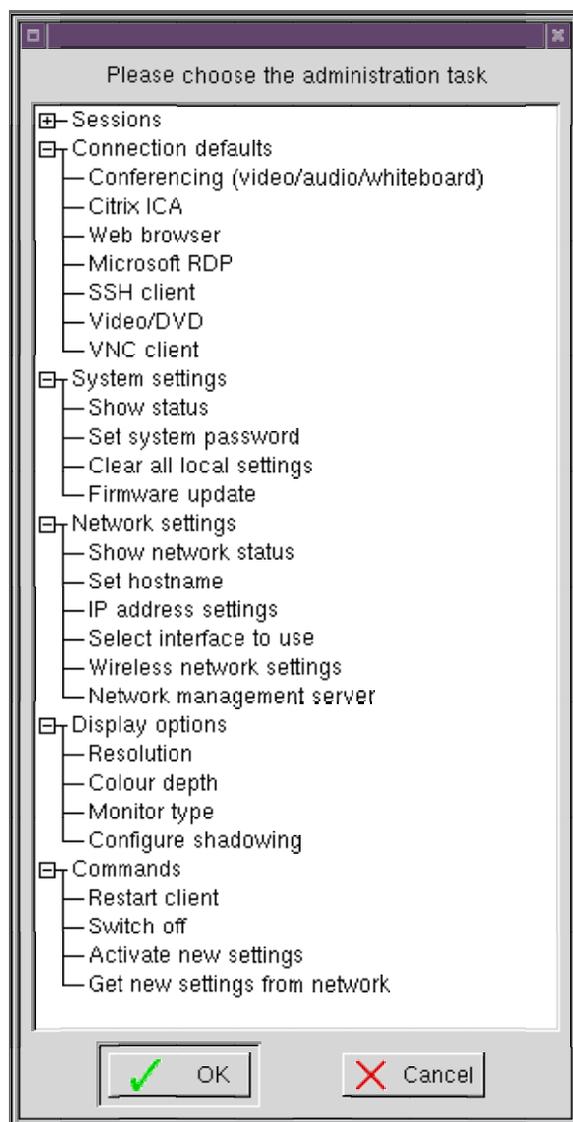
When you have finished editing the session, click *"Save and exit"*. If you wish to cancel and lose any changes you have made, simply close the window using the close button to the right on the title bar.

The session types available will depend on what modules have been installed. When ThinIT is installed, a feature set is chosen which determines the combination of modules to be included. A feature set with less modules may be chosen because of the lower licence costs or to reduce the amount of space ThinIT takes up a hard disc. Additionally, as ThinIT is developed, extra modules will be added and so extra session types will become available.

Detailed information on each session type can be found in the *"Session Types"* chapter.

Administration of the client

The administration menu allows you to perform various tasks and is grouped into a number of different sections (Connection defaults, System settings, Network settings, Display options and Commands).



The administration options

Connection defaults

Default options for each session type can be configured. Any specific settings for a particular session will take precedence over the default.

System settings

Show status displays whether you have local settings, where the settings are read from and the firmware version that you are running. The password for the administration system is also set from here.

Network settings

Some clients (for example, the TCM) have multiple network interfaces (the TCM has wireless and wired Ethernet). At boot time, the wired interface will be used over the wireless if it is connected. However, you can set the interface to use if you want to force the use of one or the other. You can also configure the client IP address details manually if you do not have a DHCP server.

To connect a TCM to your wireless network, you will require your network name (SSID), plus details of any encryption settings in use (e.g. WEP keys). The SSID and encryption settings will need to be configured manually on each TCM client.

Display options

By default, the client will read the display type from the monitor and choose an appropriate display size. Some monitors (especially older ones) do not support this and so you should manually set the monitor type to get the best performance.

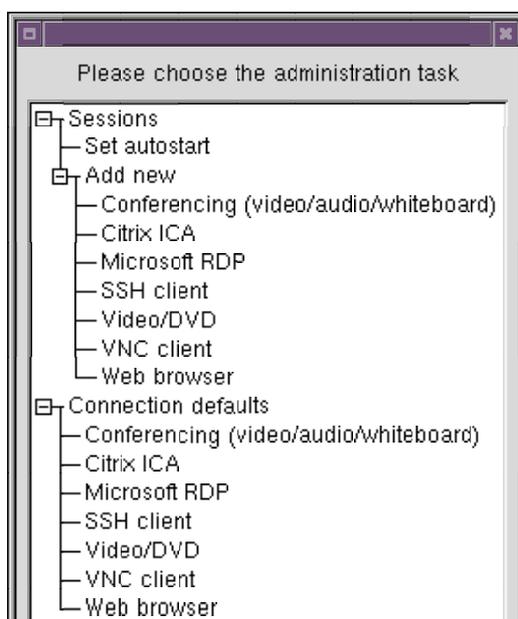
To use shadowing, you must have configured a system password. You can then use a VNC client on a remote computer to view/interact with the display on the ThinIT client. This allows the client to be remotely configured and managed.

Session Types

All sessions types listed in this document are current at the time of writing. Not all sessions may be available on your installation due to the type of ThinIT licence you have purchased. Extra session types will be added in future upgrades; please ask for a later manual if you require information on these.

The different session types are described below. To configure a session setting, simply double click on the item or select it and choose *"Edit option"*. When you have configured all the settings, click *"Save and exit"*. You will be told if you have not configured a required setting (e.g. server address). To cancel editing the session without saving, close the window with the cross at the top right. Each session must have a session name. This is name shown in the session chooser (see page 4).

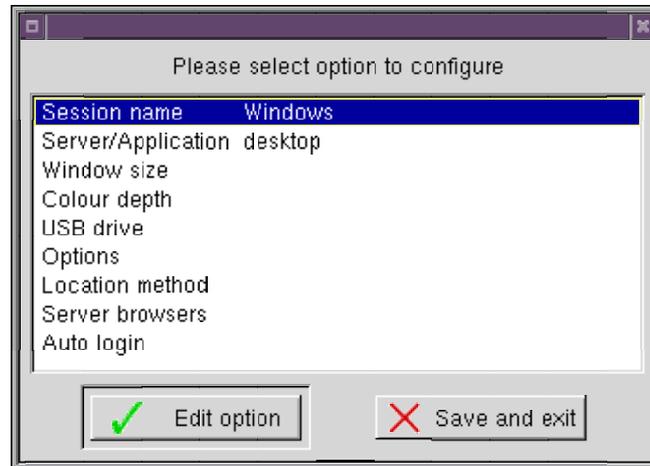
Most session types allow you to set default settings for most configuration options. This means that if you leave the corresponding setting empty when configuring a specific session, it will use the default. The screenshots in the following sections will be from the session configuration, but configuring defaults and configuring specific sessions are very similar tasks. A few settings will be missing from the defaults; most obviously the session name.



Configuring a new session vs configuring defaults for that session type

Citrix ICA

The Citrix ICA (Independent Computing Architecture) protocol is used to connect to Citrix servers or applications. The latest ICA client from Citrix is used, so features like sound input/output, session resizing, drive mapping and serial port mapping are available.



Citrix ICA connection settings

- **Server/Application**

Either a name (or IP address) of a specific server or the name of a published application in your server farm

- **Window size**

By default, the session will be run full-screen. However, you can specify a smaller size and the session will run in a window. This is ideal if you want to run multiple sessions at once

- **Colour depth**

If not specified, the session will be run in 16-bit colour (thousands of colours)

- **USB drive**

The drive letter to map a USB storage device (e.g. pendrive or digital camera) to

- **Location method**

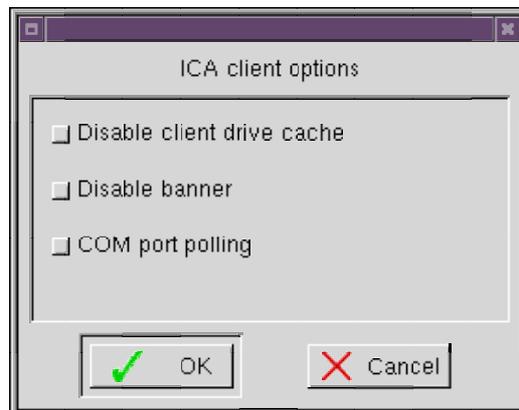
Earlier versions of Citrix used broadcasts to locate servers (UDP), but newer versions using HTTP over TCP. By default, ThinIT uses UDP, but this option allows you to change to HTTP which will reduce load on your network

- **Server browsers**

If using the HTTP location method, you must specify at least one server browser (by name or IP address). By default this is **ica**

- **Auto login**

Usually the Citrix server will display a login box when you connect to it, but there are circumstances in which you might want to automatically login (e.g. a kiosk terminal)



Citrix ICA options

- **Options**

- **Disable client drive cache**

This should normally be left unticked (enabled) to improve reliability of USB storage access. Changes, such as responding to a newly plugged-in device, will be quicker if disabled, but working with large files may not work

- **Disable banner**

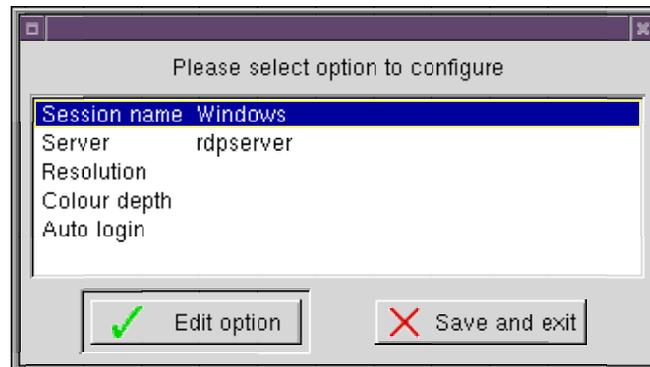
Removes the Citrix logo when connecting to the server. If disabled and the server is not responding, the user will not know that the session has been launched and may be confused

- **COM port polling**

Switches on an alternative method of client serial (COM) port access. Useful if the standard method doesn't work

Microsoft RDP

Microsoft RDP (Remote Desktop Protocol) is used to connect to Windows Terminal Services. Version 5.2 of RDP is supported meaning that sound output and millions of colours can be used.



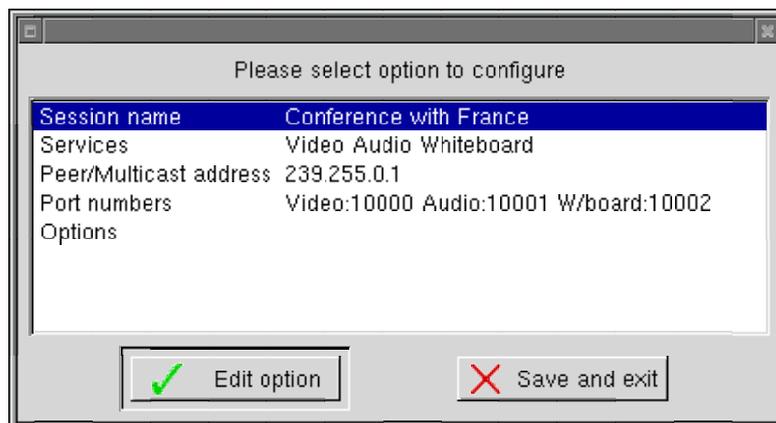
Microsoft RDP connection settings

- **Server/Application**
Either a name (or IP address) of a specific server or the name of a published application
- **Window size**
By default, the session will be run full-screen. However, you can specify a smaller size
- **Colour depth**
If not specified, the session will be run in 16-bit colour (thousands of colours)
- **Auto login**
Usually the terminal server will display a login box when you connect to it, but there are circumstances in which you might want to automatically login (e.g. a kiosk terminal)

Conferencing (video/audio/whiteboard)

There are a number of different video conferencing systems. ThinIT supports H.261 and GSM protocols. Unlike some limited one-to-one systems, ThinIT supports multicast conferencing allowing multiple participants to take part in conferences either locally or remotely. Different conferences can run alongside each other without interference. Sites can be linked using the Multicast Backbone (or MBONE) making it possible to have numerous participants all over the world. Clients are available for virtually any platform (for example, the following site has numerous clients: <http://www-mice.cs.ucl.ac.uk/multimedia/software/>).

ThinIT currently supports three types of conferences; video (requires a webcam if you want to transmit), audio (requires a microphone if you want to transmit) and whiteboard (provides a simple canvas allowing participants to make diagrams).



Conferencing connection settings

- **Services**

You do not need to connect to all types of conferences at the same time. Select which conference types you are interested in

- **Peer/Multicast address**

Conferences can be simple 1-to-1 sessions or shared multicast sessions. For 1-to-1 sessions, enter the name or IP address of the computer you wish to conference with. For multicast sessions enter a multicast IP address (which would be same for all participants). This will begin with 239 (e.g. 239.255.0.1)

- **Port numbers**

As well as an address, you should specify port numbers for each conference type. These will default to 10000 (video), 10001 (audio) and 10002 (whiteboard). Once again, these should be seen for all participants



Conferencing connection options

- **Options**

- **Read-only**

- This means you can join and view a conference, but not participate.

Web browser

ThinIT v2 includes Opera 9 (held to be one of the fastest and most standards-compliant browsers). Having a local browser means that for many purposes, there is no need to using an ICA or RDP session to access web-sites. This reduces loads on the server and licensing costs.



Web browser connection settings

- **Initial URL**

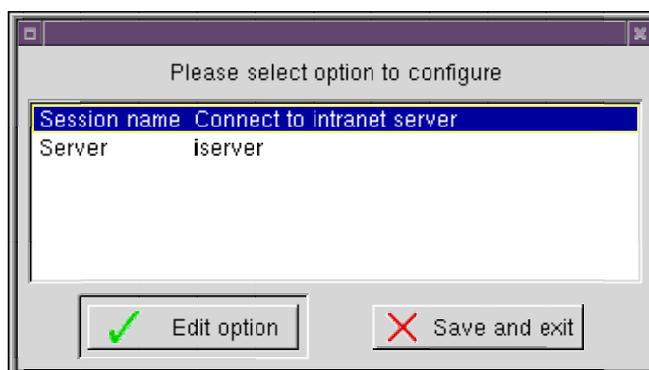
- This specifies the initial web site to visit when this session is launched

- **Proxies**

- This allows you to specify proxy servers for HTTP, HTTPS and FTP protocols

SSH client

Secure SHell (SSH) allows you to connect to Unix servers to get to a command line. All data is encrypted so usernames and passwords (for example) are safe even over the Internet.



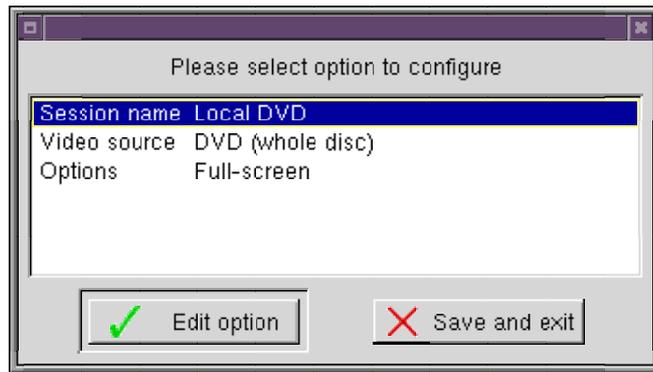
SSH connection settings

Video/DVD

ThinIT can play movies and audio both from local DVDs (if a DVD drive is fitted - the TCM is ideal for playing DVDs) and from streamed services on the network. The media player used is a customised version of VLC from the VideoLAN project (<http://www.videolan.org/>).

The standard version of VLC is both a media player and a media streaming server. This means it is easy to stream any media you can play on a PC or Mac (DVD, MPEG, AVI, etc.) to clients on your network. As VLC supports multicast, multiple clients can watch the same stream without increasing load on your network and you can send several streams at once (e.g. different TV channels).

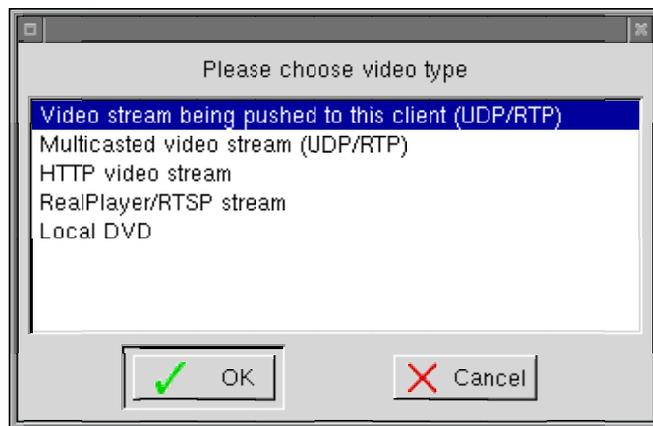
Precedence Technologies Ltd offers a range of video server solutions. A common requirement is to have an on-demand video library to replace boxes of VHS tapes and DVDs. With ThinIT and a suitable server, your entire video collection could be viewed from anywhere on your site by multiple people. You could also build up your library from digital terrestrial, digital satellite and cable television services.



Video/DVD connection settings

- **Video source**

ThinIT can play media from various sources:



Video/DVD connection types

- **Video stream being pushed**

This will set the client up to listen for video and audio being pushed from a server to the client. This is generally for 1-to-1 streaming. This would be useful for a display kiosk. You will need to specify a port number (which defaults to 1234)

- **Multicast video stream**

A multicast stream will be played by several clients simultaneously. You will need to give a multicast address (probably beginning with 239) and a port number (which defaults to 1234)

- **HTTP video stream**

A URL for the media stream will need to be specified. This will begin with http://

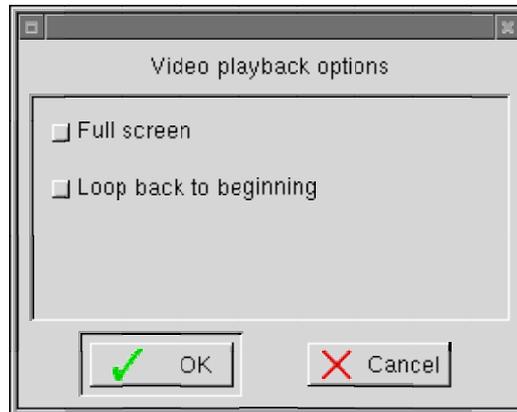
- **RealPlayer/RTSP stream**

Real Time Streaming Protocol (RTSP) was developed by RealNetworks (along with others) and acts as a control mechanism for other streaming service. A URL beginning with

rtsp:// will need to be specified

- **Local DVD**

If your client has a DVD drive, you can play DVDs with ThinIT. You can play the whole DVD or specify a title and chapter to play. If the title is set to 0, the whole DVD will play. If a title is given, but the chapter is set to 0, the whole title will play



Video/DVD connection options

- **Options**

- **Full screen**

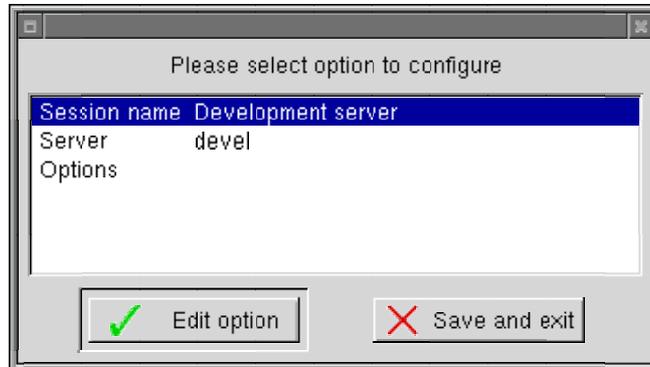
- The video will be played full screen

- **Loop back to beginning**

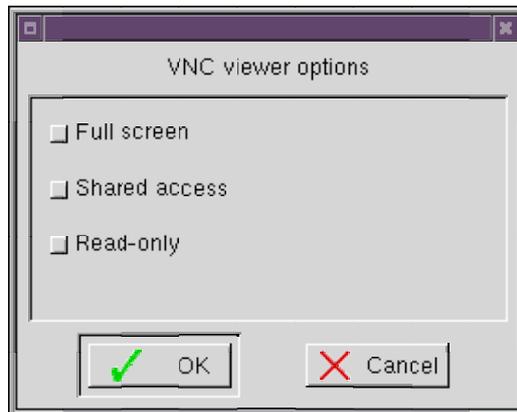
- If possible, the video will loop continuously. On a network video stream, this will be ignored

VNC client

Virtual Network Computing (VNC) allows you to access a desktop environment on one computer from another. You can connect and disconnect without losing any data. VNC is often used to manage servers remotely.



VNC connection settings



VNC connection options

- **Options**

- **Full screen**

- Runs the session in full-screen mode

- **Shared access**

- Normally connecting to a VNC server will disconnect any previous clients. By enabling shared access, multiple clients can be connected

- **Read-only**

- If the session is set to read-only, keyboard and mouse input will be ignored