
inControl
...for terminals

**Version 3.04.1**

# Administrator's Guide

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Document Number: 600 0101 330 32 C00 (I-O Document Number WBT100-OMAN03-110)

Seventh Edition, May 2002 (modified by I-O Corporation, November 2002)

# Table of Contents

# Introduction

## About inControl

**inControl for Terminals version** is a powerful remote management suite that allows the system administrator to efficiently control and configure I-O Thin Clients. This application is a standard feature of the I-O Thin Client solution. The utility is especially valuable in managing multiple clients in large enterprises.

Using inControl, the system administrator can perform the following client-administration functions.

- Configure properties of multiple clients
- Create and configure connection-entries for multiple clients
- Save configuration information to a file, for use at a different location or time and edit the configuration file.
- Upgrade firmware of clients
- Reboot clients

**Consistent with our policy of continuous product development, the product may have features in addition to those described in the guide. Visit us at** www.iocorp.com**, or contact your reseller for current information**.

Henceforth in the guide, the term **inControl** is used to represent **inControl for Terminals**, and the term **Client** is used to represent the I-O Thin Client.

## Related Information

Besides this guide, the following other documents contain relevant information. These documents are available in PDF format in the CD that was provided with the product.

- ***I-O 5250 Printer Emulation User's Guide***
  This document provides detailed information about I-O Corporation's 5250 printer emulation.
- ***I-O 5250 Display Emulation User's Guide***
  This document provides detailed information about I-O Corporation's 5250 display emulation.
- ***Thin Client Hardware User's Guide***
  This document describes the procedure to install and operate the hardware of the thin client.
- ***Thin Client Administrator's Guide***

  This document describes the procedures to setup, use and troubleshoot the software of Windows CE based thin clients.
- ***Pericom Terminal Emulation User's Guide***
  This document provides detailed information about the generic terminal emulation suite included in the thin client.

## About this Guide

The following symbols are used in the guide.

**Caution**: This symbol highlights procedures that, if not correctly performed or adhered to, could damage/corrupt the product or adversely affect the security of the product. Do not proceed beyond such points until the required conditions are fully understood and achieved.

**Note**: This symbol denotes useful additional information that is relevant to the procedure or feature being described.

**Tip**: This symbol denotes a hint, shortcut or alternate method to aid or supplement the procedure being described.

The guide contains screenshots of various dialog-boxes and windows for reference. The sizes of screenshots are not representative of the actual sizes of the dialog-boxes and windows on the screen.

# Windows CE-based Clients

## Client Firmware

The following table lists client firmware versions that support various features of inControl Version 3.04.

A ✓mark indicates that the inControl-feature mentioned on top of the relevant column is supported by clients with firmware version indicated in the relevant row.

A **X** mark indicates that the inControl-feature mentioned on top of the relevant column is NOT supported by clients with firmware version indicated in the relevant row.

| **Client Model / Firmware Version** | ***Firmware Upgrade*** | ***ICA Encryption*** | ***RDP-Printer*** | ***LPD Printing*** | ***ICA6 Features*** (2) | ***PPP-dialup Configuration*** | ***Remote Reboot*** | ***Registry Default*** (3) | ***Internet Explorer*** | ***All other features*** |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| I-O TC4000 Thin Client<br>with firmware version TC4111-55-01(1) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

(1) Only thin client models and firmware supplied by I-O are listed here even though inControl does support numerous other models. Disregard references found through this guide to other models and firmware versions (such as TC3xxx-xx.xx, etc.)

(2) ICA6 features include 16-bit color, HTTP server location, PNLite (accessing applications published on an NFuse server) and SpeedScreen.

(3) The 'registry default' feature of inControl provides an option to choose whether existing client settings should be retained when firmware is upgraded.

# Installing inControl for Terminals

**inControl for Terminals** can be installed on a standalone server, or on the application server that you connect to while using Thin Clients.

**CAUTION**: THE CURRENT VERSION OF **INCONTROL FOR TERMINALS** MUST BE INSTALLED ONLY ON ONE SERVER IN THE NETWORK.

## System Requirements

The server on which you want to install **inControl for Terminals** software must have the following:

- One of the following Operating Systems

  Windows NT 4.0 Workstation

  Windows NT 4.0 Server

  Windows NT 4.0 Terminal Server Edition

  Windows NT 4.0 Small Business Server with Mdac (Microsoft data access components)

  Windows NT 4.5 Small Business Server

  Windows 2000 Server

  Windows 2000 Advanced Server

  Windows 2000 Professional

  Windows 2000 Small Business Server

- Minimum 20MB free hard-disk space
- At least 64MB RAM

**NOTE**: IF YOU INTEND TO USE INCONTROL TO CONFIGURE ONLY WINDOWS CE-BASED THIN CLIENTS, IT IS NOT NECESSARY TO HAVE CITRIX METAFRAME ON THE INCONTROL SERVER. IF HOWEVER, YOU WANT TO USE INCONTROL TO CONFIGURE DOS-CLIENTS TOO, THEN CITRIX METAFRAME MUST BE INSTALLED ON THE INCONTROL SERVER.

## First-time Installation

The inControl software must be installed preferably on a Member Server and not on a PDC (*Primary Domain Controller*) or BDC (*Backup Domain Controller*) server.

It is recommended that you install the software on a server that is in a network with the highest number of clients. This helps in reducing WAN traffic by restricting traffic to the LAN.

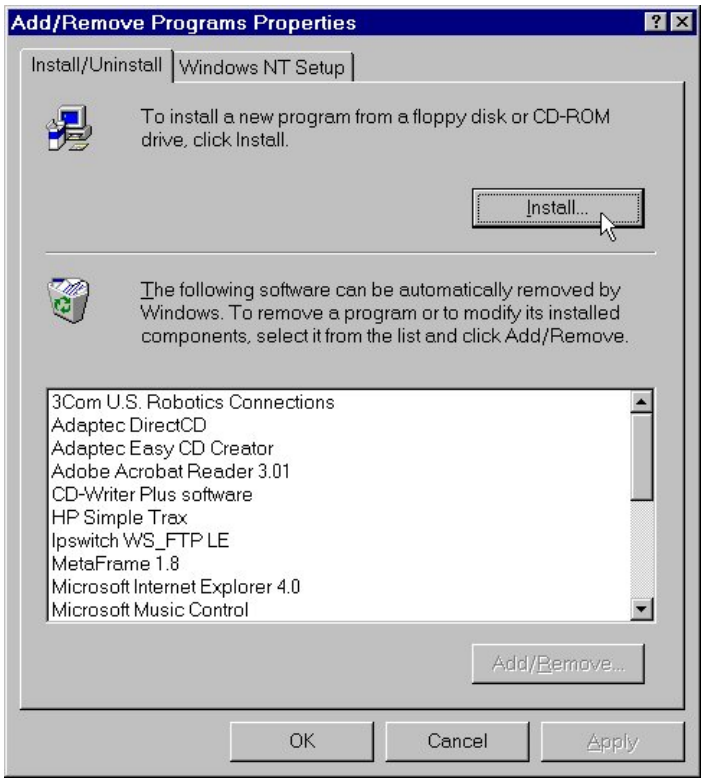
If the server on which you plan to install inControl is not in the same network or subnet as the clients, you must specify a gateway for the inControl server.

**NOTE**: THE SCREENSHOTS OF DIALOG-BOXES AND WINDOWS SHOWN IN THIS SECTION ARE BASED ON WINDOWS NT.

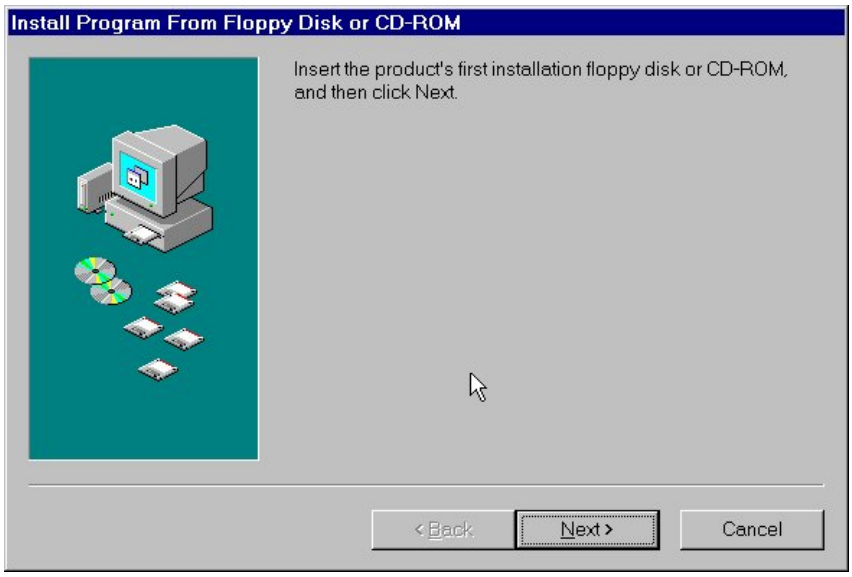
1. Login as **Administrator** on the server where you want to install the software.
2. Close all running programs.
3. Select **Start->Settings**. Then select **Control Panel**. The **Control Panel** window is displayed.

**NOTE**: AS AN ALTERNATIVE, YOU MAY USE THE INCONTROL INSTALLATION MENU OPTION FOUND ON THE I-O THIN CLIENT UTILITY CD. THE INSTALLATION WIZARD WILL GUIDE YOU THROUGH THE PROCESS. HOWEVER YOU MAY WANT TO FOLLOW THAT PROCESS BY REFERRING TO THE APPLICABLE SCREENS (BEGINNING WITH STEP 8) IN THIS SECTION OF THE GUIDE.

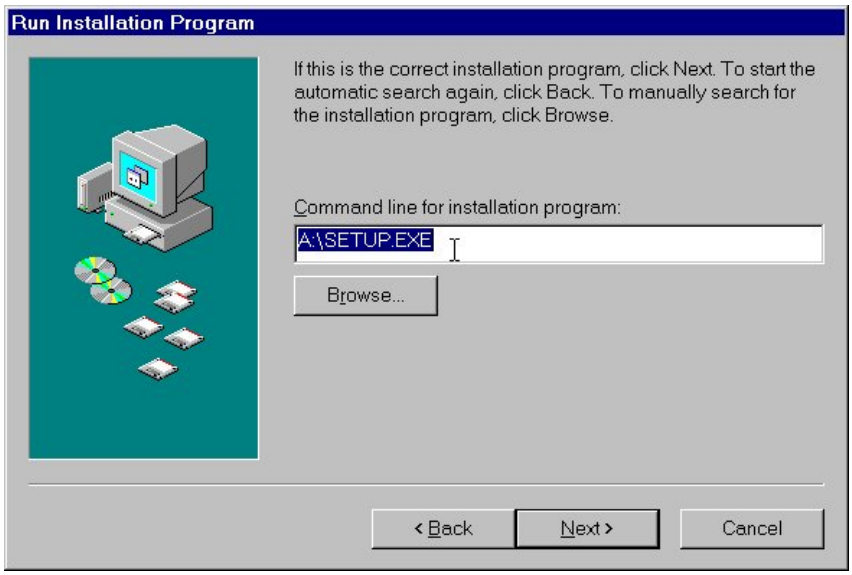
4. Select **Add/Remove Programs**. The **Add/Remove Programs Properties** dialog-box is displayed.




5. Click on the **Install…** button. A prompt to insert the first installation floppy or CD-ROM is displayed.

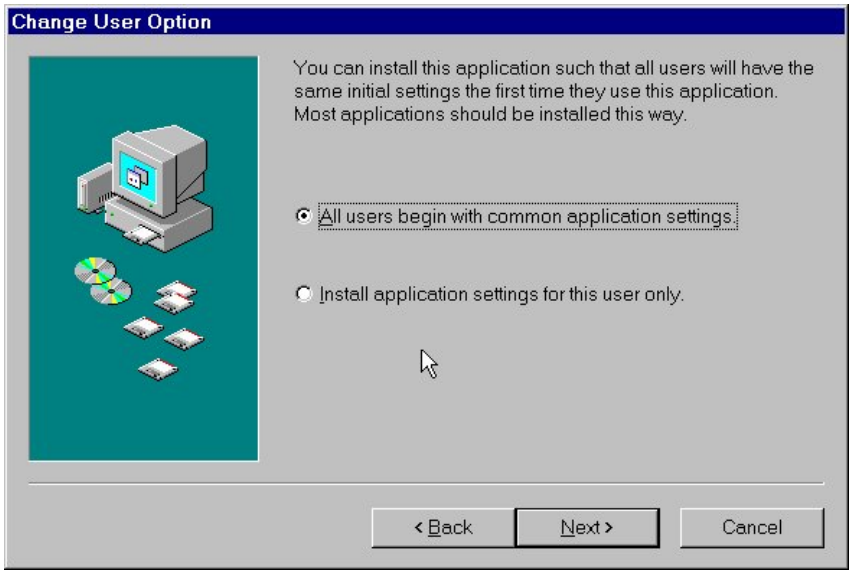



6. Insert the CD-ROM or the first installation floppy and click **Next>**. The system automatically detects the installation medium (*floppy or CD-ROM*), and displays the command line of the installation file as shown below.

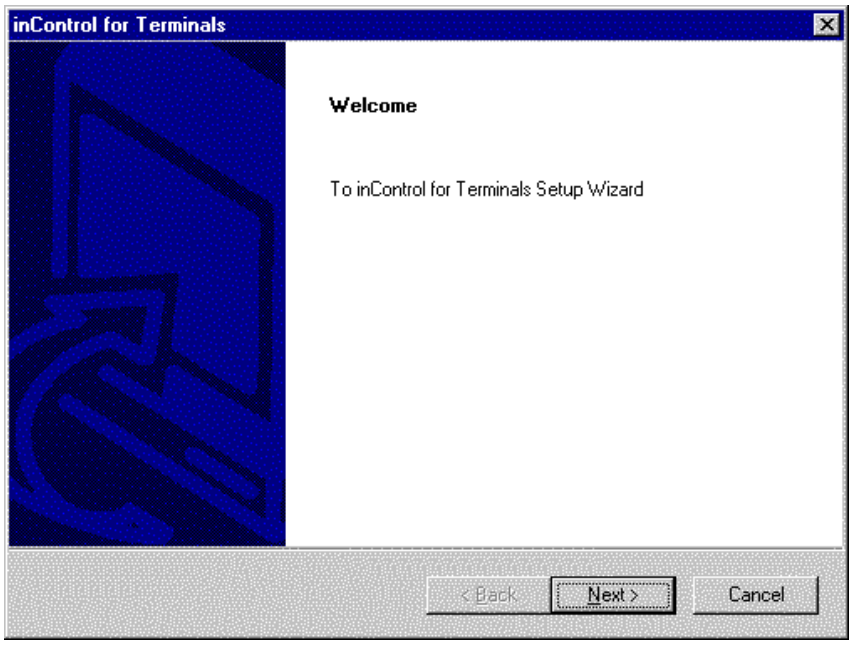



**NOTE**: THE ABOVE DIALOG-BOX SHOWS **A:\SETUP.EXE** AS THE COMMAND LINE FOR THE INSTALLATION PROGRAM. THIS IS AN EXAMPLE WHERE THE INSTALLATION IS DONE FROM A FLOPPY DRIVE (**A:**). IF YOU ARE INSTALLING THE SOFTWARE FROM A CDROM, '**A**' WOULD BE REPLACED WITH THE CORRESPONDING CDROM DRIVE LETTER.

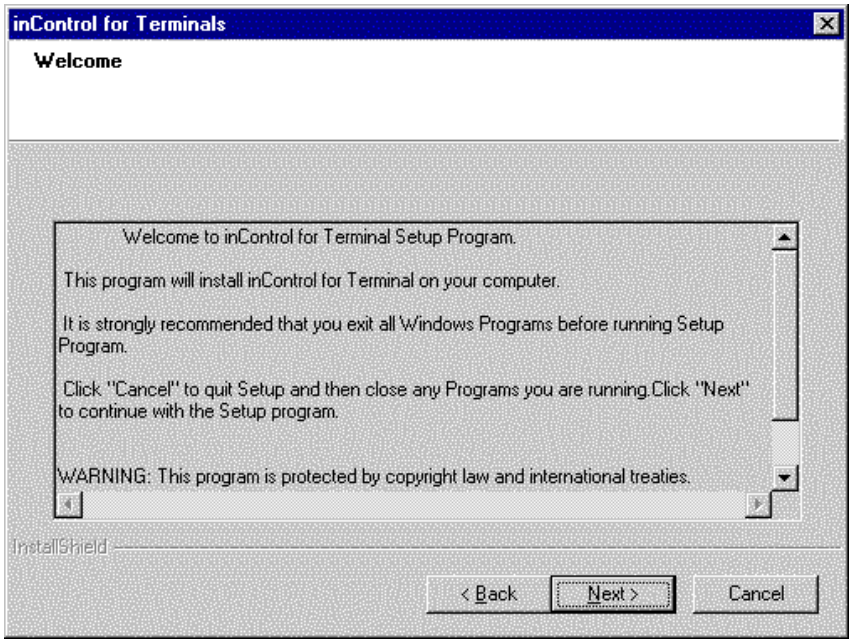
7. Click **Next>**. The **Change User Option** dialog-box is displayed.



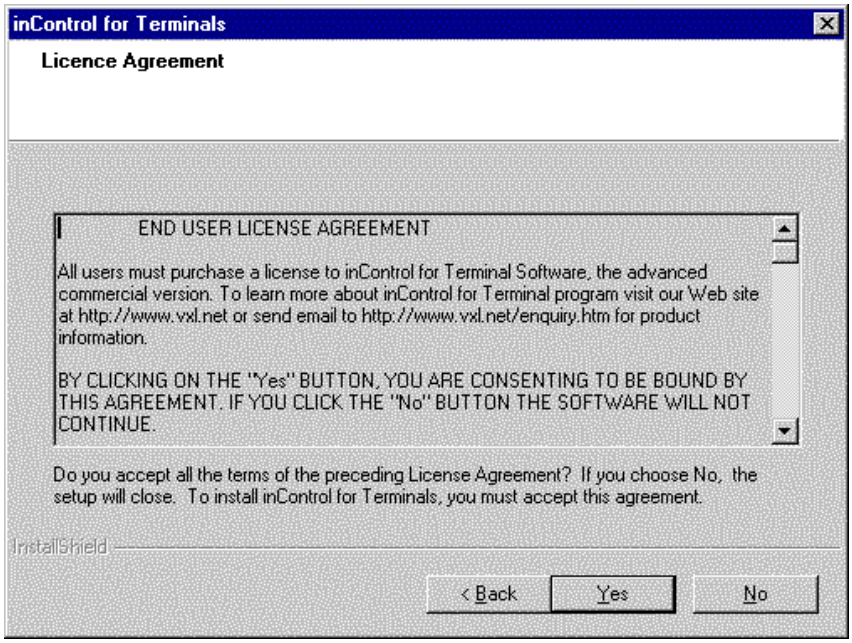

8. The above dialog-box is not shown in Windows 2000. Select the appropriate user option and click **Next>**. After a brief delay, the **Welcome** screen of the inControl Setup Wizard is displayed.



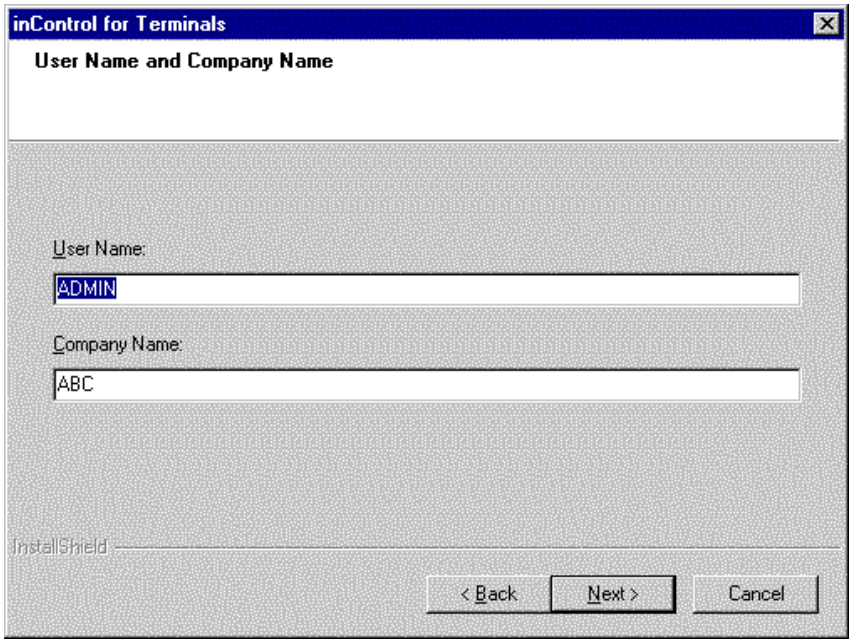

9. Click **Next>**. The following dialog-box is displayed.



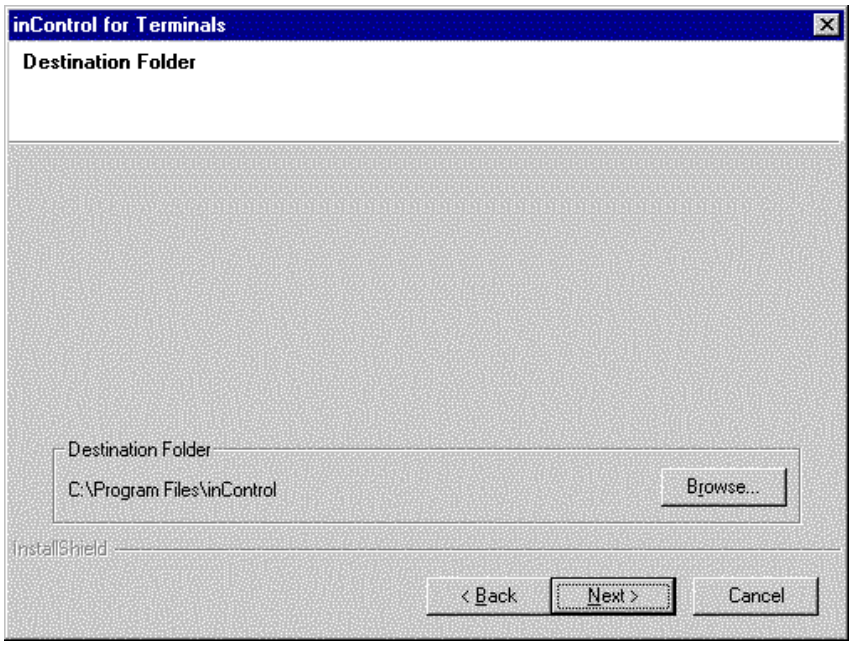

10. The above screen contains a message to close any running program/s before proceeding. If you have not closed all running programs, click **Cancel** to quit the setup wizard. Close all running programs and then perform this procedure from the beginning. If you have already closed all applications, click **Next>** to proceed. The following screen is displayed.



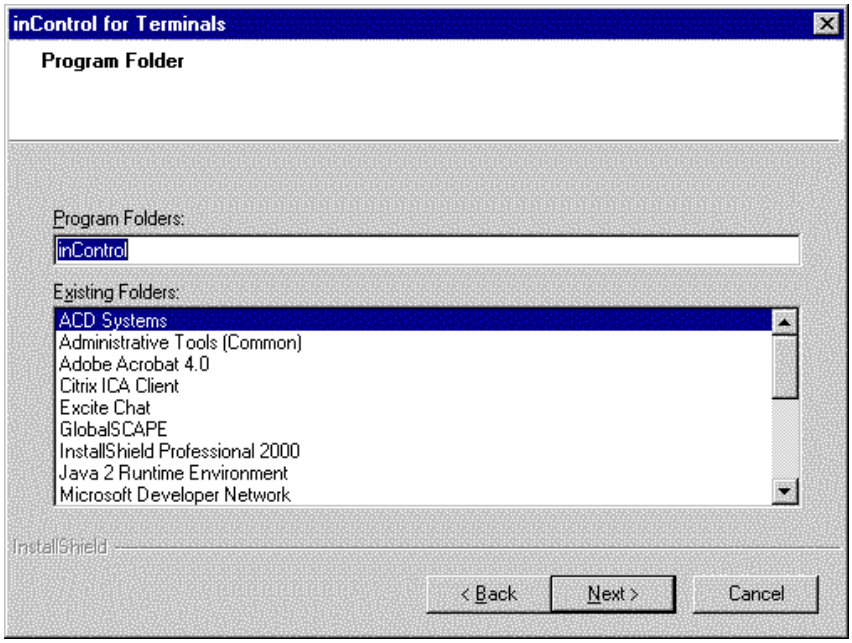

11. The above dialog-box contains the License Agreement. Please read the agreement carefully to understand the terms and conditions governing use of the software. Click **Yes** to signify acceptance of the terms and conditions of the agreement. The following screen is displayed.



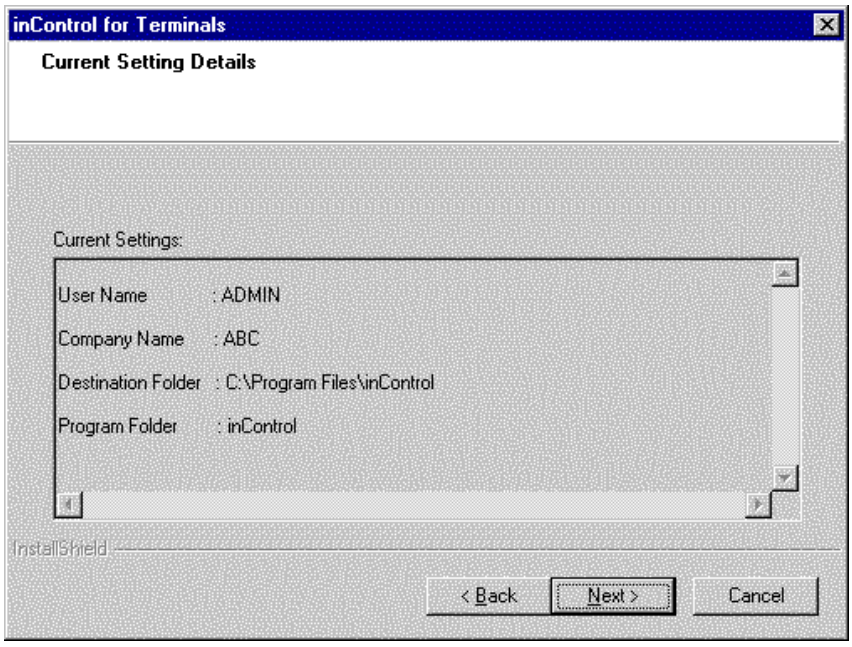

12. Enter the name of the user and organization in the **User Name** and **Company Name** fields, and click **Next>**. The following screen is displayed.



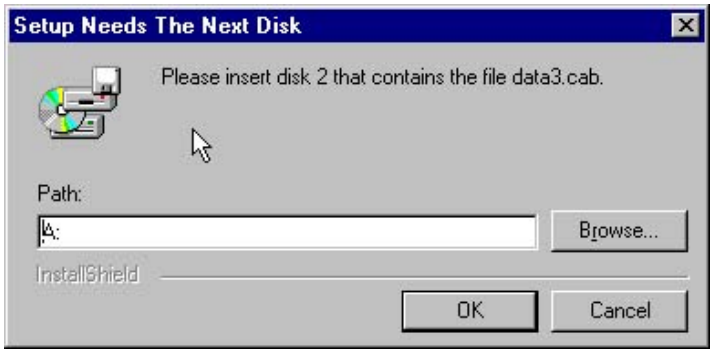

13. The default installation directory for **inControl** is **[X]:\Program Files\InControl**, where **X** is the letter of the drive where the operating system is installed. To change the installation directory, click the **Browse…** button and select the appropriate folder. Click **Next>** to continue with the default directory. The following dialog-box is displayed.



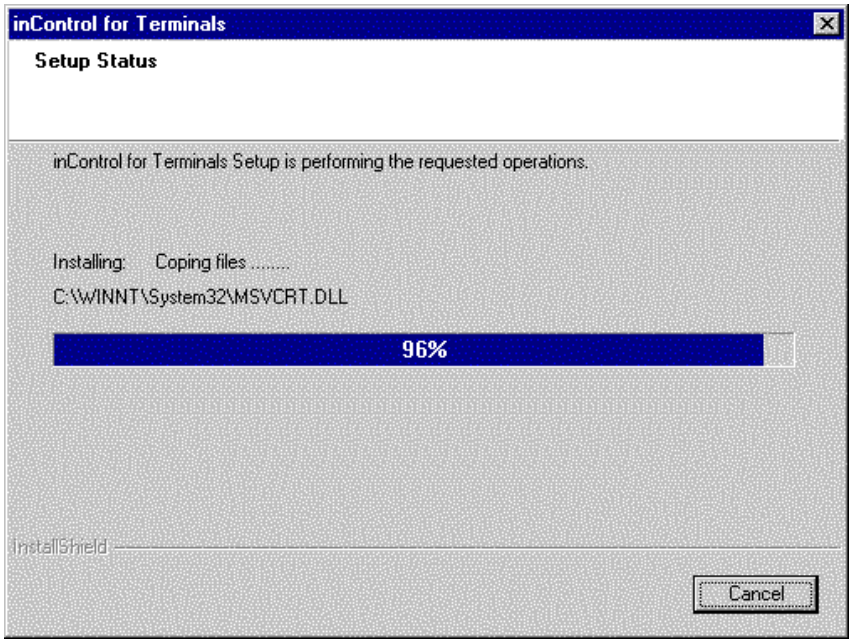

14. The default program folder is **inControl**. Click **Next>** to proceed with installation. The following screen is displayed.



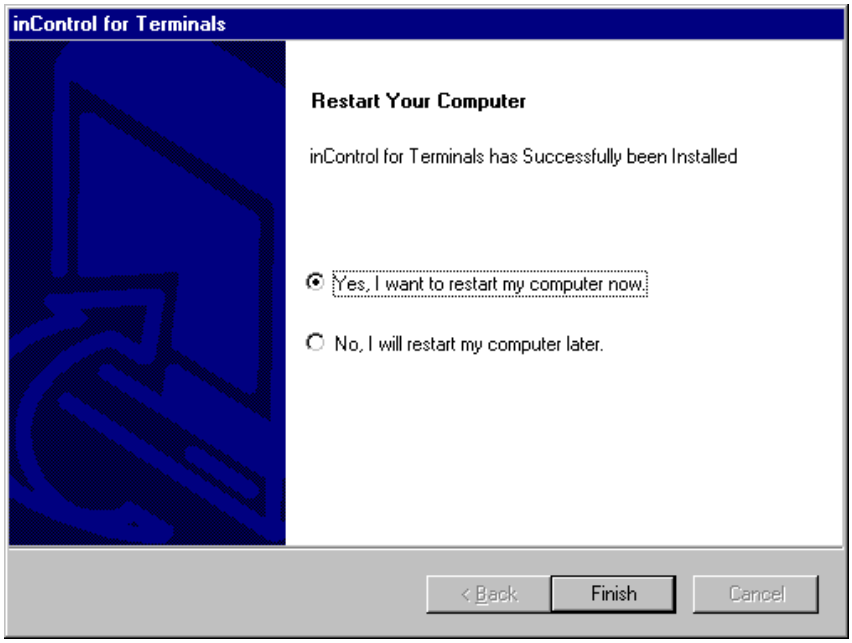

15. In the above screen, all the installation-options that you specified so far are displayed. Verify the options and click **Next>** to proceed. If you are installing the software from a set of floppies, a prompt to insert the next disk is displayed.



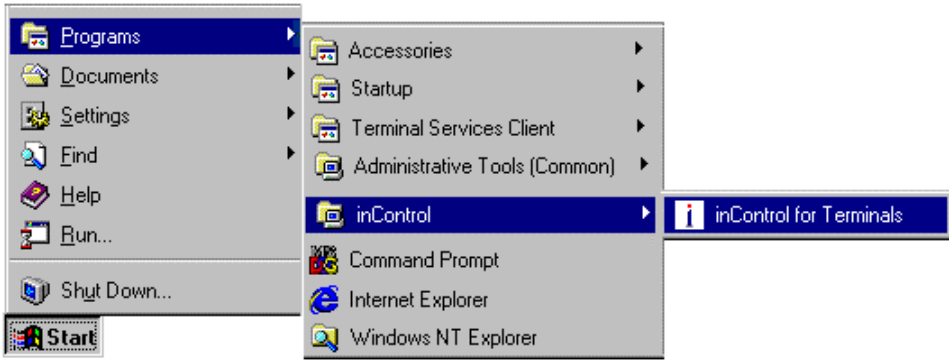

16. Insert the second installation floppy and click **OK**. (This screen will not appear if you are installing from a CD.) The following screen is displayed.




17. The above screen shows a progress-bar indicating the status of the installation process. After installation, the following screen is displayed.




18. Select **Yes, I want to restart my computer now** and click **Finish**.
19. After the server has restarted, you will see a new sub-group called **inControl** in the **Programs** group of the **Start** menu. This new sub-group contains the **inControl for Terminals** application.



# Re-installing or Upgrading inControl

The inControl software must be installed preferably on a Member Server and not on a PDC (*Primary Domain Controller*) or BDC (*Backup Domain Controller*) server.

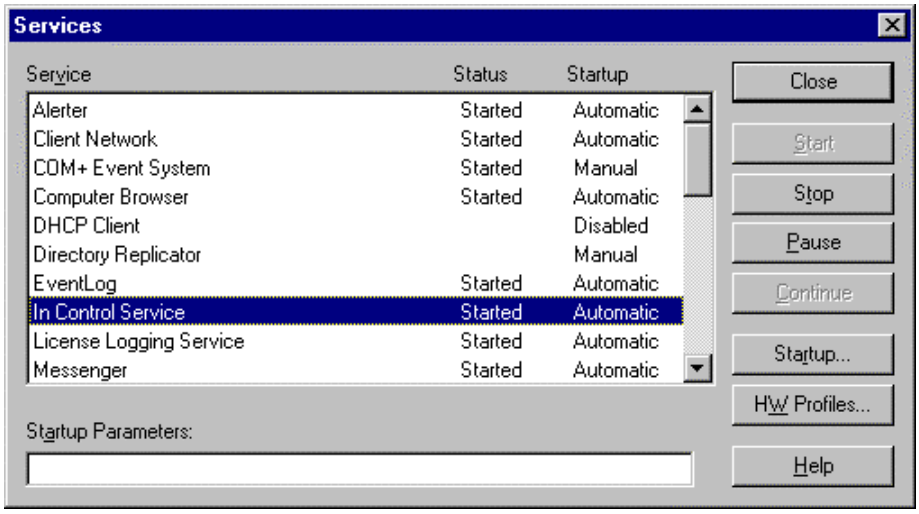
It is recommended that you install the software on a server that is in a network with the highest number of clients. This helps in reducing WAN traffic by restricting traffic to the LAN.

If the server on which you plan to install inControl is not in the same network or subnet as the clients, you must specify a gateway for the inControl server.

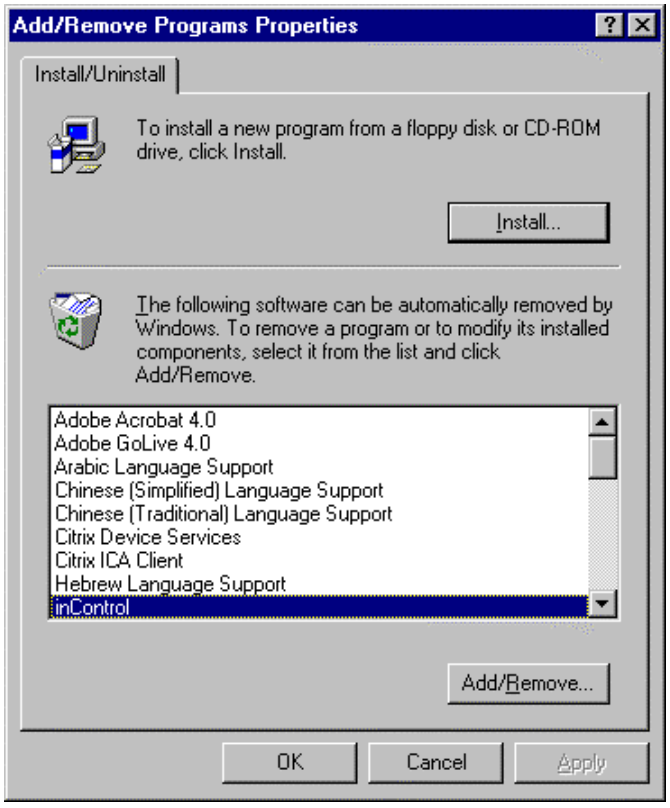
**NOTE**: THE SCREENSHOTS OF DIALOG-BOXES AND WINDOWS SHOWN IN THIS SECTION ARE BASED ON WINDOWS NT.

To remove an existing version of **inControl for Terminals** and reinstall the same version, or to replace an existing version with a newer version,

1. Login as **Administrator** on the server where you want to reinstall the software.
2. Close all running programs.
3. Select **Start->Settings**. Then select **Control Panel**. The **Control Panel** window is displayed.
4. Select **Services**. The following dialog-box is displayed.

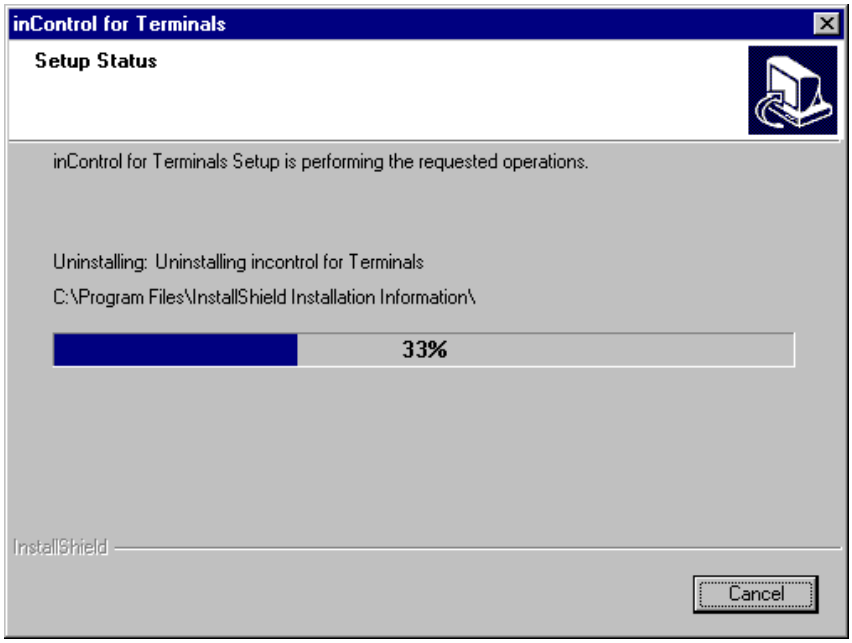



5. Select the **In Control Service** option and click the **Stop** button. After the service is stopped, click **Close** to return to the **Control Panel** window.
6. Select **Add/Remove Programs**. The **Add/Remove Programs Properties** dialog-box is displayed.

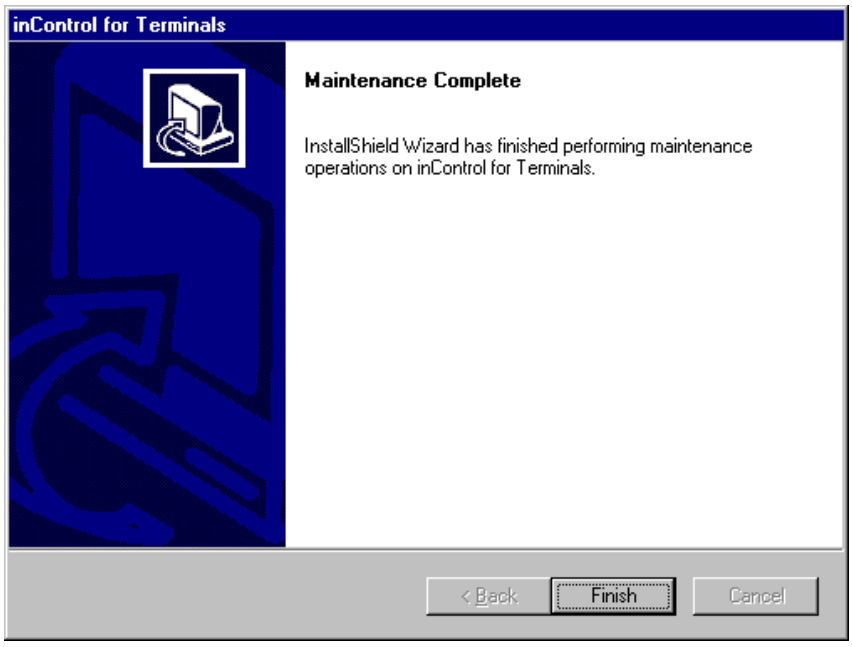



7. Select **inControl for Terminals** and click the **Add/Remove** button. The following dialog-box is displayed.

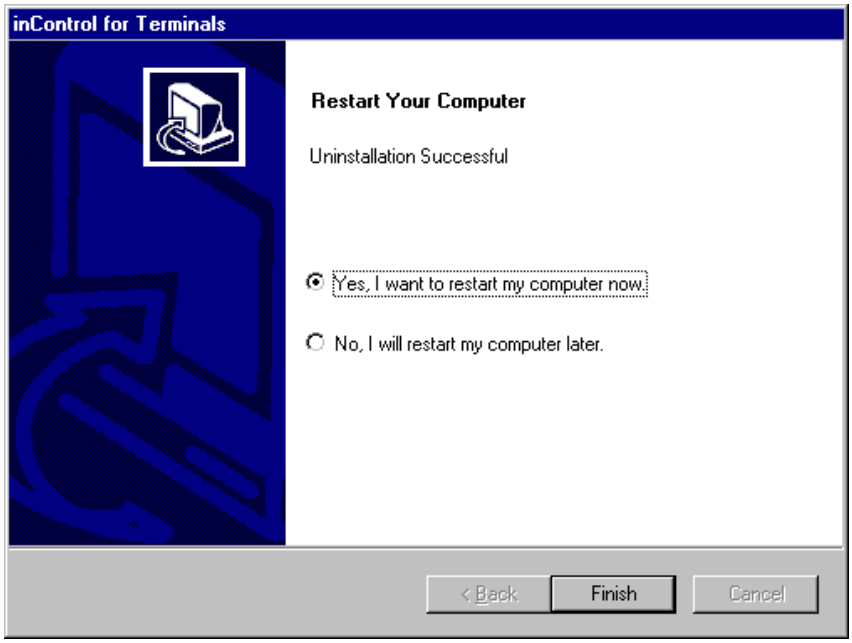

8. Click **Yes** to proceed. The following dialog-box is displayed.




9. The above screen displays a progress-bar indicating the status of the uninstall-process. After inControl is uninstalled, the following screen is displayed.



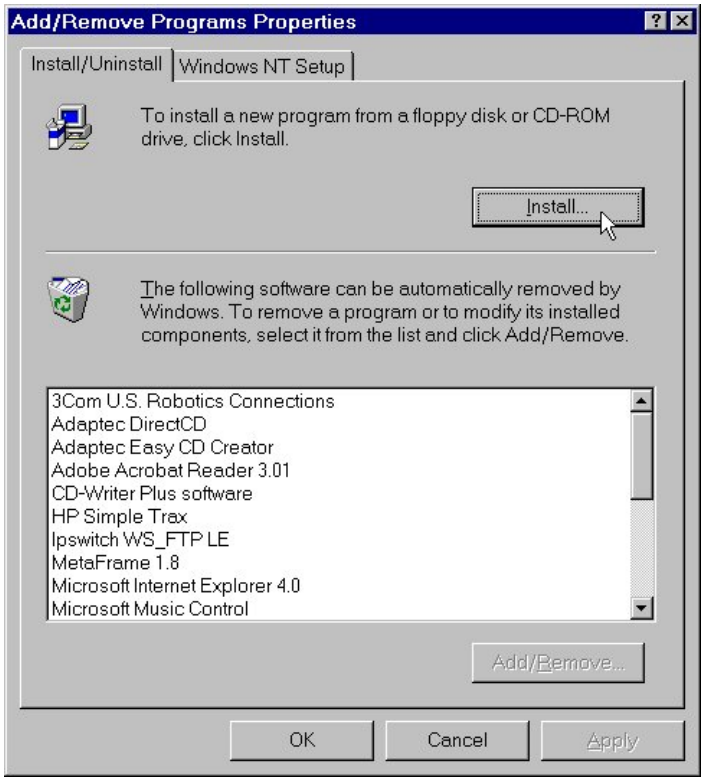

10. Click **Finish**. The following dialog-box is displayed.



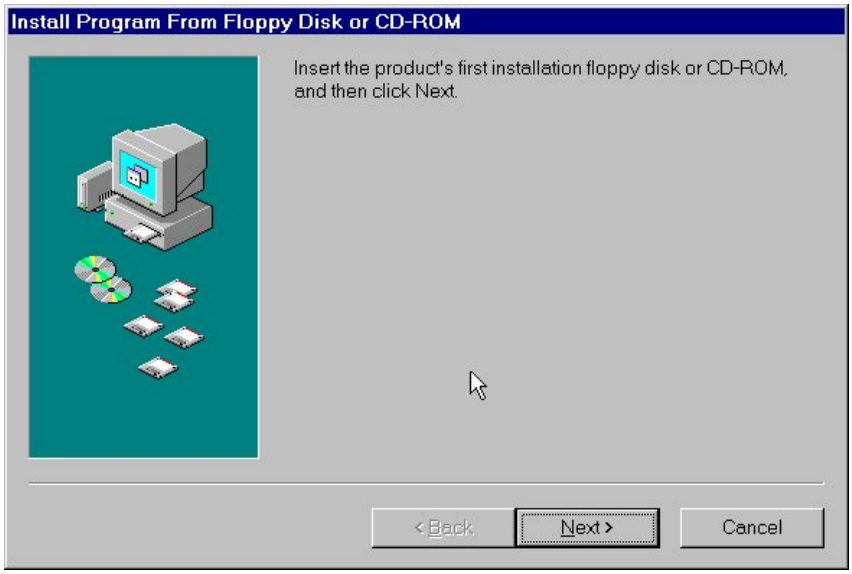

11. Select **Yes, I want to restart my computer now** and click **Finish**.
12. After the server has restarted login as **Administrator**.
13. Close all running programs.
14. Select **Start->Settings**. Then select **Control Panel**. The **Control Panel** window is displayed.

**NOTE**: AS AN ALTERNATIVE, YOU MAY USE THE INCONTROL INSTALLATION MENU OPTION FOUND ON THE I-O THIN CLIENT UTILITY CD. THE INSTALLATION WIZARD WILL GUIDE YOU THROUGH THE PROCESS. HOWEVER YOU MAY WANT TO FOLLOW THAT PROCESS BY REFERRING TO THE APPLICABLE SCREENS (BEGINNING WITH STEP20) IN THIS SECTION OF THE GUIDE.

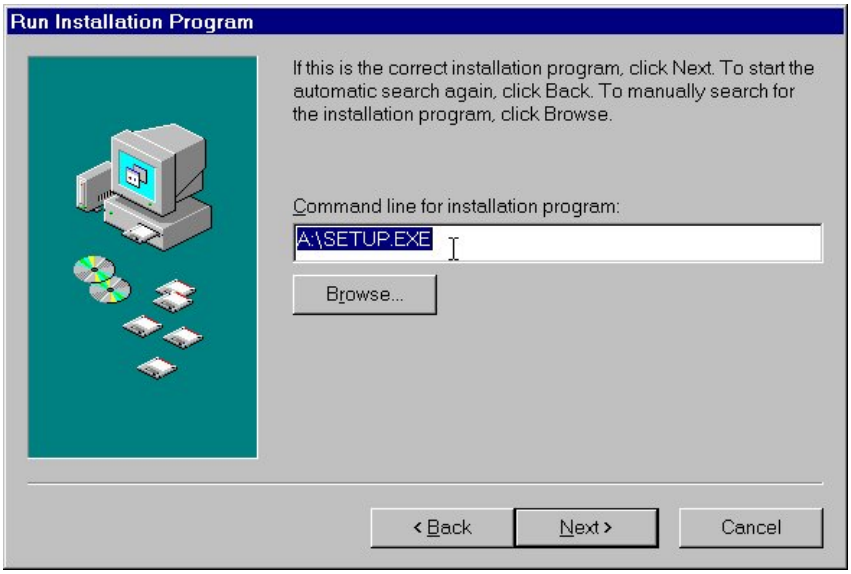
15. Select **Add/Remove Programs**. The **Add/Remove Programs Properties** dialog-box is displayed.




16. Click on the **Install…** button. A prompt to insert the first installation floppy or CD-ROM is displayed.

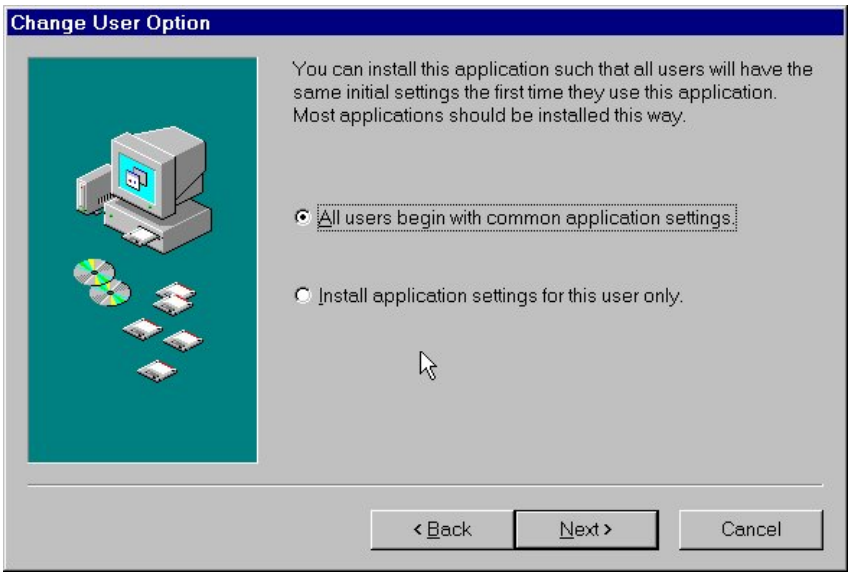



17. Insert the CD-ROM or the first installation floppy and click **Next>**. The system automatically detects the installation medium (*floppy or CD-ROM*), and displays the command line of the installation file as shown below.

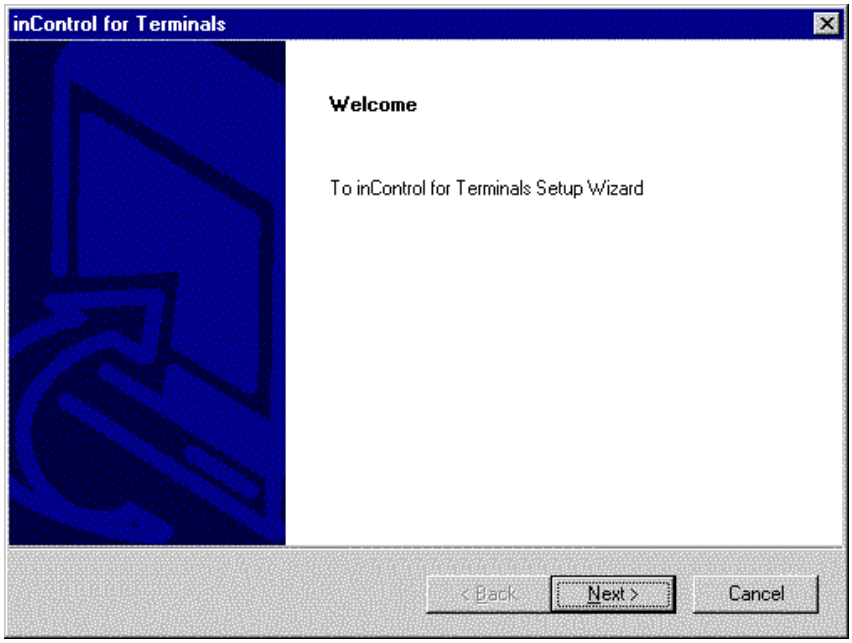



**NOTE**: THE ABOVE DIALOG-BOX SHOWS **A:\SETUP.EXE** AS THE COMMAND LINE FOR THE INSTALLATION PROGRAM. THIS IS AN EXAMPLE WHERE THE INSTALLATION IS DONE FROM A FLOPPY DRIVE (**A:**). IF YOU ARE INSTALLING THE SOFTWARE FROM A CDROM, '**A**' WOULD BE REPLACED WITH THE CORRESPONDING CDROM DRIVE LETTER.

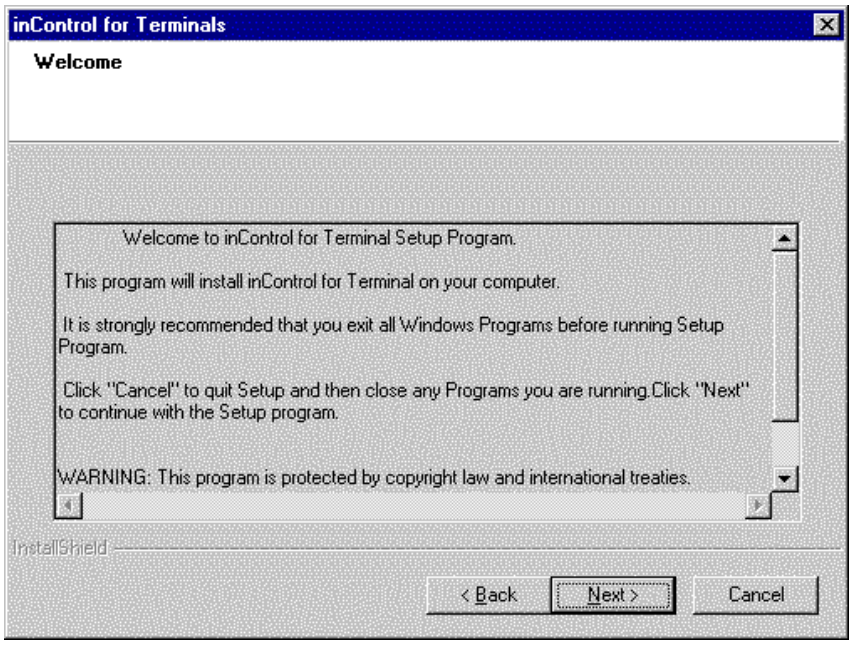
18. Click **Next>**. The **Change User Option** dialog-box is displayed.



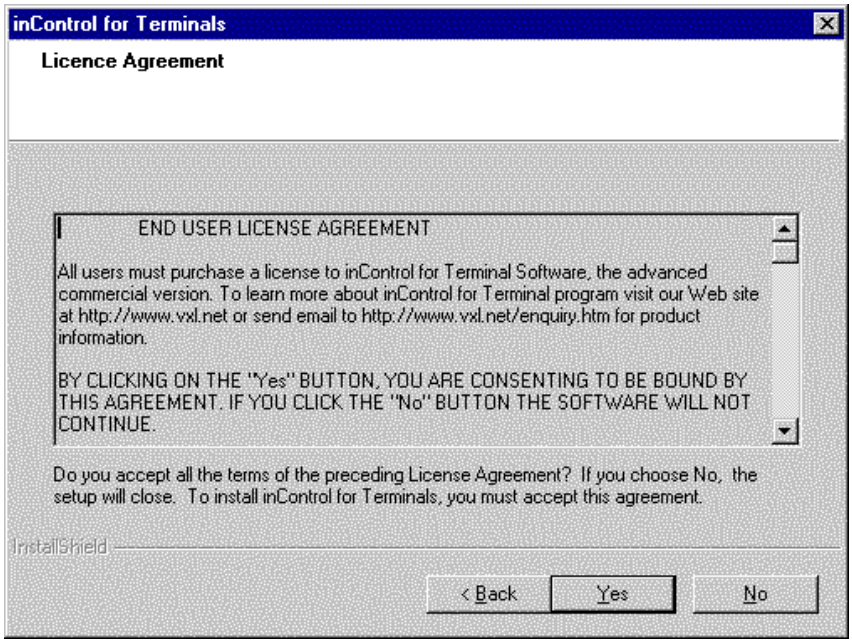

19. The above dialog-box is not shown in Windows 2000. Select the appropriate user option and click **Next>**. After a brief delay, the **Welcome** screen of the inControl Setup Wizard is displayed.



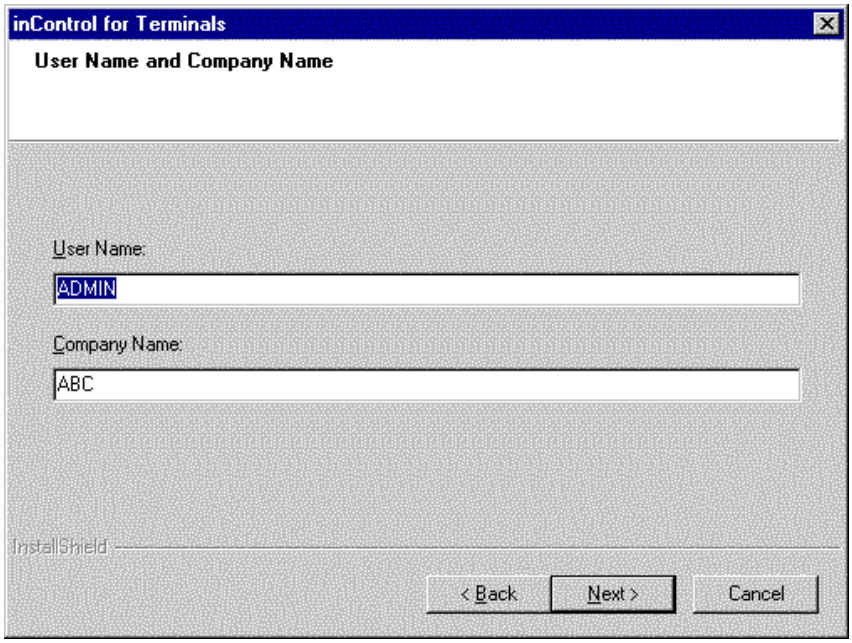

20. Click **Next>**. The following dialog-box is displayed.



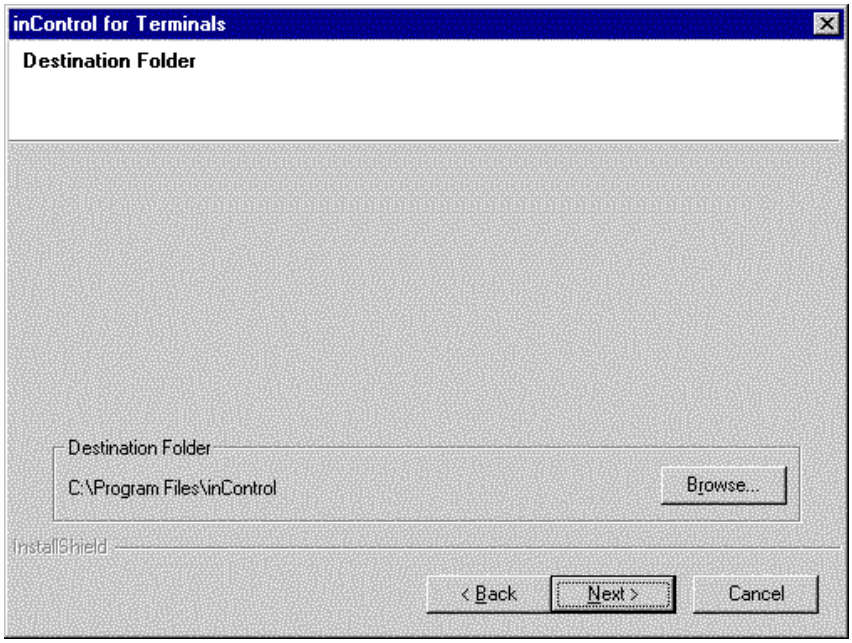

21. The above screen contains a message to close any running program/s before proceeding. If you have not closed all running programs, click **Cancel** to quit the setup wizard. Close all running programs and then perform this procedure from the beginning. If you have already closed all applications, click **Next>** to proceed. The following screen is displayed.



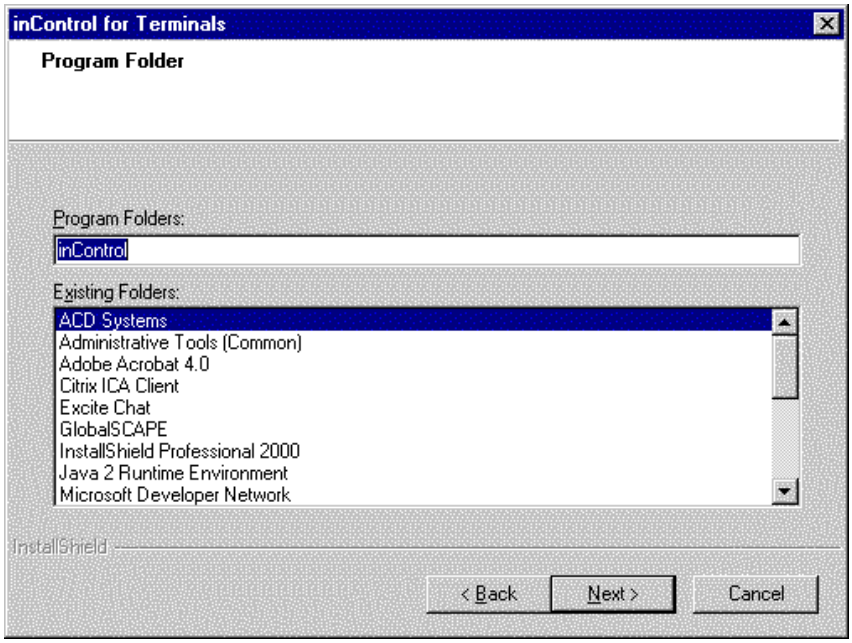

22. The above dialog-box contains the License Agreement. Please read the agreement carefully to understand the terms and conditions governing use of the software. Click **Yes** to signify acceptance of the terms and conditions of the agreement. The following screen is displayed.



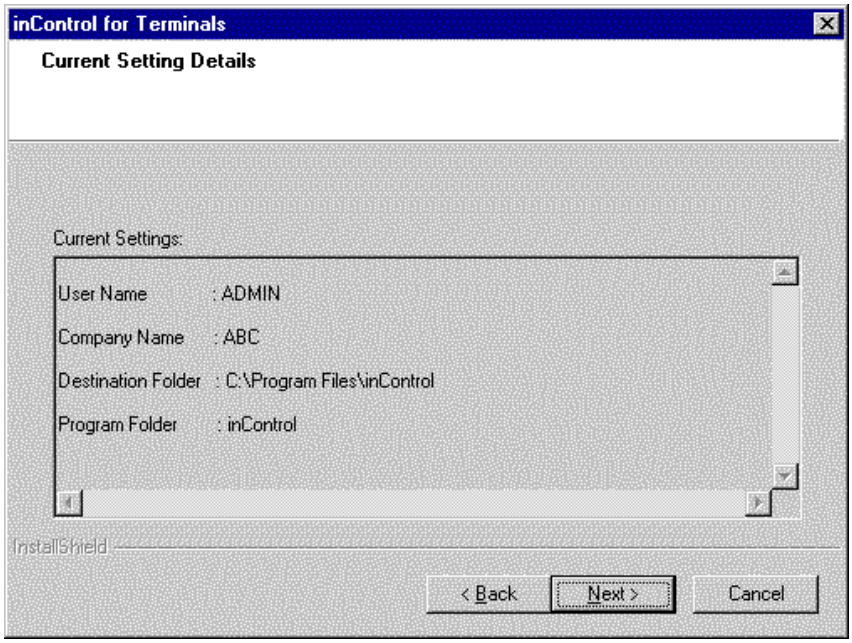

23. Enter the name of the user and organization in the **User Name** and **Company Name** fields, and click **Next>**. The following screen is displayed.



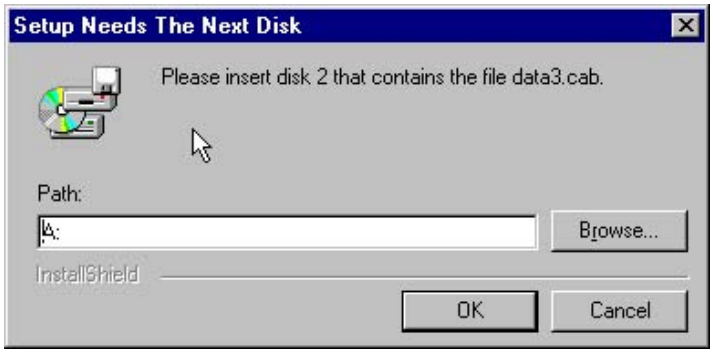

24. The default installation directory for **inControl** is [**X**]**:\Program Files\InControl**, where **X** is the letter of the drive where the operating system is installed. To change the installation directory, click the **Browse…** button and select the appropriate folder. Click **Next>** to continue with the default directory. The following dialog-box is displayed.



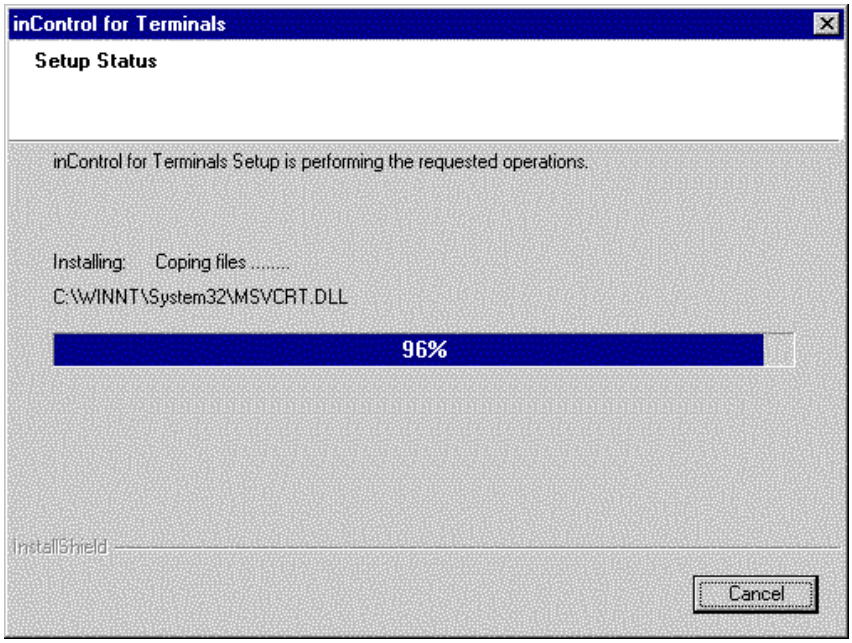

25. The default program folder is **inControl**. Click **Next>** to proceed with installation. The following screen is displayed.



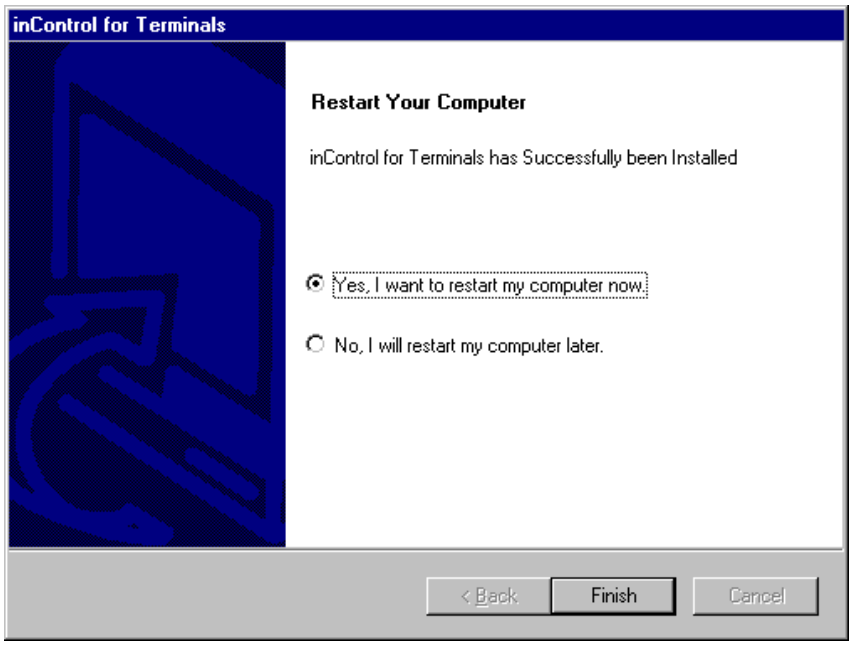

26. In the above screen, all the installation-options that you specified so far are displayed. Verify the options and click **Next>** to proceed. If you are installing the software from a set of floppies, a prompt to insert the next disk is displayed.



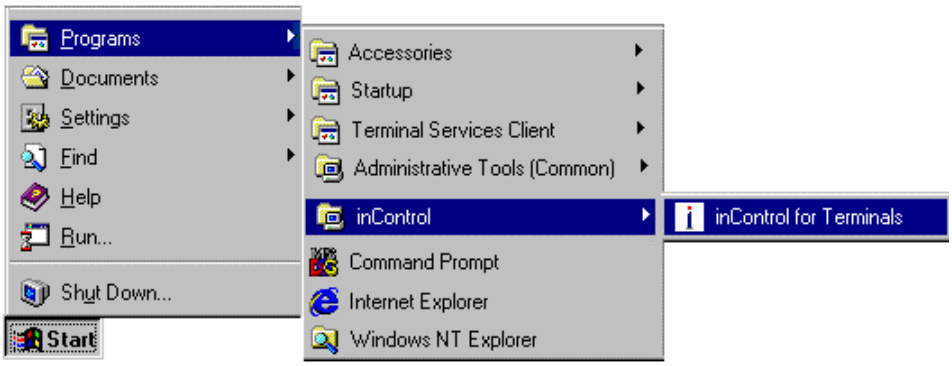

27. Insert the second installation floppy and click **OK**. The following screen is displayed.




28. The above screen shows a progress-bar indicating the status of the installation process. After installation, the following screen is displayed.




29. Select **Yes, I want to restart my computer now** and click **Finish**.
30. After the server has restarted, you will see a new sub-group called **inControl** in the **Programs** group of the **Start** menu. This new sub-group contains the **inControl for Terminals** application.



# Preparing the Windows CE-based Clients

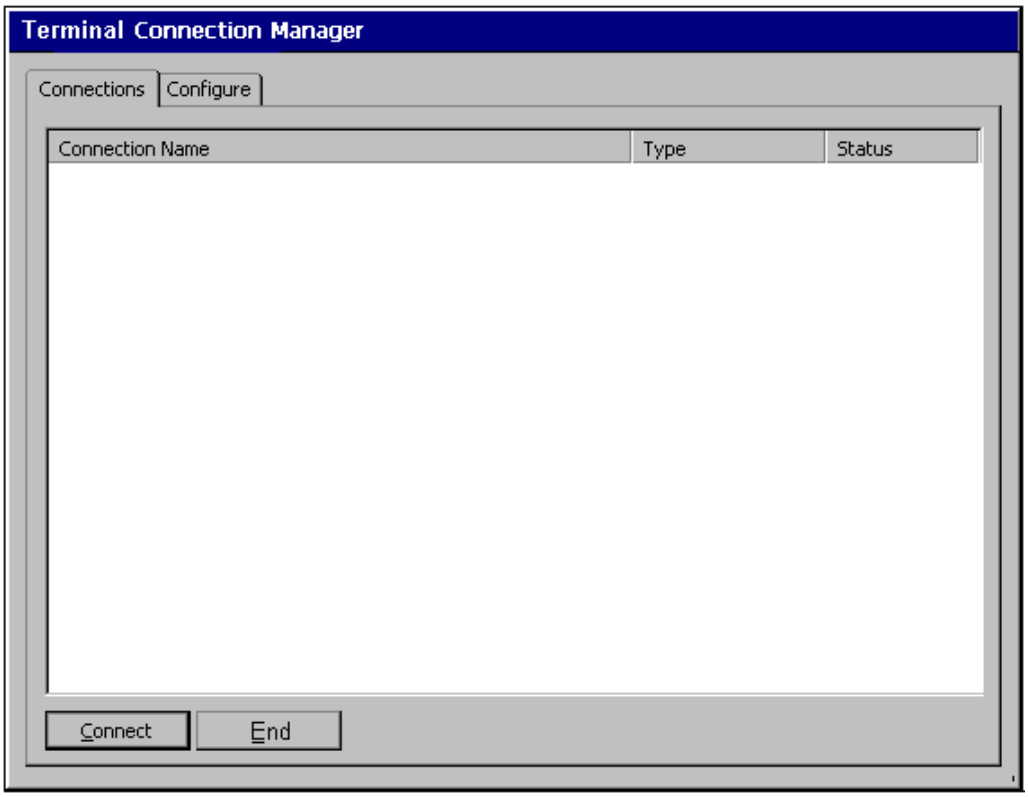
This section describes the procedure to configure Windows CE-based clients to recognize the inControl server.

**NOTE**: THIS PROCEDURE NEED NOT BE PERFORMED ON CLIENTS IN THE SAME NETWORK OR SUBNET AS THE INCONTROL SERVER, BECAUSE SUCH CLIENTS AUTOMATICALLY RECOGNIZE THE IP ADDRESS AND PORT NUMBER OF THE INCONTROL SERVER.

Refer to Client Firmware (*page 7*) for client versions that **inControl for Terminals** supports.

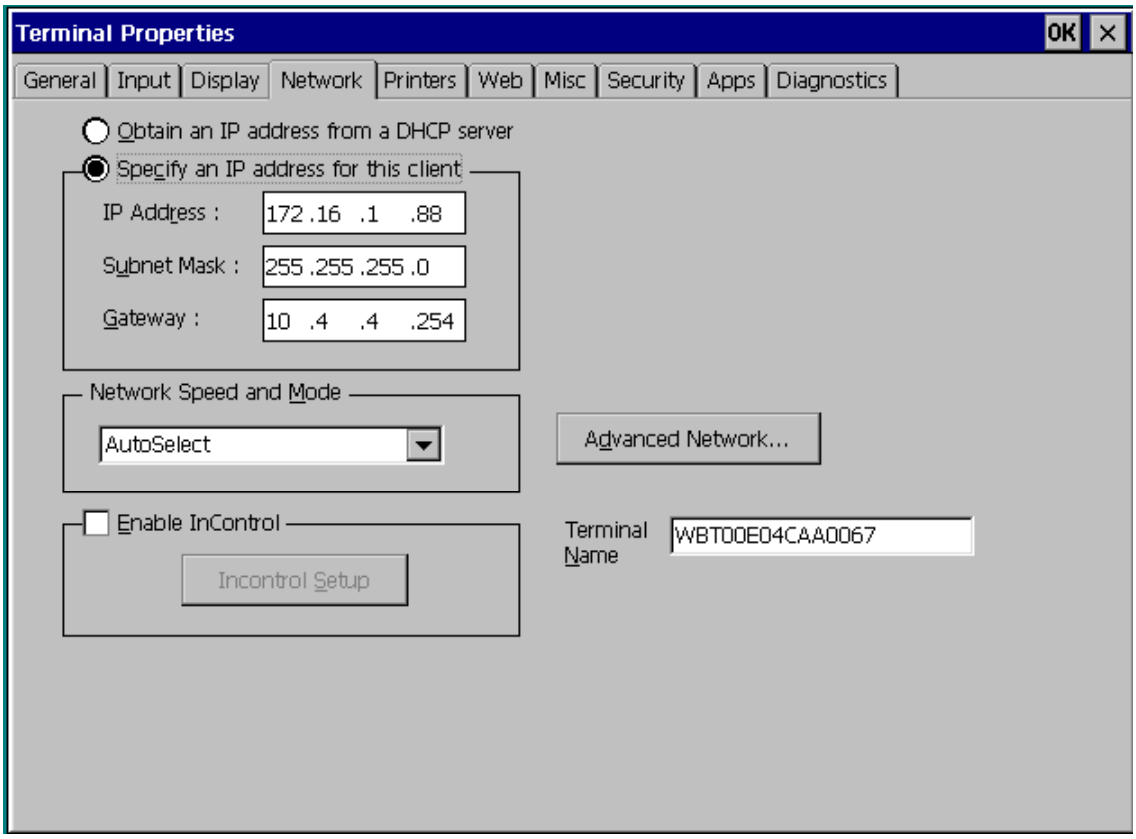
Perform the following steps on Win-CE clients that are not in the same network or subnet as the inControl server.

1. Start the client. Wait until you see the **Terminal Connection Manager** screen.

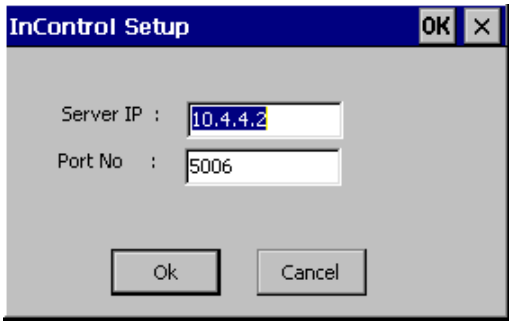



2. Press the **F2** key. The **Terminal Properties** dialog-box is displayed.

3. Select the **Network** tab.



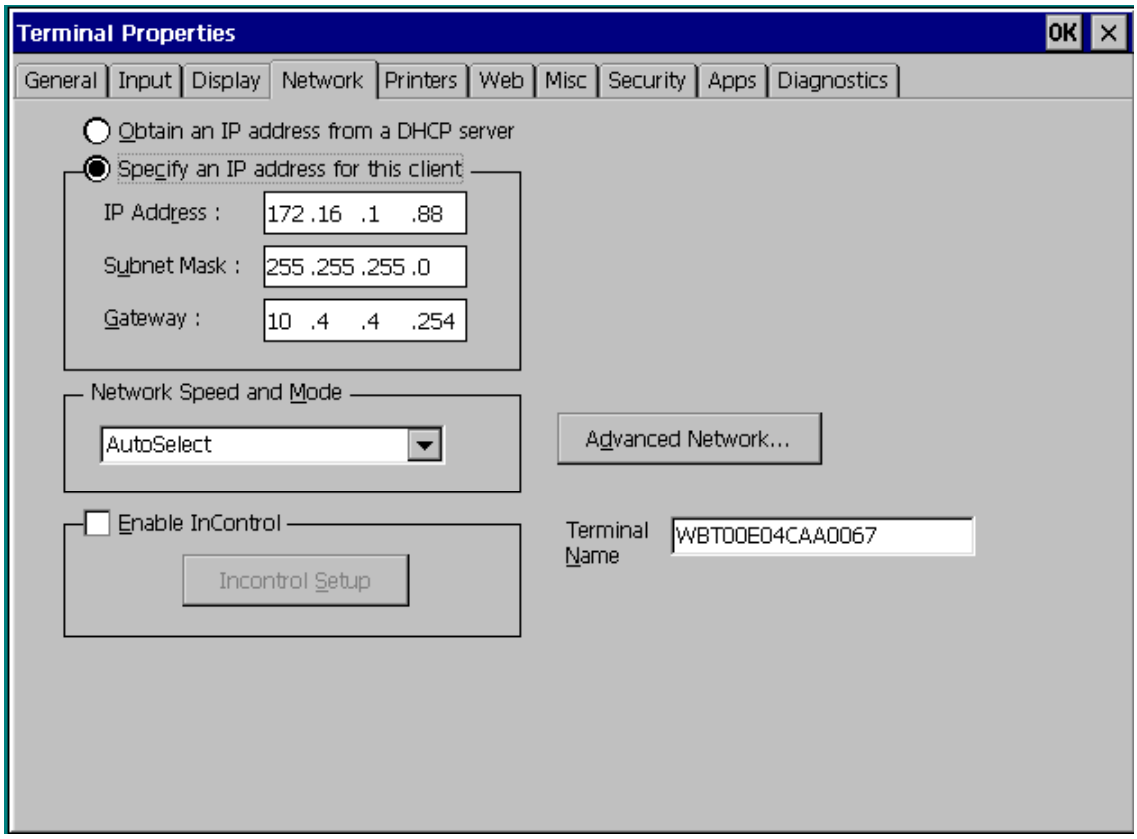

4. If the client has a fixed IP address, ensure that the IP address and subnet mask entries are valid. Enter the IP address of the gateway in the **Gateway** field.
5. Select the **Enable InControl** check-box. The **InControl Setup** button becomes enabled. Click on the **InControl Setup** button. The **InControl Setup** dialog-box is displayed.




6. Provide the correct IP address of the inControl server in the **Server IP** field. For clients with firmware version equal to or higher than TC3xxx-40-42 and TC3xxx-50-65 and TC4xxx-50-01, change the **Port No** to **5011**. For other clients, leave the Port No at 5006.

**NOTE**: IN CLIENTS WITH FIRMWARE VERSION **EQUAL TO OR HIGHER THAN TC3XXX-40-37, TC3XXX-50-60 AND TC4XXX-50-01**, THE PORT NUMBER AUTOMATICALLY CHANGES TO **5011** WHEN THE CLIENT DETECTS THE PERIODIC UDP BROADCAST (APPROX. EVERY 20 SECONDS) FROM THE INCONTROL SERVICE. THIS TYPICALLY HAPPENS WHEN THE CLIENT IS IN THE SAME NETWORK OR SUBNET AS THE INCONTROL SERVER. THE FOLLOWING ARE THE ADVANTAGES OF THIS FEATURE.

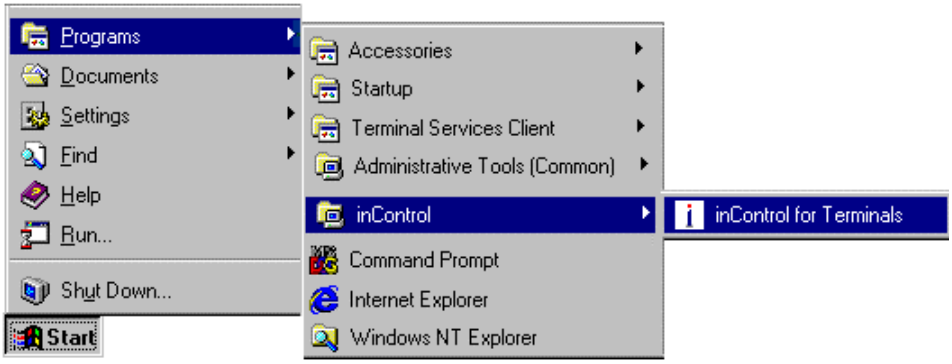
- SUCH CLIENTS NEED NOT BE RESTARTED IF YOU UNINSTALL INCONTROL, REMOVE ALL FOLDERS FROM THE INCONTROL DIRECTORY AND THEN RE-INSTALL THE SOFTWARE IN THE SAME DIRECTORY.
- SUCH CLIENTS NEED NOT BE RESTARTED WHEN YOU CHANGE THE CLIENT NAME USING THE F2 (TERMINAL PROPERTIES)->MISC TAB->ICA SETTINGS->PREFERENCES->CLIENT NAME OPTION.



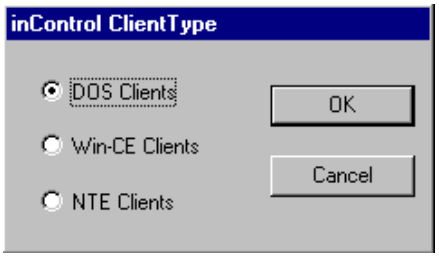

7. Click **Ok** to return to the **Terminal Properties** window.
8. Click on the **Apply** button. After a brief delay, the **Apply** button is disabled.
9. Click **OK**. A prompt to restart the client is displayed. Click **Yes** to restart the client.
10. Repeat the above steps on all Windows CE-based clients.

# Starting inControl for Terminals

1. Click the **Start** button on the desktop of the **inControl** server.

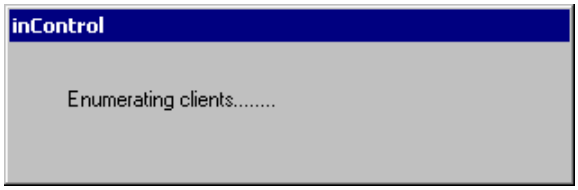



2. Select **Programs->InControl->InControl for Terminals** as shown above. The **inControl Client Type** dialog-box is displayed.

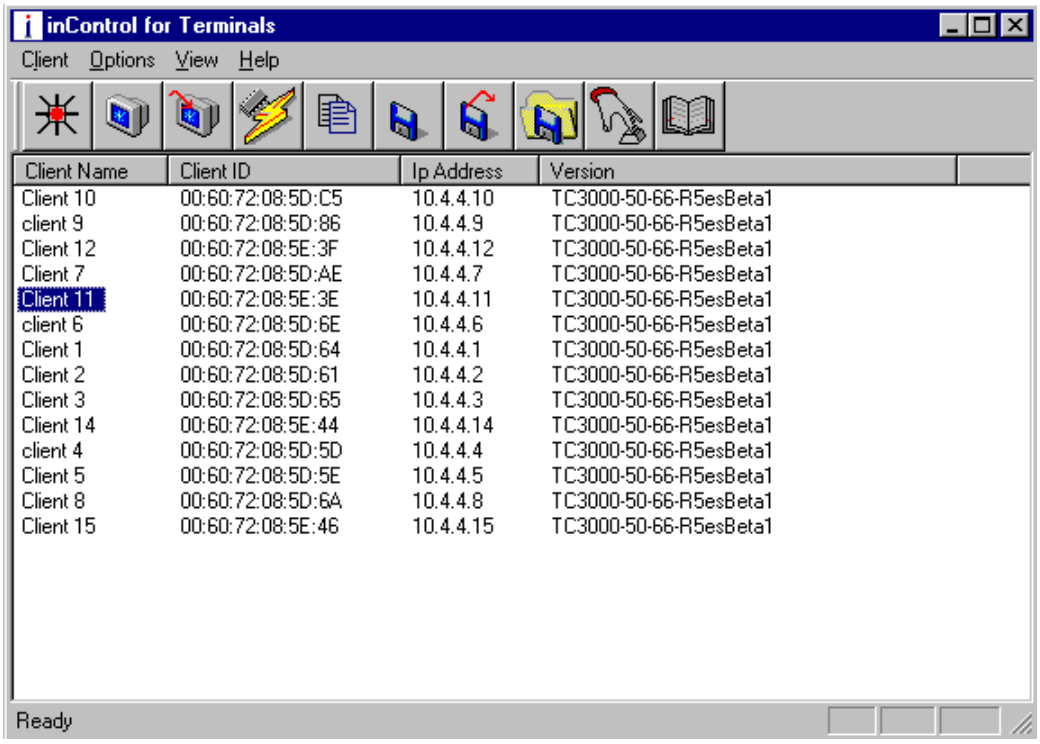



**NOTE**: IF **CITRIX METAFRAME** IS NOT INSTALLED ON THE INCONTROL SERVER, THE ABOVE DIALOG-BOX WILL NOT CONTAIN THE **DOS CLIENTS** OPTION.

3. Select **WinCE Clients** and click **OK**. The message **Enumerating clients…** is briefly displayed.



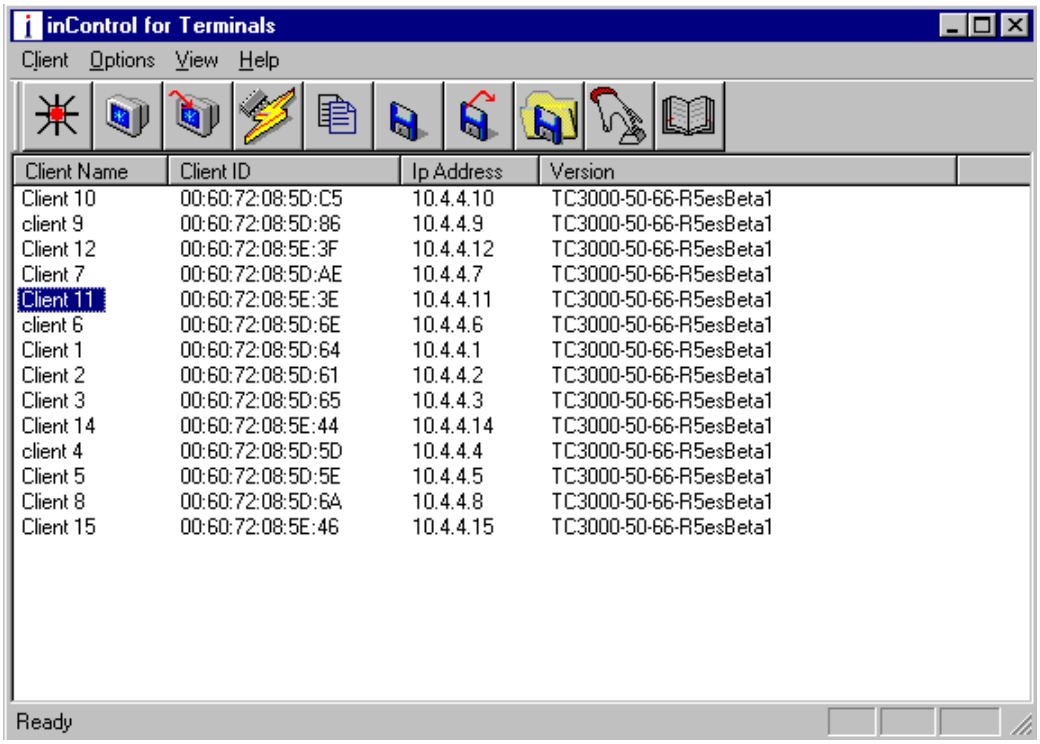

The application automatically detects clients that are **currently switched on**. These clients are displayed on the **inControl for Terminals** screen.




An overview of the above screen is provided in the next section.

# Overview of the Main Screen

The **inControl for Terminals** screen (also referred as **Main Screen** in this guide) consists of a list of clients, a menu bar, a tool bar and a status bar.

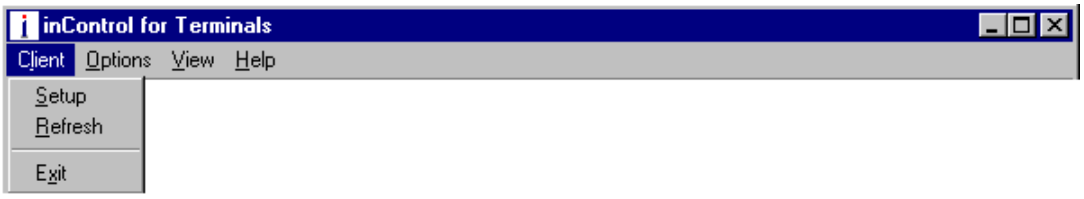



The list of clients has the following columns:

- **Client Name**: displays the names of clients as they appear in the registry of the clients.
- **Client ID**: displays the MAC ID of the clients.
- **IP Address**: This column displays the IP addresses of the clients.
- **Version**: This column displays the version number of the client software (*firmware*).

The functions of **inControl** can be invoked by selecting the appropriate option from the menu bar.

## Client menu

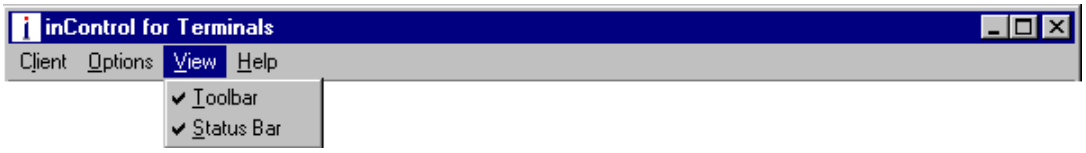



- **Setup**: Loads setup parameters of the selected client and allows you to configure the client.
- **Refresh**: Refreshes the list of clients displayed on the **Main Screen**. Clients that were switched off since the last 'refresh' action will not be displayed.
- **Exit**: Exits from the application.

## Options menu

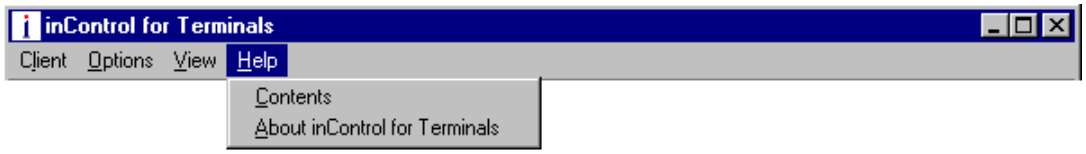

- **Save Client Settings**: This option allows you to update the selected client with changes done through the **Client->Setup** option.
- **Copy**: With this option, you can copy the settings of one client to another client or set of clients.
- **Upgrade Client Firmware**: This option allows you upgrade firmware of selected clients.
- **Create Configuration File**: With this option, you can save the settings of a particular client to a configuration-file. The configuration file can be used to replicate client settings across different locations of the organization.
- **Import Configuration File**: This option allows you to import settings to multiple clients, from a configuration-file that was created using the **Create Configuration File** option.
- **Edit Configuration File**: This option allows you to modify parameters in the 'configuration file' created through the **Create Configuration File** option.
- **Reboot Clients**: With this option, you can reboot clients from the inControl server.

## View menu




This menu allows you to display (*check*) or hide (*remove check mark*) the toolbar and status indicator bar. The status bar is located at the bottom of the active window.

## Help menu




This menu has two options.

- **Contents**: provides help to use inControl
- **About InControl**: displays the version number of the inControl software.

## Toolbar

The icons of the toolbar are shortcuts to menu-options. When you place the mouse pointer over an icon, the function of that icon is displayed as a tool-tip. The function is also displayed in the status bar. The following table provides the function associated with the icons on the toolbar.

| *Icon* | *Equivalent Menu Option* | *Purpose* |
|---|---|---|
|  | Client -> Refresh | To refresh (re-enumerate) the list of clients displayed in the inControl main screen |
|  | Client -> Setup | To configure terminal properties and create connections for the selected client. |
|  | Options -> Save Client Settings | To save changes done with the **Client -> Setup** function |
|  | Options -> Upgrade Client Firmware | To upgrade the firmware of one or more clients. |
|  | Options -> Copy | To copy connections and terminal properties from a client to one or more other client/s |
|  | Options -> Create Configuration File | To create a file containing configuration settings based on a selected client. |
|  | Options -> Import Configuration File | To download configuration information from a configuration file. |
|  | Options -> Edit Configuration File | To modify parameters in a configuration file. |
|  | Options -> Reboot Clients | To reboot clients from the inControl server. |
|  | Help -> Contents | To access online help |

# Creating Connections for One Client

inControl can be used to deploy a uniform set of connection entries on multiple clients. To do this, you have to first create the necessary connection entries on one (*reference*) client as described in this chapter.

The connection-types that can be created on Windows CE-based clients using inControl are listed below.

## Connection Types

- TCP/IP ICA Connection (*page 37*)

  Connecting to a server that supports the ICA protocol through the network port of the client.

- Dial-up ICA Connection (*page 47*)

  Connecting to a server that supports the ICA protocol through the modem connected to a COM port of the client.

- Dialup Connection (*page* 58)

  Connecting to a server using Point-to-Point Protocol through the modem.

- TCP/IP Microsoft Internet Explorer (page 67)

  Connecting to the Microsoft Internet Explorer 4.01 which is in-built in the firmware of the client.

- PPP Microsoft Internet Explorer Connection (page 71)

  Connecting to the sever using PPP which enables you to browse using the in-built Microsoft Internet Explorer application.

- TCP/IP RDP Connection (*page 72*)

  Connecting to a Windows Terminal Server using Microsoft's Remote Desktop protocol.

- PPP RDP Connection (page 79)
  Connecting to a RDP Server using Point-to-Point Protocol through a modem.

- TCP/IP Terminal Emulation Connection (*page 79*)

  Creating a terminal emulation connection through the network port of the client.

- Dial-up Terminal Emulation Connection (*page 90*)

  Creating a terminal emulation connection through the modem connected to a COM port of the client.

- Serial-cable Terminal Emulation Connection (*page 102*)

  Creating a terminal emulation connection through a serial cable connected a COM port of the client.

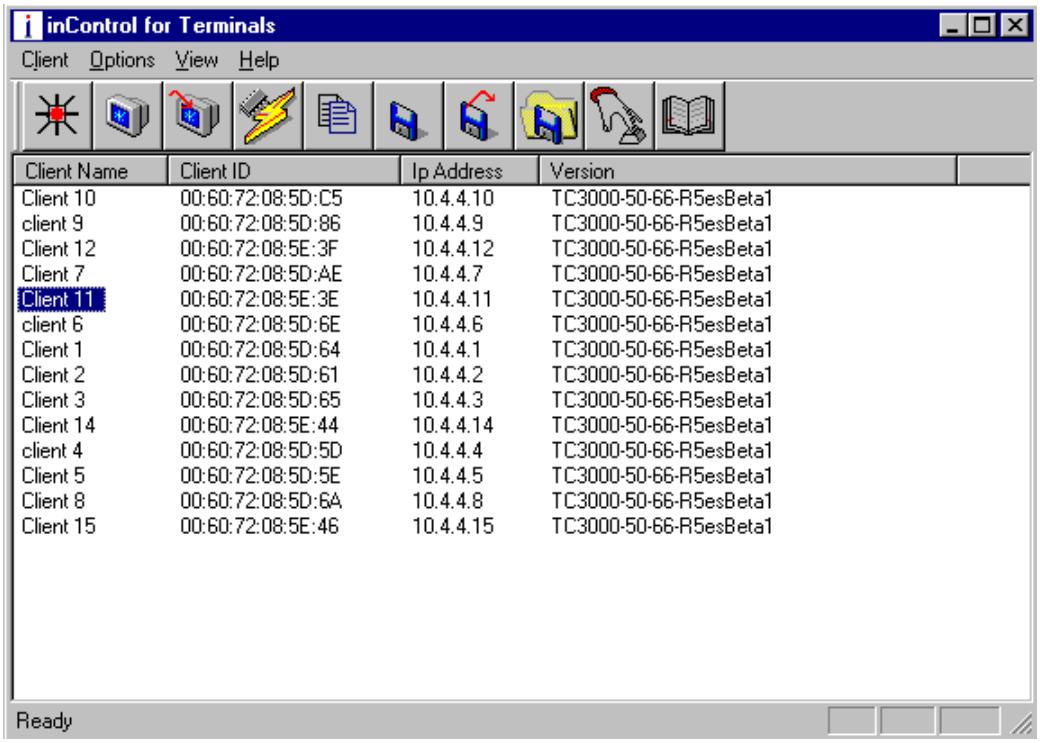
- I-O 5250 Printer Connection (*page 112* )

  Creating a TN5250e printer emulation connection through the network port of the client.

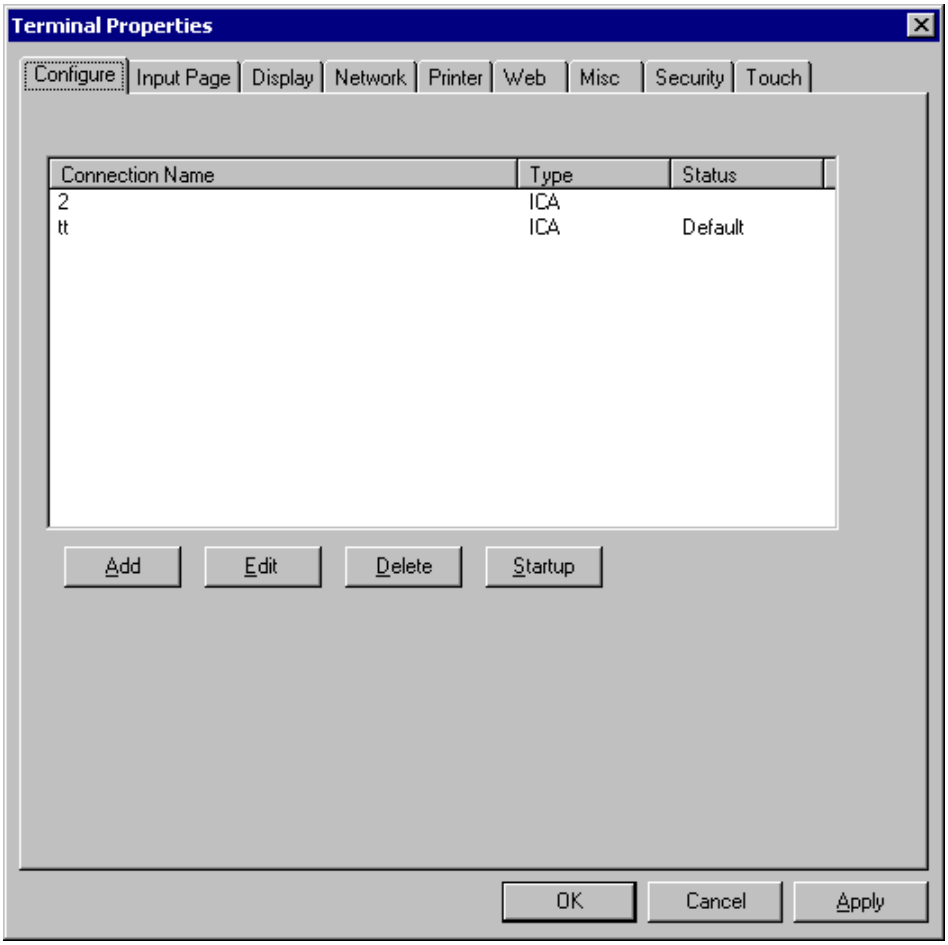
After creating required connection entries on one client, the same set of connection entries can be deployed throughout the organization using either the Copying Connection Entries (*page 175*) or Creating and Importing a Configuration File (*page 181)* function of inControl.

## Creating ICA Connections via TCP/IP

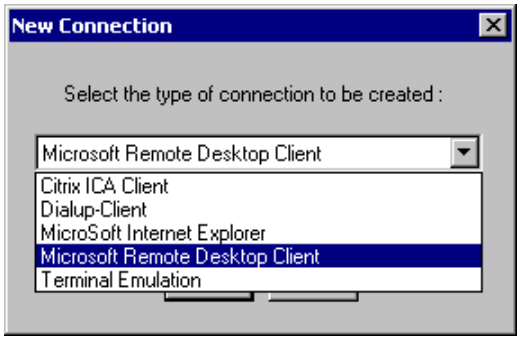
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on**, and displays the following screen.



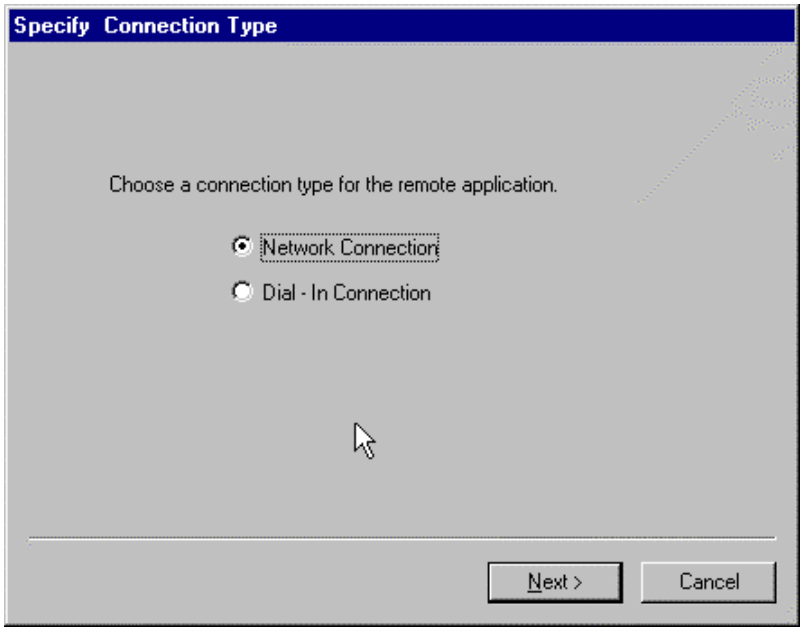

1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the client for which you want to create the connection.
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the  icon on the tool bar. This initiates communication between the inControl server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following screen.



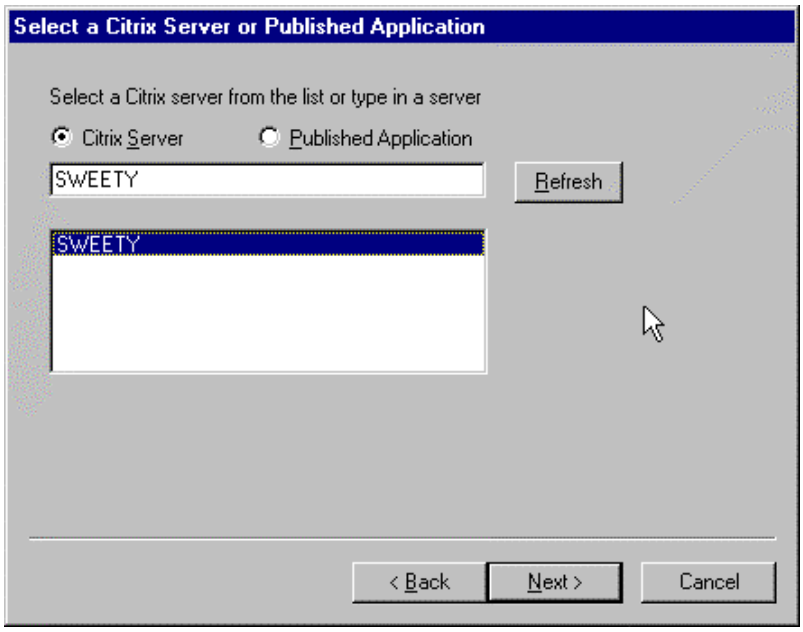

4. Click the **Add** button. The **New Connection** dialog-box is displayed.



5. Select **Citrix ICA Client** from the drop-down list. Click **OK**. The following dialog-box is displayed.

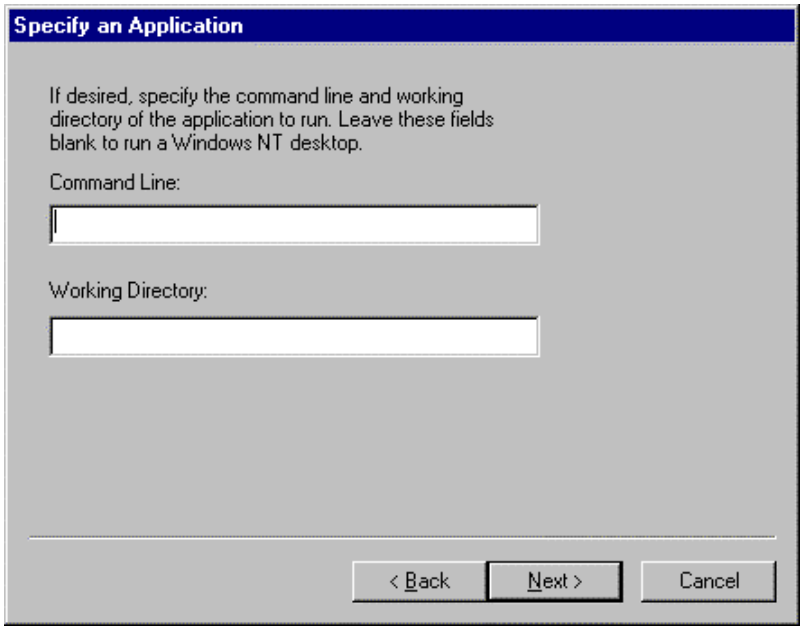



6. Select the **Network Connection** option and click **Next>**. inControl searches the network for Citrix servers and displays a list of available servers in the following dialog-box.




7. Select the **Citrix Server** radio-button if the connection is to a Citrix server. If the connection is to an application, select the **Published Application** radio-button.
8. Click **Refresh** to update the list of Citrix servers or published applications in the network.

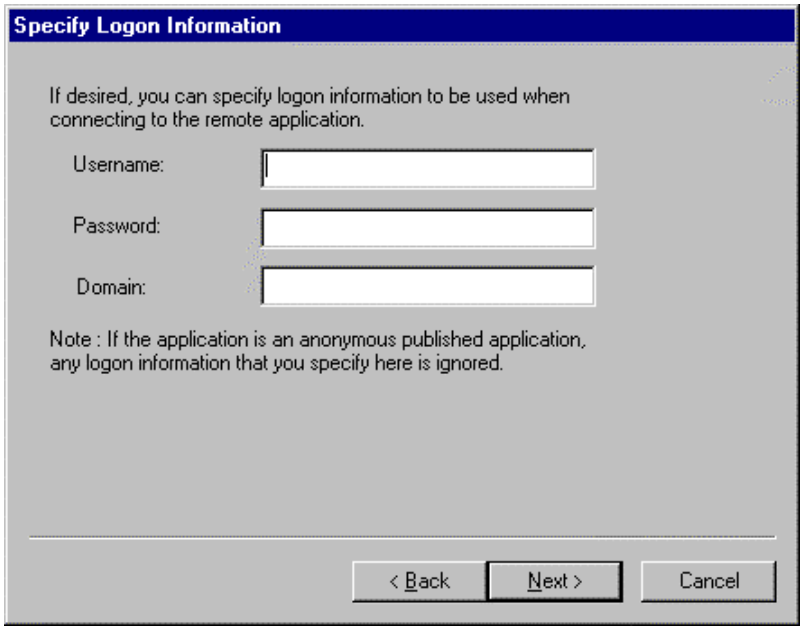
9. Select the appropriate entry from the list of servers/published applications and click **Next>**. The following dialog-box is displayed.




10. In this dialog-box, you can provide information about the application to be automatically started after the connection is established. If you do not provide any input in this dialog-box, the Windows NT or Windows 2000 desktop will be displayed after connecting to the server.
    - **Command Line**: Enter the name of the application program that you want to invoke.
    - **Working Directory**: Enter the name of the working directory.

**NOTE**: IF YOU SPECIFY AN APPLICATION IN THIS DIALOG-BOX, THE USER CANNOT ACCESS ANY OTHER PROGRAM OR APPLICATION. THE CLIENT WILL AUTOMATICALLY START THE APPLICATION AFTER LOGON. ON CLOSING THE APPLICATION, THE **TERMINAL CONNECTION MANAGER** WILL BE DISPLAYED.

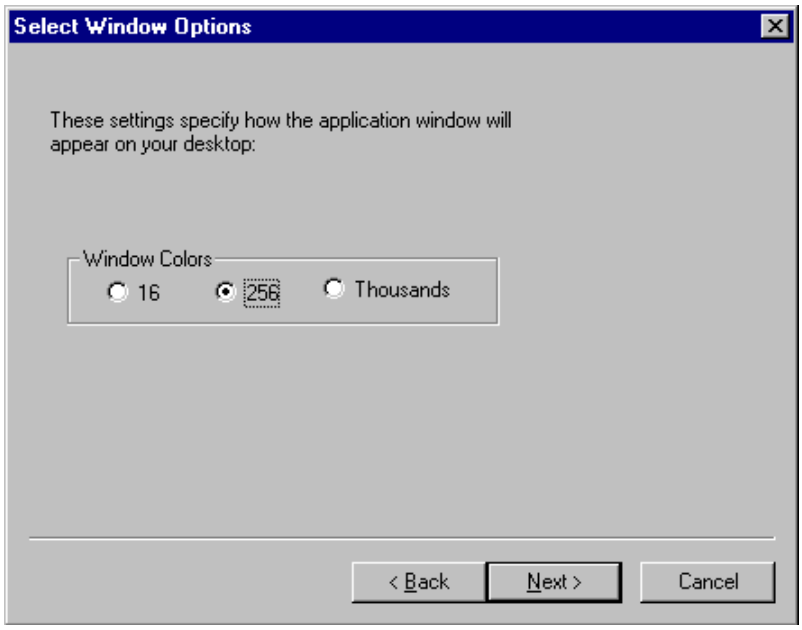
11. Click **Next>** to proceed. The **Specify Logon Information** dialog-box is displayed.




12. Enter the **Username**, **Password** and **Domain** information to be used to automatically logon to the server when the connection is established.

**NOTE**: IF YOU DO NOT PROVIDE INPUT IN THIS DIALOG-BOX BLANK, OR IF YOU PROVIDE INVALID INPUT, A LOGON PROMPT WILL BE DISPLAYED WHEN YOU TRY TO CONNECT TO THE SERVER.

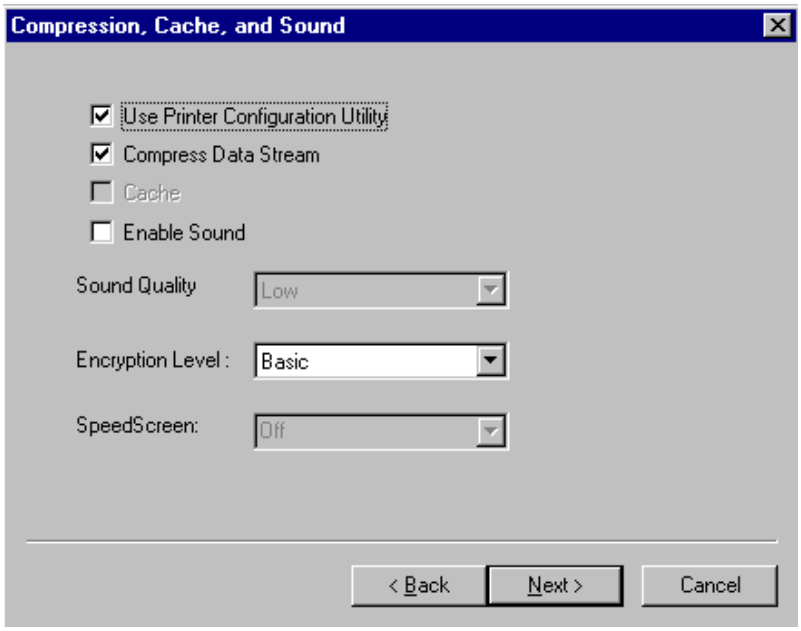
13. Click **Next>** to proceed. The following dialog-box is displayed.




14. In the above dialog-box, you can configure the color depth for the display. The available options are **16** colors, **256** colors and **Thousands** (16-bit or 65K colors).

**NOTE**: INCONTROL SUPPORTS THE **Thousands** (65K COLOR) OPTION FOR CLIENTS WITH FIRMWARE VERSION EQUAL TO OR HIGHER THAN TC3000-40-43 AND TC3000-50-66.

15. Click **Next>** to proceed. The following dialog-box is displayed.




- **Use Printer Configuration Utility**: This option is selected by default. It allows the printer port of the client to be accessed by ICA users in the network.

  If the connection you are creating is to a server with MetaFrame versions 1.8 and above, ensure that this option is selected. Otherwise, the printer port of the client cannot be accessed.

If the connection you are creating is to a server with MetaFrame 1.0 or CDS, you **must** disable this option. Otherwise, the printer port of the client cannot be accessed.

- **Compress Data Stream**: This setting causes data to be compressed before transmission, thus optimizing the bandwidth usage. Note that while data compression reduces the transmission time, it consumes more processor resources.
- **Cache**: This feature is not currently supported.
- **Enable Sound**: The client supports audio when it is connected to MetaFrame servers. Select this check-box to enable sound. You can set the audio quality from the **Sound Quality** drop-down list.

**NOTE**: THIS SETTING HAS NO EFFECT IF THE CONNECTION YOU ARE CREATING IS TO A SERVER THAT HAS CDS (*CITRIX DEVICE SERVICES*).

- **Encryption Level**: Data Encryption is not supported by servers that have CDS (*Citrix Device Services*). To use data encryption, **Citrix MetaFrame** (including the **Secure ICA** service) must be installed on the server.

  If you specify encryption for a connection to a server that does not have MetaFrame, the following error message is displayed when you try to start the connection:

'Your Citrix server does not support the encryption you required'.

**NOTE**: THE SECURE ICA SERVICE **MUST BE INSTALLED SEPARATELY** ON SERVERS WITH THE FOLLOWING METAFRAME VERSIONS.

- METAFRAME 1.X ON WINDOWS NT TSE SERVER
- METAFRAME 1.8 ON WINDOWS 2000 SERVER

THE SECURE ICA SERVICE **IS INSTALLED BY DEFAULT** ON SERVERS WITH THE FOLLOWING METAFRAME VERSIONS.

- METAFRAME 1.8 WITH FEATURE RELEASE 1
- METAFRAME XP

The default selection is **Basic**. The other options are **RC5 (128 bit – Login Only)**, **RC5 (40 bit)**, **RC5 (56 bit)** and **RC5 (128 bit)**. The following table shows the valid client encryption levels corresponding to the encryption level defined for the server. Select the appropriate level from the drop-down list.

**NOTE**: IF YOU SELECT AN INVALID ENCRYPTION LEVEL, THE CLIENT WILL NOT BE ABLE TO CONNECT TO THE SERVER.

**Valid Client-Server encryption levels**

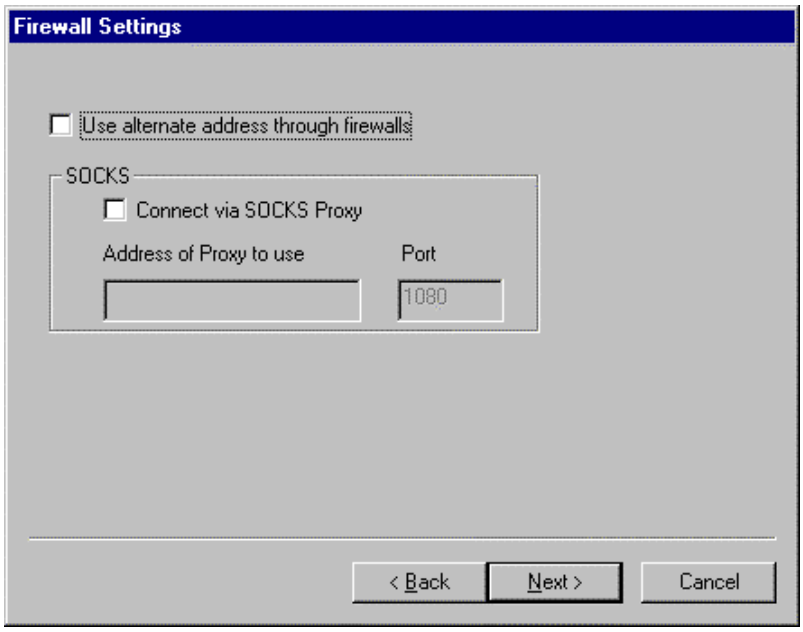
| *Encryption level defined for the server* | *Client Encryption level* | | | |
|---|---|---|---|---|
| | ***Basic*** | ***40-bit*** | ***56-bit*** | ***128-bit*** |
| Basic | Valid | Valid | Valid | Valid |
| 40-bit | Not valid | Valid | Valid | Valid |
| 56-bit | Not valid | Not valid | Valid | Valid |
| 128-bit | Not valid | Not valid | Not valid | Valid |

- **SpeedScreen**: MetaFrame 1.8 FR-1, MetaFrame-XP and above include a feature to reduce keystroke and mouse-click latency. Latency is the delay between a keystroke/mouse-click and the corresponding change on the screen. This drop-down list allows you to specify whether you want to use the SpeedScreen feature of the MetaFrame server.

**NOTE**: INCONTROL SUPPORTS THIS FEATURE FOR CLIENTS WITH FIRMWARE VERSION EQUAL TO OR HIGHER THAN TC3000-40-43 AND TC3000-50-66.

  - **Off**: This is the default setting. The client will not benefit from the SpeedScreen feature of the server.
  - **On**: The server manages keystroke and mouse-click latency at the client to provide improved and consistent performance.
  - **Auto**: The server manages keystroke and mouse-click latency, if the latency is within the upper and lower threshold-limits specified at the server.

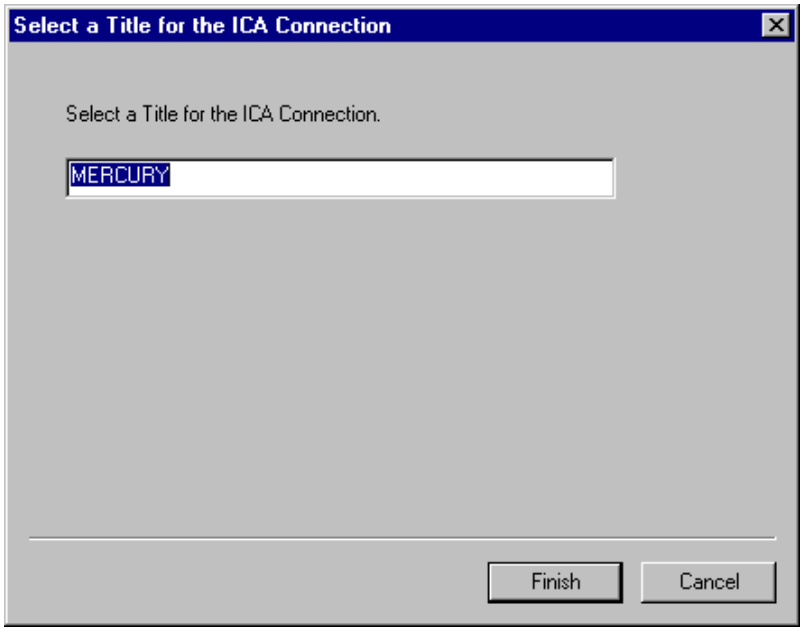
16. Click **Next>** to proceed. The following dialog-box is displayed.



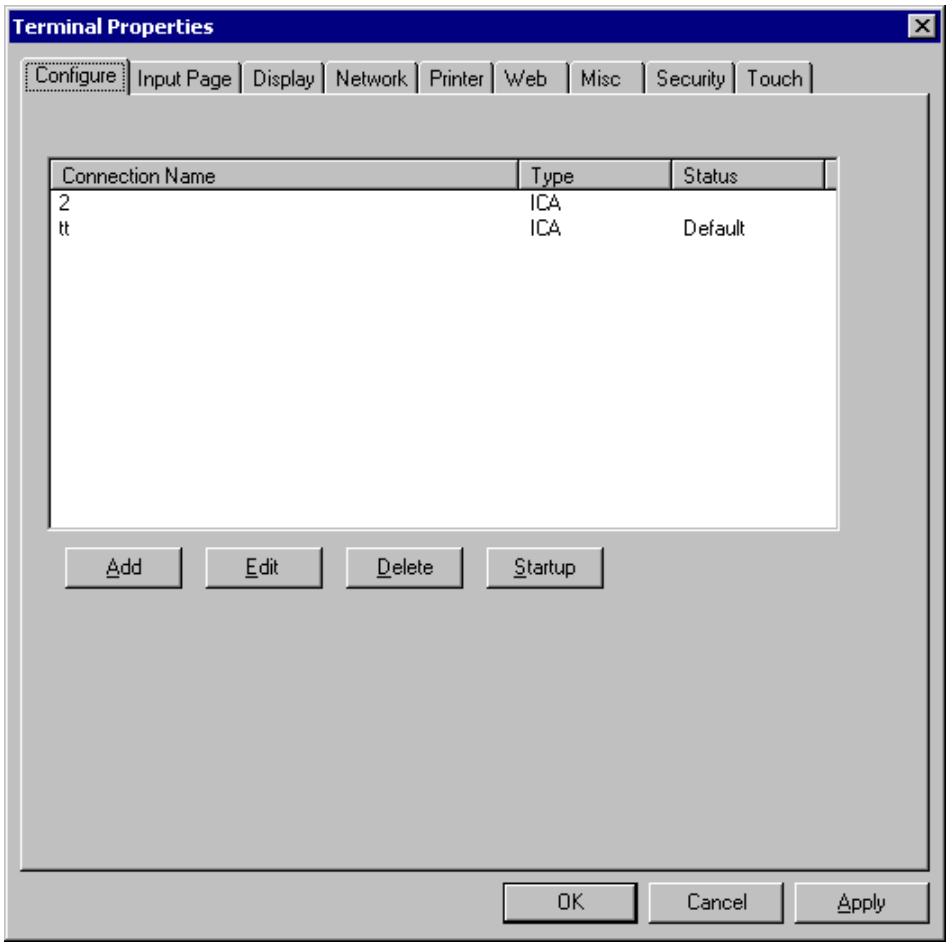

In the above dialog-box, you can define settings for the firewall in the network.

- **Use alternate address through firewalls**: Select this check-box to browse for Citrix servers or published applications that are inside a firewall, from a client outside the firewall. The firewall and the Citrix servers must be configured to map the internal network addresses of Citrix servers to external Internet addresses.
- **SOCKS** (*Socket Secure*) is a **protocol** that controls access between networks. A SOCKS enabled server authenticates requests, before allowing hosts on one side of the server to access hosts on the other side. Data is relayed through a 'proxy' or intermediate connection.
  - **Connect via SOCKS proxy**: Select this check-box to enable the **Address of proxy to use** and **Port** fields.
  - **Address of proxy to use**: Provide the IP address of the SOCKS proxy server.
  - **Port**: Provide the port number for the proxy connection.

17. Click **Next>** to proceed. The following dialog-box is displayed.

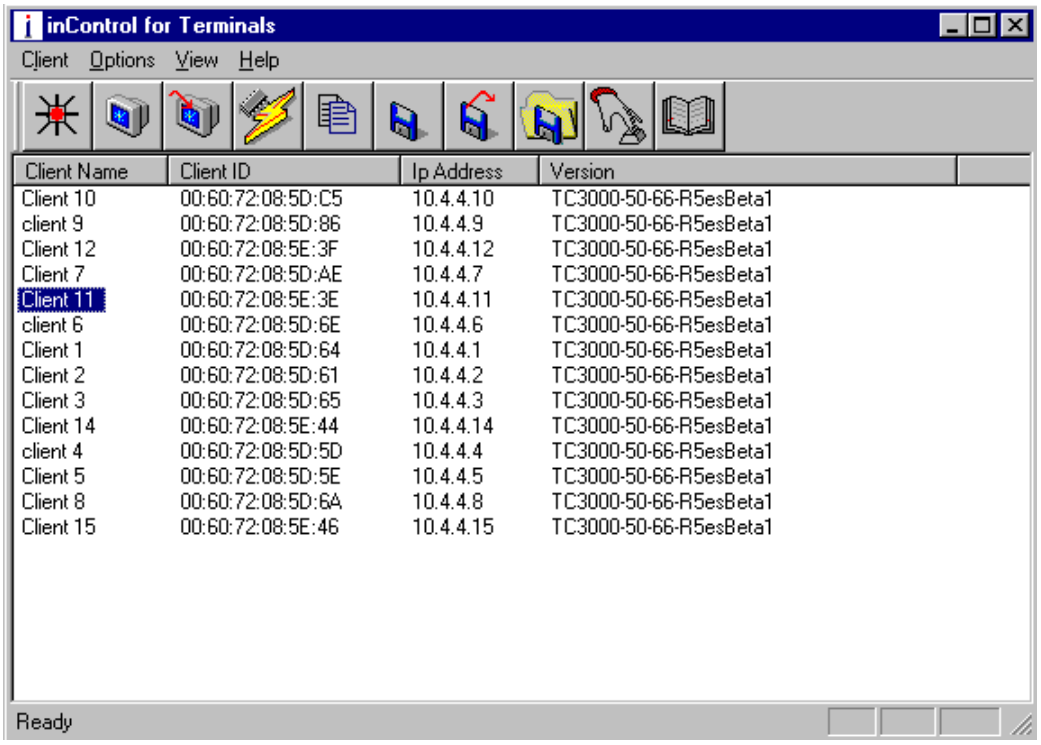



18. Enter a name for the new ICA connection and click **Finish** to complete creation of the ICA connection. The **Terminal Properties** dialog-box is displayed, with the new connection entry added to the existing ones.



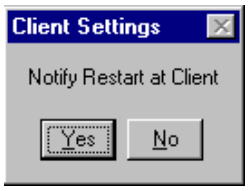
**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 19, YOU MUST PERFORM STEP 20 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

19. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

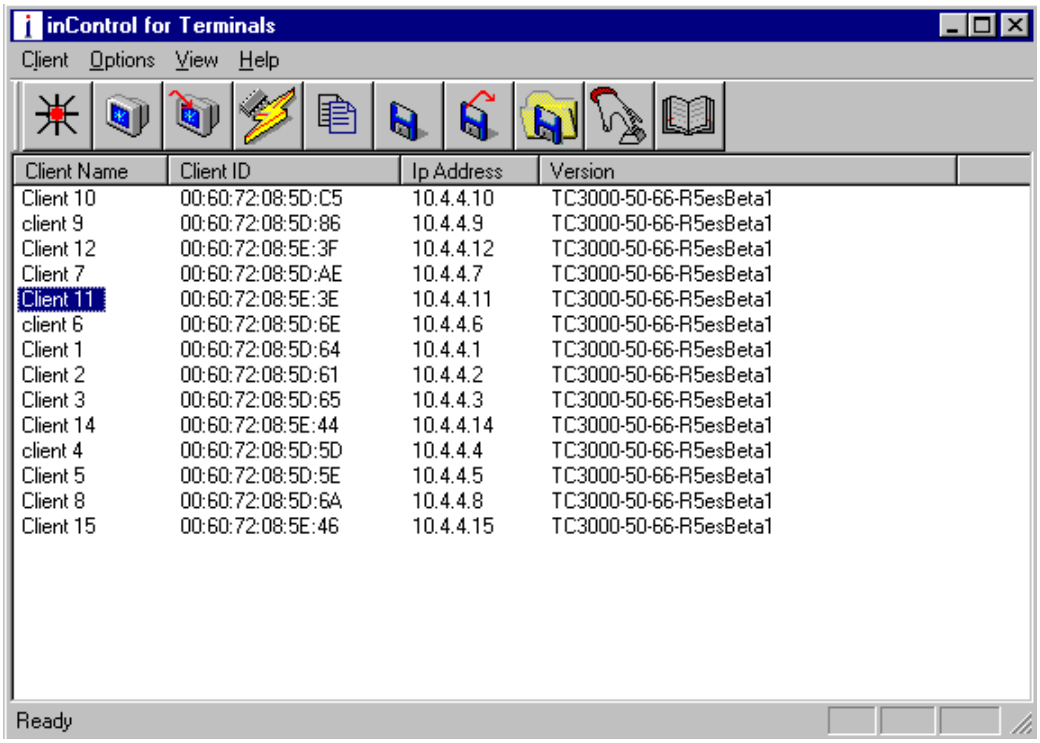
- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.

- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

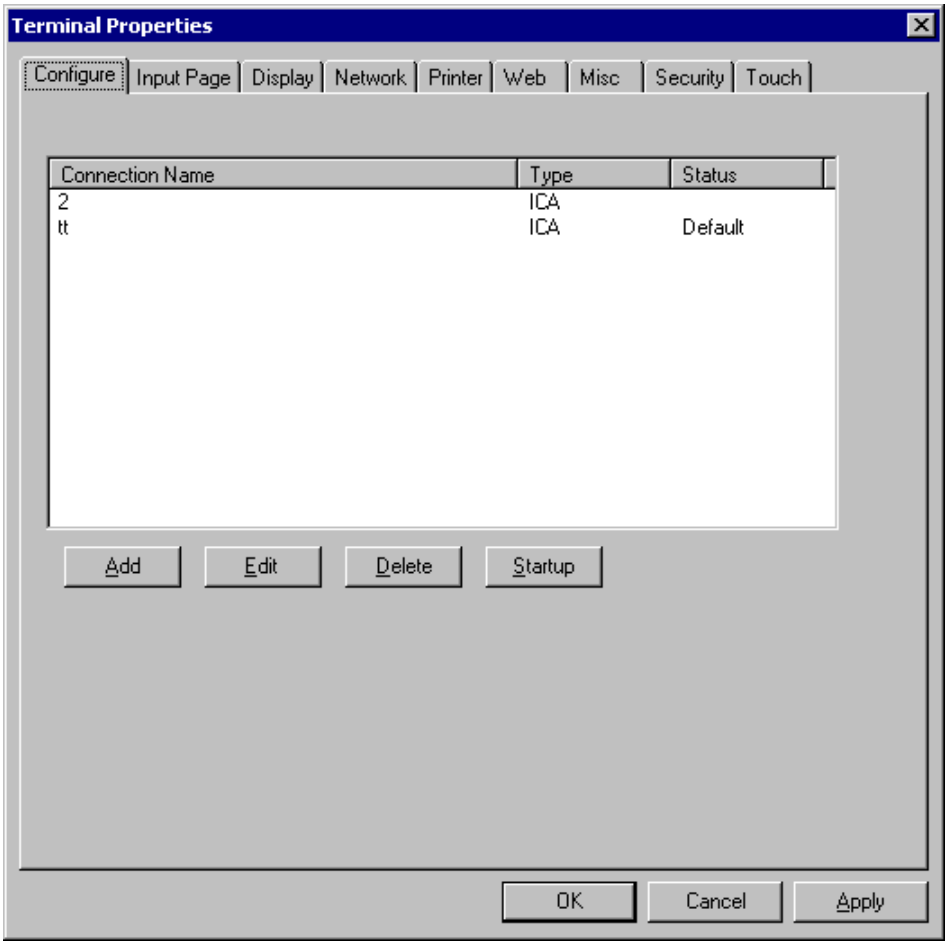
# Creating Dialup ICA Connections

**NOTE**: DIAL-UP ICA CONNECTIONS CAN BE CREATED ONLY TO METAFRAME SERVERS. YOU CANNOT CREATE DIAL-UP CONNECTIONS TO SERVERS WITH CDS (*CITRIX DEVICE SERVICES*).

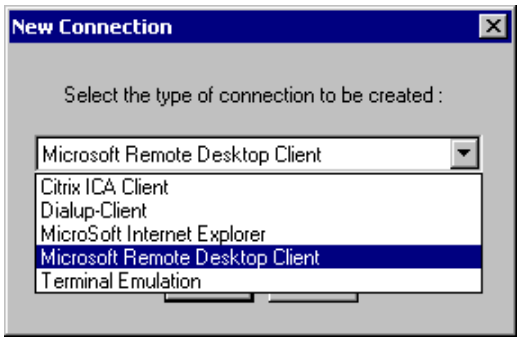
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



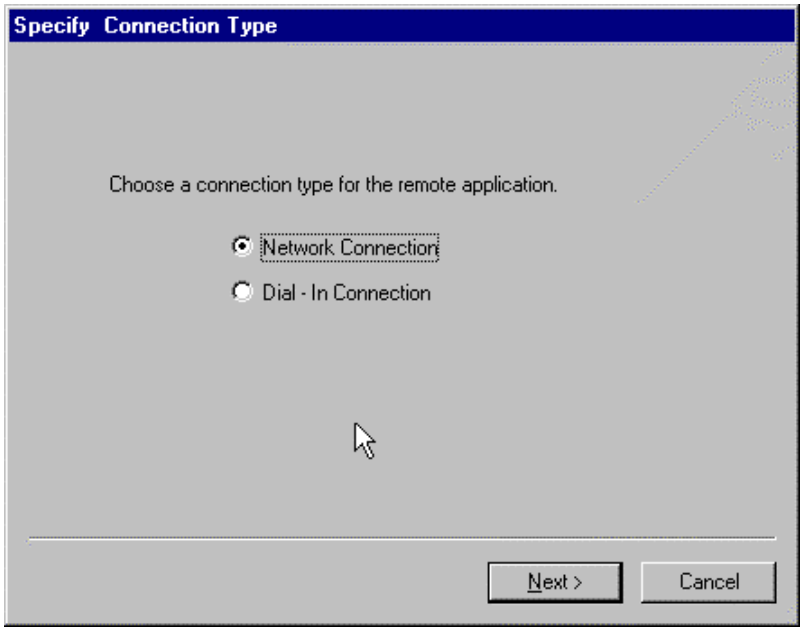

1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads the registry information of the client to its internal database and displays the following screen.



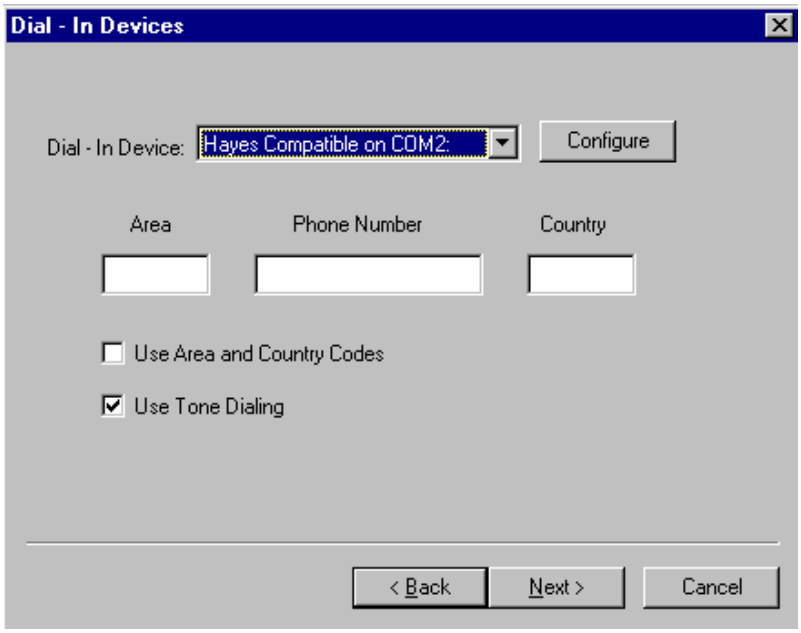

4. Click **Add**. The **New Connection** dialog-box is displayed.



5. Select **Citrix ICA Client** from the drop-down list. Click **OK**. The following dialog-box is displayed.

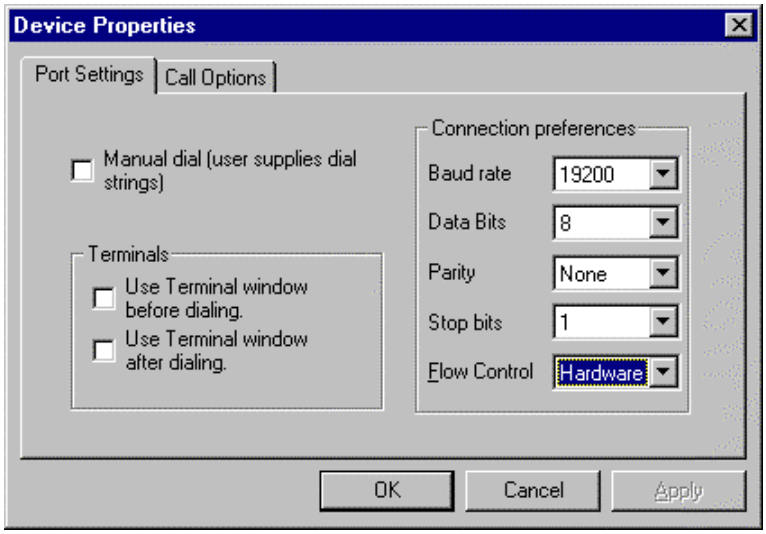



6. Select the **Dial - In Connection** option and click **Next>**. The following dialog-box is displayed.




7. Select a dial-in device from the **Dial - In Device** drop-down list.

8. Click the **Configure** button. The **Device Properties** dialog-box is displayed.




The above dialog-box has two tabs: **Port Settings** and **Call Options**.

9. Select the **Port Settings** tab.

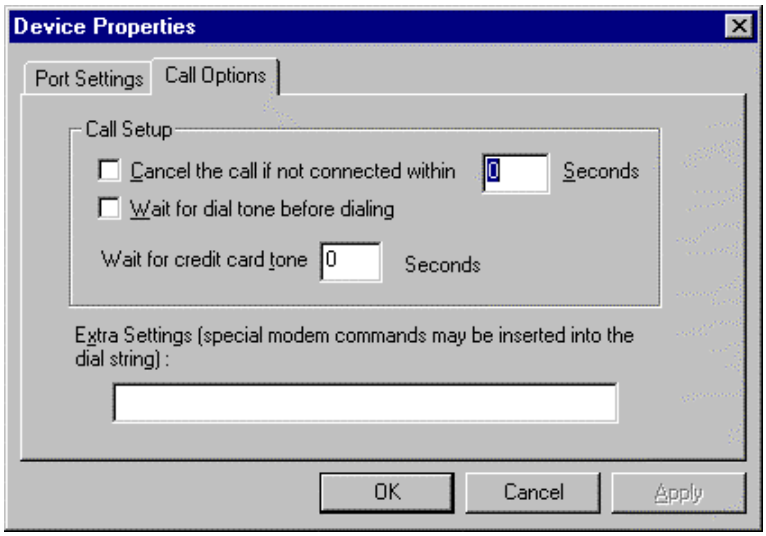
**Manual dial**: Select this check-box, if you want to provide dial strings while attempting a dial-up connection.

**NOTE**: MANUAL DIALING IS NOT CURRENTLY SUPPORTED.

**Terminals**

- **Use terminal window before** dialing: If you select this check-box, the terminal window is displayed before connection is established. If the **Manual Dial** is selected, you can provide dial strings in this window.
- **Use terminal window after** dialing: If you select this check-box, the terminal window is displayed after the connection is established, prompting you for logon information.
- **Connection preferences**: Select the settings for Baud Rate, Data Bits, Parity, Stop Bits and Flow Control.

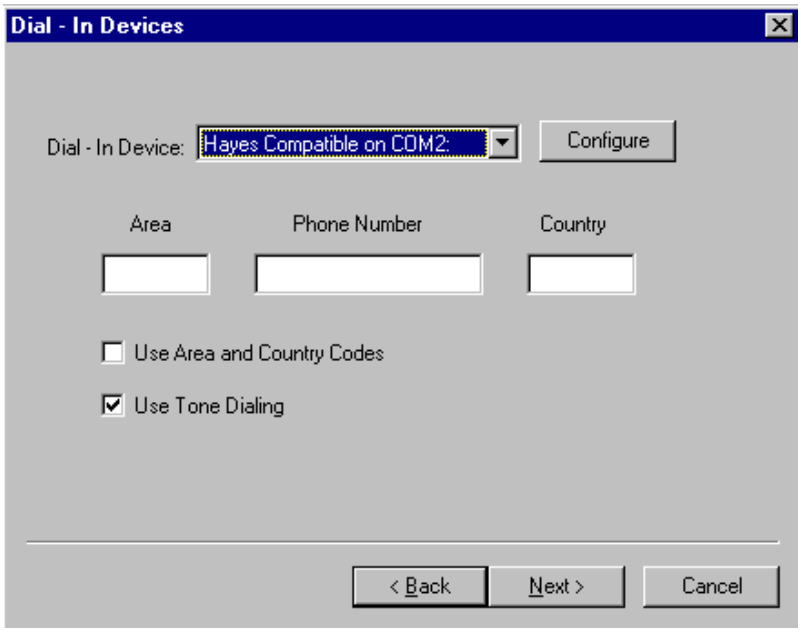
10. Select the **Call Options** tab.



- **Cancel the call if not** connected **within … seconds**: If you want the call to be cancelled when the connection is not established within a specified time limit then, select this check-box and specify the duration after which the call must be cancelled.
- **Wait for dial tone before dialing**: Select this check-box, if you want the dial-in device to wait for a dial tone before dialing.
- **Wait for credit card tone**… **seconds**: In this text field, specify the duration for which the terminal has to wait for a credit card tone.
- **Extra Settings**: In this text field, you can provide special modem commands.

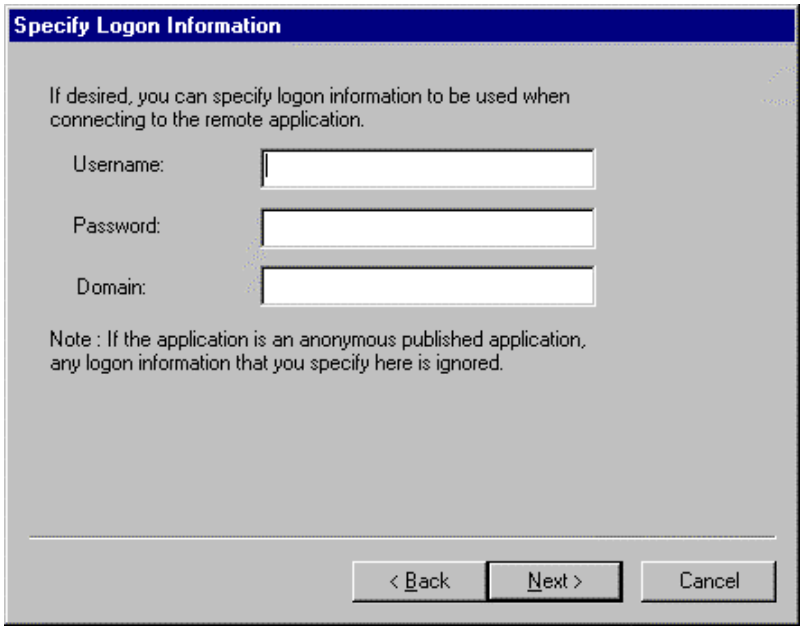
**NOTE**: IF YOU PROVIDE INPUT IN THIS FIELD, YOU **MUST** ALSO SELECT THE **MANUAL DIAL** CHECK-BOX IN THE **PORT SETTINGS** TAB. OTHERWISE THE EXTRA SETTINGS WILL NOT BE DISPLAYED AT THE CLIENT.

11. After configuring the dial-in device, click **OK** to return to the **Dial-In Devices** dialog-box.




- Provide appropriate information in the **Area, Phone Number and Country** fields.
- If the area code and country-code are to be included in the dial string, select the **Use Area and Country Codes** check-box.
- By default, the client uses tone dialing. To use pulse dialing, deselect the **Use Tone Dialing** check-box.

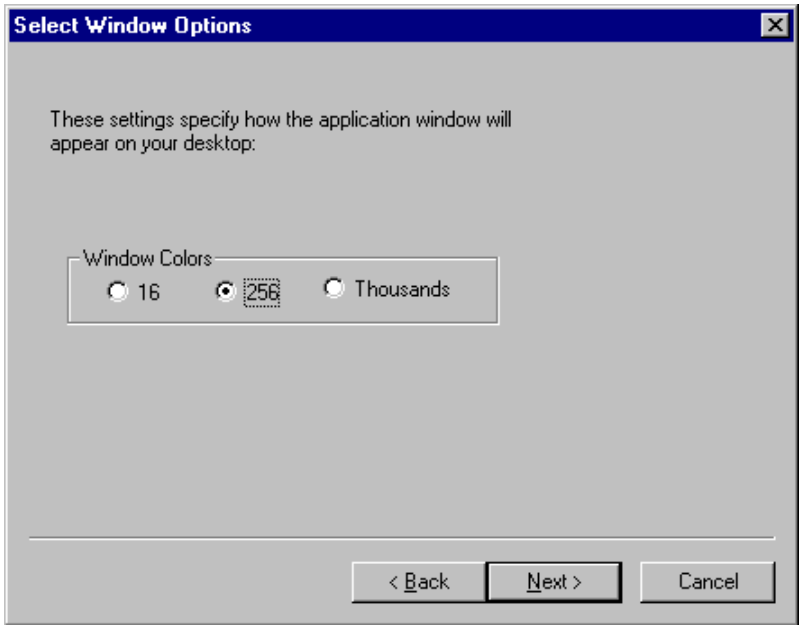
12. Click the **Next>** button to proceed. The **Specify Logon Information** dialog-box is displayed.




13. Provide the **Username**, **Password** and **Domain** information to be used if you want the client to automatically logon to the server when the connection is established.

**NOTE**: IF YOU LEAVE THE FIELDS IN THIS DIALOG-BOX BLANK, OR IF YOU PROVIDE INVALID INPUT, A LOGON PROMPT WILL BE DISPLAYED WHEN YOU TRY TO CONNECT TO THE SERVER.

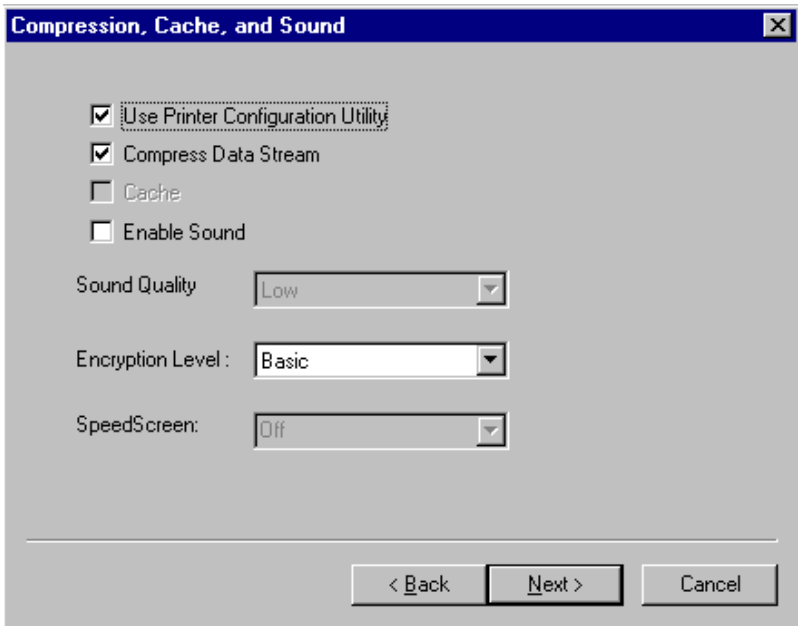
14. Click the **Next>** button to proceed. The **Select Window Options** dialog-box is displayed.




15. In this dialog-box, you can configure the color depth for the display. The available options are **16** colors, **256** colors and **Thousands** (16-bit or 65K colors).

**NOTE**: INCONTROL SUPPORTS THE **Thousands** (65K COLOR) OPTION FOR CLIENTS WITH FIRMWARE VERSION EQUAL TO OR HIGHER THAN TC3000-40-43 AND TC3000-50-66.

16. Click the **Next>** button to proceed. The **Compression…** dialog-box is displayed.




- **Use Printer Configuration Utility**: This option is selected by default. It allows the printer port of the client to be accessed by ICA users in the network.

  If the connection you are creating is to a server with MetaFrame versions 1.8 and above, ensure that this option is selected. Otherwise, the printer port of the client cannot be accessed.

  If the connection you are creating is to a server with MetaFrame 1.0 or CDS, you **must** disable this option. Otherwise, the printer port of the client cannot be accessed.

- **Compress Data Stream**: This setting causes data to be compressed before transmission, thus optimizing the bandwidth usage. Note that while data compression reduces the transmission time, it consumes more processor resources.

- **Cache**: This feature is not currently supported.

- **Enable Sound**: The client supports audio when it is connected to MetaFrame servers. Select this check-box to enable sound. You can set the audio quality from the **Sound Quality** drop-down list.

**NOTE**: THIS SETTING HAS NO EFFECT IF THE CONNECTION YOU ARE CREATING IS TO A SERVER THAT HAS CDS (*CITRIX DEVICE SERVICES*).

- **Encryption Level**: Data Encryption is not supported by servers that have CDS (*Citrix Device Services*). To use data encryption, **Citrix MetaFrame** (including the **Secure ICA** service) must be installed on the server.

  If you specify encryption for a connection to a server that does not have MetaFrame, the following error message is displayed when you try to start the connection:
  'Your Citrix server does not support the encryption you required'.

**NOTE**: THE SECURE ICA SERVICE **MUST BE INSTALLED SEPARATELY** ON SERVERS WITH THE FOLLOWING METAFRAME VERSIONS.

- METAFRAME 1.X ON WINDOWS NT TSE SERVER
- METAFRAME 1.8 ON WINDOWS 2000 SERVER

THE SECURE ICA SERVICE **IS INSTALLED BY DEFAULT** ON SERVERS WITH THE FOLLOWING METAFRAME VERSIONS.

- METAFRAME 1.8 WITH FEATURE RELEASE 1
- METAFRAME XP

The default selection is **Basic**. At present, the other options are not supported. The other options are: **RC5 (128 bit – Login Only)**, **RC5 (40 bit)**, **RC5 (56 bit)** and **RC5 (128 bit)**. The following table shows the valid client encryption levels corresponding to the encryption level defined for the server. Select the appropriate level from the drop-down list.

**NOTE**: IF YOU SELECT AN INVALID ENCRYPTION LEVEL, THE CLIENT WILL NOT BE ABLE TO CONNECT TO THE SERVER.

**Valid Client-Server encryption levels**

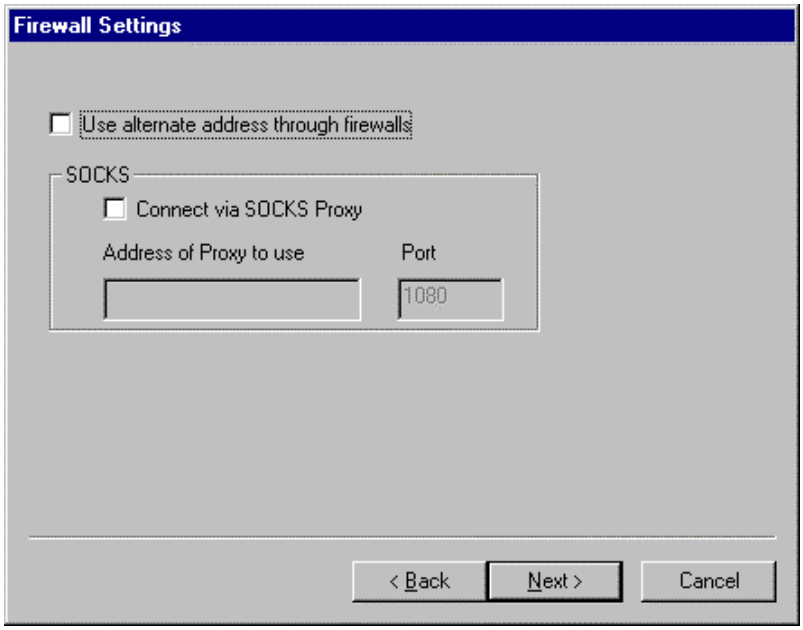
| *Encryption level defined for the server* | *Client Encryption level* | | | |
|---|---|---|---|---|
| | ***Basic*** | ***40-bit*** | ***56-bit*** | ***128-bit*** |
| Basic | Valid | Valid | Valid | Valid |
| 40-bit | Not valid | Valid | Valid | Valid |
| 56-bit | Not valid | Not valid | Valid | Valid |
| 128-bit | Not valid | Not valid | Not valid | Valid |

- **SpeedScreen**: MetaFrame 1.8 FR-1, MetaFrame-XP and above include a feature to reduce keystroke and mouse-click latency. Latency is the delay between a keystroke (*or mouse-click*) and the corresponding change on the screen. This drop-down list allows you to specify whether you want to use the SpeedScreen feature of the MetaFrame server.

**NOTE**: INCONTROL SUPPORTS THIS FEATURE FOR CLIENTS WITH FIRMWARE VERSION EQUAL TO OR HIGHER THAN TC3000-40-43 AND TC3000-50-66.

  - **Off**: This is the default setting. The client will not benefit from the SpeedScreen feature of the server.
  - **On**: The server manages keystroke and mouse-click latency at the client to provide improved and consistent performance.
  - **Auto**: The server manages keystroke and mouse-click latency, if the latency is within the upper and lower threshold-limits specified at the server.

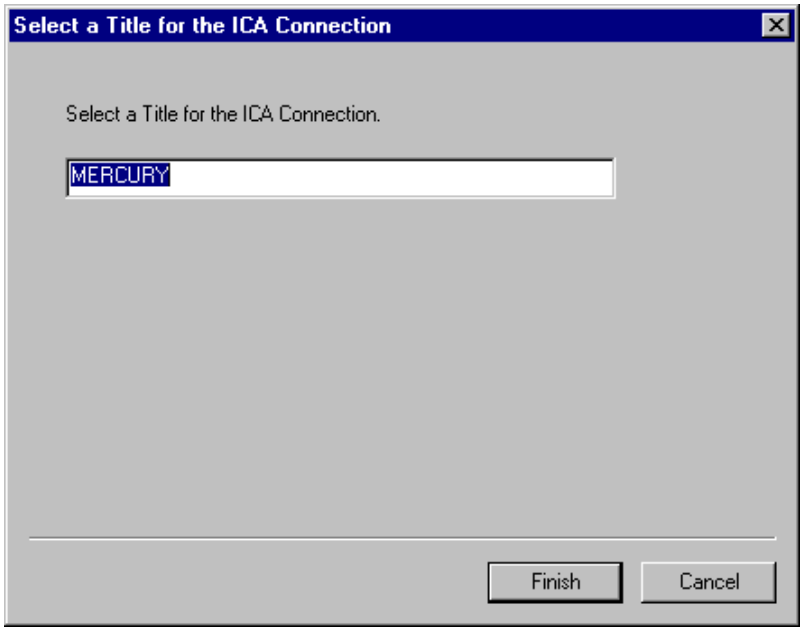
17. Click **Next>** to proceed. The **Firewall Settings** dialog-box is displayed.




In this dialog-box, you can define settings for the firewall in the network.

- **Use alternate address through firewalls**: Select this check-box to browse for Citrix servers or published applications that are inside a firewall, from a client outside the firewall. The firewall and the Citrix servers must be configured to map the internal network addresses of Citrix servers to external Internet addresses.
- **SOCKS** (*Socket Secure*) is a protocol that controls access between networks. A SOCKS enabled server authenticates requests, before allowing hosts on one side of the server to access hosts on the other side. Data is relayed through a 'proxy' or intermediate connection.
    - **Connect via SOCKS proxy**: Select this check-box to enable the **Address of proxy to use** and **Port** fields.
    - **Address of proxy to use**: Provide the IP address of the SOCKS proxy server.
    - **Port**: Provide the port number for the proxy connection.

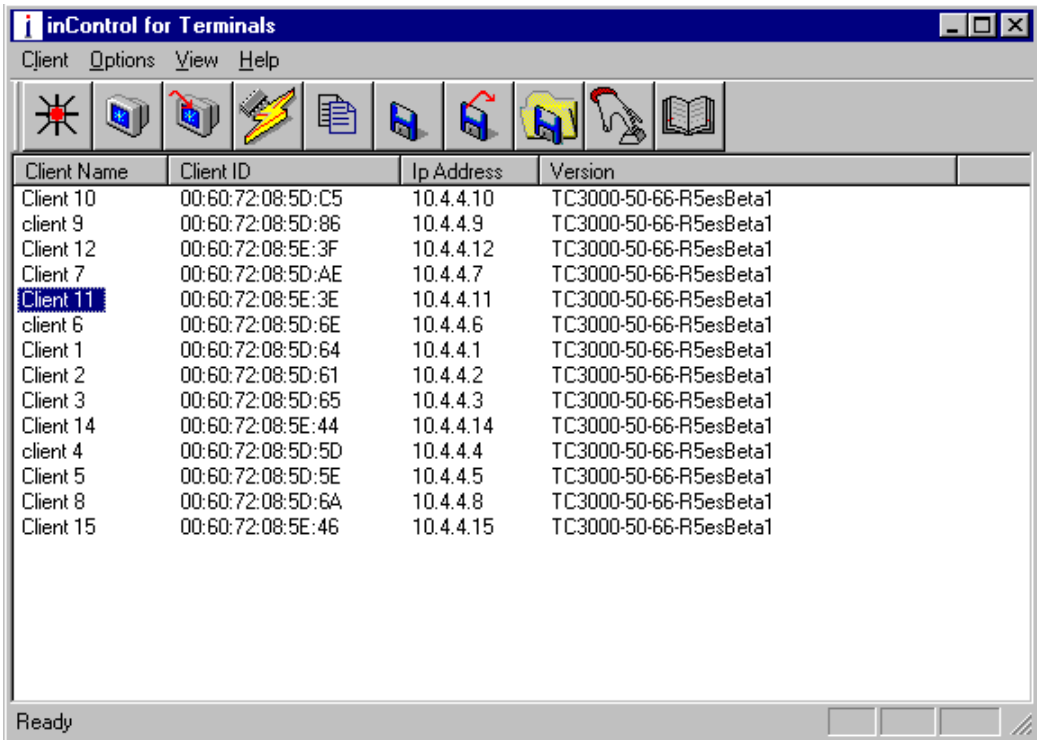
18. Click **Next>** to proceed. The **Select a Title for the ICA Connection** dialog-box is displayed.




19. Provide a name for the new ICA connection and click **Finish** to complete creation of the ICA connection. The **Terminal Properties** dialog-box is displayed, with the new connection entry added to the existing ones.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

20. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 20, YOU MUST PERFORM STEP 21 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

21. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

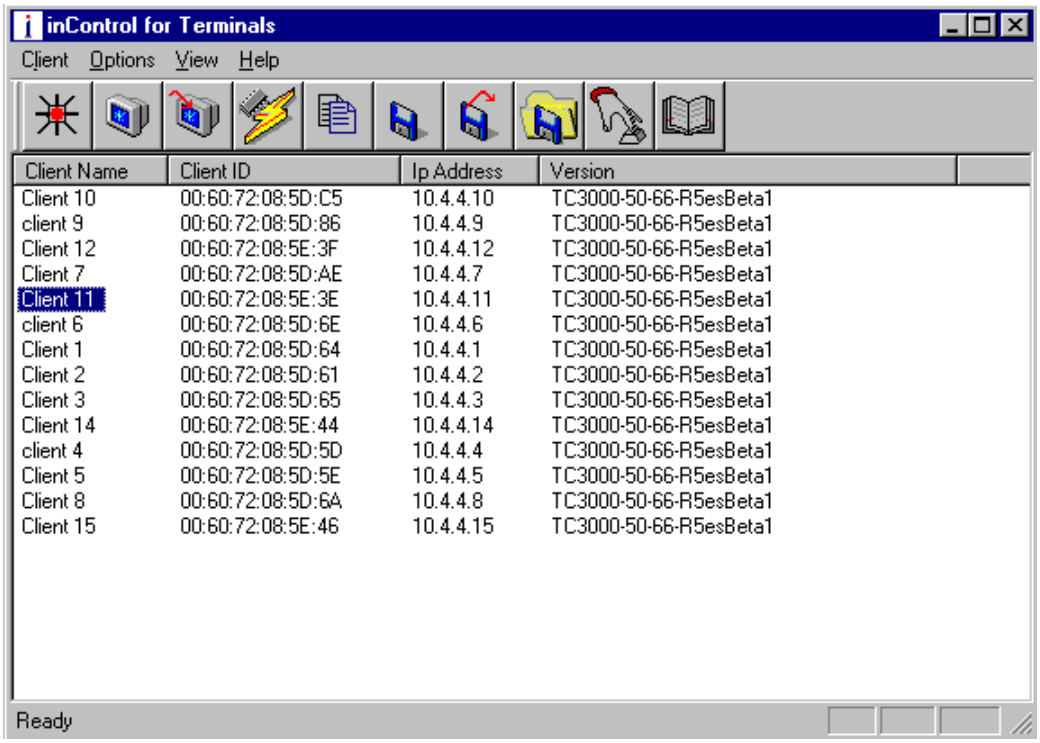
After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

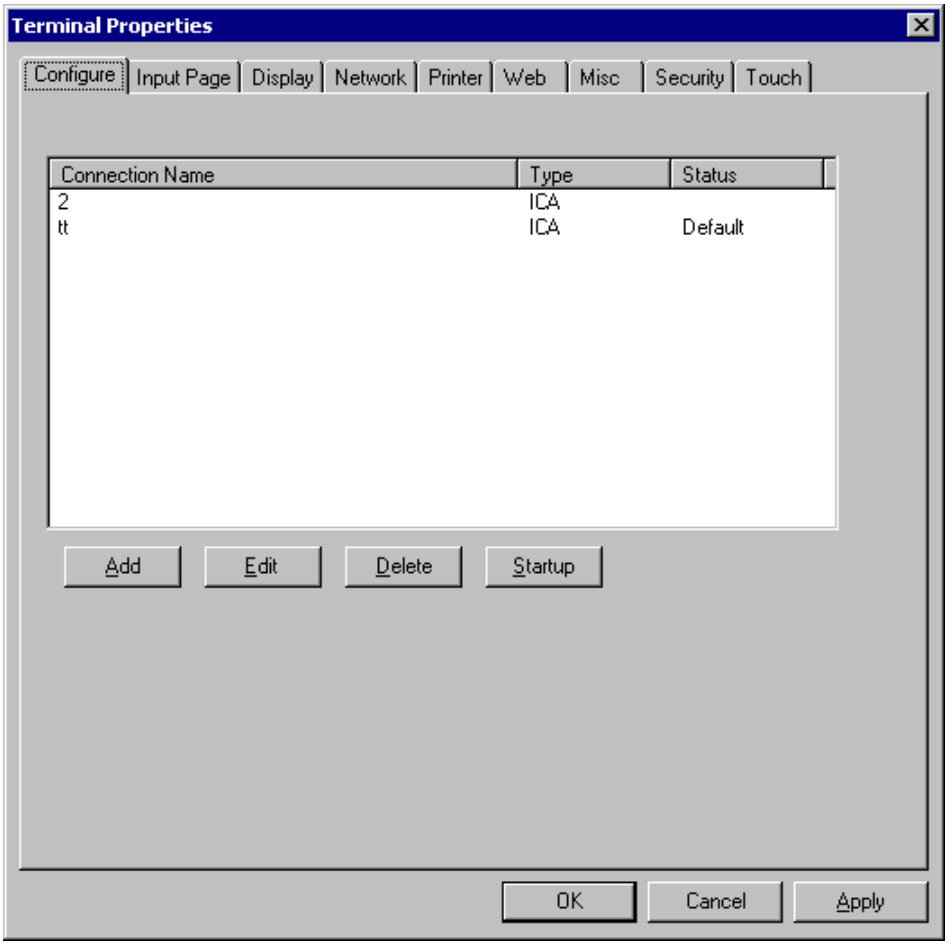
# Creating Dialup (PPP) Connections

This section describes the procedure to configure dial-up parameters for PPP (*Point-to-Point Protocol*) connections

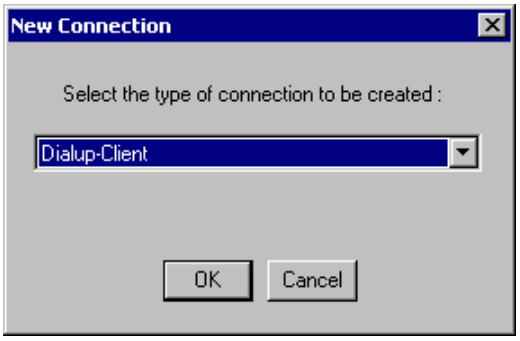
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



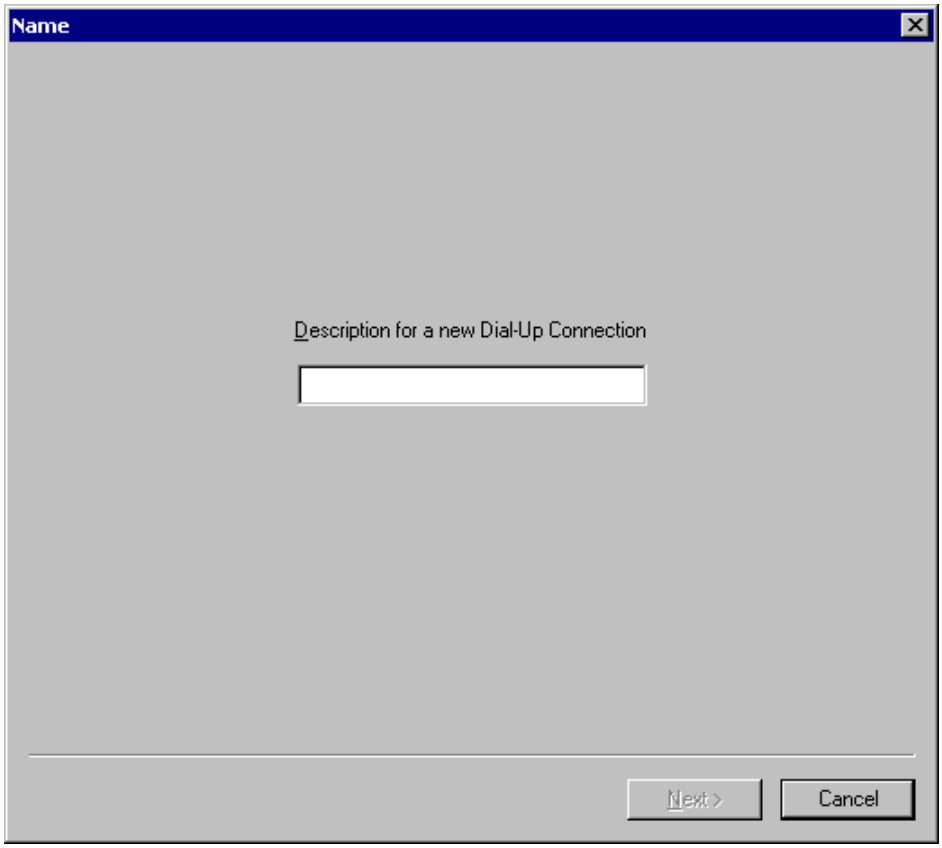

1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, select the **Setup** option from the **Client** menu, or click the  icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads the registry information of the client to its internal database and displays the following screen.



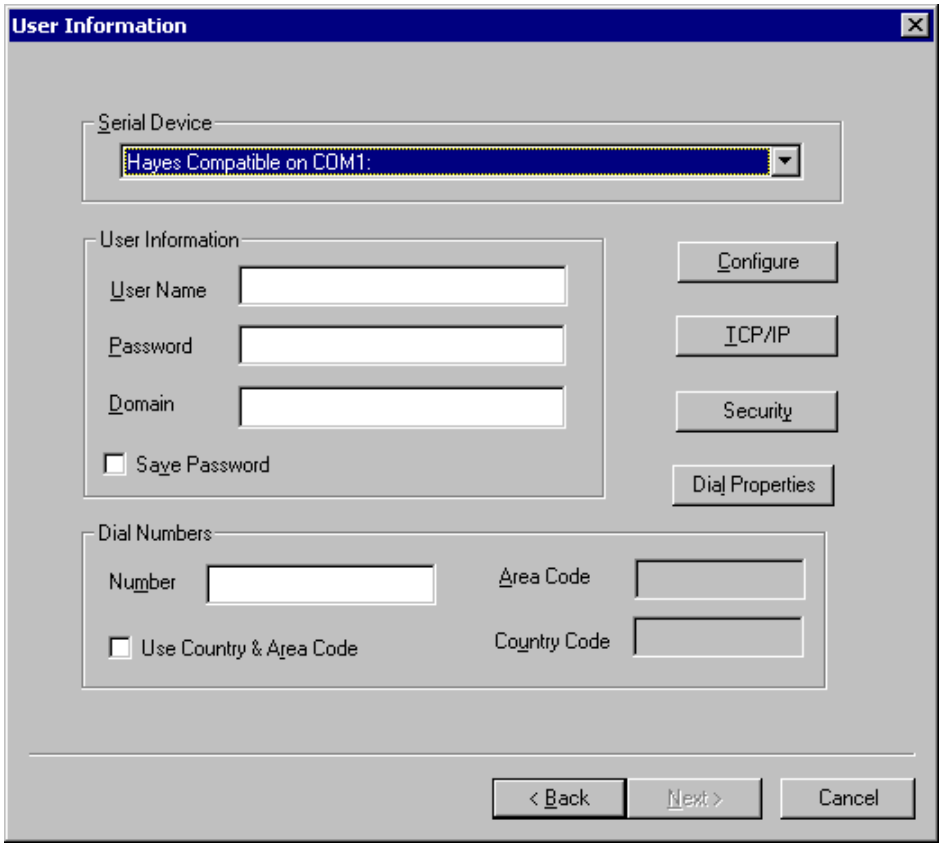

4. Click Add. The New Connection dialog box appears.




5. Select Dialup-client from the drop-down list. Click **OK.**

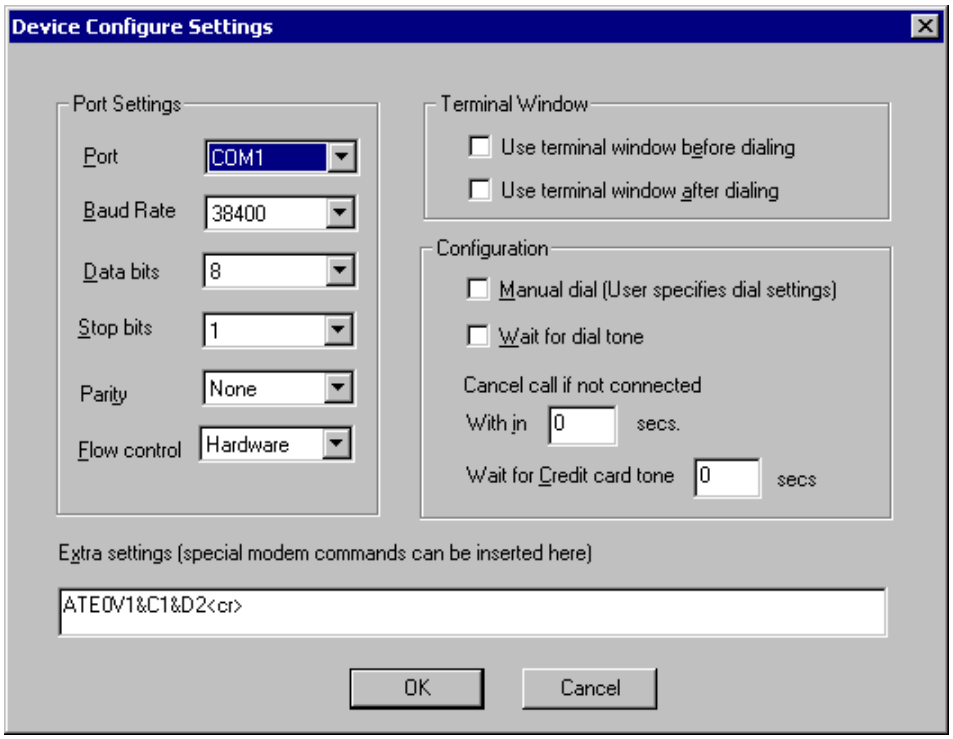



6. Enter a name for the PPP connection. Click **Next**. User Information dialog box appears.



- **Serial Device**: Select a serial device to be used for the PPP connection.
- **User Information**: In this group of fields, you can provide the **Username**, **Password** and **Domain** to be used to automatically logon to the server after the PPP connection is established. If you want the password to be saved, select the **Save Password** check-box. If you do not select the **Save Password** check-box, a password-prompt will be displayed every time you start the connection.
- **Dial Numbers**: Provide the telephone number to be dialed in the **Number** field. If you want to specify the country- and area- code, select the **User Country and Area Code** check-box and provide appropriate input in the **Area Code** and **Country Code** fields.

7. Click **Configure** to define parameters for serial devices. The **Device Configure Settings** dialog-box is displayed.




- **Port Settings**: Select appropriate settings for the COM port (*Port, Baud Rate, Data Bits, Stop Bits, Parity and Flow Contro*l) from this group of drop-down lists.
- **Use terminal window before dialing**: If you select this check-box, the terminal window is displayed *before* the connection is established.
- **Use terminal window after dialing**: If you select this check-box, the terminal window is displayed *after* the connection is established, prompting you for logon information.
- **Manual Dial (User Specifies Dial Strings)**: Select this check-box if you want to provide dial-strings while attempting a dial-up connection.

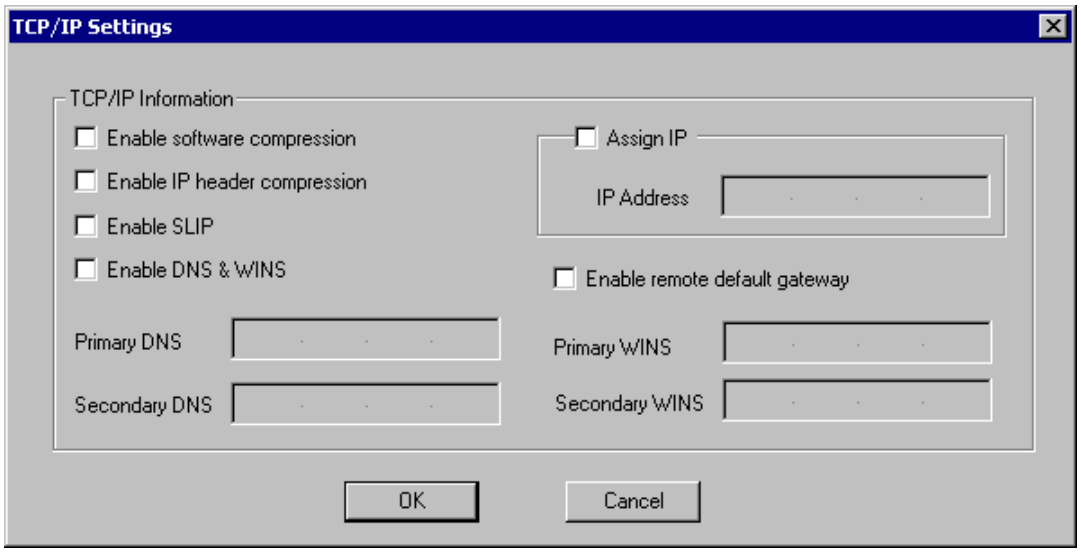
**NOTE**: MANUAL DIALING IS CURRENTLY NOT SUPPORTED.

- **Wait for dial tone**: Select this check-box if you want the dial-in device to wait for a dial tone before dialing.
- **Cancel the call if not connected within … seconds**: In this field, specify the time limit after which the call should be cancelled, if it does not connect.
- **Wait for credit card tone**… **seconds**: In this field, specify the duration for which the terminal has to wait for a credit card tone.
- **Extra Settings**: In this field, you can provide special modem commands.

**NOTE**: IF YOU PROVIDE INPUT IN THIS FIELD, YOU MUST ALSO SELECT THE **MANUAL DIAL** CHECK-BOX.

After configuring the serial device, click **OK** to return to the **Dial-Up Connection Wizard**.

8. Click **TCP/IP** to configure the TCP/IP settings. The following dialog-box is displayed.




- **Enable Software Compression**: This setting causes data to be compressed before transmission, thus optimizing the bandwidth usage. Note that while data compression reduces the transmission time, it consumes more processor resources.
- **Enable IP Header Compression**: Select this check-box to enable compression of the IP header.
- **Enable SLIP**: Select this check-box to enable support for Serial Line Internet Protocol .
- **Assign IP**: If the remote system administrator has issued a fixed IP address for the connection, select this check-box and enter the IP address in the **IP Address** field. On the other hand, if the remote host provides IP addresses dynamically, do not select this check-box.
- **Enable Remote Default Gateway**: Select this check-box to enable use of the default gateway of the remote network.
- **Enable DNS And WINS**
  Select this check-box if your network has DNS or WINS servers and if want to use them. When this check-box is selected, the following fields will also be enabled.

  **Primary DNS**: provide the IP address of the primary DNS server in your network.

  **Secondary DNS**: provide the IP address of the secondary DNS server in your network.

  **Primary WINS**: Provide the IP address of the primary WINS Server.

  **Secondary WINS**: Provide the IP address of the secondary WINS Server.

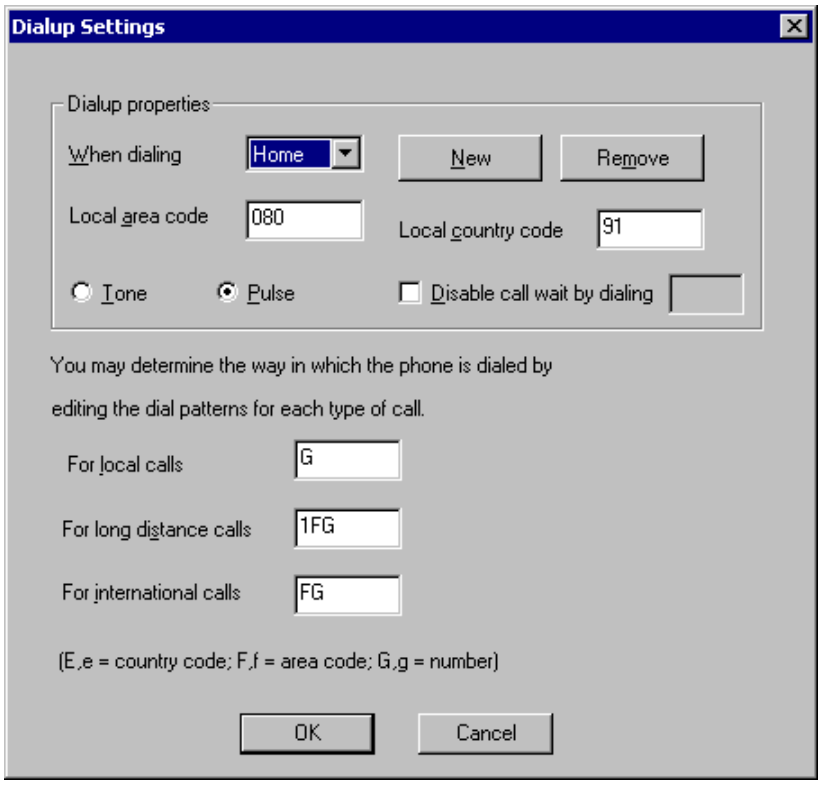
After configuring TCP/IP settings, click **OK** to return to the **Dial-Up Connection Wizard**.

9. Click the **Security** button to configure settings for password encryption. The **Security** dialog-box is displayed.


- **Authenticate Clear Text**: Select this radio-button if the password must be accepted as a string of normal characters.
- **Accept Encrypted Password**: Select this radio-button if the password must be accepted in the standard encryption format.
- **Accept Microsoft Password**: Select this radio-button if the password must be accepted in the Microsoft encryption format.

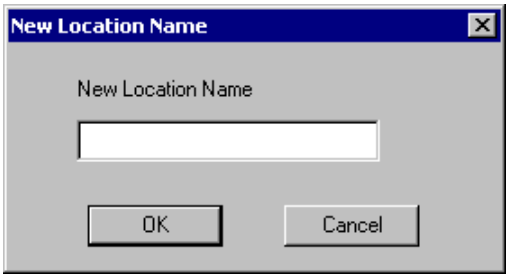
Click **OK** to return to return to the **Dial-Up Connection Wizard**.

10. Click the **Dial Properties** button to configure dialing properties. The **Dialup Settings** dialog-box is displayed.



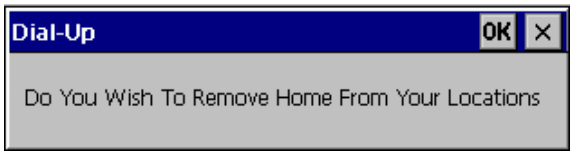

With the above dialog-box, you can create, configure and delete dialing locations.

- To create a location, click **New**. The following dialog-box is displayed.




Provide a name for the new location and click **OK** to return to the **Dialup Settings** dialog-box.

- To remove a location, select it from the **When dialing** drop-down list and click **Remove**. The following prompt is displayed.

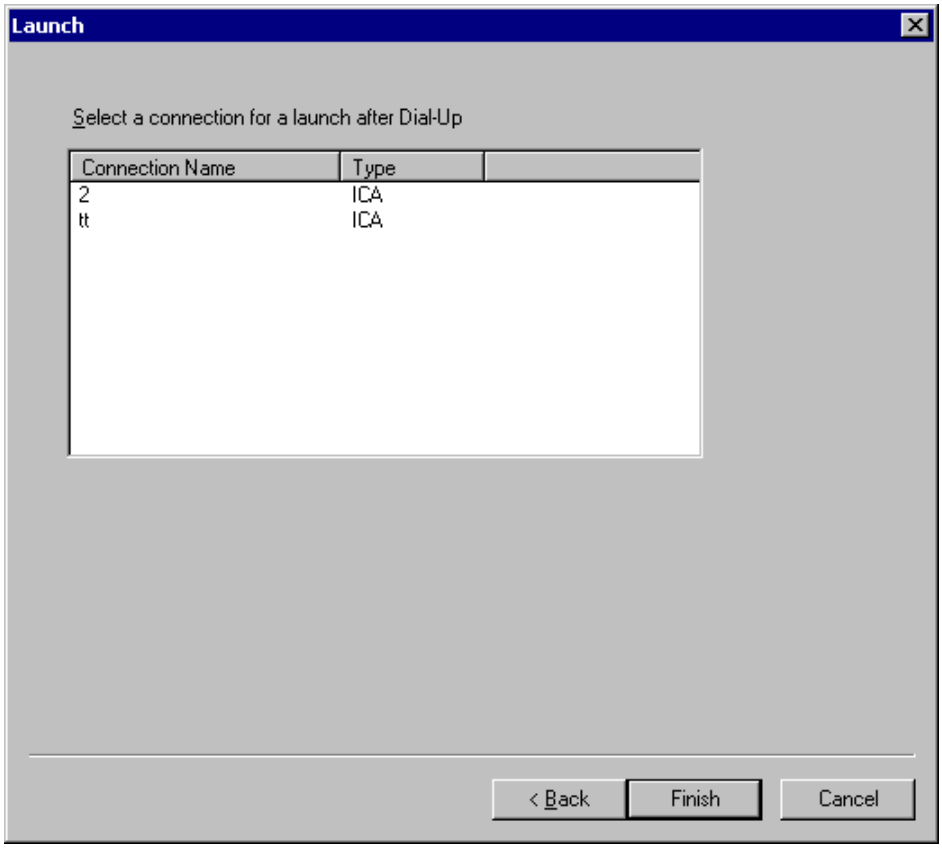



Click **OK** to confirm removal and return to the **Dialup Settings** dialog-box.

**NOTE**: YOU CANNOT REMOVE THE DEFAULT **HOME** AND **WORK** DIALING LOCATIONS.

11. To configure properties of a dialing location,
    - Select the required location from the **When dialing** drop-down list
    - Enter the area code and country code in the **Local Area Code** and **Local Country Code** fields respectively.
    - Specify whether the dial-up device should use **Tone** or **Pulse** dialing by selecting the appropriate radio-button.
    - To disable the call-waiting function, select the **Disable Call Wait By Dialing** check-box and specify the number to be dialed.
    - In the **For Local Calls**, **For Long Distance Call** and **For International Calls Dial** fields, specify the dialing sequence by either entering the appropriate number sequence, or by using the codes listed at the bottom of the dialog-box.

    After configuring the dialing locations, click **OK** to return to the **Dial-Up Connection Wizard.**
12. Click **Next>** to proceed. The following dialog-box is displayed.

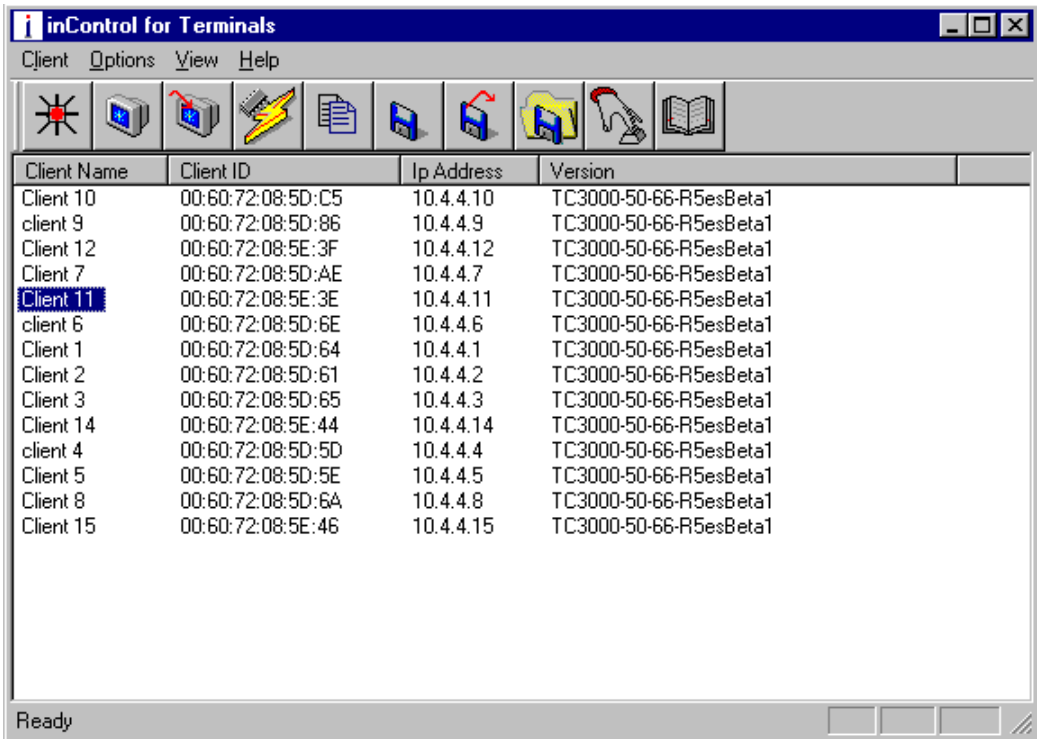



13. The above dialog-box lists the available connection entries. Highlight the connection that must be started using the dial-up link and click **Finish.**

    The **Terminal Properties** dialog-box is displayed, with the new connection entry added to the existing ones.

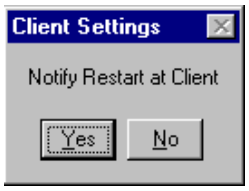
    **At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

14. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 14, YOU MUST PERFORM STEP 15 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

15. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

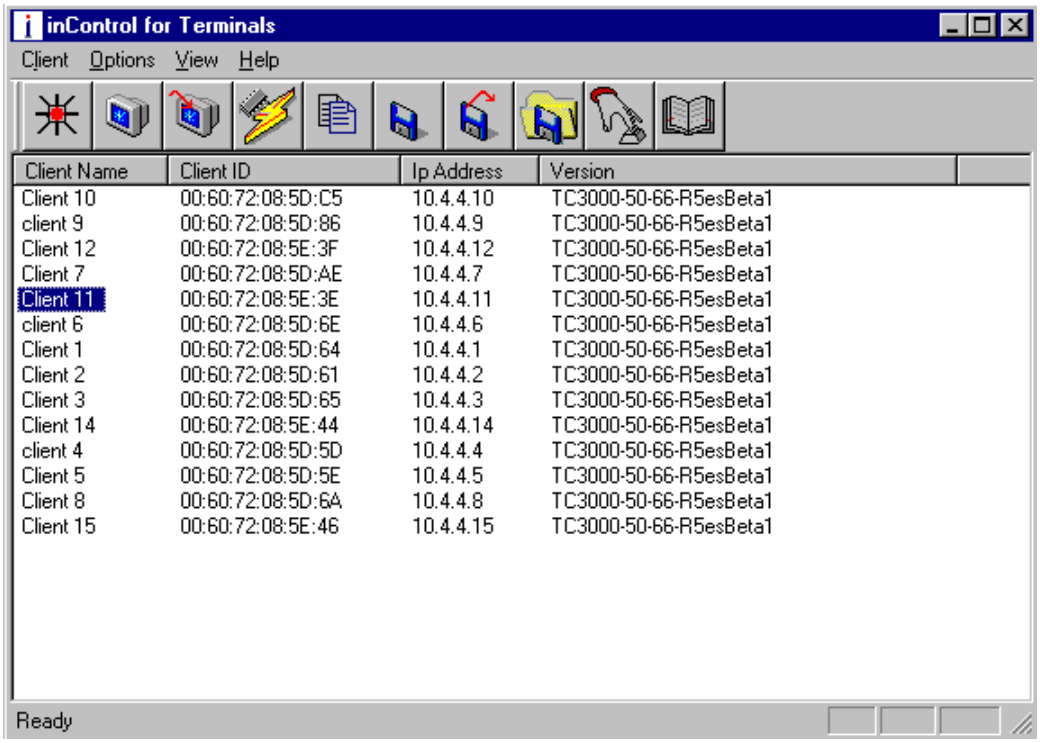
After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

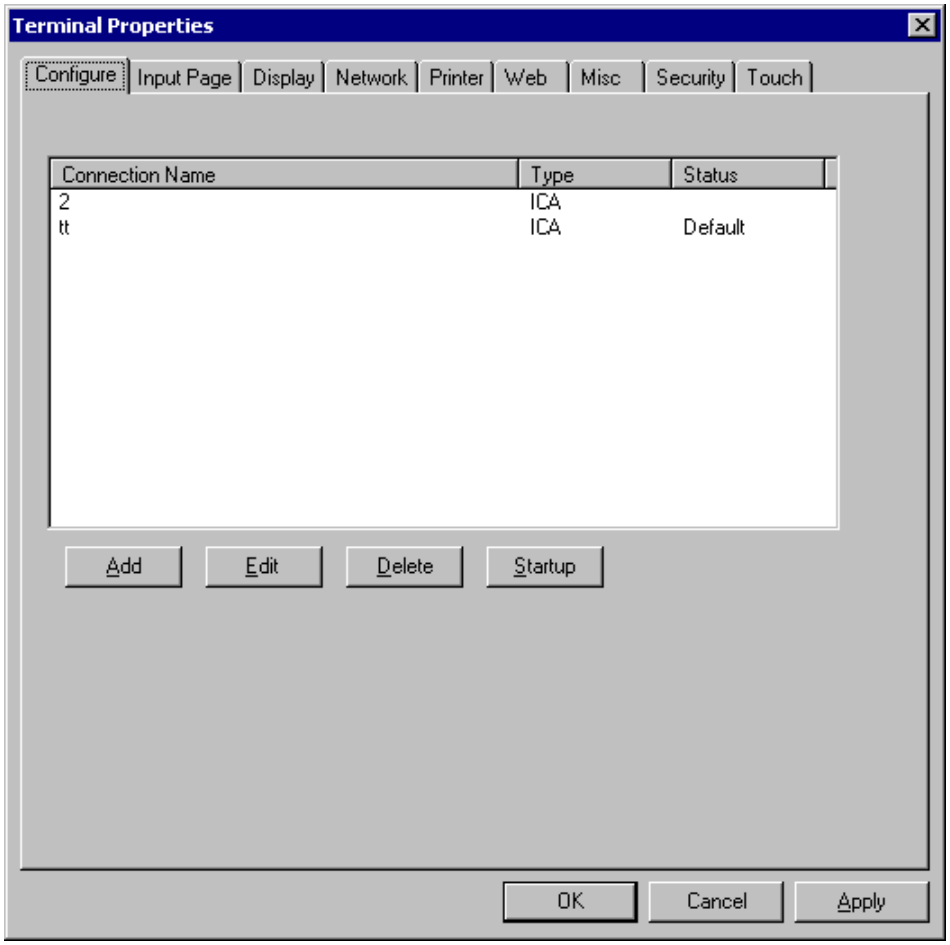
## Creating TCP/IP Microsoft Internet Explorer Connection

This section describes the procedure to configure the browser parameters to open the Microsoft Internet Explorer browser session. The firmware of the client includes Microsoft Internet Explorer 4.01.

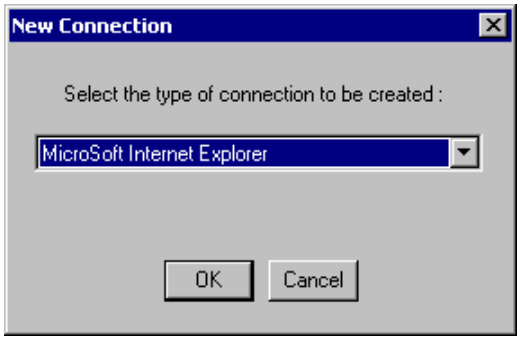
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



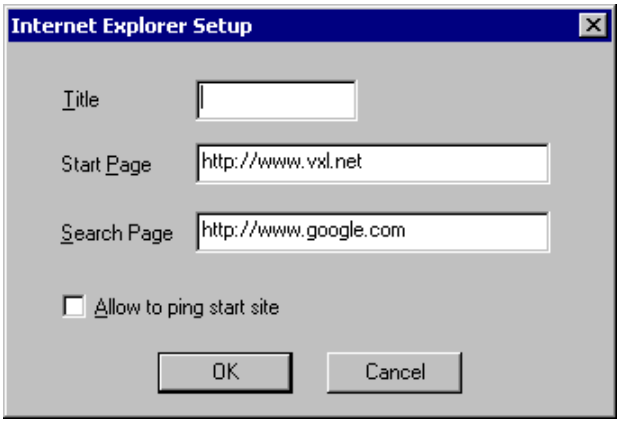

1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, select the **Setup** option from the **Client** menu, or click the icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads the registry information of the client to its internal database and displays the following screen.




4. Click **Add**. The **New Connection** dialog-box is displayed.




5. Select MicroSoft Internet Explorer from the drop-down list. Click **OK**. Internet Explorer Setup box appears.




- Provide a name for the browser session in the **Title** field.
- In the **Start Page** field, specify the URL of the web page to be opened when the browser is launched.
- In the **Search Page** field, specify the name of the search engine to be launched when the user clicks on the 'search' icon on the tool-bar of the browser window.
- If you want the client to ping the start-site before connecting to it, select the **Allow to Ping Start Site** check-box.

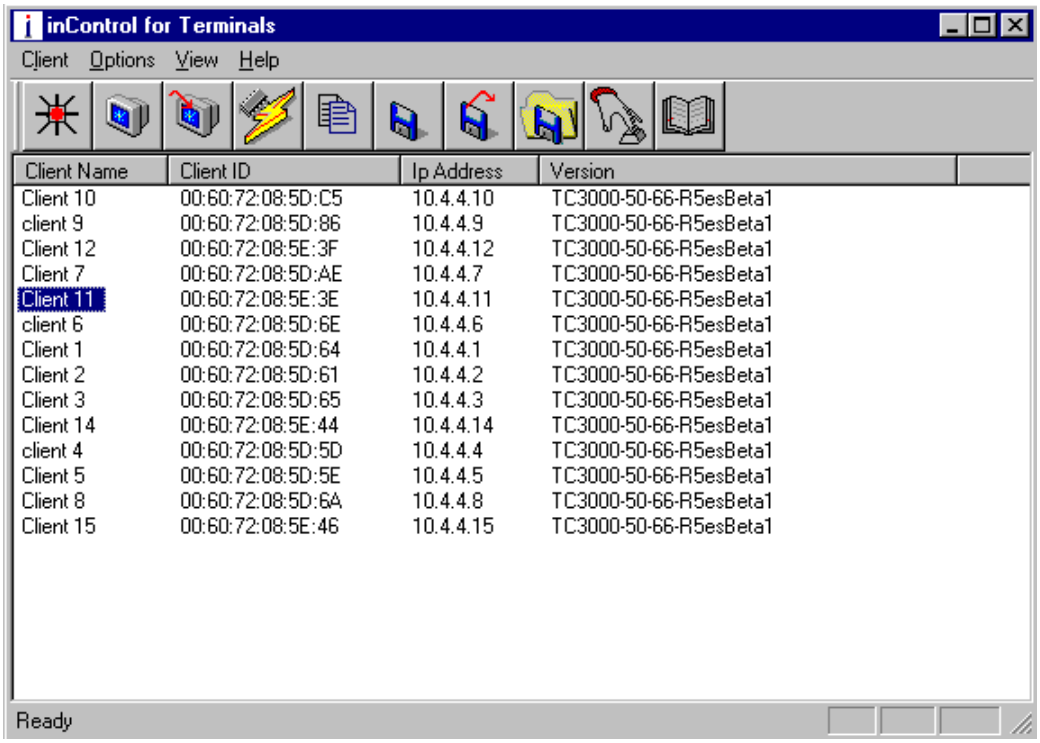
6. After configuring the above parameters, click OK.

   The **Terminal Properties** dialog-box is displayed, with the new connection entry added to the existing ones.

**NOTE**: IF THE CLIENT USES A FIXED IP ADDRESS, THE GATEWAY AND THE DNS SERVER INFORMATION MUST BE SPECIFIED FOR THE CLIENT. IF THE CLIENT USES A DHCP-ASSIGNED IP ADDRESS, THE DHCP SERVER MUST BE CONFIGURED WITH APPROPRIATE DNS AND GATEWAY INFORMATION. THIS IS ESSENTIAL FOR USERS TO BE ABLE TO SURF THE INTERNET USING THE IN-BUILT INTERNET EXPLORER BROWSER.

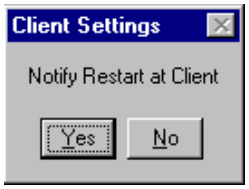
**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

7. Click OK in the Terminal Properties box to return to the in-Control main screen.




**CAUTION**: AFTER STEP 7, YOU MUST PERFORM STEP 8 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU HAVE PERFORMED WILL BE LOST.

8. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu, or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Creating PPP Microsoft Internet Explorer Connection

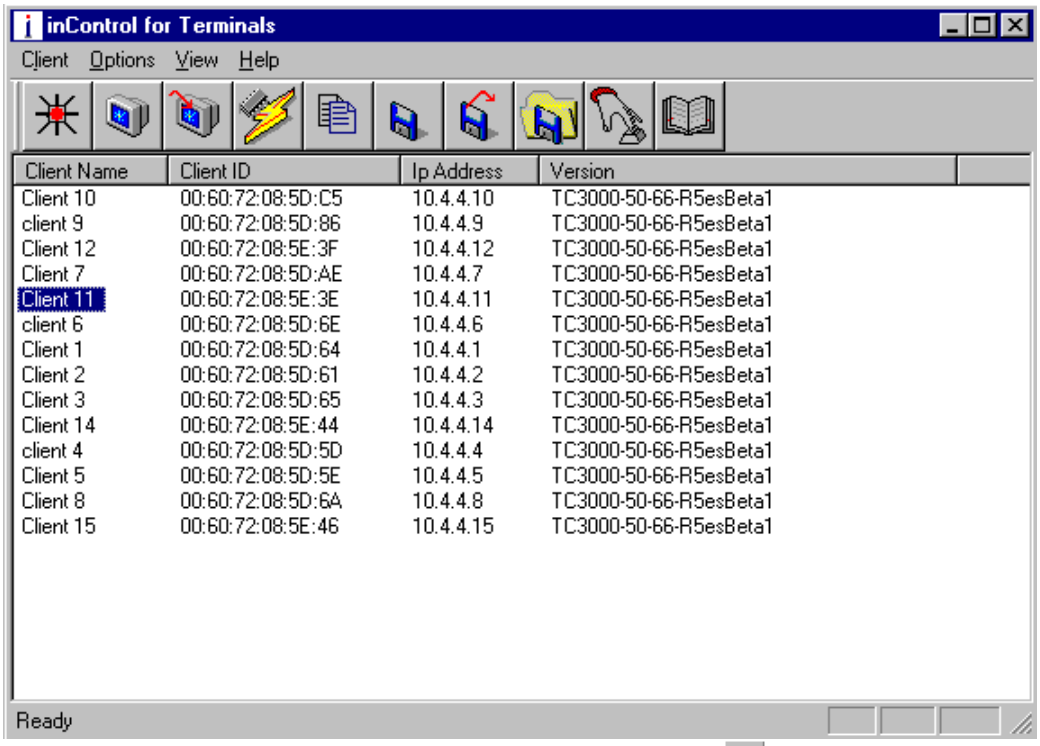
1. Create a Microsoft Internet Explorer Connection. Refer to Creating TCP/IP Microsoft Internet Explorer Connection (page no 67 )
2. Create a PPP connection. Refer to Creating Dialup (PPP) Connection (*page no 58)*

**NOTE:** CREATING MICROSOFT INTERNET EXPLORER CONNECTION IS SIMILAR TO CREATING TCP/IP MICROSOFT INTERNET EXPLORER CONNECTION

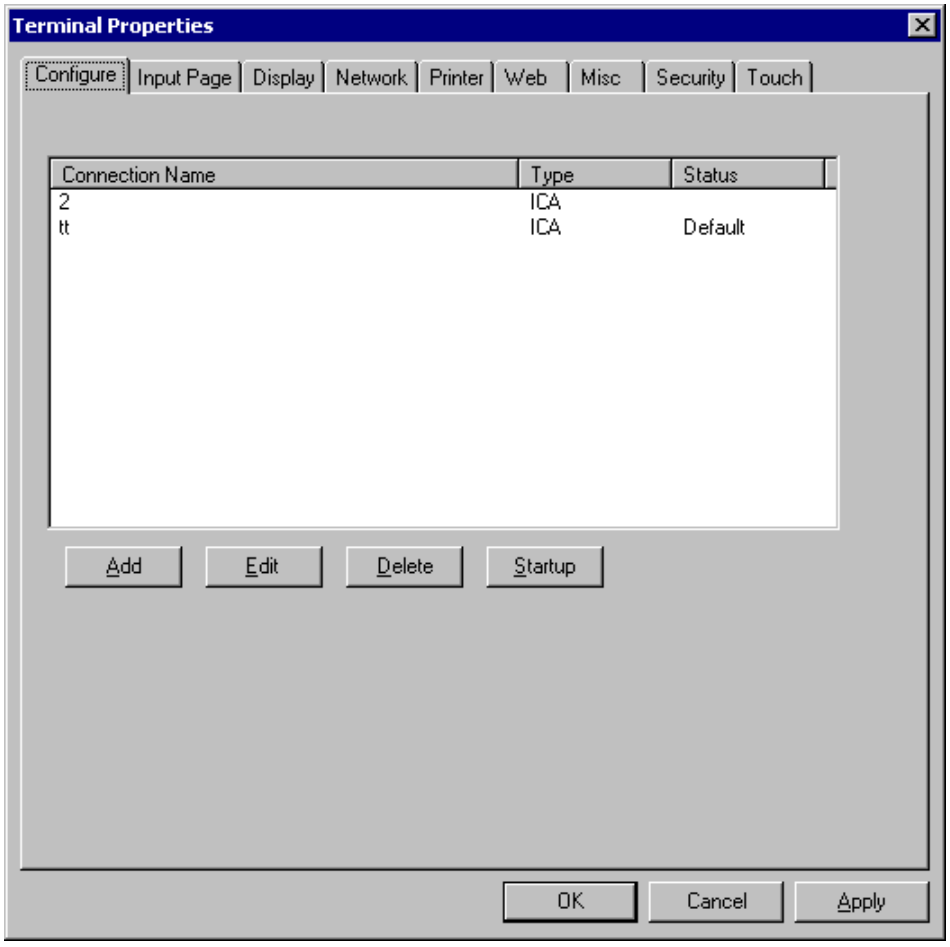
# Creating TCP/IP RDP Connections

This section describes the procedure to create connections from the client to Windows Terminal Servers using Microsoft's Remote Desktop (RDP) protocol.

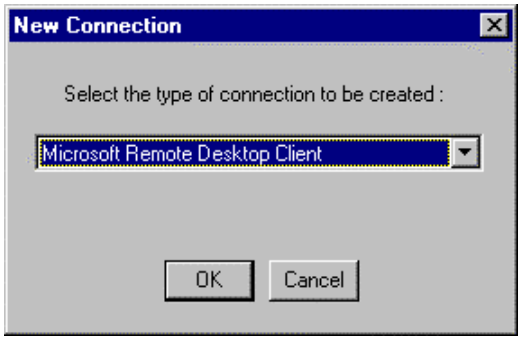
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



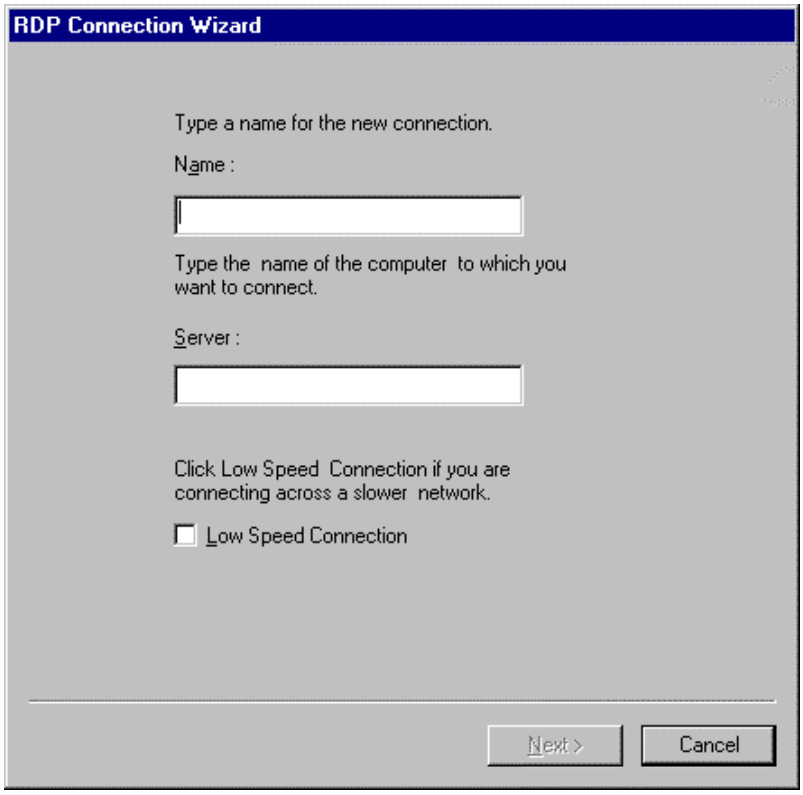

1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, select the **Setup** option from the **Client** menu, or click the  icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads the registry information of the client to its internal database and displays the following screen.




4. Click **Add**. The **New Connection** dialog-box is displayed.




5. Select the **Microsoft Remote Desktop Client** option from the drop-down list. Click **OK** to continue. The following dialog-box is displayed.



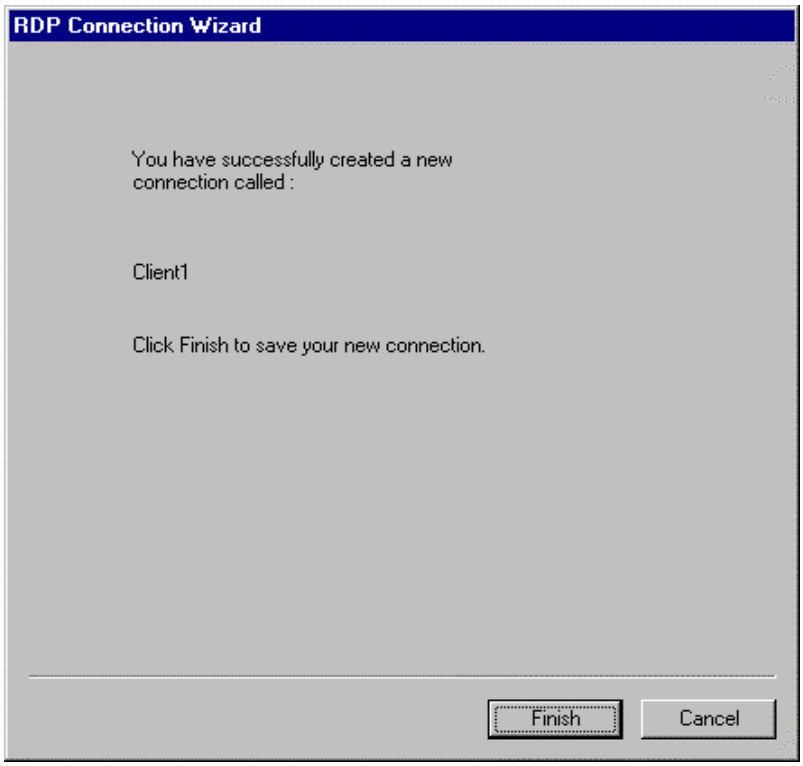

6. Provide a name for the new connection and the IP address of the host in the **Name** and **Server** fields respectively.

   If you are connecting across a slow network (*for instance, a WAN*), enable the **Low Speed Connection** check-box. This setting causes data to be compressed before transmission, thus optimizing the bandwidth usage. Note that while data compression reduces the transmission time, it consumes more processor resources.

7. Click **Next>** to continue. The following dialog-box is displayed.


8. Information you provide in the above dialog-box will be used to automatically logon to the server after the connection is started. To use this feature, select the **Automatic Logon** check-box and provide the user-name, password and domain/workgroup in the **Username**, **Password** and **Domain** fields respectively. If you do not enable the **Automatic Logon** option, a login prompt will be displayed when the connection is started. Click **Next>** to continue. The following dialog-box is displayed.

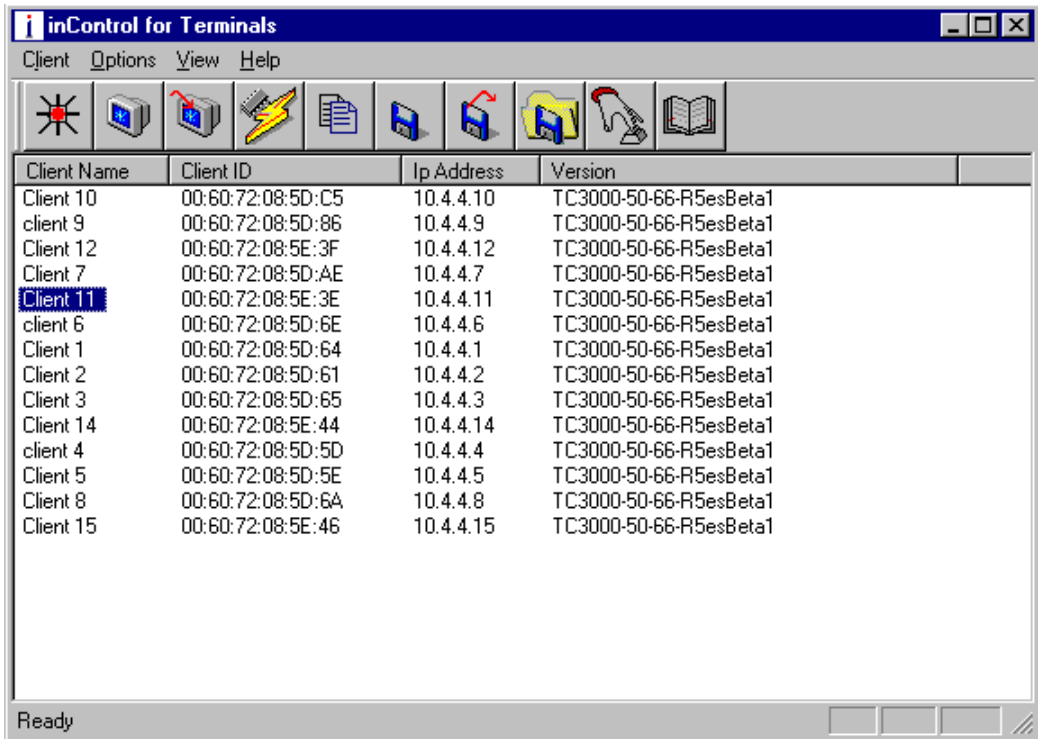

9. After connecting to the server, the Windows NT or Windows 2000 desktop is displayed by default. Instead, if you want a particular application to be automatically started, select the **Application file name** radio-button and provide the name of the application file and the path of the **Working directory** in the above dialog-box. Click **Next>** to continue. The following dialog-box is displayed.




10. The above dialog-box marks the end of the **RDP Connection Wizard**. Click **Finish**. The **Terminal Properties** dialog-box is displayed, with the new connection entry added to the existing ones.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

11. Click **OK** to return to the inControl main screen.



**CAUTION**: AFTER STEP 11, YOU MUST PERFORM STEP 12 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

12. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Creating PPP RDP Connection

You can connect the client to a remote RDP server using Point-to-Point Protocol through a modem.

1. Create a RDP Connection. Refer to Creating TCP/IP RDP Connections (*page no 72*)
2. Create a PPP Connection to the server. Refer to Creating Dialup (PPP) Connections (*page no 58)*

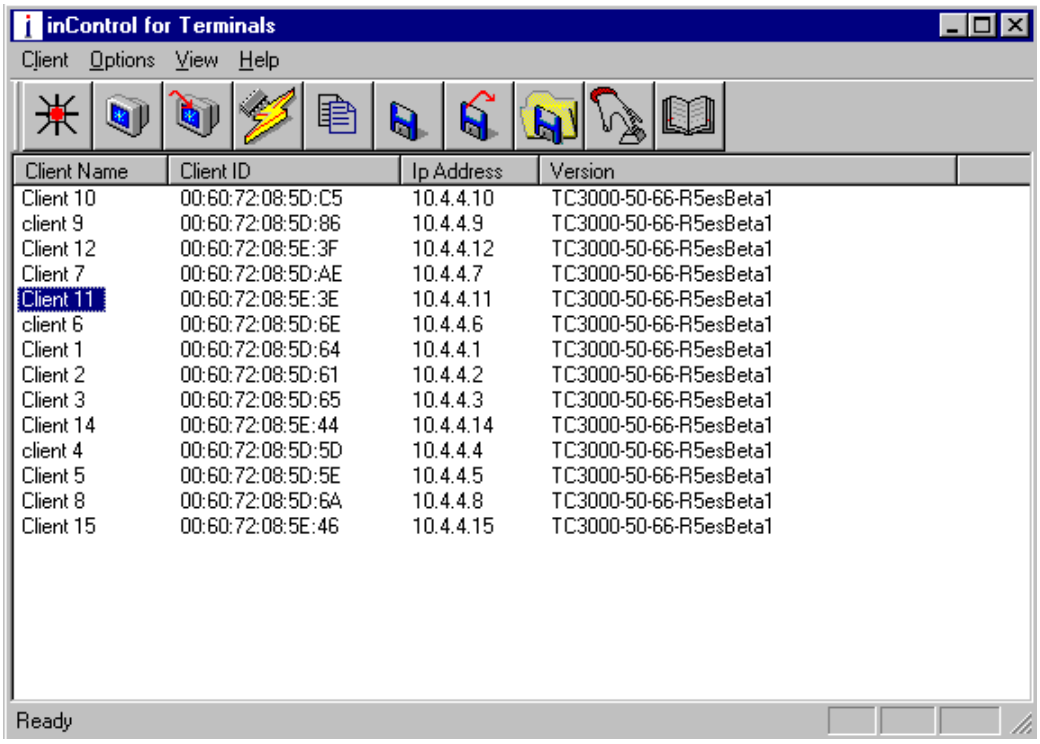
**NOTE:** CREATING RDP CONNECTION IS SIMILAR TO CREATING TCP/IP RDP CONNECTION

## Creating Emulation Connections via TCP/IP

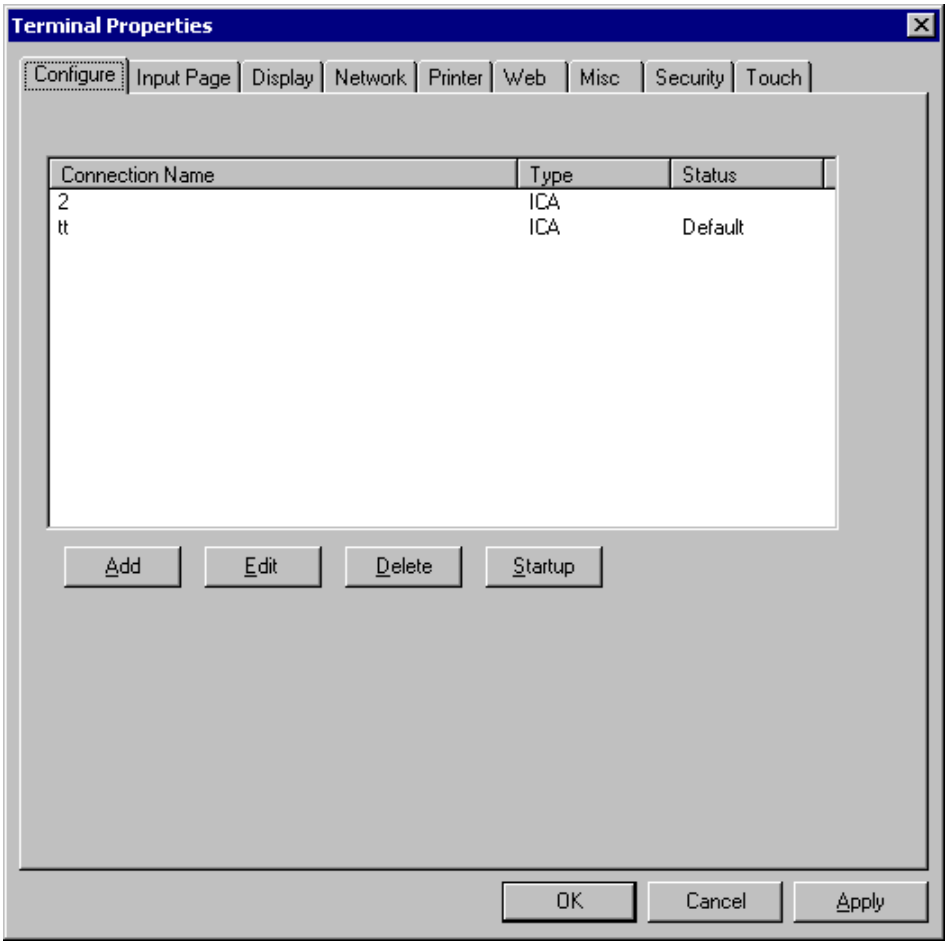
Terminal Emulation connections can be created on the following client versions.

- Winlinx Lite TC3000-40-xxe
- Winlinx Lite TC3000-40-35p
- Winlinx Lite TC3000-50-xx and TC4000-50-xx
- Winlinx Pro TC3111-40-xx
- Winlinx Pro TC3111-50-xx and TC4111-50-xx

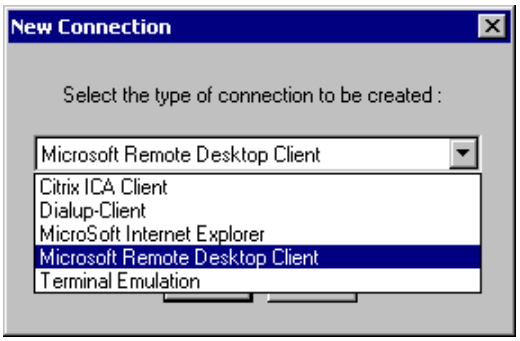
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



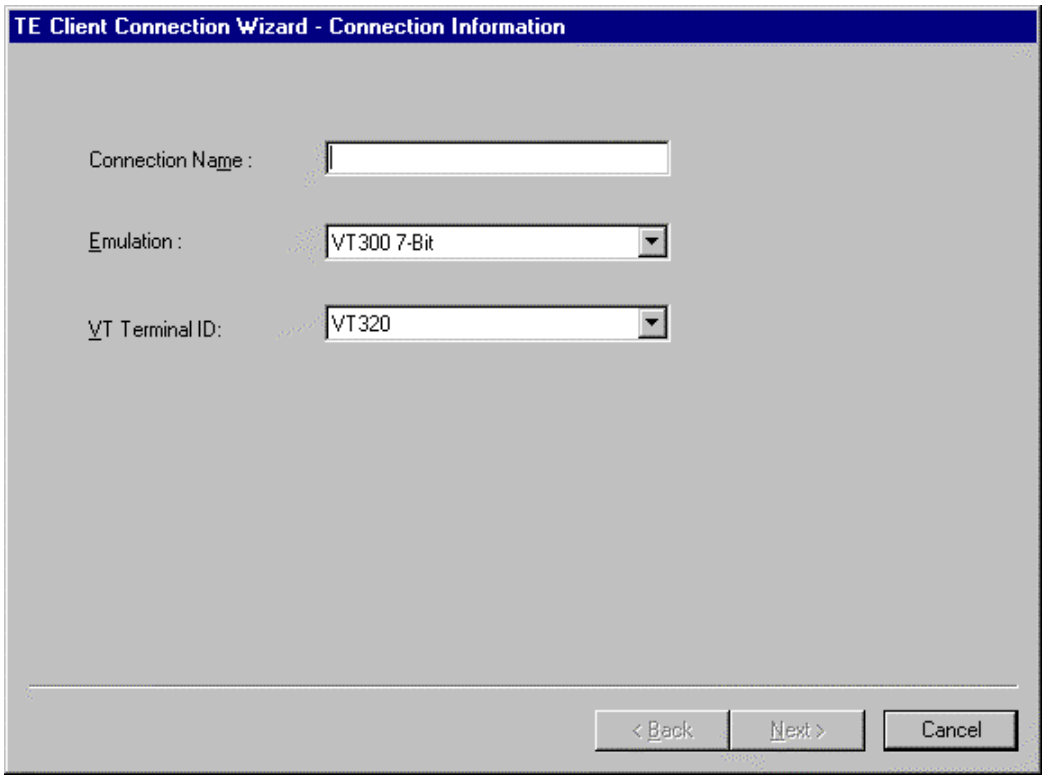

1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name OR select the **Setup** option from the **Client** menu OR click the icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following dialog-box.




4. Click **Add**. The **New Connection** dialog-box is displayed.




5. Select **Terminal Emulation** from the drop-down list and click **OK**. The following dialog-box is displayed.




- **Connection Name**: In this text field, provide a name for the new Terminal Emulation connection.
- **Emulation**: From this drop-down list, select the type of emulation that you want to use.
- **VT Terminal ID**: From this drop-down list, select the type of the terminal.

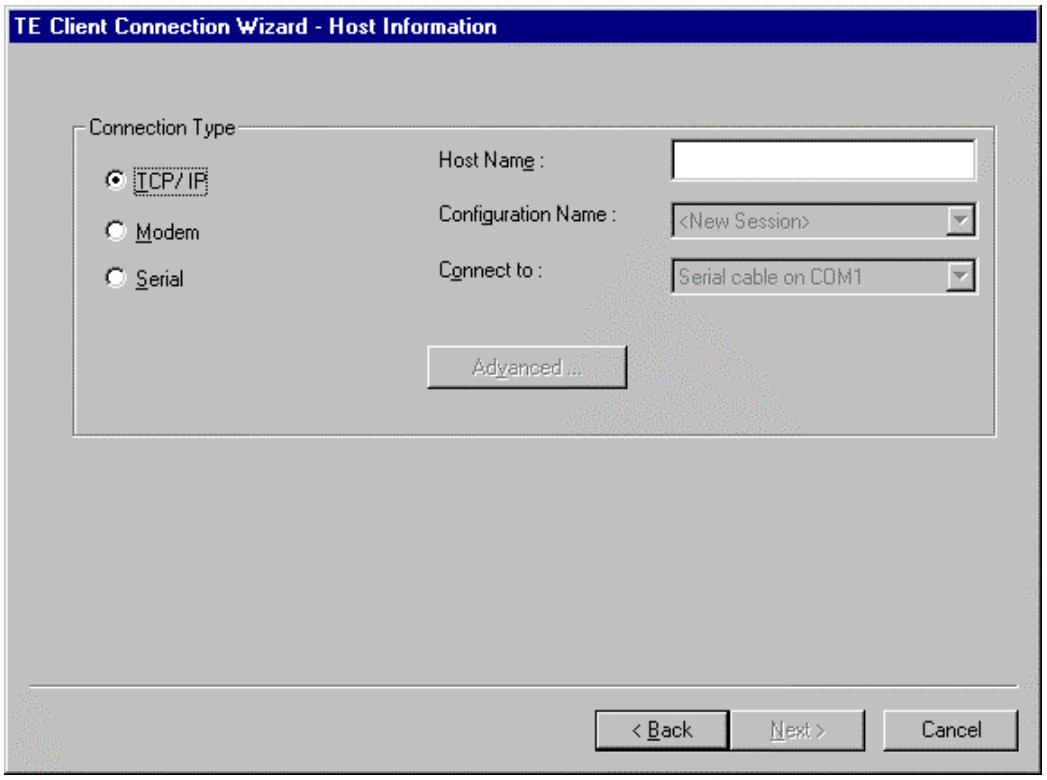
**NOTE**: THE NAME OF THIS FIELD WILL DEPEND ON THE **EMULATION-**TYPE SELECTED.

The following table lists the emulation and terminal types supported by IO thin clients.

| ***Select one of the following from the* Emulation *drop-down list*** | ***Then…*** | | ***And define other options (if any)*** |
|---|---|---|---|
| VT52, VT100, VT300 7-Bit (*default*) or VT300 8-Bit | Select one of the following from the **VT Terminal ID** drop-down list. | Vt100, vt101, vt102, vt125, vt220, vt240, vt320 (*default*), vt340, vt420, vt131 or vt132 | |
| ANSI BBS, SCO Console, WY50, WY50+, WY60, TV1910, TV1920, TV1925, ADDS A2, or HZ1500 | | | |
| IBM3151 | Select one of the following from the **IBM 3151 Model** drop-down list. | 11 (*default*) or 31 | |

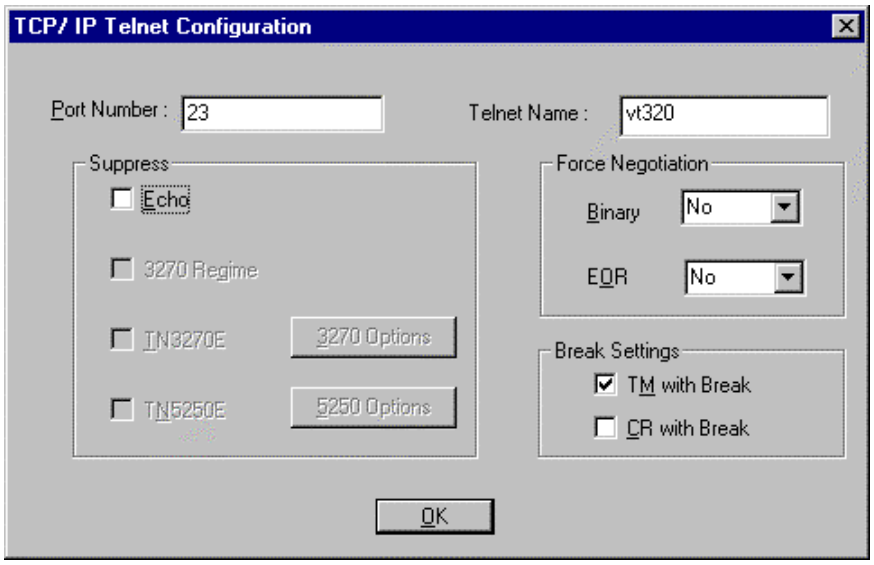
| ***Select one of the following from the* Emulation *drop-down list.*** | ***Then…*** | | ***And define other options (if any)*** |
|---|---|---|---|
| IBM3270 | Select one of the following from the **IBM 3270 Model** drop-down list. | 3278-2, 3278-3, 3278-4, 3278-5, 3278-2-E (*default*), 3278-3-E, 3278-4-E, 3278-5-E, 3279-2, 3279-3, 3279-4, 3279-5 or 3287-1 | Select the **Right Ctrl Acts as Enter Key** or the **Left Ctrl Acts as Reset Key** check-boxes, if you want to enable these functions for 3270 emulation. |
| IBM5250 | Select one of the following from the **IBM 5250 Model** drop-down list. | 5291-1, 5292-2, 5251-11, 3179-2, 3196-A1, 3180-2, 3477-FC, 3477-FG, 3486-BA, 3487-HA or 3487-HC | Select the **Right Ctrl Acts as Enter Key**, **Left Ctrl Acts as Reset Key**, or **IBM5250 Monochrome** check-boxes, if you want to enable these functions for 5250 emulation. |

6. After providing a name and selecting the emulation/terminal type for the connection, click **Next>** to proceed. The following dialog-box is displayed.




7. Select the **TCP/IP** radio-button.
8. Provide the name or IP address of the host computer in the **Host Name** field. The **Advanced…** button is enabled.

9. Click the **Advanced…** button. This following dialog-box is displayed.




**NOTE**: THE OPTIONS AND DEFAULT SETTINGS IN THE ABOVE DIALOG-BOX DEPEND ON THE **EMULATION** TYPE DEFINED IN THE **CONNECTION INFORMATION** DIALOG-BOX.

- **Port Number**: In this field, provide the Telnet port number. The default value will be **23**. You can specify any valid 16 bit port number. If you specify an invalid port number, this field is set to '**1**'.
- **Telnet Name**: By default, the terminal type (*E.g. vt320*) will be assigned to this field. You can override this name.
- **Suppress**

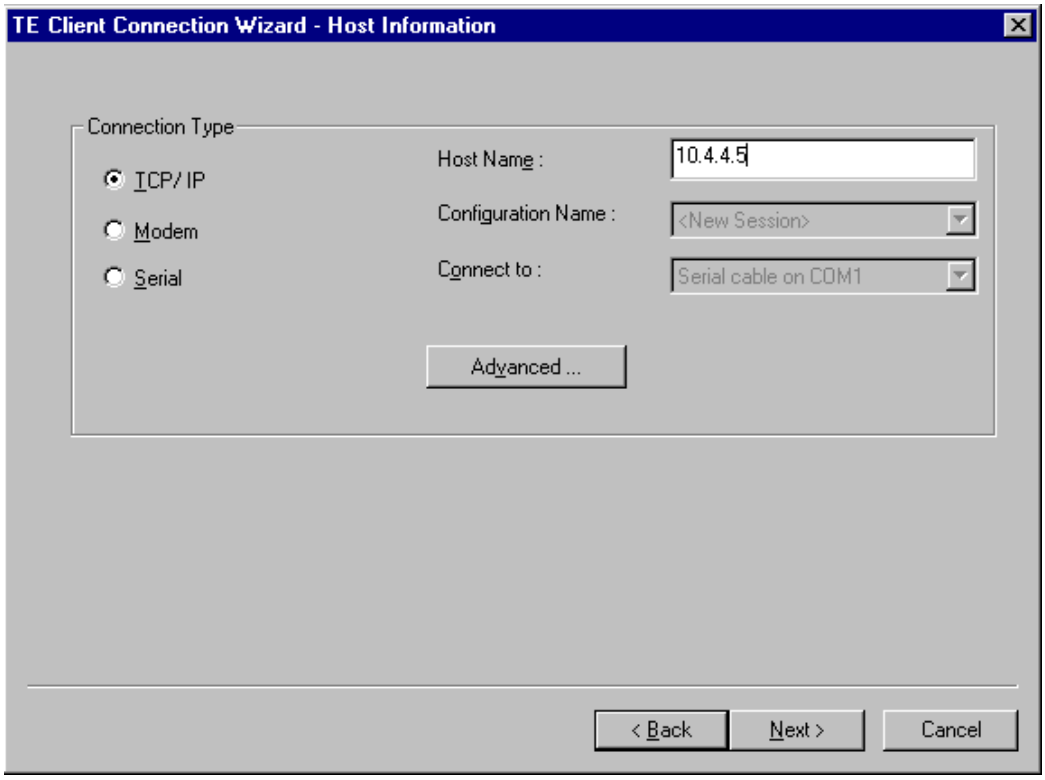
  **Echo**: Select this check-box to prevent the emulator from echoing (*repeating*) keystrokes.

  **3270 Regime**: This field is enabled only if you selected an IBM3270 type of emulation in the **Connection Information** dialog-box. Select this check-box to suppress support for the Telnet '3270 regime' option.

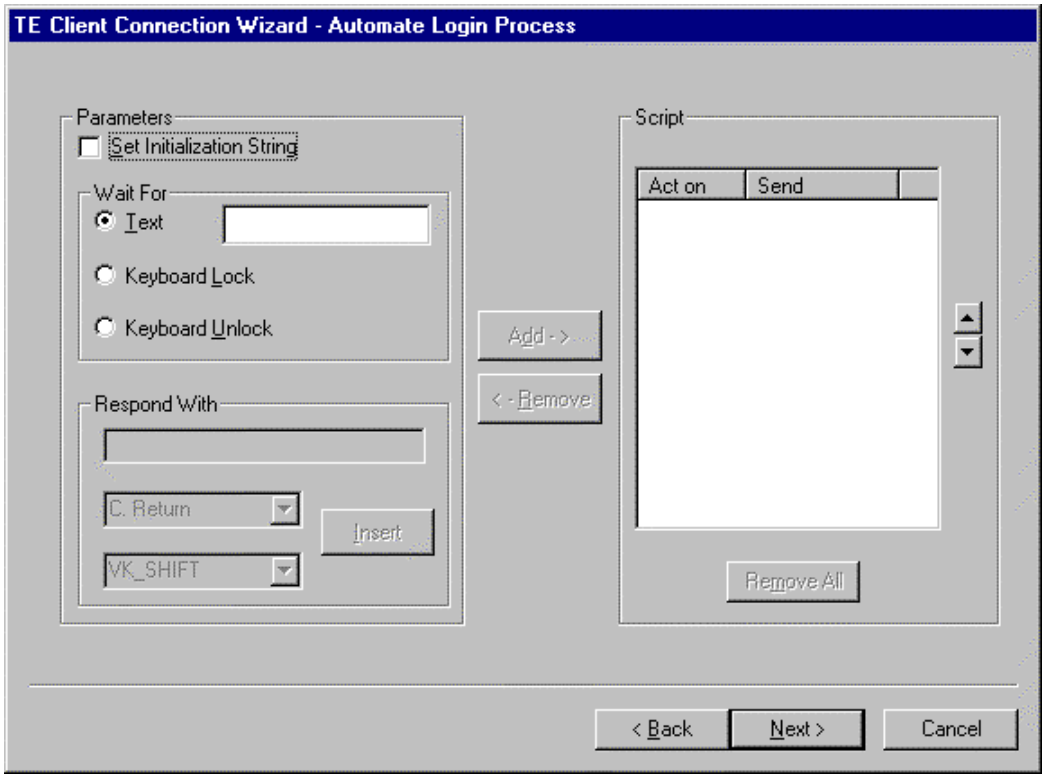
  **TN3270E**: This field is enabled only if you selected an IBM3270 type of emulation in the **Connection Information** dialog-box. Select this check-box to suppress support for the TN3270E option. If you do not suppress this option, the **3270 Options** button is enabled. With this button, you can configure 3270 options.

  **TN5250E**: This field is enabled only if you selected an IBM5250 type of emulation in the **Connection Information** dialog-box. Select this check-box to suppress support for the TN5250E option. If you do not suppress this option, the **5250 Options** button is enabled. With this button, you can configure 5250 options.
- **Force Negotiation**: With these settings you can enable or disable Telnet support for **Binary** and **EOR** (**E**nd-**O**f **R**ecord) options. The default setting for both options is **No**.
  - **No**: This setting will not force negotiations. The host has to decide whether to support the option.
  - **Do**: This setting will force negotiation; the host will be informed that the option is supported.
  - **Dont**: This option will force negotiation. A negotiation packet will be sent informing the host that the option is not supported.
- **Break Settings**: With these settings you can enable or disable inclusion of a timing mark (***TM***) or carriage return (***CR***) with the Telnet break packet. A timing mark is sent by default.

10. After configuring TCP/IP settings, click **OK** to return to the **Host Information** dialog-box.




11. Click **Next>** to proceed. The **Automate Login Process** dialog-box is displayed.




With the above dialog-box, you can partially or fully automate the login process.

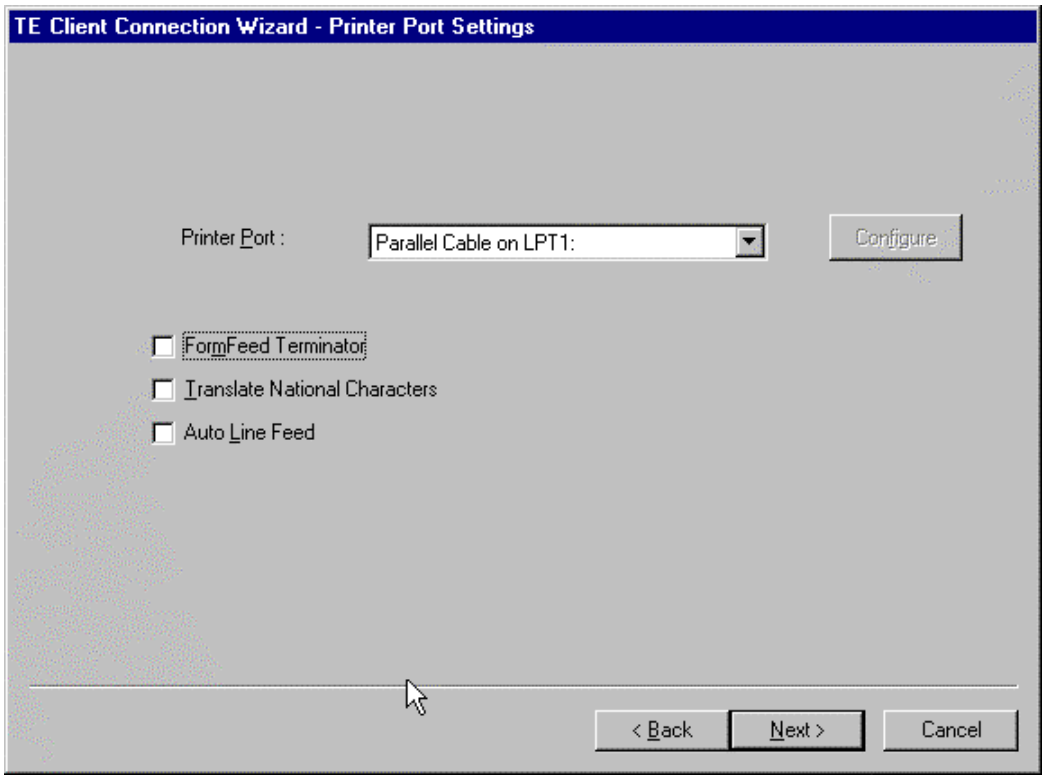
- **Set Initialization String**: If the host requires an initialization string when you first connect to it, select this check-box. This will enable the **Initialize With** box in place of the **Respond With** box. Provide the required string in this field and click the **Add** button. The initialization string will be added to the **Script** window.

- **Wait For**: With the **Text**, **Keyboard Lock** and **Keyboard Unlock** radio-buttons, you can specify the prompt or keyboard-status command that the automatic login process has to wait for. Some systems are case sensitive, so ensure that the **Text** entry follows the correct conventions for the system.

**NOTE**: WHILE RUNNING THE IBM3270 OR IBM5250 EMULATIONS, **TEXT** ENTRIES ARE ONLY APPLICABLE IN THE NVT (NETWORK VIRTUAL TERMINAL) MODE.

- **Respond With**: This group of fields will be enabled only when one of the **Wait For** options is selected. With these fields, you can define responses for each **Wait For** option. You can either provide the text of the response in the text field or **Insert** a pre-defined response from the two drop-down lists below the text field. After providing or inserting a response, click **Add** to include the response in the **Script** window.
- **Script**: This window lists the defined initialization and response strings. The actions will be performed in the order in which they appear in this window. You can change the order of script-lines using the **up** and **down** arrow buttons adjacent to the **Script** window.
- **Remove / Remove All**: With these buttons, you can remove specific/all entries from the **Script** window.

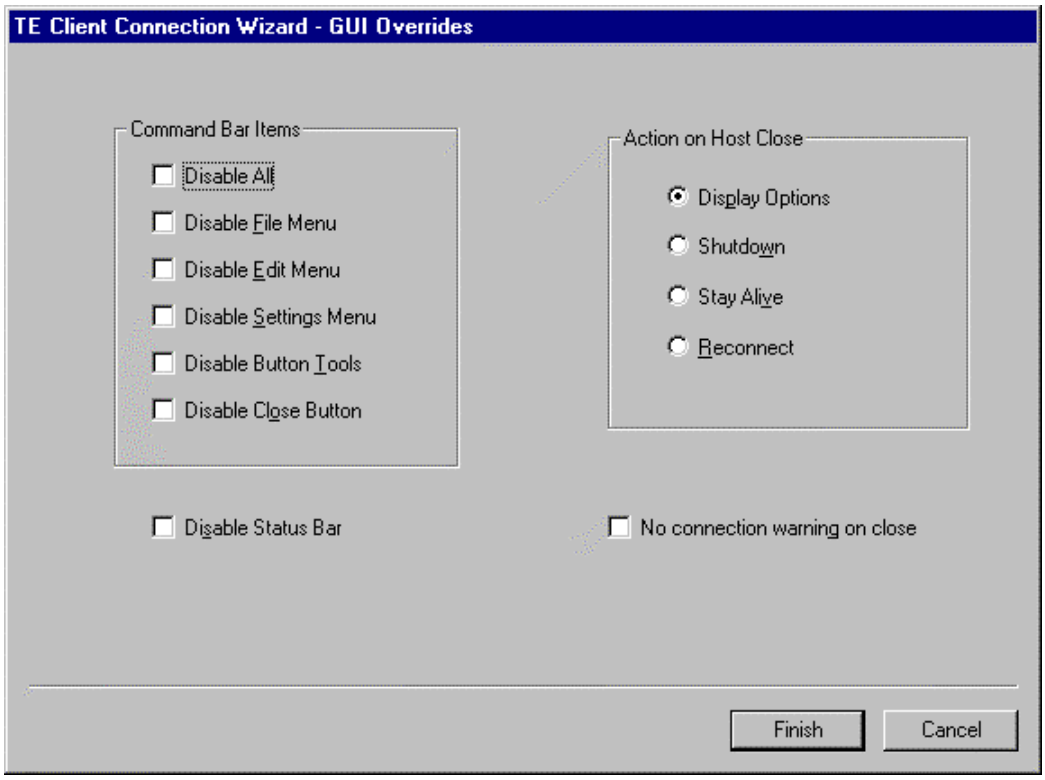
12. After configuring the above settings, click **Next>** to proceed. The following dialog-box is displayed.




- **Printer Port**: From this drop-down list, select the appropriate printer port. The **Configure** button will be enabled if you select one of the COM ports. Click this button. The **Configuration of COM...** dialog-box will be displayed. In this dialog-box, you can configure settings (*Baud Rate, Parity, Flow Control, Data Bits and Stop Bits*) for the COM port. Select the appropriate settings and click **OK**.
- **FormFeed Terminator**: Select this check-box if the printer should advance paper to the top of the next form when it has finished printing.
- **Translate National Characters**: This option determines whether ISO Latin characters used by Microsoft Windows or Roman 8 characters used in HP mode, are to be translated to IBM characters.

- **Auto Line Feed**: Select this check-box if the printer should start at the beginning of the next line when a carriage return command is received.

13. Click **Next>** to proceed. The following dialog-box is displayed.



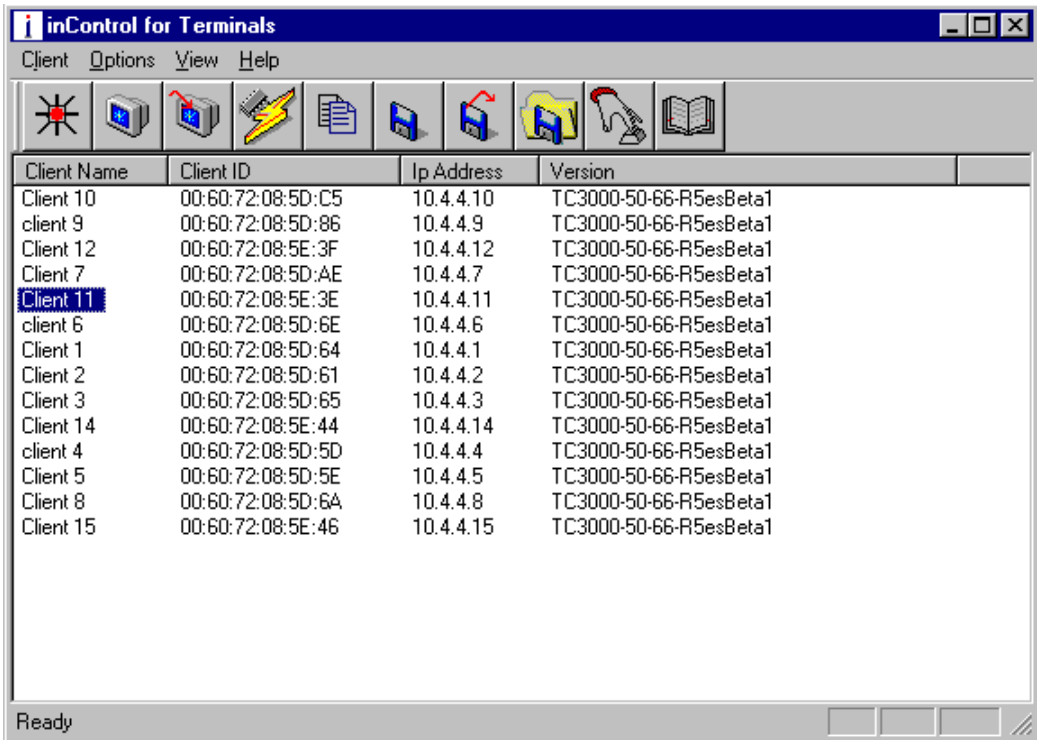

With the above dialog-box, you can disable some or all user-interface options and thus restrict access to settings that must not be changed. You can also specify how the emulation should respond when the connection is closed.

- **Command Bar Items**: Select appropriate options from this group of check-boxes to disable menus on the top-bar of the terminal emulation window.
- **Disable Status Bar**: Select this check-box to disable status bar.
- **Action on Host Close**: Select one of these radio-buttons to specify how the emulation should respond when the connection is closed.
  - **Display Options**: Select this radio-button if you want a dialog-box to be displayed with Shutdown, Stay Alive and Reconnect options.
  - **Shutdown**: Select this radio-button if you want the emulation to close down.
  - **Stay Alive**: Select this radio-button if you want to keep the emulation running.
  - **Reconnect**: Select this radio-button if you want the emulation to attempt to reconnect to the host.
- **No Connection warning on close**: By default, a warning message will be displayed when you attempt to exit the emulation while a connection is active. You can disable the warning message by selecting this check-box.

14. Select the appropriate GUI overrides and click **Finish**. The **Terminal Properties** dialog-box is displayed. It will contain the name of the newly created Terminal Emulation connection.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 15, YOU MUST PERFORM STEP 16 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

15. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

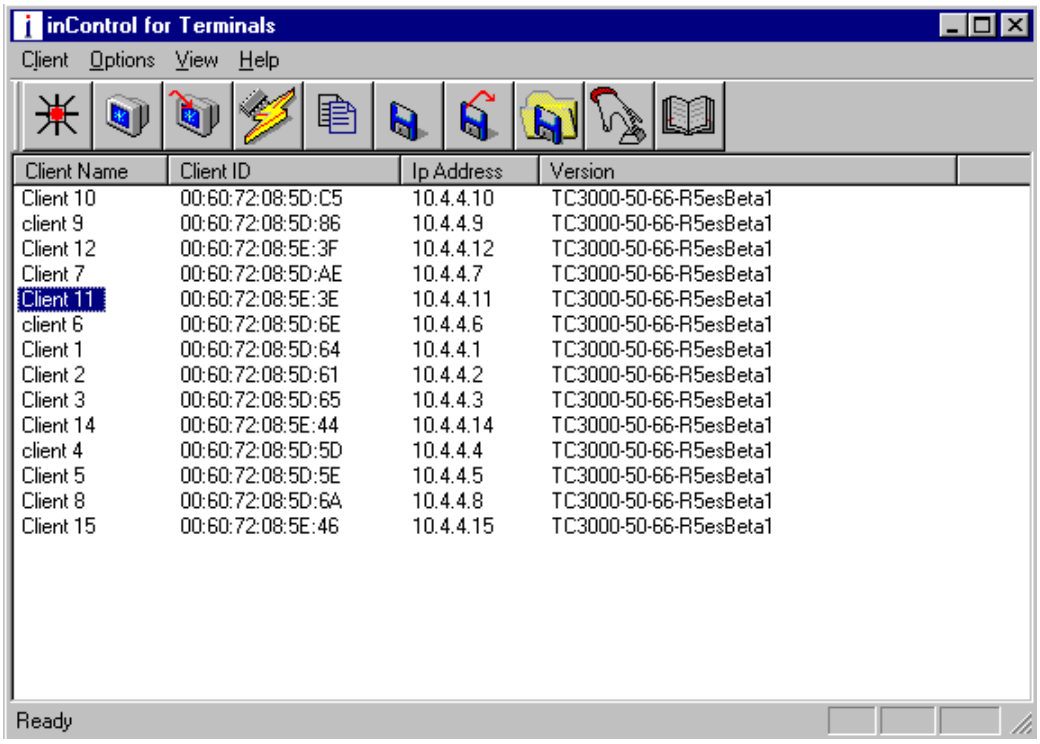
- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Creating Emulation Connections via a Modem

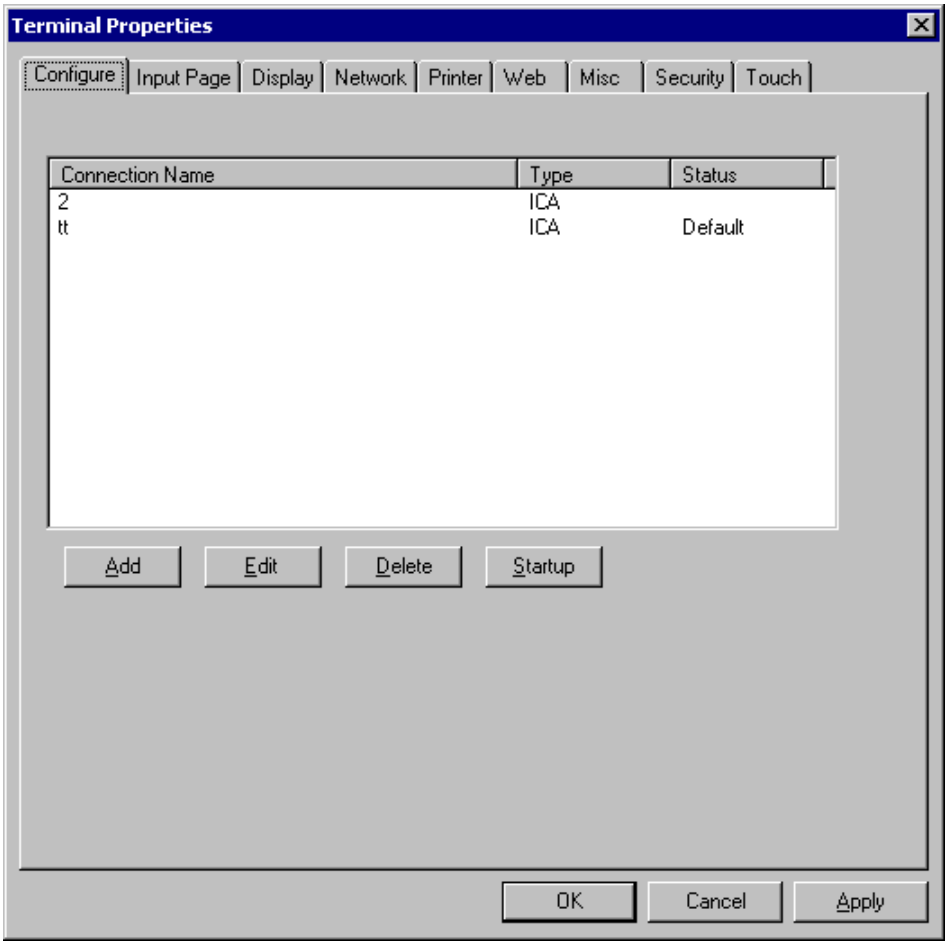
Terminal Emulation connections can be created on the following client versions.

- Winlinx Lite TC3000-40-xxe
- Winlinx Lite TC3000-40-35p
- Winlinx Lite TC3000-50-xx and TC4000-50-xx
- Winlinx Pro TC3111-40-xx
- Winlinx Pro TC3111-50-xx and TC4111-50-xx

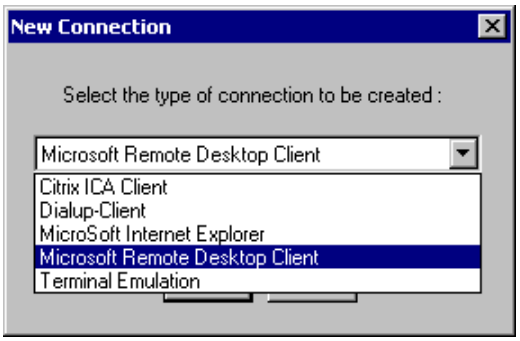
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



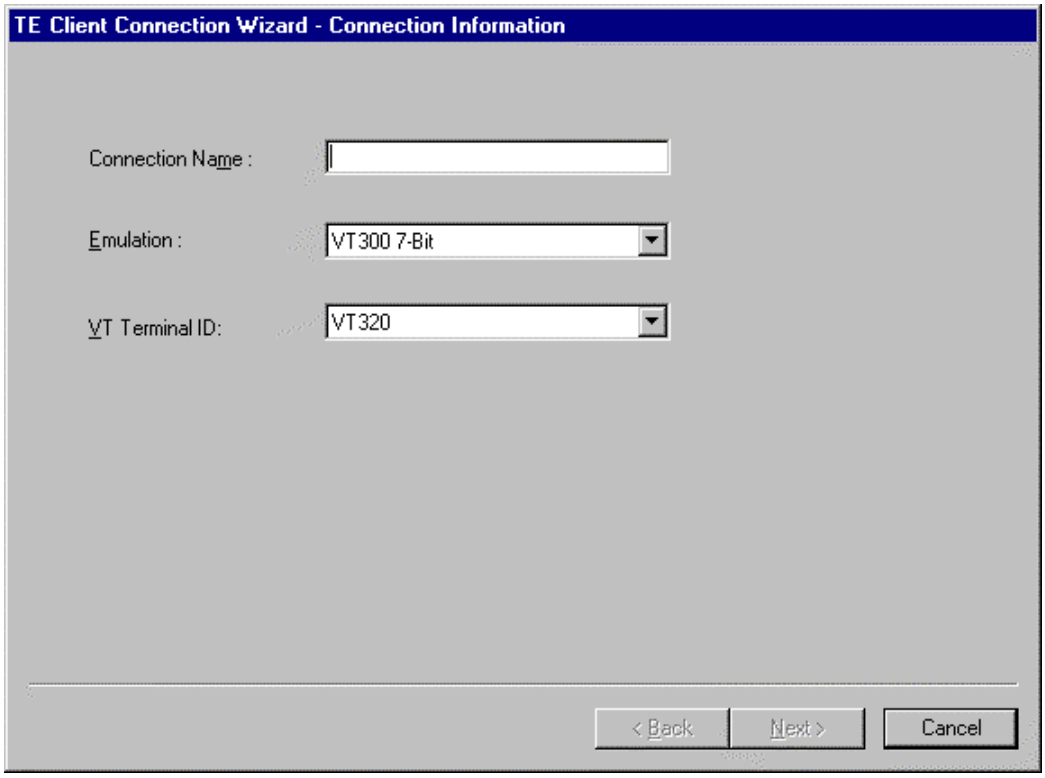

1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name OR select the **Setup** option from the **Client** menu OR click the  icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads the registry information of the client to its internal database and displays the following screen.




4. Click **Add**. The **New Connection** dialog-box is displayed.




5. Select **Terminal Emulation** from the drop-down list and click **OK**. The following dialog-box is displayed.




- **Connection Name**: In this text field, provide a name for the new Terminal Emulation connection.
- **Emulation**: From this drop-down list, select the type of emulation that you want to use.
- **VT Terminal ID**: From this drop-down list, select the type of the terminal.

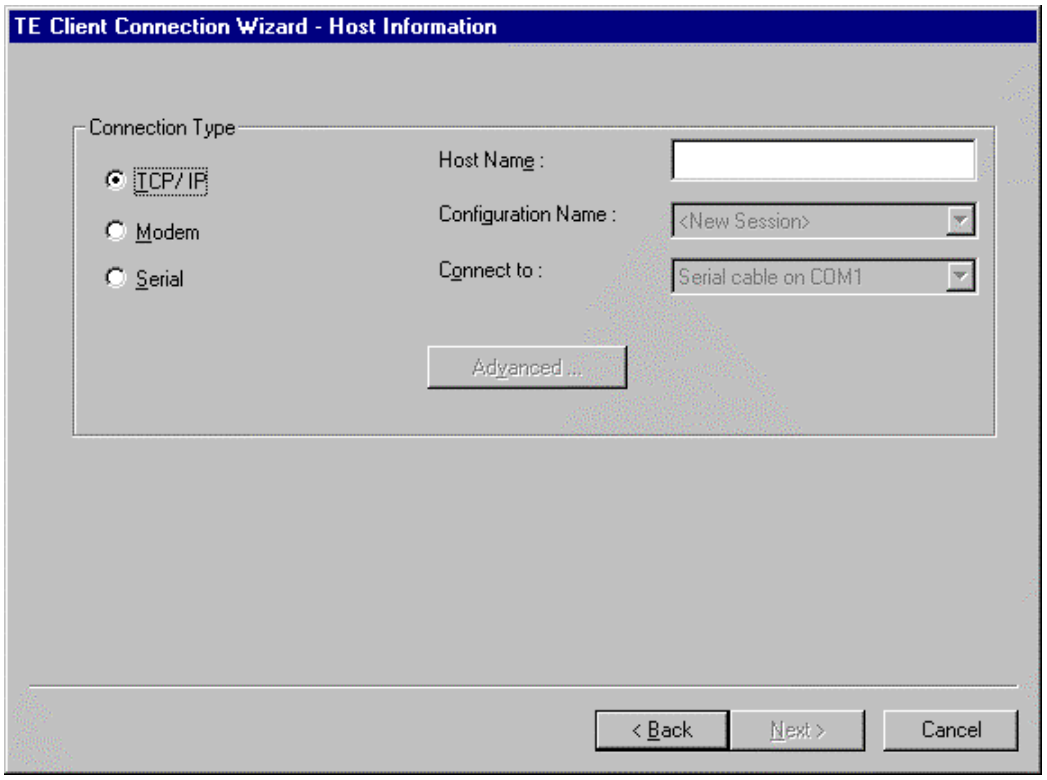
**NOTE**: THE NAME OF THIS FIELD WILL DEPEND ON THE **EMULATION-**TYPE THAT IS SELECTED.

The following table contains the emulation and terminal types supported by IO thin clients.

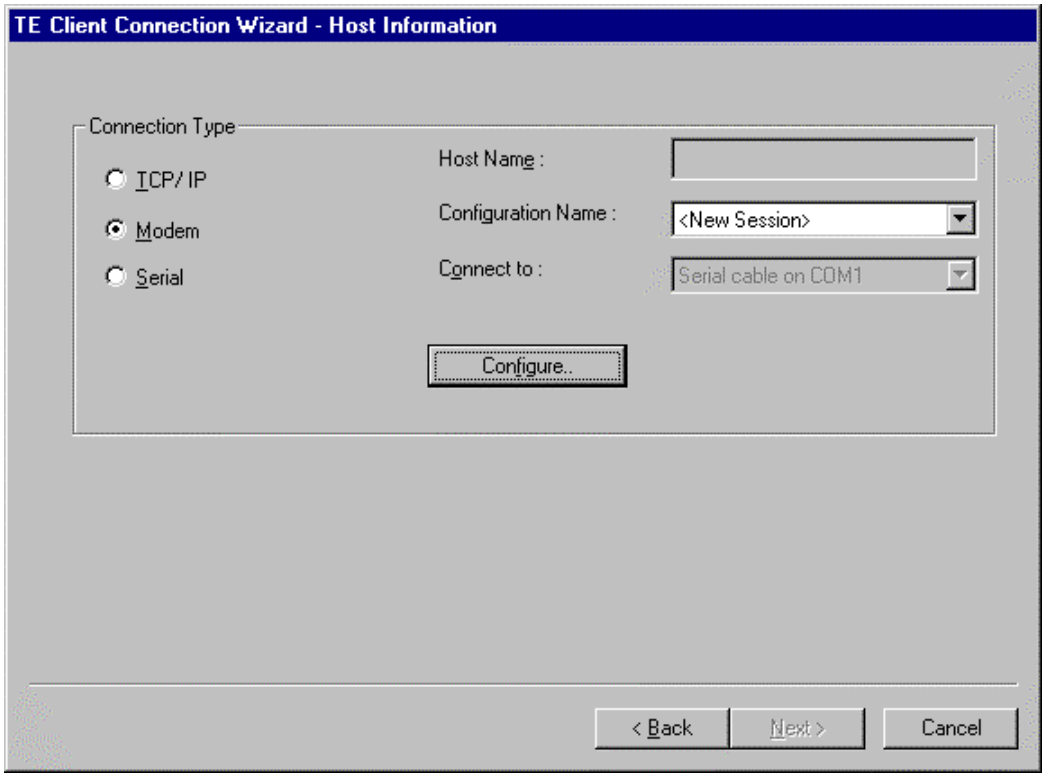
| ***Select one of the following from the* Emulation *drop-down list*** | ***Then…*** | ***And define other options (if any)*** |
|---|---|---|
| VT52, VT100, VT300 7-Bit (*default*) or VT300 8-Bit | Select one of the following from the **VT Terminal ID** drop-down list. Vt100, vt101, vt102, vt125, vt220, vt240, vt320 (*default*), vt340, vt420, vt131 or vt132 | |
| ANSI BBS, SCO Console, WY50, WY50+, WY60, TV1910, TV1920, TV1925, ADDS A2, or HZ1500 | | |
| IBM3151 | Select one of the following from the **IBM 3151 Model** drop-down list. 11 (*default*) or 31 | |

| ***Select one of the following from the* Emulation *drop-down list*** | ***Then…*** | | ***And define other options (if any)*** |
|---|---|---|---|
| IBM3270 | Select one of the following from the **IBM 3270 Model** drop-down list. | 3278-2, 3278-3, 3278-4, 3278-5, 3278-2-E (*default*), 3278-3-E, 3278-4-E, 3278-5-E, 3279-2, 3279-3, 3279-4, 3279-5 or 3287-1 | Select the **Right Ctrl Acts as Enter Key** or the **Left Ctrl Acts as Reset Key** check-boxes, if you want to enable these functions for 3270 emulation. |
| IBM5250 | Select one of the following from the **IBM 5250 Model** drop-down list. | 5291-1, 5292-2, 5251-11, 3179-2, 3196-A1, 3180-2, 3477-FC, 3477-FG, 3486-BA, 3487-HA or 3487-HC | Select the **Right Ctrl Acts as Enter Key**, **Left Ctrl Acts as Reset Key**, or **IBM5250 Monochrome** check-boxes, if you want to enable these functions for 5250 emulation. |

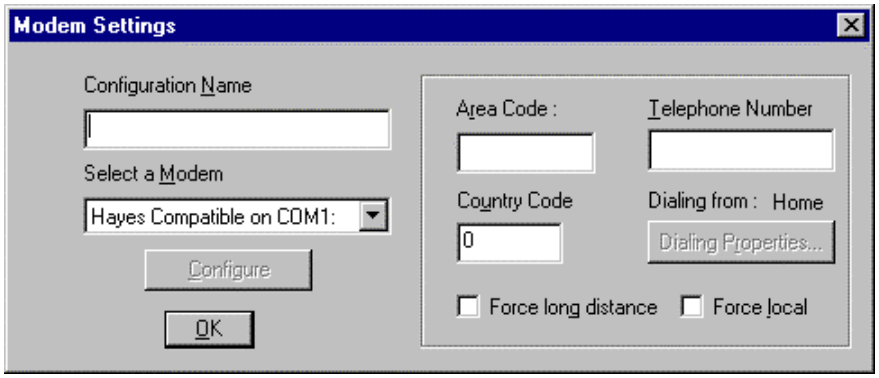
6. After providing a name and selecting the emulation/terminal type for the connection, click **Next>** to proceed. The following dialog-box is displayed.



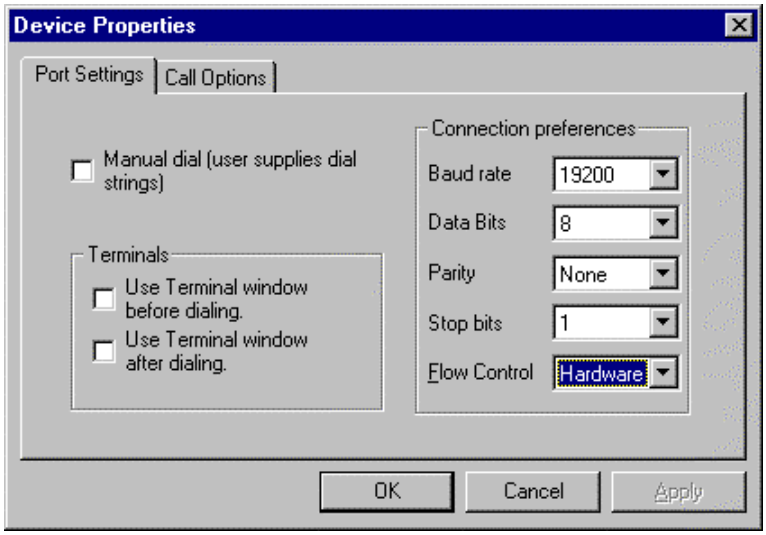

7. Select the **Modem** radio-button. The dialog-box will change as shown below.




8. Click the **Configure…** button. The **Modem Settings** dialog-box is displayed.




9. Enter a name for the configuration in the **Configuration Name** field.
10. Select a modem from the **Select a Modem** drop-down list and click **Configure**. The **Device Properties** dialog-box is displayed.




This dialog-box has two tabs: **Port Settings** and **Call Options**.

11. Select the **Port Settings** tab.

- **Manual dial**: Select this check-box if you want to provide dial strings while attempting a dial-up connection.

**NOTE**: MANUAL DIALING IS NOT CURRENTLY SUPPORTED.

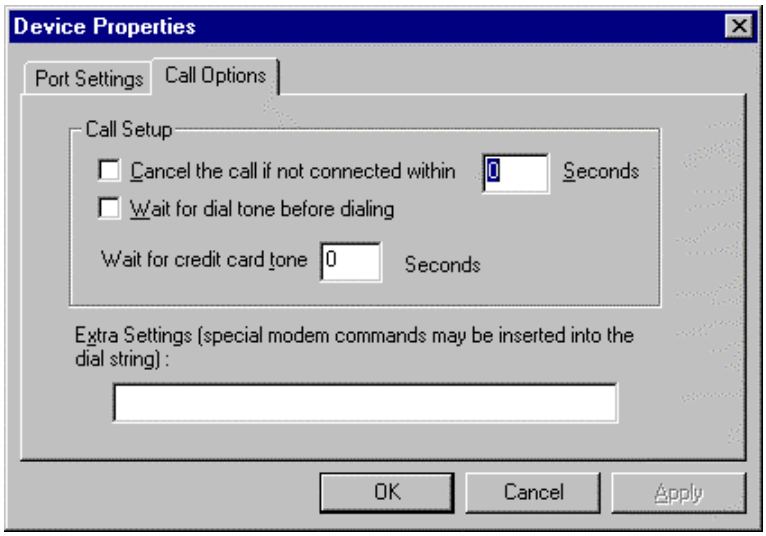
- **Terminals**

  **Use terminal window before dialing**: If you select this check-box, the terminal window is displayed *before* connection is established. If the **Manual Dial** check-box is selected, you can provide dial strings in this window.

  **Use terminal window after dialing**: If you select this check-box, the terminal window is displayed *after* the connection is established, prompting you for logon information.

  **Connection preferences**: Select the settings for Baud Rate, Data Bits, Parity, Stop Bits and Flow Control.

12. Select the **Call Options** tab.

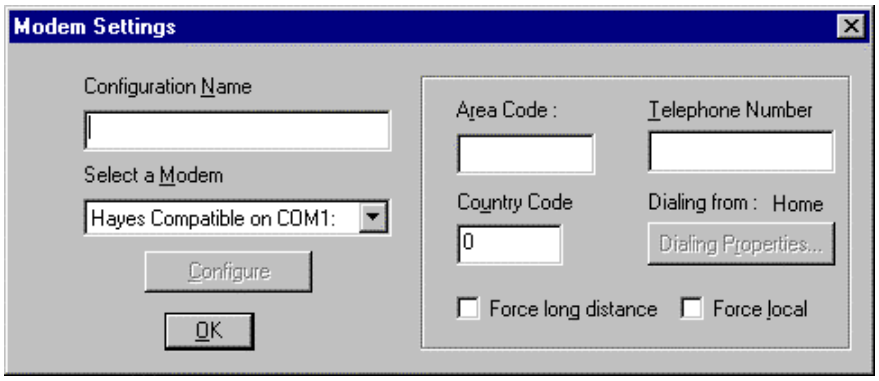



- **Cancel the call if not connected within … seconds**: If you want the call to be cancelled when the connection is not established within a specified time limit, select this check-box and specify the duration after which the call must be cancelled.

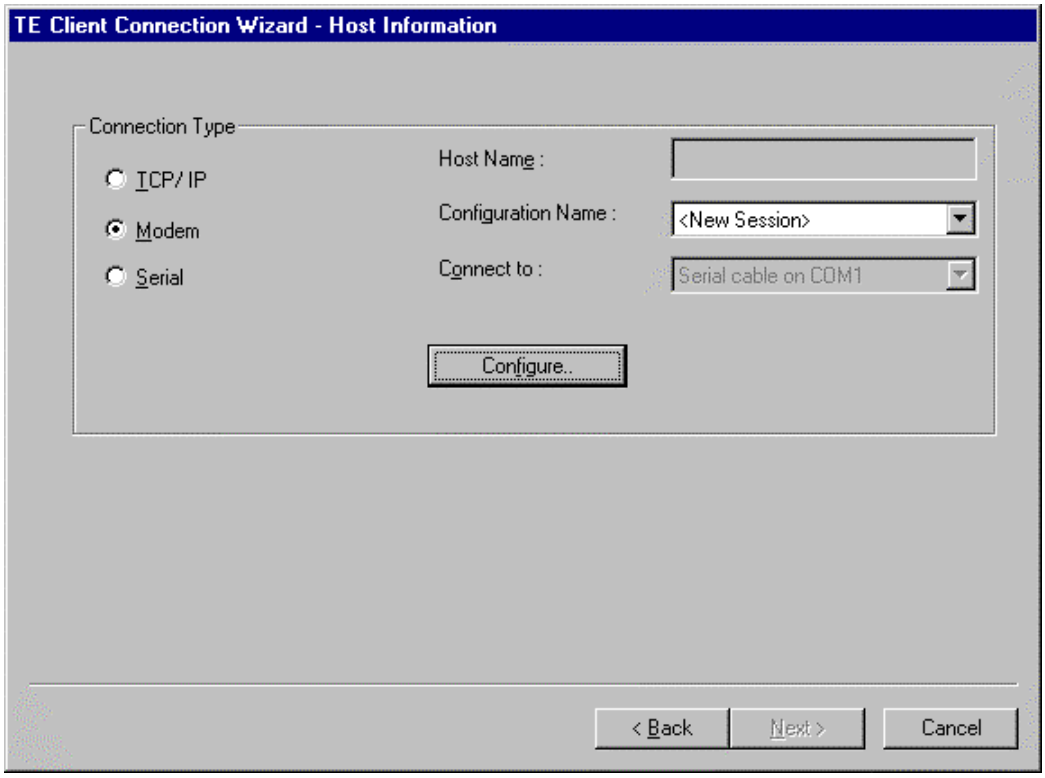
- **Wait for dial tone before dialing**: Select this check-box if the dial-in device has to wait for a dial tone before dialing.
- **Wait for credit card tone… seconds**: In this field enter the duration for which the terminal has to wait for a credit card tone.
- **Extra Settings**: In this field you can provide special modem commands.

**NOTE**: IF YOU PROVIDE INPUT IN THIS FIELD, YOU **MUST** ALSO SELECT THE **MANUAL DIAL** CHECK-BOX IN THE **PORT SETTINGS** TAB. OTHERWISE THE EXTRA SETTINGS WILL NOT BE DISPLAYED AT THE CLIENT.

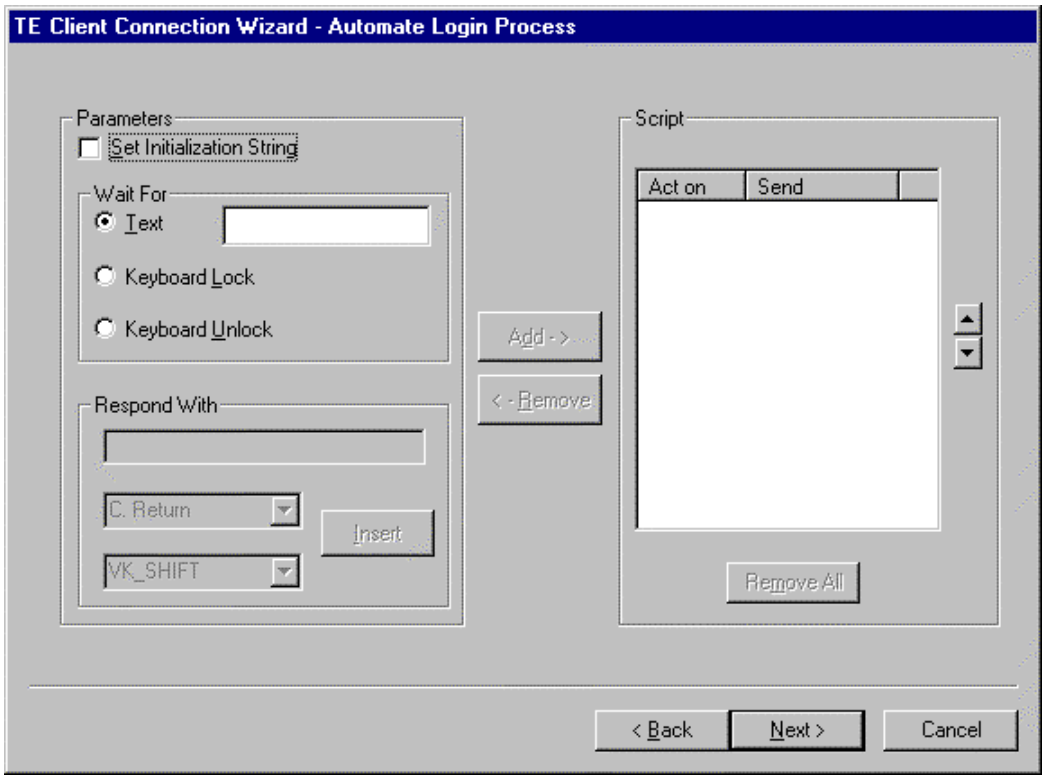
13. After configuring the dial-in device, click **OK** to return to the **Modem Settings** dialog-box.




14. Provide the area code, telephone number and country code in the **Area Code**, **Telephone Number** and **Country Code** fields respectively.
15. Select the **Force long distance** and **Force local** check-boxes if necessary.
16. Click **OK** to return to the **Host Information** dialog-box.




17. The configuration name that you specified in step 9 will be available in the **Configuration Name** drop-down list. Select the appropriate configuration from the drop-down list and click **Next>** to proceed. The following dialog-box is displayed.




With the above dialog-box, you can partially or fully automate the login process.

- **Set Initialization String**: If the host requires an initialization string when you first connect to it, select this check-box. This will enable the **Initialize With** box in place of the **Respond With** box.

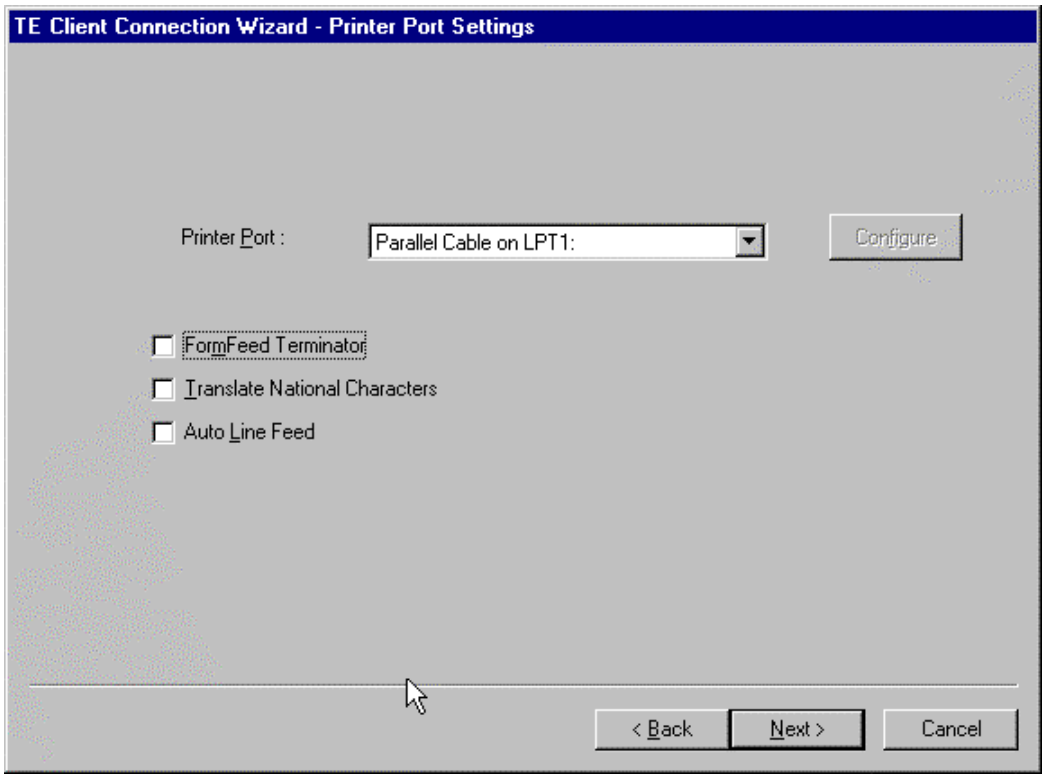
Provide the required string in this field and click the **Add** button. The initialization string will be added to the **Script** window.

- **Wait For**: With the **Text**, **Keyboard Lock** and **Keyboard Unlock** radio-buttons, you can specify the prompt or keyboard-status command that the automatic login process has to wait for. Some systems are case sensitive, so ensure that **Text** entry follows the correct conventions for the system.

**NOTE**: WHILE RUNNING THE IBM3270 OR IBM5250 EMULATIONS, **TEXT** ENTRIES ARE ONLY APPLICABLE IN THE NVT (NETWORK VIRTUAL TERMINAL) MODE.

- **Respond With**: This group of fields will be enabled only when one of the **Wait For** options is selected. With these fields, you can define responses for each **Wait For** option. You can either provide the text of the response in the text field or **Insert** a pre-defined response from the two drop-down lists below the text field. After providing or inserting a response, click **Add** to include the response in the **Script** window.
- **Script**: This window lists the defined initialization and response strings. The actions will be performed in the order in which they appear in this window. You can change the order of script-lines using the **up** and **down** arrow buttons adjacent to the **Script** window.
- **Remove** / **Remove All**: With these buttons, you can remove specific/all entries from the **Script** window.

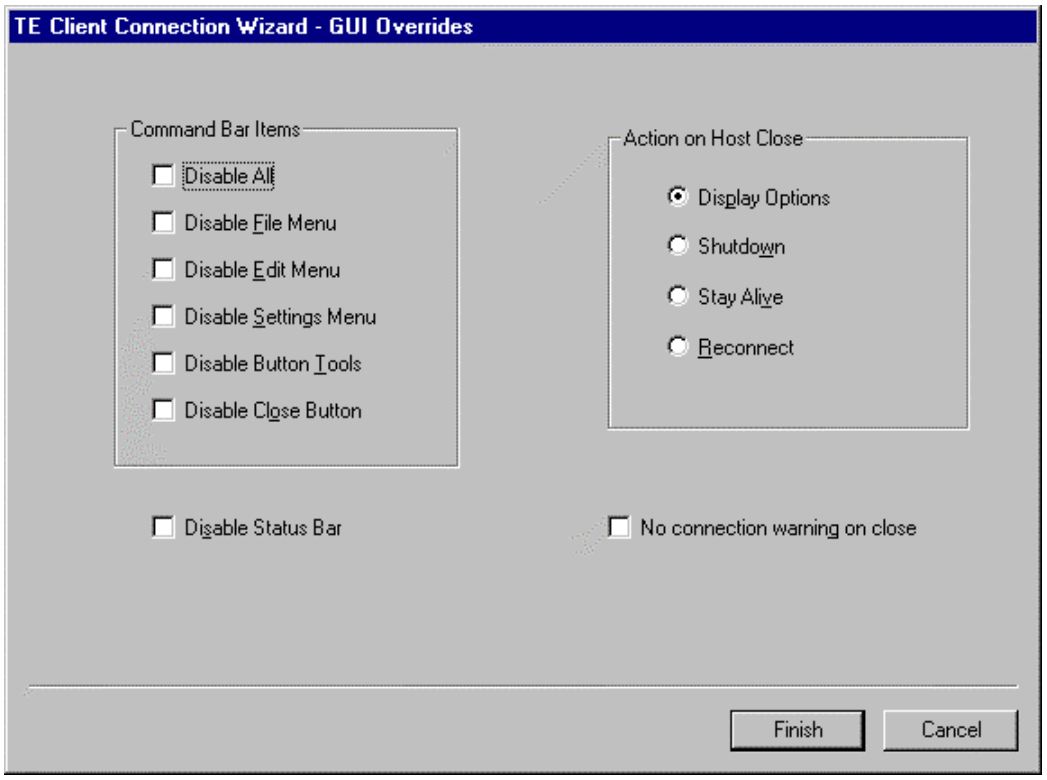
18. After configuring the above settings, click **Next>** to proceed. The following dialog-box is displayed.




- **Printer Port**: From this drop-down list, select the appropriate printer port. The **Configure** button will be enabled if you select one of the COM ports. Click this button. The **Configuration of COM...** dialog-box will be displayed. In this dialog-box, you can configure settings (*Baud Rate, Parity, Flow Control, Data Bits and Stop Bits*) for the printer port. Select the appropriate settings and click **OK**.
- **FormFeed Terminator**: Select this check-box, if the printer should advance paper to the top of the next form when it has finished printing.

- **Translate National Characters**: This option determines whether ISO Latin characters used by Microsoft Windows or Roman 8 characters used in HP mode, are to be translated to IBM characters.
- **Auto Line Feed**: Select this check-box, if the printer should start at the beginning of the next line when a carriage return command is received.

19. Click **Next>** to proceed. The following dialog-box is displayed.

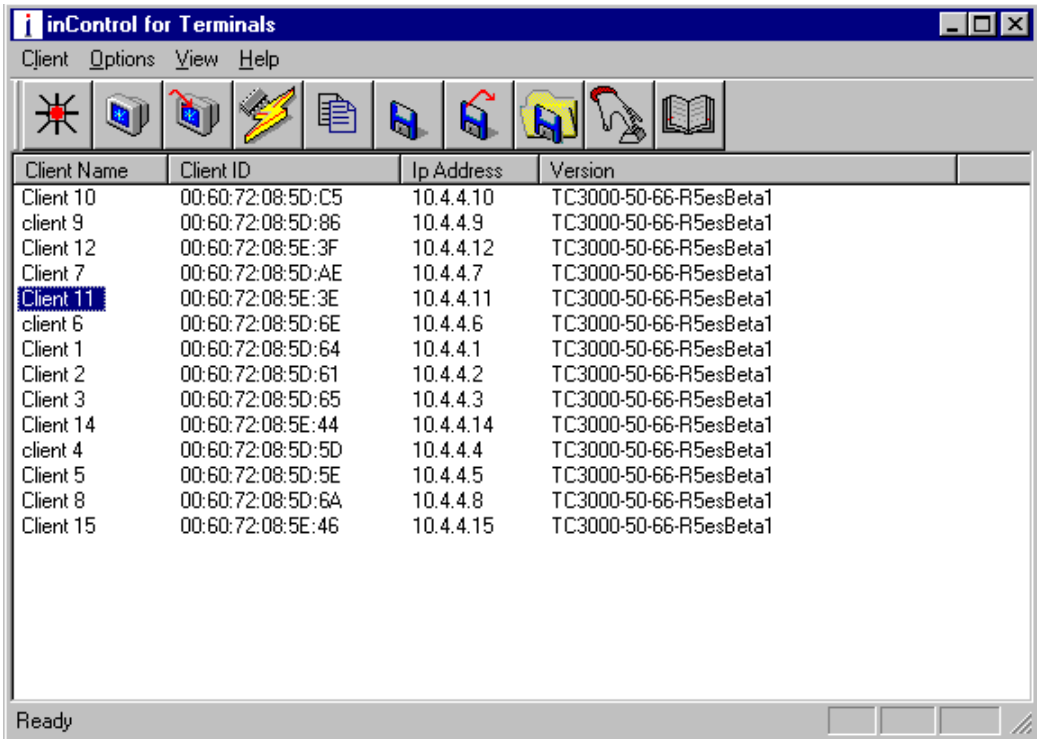



With the above dialog-box, you can disable some or all user-interface options and thus restrict access to settings that must not be changed. You can also specify how the emulation should respond when the connection is closed.

- **Command Bar Items**: Select appropriate options from this group of check-boxes to disable menus on the top-bar of the terminal emulation window.
- **Disable Status Bar**: Select this check-box to disable status bar.
- **Action on Host Close**: Select one of these radio-buttons to specify how the emulation should respond when the connection is closed.
  - **Display Options**: Select this radio-button if you want a dialog-box to be displayed with Shutdown, Stay Alive and Reconnect options.
  - **Shutdown**: Select this radio-button if you want the emulation to close down.
  - **Stay Alive**: Select this radio-button if you want to keep the emulation running.
  - **Reconnect**: Select this radio-button if you want the emulation to attempt to reconnect to the host.
- **No Connection warning on close**: By default, a warning message is displayed when you attempt to exit the emulation while a host connection is active. You can disable the warning message by selecting this check-box.

20. Select appropriate GUI overrides and click **Finish**. The **Terminal Properties** dialog-box is displayed.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.




21. Click **OK** to return to the inControl main screen.

**CAUTION**: AFTER STEP 21, YOU MUST PERFORM STEP 22 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

22. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

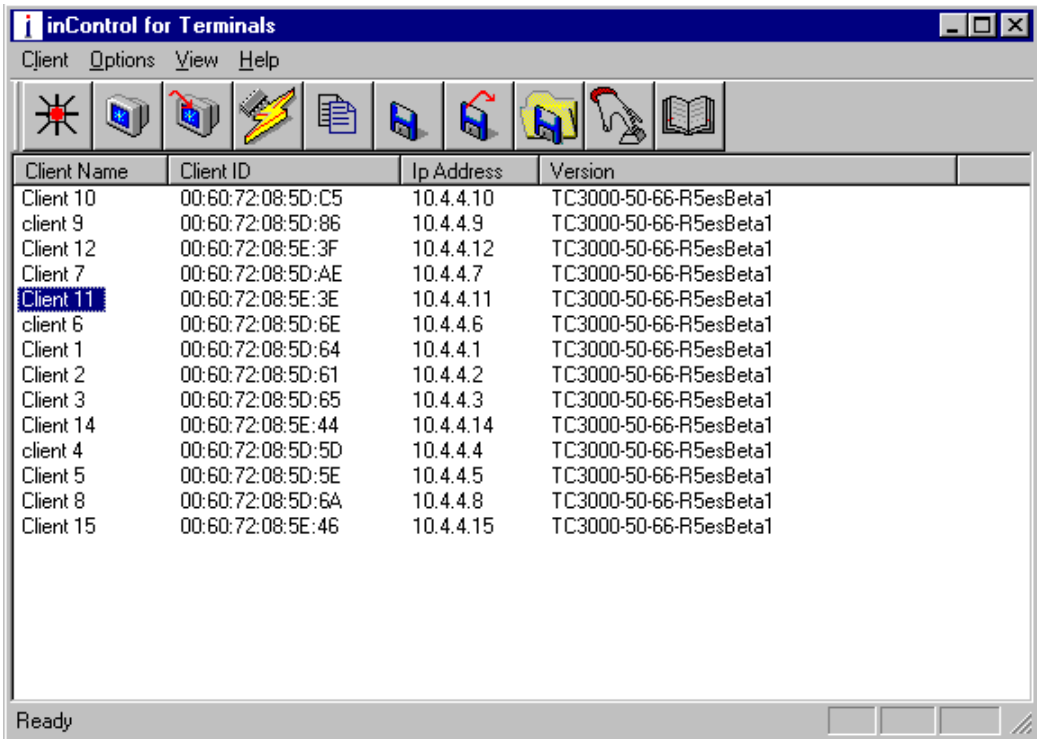
- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Creating Terminal Emulation Connections via a Serial Cable

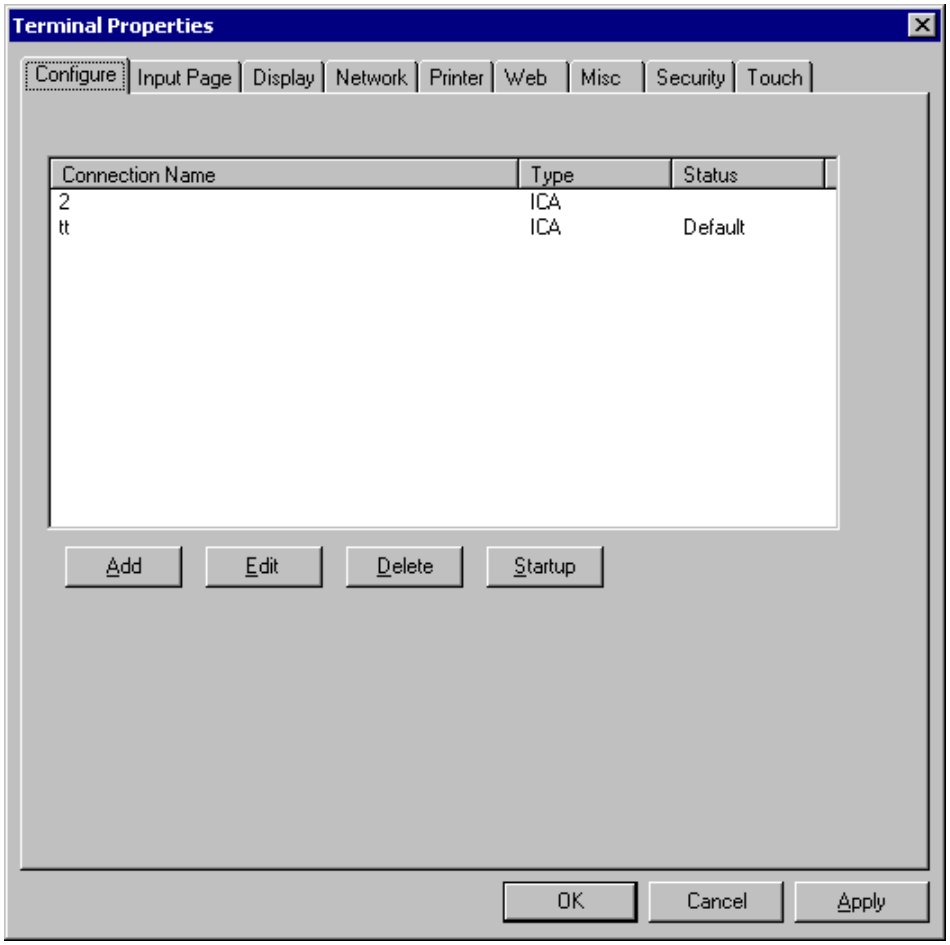
Terminal Emulation connections can be created on the following client versions.

- Winlinx Lite TC3000-40-xxe
- Winlinx Lite TC3000-40-35p
- Winlinx Lite TC3000-50-xx and TC4000-50-xx
- Winlinx Pro TC3111-40-xx
- Winlinx Pro TC3111-50-xx and TC4111-50-xx

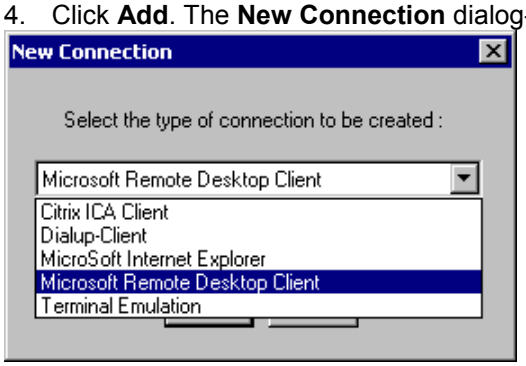
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



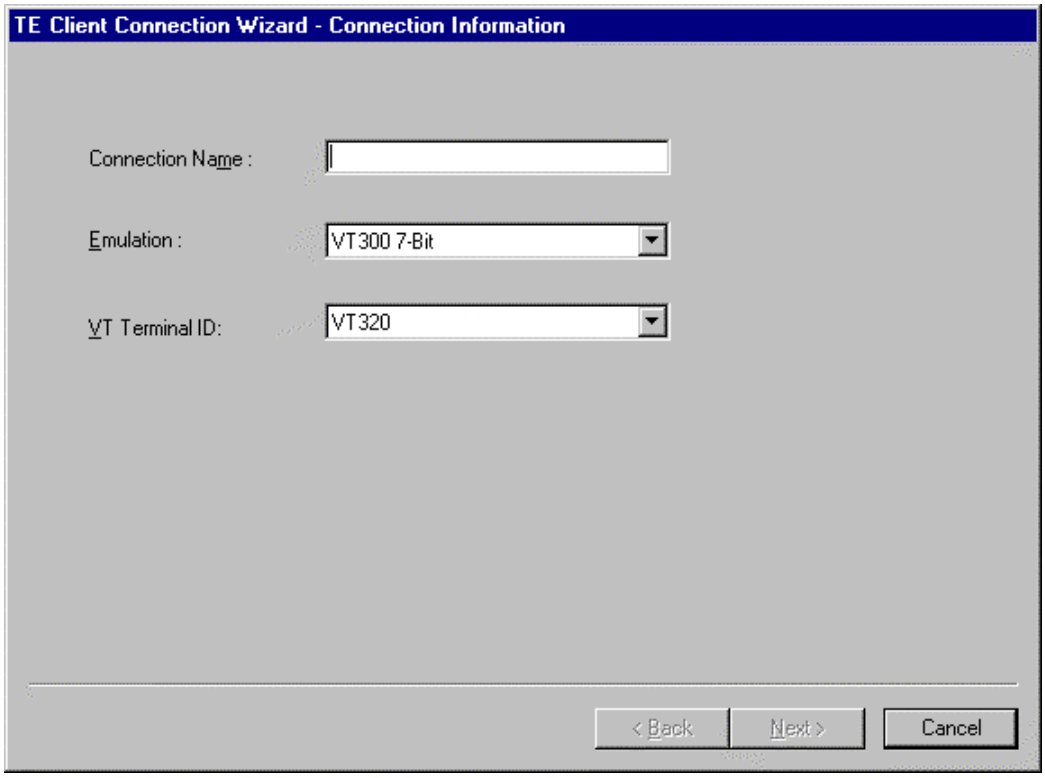

1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name OR select the **Setup** option from the **Client** menu OR click the icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry information of the client to its internal database and displays the following screen.




4. Click **Add**. The **New Connection** dialog-box is displayed.




5. Select **Terminal Emulation** from the drop-down list and click **OK**. The following dialog-box is displayed.




- **Connection Name**: In this text field, provide a name for the new connection.
- **Emulation**: From this drop-down list, select the type of emulation.
- **VT Terminal ID**: From this drop-down list, select the type of the terminal.

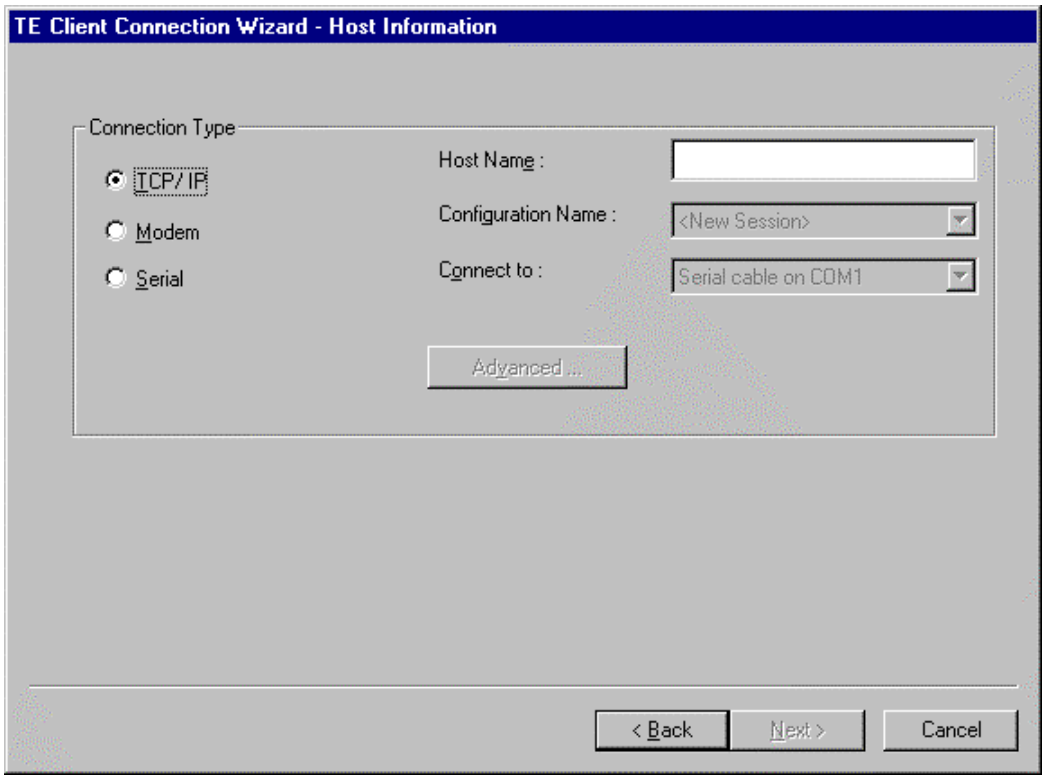
**NOTE**: THE NAME OF THIS FIELD WILL DEPEND ON THE **EMULATION-**TYPE THAT IS SELECTED.

The following table contains the emulation and terminal types that Thin Client supports

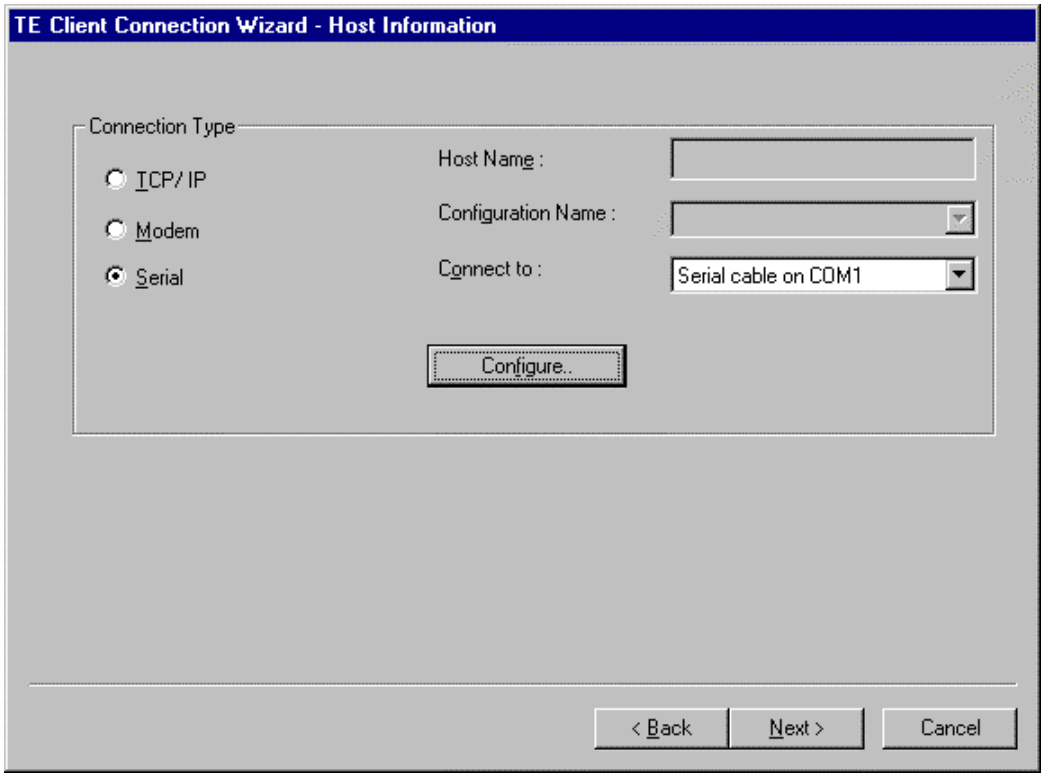
| ***Select one of the following from the* Emulation *drop-down list.*** | ***Then…*** | ***And define other options (if any)*** |
|---|---|---|
| VT52, VT100, VT300 7-Bit (*default*) or VT300 8-Bit | Select one of the following from the **VT Terminal ID** drop-down list. Vt100, vt101, vt102, vt125, vt220, vt240, vt320 (*default*), vt340, vt420, vt131 or vt132 | |
| ANSI BBS, SCO Console, WY50, WY50+, WY60, TV1910, TV1920, TV1925, ADDS A2, or HZ1500 | | |
| IBM3151 | Select one of the following from the **IBM 3151 Model** drop-down list. 11 (*default*) or 31 | |

| ***Select one of the following from the* Emulation *drop-down list.*** | ***Then…*** | | ***And define other options (if any)*** |
|---|---|---|---|
| IBM3270 | Select one of the following from the **IBM 3270 Model** drop-down list. | 3278-2, 3278-3, 3278-4, 3278-5, 3278-2-E (*default*), 3278-3-E, 3278-4-E, 3278-5-E, 3279-2, 3279-3, 3279-4, 3279-5 or 3287-1 | Select the **Right Ctrl Acts as Enter Key** or the **Left Ctrl Acts as Reset Key** check-boxes, if you want to enable these functions for 3270 emulation. |
| IBM5250 | Select one of the following from the **IBM 5250 Model** drop-down list. | 5291-1, 5292-2, 5251-11, 3179-2, 3196-A1, 3180-2, 3477-FC, 3477-FG, 3486-BA, 3487-HA or 3487-HC | Select the **Right Ctrl Acts as Enter Key**, **Left Ctrl Acts as Reset Key**, or **IBM5250 Monochrome** check-boxes, if you want to enable these functions for 5250 emulation. |

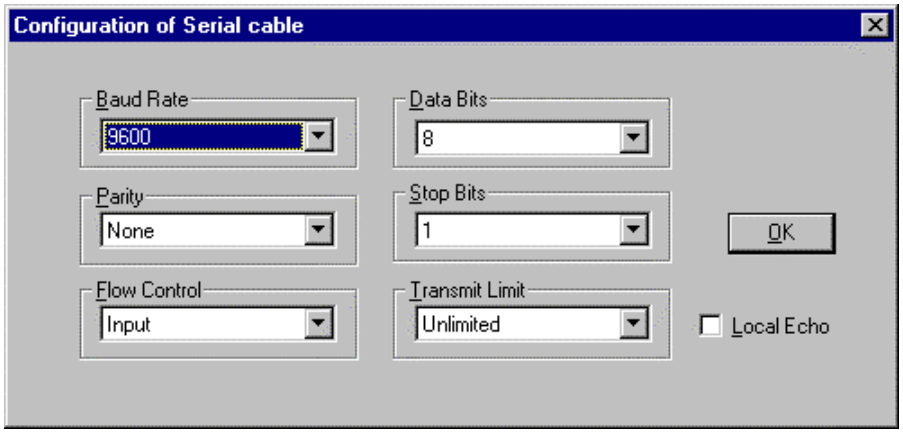
6. After providing a name and selecting the emulation/terminal type for the connection, click **Next>** to proceed. The following dialog-box is displayed.



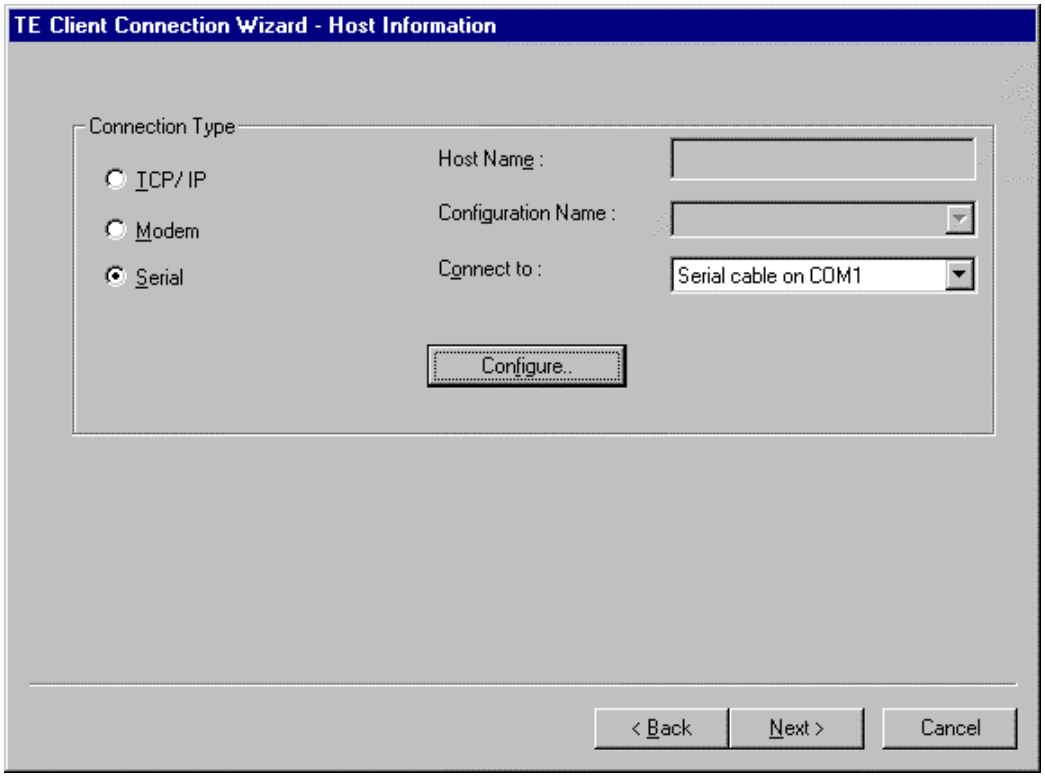

7. Select the **Serial** radio-button. The above dialog-box will change as shown below.



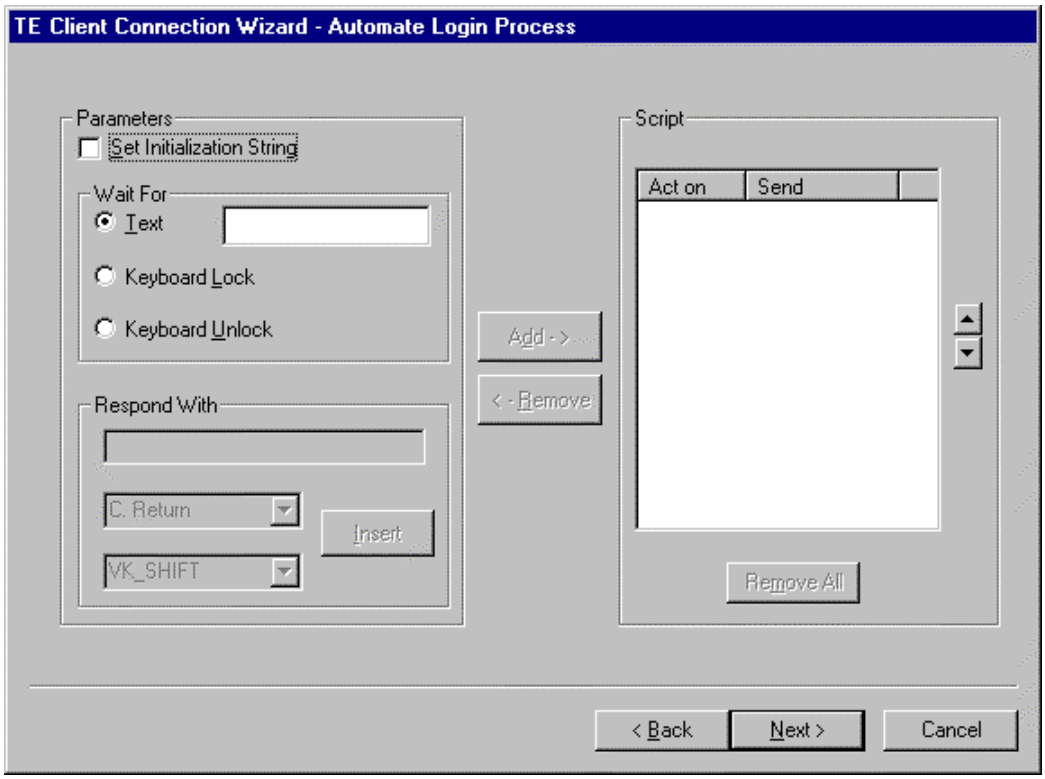

8. Select the appropriate port from the **Connect to** field and click the **Configure…** button. The **Modem Settings** dialog-box is displayed.




9. Configure settings (*Baud Rate, Parity, Flow Control, Data Bits, Stop Bits, Transmit Rate and Local* Echo) for the COM port to be used for the Terminal Emulation Connection and click **OK** to return to the **Host Information** dialog-box.




10. Click **Next>** to proceed. The following dialog-box is displayed.




With this dialog-box, you can partially or fully automate the login process.

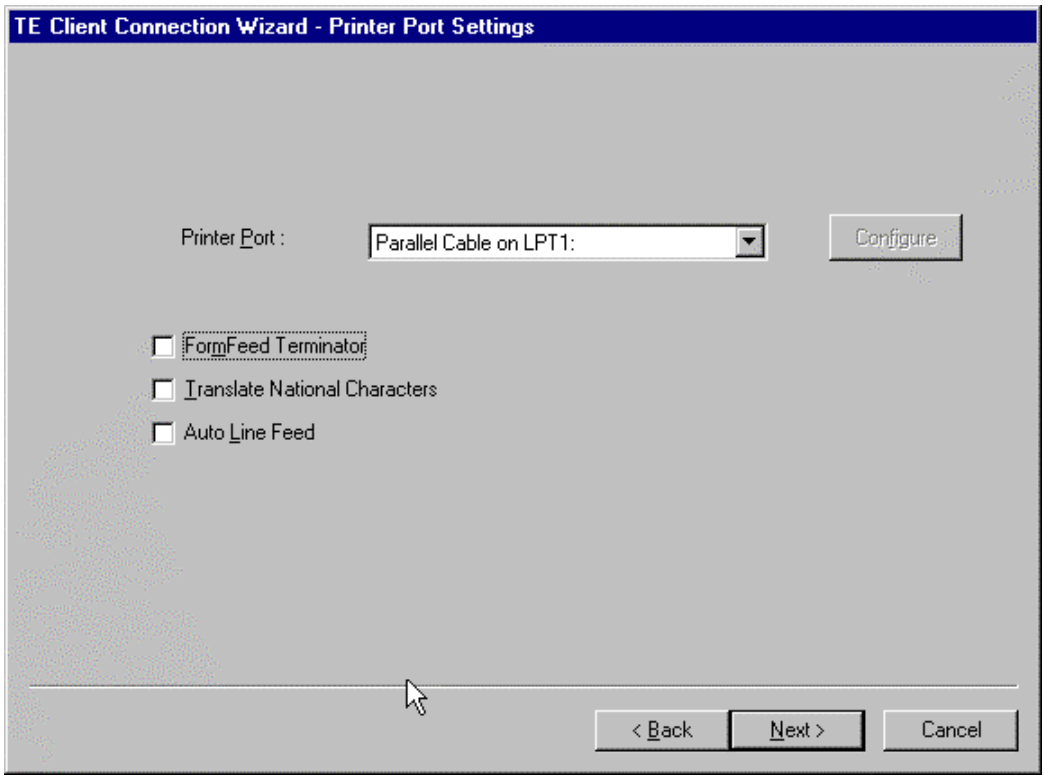
- **Set Initiation String**: If the host requires an initialization string when you first connect to it, select this check-box. This will enable the **Initiate With** box in place of the **Respond With** box. Provide the required string in this field and click the **Add** button. The initialization string will be added to the **Script** window.

- **Wait For**: With the **Text**, **Keyboard Lock** and **Keyboard Unlock** radio-buttons, you can specify the prompt or keyboard-status command that the automatic login process has to wait for. Some systems are case sensitive, so ensure that **Text** entry follows the correct conventions for the system.

**NOTE**: WHILE RUNNING THE IBM3270 OR IBM5250 EMULATIONS, **TEXT** ENTRIES ARE ONLY APPLICABLE IN THE NVT (NETWORK VIRTUAL TERMINAL) MODE.

- **Respond With**: This group of fields will be enabled only when one of the **Wait For** options is selected. With these fields, you can define responses for each **Wait For** option. You can either provide the text of the response in the text field or **Insert** a pre-defined response from the two drop-down lists below the text field. After providing or inserting a response, click **Add** to include the response in the **Script** window.
- **Script**: This window lists the defined initiation and response strings. The actions will be performed in the order in which they appear in this window. You can change the order of script-lines using the **up** and **down** arrow buttons adjacent to the **Script** window.
- **Remove** / **Remove All**: With these buttons, you can remove specific/all entries from the **Script** window.

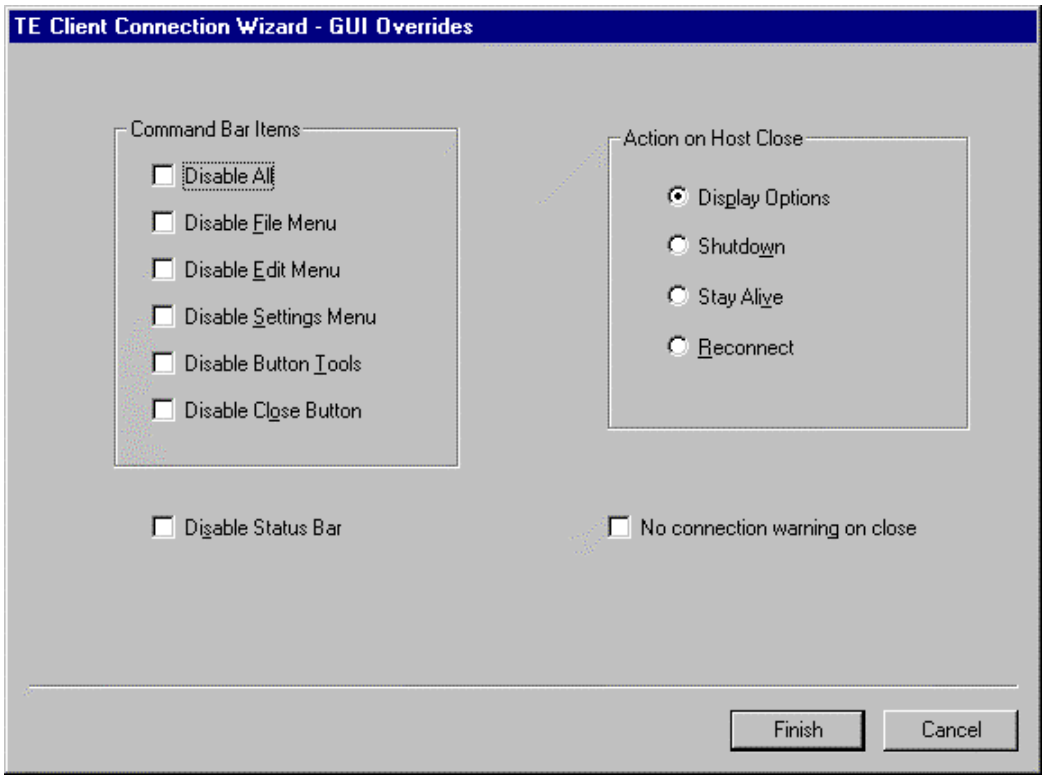
11. After configuring the above settings, click **Next>** to proceed. The following dialog-box is displayed.




- **Printer Port**: From this drop-down list, select the appropriate printer port. The **Configure** button will be enabled if you select one of the COM ports. Click this button. The **Configuration of COM...** dialog-box will be displayed. In this dialog-box, you can configure settings (*Baud Rate, Parity, Flow Control, Data Bits and Stop Bits*) for the printer port. Select the appropriate settings and click **OK**.
- **FormFeed Terminator**: Select this check-box if the printer should advance paper to the top of the next form when it has finished printing.
- **Translate National Characters**: This option determines whether ISO Latin characters used by Microsoft Windows or Roman 8 characters used in HP mode, are to be translated to IBM characters.

- **Auto Line Feed**: Select this check-box if you the printer should start at the beginning of the next line when a carriage return command is received.

12. Click **Next>** to proceed. The following dialog-box is displayed.



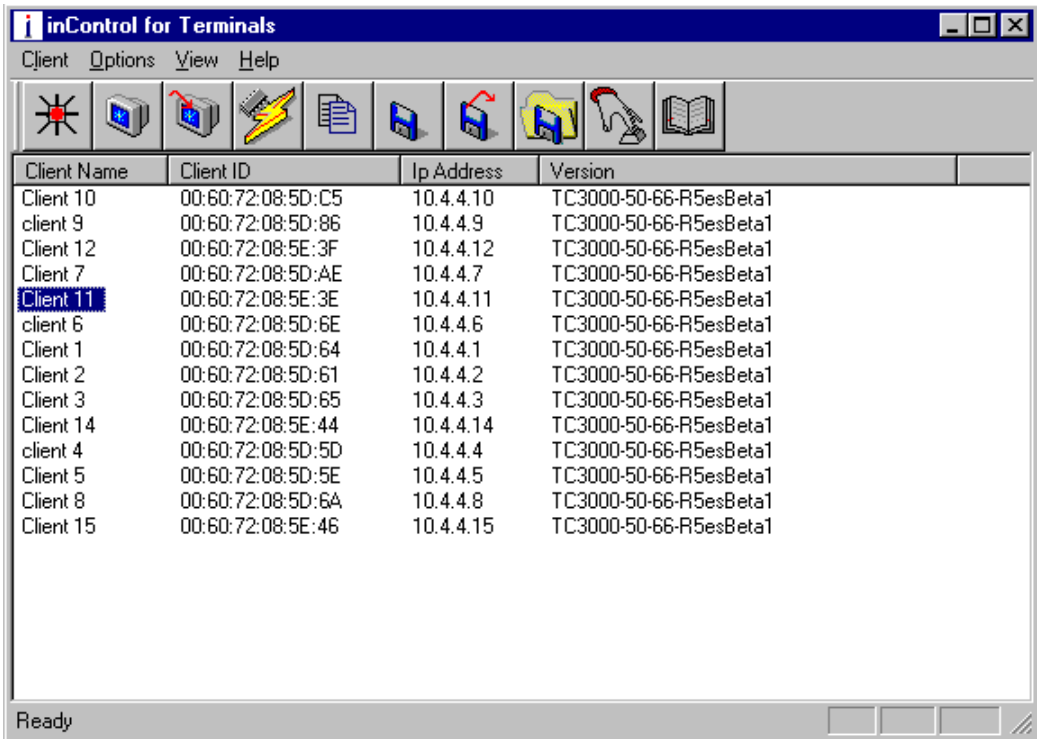

With this dialog-box, you can disable some or all user-interface options and thus restrict access to settings that must not be changed. You can also specify how the emulation should respond when the connection is closed.

- **Command Bar Items**: Select appropriate options from this group of check-boxes to disable menus on the top-bar of the terminal emulation window.
- **Disable Status Bar**: Select this check-box to disable status bar.
- **Action on Host Close**: Select one of these radio-buttons to specify how the emulation should respond when the connection is closed.
  - **Display Options**: Select this radio-button if you want a dialog-box to be displayed with Shutdown, Stay Alive and Reconnect options.
  - **Shutdown**: Select this radio-button if you want the emulation to close down.
  - **Stay Alive**: Select this radio-button if you want to keep the emulation running.
  - **Reconnect**: Select this radio-button if you want the emulation to attempt to reconnect to the host.
- **No Connection warning on close**: By default, a warning message is displayed when you attempt to exit the emulator while a host connection is active. You can disable the warning message by selecting this check-box.

13. Select the appropriate overrides and click **Finish**. The **Terminal Properties** dialog-box is displayed.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

14. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 14, YOU MUST PERFORM STEP 15 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

15. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

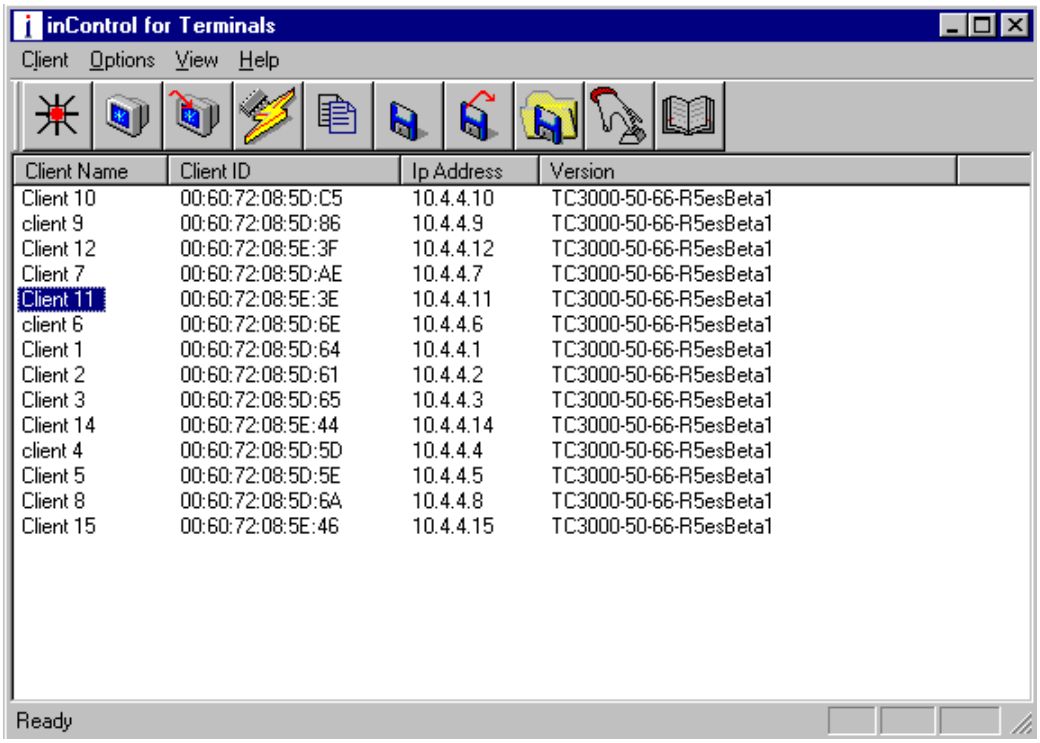
**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

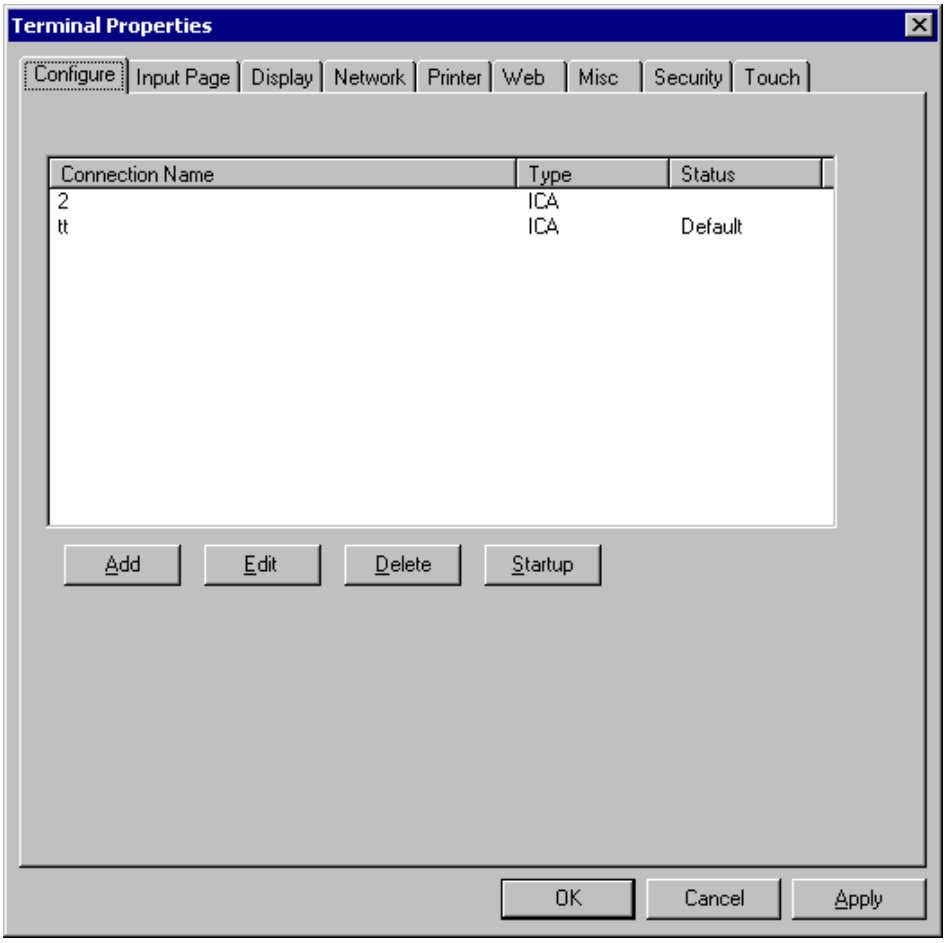
- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Creating an I-O 5250 Printer Connection

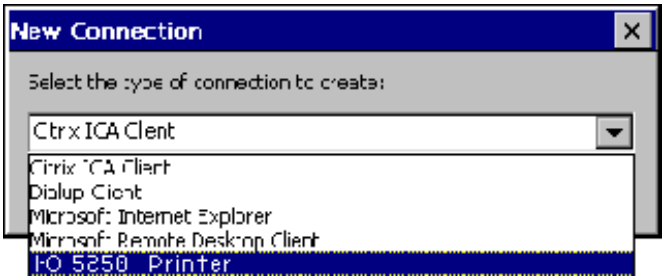
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name OR select the **Setup** option from the **Client** menu OR click the  icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry information of the client to its internal database and displays the following screen.

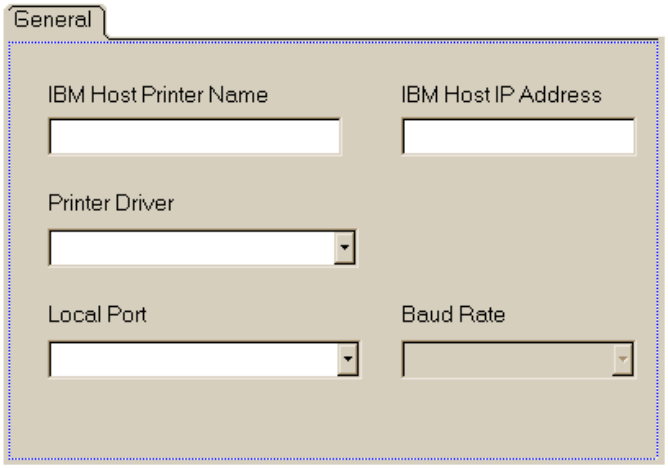



4. Click **Add**. The **New Connection** dialog-box is displayed.
5. Select I-O 5250 Printer from the drop-down list and click OK.




**NOTE**: ONLY ONE PRINTER CONNECTION CAN BE CREATED. IF MORE IBM HOST PRINTER CONNECTIONS ARE REQUIRED, INSTALL ONE OF I-O'S LAN PRINT SERVERS.

6. The I-O 5250 Printer Connection configuration screen is displayed. On **General** tab, you will enter the basic required information for establishing a TN5250e printer connection with the IBM host.




- **IBM Host Printer Name**: Enter the name that you want the IBM host to use for this printer session (up to 8 characters maximum).

> **CAUTION**: IF YOU LEAVE THIS FIELD BLANK, THE IBM HOST WILL CREATE A 3812 DEVICE BUT WILL GIVE THE PRINTER THE NAME OF QPADEVNNNN WITH NNNN BEING A 4-DIGIT NUMBER. HOWEVER, EACH TIME THE I-O PRINT SERVER CONNECTS TO THE IBM HOST, THE NNNN NUMBER FOR THE PRINTER MAY BE DIFFERENT. THIS MAY CAUSE PROBLEMS WHERE A SPECIFIC PRINTER NAME IS USED IN SPECIFYING THE LOCATION OF PRINTED OUTPUT. *IT IS RECOMMENDED THAT YOU ENTER A PRINTER NAME!*

- **IBM Host IP Address**: Enter the TCP/IP address of the IBM host the I-O 5250 Printer session will be connected to.
- **Printer Driver**: From the drop down box, select the print driver supported by the printer attached to the thin client.

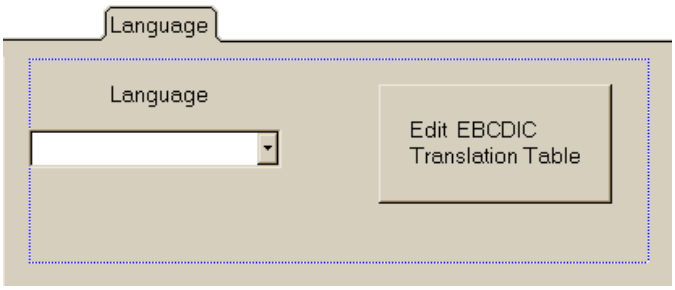
  For example, if you were attaching a HP LaserJet printer, you would select "HP PCL". For Epson, there are several general drivers. Select the one that most closely matches the Epson or Epson compatible dot-matrix printer that is being attached.

  It should be noted that the IBM host will always create a 3812 page printer device whenever TN5250e is used for printing. This is a laser printer. To allow you to attach other printers besides laser printers, I-O's 5250 Printer Emulation module contains a 3812 to 4214conversion module. If you choose to attach a dot-matrix printer to the thin client and select one of the dot-matrix print drivers listed in the drop down box, I-O's 5250 Printer Emulation module will first convert the 3812 SCS commands into 4214 SCS commands. Those 4214 SCS will then be converted into the appropriate ASCII dot-matrix commands. To the IBM host, the attached dot-matrix printer appears as a 3812 page printer.

> **NOTE**: BECAUSE THERE ARE DIFFERENCES IN THE WAY THAT LASER PRINTERS AND DOT-MATRIX PRINTERS FUNCTION, NOT ALL OF THE NATIVE IBM HOST DOT-MATRIX FUNCTIONALITY IS AVAILABLE THROUGH THIS CONVERSION PROCESS DUE TO THE FACT THAT THE IBM HOST IS ONLY SENDING 3812 COMMANDS. SUCH FEATURES AS "LINE ALIGNMENT" USED FOR ALIGNING CHECKS PRIOR TO PRINTING CAN ONLY BE OBTAINED USING A TRUE IBM 4214/5224/5225/5256 DOT-MATRIX EMULATION. FOR SUCH APPLICATIONS, I-O RECOMMENDS THAT YOU USE ONE OF I-O'S LAN PRINT SERVER PRODUCTS TO PROVIDE THE COMPLETE IBM DOT-MATRIX FUNCTIONALITY.

- **Local Port**: Select from the drop down box the physical port that the printer is attached.
- **Baud Rate**: If the COM1 serial port is the physical port the printer is attached, identify here the speed of the port (make this rate the same as that set on the printer). The remainder of the serial characteristics for this port have been set to: 8 data bits, no parity, 1 stop bit. This field is only available when COM1 is selected in the Local Port field.

7. Select the **Language** tab. From the drop down box, select the host language to be used by the IBM host when the command "Use Default Language" is received.

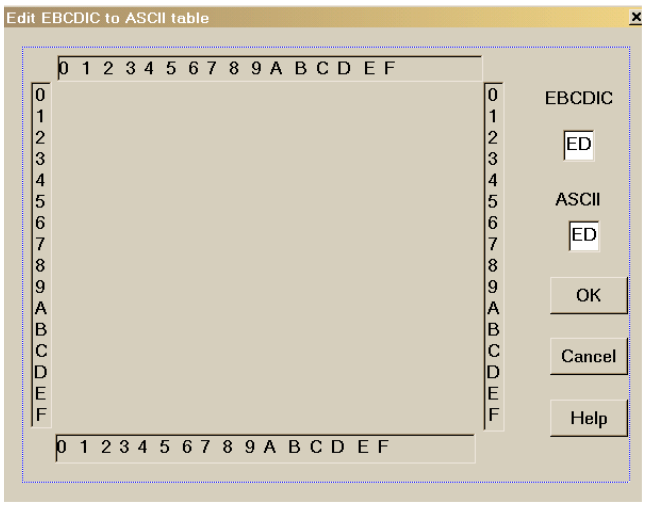



- **Language**: Select the appropriate language from the drop down box.
- **Edit EBCDIC Translation Table**: Use this option to change the translation table that the I-O 5250 Printer Emulation module uses to convert IBM's EBCDIC characters to ASCII characters.

**CAUTION**: EDITING THIS TABLE SHOULD ONLY BE ATTEMPTED BY ADVANCED USERS.

If a character is printing on your printer with the wrong ASCII value, use the printer's manual to determine the ASCII HEX value of this character and that of the value you want in its place. Then edit the translation table with by changing the incorrect ASCII value to the desired value.

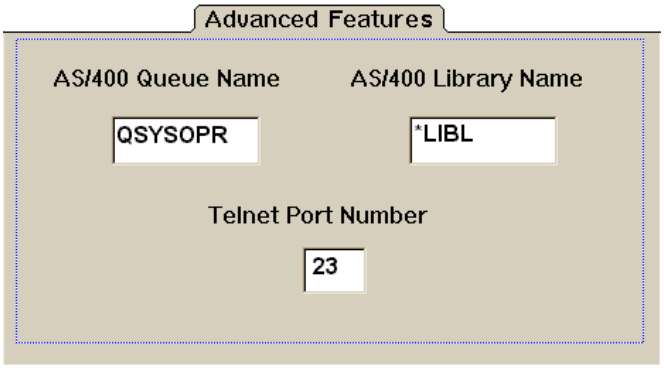
- **EBCDIC**: Enter the hexadecimal EBCDIC value you want to change.
- **ASCII**: Enter the hexadecimal ASCII value for the character you actually want printed.




(Similar to actual screen)

**NOTE**: I-O USES IBM'S MULTINATIONAL CODE PAGE 500 (WITH MODIFICATIONS FOR THE SELECTED LANGUAGE) FOR THE EBCDIC TABLE AND THEN CONVERTS TO ASCII CODE PAGE 850 AS THE DEFAULT CONVERSION. USING HOST DOWNLOAD COMMAND 17, YOU MAY CHANGE THE ASCII TABLE TO ROMAN 8, LATIN 1 (INCLUDES EURO SYMBOL), CODE PAGE 437, OR CODE PAGE 858 (INCLUDES EURO SYMBOL).

8. Select the **Advanced Features** tab. Enter the values the IBM host uses for the message queue, library and Telnet port number.



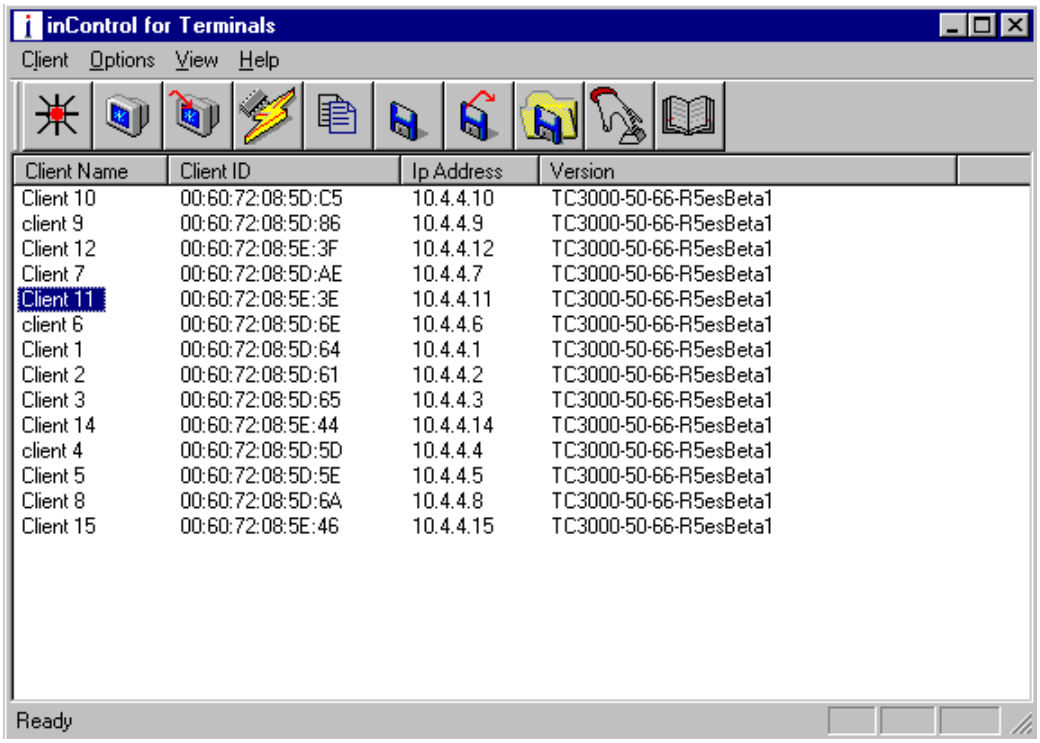

**NOTE**: YOU NORMALLY DO NOT NEED TO MODIFY THESE VALUES AS THEY ARE THE TN5250E DEFAULTS. REFER TO YOUR SYSTEM ADMINISTRATOR FOR ANY CHANGES HERE.

- **AS/400 Queue Name**: Enter the name of the message queue on the IBM host. The default value is QSYSOPR.
- **AS/400 Library Name**: Enter the name of the library on the IBM host. The default value is *LIBL.
- **Telnet Port Number**: Enter the TCP/IP port for Telnet on the IBM host. The default value is 23. If a firewall is being used, port 23 may be blocked to prevent unwanted access to your network and hosts. In such a case, the port number would be changed to another number.

9. When you have completed making all configuration entries on the General, Language and Advanced Features screens, click the **OK**. The Terminal Properties dialog-box is displayed.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

10. Click **OK** to return to the inControl main screen.



**CAUTION**: AFTER STEP 10, YOU MUST PERFORM STEP 11 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

11. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

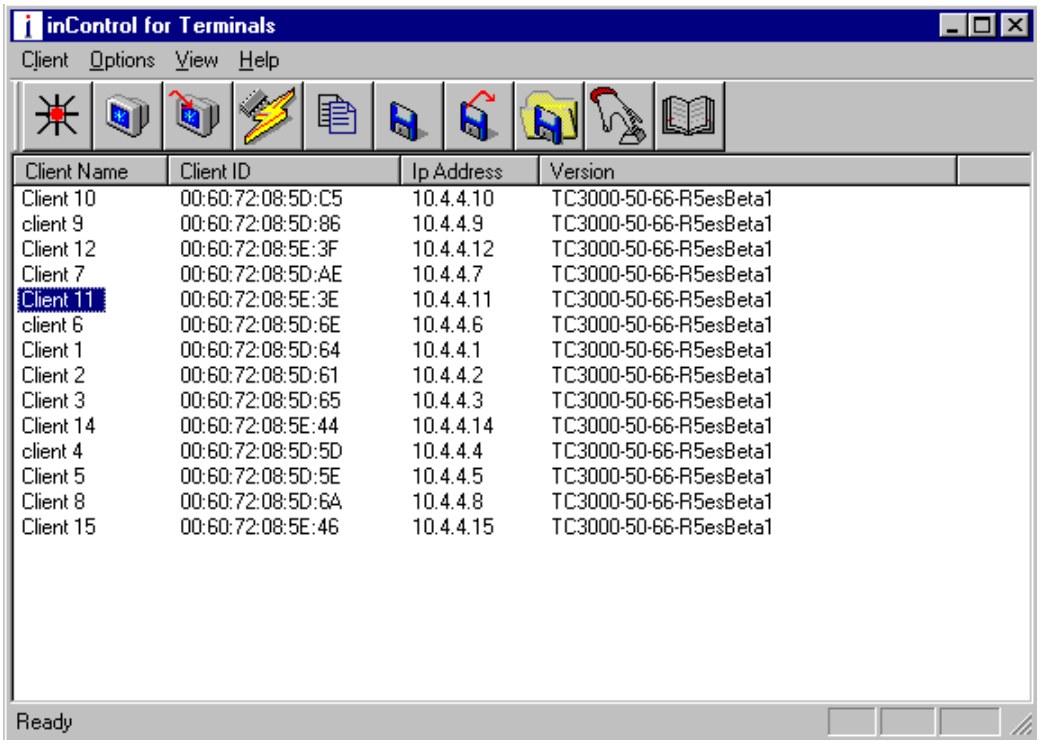
After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

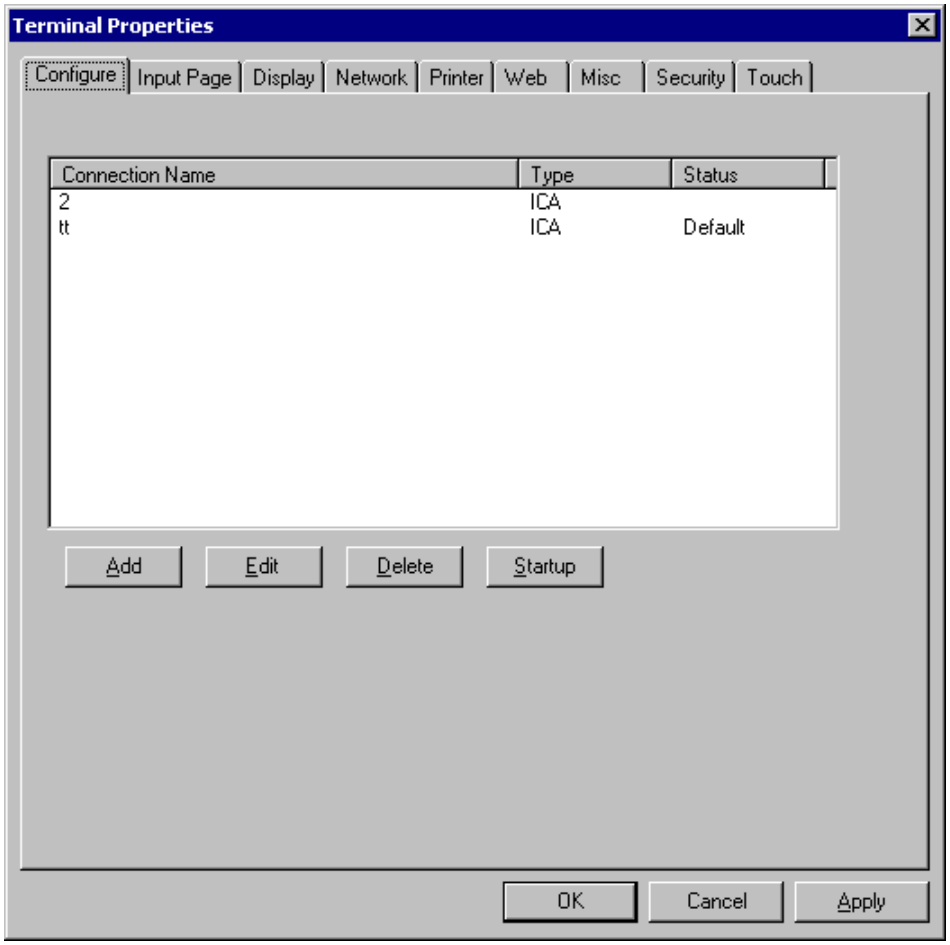
# Editing Connection Entries

This section describes the procedure to edit defined connection entries using inControl.

Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the client for which you want to edit connection entries.
3. Double-click on the client-name OR select the **Setup** option from the **Client** menu OR click the  icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry information of the client to its internal database and displays the following screen.




4. The above dialog-box contains a list of connection entries defined for the client. Select the connection entry that you want to edit and click **Edit**.

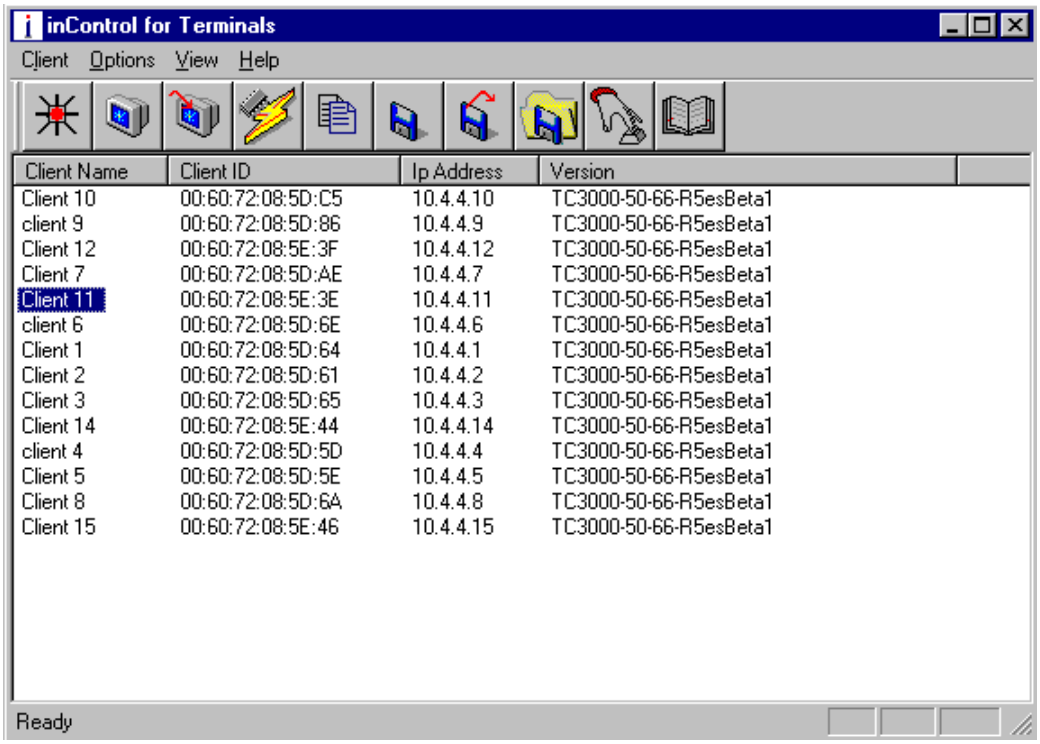
Depending on whether the connection is an ICA, RDP or Terminal Emulation Connection, the appropriate connection wizard is launched. The procedure to edit connection entries is the same as the procedure to create connections. Click on the appropriate hyperlink below to go to the required configuration procedure.

- TCP/IP ICA Connection (*page 39*)
- Dial-up ICA Connection (*page 49*)
- Dialup Connection *(page 60)*
- Microsoft Internet Explorer Connection *(page 119)*
- RDP Connection (*page 74*)
- TCP/IP Terminal Emulation Connection (*page 82*)
- Dial-up Terminal Emulation Connection (*page 92*)
- Serial-cable Terminal Emulation Connection (*page 104*)
- I-O 5250 Printer Connection *(page 112)*

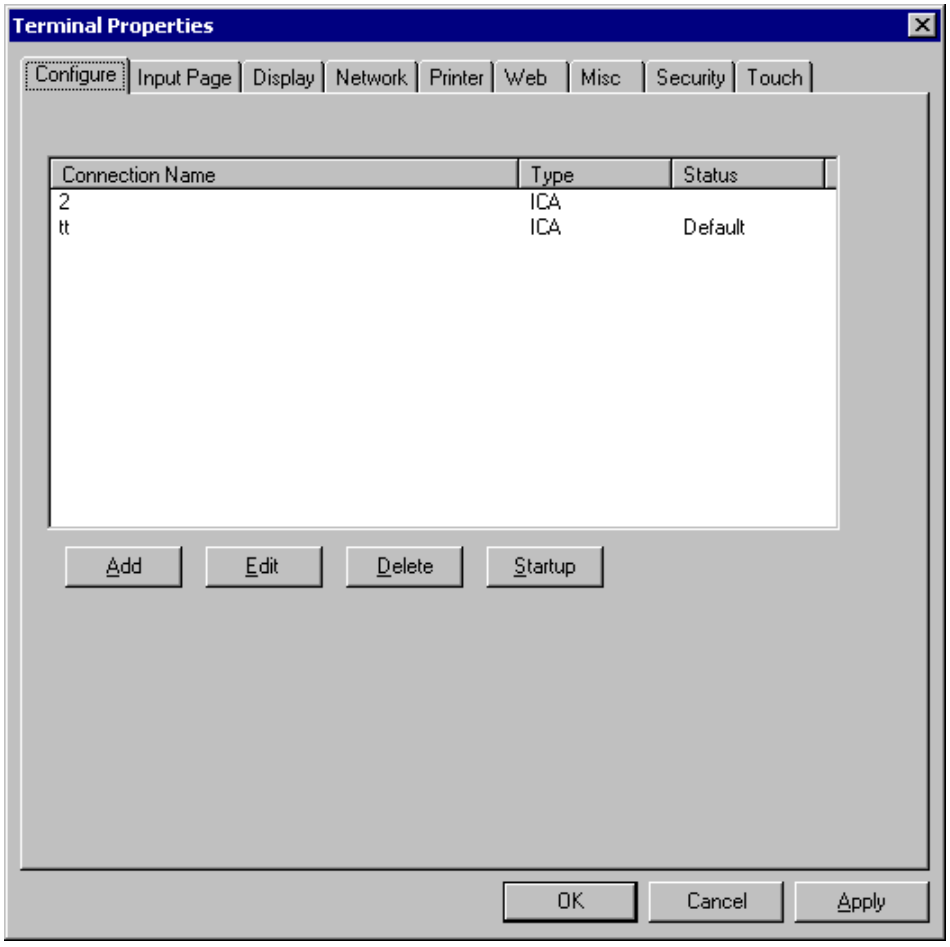
# Deleting Connection Entries

This section describes the procedure to delete connection entries of a client.

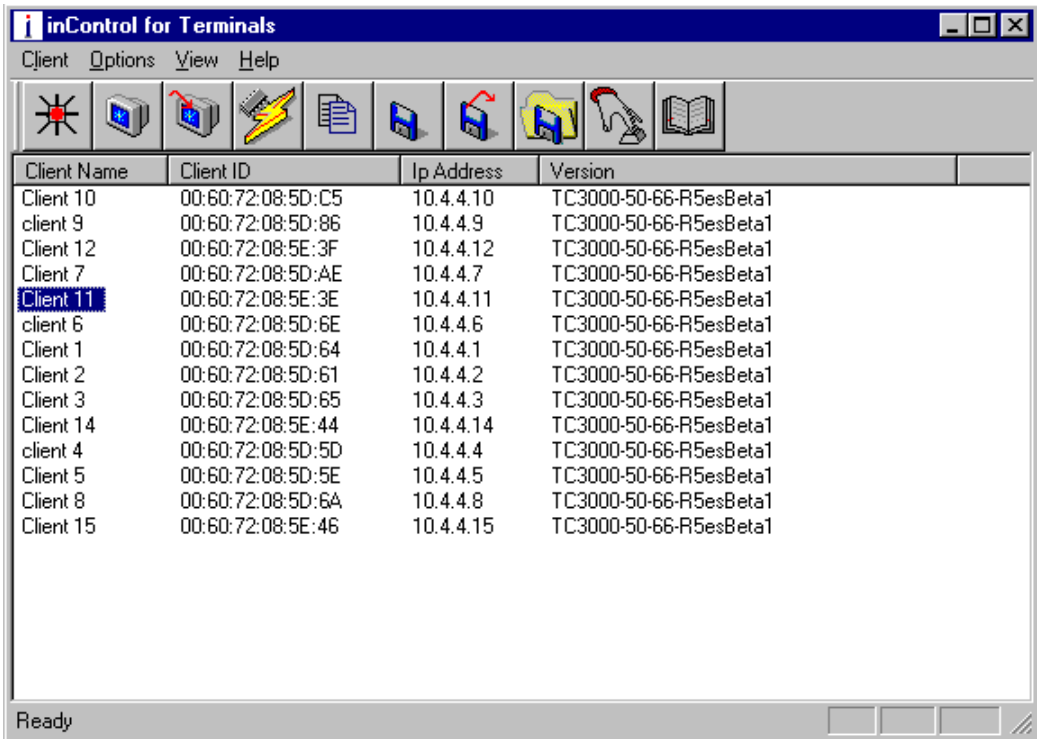
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the client for which you want to edit connection entries.
3. Double-click on the client-name OR select the **Setup** option from the **Client** menu OR click the  icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry information of the client to its internal database and displays the following screen.

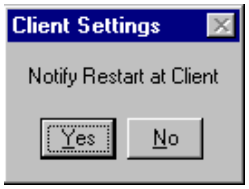



4. Select the connection entry to be deleted and click **Delete**.
5. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 5, YOU MUST PERFORM STEP 6 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

6. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

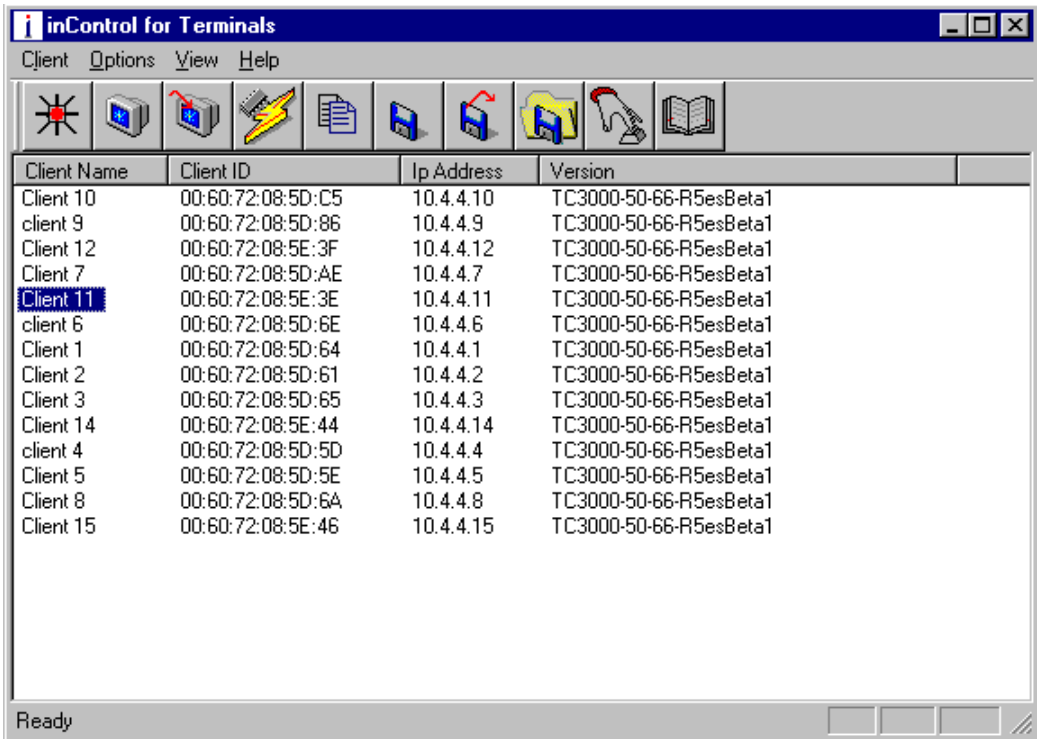
After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

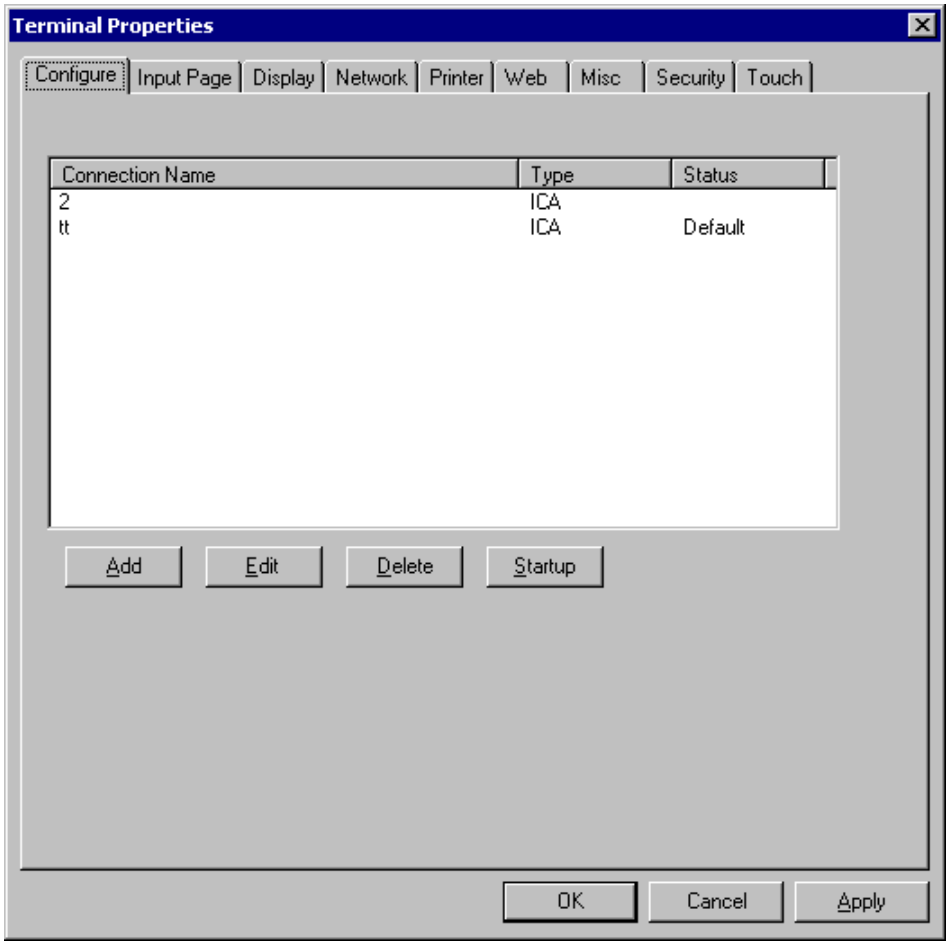
## Specifying AutoStart/Default Connections

This section describes the procedure to specify a connection to be automatically started or highlighted by default when the client is started.

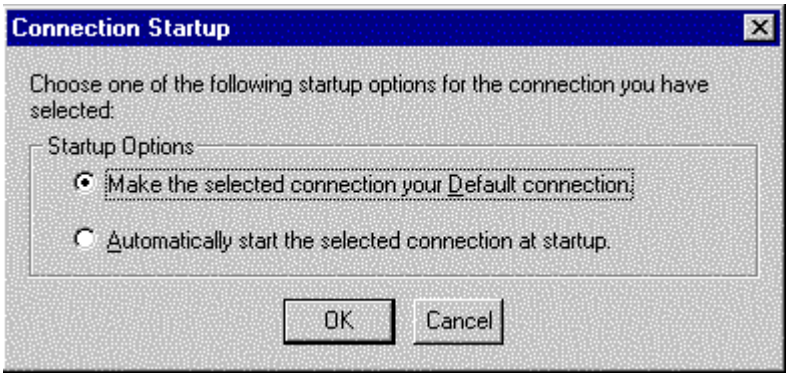
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the client for which you want to specify the auto-start/default connection entry.
3. Double-click on the client-name OR select the **Setup** option from the **Client** menu OR click the  icon on the tool bar. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry information of the client to its internal database and displays the following screen.




4. Select the connection entry that you want to be automatically started / highlighted and click **Startup**. The following dialog-box is displayed.

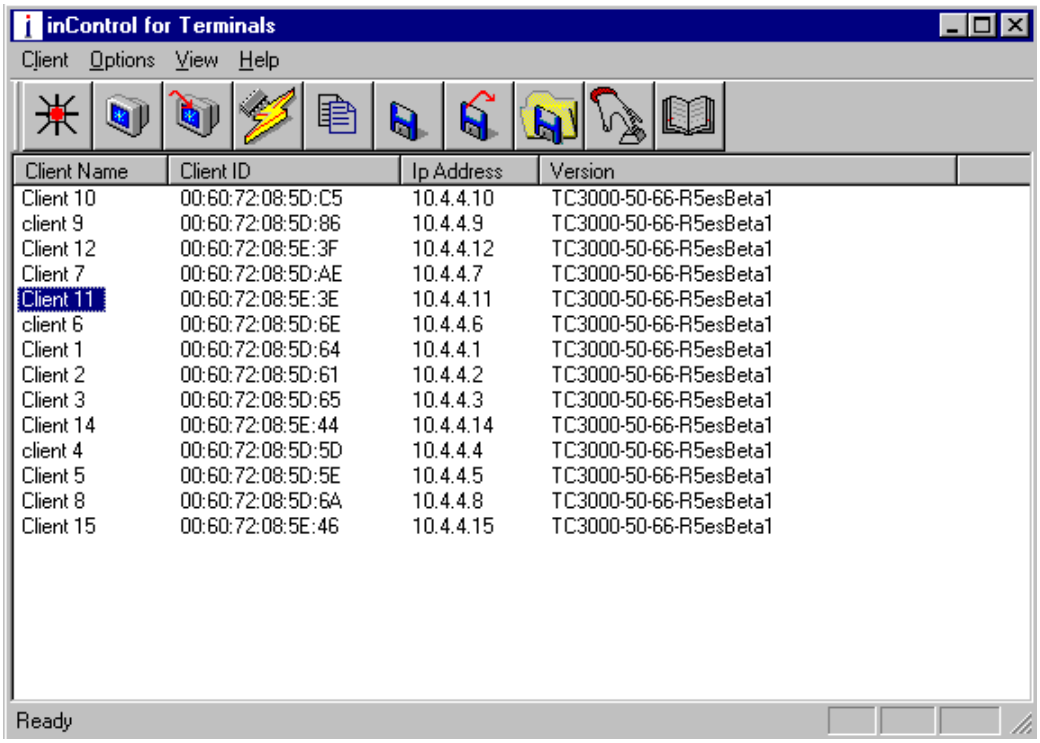



   If you want to connection to be highlighted by default when the client is started, select the **Make the selected connection your Default connection** radio-button.

   If you want to connection to be automatically started when the client is started, select the **Automatically start the selected connection at startup** radio-button.

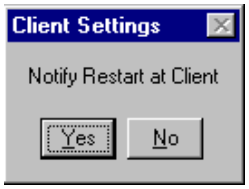
5. After specifying the required auto-start/default parameter, click **OK** to return to the **Terminal Properties** dialog-box.

6. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 6, YOU MUST PERFORM STEP 7 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

7. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.

  If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click* ***Yes***), or restart later (*click* ***No***). The new settings will take effect after the client has restarted.

# Configuring Properties for One Client

You can use inControl to uniformly configure properties of multiple clients. To do this, you have to first configure one client with the required parameters as described in this chapter.

After configuring the required parameters on one client, you can deploy the same configuration on other clients using one of the following methods.

- Copying Properties (*page 178*)

  This method involves configuring a reference client with the required parameters and then copying the parameters of the reference client to other (target) clients in the network.

- Creating and Importing a Configuration File (*page 181*)

  This method involves creating a file containing configuration-details of a reference client and then importing the contents of the file to other clients. If necessary, parameters stored in the configuration-file can be edited using inControl.

  While both the above methods can help you achieve similar objectives, the 'copy' method is especially useful when you want to replicate *selected* client-parameters. The 'config-file' method is recommended for replicating settings across a WAN or at different geographical locations.

Client parameters that can be configured on Windows CE-based clients using inControl are listed below.

- Keyboard and Mouse (*page 127*): To configure the keyboard and mouse connected to the client.
- Display Settings (*page 132*): To configure the display resolution, refresh frequency and screensaver settings of the monitor connected to the client.
- Network Parameters (*page 137*): To configure IP address, DHCP, gateway, subnet, network speed, inControl server, DNS, WINS and terminal name parameters of the client.
- **Printer Configuration parameters**

  Printer Configuration for RDP sessions on Windows 2000 servers (*page 142*): To add, configure and delete printers, for printing while the client is connected to Windows 2000 servers through the RDP protocol.

  LPD: Line Printer Daemon (*page 146*): To configure the client as a print-server using the Line Printer Daemon.

- Web *(page* 149): To configure the parameters for the browser session.
- **Global ICA Preferences**

  Default Hotkeys (*page 156*): To configure hotkeys for ICA sessions

  Window Color and Client Name (*page 158*): To configure the color-depth for ICA sessions, and to change the ICA-client-name.

  Server Location (*page 159*): To configure the color-depth for ICA sessions, and to change the ICA-client-name.

  Firewall Settings (*page 160*): To maintain a list of master-browsers to search for Citrix servers and applications in the network.

  PNLite (*page 161*): To configure NFuse server parameters.

- **Security Parameters**

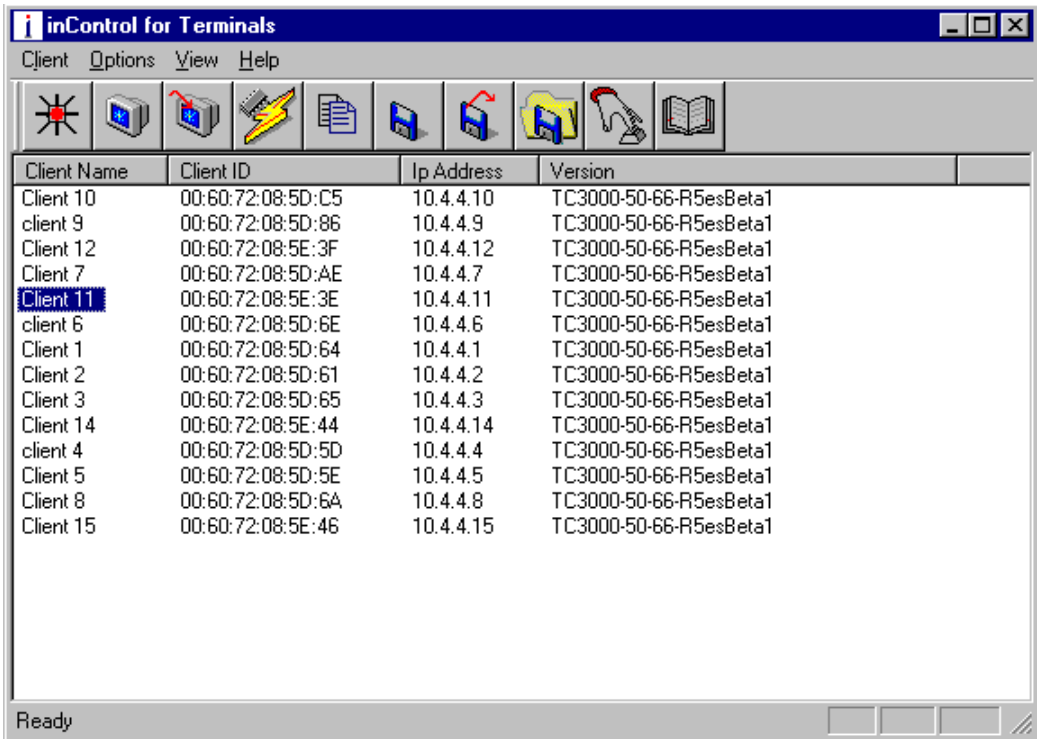
  Password Security (*page 166*): To configure password-security for access to the Terminal Properties dialog-box.

  smart AX-s (*page 167*): To enable smart AX-s security and specify fail-over password.

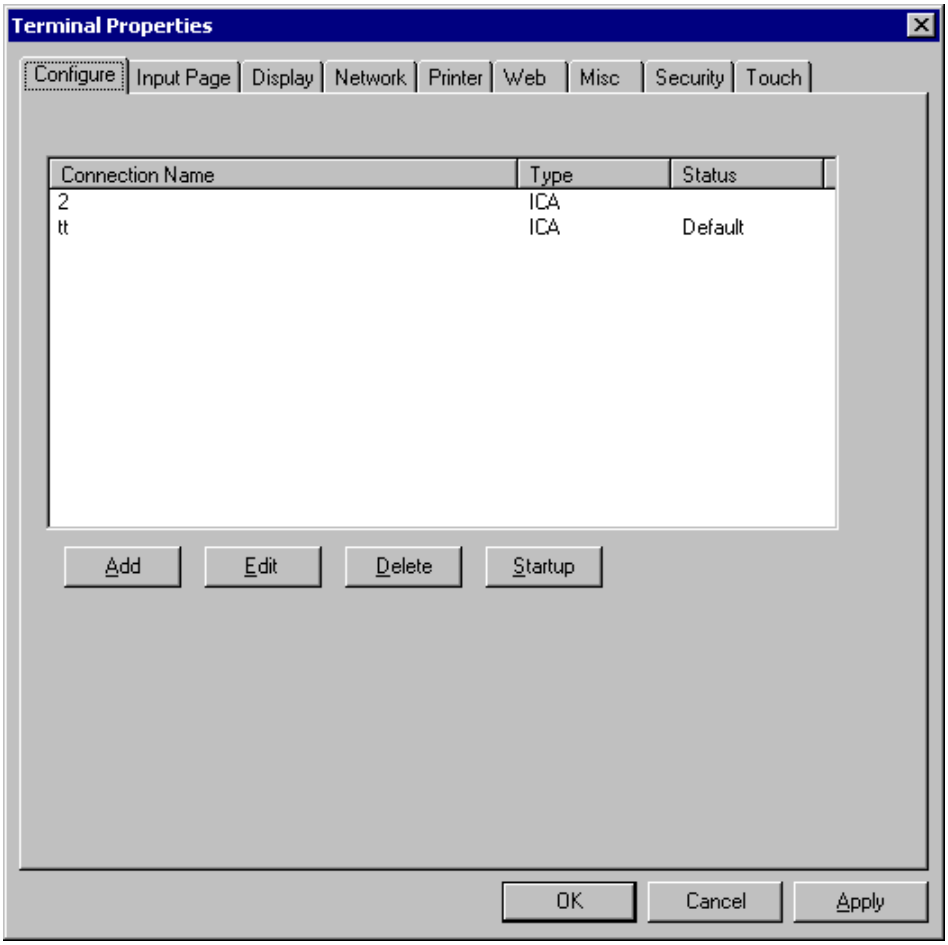
- Touchscreen Parameters (*page 170*): To configure the touchscreen unit connected to the client.

# Keyboard and Mouse Properties

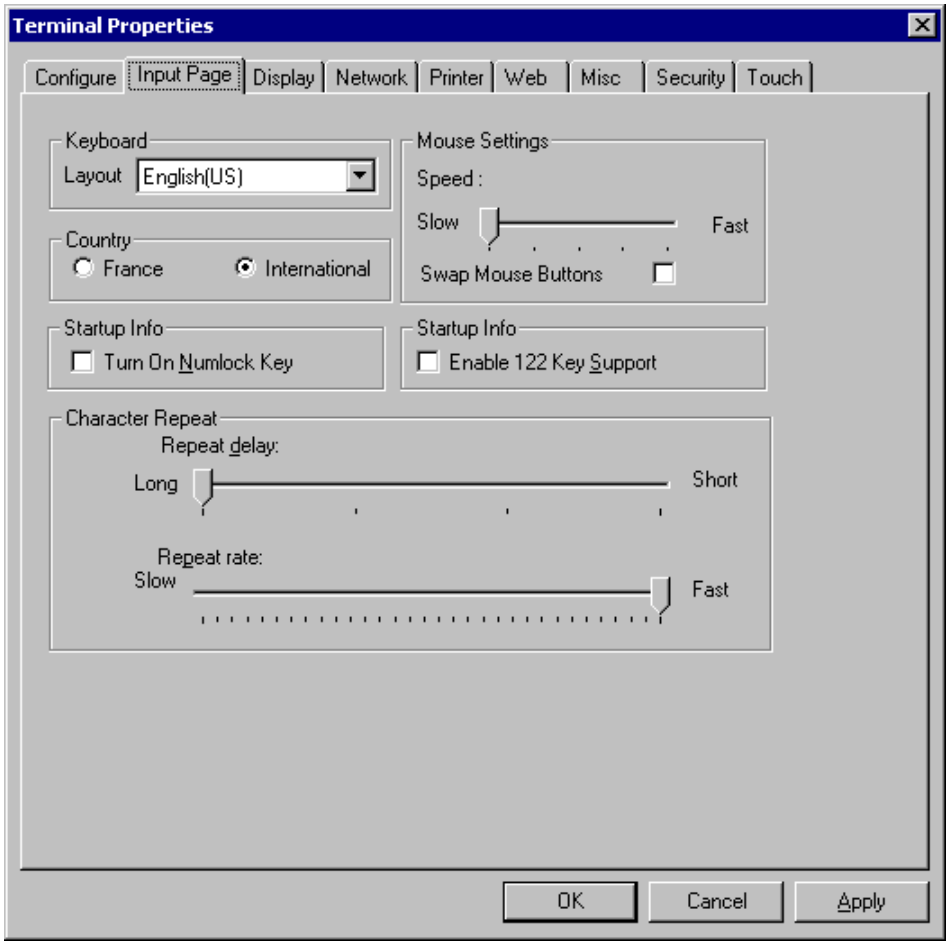
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the  icon. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following screen.




4. Select the **Input** sheet.




**Keyboard**

- **Layout**: From this drop-down list, select the keyboard language. Ensure that the servers to which the client would connect, support the keyboard language selected for the client. If the required language is not available in the list, please contact us by e-mail at support@iocorp.net.
- **Country**: Select either the **France** or **International** check-box to specify the keyboard layout.

**Mouse Settings**

- **Speed**: With this slider-control, you can set the speed of the cursor or pointer's movement on the screen relative to the movement of the mouse.
- **Swap Mouse buttons**: This option allows you to interchange functions of the left-and right-buttons of the mouse connected to the client.

**Startup Info**

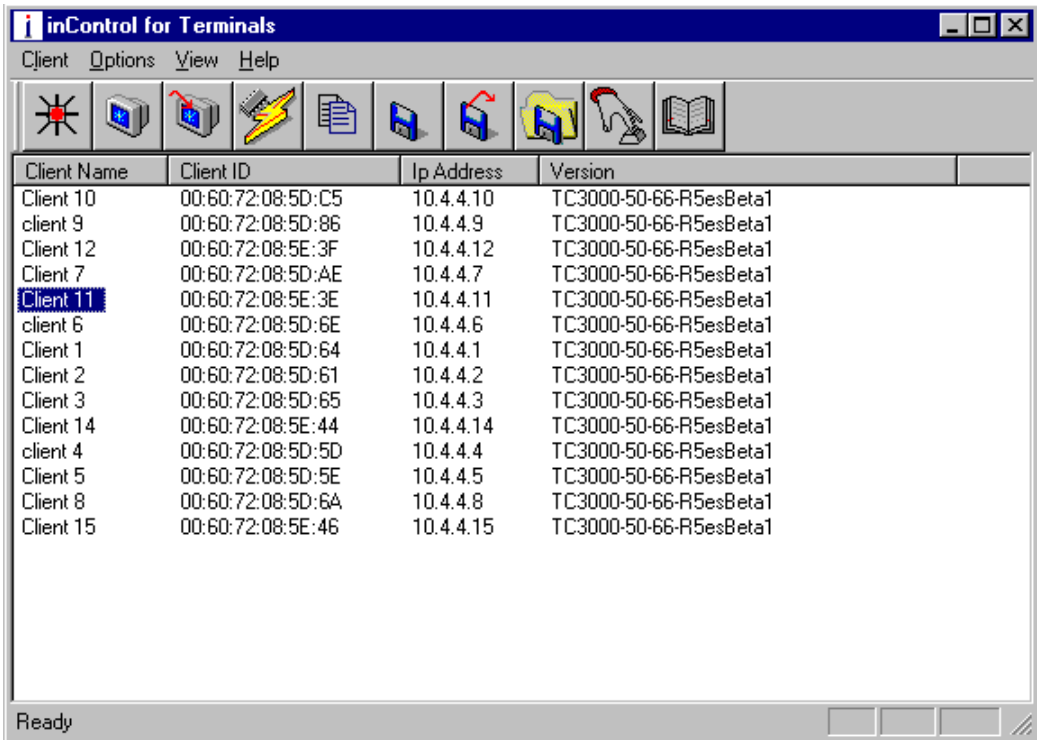
- **Turn On Numlock Key:** If you want the Num Lock position to be ON when the client boots up, select this check-box. Otherwise, leave it unchecked.
- **Enable 122 key support:** Enable this option to use the keyboard with 122 keys

**Character Repeat**

- **Repeat Delay**: This setting determines the speed (*in seconds*) at which a character appears on screen when typed repeatedly. The default setting is **Long**.
- **Repeat Rate**: This settings determines the speed (*in seconds*) a character appears on screen when the associated key is held down. The default setting is **Fast**.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

5. Click **OK** to return to the inControl main screen.



**CAUTION**: AFTER STEP 5, YOU MUST PERFORM STEP 6 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

6. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

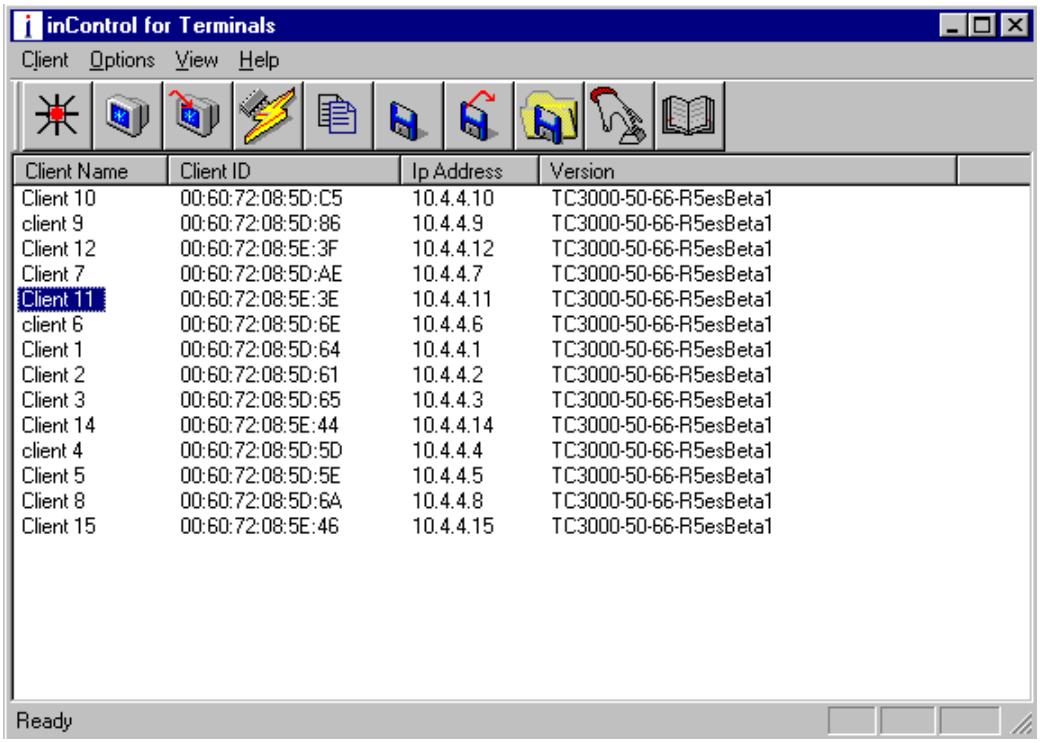
**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

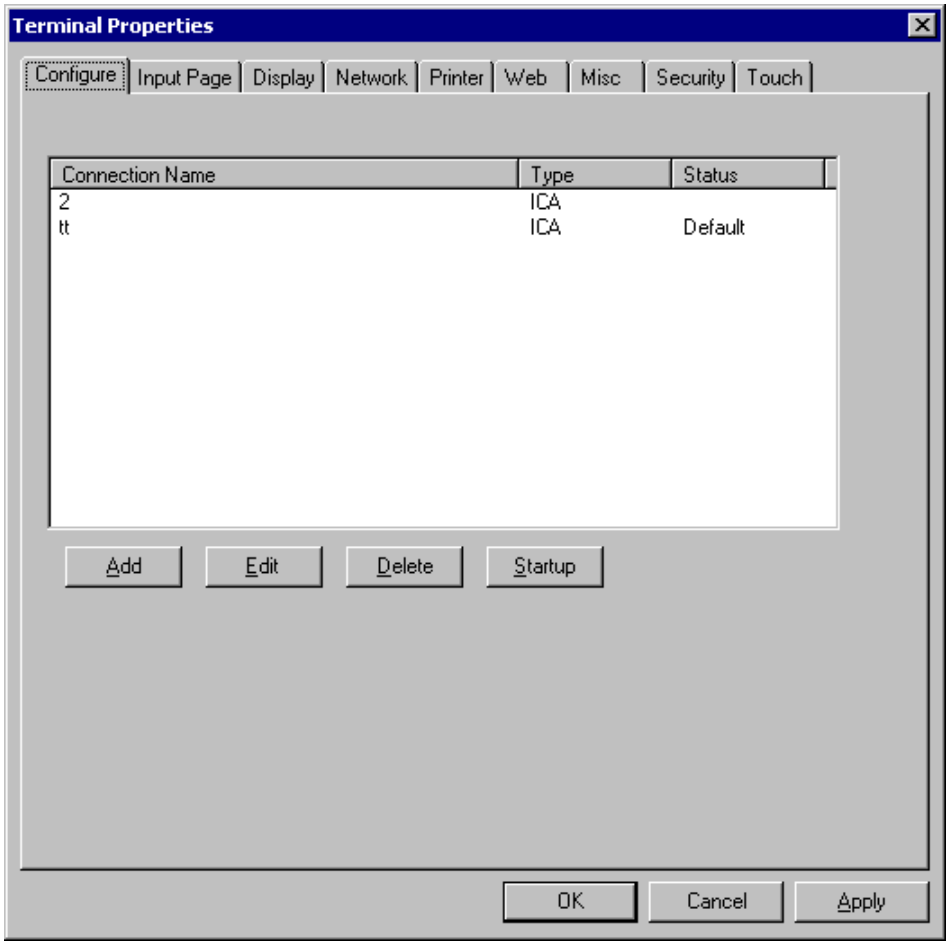
- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Display Properties

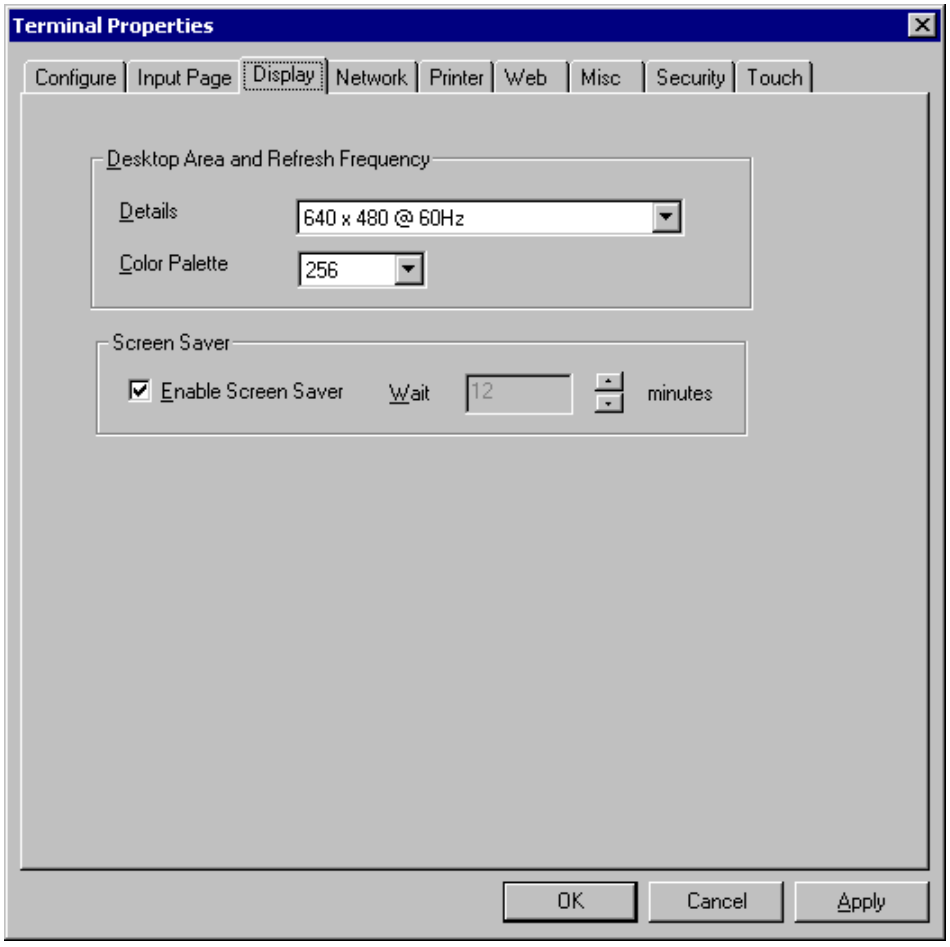
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click th  icon. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following screen.




4. Select the **Display** sheet.




- **Desktop Area and Refresh Frequency**: Select the appropriate display resolution and refresh frequency from this drop-down list.

**NOTE**: TAKE CARE TO SELECT A SETTING THAT IS COMPATIBLE WITH THE DISPLAY UNIT CONNECTED TO THE CLIENT.

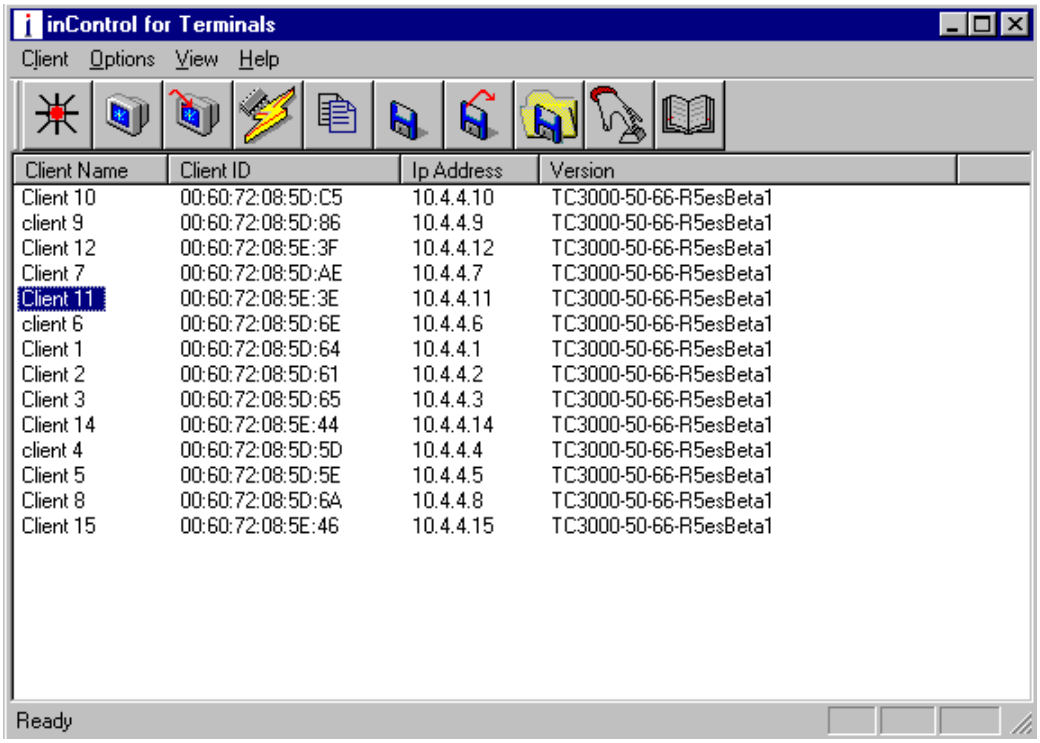
- **Screen Saver**

  **Enable Screen Saver**: Select this check-box to enable the screen saver option. It is recommended that the screen saver be enabled to protect the display unit.

  **Wait**: Specify the duration (*minutes*) of inactivity after which the screensaver should be launched.

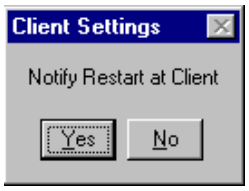
**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

5. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 5, YOU MUST PERFORM STEP 6 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

6. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

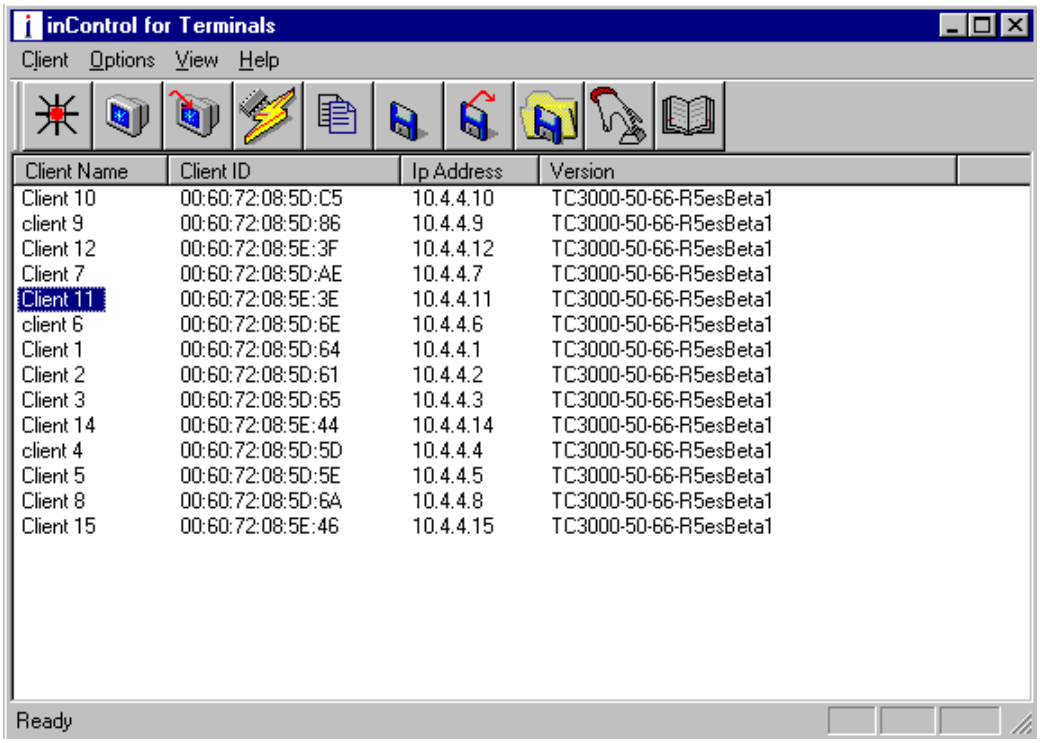
After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.

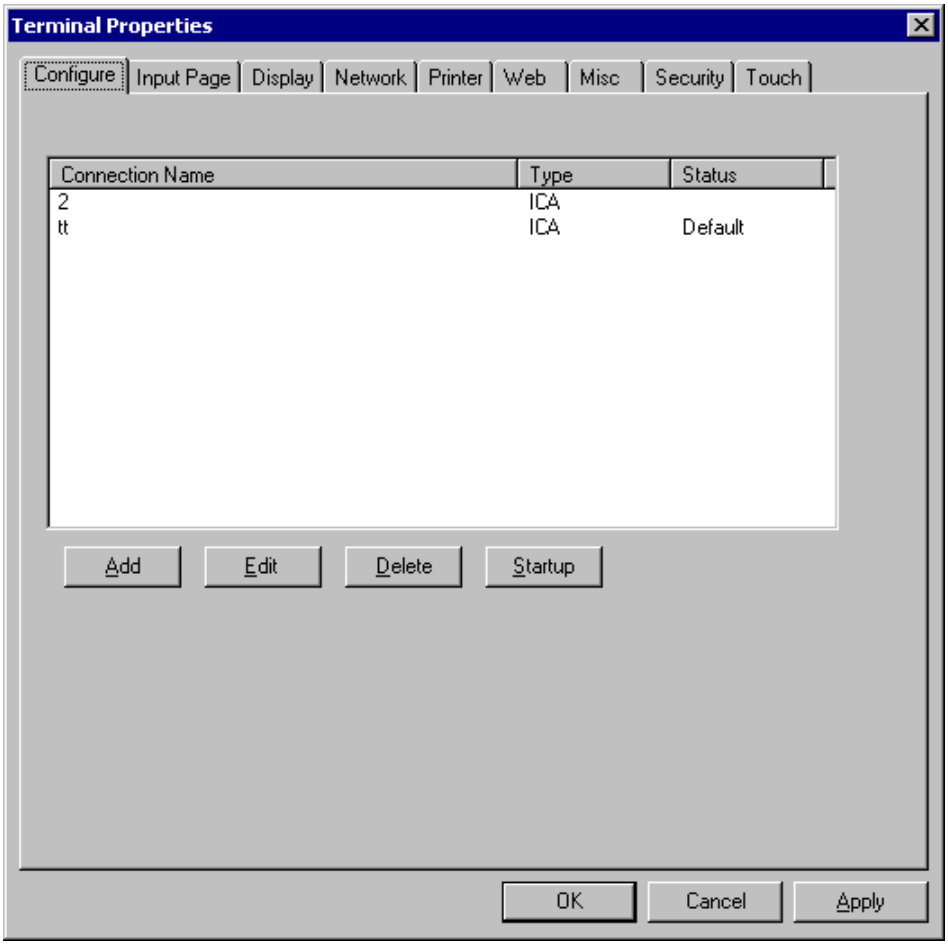
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

## Network Properties

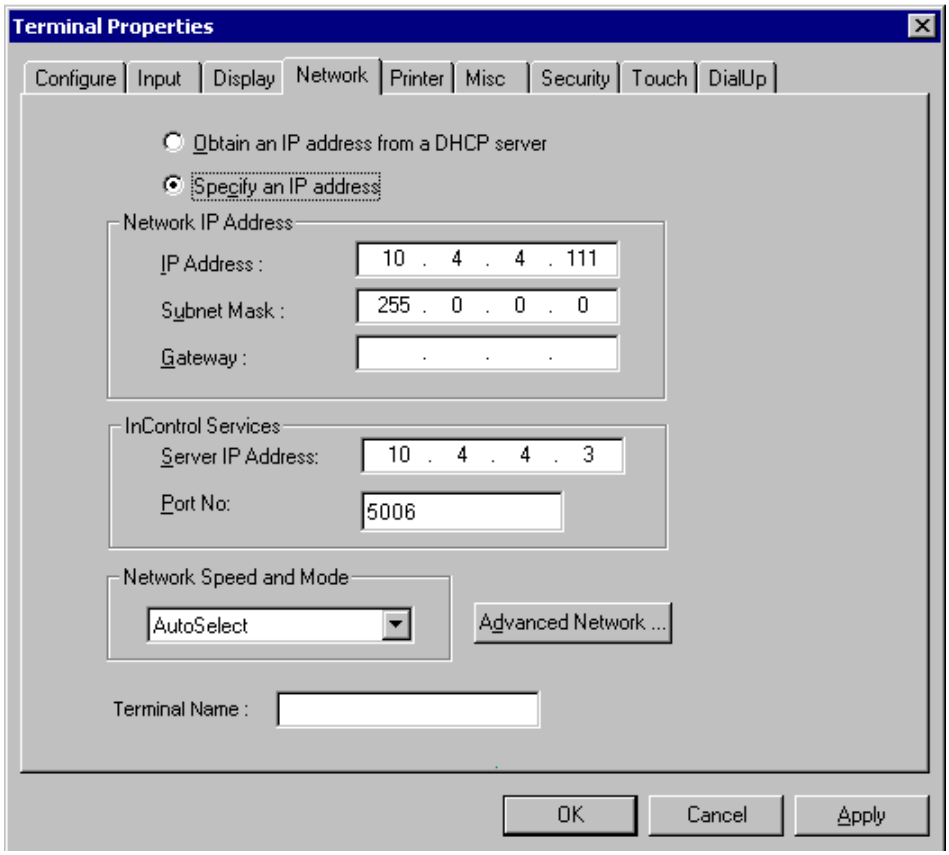
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the  icon. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following screen.




4. Select the **Network** sheet.




- **Obtain an Address from a DHCP Server**: This option indicates that the client should dynamically attempt to obtain an IP address from the DHCP server in the network.

TIP: TO IMPLEMENT LPD PRINTING, IT IS RECOMMENDED THAT YOU SPECIFY A FIXED IP ADDRESS. THIS IS BECAUSE THE IP ADDRESS OF THE CLIENT THAT IS CONFIGURED AS PRINT SERVER MUST BE SPECIFIED WHILE CONFIGURING THE WINDOWS NT/2000 SERVER/S.

- **Specify an IP Address**: Select this option if you want to assign a fixed IP address to the client. Once selected, this option will make available the following fields.
  - **IP Address**: Provide a static IP address for the client.
  - **Subnet Mask**: Enter the subnet mask.
  - **Gateway**: Enter the IP address of the gateway on the network.
- **InControl Services**

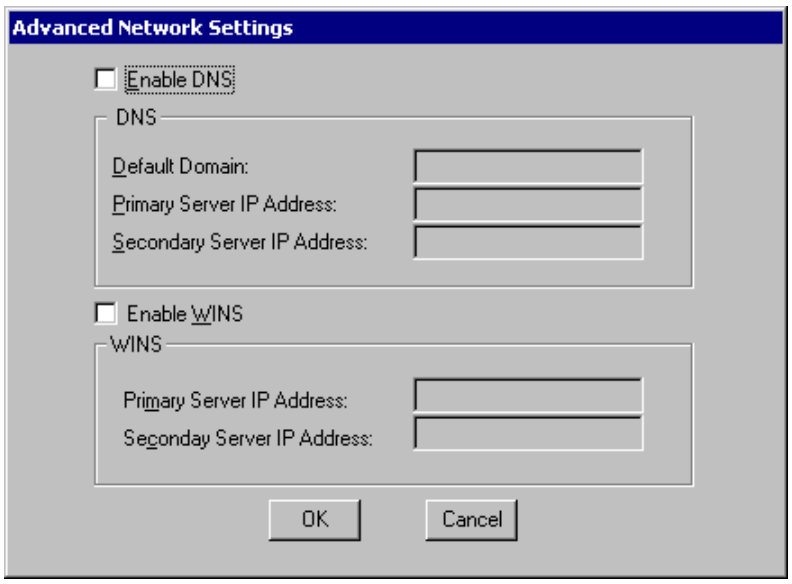
  If the client is in the same network or subnet as the inControl server, the IP address of the inControl server is automatically displayed in the **Server IP Address** field. If the correct IP address is displayed, DO NOT change the **Server IP Address** and **Port No**.

  If however the inControl server is in a different network or subnet, enter the correct IP address of the inControl server in the **Server IP** field. For clients with firmware version equal to or higher than TC3xxx-40-42 and TC3xxx-50-65, change the **Port No** to **5011**. For other clients, leave the **Port No** at **5006**.

**NOTE**: IN CLIENTS WITH FIRMWARE VERSION **EQUAL TO OR HIGHER THAN TC3XXX-40-37, TC3XXX-50-60 AND TC4XXX-50-01**, THE PORT NUMBER AUTOMATICALLY CHANGES TO **5011** WHEN THE CLIENT DETECTS THE PERIODIC UDP BROADCAST (APPROX. EVERY 20 SECONDS) FROM THE INCONTROL SERVICE. THIS TYPICALLY HAPPENS WHEN THE CLIENT IS IN THE SAME NETWORK OR SUBNET AS THE INCONTROL SERVER. FOLLOWING ARE THE ADVANTAGES OF THIS FEATURE.

- SUCH CLIENTS NEED NOT BE RESTARTED IF YOU UNINSTALL INCONTROL, REMOVE ALL FOLDERS FROM THE INCONTROL DIRECTORY AND THEN REINSTALL INCONTROL IN THE SAME DIRECTORY.
- SUCH CLIENTS NEED NOT BE RESTARTED IF YOU CHANGE THE CLIENT NAME USING THE F2 (TERMINAL PROPERTIES)->MISC TAB->ICA SETTINGS->PREFERENCES->CLIENT NAME OPTION.

- **Terminal Name**: This field contains the unique name for the RDP client. The default name contains the letter 'R' followed by the last six characters of the MAC ID of the client. You can provide a different RDP client name for the client by editing this field. The following rules are applicable to the RDP client-name parameter.
  - The name can have a maximum of seven characters.
  - Blank spaces and the following special characters are not allowed: < > * + = \\ | ? : ; ~ $ % ^ { } @ / \ # and ,(comma).
- **Network Speed and Mode**: From this drop-down list, select an appropriate network speed and mode. By default, this field is set to **AutoSelect**.
- **Advanced Network**: Click this button to invoke the **Advanced Network Settings** dialog-box.




  - **Enable DNS**: Select this check-box if you want to use the DNS server in the network. The following fields will be enabled:

    **Default domain**: Enter the default domain name of the network

    **Primary Server IP Address**: Enter the IP address of the Primary Domain Name Server.

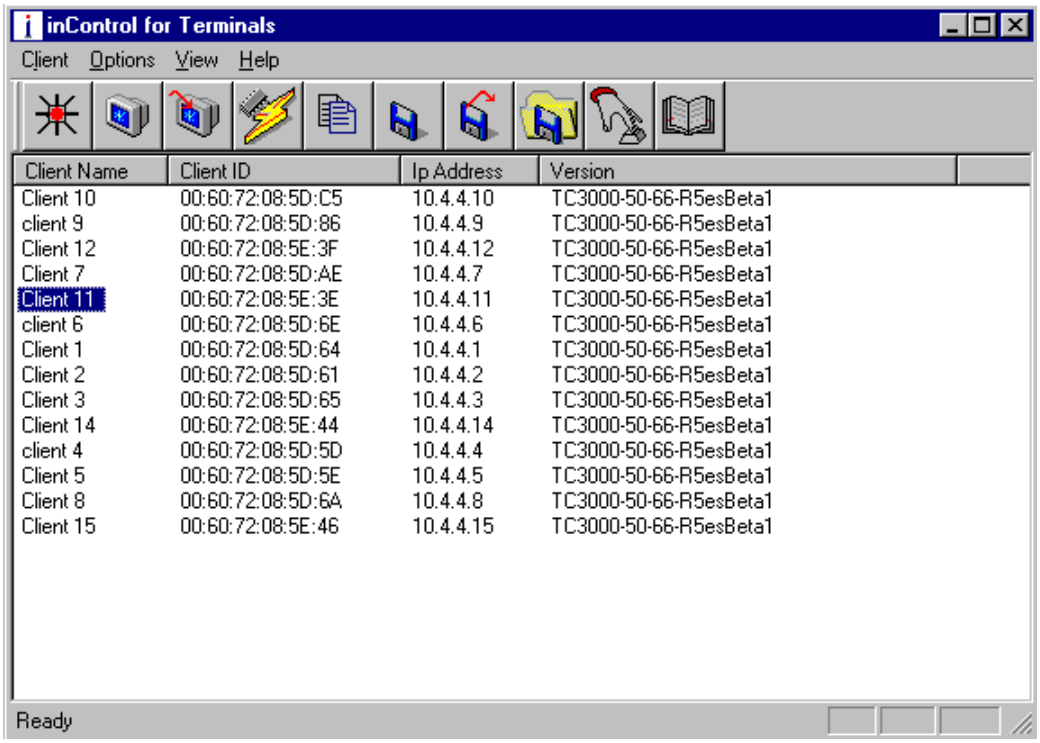
    **Secondary Server IP Address**: Enter the IP address of the Secondary Domain Name Server.
  - **Enable WINS**: Select this check-box if you want to use the WINS services provided by the Windows-based networking. The following fields will be enabled.

    **Primary Server IP Address**: Enter the IP address of the Primary WINS Server.

    **Secondary Server IP Address**: Enter the IP address of the Secondary WINS Server.

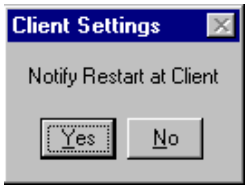
**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

5. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 5, YOU MUST PERFORM STEP 6 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

6. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

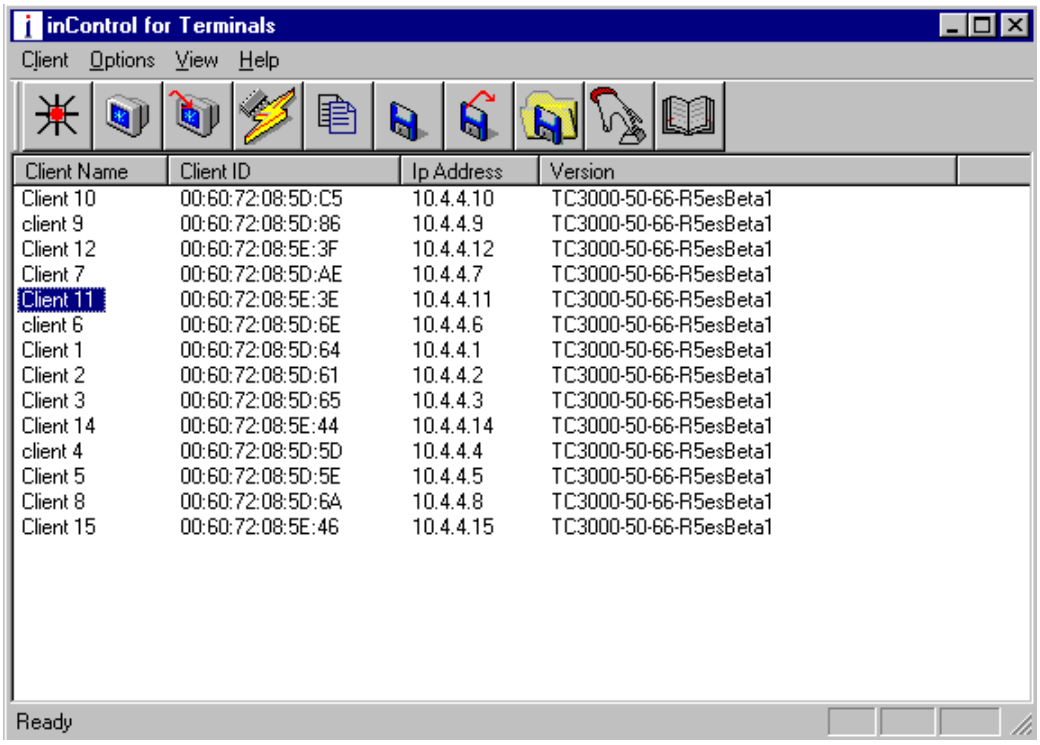
- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Printer Configuration

When the client is connected to a Windows 2000 server through an RDP connection, other RDP users connected to the server can access printer-ports of the client.

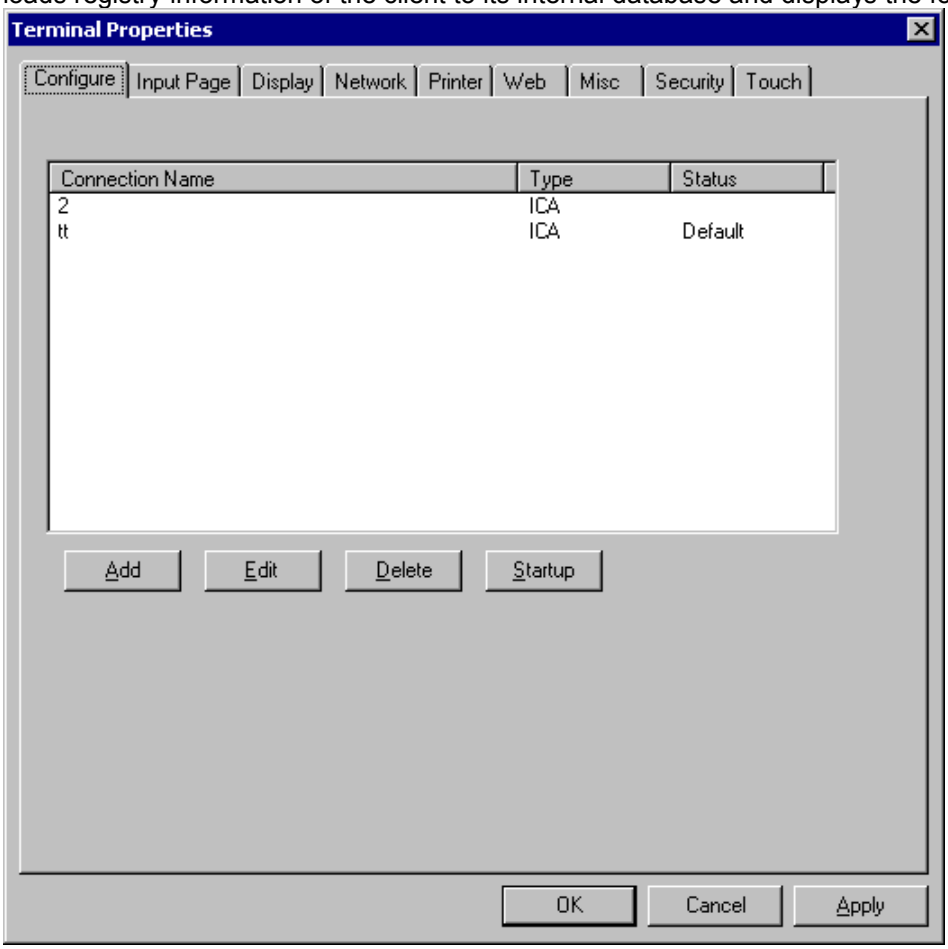
**NOTE**: INCONTROL SUPPORTS THIS FEATURE IN CLIENTS WITH FIRMWARE VERSION HIGHER THAN TC3XXX-40-27R2/R5.

Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.

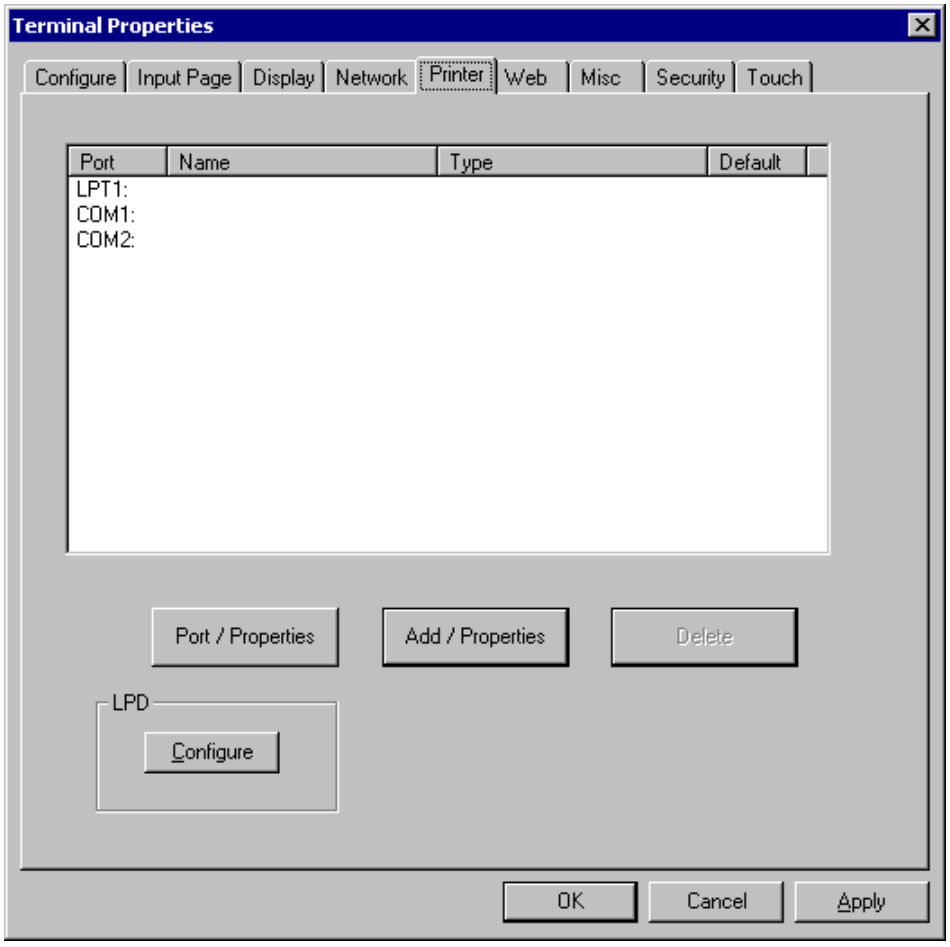



1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the icon. This initiates communication between the **inControl** server and the selected client. **inControl**

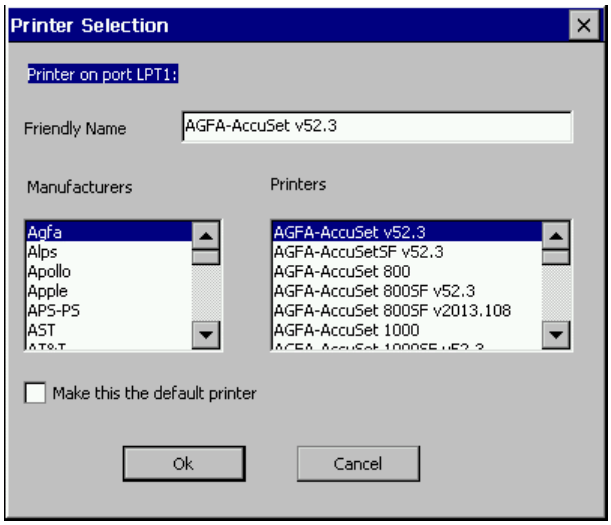
loads registry-information of the client to its internal database and displays the following screen.




4. Select the **Printer** sheet.




- To add a printer, select a **Port** and click the **Add/Properties** button. After a few seconds' delay, the following dialog-box is displayed.




The **Printers** field contains the printer-models corresponding to the manufacturer selected in the **Manufacturers** field. Select the appropriate printer-model.

By default, the model-name becomes the name of the printer. You may provide a different name in the **Friendly Name** field.

If you want to configure the printer as the default printer, select the **Make this the default printer** check-box.

Click **OK** to return to the **Terminal Properties** dialog-box.

The name of the printer you added is displayed next to the appropriate port. If the printer has been designated as the default printer, the **Default** column contains the word **Yes**.

- To delete a printer, highlight the entry and click the **Delete** button.

**NOTE**: PRINTERS THAT YOU ADD USING THIS SHEET, WILL BE SUPPORTED ONLY FOR RDP CONNECTIONS TO WINDOWS 2000 SERVERS.

## LPD (Line Printer Daemon)

This feature allows network users can access printers connected to the client. To implement this feature you must first configure appropriate client/s as print-servers using the procedure described here and then configure the Windows NT/2000 server/s as described on page 197.

inControl supports this feature for clients with firmware version equal to higher than **TC3000-40-43** and **TC3000-50-66**.

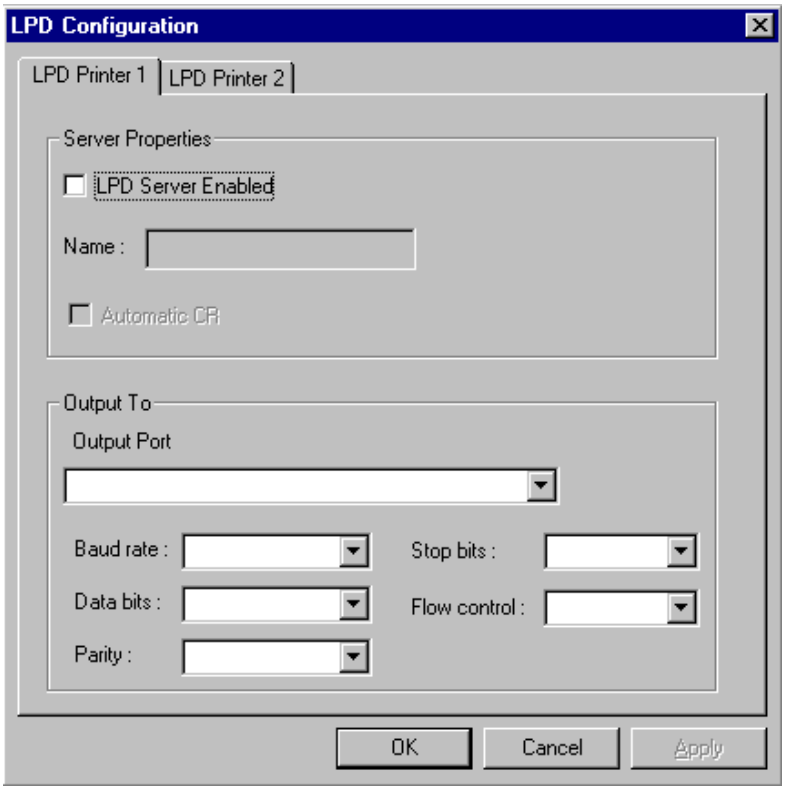
LPD printing provides the following advantages when compared to other local printing options (*see note below for other local printing options*).

- In other local printing options, the client must be *connected* to the server to act as a print-server. Clients configured using the Line Printer Daemon start functioning as print-servers as soon as they are *switched on*.
- During an ICA session, if a client receives a print-job from another ICA user, the receiving client may become slow and even temporarily unusable until the print-job has been completed. This is because, in ICA-printing the print-job and other client-server traffic use a common communication channel. On the other hand, if the client is configured as a print-server using LPD, the performance of the client is not affected while it is executing print-jobs since the Line Printer Daemon uses a separate communication channel for printing.

**NOTE**: FOLLOWING ARE THE OTHER LOCAL PRINTING OPTIONS BESIDES LPD.

- WHEN A CLIENT IS CONNECTED TO A WINDOWS 2000 SERVER THROUGH AN RDP CONNECTION, THE PRINTER PORT OF THE CLIENT CAN BE ACCESSED BY RDP USERS IN THE NETWORK. THE PROCEDURE TO IMPLEMENT THIS FEATURE IS DESCRIBED ON PAGE 142.
- DURING ICA SESSIONS, PRINTER PORTS OF CLIENTS CAN BE ACCESSED BY ICA USERS IN THE NETWORK IF THE USE PRINTER CONFIGURATION UTILITY OPTION (*PAGE 41*) IS APPROPRIATELY CONFIGURED WHILE CREATING THE ICA CONNECTION.

To configure a client as print server using LPD, click **Configure** under **LPD**. The following dialog-box is displayed.




**TIP**: TO IMPLEMENT LPD PRINTING, IT IS RECOMMENDED THAT YOU SPECIFY A **FIXED IP ADDRESS** FOR THE CLIENT. THIS IS BECAUSE THE IP ADDRESS OF THE CLIENT THAT IS CONFIGURED AS PRINT SERVER MUST BE SPECIFIED WHILE CONFIGURING THE WINDOWS NT/20000 SERVER/S. IF YOU MUST USE DHCP, IT IS PREFERABLE TO RESERVE AN IP ADDRESS ON THE DHCP SERVER FOR THE LPD-CLIENT.

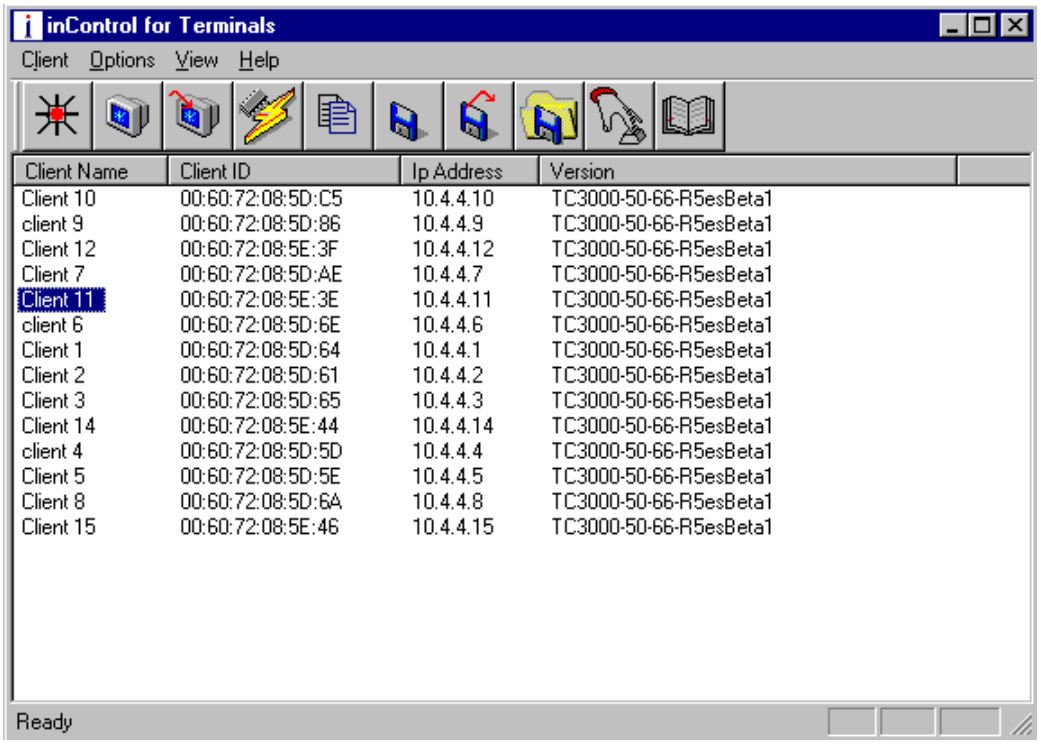
The above dialog-box has two tabs. You can configure one printer in each tab. The fields in both tabs are identical.

- **LPD Server Enabled**: Select this check-box to enable the Line Printer Daemon server. The **Name** field is enabled.
- **Name**: Provide a name for the printer in this field.
- **Automatic CR**: Most print-spoolers automatically perform carriage returns. However, certain print spoolers (*for instance printing from a SCO UNIX server*) require carriage returns to be explicitly specified. In such cases, select this check-box. On the other hand, if you have custom printing-applications with in-built carriage returns, ensure that this check-box is deselected.
- **Output Port**: From this drop-down list, select the port to which the printer is connected. Select appropriate settings for the **Baud rate**, **Data bits**, **Parity**, **Stop bits** and **Flow control** parameters.

5. Click **OK** to return to the **Terminal Properties** dialog-box.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

6. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 6, YOU MUST PERFORM STEP 7 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

7. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

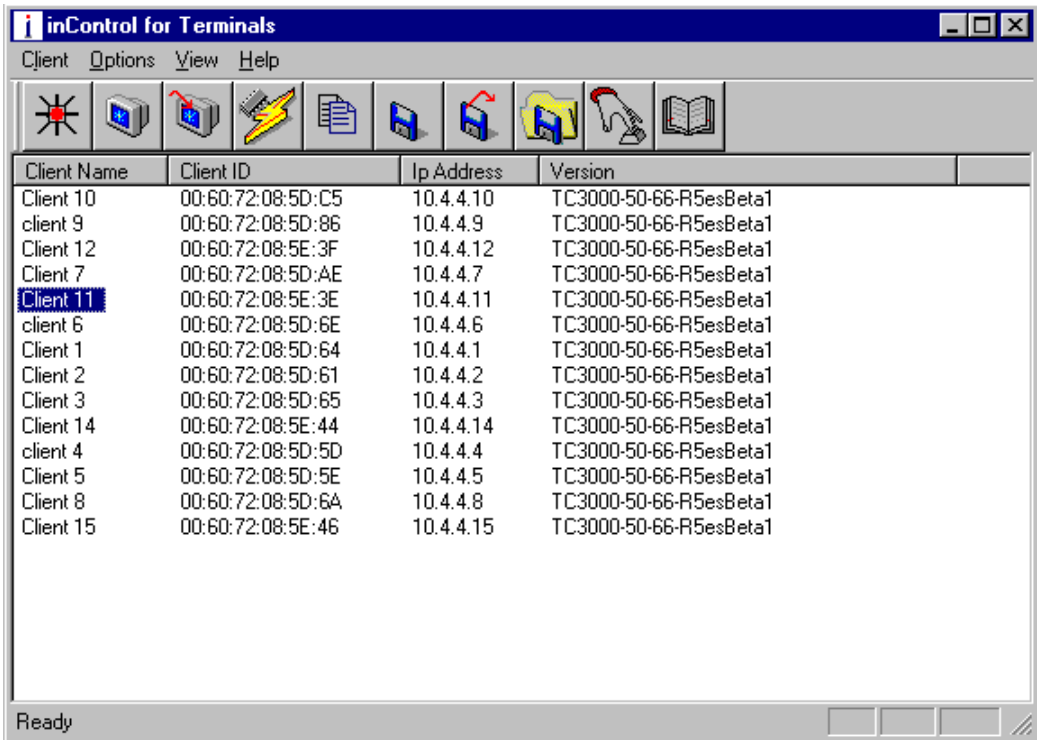
After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

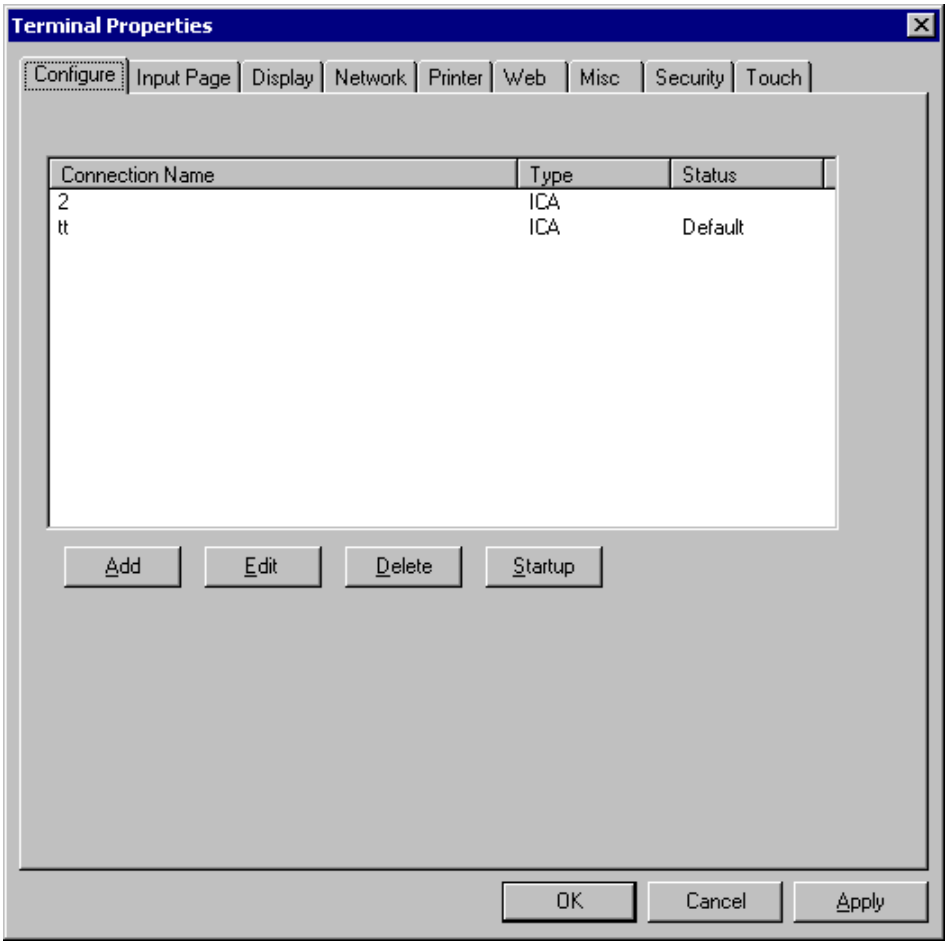
## Web

You can configure the parameters of the browser session.

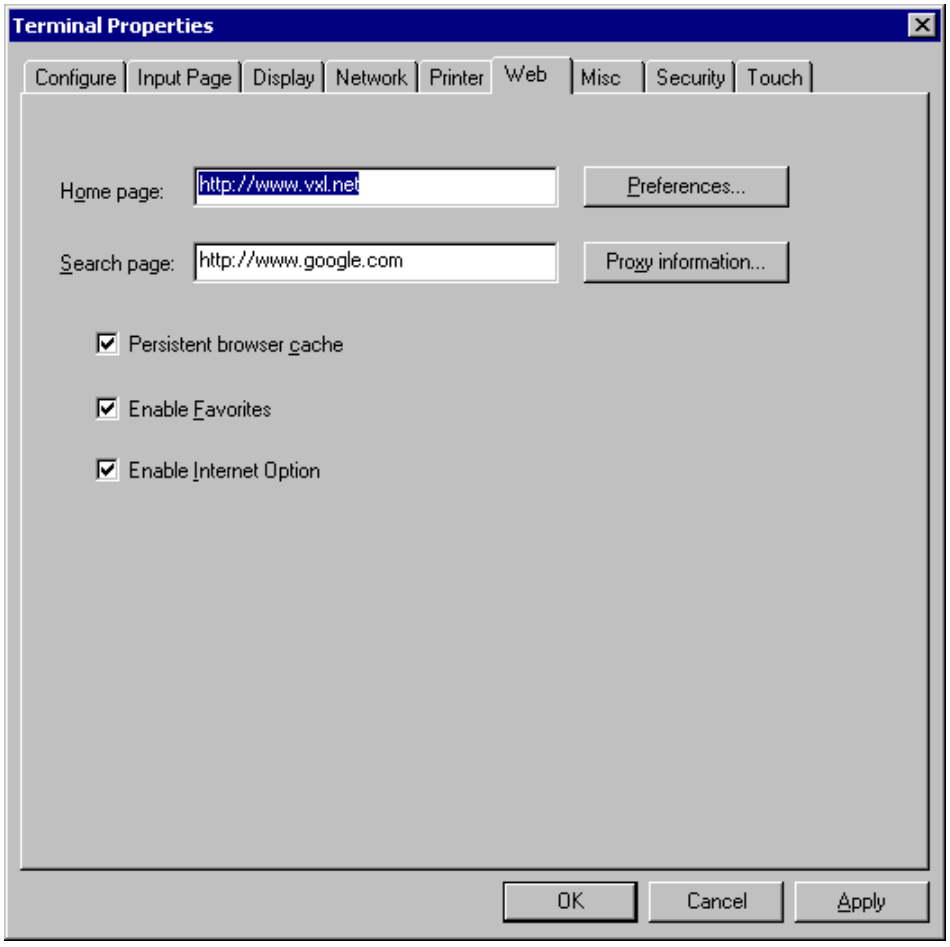
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



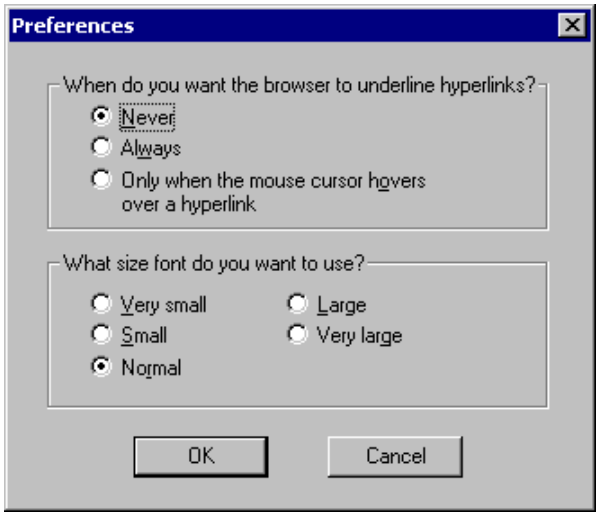

1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the  icon. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following screen.




3. Select the Web sheet.

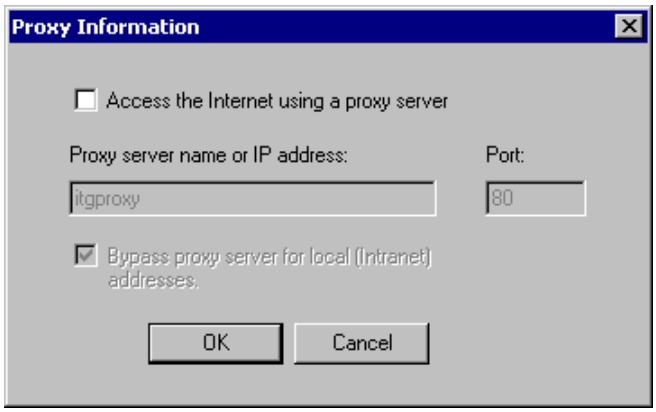



- **Home page:** Enter the URL of the home page to be displayed when opening the browser window.
- **Search:** Enter the URL of the search page to be displayed when you click the search option**.**
- **Persistent browser cache:** Enable this option if you want the contents of the browser cache to be retained between the sessions
- **Enable Favourites**: Enable this option to enable the Favourite feature of the browser:
- **Enable Internet option:** The Internet option feature allows you modify the settings of the browser including the Preferences and Proxy information.
- **Preferences:** This feature enables you to customise the appearance of the hyperlinks and the font size. Click Preferences button. The following dialog box appears:




Make appropriate selections/entries in the above dialog box. Click **OK** to return to the **Terminal Properties** box.

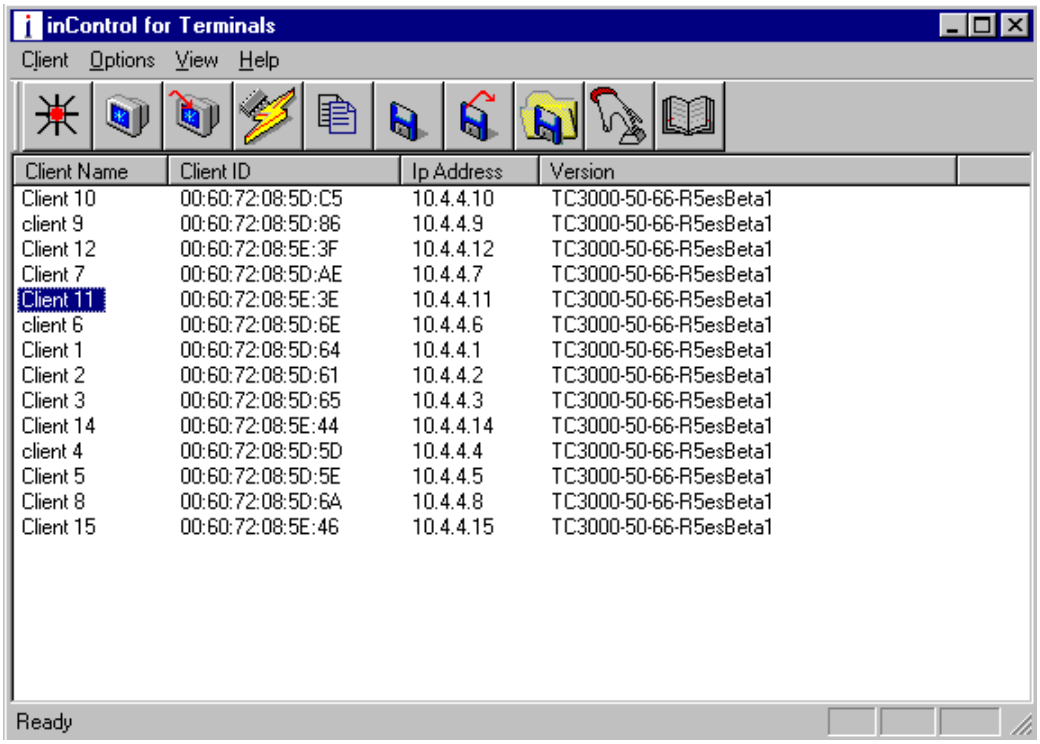
- **Proxy information:** To access the Internet using the Proxy server, click Proxy Server button.




Check **Access the Internet using a proxy server** box. Enter the Proxy server name or the IP Address and the Port number. Click **OK** to return to the Terminals Properties box.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

8. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP46, YOU MUST PERFORM STEP 5 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

4. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu, or click the  con on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

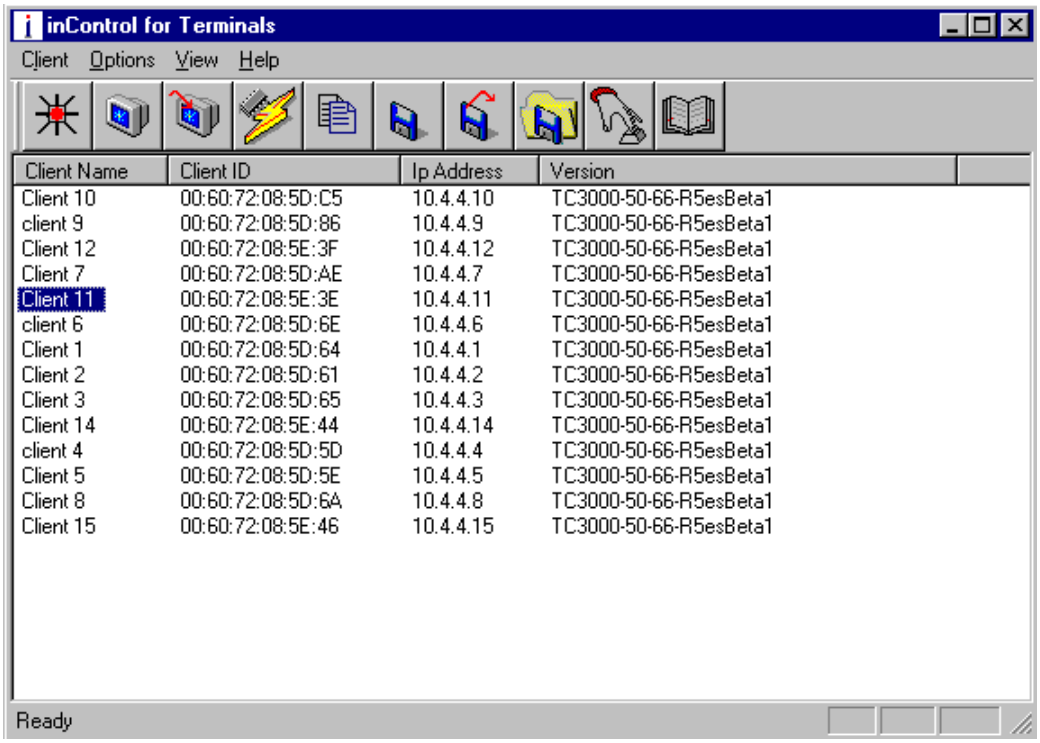
**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

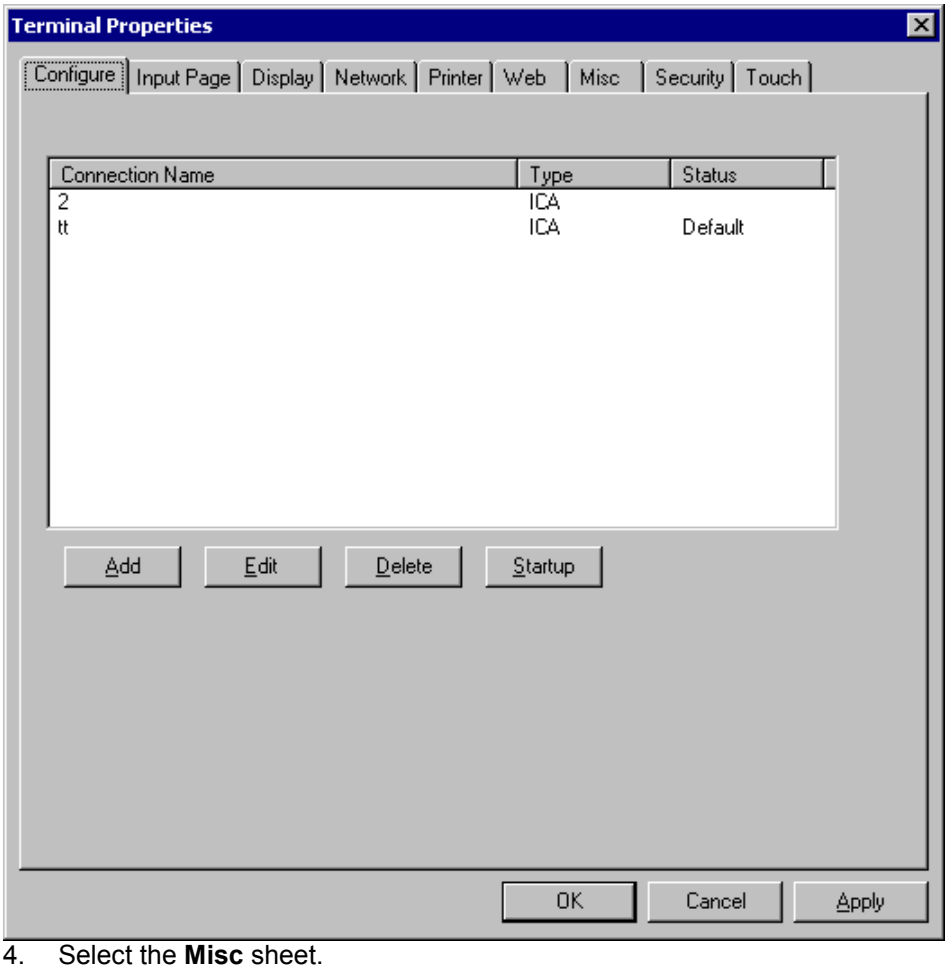
- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Global ICA Settings

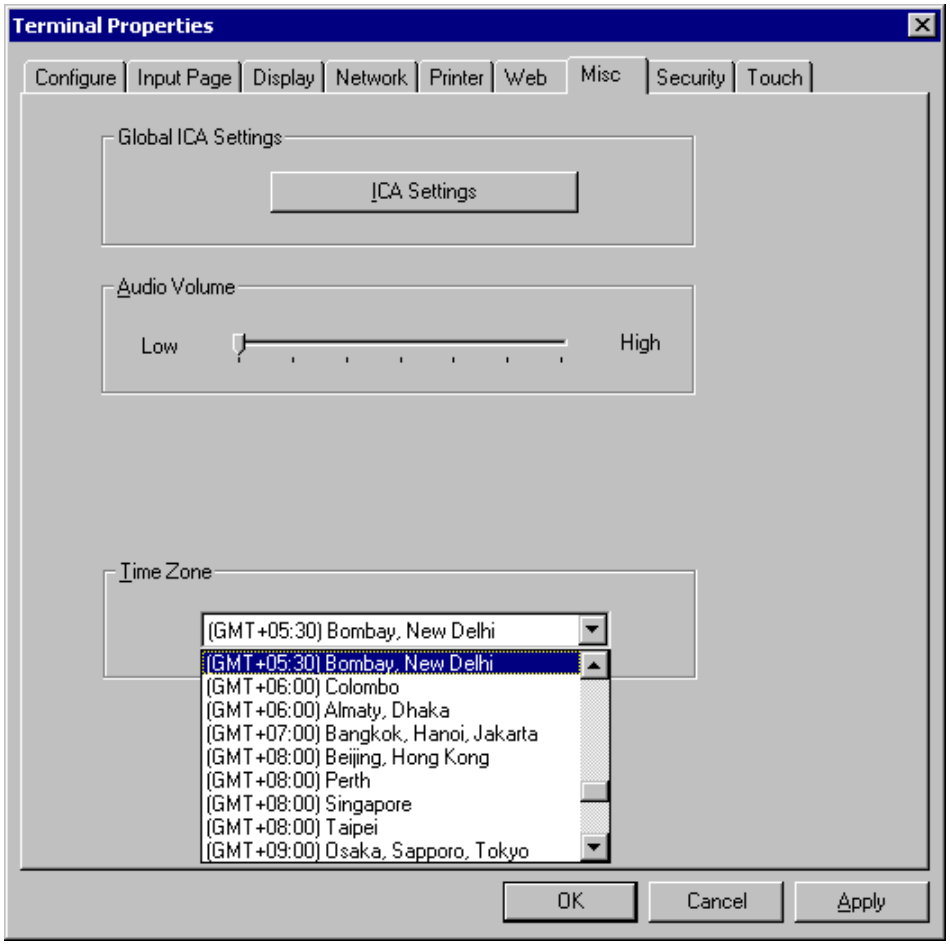
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the  icon. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following screen.

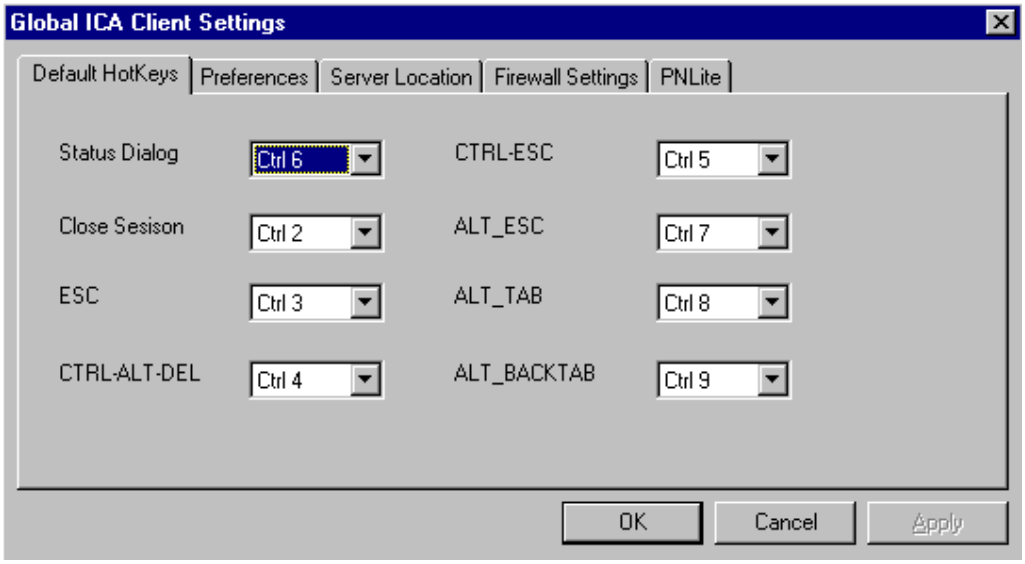



4. Select the **Misc** sheet.




- **Audio Volume**: Adjust the audio-volume level using this is a slider control. The default setting is **High**.
- **TimeZone**: Select your Timezone from the drop-down list.
- **ICA Settings**: Click this button to configure global parameters for ICA-connections. The **Global ICA Client Settings** dialog-box (*containing five tabs*) is displayed.

## Default Hotkeys




In the above sheet, you can specify hotkeys for ICA sessions. Some hotkeys control the behavior of ICA windows, while others emulate standard Windows hotkeys.

**NOTE**: IN CLIENTS WITH FIRMWARE VERSION LOWER THAN TC3XXX-40-41R5ES AND TC3XXX-50-64R5ES, THE HOTKEYS COULD BE EITHER **CTRL+*N*** OR **SHIFT+*N***, WHERE 'N' IS A NUMBER FROM 0 TO 9. STARTING WITH THE ABOVE FIRMWARE VERSIONS, THE HOTKEYS CAN ONLY BE **CTRL+*N***.

The above tab allows you to specify hotkeys that can be used during ICA sessions to invoke various functions. Some hotkeys control the behavior of ICA windows, while others emulate standard Windows hotkeys.

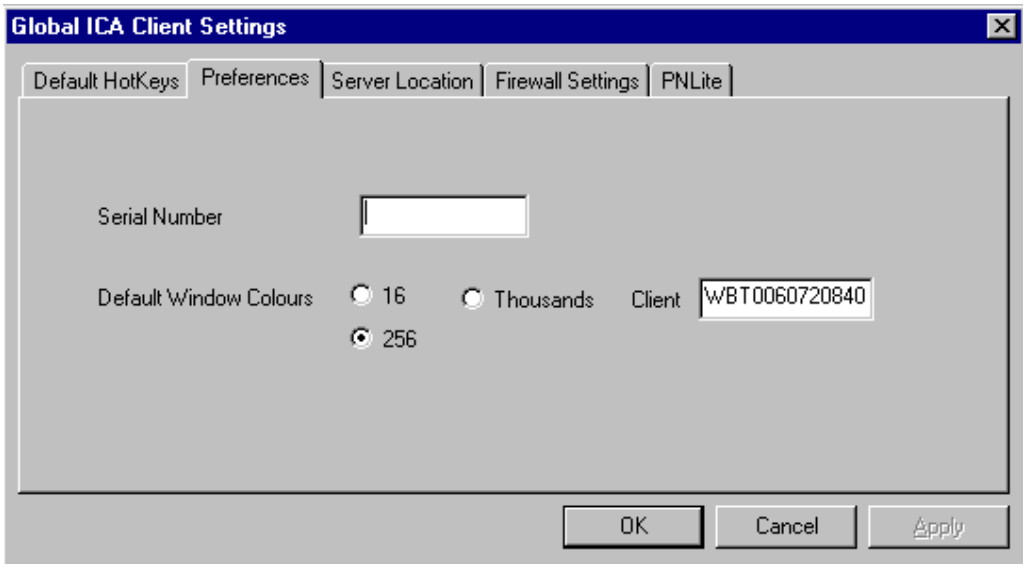
- **Status Dialog**: Displays the ICA connection status.
- **Close Session**: This hotkey can be used to disconnect the session and return to the desktop. The session will however continue to run on the server until the user logs out.
- **ESC**: This is a hotkey for the **Escape** function.

**NOTE**: THIS OPTION IS AVAILABLE IN CLIENTS WITH FIRMWARE VERSION EQUAL TO OR HIGHER THAN TC3XXX-40-41R5ES AND TC3XXX-50-64R5ES.

**NOTE**: CLIENTS WITH FIRMWARE VERSION LOWER THAN TC3XXX-40-41R5ES AND TC3XXX-50-64R5ES HAVE AN OPTION CALLED **TOGGLE TITLE BAR**. THIS HOTKEY ALLOWS USERS TO HIDE THE TITLE BAR OF THE APPLICATION, THEREBY MAXIMIZING ON-SCREEN WORKSPACE.

- **CTRL+ALT+DEL**: Displays the Windows NT Security dialog-box.
- **CTRL+ESC**: On WinFrame servers, pressing this key-sequence displays the Remote Task List. On MetaFrame servers, this key-sequence displays the Windows NT Start menu.
- **ALT+ESC**: This hotkey cycles the focus through all the minimized icons and opens the associated applications.
- **ALT+TAB**: This hotkey cycles through applications that have been opened.
- **ALT+BACKTAB**: This hotkey cycles through open applications in the opposite direction from the **ALT+TAB** hotkey.

## Window Color and Client Name



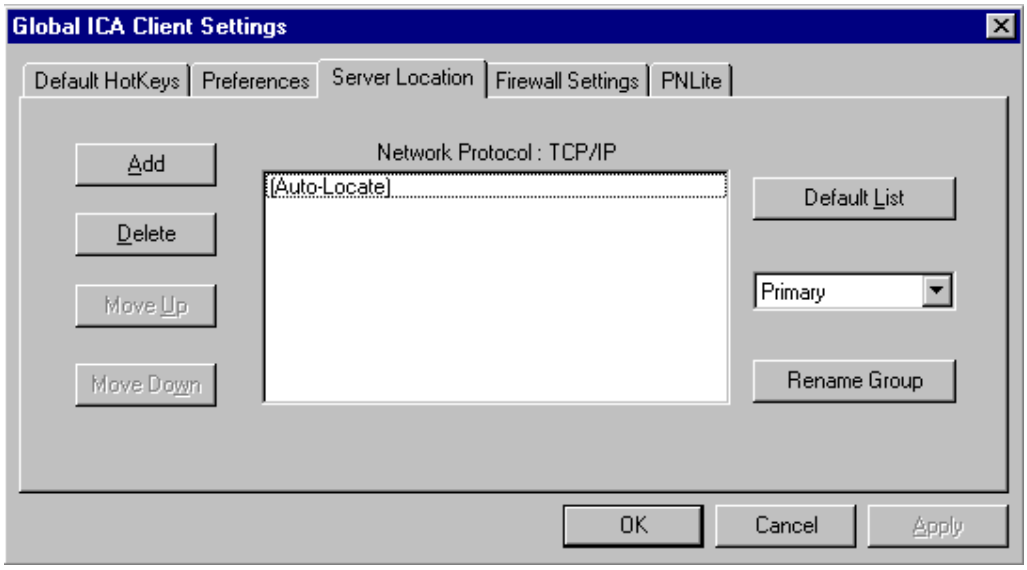

- **Serial Number**: This field is necessary only when the client is used with products such as WinFrame Host/Terminal that require each client to have a Citrix PC Client Pack serial number to connect to the server. The serial number is not required for I-O thin clients.
- **Default Window Colors**: Specify the display color for ICA sessions by selecting the appropriate radio-button. While using a PPP connection, 16-color mode may provide better performance. If the selected setting exceeds the capability of the client hardware, the maximum size and color supported by the Windows CE operating system are used.

**NOTE**: INCONTROL SUPPORTS THE **Thousands** (65K COLOR) OPTION FOR CLIENTS WITH FIRMWARE VERSION EQUAL TO OR HIGHER THAN TC3000-40-43 AND TC3000-50-66.

- **Client Name**: By default, the characters 'WBT' followed by the MAC address of the client are displayed in this field. You can edit the field and provide any other unique name for the client. The name is used by Citrix servers to identify resources such as printer and COM ports of the client.

**CAUTION**: ENSURE THAT THE NAME YOU PROVIDE IS UNIQUE. IF THE NAME IS NOT UNIQUE THERE COULD BE PROBLEMS ACCESSING RESOURCES OR PUBLISHED APPLICATIONS.

## Server Location

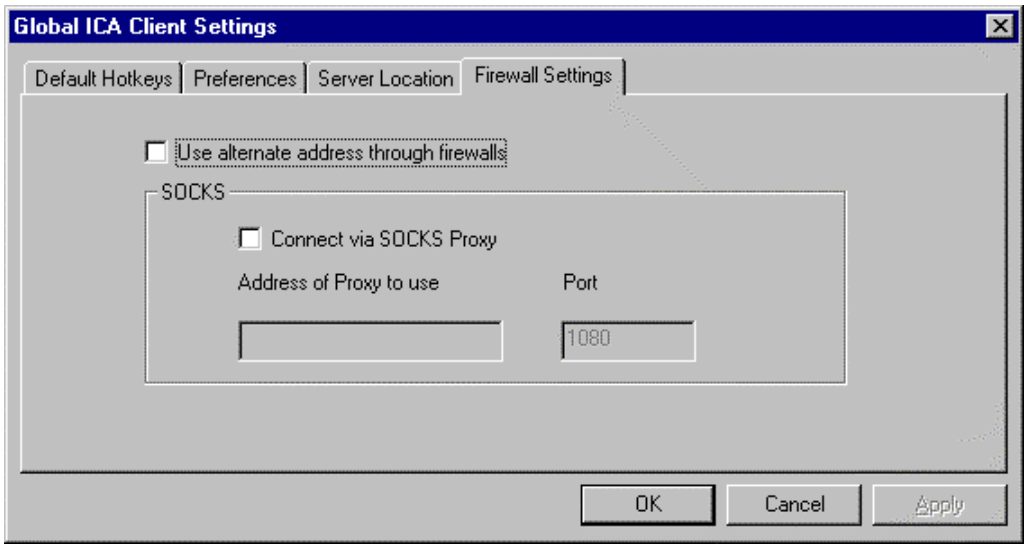



In the above dialog-box, you can select the method to find Citrix servers and published applications on the network. If the **(Auto-Locate)** entry is highlighted in the **Address** list, the client broadcasts a 'Get Nearest Citrix Server' packet. The first MetaFrame server to respond is then requested for information about servers and published applications in the network.

However, to eliminate broadcasts on the network, you may want to designate a particular Citrix sever as the master-browser. You can use the dialog-box to maintain addresses of such master-browsers.

- **Add**: Click this button to add a server to the list.
- **Delete**: Click this button to delete a server from the list.
- **Move Up / Move Down**: Select an entry from the list, and click one of these buttons to change the position of selected entry.
- **Default List**: Click this button to recall the previous list.
- **Server Group**: With this drop-down list, you can classify listed servers in three groups - Primary, Backup1 and Backup2. The default selection is **Primary**.
- **Rename Group**: Click this button to assign a custom name to a **Server Group**.

## Firewall Settings




This sheet can be used to setup a SOCKS (*Socket Secure*) firewall.

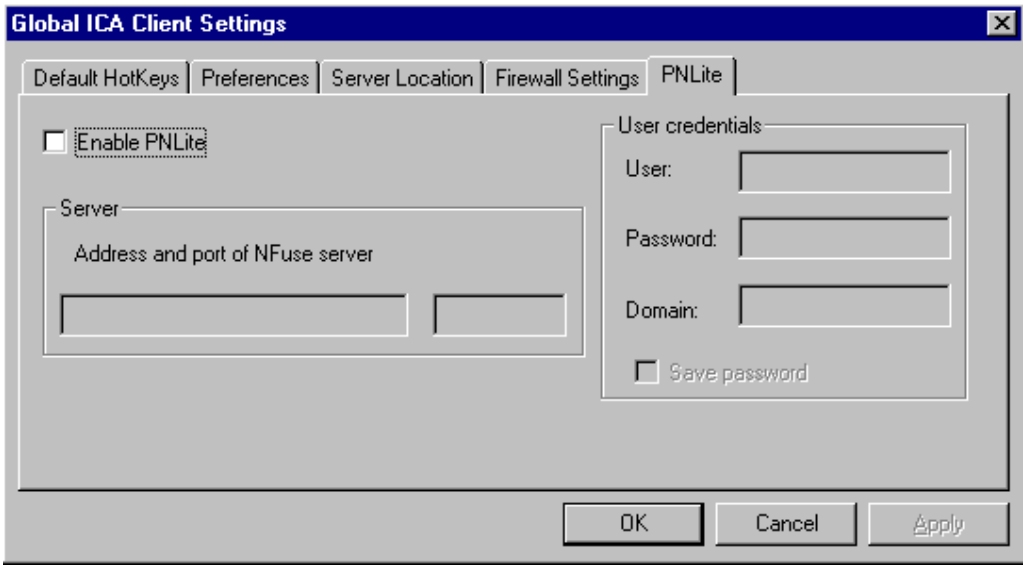
SOCKS is a protocol that sets up a proxy (*intermediate*) server between a client and a server. This proxy server then acts as a channel for communication between the client and the server.

- **User alternate address through Firewall**: Select this check-box to browse for Citrix servers or published applications that are inside a firewall from a client machine that is outside the firewall. The firewall and the Citrix servers must be configured to map the internal network addresses of Citrix servers to external Internet addresses.
- **Connect via SOCKS proxy**: Select this check-box to enable a SOCKS proxy connection and to enable the input fields for the SOCKS parameters.

  **Address of proxy to use**: Provide the address of the proxy server.

  **Port**: Provide the port number for the proxy server.

## PNLite (NFuse Server Parameters)




With the above dialog-box, you can configure the client to use the PNLite (Program Neighborhood Lite) feature to access applications published on a Citrix NFuse server. With this feature, clients can access applications published on the internet without a browser.

inControl supports this feature for clients with firmware version equal to or higher than TC3000-40-43 and TC3000-50-66.

Once configured, all applications published on the specified NFuse server are displayed as ICA connections in the **Terminal Connection Manager** window of the client. The list of applications is refreshed when the client is restarted.

To implement this feature, Citrix NFuse and Citrix MetaFrame must be installed on the application server.

**NOTE**: CDS (*CITRIX DEVICE SERVICES*) DOES NOT SUPPORT NFUSE.

**NOTE**: IF THE CLIENT/S AND THE NFUSE SERVER ARE IN DIFFERENT NETWORKS, THE GATEWAY MUST BE SPECIFIED IN THE **NETWORK** TAB OF THE **TERMINAL PROPERTIES** DIALOG-BOX.

**TIP**: WHILE CONFIGURING THE SERVER, NOTE THE TCP/IP PORT NUMBER ASSIGNED TO THE NFUSE SERVICE.

After installing NFuse on the application server, configure the client through the **PNLite** tab of the **Global ICA Client Settings** dialog-box.

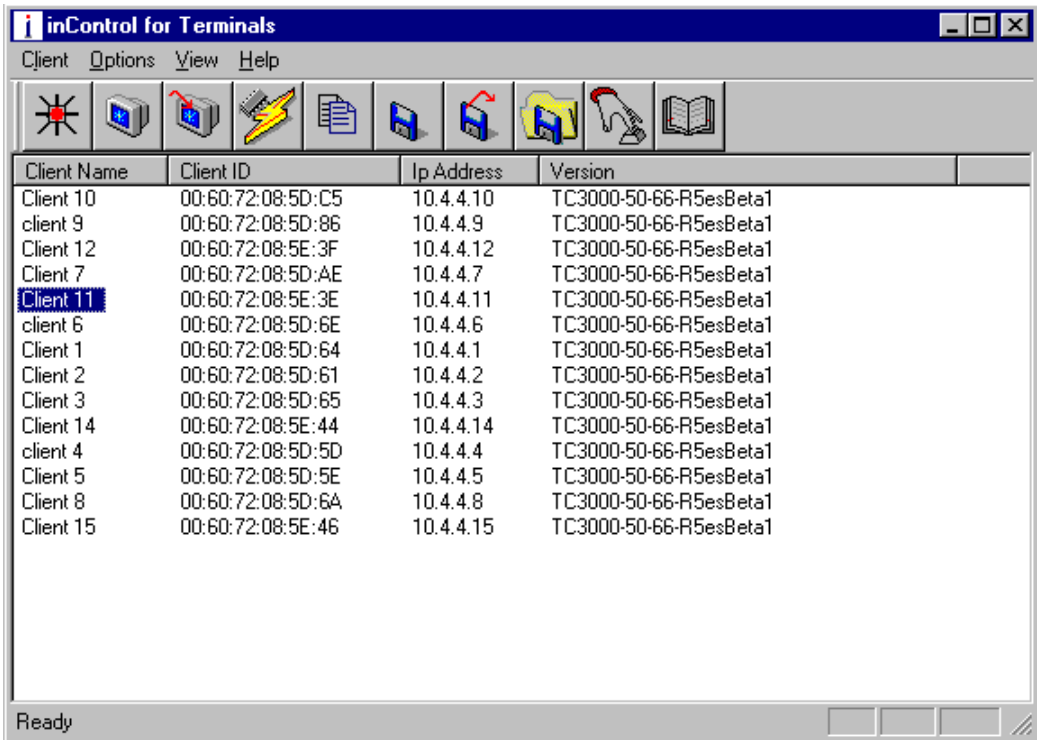
- **Enable PNLite**: Select this check-box to allow the client to access applications published on Citrix servers through the NFuse capability.
- **Server**: Enter the IP address of the application server and the port number assigned to the NFuse server.
- **User credentials**: This information is used to automatically logon to the application server when the connection is started. Enter appropriate information in the **User**, **Password** and **Domain** fields. If you want the password to be saved, select the **Save password** check-box. If the **Save password** check-box is not selected, a password prompt will be displayed when the connection is started.

Click **OK** to save the settings. A prompt to restart the client will be displayed. After restarting, the client automatically finds applications published on the specified NFuse server and displays the applications in the **Terminal Connection Manager** window. The list of applications is refreshed when the client is restarted.

5. After configuring ICA settings, click **OK** to return to the **Terminal Properties** dialog-box.

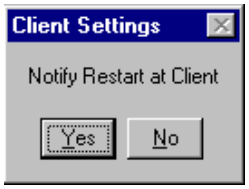
**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

6. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 6, YOU MUST PERFORM STEP 7 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

7. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu on the **Main Screen**, or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

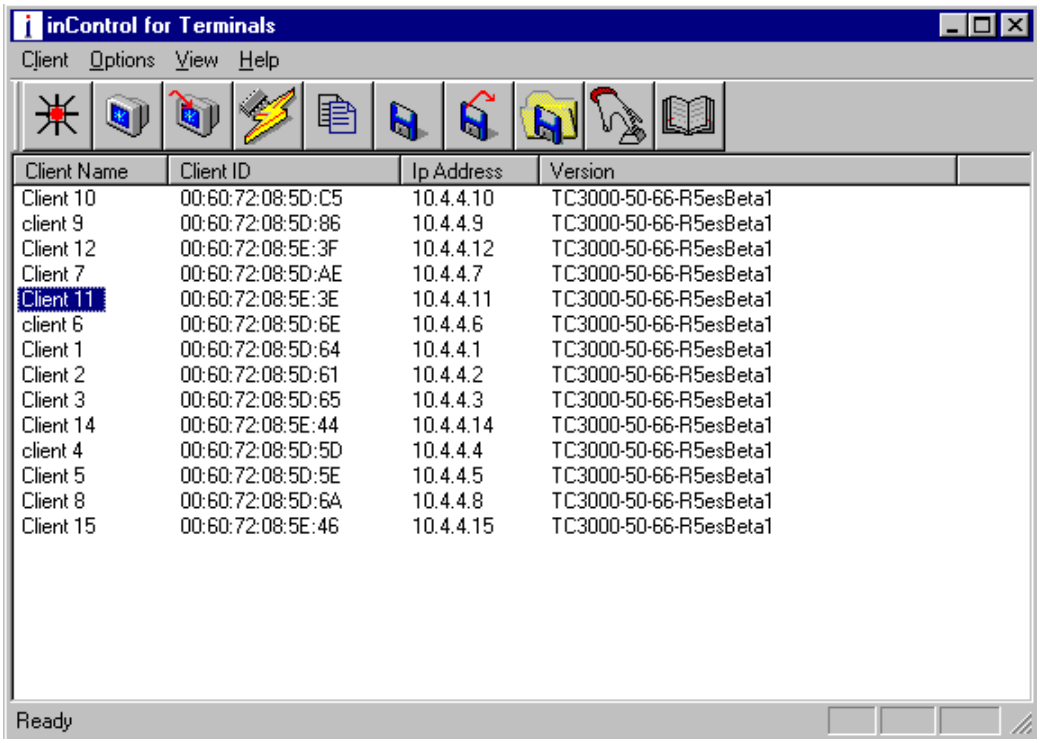
After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.

- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

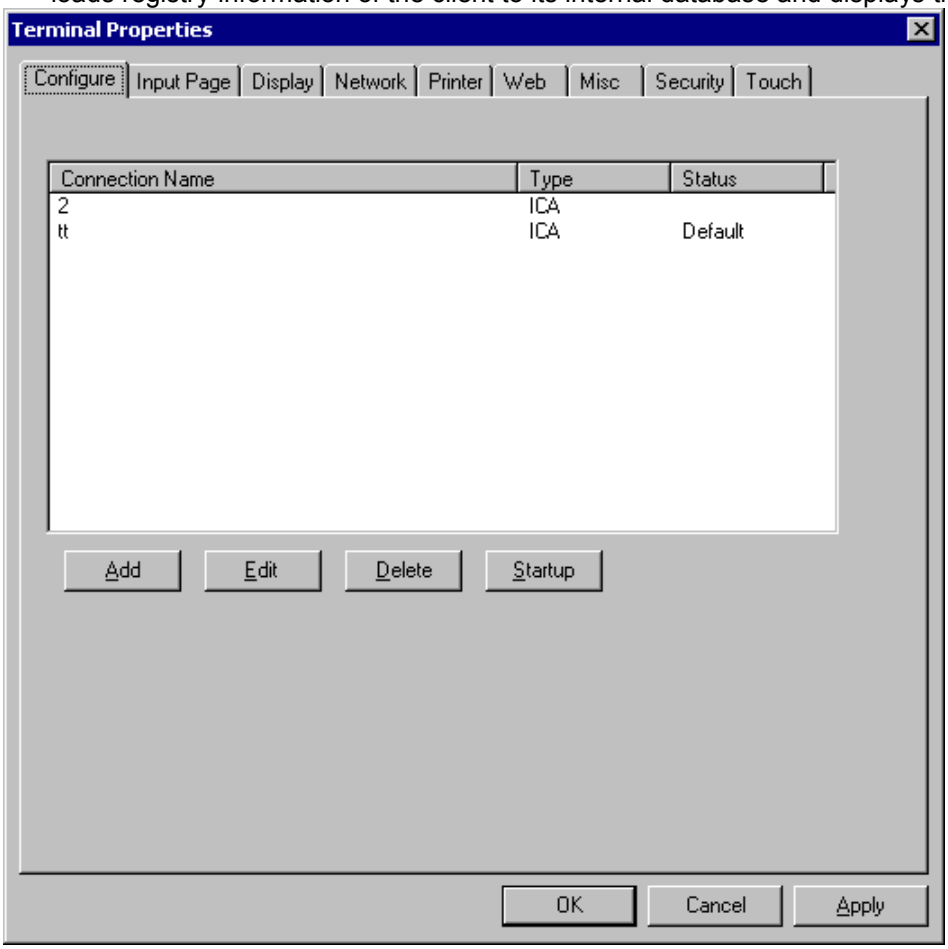
## Security Parameters

Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.

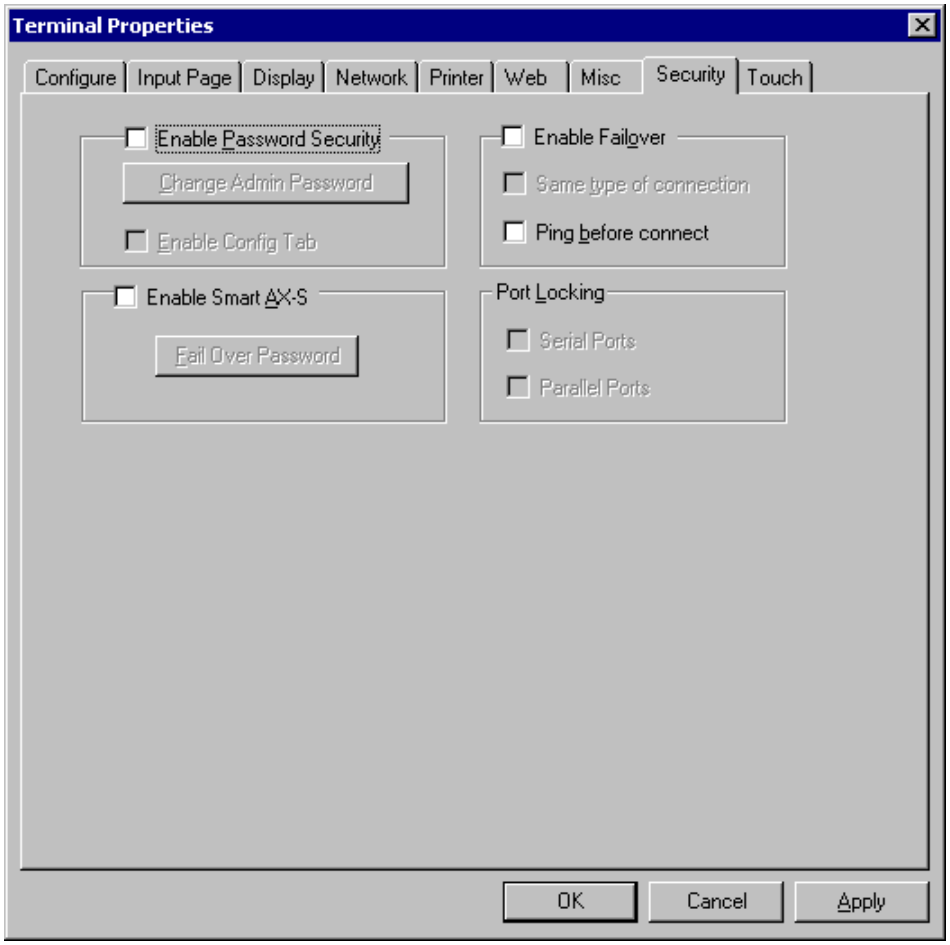



1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.

3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the  icon. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following screen.




4. Select the **Security** sheet.




## Enable Password Security

You can set a password to control access to the **Terminal Properties** (F2) dialog-box. When users press **F2**, a password prompt is displayed. The **Terminal Properties** dialog-box will be displayed only if the correct administrator-password is entered.

**NOTE**: EVEN AFTER ENABLING PASSWORD SECURITY, YOU CAN CONFIGURE THE CLIENT USING THE **inControl for Terminals** UTILITY. HOWEVER, IF YOU WANT TO CHANGE THE ADMIN-PASSWORD, YOU MUST NECESSARILY KNOW THE OLD PASSWORD. DOCUMENTATION FOR **inControl for Terminals** IS AVAILABLE IN THE CD SUPPLIED WITH THE PRODUCT.

**CAUTION**: DO NOT FORGET THE ADMIN-PASSWORD. IN CASE YOU DON'T REMEMBER THE PASSWORD, PLEASE CONTACT support@iocorp.net FOR HELP.

- To implement this security feature, select the **Enable Password Security** check-box. The **Change Admin Password** button is enabled. Click this button. The following dialog-box is displayed.


Enter a password in the **New Password** field and re-enter the same password in the **Confirm Password** field.

**NOTE**: THE PASSWORD IS CASE SENSITIVE. THERE IS CURRENTLY NO LIMIT ON THE LENGTH OF THE PASSWORD OR THE TYPE OF CHARACTERS ALLOWED.

Click **OK** to return to the **Terminal Properties** dialog-box.

- **Enable Config Tab**: By default, when password security is enabled, the **Configure** tab of the **Terminal Connection Manager** window is hidden. The **Configure** tab allows you to create, modify and delete connection entries. To make the **Configure** tab accessible, select the **Enable Config Tab** check-box. If you do not select this check-box, the **Terminal Connection Manager** window will display only the **Connections** tab.

## Enable SmartAX-S

**smart AX-s** is an optional security feature of I-O thin clients.

When **smart AX-s** is enabled, users have to insert valid pre-programmed smart cards to access the client. The **smart AX-s** software allows the system administrator to define the access privilege for each smart card. Smart cards with **User** privilege can only use pre-defined connections. Smart cards with **Administrator** privilege can access connection configuration and terminal configuration functions of the client as well.

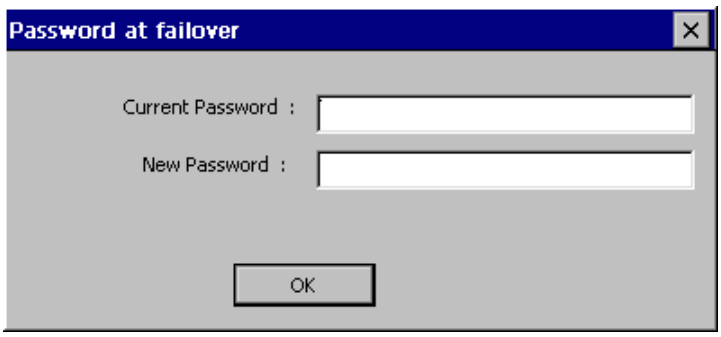
More information about implementing the **smart AX-s** security option is provided in the *smart AX-s Administrator's Guide*, which is available in the CD supplied with the product.

Select this check-box to enable the **smart AX-s** security feature.

**NOTE**: THE **ENABLE PASSWORD SECURITY** AND **ENABLE SMARTAX-S** OPTIONS CANNOT BE IMPLEMENTED SIMULTANEOUSLY.

To enable **smart AX-s** security for the client, select the **Enable Smart AX-S** check-box.

**Fail Over Password**: This button is enabled when you select the **Enable Smart AX-S** check-box. The fail-over password is a backup mechanism to access the client if the smart card reader fails. In such cases, the client displays a prompt to enter a password. To set the fail-over password, click the **Fail Over Password** button. The following dialog-box is displayed.




When you install the client for the first time, the default **Current Password** is **00000000** (*eight zeroes*). Enter the current password and press **Tab** to move to the **New Password** field. Specify the new fail-over password. The following restrictions apply to the fail-over password.

- In clients with firmware version lower than TC3xxx-40-41 and TC3xxx-50-64, the password can consist of alphabets and numbers. In clients with firmware version equal to or higher than TC3xxx-40-41 and TC3xxx-50-64, the password can only have numbers.
- The password must consist of at least 4 characters and must not exceed 8 characters.

**CAUTION**: WHEN THE FAIL-OVER PASSWORD IS USED TO ACCESS A CLIENT, THE USER CAN ACCESS ALL FUNCTIONS OF THE CLIENT INCLUDING CONFIGURING CLIENT PROPERTIES AND CREATING/EDITING CONNECTIONS. THE SYSTEM ADMINISTRATOR MUST ENSURE THAT THE FAIL-OVER PASSWORD IS KEPT SECRET.

## Enable Failover

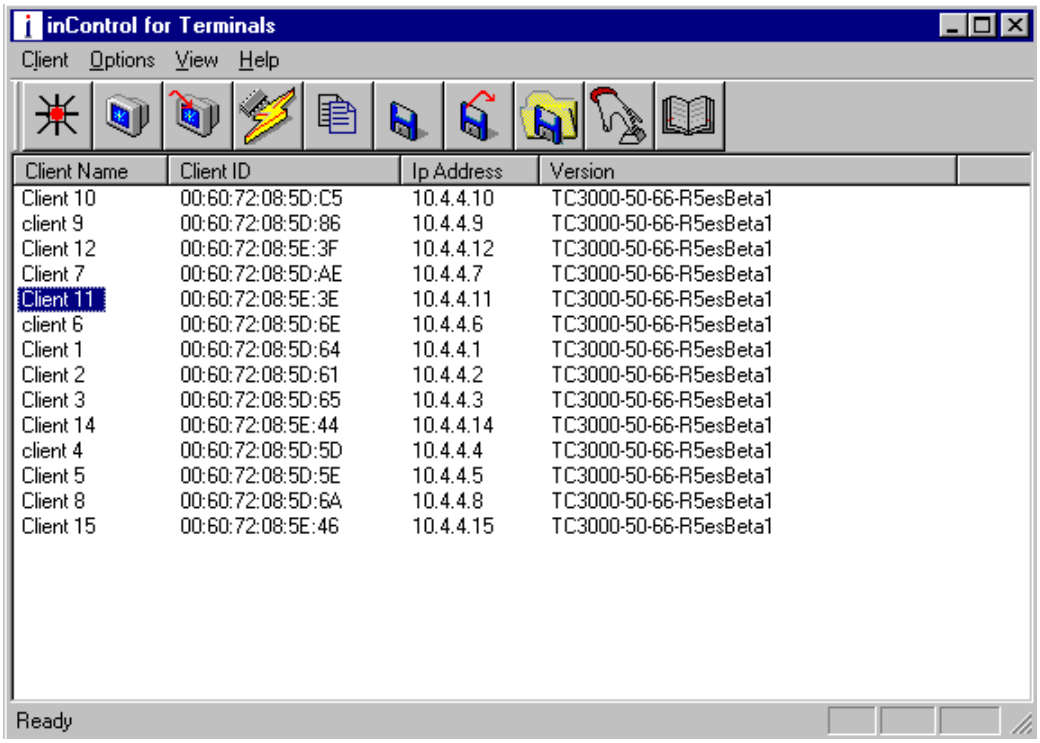
With this feature, if the client is unable to start a selected connection, it automatically tries to start another connection. If the second attempt is also unsuccessful, the client tries the next connection and so on until all available connection entries are exhausted.
To enable this feature, select the **Enable Failover** check-box. The **Same type of connection** check-box is enabled.

- **Same type of connection**: This check-box allows you to define the order in which the client selects fail-over connections.
  If you select the **Same type of connection** check-box, the next available connection of the **same type** is selected as the fail-over connection. *For instance*, if the first attempt for an ICA connection fails, the client tries the next available ICA connection. After exhausting all available ICA connection entries, a message stating that the client was unable to connect to the server is displayed.
  If you do not select the **Same type of connection** check-box, the next available connection entry (*regardless of connection-type*) is selected as the fail-over connection.
- **Ping before connect**: If you select this check-box, the client pings the host to verify whether it is up, before trying to connect to the host. This feature saves time for users, who would otherwise have to wait until the 'Connection Failed' message is displayed. This option is not available if the Connection-Failover feature is enabled.

**NOTE:** PORT LOCKING FEATURE IS CURRENTLY NOT SUPPORTED.

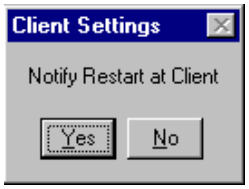
**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

5. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 5, YOU MUST PERFORM STEP 6 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

6. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu, or click the icon on the tool bar. The following prompt is displayed.




After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

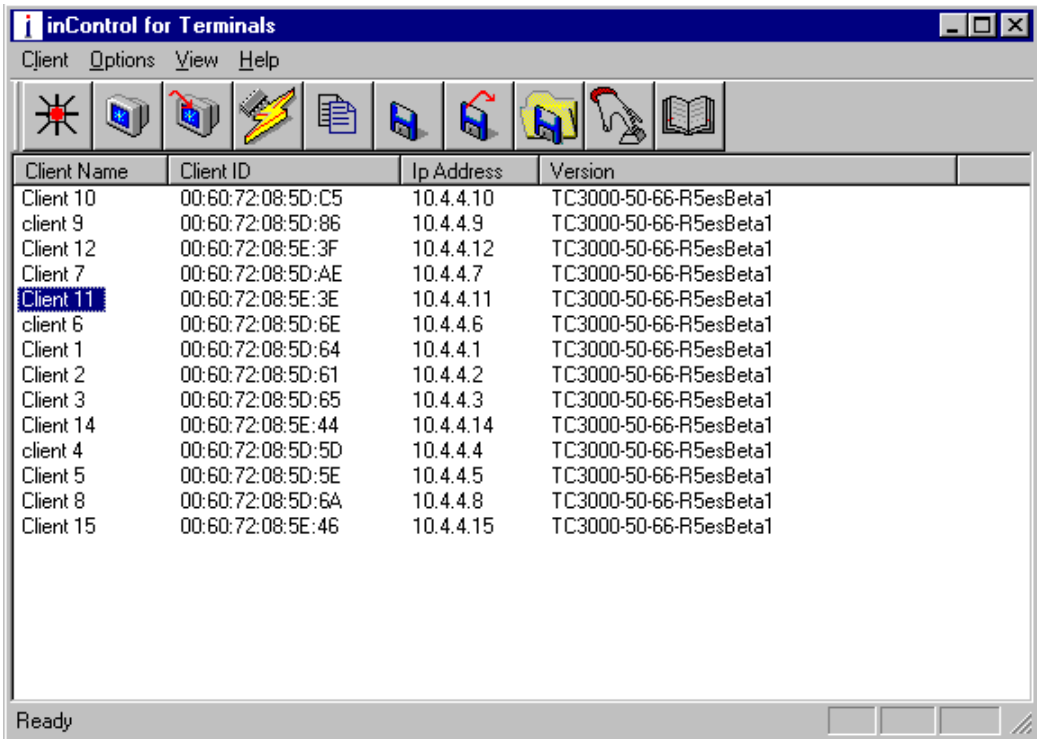
**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the new settings are saved, one of the following will happen depending on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

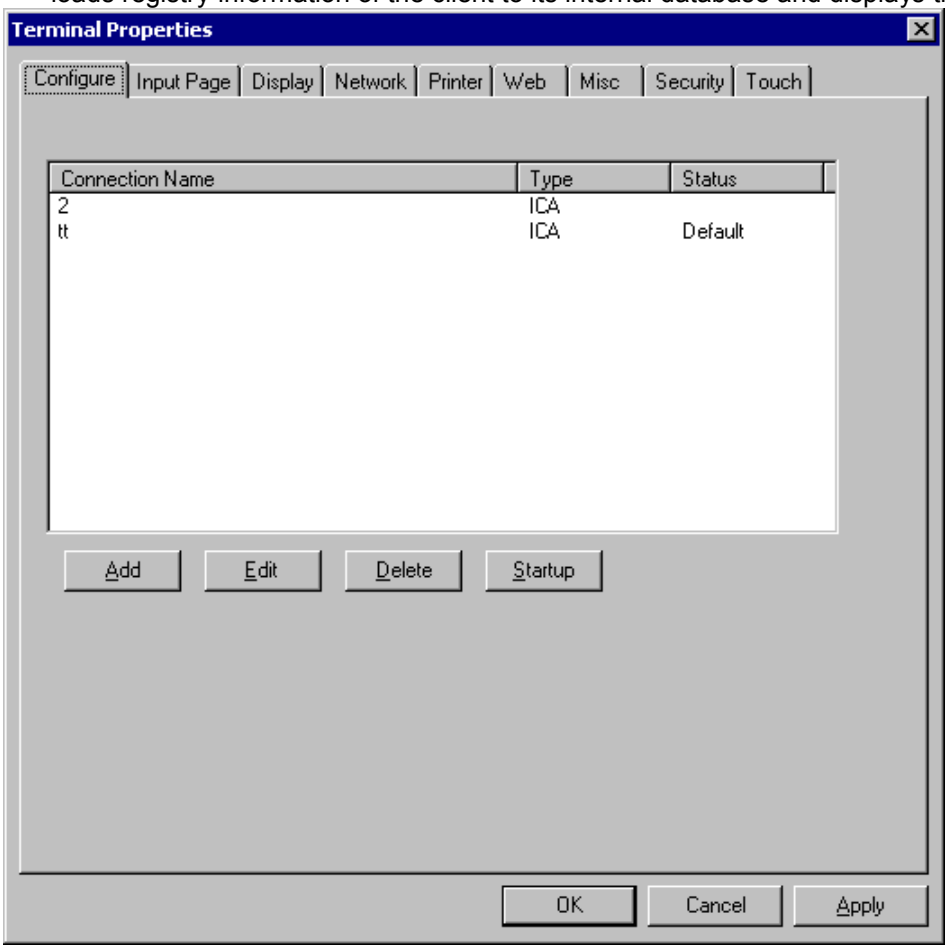
# Touchscreen Properties

Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.

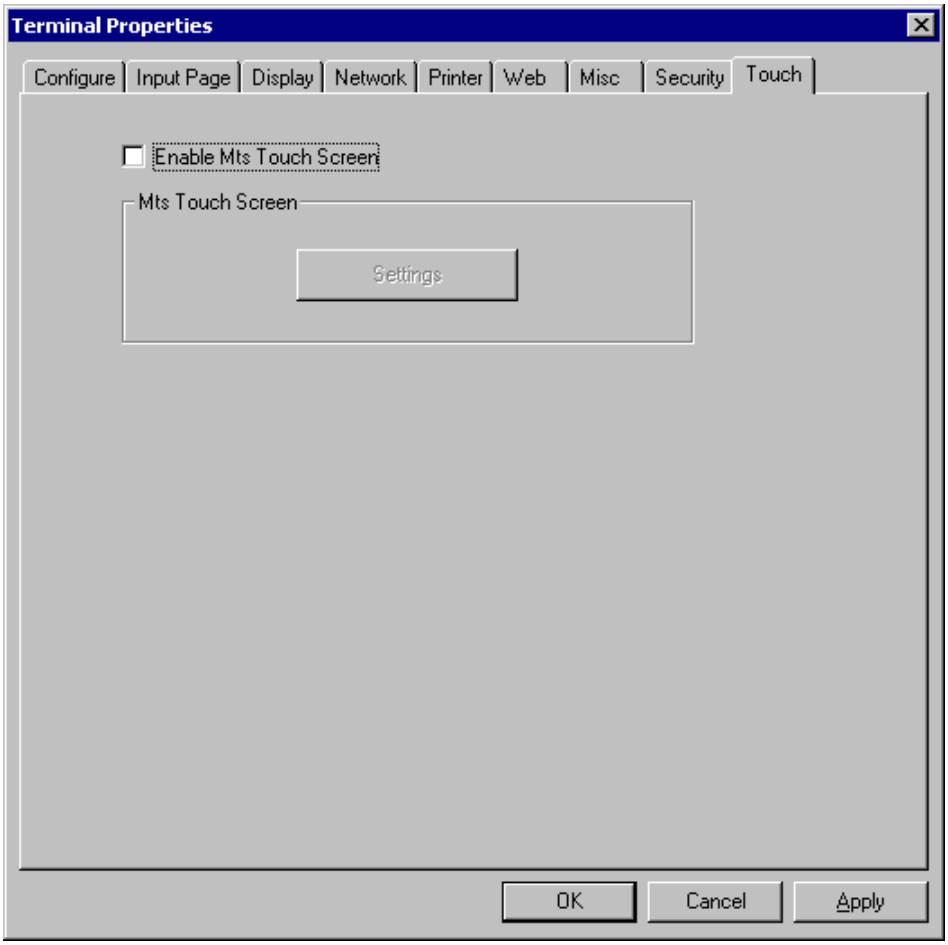



1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the appropriate client.

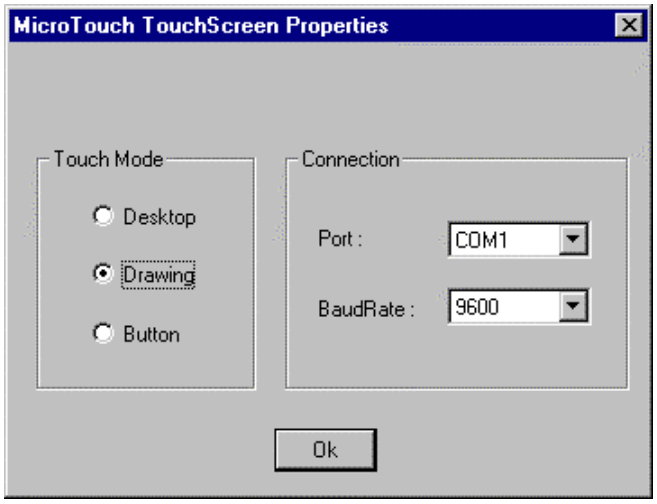
3. Double-click on the client-name, or select the **Setup** option from the **Client** menu, or click the  icon. This initiates communication between the **inControl** server and the selected client. **inControl** loads registry-information of the client to its internal database and displays the following screen.




4. Select the **Touch** sheet.




- **Enable Mts Touch Screen**: Select this check-box to enable to configure the Touch Screen.
- **Settings**: This button will be enabled when you select the **Enable Mts Touch Screen** check-box. Click this button. The following dialog-box is displayed.



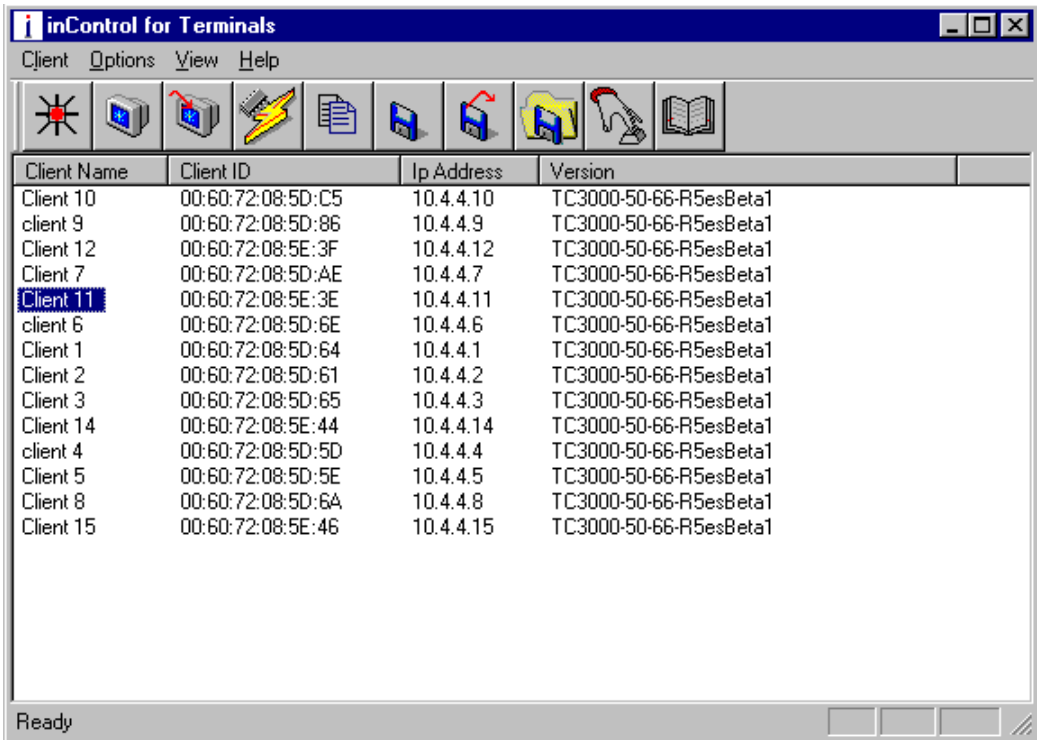

- **Desktop**: Select this radio-button if the touchscreen is for general desktop applications.
- **Drawing**: Select this radio-button if the touchscreen is for graphics applications.
- **Button**: Select this radio-button if the touchscreen is to be used with applications that use button-type user interfaces.
- **Port**: Select the COM port to which the touchscreen is connected.

- **Baud Rate**: Select the appropriate baud rate for communication between the touchscreen unit and the client.

5. After configuring properties of the touchscreen, click **Ok** to return to the **Terminal Properties** dialog-box.

**At this stage, if you have finished creating connections and/or configuring all parameters of the selected client and want to save changes, perform the remaining steps in this section. Otherwise, continue creating connections and/or configuring client properties as described in other relevant sections**.

6. Click **OK** to return to the inControl main screen.




**CAUTION**: AFTER STEP 6, YOU MUST PERFORM STEP 7 TO ENSURE THAT THE NEW SETTINGS ARE SAVED. OTHERWISE, ALL THE CHANGES YOU PERFORMED WILL BE LOST.

7. To update the client with the new settings, select the **Save Client Settings** option from the **Options** menu, or click the icon on the tool bar. The following prompt is displayed.


After the new settings are saved, the client must be restarted for changes to take effect. If you want the client to be restarted without notice to the user, click **No** in the above dialog-box. If on the other hand, you want the user to select whether to restart the client immediately or restart at a convenient time, click **Yes** in the above dialog-box.

While the new settings are being saved, the following message is displayed at the client: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE NEW SETTINGS ARE BEING SAVED, THE CLIENT MUST NOT BE SWITCHED OFF.

After the settings are saved, one of the following will happen based on the choice in the previous step.

- If you clicked **No** in the **Client Settings** dialog-box (*previous step*), the client will be restarted without notice to the user. The new settings will take effect after the client has restarted.
- If you clicked **Yes** in the **Client Settings** dialog-box (*previous step*), a prompt is displayed at the client allowing the user to select whether to restart the client immediately (*click **Yes***), or restart later (*click **No***). The new settings will take effect after the client has restarted.

# Copying Connections to Multiple Clients

**inControl for Terminals** allows you to efficiently create a uniform set of connections on multiple clients by copying connection entries from a reference client.

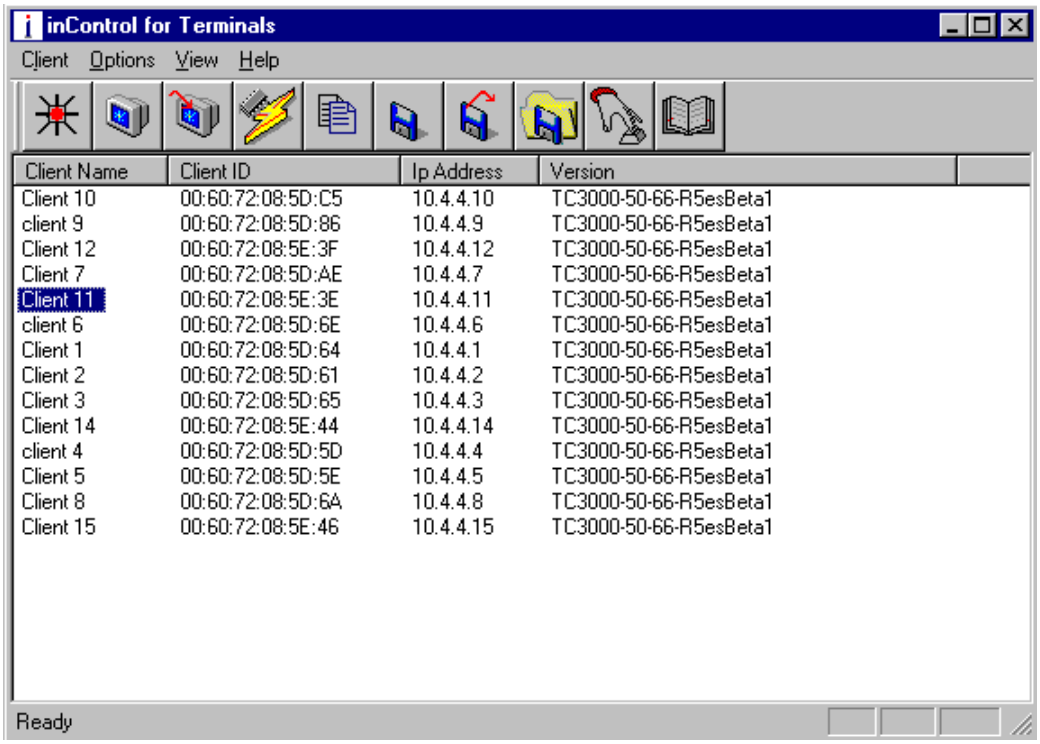
**TIP**: COPYING CONNECTIONS OVER A WAN IS NOT RECOMMENDED, SINCE SUCH A PROCESS CONSUMES VALUABLE BANDWIDTH. YOU CAN ACHIEVE THE SAME OBJECTIVE WITH THE CREATE/IMPORT CONFIGURATION FILE FUNCTION (*PAGE 181*) OF INCONTROL.

**CAUTION**: COPYING CONNECTIONS WILL OVERWRITE ALL EXISTING CONNECTIONS IN THE DESTINATION CLIENT/S.

**NOTE**: **INCONTROL** WILL COPY **ALL** THE CONNECTION ENTRIES (ICA, RDP AND TERMINAL EMULATION), **AS WELL AS ANY TERMINAL EMULATION SETTINGS** SUCH AS FUNCTION KEYS DEFINED FOR PERICOM EMULATION CONNECTIONS. WITH THE CURRENT VERSION OF INCONTROL, IT IS NOT POSSIBLE TO COPY CONNECTIONS SELECTIVELY.

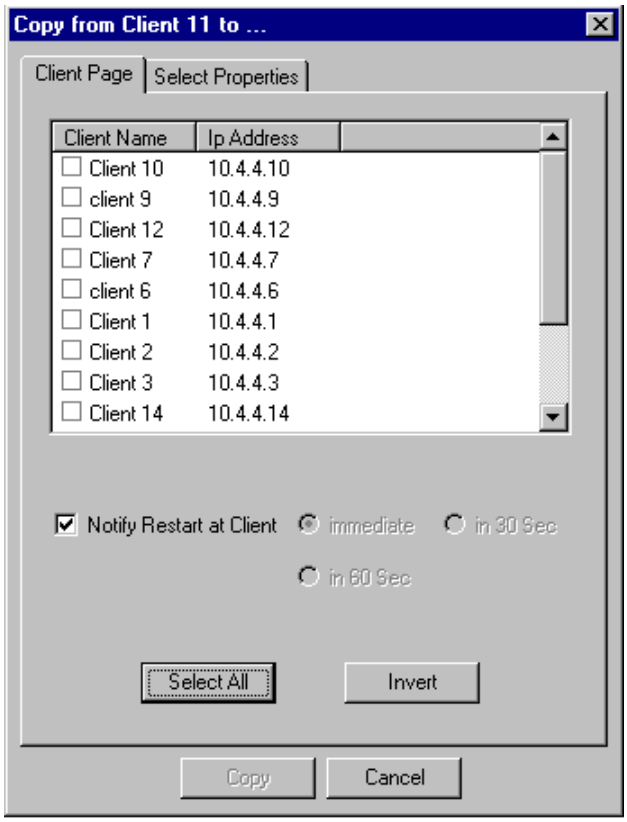
CHECK WITH THE RESELLER OR VISIT OUR WEB-SITE WWW.IOCORP.COM FOR UPDATES ABOUT THIS OPTION.

Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the client that you want to use as the base or reference client. This is now the *source* client for the **Copy** function.

3. Select the **Copy** option from the **Options** menu, or click the icon on the tool bar. The following dialog-box is displayed.




4. The **Client Page** tab of the above dialog-box contains a list of names and IP addresses of clients other than the reference client.

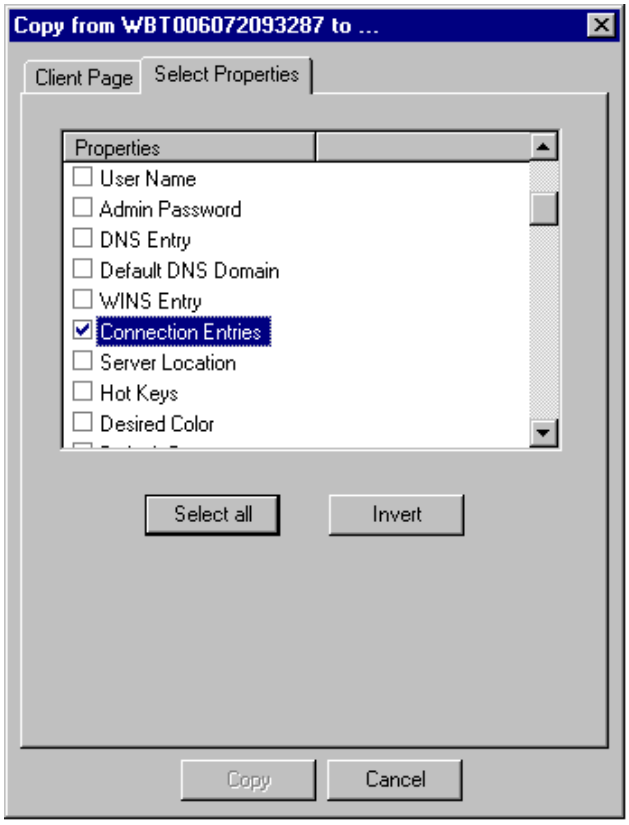
   Select the check-boxes adjacent to clients to which you want to copy the connections. You can select all clients by clicking on the **Select All** button. Click on the **Invert** button to select all unselected clients and deselect all selected clients.

5. After the connection entries are copied, the clients must be restarted for changes to take effect. By default, a message will be displayed at the clients allowing users to decide whether the clients can be restarted. Users can either immediately restart the clients by clicking **Yes** or decide to restart the clients later by clicking **No**.

   If you want to disable this message and ensure that the client is compulsorily restarted, deselect the **Notify Restart at Client** check-box in the above dialog-box. The following radio-buttons will be enabled.

   - **immediate**: This is the default selection. The clients will restart immediately after disconnecting active connections.
   - **in 30 Sec**: If you select this radio-button, the clients will restart 30 seconds after the parameters are copied. During this period, users can logout of active sessions.
   - **in 60 Sec**: If you select this radio-button, the clients will restart 60 seconds after the parameters are copied. During this period, users can logout of active sessions.

6. After specifying restart-parameters, click on the **Select Properties** tab.




The above tab contains a list of parameters.

7. Select the **Connection Entries** parameter by clicking on the check-box adjacent to it.

**INCONTROL** WILL COPY **ALL** THE CONNECTION ENTRIES (ICA, RDP AND TERMINAL EMULATION), **AS WELL AS EMULATION SETTINGS** SUCH AS FUNCTION KEYS DEFINED FOR PERICOM EMULATION CONNECTIONS. WITH THE CURRENT VERSION OF INCONTROL, IT IS NOT POSSIBLE TO COPY CONNECTIONS SELECTIVELY.

8. Click on the **Copy** button. **inControl** copies the connection entries of the reference client to the clients selected in step 4.

**NOTE**: THE **COPY** BUTTON IS ENABLED ONLY WHEN AT LEAST ONE CLIENT AND ONE PROPERTY HAVE BEEN SELECTED FROM THE **CLIENT PAGE** AND **SELECT PROPERTIES** TABS RESPECTIVELY.

While the connection entries are being copied, the following message is displayed at the clients:
**Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE CONNECTION ENTRIES ARE BEING COPIED, THE CLIENTS MUST NOT BE SWITCHED OFF.

After the connection entries are copied, depending on the restart option you specified in step 5 of this procedure, one of the following will happen.

- If you selected the **Notify Restart at Client** check-box, a message is displayed at the clients prompting users to restart the clients. Users can either immediately restart the clients by clicking **Yes** or decide to restart the clients later by clicking **No**. The new connection entries will be available in the Terminal Connection Manager after the client has restarted.
- If you deselected the **Notify Restart at Client** check-box, the clients will be restarted either immediately or in 30 / 60 seconds depending on the delay specified in step 5. During this period (*30/60 seconds*), users can logout of active sessions. The new connection entries will be available in the Terminal Connection Manager after the client has restarted.

# Copying Terminal Properties to Multiple Clients

**inControl for Terminals** allows you to efficiently configure multiple clients with uniform settings, by copying client-settings from a reference client.

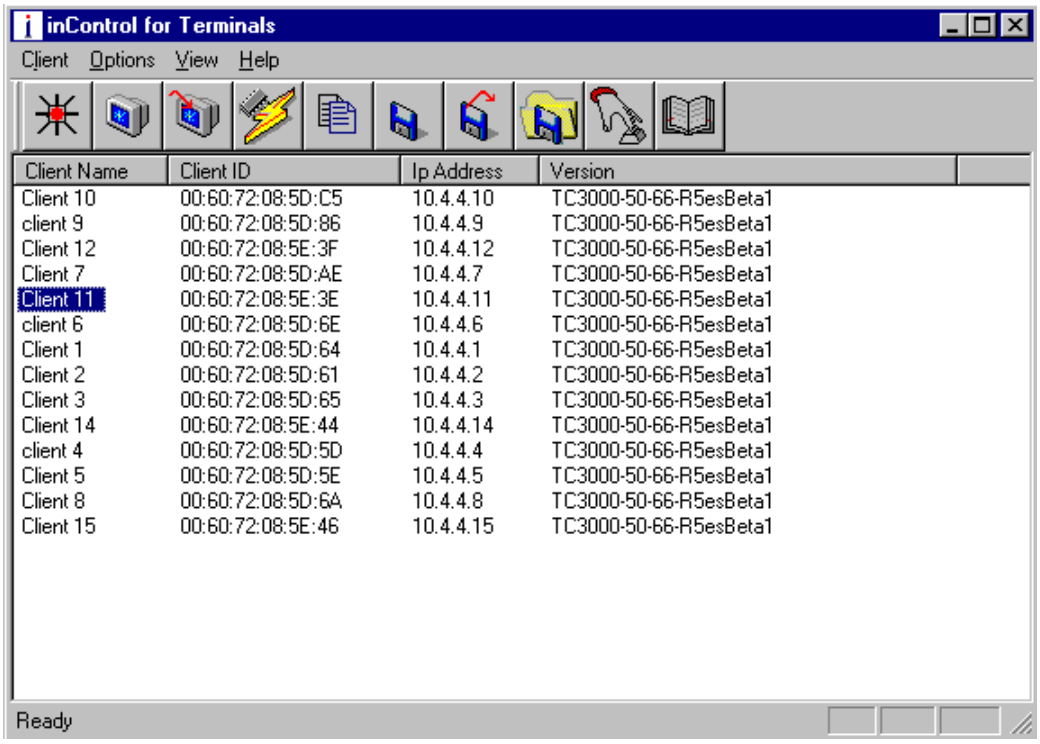
**TIP**: COPYING PROPERTIES OVER A WAN IS NOT RECOMMENDED, SINCE SUCH A PROCESS CONSUMES VALUABLE BANDWIDTH. YOU CAN ACHIEVE THE SAME OBJECTIVE WITH THE CREATE/IMPORT CONFIGURATION FILE FUNCTION (*PAGE 181*) OF INCONTROL.

**CAUTION**: COPYING TERMINAL PROPERTIES WILL OVERWRITE ALL EXISTING TERMINAL SETTINGS IN THE DESTINATION CLIENT/S.

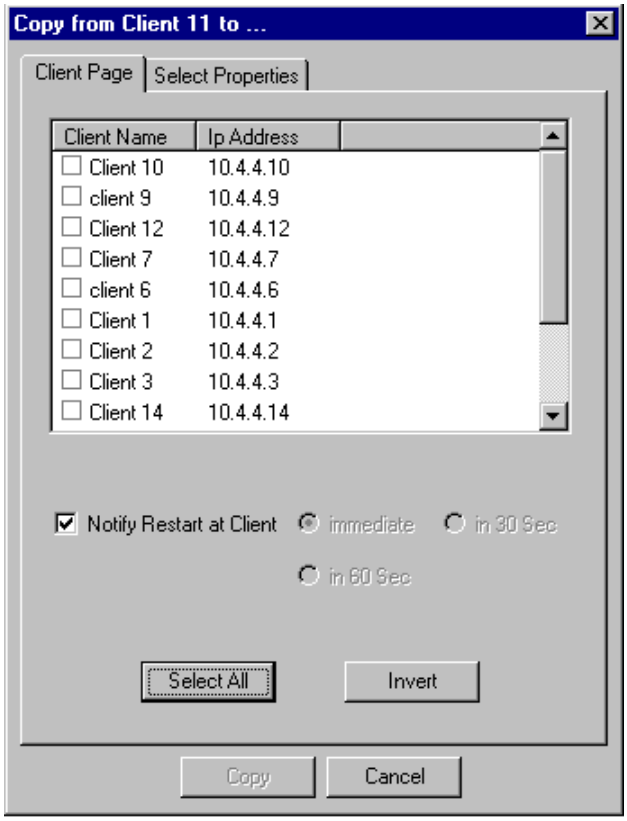
**NOTE**: IF SOME OF THE FEATURES OF THE SOURCE CILENT ARE NOT AVAILABLE IN THE TARGET CLIENT/S DUE TO DIFFERENCES IN FIRMWARE VERSION, SUCH EXTRA FEATURES ARE IGNORED DURING THE COPYING PROCESS.

The procedure to copy terminal properties from one client to one or more other clients is described below.

Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. After **inControl** has refreshed the list of clients, identify the client that you want to use as the reference client. This is now the *source* client for the **Copy** function.
3. Select the **Copy** option from the **Options** menu, or click the icon on the tool bar. The following dialog-box is displayed.




4. The **Client Page** tab of the above dialog-box contains a list of names and IP addresses of clients other than the reference client.

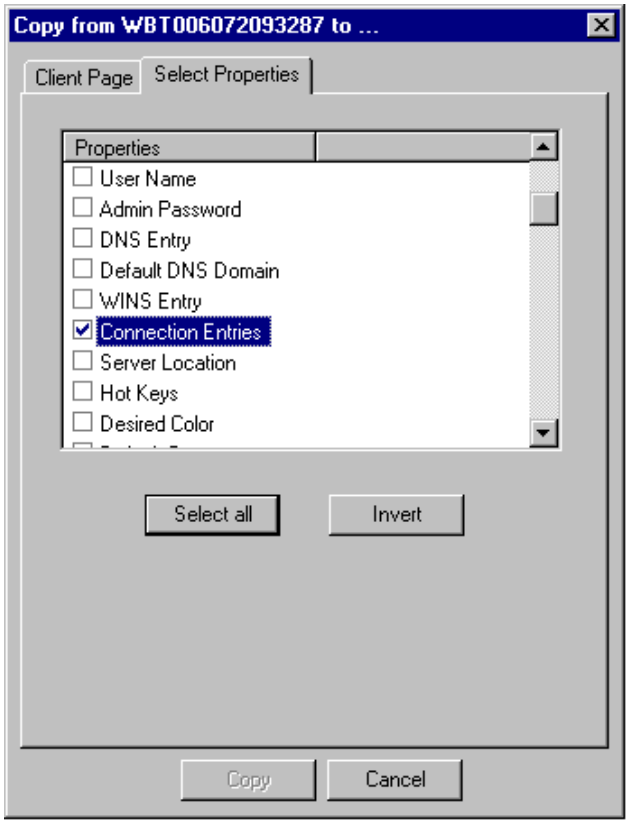
   Select the check-boxes adjacent to clients to which you want to copy the terminal properties. You can select all clients by clicking on the **Select All** button. Click on the **Invert** button to select all unselected clients and deselect all selected clients.

5. After the client-settings are copied, the clients must be restarted for changes to take effect. By default, a message will be displayed at the clients allowing users to decide whether the clients can be restarted. Users can either immediately restart the clients by clicking **Yes** or decide to restart the clients later by clicking **No**.

   If you want to disable this message and ensure that clients are compulsorily restarted, deselect the **Notify Restart at Client** check-box in the above dialog-box. The following radio-buttons will be enabled.

   - **immediate**: This is the default selection. The clients will restart immediately after disconnecting active connections.
   - **in 30 Sec**: If you select this radio-button, the clients will restart 30 seconds after the parameters are copied. During this period, users can logout of active sessions.
   - **in 60 Sec**: If you select this radio-button, the clients will restart 60 seconds after the parameters are copied. During this period, users can logout of active sessions.

6. After specifying restart-parameters, click on the **Select Properties** tab.




The above tab contains a list of parameters.

7. Select the parameters that you want to copy by selecting the check-boxes adjacent to them. You can select all displayed parameters by clicking on the **Select All** button. Click on the **Invert** button to select all unselected parameters, and deselect all selected parameters.

**NOTE**: ONE OF THE PARAMETERS LISTED IN THE ABOVE TAB IS **CONNECTION ENTRIES**. IF THIS CHECK-BOX IS SELECTED, **INCONTROL** WILL COPY **ALL** THE CONNECTION ENTRIES (ICA, RDP AND TERMINAL EMULATION), **AS WELL AS ANY TERMINAL EMULATION SETTINGS** SUCH AS FUNCTION KEYS DEFINED FOR PERICOM EMULATION CONNECTIONS.

8. Click on the **Copy** button.

**NOTE**: THE **COPY** BUTTON IS ENABLED ONLY WHEN AT LEAST ONE CLIENT AND ONE PROPERTY HAVE BEEN SELECTED FROM THE **CLIENT PAGE** AND **SELECT PROPERTIES** TABS.

While the terminal properties are being copied, the following message is displayed at the clients:
**Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE TERMINAL PROPERTIES ARE BEING COPIED, THE CLIENTS MUST NOT BE SWITCHED OFF.

After the terminal properties are copied, depending on the restart option you specified in step 5 of this procedure, one of the following will happen.

- If you selected the **Notify Restart at Client** check-box, a message is displayed at the clients prompting users to restart the clients. Users can either immediately restart the clients by clicking **Yes** or decide to restart the clients later by clicking **No**. The new terminal properties will take effect after the client has restarted.
- If you deselected the **Notify Restart at Client** check-box, the clients will be restarted either immediately or in 30 / 60 seconds depending on the delay specified in step 5. During this period (*30/60 seconds*), users can logout of active sessions. The new terminal properties will take effect after the client has restarted.

# Creating, Editing and Importing Configuration Files

inControl allows you to save configuration details of a client to a file using the **Create Configuration File** option of the **Options** menu. The configuration file can then be imported to multiple clients with the **Import Configuration File** option of the **Options** menu.

This feature is especially useful when you want to implement uniform settings for clients installed at different geographical locations. You can also use this feature to implement a pre-defined standard configuration for new clients acquired later.

The **Copy** function of inControl serves a similar purpose, but you can use it only for configuring clients in the same or inter-connected networks. Besides, copying over a WAN is not recommended since it consumes valuable bandwidth.

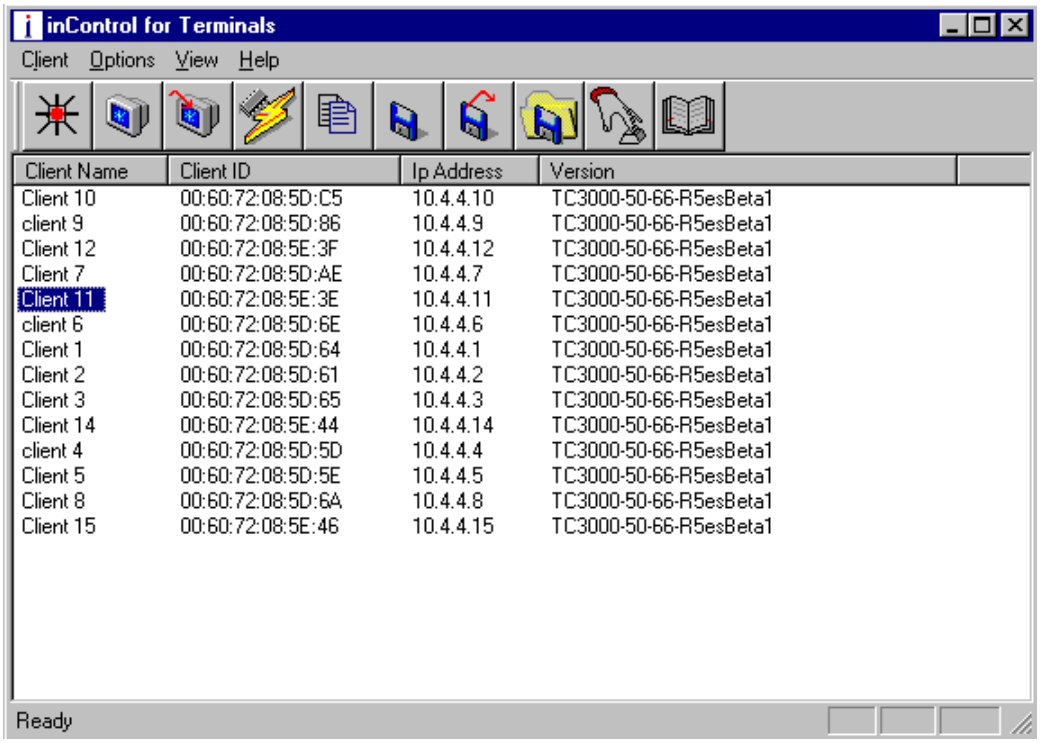
**NOTE**: WHEN YOU IMPORT A CONFIGURATION FILE, CONNECTION ENTRIES ARE ADDED TO THOSE ALREADY EXISTING IN THE TARGET CLIENT/S

WHEN YOU IMPORT A CONFIGURATION FILE, TERMINAL PROPERTIES OF THE TARGET CLIENT/S ARE OVERWRITTEN.

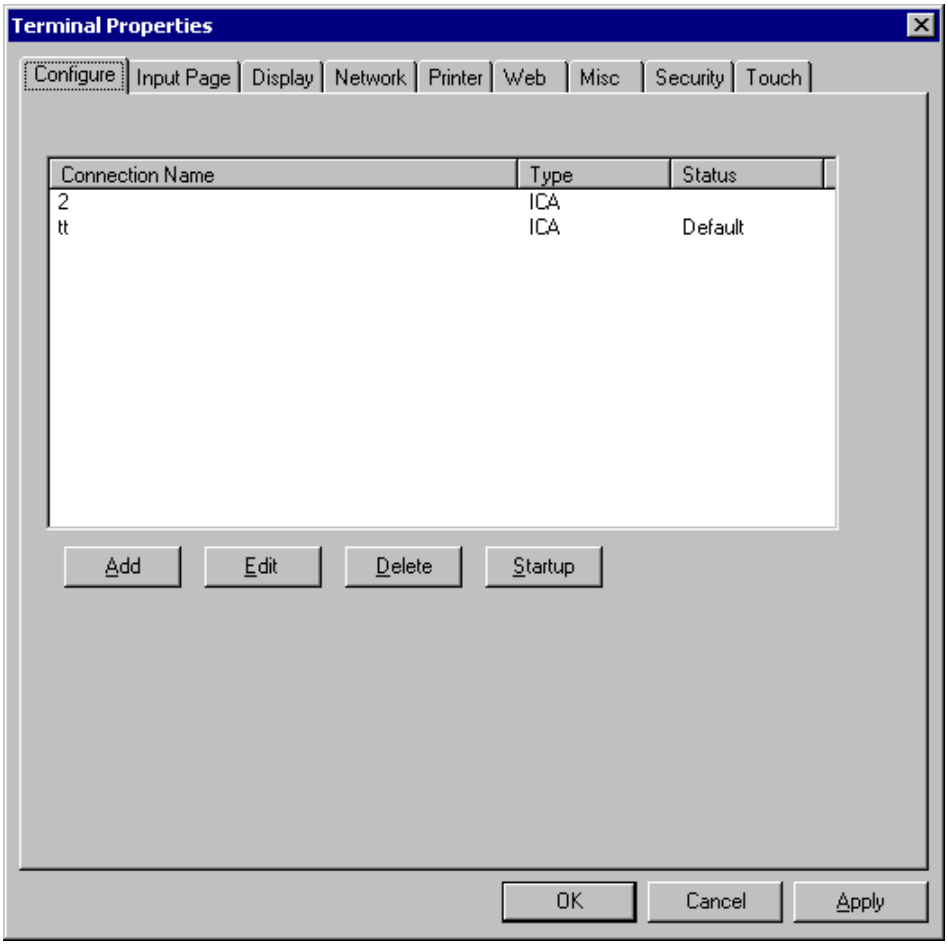
This chapter is divided into the following sections.

## Creating Configuration Files

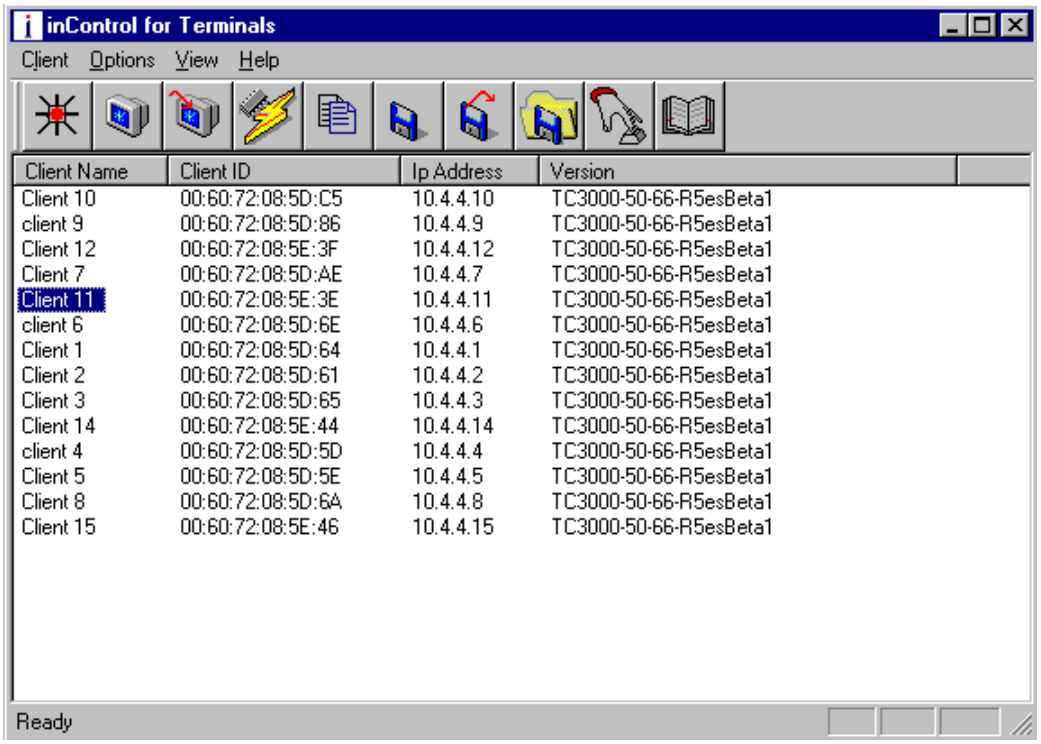
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.



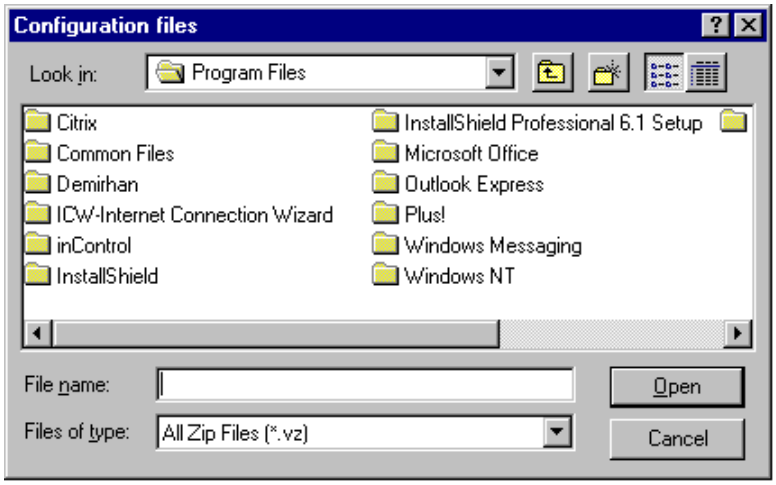

1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. After **inControl** has refreshed the list of clients, select the client to be used as the reference client and double-click on it. The following dialog-box is displayed.




3. Click **OK** to return to the inControl main screen.




4. Select the **Create Configuration File** option from the **Options** menu, or click the  icon on the tool bar. The **Configuration files** dialog-box is displayed.




5. Select the directory where you want to save the configuration file, enter a name for the file in the **File name** field, and click **Open**. A file with the extension **vz** will be created based on the configuration settings of the reference client.

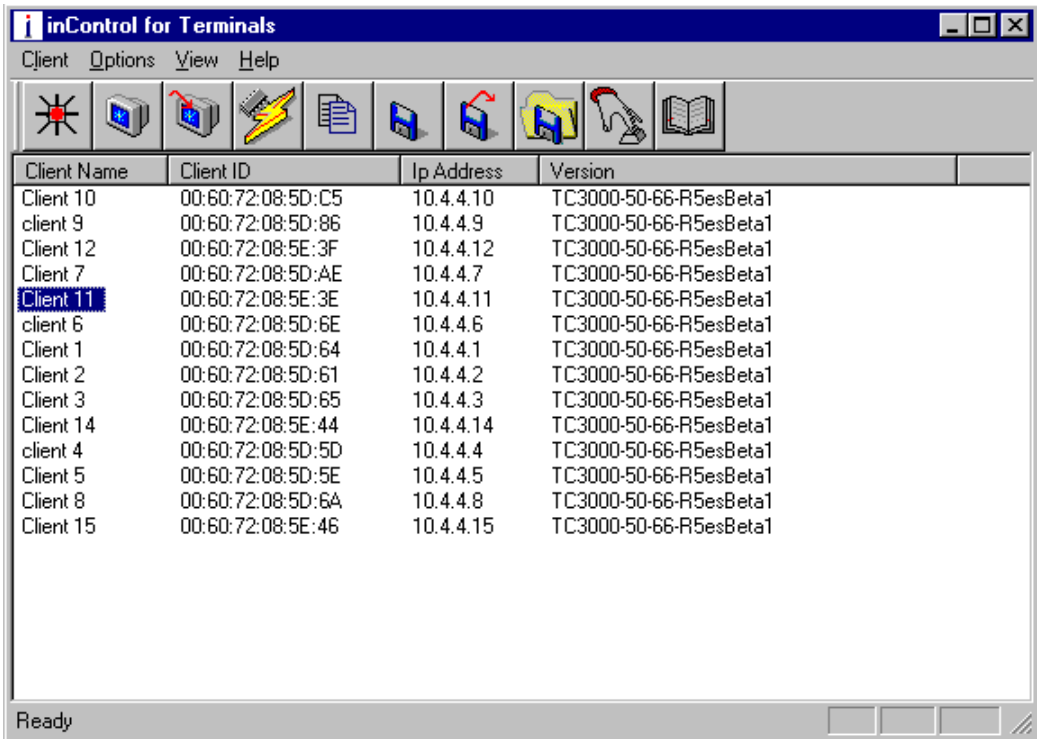
**TIP**: PLEASE CREATE A BACKUP COPY OF THE **VZ** FILE ON A SEPARATE SERVER OR FLOPPY.

The next section describes the procedure to modify a configuration file.

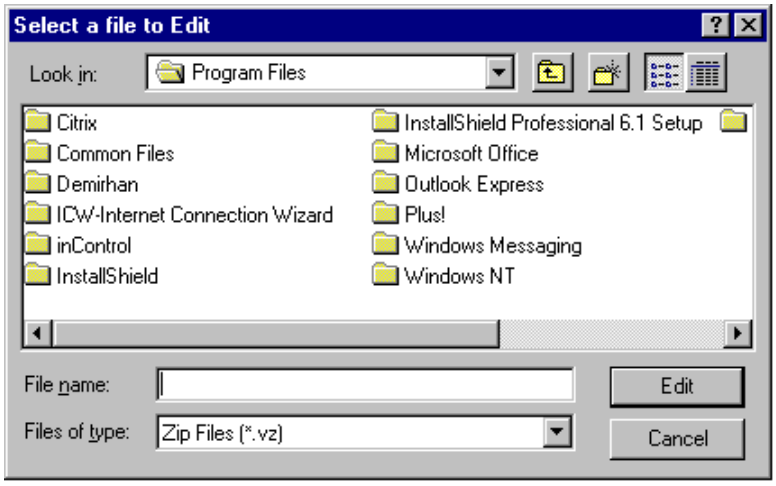
# Editing Configuration Files

After creating a configuration file (*as described in the previous chapter*), the contents of the configuration file can be modified at any time using the **Edit Configuration File** feature of inControl. This feature is especially useful when you realize after creating a configuration file that certain parameters need to be modified. In such cases, instead of configuring a client and creating a new configuration-file, you can open the existing configuration file, modify appropriate parameters and save the file with the same or a new name.

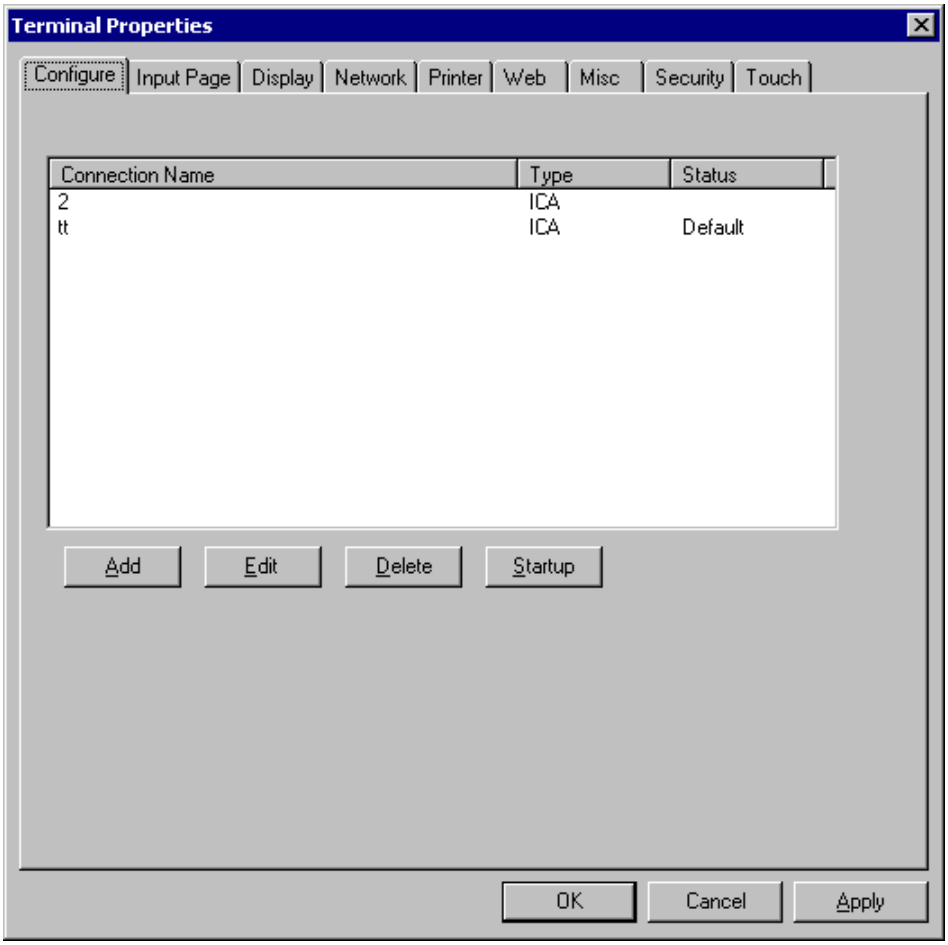
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Edit Configuration File** option from the **Options** menu, or click the  icon on the tool bar. The following dialog-box is displayed.




2. Select the configuration-file (.**vz**) to be modified and click **Edit**. The following dialog-box is displayed.




The **Configure** tab of the above dialog-box contains the connection entries available in the configuration-file. The other tabs contain settings for various client-parameters as defined in the configuration-file.

3. Configure the required connections/client-parameters as described in relevant sections of this guide and click **OK** to save changes. The following dialog-box is displayed.


4. Select or specify the name of the **.vz** file to which the new configuration information should be saved and click **Save**.

**TIP**: PLEASE CREATE A BACKUP COPY OF THE **VZ** FILE ON A SEPARATE SERVER OR FLOPPY.

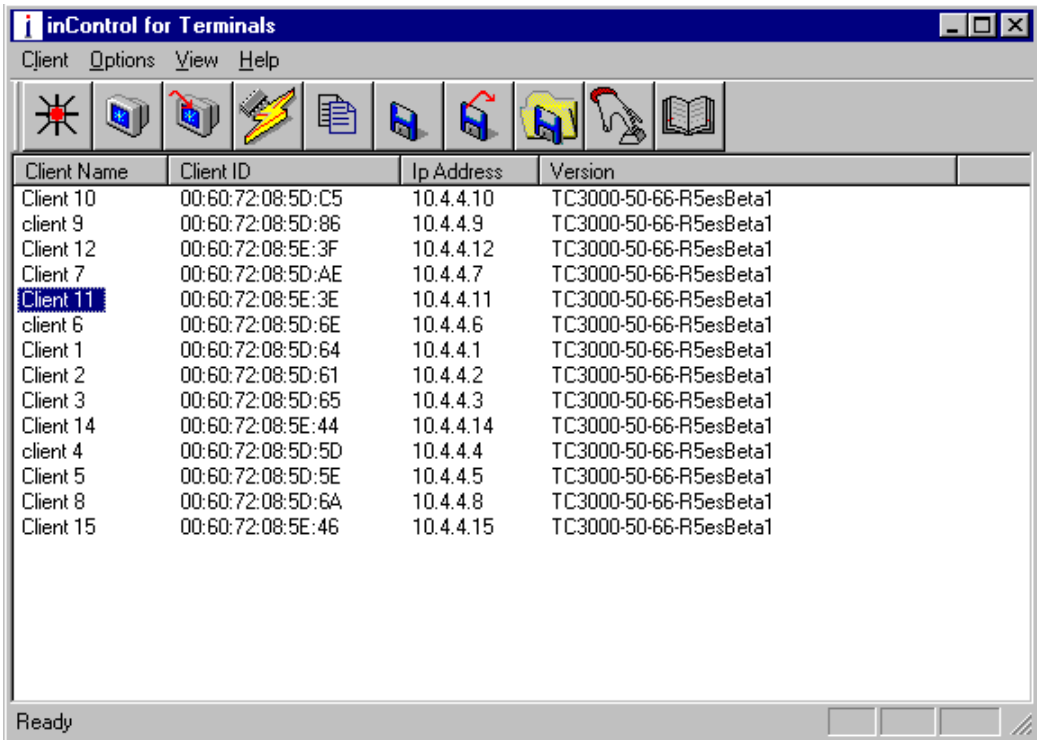
The next section describes the procedure to import a configuration file to multiple clients.

# Importing Configuration Files

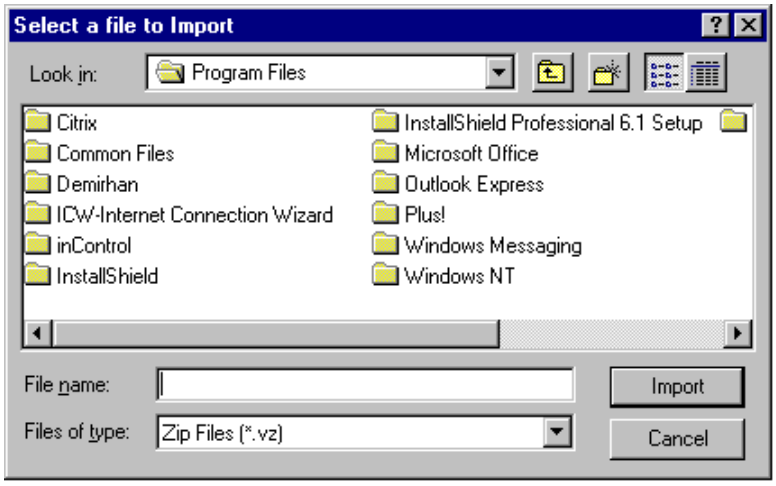
After creating a configuration file, you can use it to uniformly configure multiple clients through the **Import Configuration File** function of inControl.

**CAUTION**: DO NOT IMPORT CONFIGURATION FILES TO CLIENTS WITH DIFFERENT FIRMWARE-VERSIONS THAN THE SOURCE CLIENT. IF YOU DO THIS, THE CLIENTS COULD HANG.

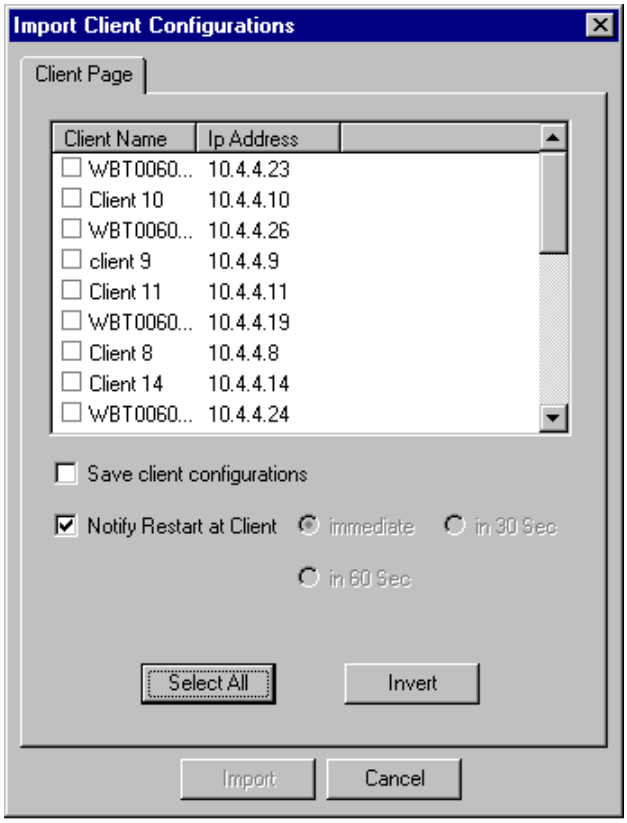
Start **inControl for Terminals**, and select **WinCE Clients** from the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. The application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. Select the **Import Configuration File** option from the **Options** menu, or click the icon on the tool bar. The **Select a file to Import** dialog-box is displayed.




3. The configuration file created using inControl will have the extension **vz**. Select the appropriate .**vz** file and click **Import**. The **Import Client Configurations** dialog-box is displayed.




The above dialog-box contains a list of names and IP addresses of clients.

4. Select the check-boxes adjacent to clients to which you want to import the configuration file. You can select all clients by clicking on the **Select All** button. Click on the **Invert** button to select all unselected clients and deselect all selected clients.
5. If you want to retain the original settings of the clients and only add any *new* configuration information (*such as new connection entries, new server locations)*, select the **Save client configurations** check-box.
6. After the configuration file is imported, the clients must be restarted for changes to take effect. By default, a message will be displayed at the clients allowing users to decide whether the clients can be restarted. Users can either immediately restart the clients by clicking **Yes** or decide to restart the clients later by clicking **No**.

   If you want to disable this message and ensure that clients are compulsorily restarted, deselect the **Notify Restart at Client** check-box in the above dialog-box. The following radio-buttons will be enabled.

   - **immediate**: This is the default selection. The clients will restart immediately after disconnecting active connections.
   - **in 30 Sec**: If you select this radio-button, the clients will restart 30 seconds after the parameters are copied. During this period, users can logout of active sessions.
   - **in 60 Sec**: If you select this radio-button, the clients will restart 60 seconds after the parameters are copied. During this period, users can logout of active sessions.
7. After specifying restart-parameters, click on the **Import** button. **inControl** imports the settings defined in the configuration-file, to the clients selected in step 4.

**NOTE**: THE **IMPORT** BUTTON IS ENABLED ONLY WHEN AT LEAST ONE CLIENT IS SELECTED.

While the configuration file is being imported, the following message is displayed at the clients: **Terminal Settings are being downloaded. Please do not switch off the terminal**

**CAUTION**: WHILE THE CONFIGURATION FILE IS BEING IMPORTED, THE CLIENTS MUST NOT BE SWITCHED OFF.

8. After the configuration file is imported, depending on the restart option you specified in step 6 of this procedure, one of the following will happen.
   - If you selected the **Notify Restart at Client** check-box, a message is displayed at the clients prompting users to restart the clients. Users can either immediately restart the clients by clicking **Yes** or decide to restart the clients later by clicking **No**. The new configuration will take effect after the client has restarted.
   - If you deselected the **Notify Restart at Client** check-box, the clients will be restarted either immediately or in 30 / 60 seconds depending on the delay specified in step 5. During this period (*30/60 seconds*), users can logout of active sessions. The new configuration will take effect after the client has restarted.

# Upgrading Client Firmware

This chapter describes the procedure to download a new firmware image to one or several client/s.

**CAUTION**: IF YOU USE INAPPROPRIATE FIRMWARE TO UPGRADE A CLIENT, THE CLIENT WILL NOT BOOT AND WOULD REQUIRE SERVICING ON AN OUT-OF-WARRANTY BASIS. TO AVOID DAMAGE TO THE FILE SYSTEMS OF CLIENTS, USE ONLY FIRMWARE FILES PROVIDED BY I-O.

## Scope of the 'Firmware Upgrade' Function

The following restrictions apply to the **Upgrade Client Firmware** function.

- You cannot upgrade from firmware version TC3xxx-40-(***30-59***) to TC3xxx-50-(***60-99***) or vice versa. inControl has an in-built check to disallow such upgrades.
- You cannot upgrade from a **Lite** (TC3000-xx-xx) to a **Pro** (TC3111-xx-xx) image.
- To upgrade firmware of clients older than those listed in Client Firmware (*page 7*), you must use the FTP upgrade procedure, which is described in the *Winlinx/Eazi-TC WinCE–based Thin Clients Administrator's Guide.* FTP upgrades are possible only from an FTP server in the LAN.
- When you upgrade clients with firmware version below TC3000-50-65R5es / TC3000-40-42R5es, and clients with firmware version TC3111-40-28R5, all the terminal properties will be reset to default values. To overcome this, you can do the following:

  1. Upgrade the firmware of one of these clients using inControl.
  2. Configure the client as required
  3. Perform one of the following actions, using inControl for Terminals

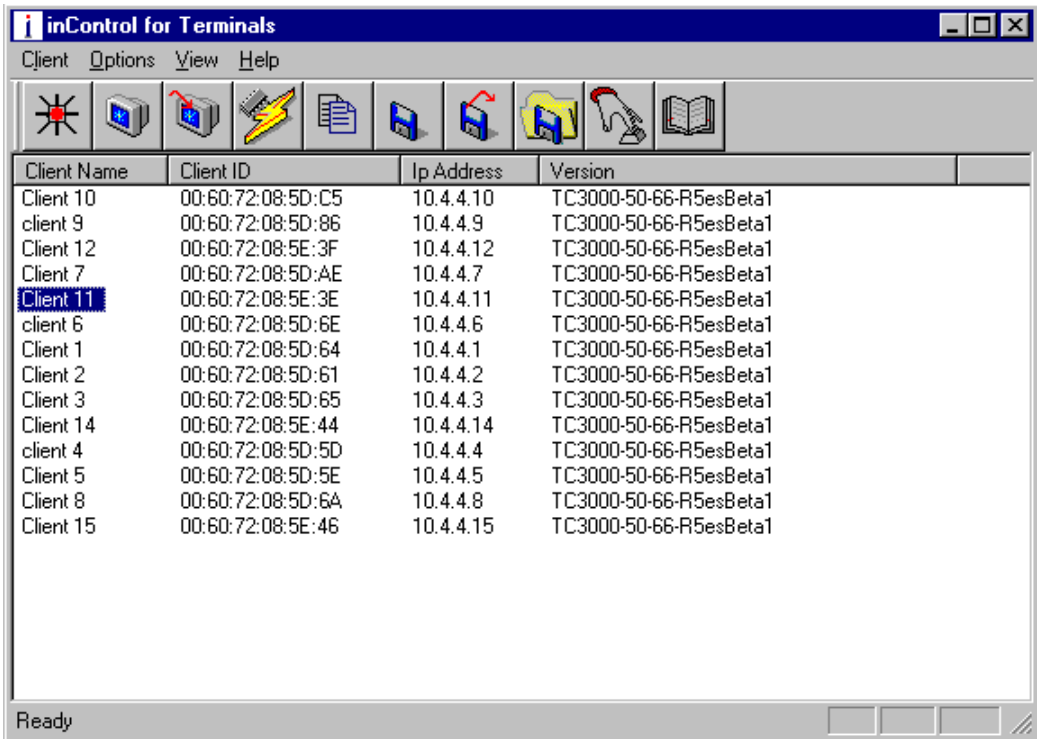
     - Either copy the settings from this client to the others in the network.

     - Or create a configuration file based on this client and import it to other clients.

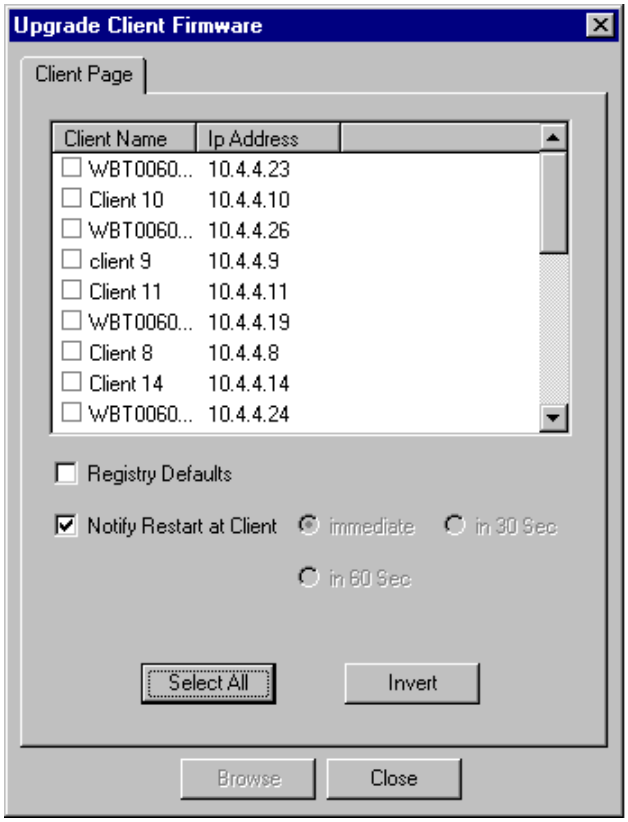
  For clients with firmware version equal to or higher than TC3000-50-65R5es and TC3000-40-42Res, you have an option (*described later in this section*) to either retain existing settings or restore default settings.

## Firmware Upgrade Procedure

Start **inControl for Terminals**, and select **WinCE Clients** in the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. Then the application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the icon on the tool bar.
2. Select the **Upgrade Client Firmware** option from the **Options** menu or click the icon on the tool bar. The following dialog-box is displayed.




The above dialog-box contains a list of names and IP addresses of clients.

3. Select the check-boxes adjacent to clients for which you want to upgrade firmware. You can select all clients by clicking on the **Select All** button. Click on the **Invert** button to select all unselected clients and deselect all selected clients.

4. By default, in clients with firmware versions starting from TC3000-50-65R5es and TC3000-40-42R5es, existing configuration settings and connection entries will be retained after the firmware is upgraded. If however, you want to restore all client parameters to default settings, select the **Registry Defaults** check-box.

**CAUTION**: WHILE UPGRADING CLIENTS WHOSE EXISTING FIRMWARE VERSION IS LOWER THAN TC3000-50-65R5ES / TC3000-40-42RES, AND CLIENTS WITH FIRMWARE VERSION TC3111-40-28R5, THE **Registry Defaults** CHECK-BOX **MUST** BE SELECTED. OTHERWISE, THE CLIENT WILL HANG AFTER THE FIRMWARE-UPGRADE PROCESS.

WHEN YOU UPGRADE FIRMWARE OF SUCH CLIENTS, ALL THE CLIENT PARAMETERS ARE RESTORED TO DEFAULT-SETTINGS. TO OVERCOME THIS LIMITATION, YOU CAN DO THE FOLLOWING:

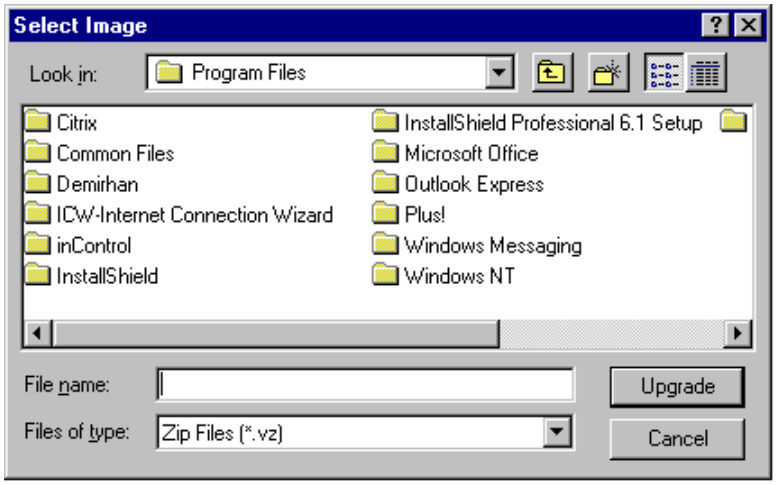
1. UPGRADE THE FIRMWARE OF ONE OF THESE CLIENTS USING INCONTROL.
2. CONFIGURE THE CLIENT AS REQUIRED
3. PERFORM ONE OF THE FOLLOWING OPERATIONS USING INCONTROL FOR TERMINALS.
   - EITHER COPY THE SETTINGS FROM THIS CLIENT TO OTHERS IN THE NETWORK.
   - OR CREATE A CONFIGURATION FILE BASED ON THIS CLIENT AND IMPORT IT TO OTHER CLIENTS

5. After the firmware is upgraded, the clients must be restarted for changes to take effect. By default, a message will be displayed at the clients allowing users to decide whether the clients can be restarted. Users can either immediately restart the clients by clicking **Yes** or decide to restart the clients later by clicking **No**.

If you want to disable this message and ensure that clients are compulsorily restarted, deselect the **Notify Restart at Client** check-box in the above dialog-box. The following radio-buttons will be enabled.

- **immediate**: This is the default selection. The clients will restart immediately, after disconnecting active connections.
- **in 30 Sec**: If you select this radio-button, the clients will restart 30 seconds after the parameters are copied. During this period, users can logout of active sessions.
- **in 60 Sec**: If you select this radio-button, the clients will restart 60 seconds after the parameters are copied. During this period, users can logout of active sessions.

6. After specifying appropriate restart options, click the **Browse** button. The following dialog-box is displayed.




Firmware images are provided in the form of **.vz** files. The **.vz** file replaces the **nk.bin** file that was being distributed earlier for firmware upgrades.

Starting with **inControl for Terminals Version 3.01**, the format of **.vz** files has been modified. The new format allows inControl to automatically select a firmware-image compatible with hardware characteristics of the target client. To distinguish the new **.vz** file-format from the old format, the names of **vz** files will be prefixed with certain characters as shown in the following table.

| ***InControl for Terminals version number*** | ***Existing firmware-version of clients*** | ***.vz file prefix*** |
|---|---|---|
| 3.00 | All versions * | **O** |
| 3.01, 3.02 | Up to TC3xxx-40-29, and from TC4xxx-50-01 | **N** |
| 3.01, 3.02 | From TC3xxx-40-31, and from TC3xxx-50-60 | **MN** |

*** Note 1**: If the existing version ***does not*** end with **es** (*for example: 3000.40.35*), you cannot use the standard **vz** file available in the FTP site. In such cases, contact the reseller to obtain the appropriate **vz** file.

**Note 2**: If you already have version inControl 3.00 or 3.01, you can obtain a free upgrade to 3.02 from I-O-authorized resellers. In any case, it is recommended that you upgrade the inControl application, because version 3.00 does not support clients with firmware versions higher than TC3xxx-40-40.

**Note 3**: When you try to download an **O**-series **vz** file with inControl version 3.01, or an **MN**-series file with inControl version 3.00, inControl will display the error message "**Not a valid upgrade image**".

7. Select the appropriate **.vz** file and click **Upgrade** to start upgrading the firmware.

**CAUTION**: DO NOT SWITCH OFF THE CLIENTS WHILE THE NEW FIRMWARE IS BEING DOWNLOADED.

While the firmware is being downloaded, the following messages are displayed:

- Message at the Clients: **Terminal Settings are being downloaded. Please do not switch off the terminal**
- Message at the inControl server: **Client firmware is being upgraded. This might take a few minutes**.

**CAUTION**: WHILE THE FIRMWARE IS BEING DOWNLOADED, THE CLIENTS MUST NOT BE SWITCHED OFF.

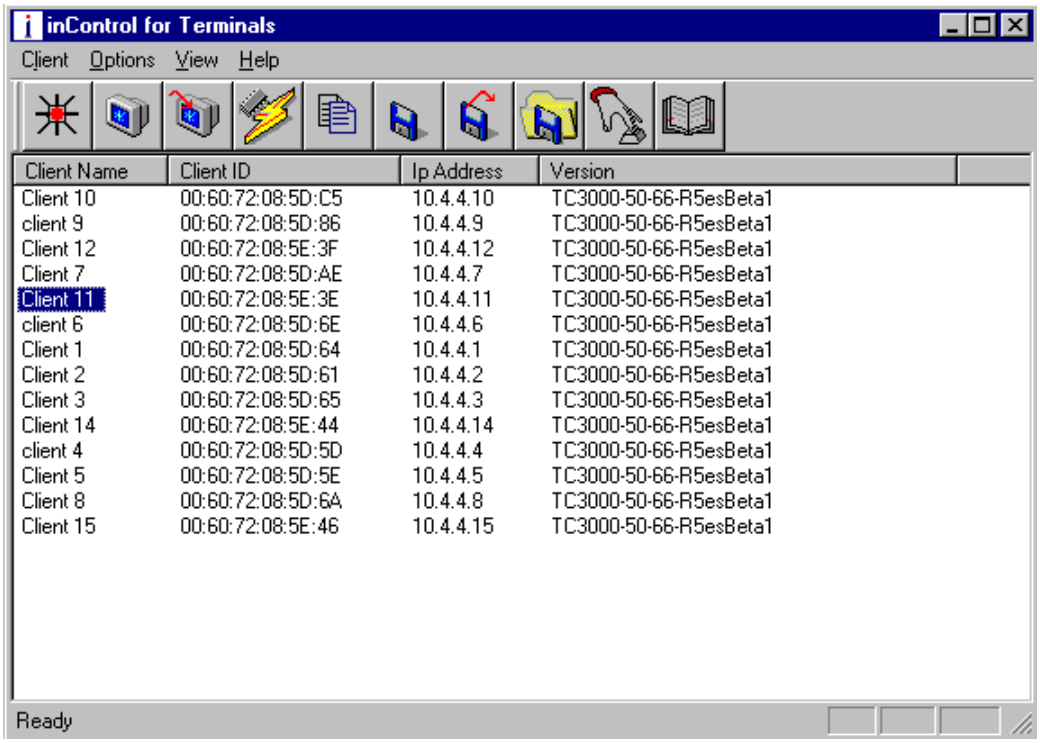
After the firmware is downloaded, depending on the restart option you specified in step 5 of this procedure, one of the following will happen.

- If you selected the **Notify Restart at Client** check-box, a message is displayed at the clients prompting users to restart the clients. Users can either immediately restart the clients by clicking **Yes** or decide to restart the clients later by clicking **No**. The new firmware will take effect after the client has restarted.
- If you deselected the **Notify Restart at Client** check-box, the clients will be restarted either immediately or in 30 / 60 seconds depending on the delay specified in step 5. During this period (*30/60 seconds*), users can logout of active sessions. The new firmware will take effect after the client has restarted.

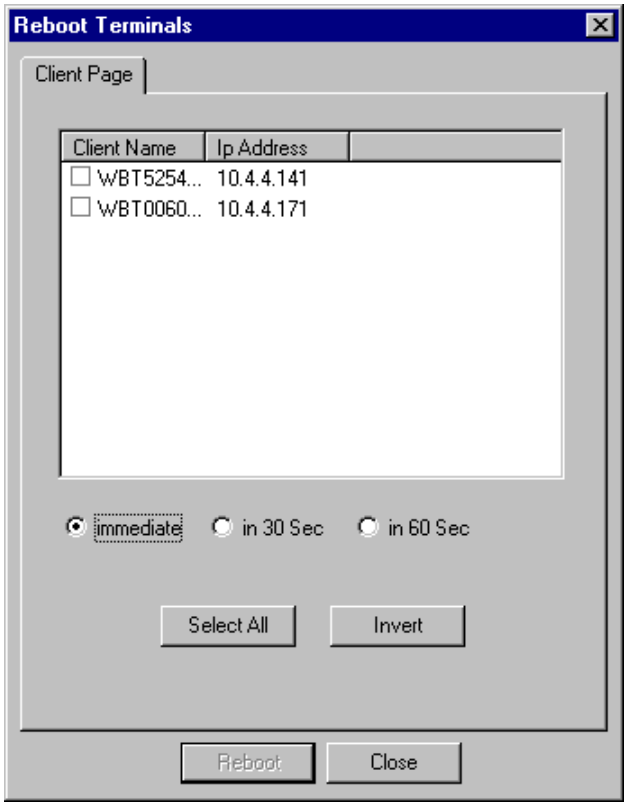
# Restarting Clients from the inControl Server

The Remote Reboot feature of inControl allows the system administrator to send a 'restart' command to remote clients from the inControl server. This feature saves time for the system administrator who would otherwise have to physically go to each client whenever the client needs to be restarted.

Start **inControl for Terminals**, and select **WinCE Clients** in the **inControl Client Type** dialog-box. The message **Enumerating clients…** is briefly displayed. Then the application automatically detects clients that are **currently switched on** and displays the following screen.




1. Select the **Refresh** option from the **Client** menu, or click the  icon on the tool bar.
2. Select the **Reboot Clients** option from the **Options** menu, or click the  icon on the tool bar. The following dialog-box is displayed.




The above dialog-box contains a list of names and IP addresses of clients.

3. Select the check-boxes adjacent to clients for which you want to upgrade firmware. You can select all clients by clicking on the **Select All** button. Click on the **Invert** button to select all unselected clients and deselect all selected clients.
4. Select one of the following radio-buttons to specify when the client should restart.
   - **immediate**: This is the default selection. The clients will restart immediately after disconnecting active connections.
   - **in 30 Sec**: If you select this radio-button, the clients will restart 30 seconds after the **Reboot** button is clicked. During this period, users can logout of active sessions.
   - **in 60 Sec**: If you select this radio-button, the clients will restart 60 seconds after the **Reboot** button is clicked. During this period, users can logout of active sessions.
5. Click **Reboot**.
   - If you selected the **immediate** radio-button in step 4, the clients will be restarted immediately.
   - If you selected the **in 30 sec** or **in 60 sec** radio-button in step 4, the following message will be displayed at the client.

     **Terminal will be Restarted in xx seconds**

     'xx' in the above message could be 30 or 60. The above message will be displayed for 30 or 60 seconds depending on the delay specified. During this period, users can log out of active sessions.

     After the specified delay, the clients will restart.

# Configuring Servers for LPD Printing

LPD (Line Printer Daemon) is a feature with which network users can access printers connected to the client. To implement this feature, you must configure appropriate client/s as print-servers as described on page 146 and then configure the Windows NT and Windows 2000 servers as described in this chapter.

inControl supports this feature for clients with firmware version equal to higher than **TC3000-40-43** and **TC3000-50-66**.

LPD printing provides the following advantages when compared to other local printing options (*see note below for other local printing options*).

- In other local printing options, the client must be *connected* to the server to act as a print-server. Clients configured using the Line Printer Daemon start functioning as print-servers as soon as they are *switched on*.

- During an ICA session, if a client receives a print-job from another ICA user, the receiving client may become slow and even temporarily unusable until the print-job has been completed. This is because, in ICA-printing the print-job and other client-server traffic use a common communication channel. On the other hand, if the client is configured as a print-server using LPD, the performance of the client is not affected while it is executing print-jobs since the Line Printer Daemon uses a separate communication channel for printing.

**NOTE**: FOLLOWING ARE THE OTHER LOCAL PRINTING OPTIONS BESIDES LPD.

- WHEN A CLIENT IS CONNECTED TO A WINDOWS 2000 SERVER THROUGH AN RDP CONNECTION, THE PRINTER PORT OF THE CLIENT CAN BE ACCESSED BY RDP USERS IN THE NETWORK. THE PROCEDURE TO IMPLEMENT THIS FEATURE IS DESCRIBED ON PAGE 142.
- DURING ICA SESSIONS, PRINTER PORTS OF CLIENTS CAN BE ACCESSED BY ICA USERS IN THE NETWORK IF THE USE PRINTER CONFIGURATION UTILITY OPTION (*PAGE 41*) IS APPROPRIATELY CONFIGURED WHILE CREATING THE ICA CONNECTION.

This chapter describes the procedure to configure the following servers for LPD printing.

- Windows NT 4.0 TSE Server (*page 198*)
- Windows 2000 Server (*page 203*)
- Windows 2000 Advanced Server (*page 210*)

## Windows NT 4.0 Terminal Server Edition

1 Select the **Network Neighborhood** icon on the desktop.

2 Right-click and select **Properties**. The **Network** dialog-box is displayed.

3 Select the **Services** tab.

4 If **Microsoft TCP/IP Printing** is already displayed in the **Network Services** list, click **Cancel** to return to the desktop and proceed to step **10**.

5 If **Microsoft TCP/IP Printing** is not displayed in the **Network Services** list, click **Add**. The **Select Network Service** dialog-box is displayed.

6 Select **Microsoft TCP/IP Printing** and click **OK**.

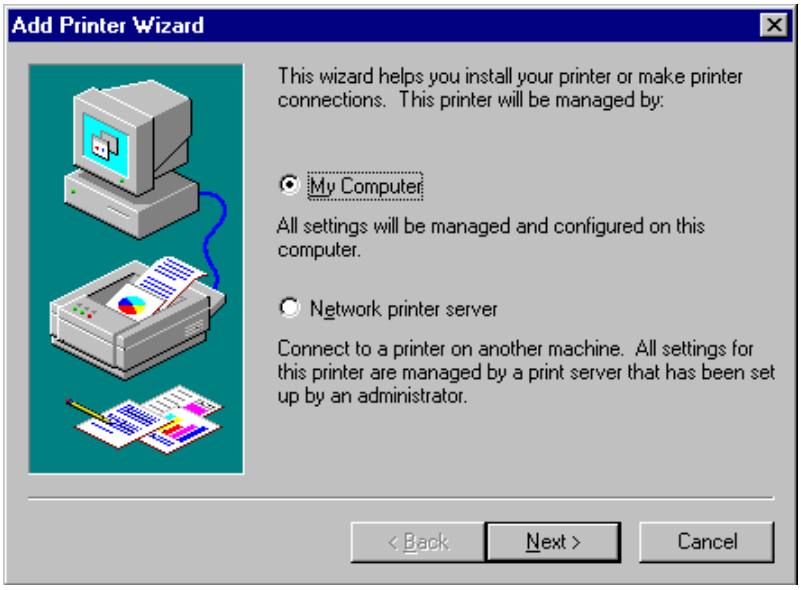
7 A prompt to insert the CD containing the Windows NT TSE software is displayed. Insert the CD or type the path of the NTTSE-i386 directory and click **Continue**.

8 After copying required files, the **Network** dialog-box is displayed again. Click **Close**.

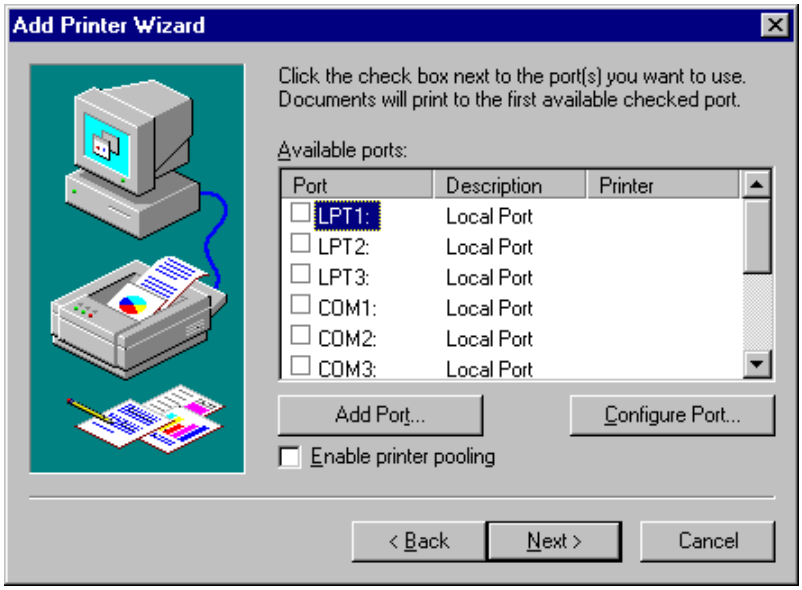
9 A prompt to shut down and restart the server is displayed. Click **Yes** to restart the server.

10 Select **Start**->**Settings**->**Printers**. The **Printers** window is displayed.

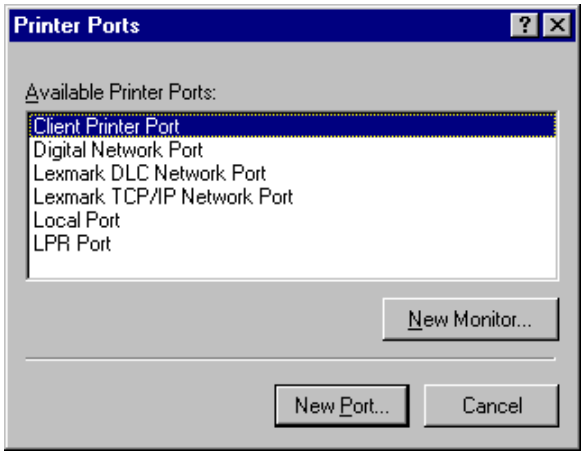
11 Double-click the **Add Printer** icon. The following dialog-box is displayed.



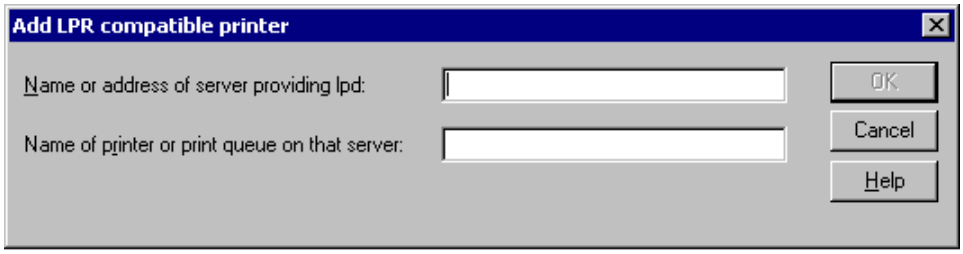

12 Select **My Computer** and click **Next>**. The following dialog-box is displayed.



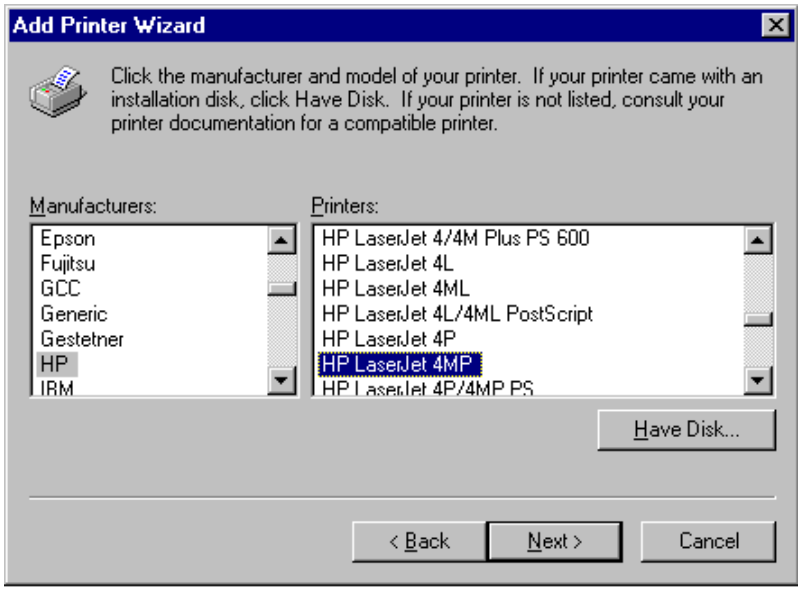

13 Click **Add Port…** The following dialog-box is displayed.



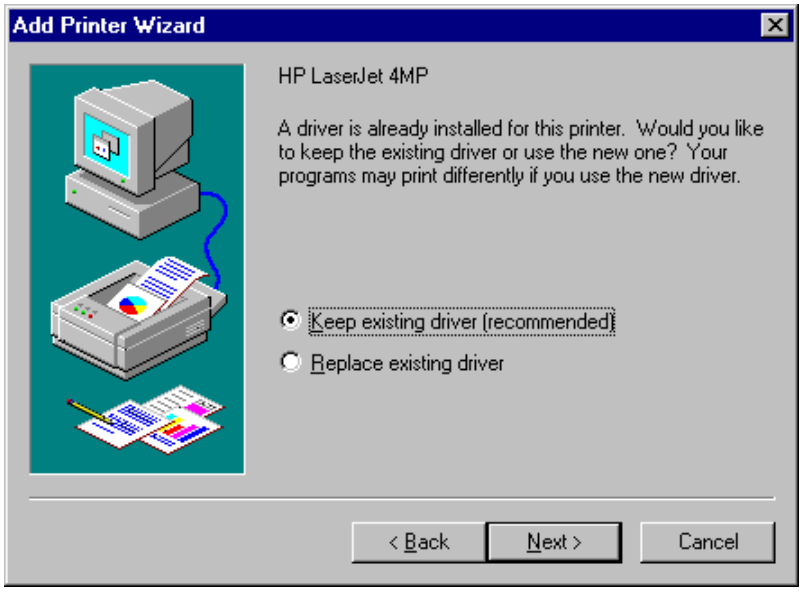

14 Select the **LPR Port** entry and click **New Port**. The following dialog-box is displayed.



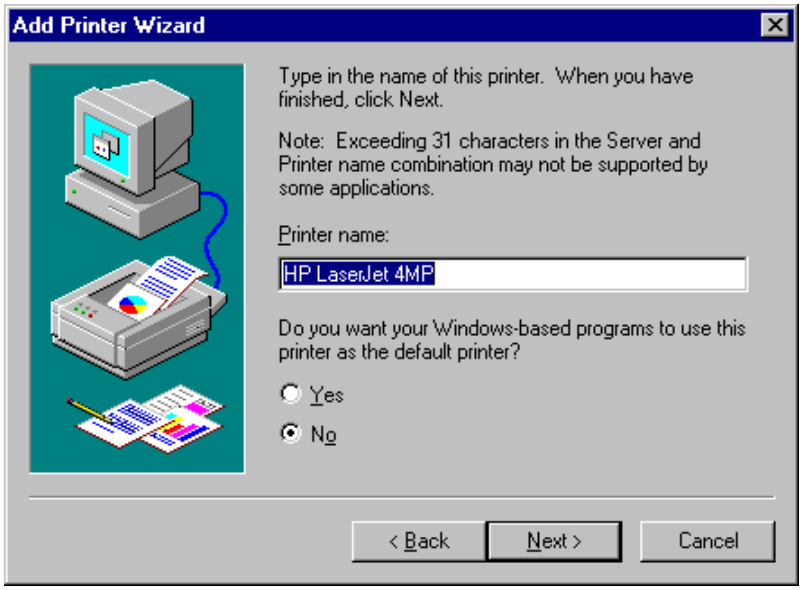

15 In the first text-field, specify the IP address of the client that is configured as a print-server using LPD. In the second text-field, enter the name of the printer connected to the LPD server. The name should be the same as that specified while configuring the client as an LPD server. Click **OK**. The following dialog-box is displayed.



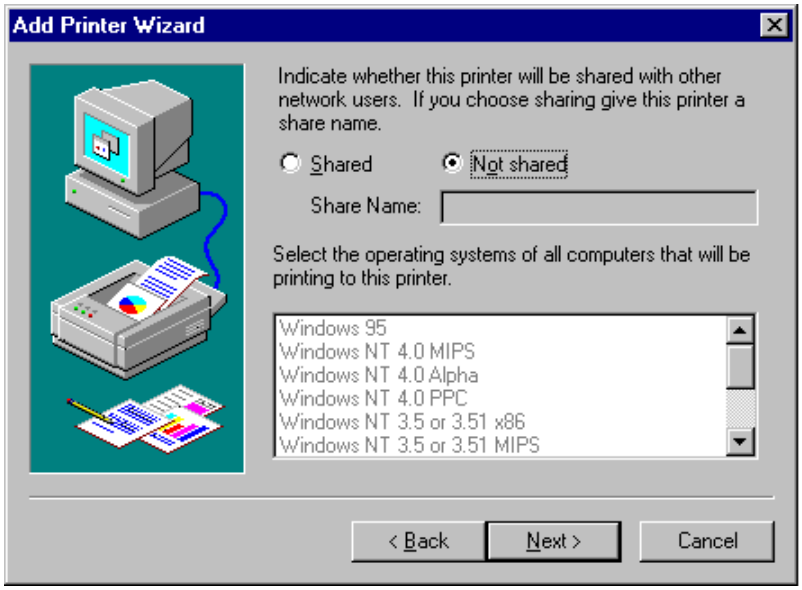

16 Select the make and model of the printer from the **Manufacturers** and **Printers** lists. Click **Next>** to continue. The following dialog-box is displayed.



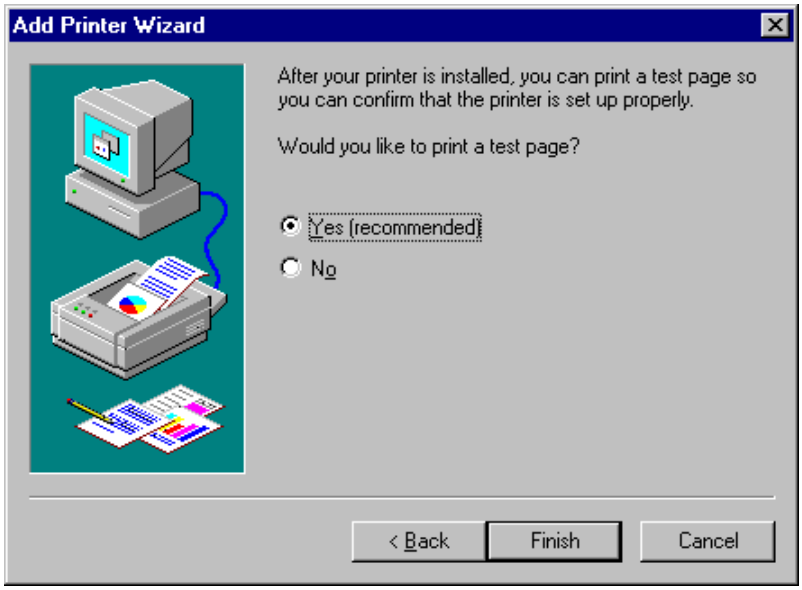

17 Select the appropriate radio-button to specify the printer driver and click **Next>**. The following dialog-box is displayed.



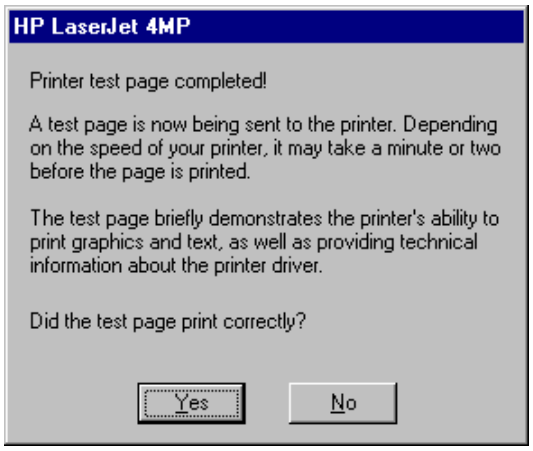

18 Enter a name for the printer and click **Next>**. The following dialog-box is displayed.




19 Specify the print-sharing parameters and click **Next>**. The following dialog-box is displayed.




20 Specify whether you want to print a test page and click **Finish**. If you chose to print a test page, the following dialog-box is displayed.

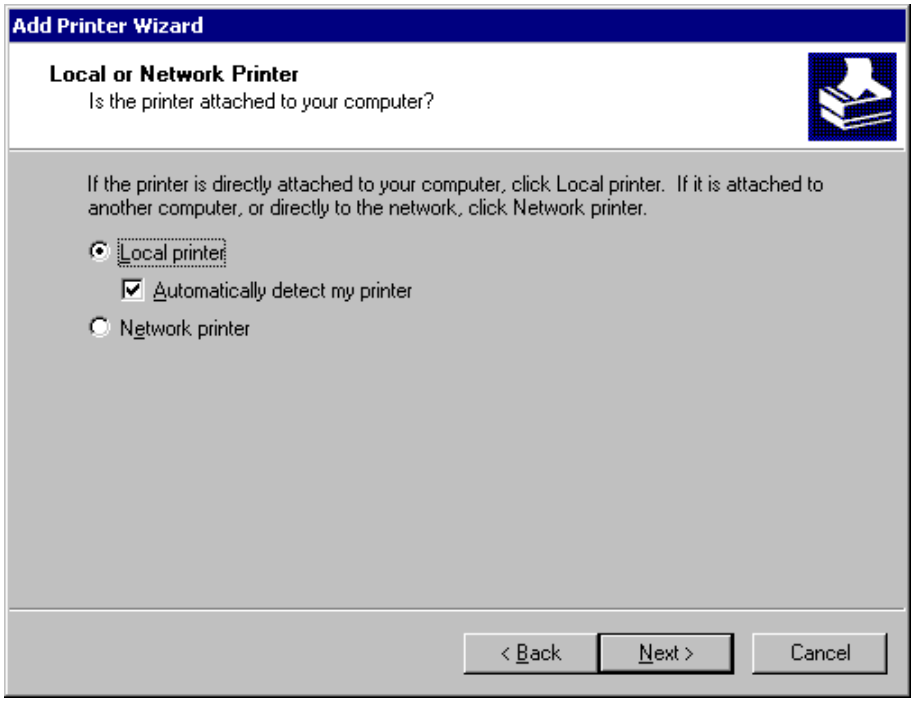



21 If the test page was printed properly, click **Yes**. Otherwise, click **No** to proceed with troubleshooting.

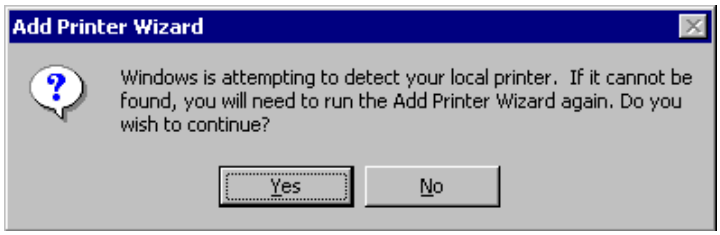
## Windows 2000 Server

1. Select the **My Network Places** icon on the desktop.
2. Right-click and select **Properties**. The **Network and Dial-up Connections** dialog-box is displayed.
3. Select the **Local Area Connections** icon.
4. Right-click and select **Properties**. The **Local Area Connection Properties** dialog-box is displayed.
5. If **File and Print Sharing for Microsoft Networks** is already displayed in the dialog-box, return to the desktop and proceed to step **10**.
6. If **File and Print Sharing for Microsoft Networks** is not displayed in the dialog-box, click **Install**. The **Select Network Component Type** dialog-box is displayed.
7. Select the **Service** entry and click **Add**. The **Select Network Service** dialog-box is displayed.
8. Select the **File and Print Sharing for Microsoft Networks** option and click OK.
9. After copying required files, a prompt to shut down and restart the server is displayed. Confirm the prompt to restart the serer.
10. Select **Start**->**Settings**->**Printers**. The **Printers** window is displayed.
11. Double-click the **Add Printer** icon. The following dialog-box is displayed.

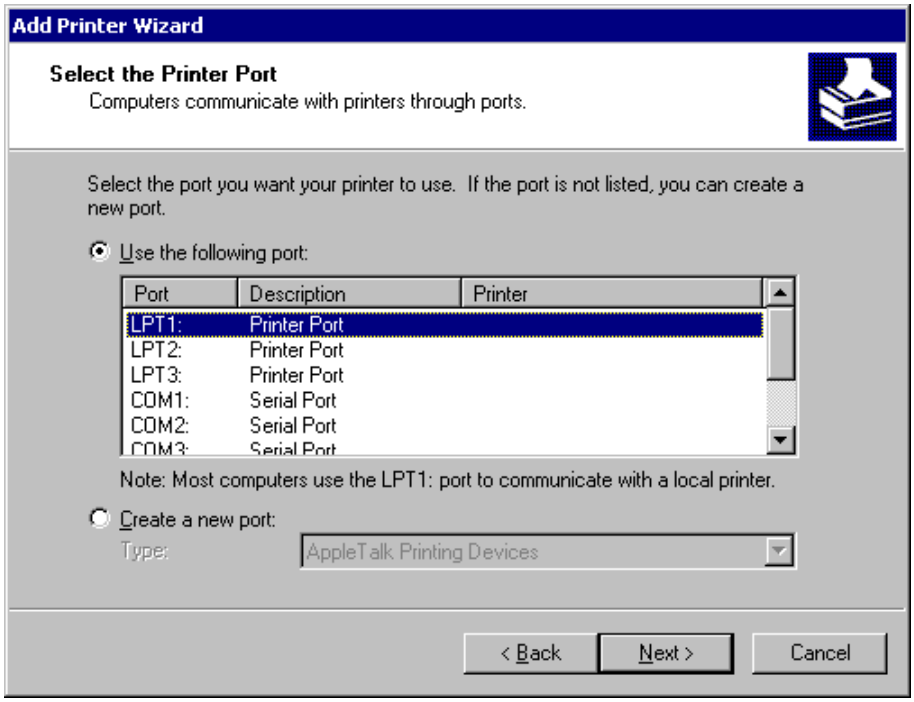

12. Click **Next>** to continue. The following dialog-box is displayed.



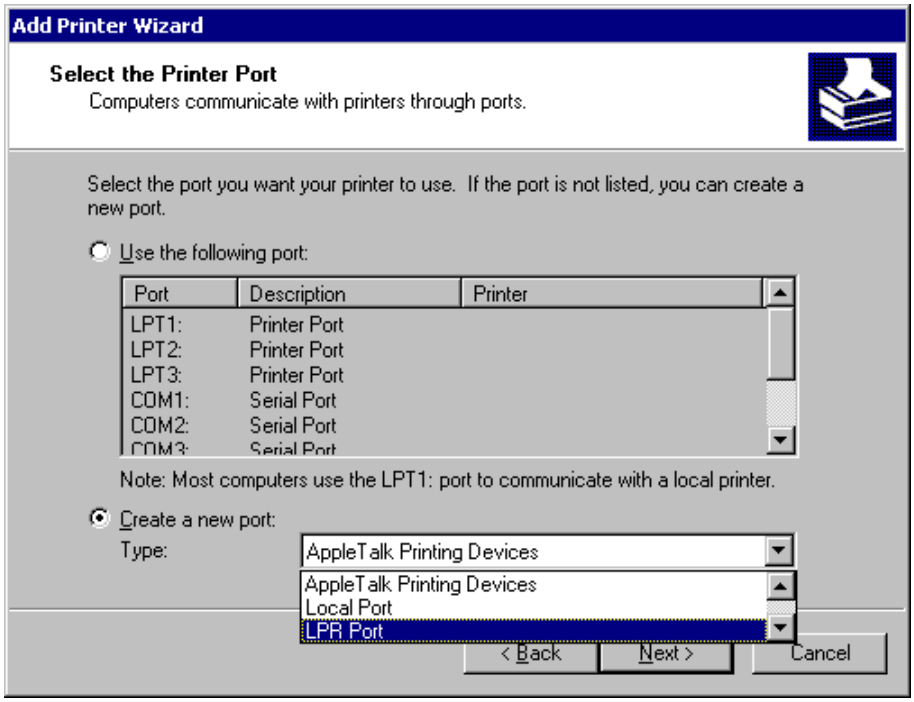

13. Select the **Local Printer** radio-button and the **Automatically detect my printer** check-box. Click **Next>** to proceed. The following prompt is displayed.



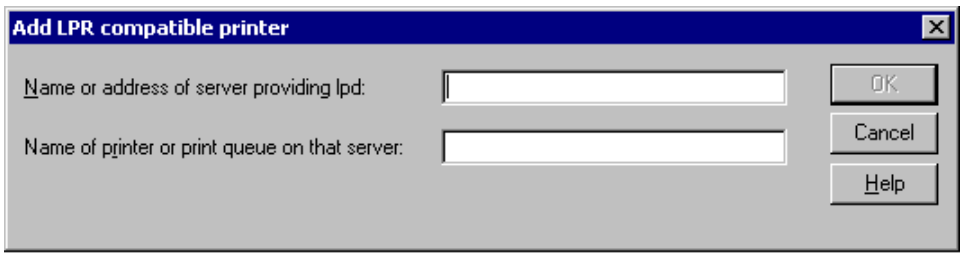

14. Click **Yes** to continue. The following dialog-box is displayed.



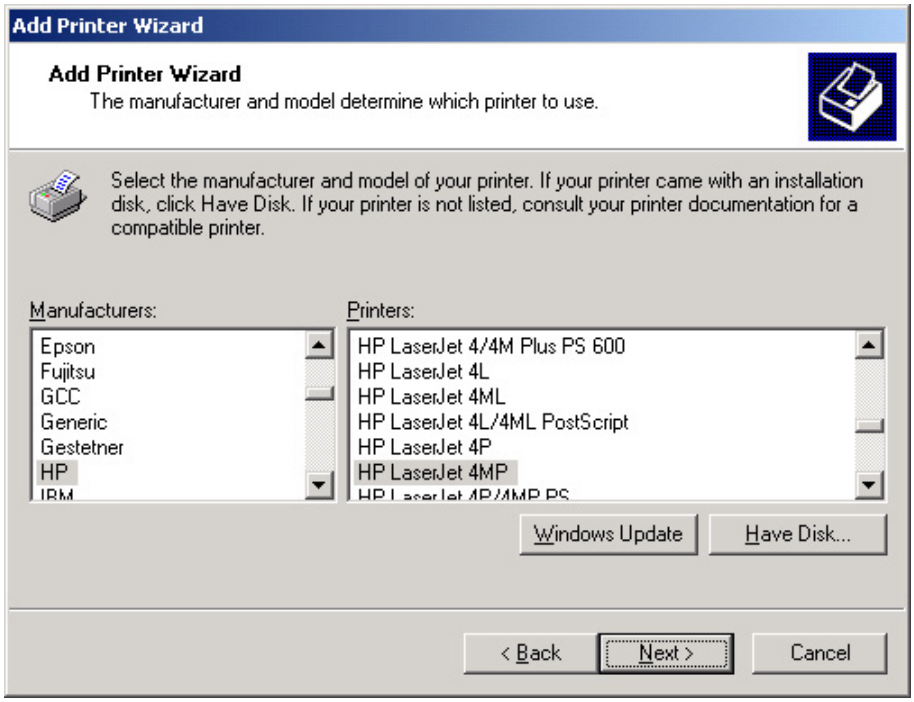

15. Select the **Create a new port** option and click on the **Type** drop-down list to view available options.



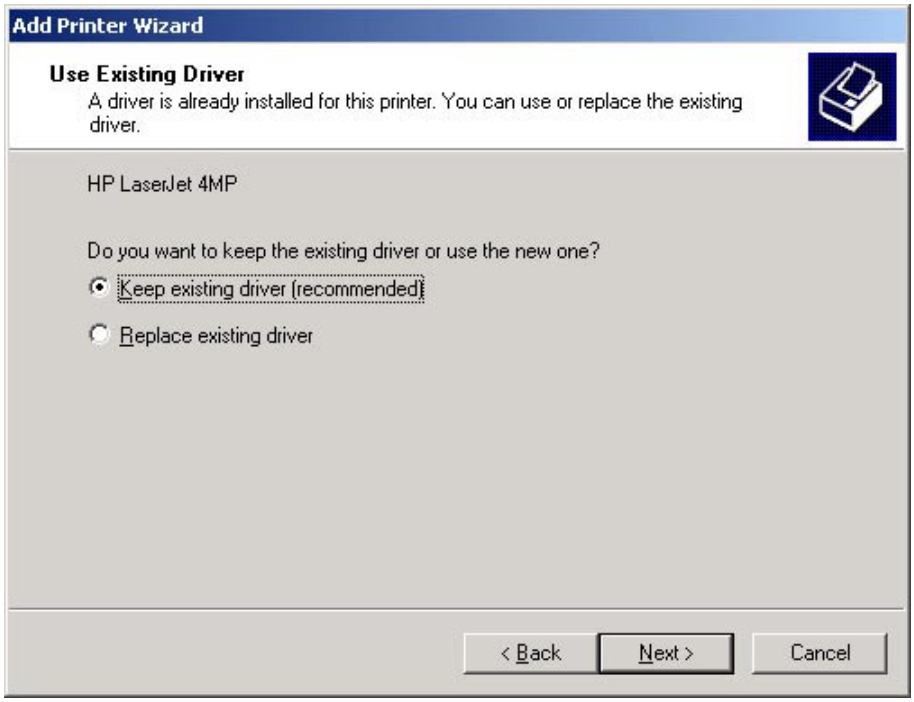

16. Select the **LPR Port** option and click **Next>** to proceed. The following dialog-box is displayed.



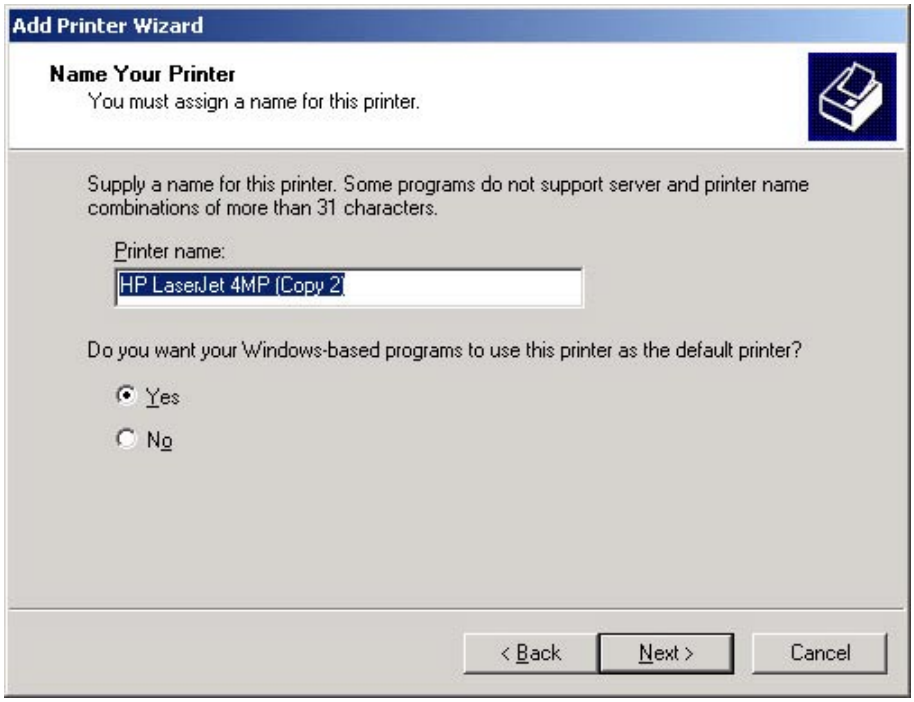

17. In the first text field, specify the IP address of the client that is configured as the LPD server. In the second text field, enter the name of the printer connected to the LPD server. The name should be the same as that specified while configuring the client as an LPD server. Click **OK**. The following dialog-box is displayed.



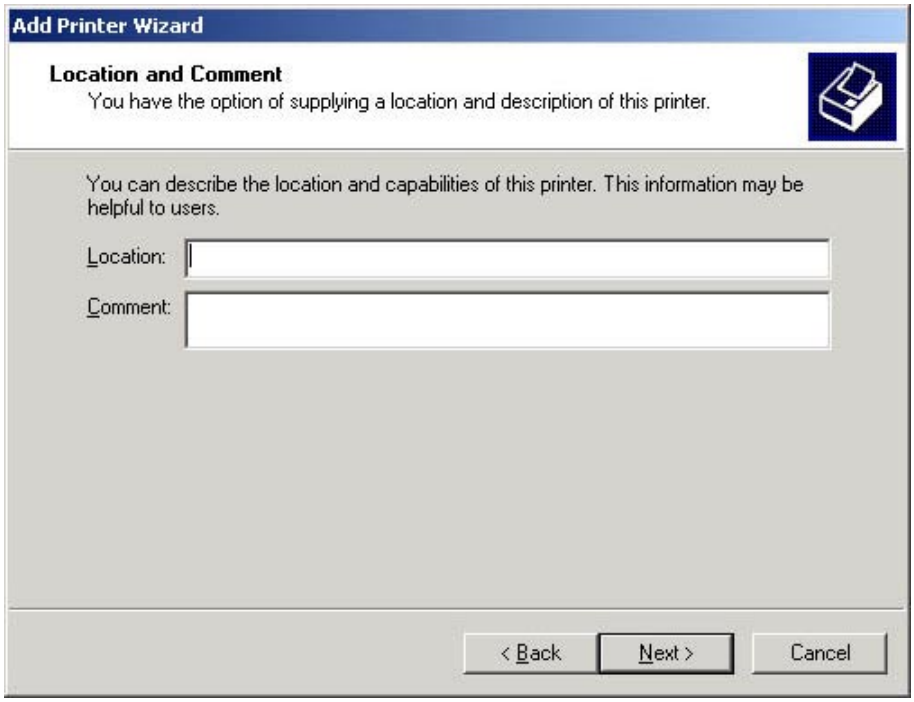

18. Select the make and model of the printer from the **Manufacturers** and **Printers** lists. Click **Next>** to continue. The following dialog-box is displayed.



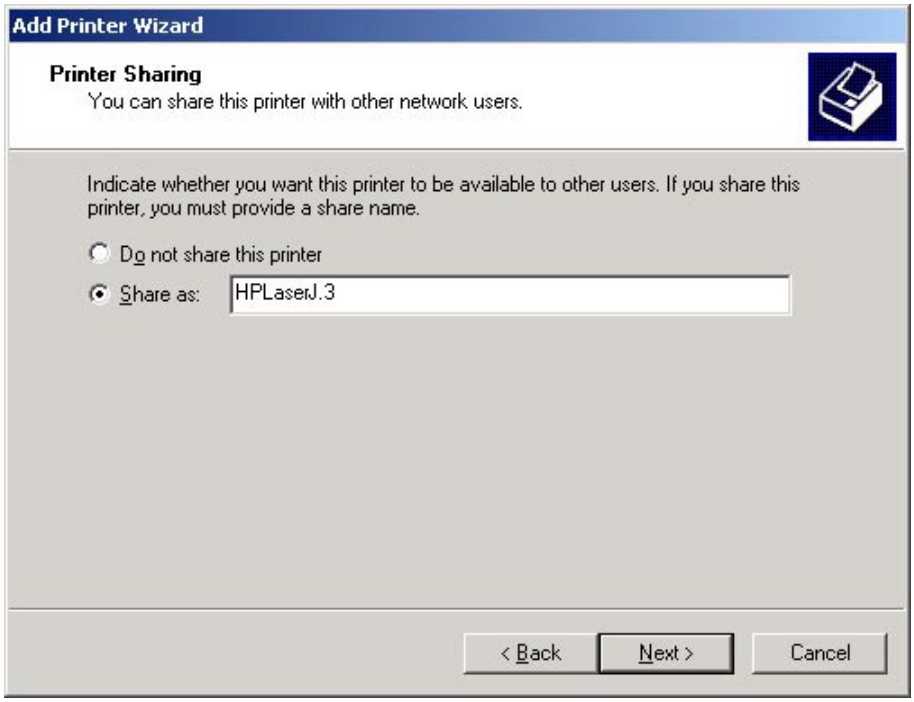

19. Select the appropriate radio-button to specify the printer driver and click **Next>**. The following dialog-box is displayed.



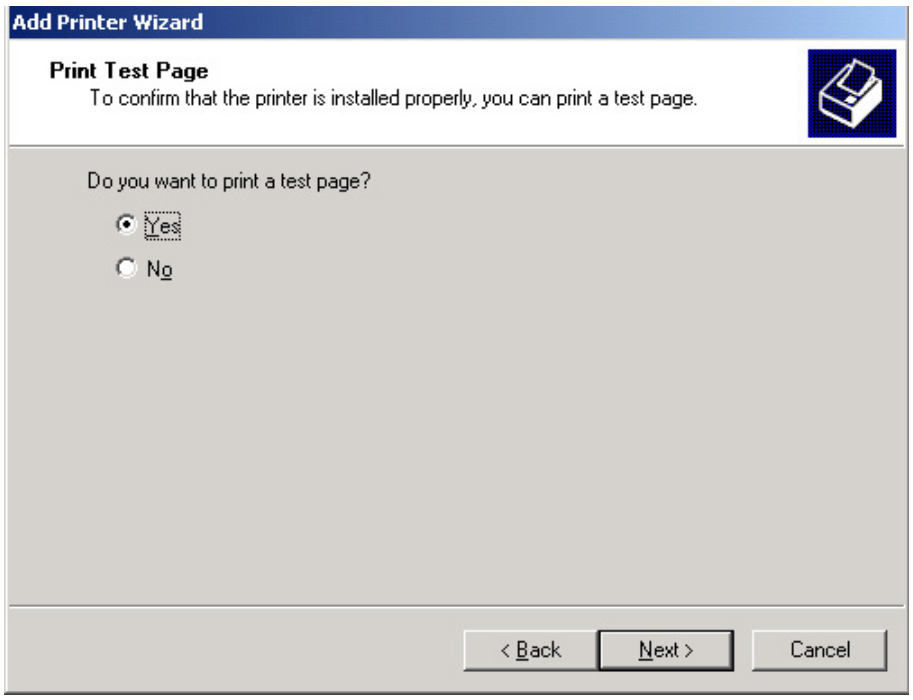

20. Specify a name for the printer and click **Next>**. The following dialog-box is displayed.



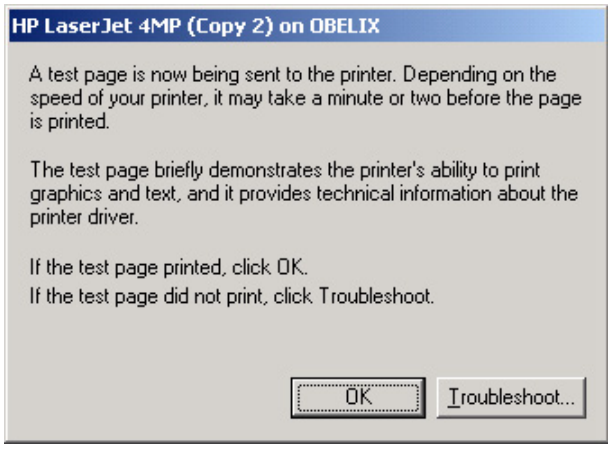

21. In the above dialog-box, you can enter the location of the printer and some comments describing the printer. These entries are optional. Click **Next>** to continue. The following dialog-box is displayed.




22. Specify the print-sharing parameters and click **Next>**. The following dialog-box is displayed.




23. Specify whether you want to print a test page and click **Finish**. If you chose to print a test page, the following dialog-box is displayed.




24. If the test page was not properly printed, click **Troubleshoot**. Otherwise, click **OK**. The following dialog-box is displayed.

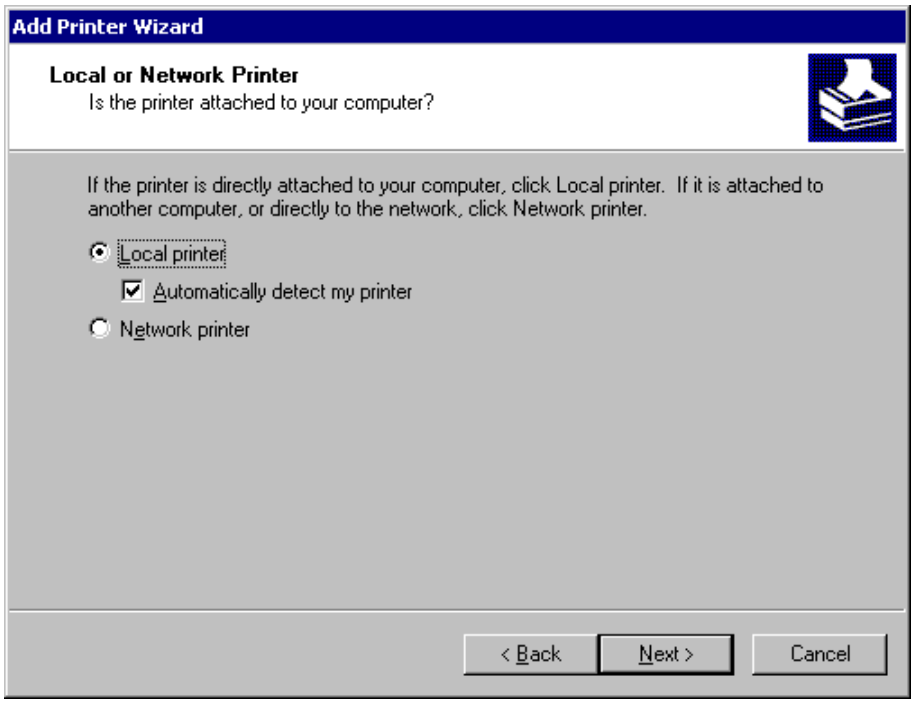

25. The dialog-box displays the various settings specified in the wizard. Review the settings and click **Finish** to complete the process. To change settings, click **Back**.

## Windows 2000 Advanced Server

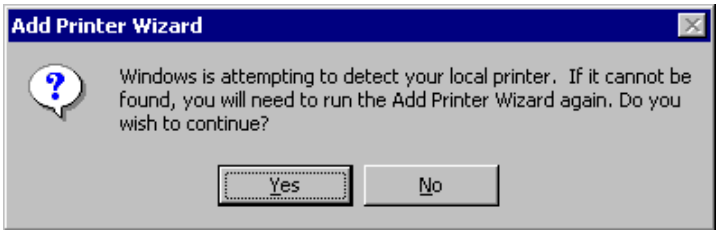
By default, the **File and Print Sharing for Microsoft Networks** service is installed along with the operating system. Perform the following procedure to add the LPD printer.

1. Select **Start**->**Settings**->**Printers**. The **Printers** window is displayed.
2. Double-click the **Add Printer** icon. The following dialog-box is displayed.

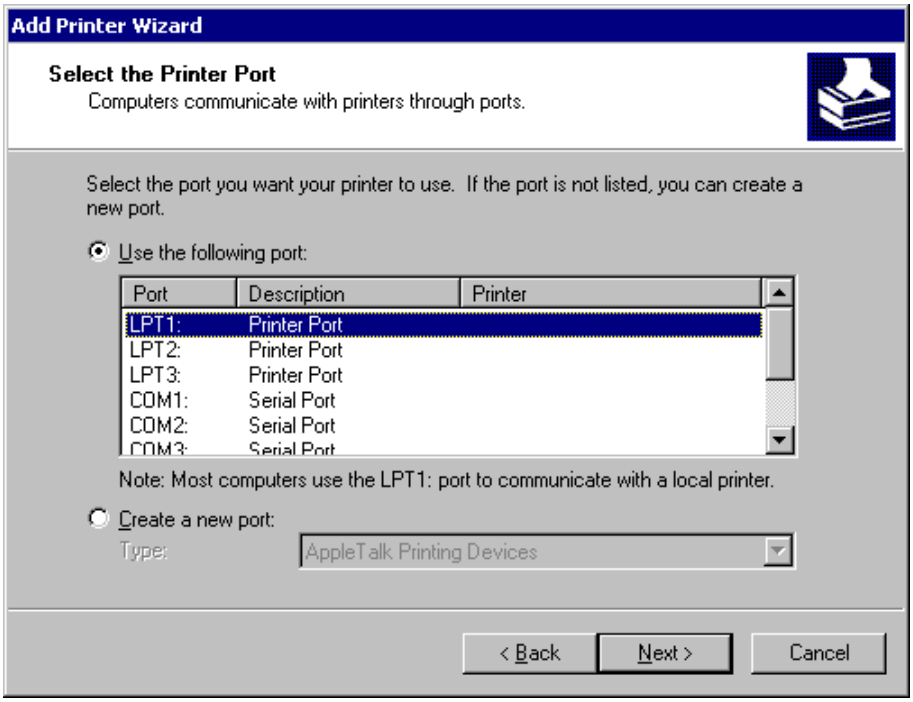

3. Click **Next>** to continue.



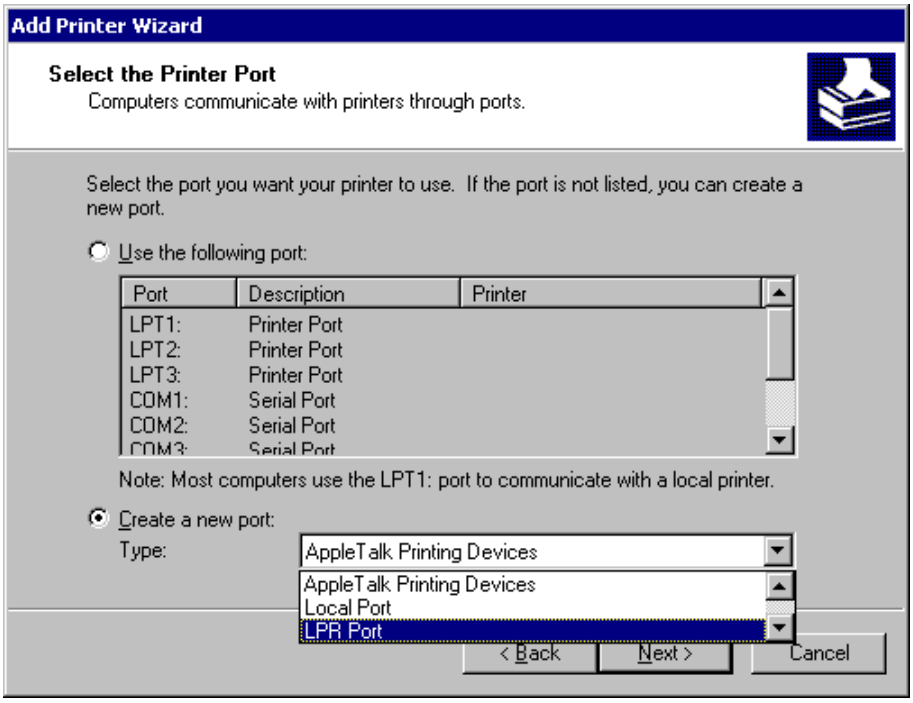

4. Select the **Local Printer** radio-button and the **Automatically detect my printer** check-box. Click **Next>** to proceed. The following prompt is displayed.



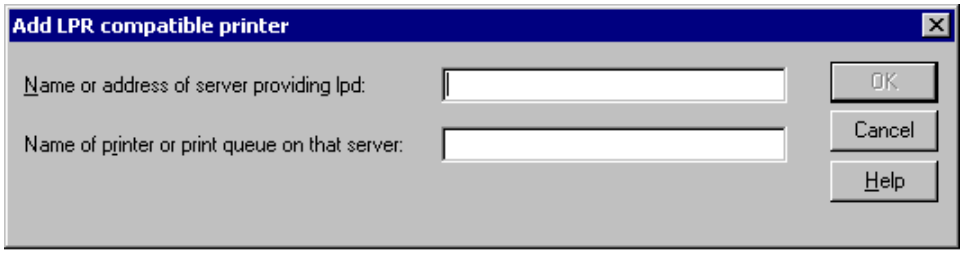

5. Click **Yes** to continue. The following dialog-box is displayed.



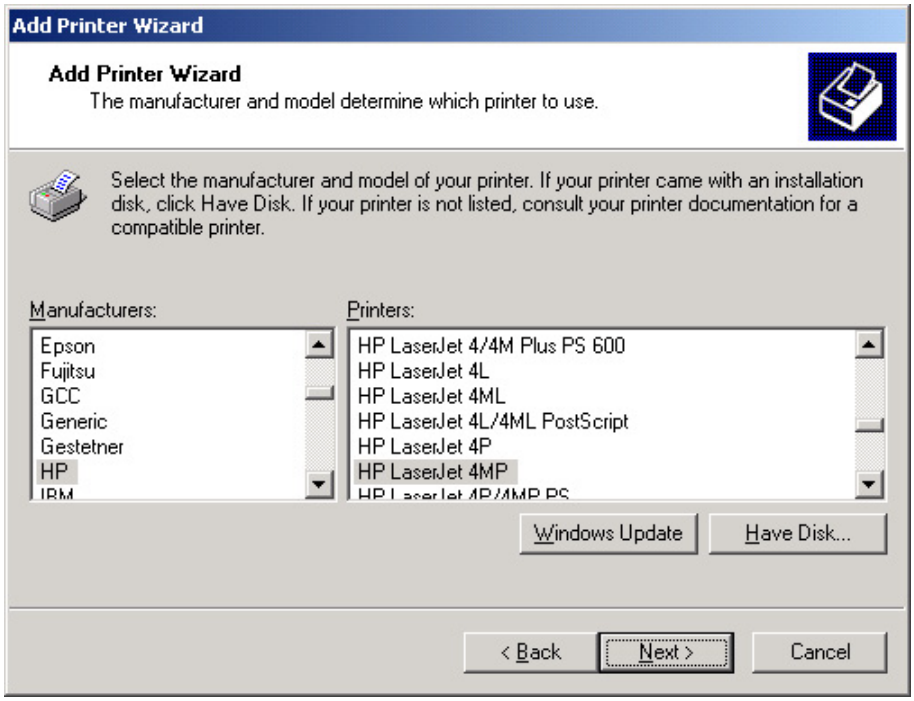

6. Select the **Create a new port** option and click on the **Type** drop-down list to view available options.



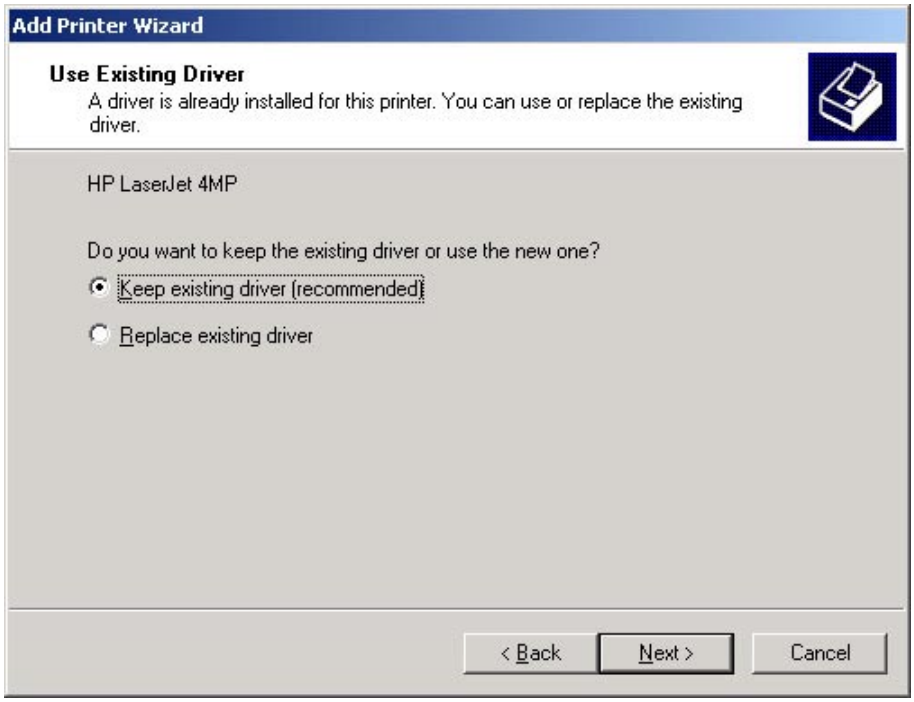

7. Select the **LPR Port** option and click **Next>** to proceed. The following dialog-box is displayed.



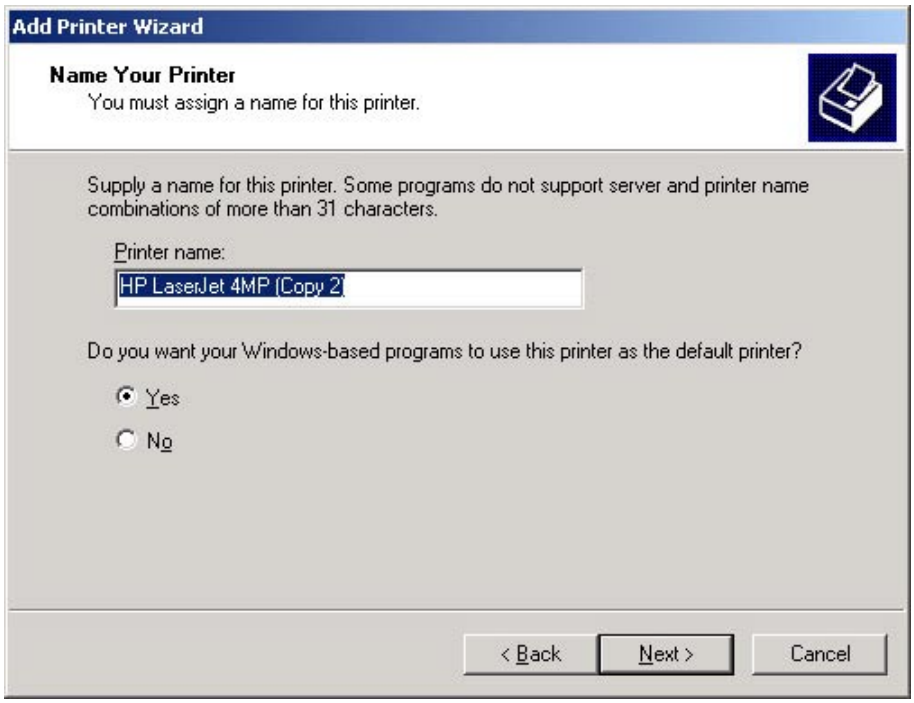

8. In the first text field, specify the IP address of the client that is configured as the LPD server. In the second text field, specify the name of the printer connected to the LPD server. The name should be the same as that specified while configuring the client as the LPD server. Click **OK**. The following dialog-box is displayed.



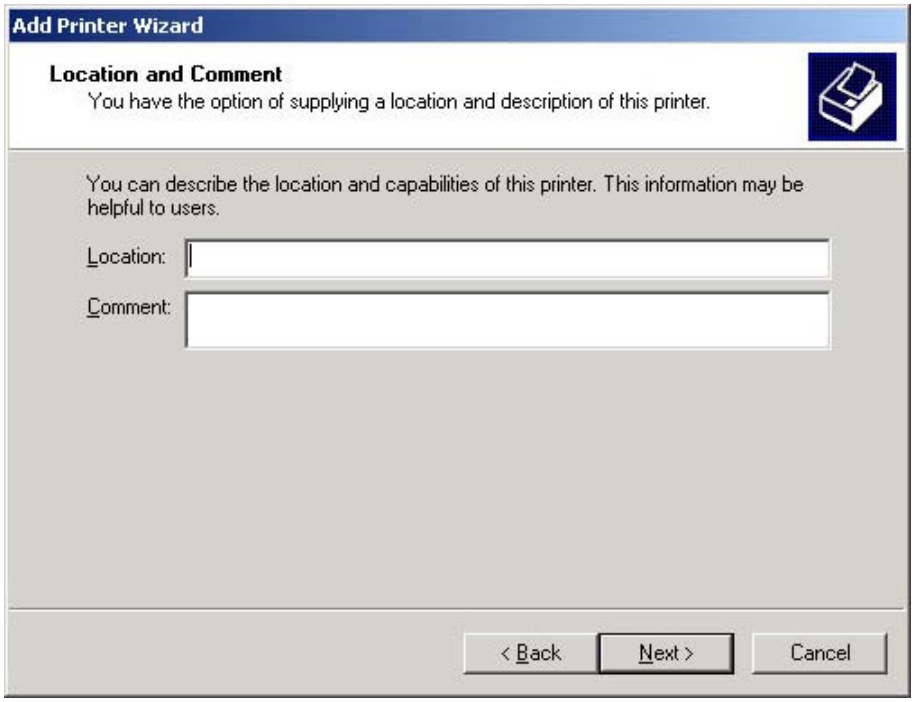

9. Select the make and model of the printer from the **Manufacturers** and **Printers** lists. Click **Next>** to continue. The following dialog-box is displayed.



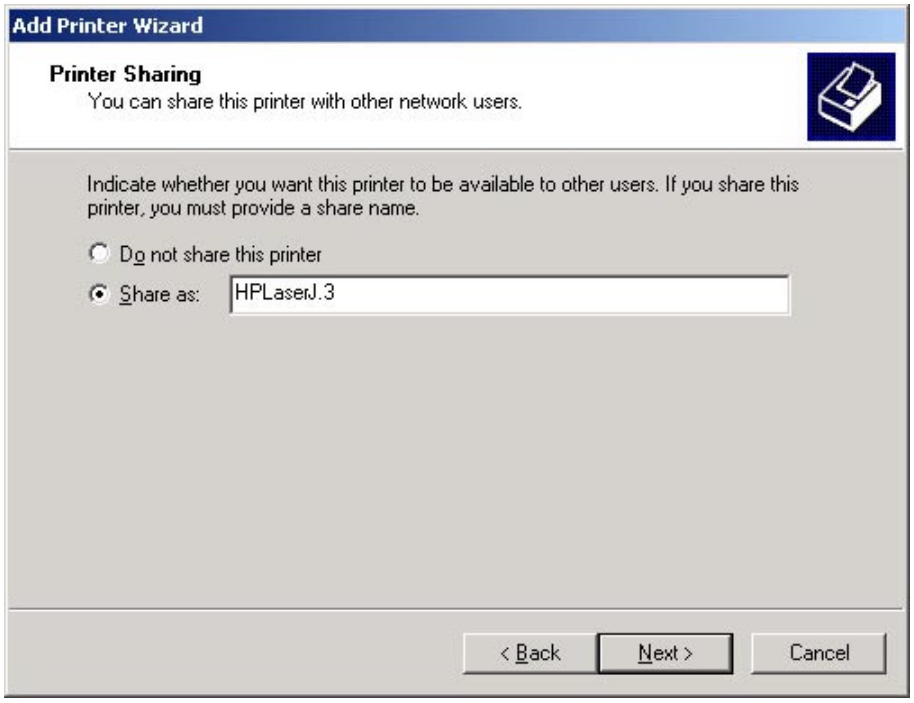

10. Select the appropriate radio-button to specify the printer driver and click **Next>**. The following dialog-box is displayed.



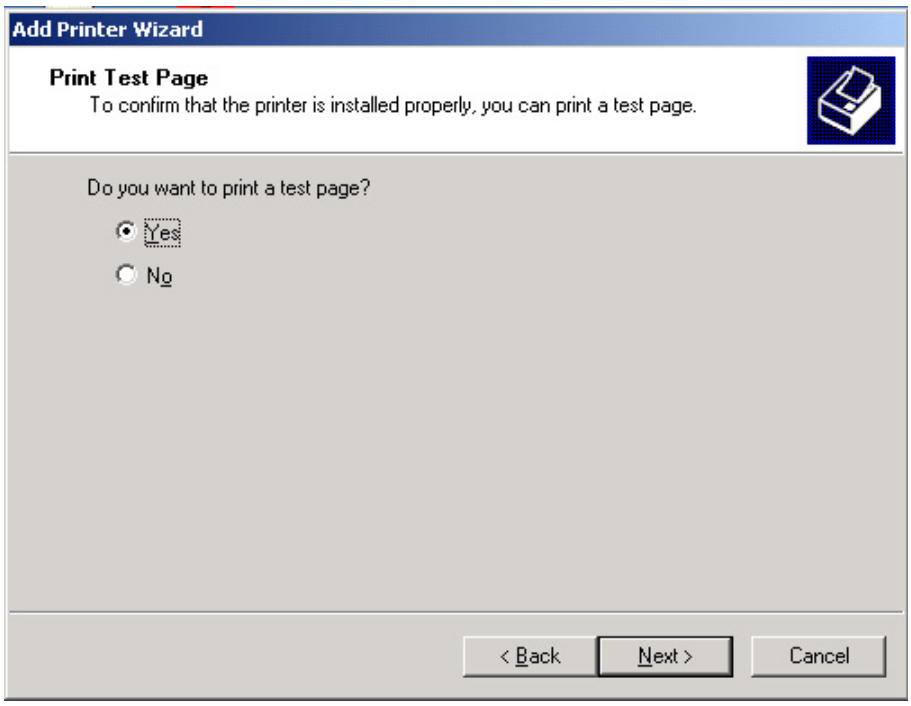

11. Specify a name for the printer and click **Next>**. The following dialog-box is displayed.



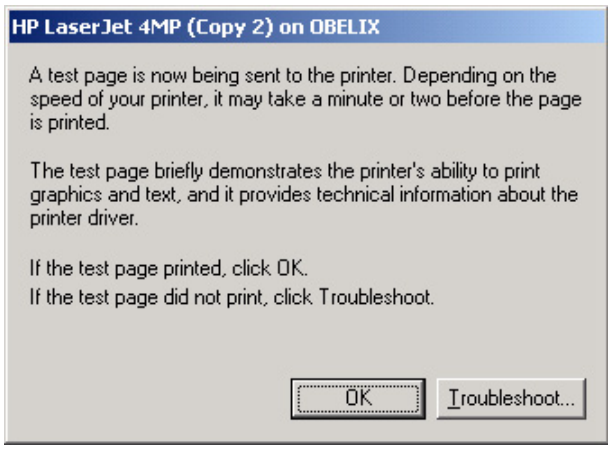

12. In the above dialog-box, you can enter the location of the printer and some comments describing the printer. These entries are optional. Click **Next>** to continue. The following dialog-box is displayed.




13. Specify the print-sharing parameters and click **Next>**. The following dialog-box is displayed.




14. Specify whether you want to print a test page and click **Finish**. If you chose to print a test page, the following dialog-box is displayed.




15. If the test page was not properly printed, click **Troubleshoot**. Otherwise, click **OK**. The following dialog-box is displayed.


16. The dialog-box displays the various settings specified in the wizard. Review the settings and click **Finish** to complete the process. To change settings, click **Back**.

# Troubleshooting

This chapter contains basic solutions for problems that you may encounter while using the product. If a problem persists after implementing the solutions provided here, or if a problem is not listed here, please contact the nearest I-O dealer, I-O's technical support group at 801-9721446 or by email at support@iocorp.com.

| | *Problem* | *Solution* |
|---|---|---|
| 1. | • When the **Setup** option of the **Client** menu is selected, the error message **Client can not be contacted now, please try after some time** is displayed. | ✓ This error message indicates that the client you are trying to configure has been switched off or disconnected from the network. Ensure that the client is connected to the network, switch it on, and then retry. |
| 2. | • When the **Setup** option of the **Client** menu is selected, the inControl application 'hangs'. | This problem could be due to one of the following reasons.<br>✓ The user at the Windows CE client has not responded to a prompt from the inControl server. For instance, the user might have selected neither **Yes** nor **No** at the 'restart client' prompt.<br>The inControl application will resume immediately after the prompt is answered.<br>✓ You tried to configure the client *during* the 30/60 interval before the client restarts.<br>The inControl application will resume after the client restarts. |
| 3. | • After configuring settings of a client, while trying to save the settings using the **Save Client Settings** option of the **Options** menu, the error message **Can't download, retry…** is displayed. | ✓ This error message indicates that the client to which you are trying to save settings, has been switched off or disconnected from the network. Ensure that the client is connected to the network, switch it on, and then retry. |
| 4. | • After configuring settings of a client, while trying to save the settings using the **Save Client Settings** option of the **Options** menu, the error message **Unable to Upload Client Settings** is displayed. | ✓ This error message could indicate that the client to which you are trying to save settings, is waiting for a user response. *For instance*, the client could be displaying a 'reboot' prompt, which requires a confirmation from the user. Ensure that the client is in a 'ready' state (t*he Terminal Connection Manager window should be displayed*), and retry. |
| 5. | • While trying to copy settings using the **Copy** option of the **Options** menu, the error message **…Client is disconnected** is displayed. | ✓ This error message indicates that the client to which you are trying to copy settings, has been switched off or disconnected from the network. Ensure that the client is connected to the network, switch it on, and then retry. |

| | | |
|---|---|---|
| 6. | • While trying to create a configuration file, the error message **Configuration settings file cannot have file extension as…** is displayed. | ✓ This error message indicates that while specifying a name for the configuration file, you have entered an extension other than **vz**. You don't have to specify any extension. The **vz** extension is automatically assigned to configuration files. |
| 7. | • While trying to import a configuration file, the error message **Export Failed not a valid config file** or **File format not recognized** is displayed. | ✓ This error message indicates that the file you are trying to import was not created using the **Create Configuration File** option of the **Options** menu. Find out the correct name of the configuration file and retry importing. |
| 8. | • While trying to import a configuration file, the error message **Not a valid Configuration file** is displayed. | ✓ This error message indicates that the file you are trying to import does not contain the appropriate image. For instance, you may be trying to import a **WinCE** image to a **DOS** client, or a **Winlinx Pro** image to a **Winlinx Lite** client. |
| 9. | • While trying to upgrade firmware using the **Upgrade Client Firmware** option of the **Options** menu, the error message: **Invalid image for client…** is displayed. | ✓ This error message indicates that the image is not compatible with the one of the clients for which you are trying to upgrade firmware. Find out the name of the correct upgrade-file and then retry. |
| 10. | • While trying to upgrade firmware using the **Upgrade Client Firmware** option of the **Options** menu, the error message **Not a valid upgrade image** is displayed. | ✓ This error message indicates that the upgrade file does not contain the appropriate image. For instance, you may be trying to import a **WinCE** image to a **DOS** client, or a **Winlinx Pro** image to a **Winlinx Lite** client. |
| 11. | • While trying to upgrade firmware using the **Upgrade Client Firmware** option of the **Options** menu, the error message **Unzip incomplete, File Format not recognized** is displayed. | ✓ This error message could indicate that the upgrade file has been damaged. Obtain a fresh copy of the image and retry. |

| | *Problem* | *Solution* |
|---|---|---|
| 12. | • The CPU utilization reaches 99-100% intermittently. | ✓ Select **Start->Settings->Control Panel->Services**. The **Services** dialog-box is displayed.<br><br>**Note**: Since the CPU utilization is already very high there may a brief delay before you see this dialog-box.<br><br>In the **Services** dialog-box, highlight the **InControl** service and click **Stop**.<br><br>Then click the **Start** button when it becomes enabled.<br><br>✓ If the above procedure does not solve the problem, you have to shutdown and restart the server on which **inControl for Terminals** is installed. This is not recommended since it might disrupt other processes and services running on the server. |

# Glossary

**Cache**

A place in memory where a copy of recently used or frequently accessed data is stored. For instance, web pages that you visit are stored in your browser's cache directory on the hard disk. That way, when you return to a page you've recently visited, the browser can get it from the cache rather than the remote server. This reduces access time and network traffic.

**CDS**

***C**itrix **D**evice **S**ervices* provides basic ICA connectivity of Windows-based terminals and other ICA devices to Microsoft Windows NT Server 4.0, Terminal Server Edition and Windows 2000 Server.

**DHCP**

***D**ynamic **H**ost **C**onfiguration **P**rotocol* is a protocol using which network administrators can centrally manage and automate the assignment of IP addresses in a network. Without DHCP, a fixed IP address must be assigned manually to each computer in the network.

**DNS**

***D**omain **N**ame **S**ystem* is the method using which Internet domain names are translated into IP addresses. A domain name is a meaningful and easy-to-remember 'handle' for an IP address. The DNS method is based on DNS servers, which contain pre-defined and maintainable lists of domain names and IP addresses. Without this system, users would have to always remember and use IP addresses to access network computers or to browse the Internet.

**Download**

Downloading is the transmission of a file from one computer system to another, usually smaller computer system. From the Internet-user's point-of-view, to download a file is to request it from another computer (or from a Web page on another computer) and to receive it.

**Encryption**

A security measure that involves converting data to a form that cannot be easily understood by unauthorized systems. Simple encryption may involve substituting letters for numbers and rotating letters in the alphabet. More complex encryption is based on computer algorithms that rearrange the data bits in digital signals. To recover the contents of an encrypted transmission, the correct *decryption algorithm (key)* would be required.

**EPROM**

***E**rasable **P**rogrammable **R**ead-**O**nly **M**emory* is a special type of memory that retains its contents until it is exposed to ultraviolet light. The ultraviolet light clears its contents, making it possible to reprogram the memory. To write to and erase an EPROM, a special device called a PROM programmer or PROM burner would be required.

**Firewall**

A mechanism to protect resources of a private network from users from other networks. For instance, an enterprise with an Intranet could install a firewall to prevent outsiders from accessing its own data resources, and to restrict its own users' access to external resources.
A firewall typically consists of a set of rules incorporated in a router program, which is usually installed in a designated computer separate from the rest of the network. The firewall could also include a proxy-server that makes network requests on behalf of workstation users.
The destination and/or source of each network packet is screened for compliance with the firewall-rules before being forwarded.

**Firmware**

A computer-program or software stored in PROM or EPROM.

**Flow control**

The management of the flow of data between computers or devices or between nodes in a network so that the data can be handled at an efficient pace. Too much data arriving before a device can handle it causes data overflow, meaning either that the data is lost or must be retransmitted.
Flow control is usually implemented using a software protocol (Xon/Xoff signals) or hardware signals (CTS/RTS: Clear to Send/Ready to Send). In a network, flow control can also be applied by refusing additional device connections until the flow of traffic has subsided.

**FTP**

***F**ile **T**ransfer **P**rotocol* is a protocol to exchange files between computers on the Internet. Like HTTP (*HyperText Transfer Protocol*) which transfers web pages, and SMTP (*Simple Mail Transfer Protocol*) which transfers email, FTP is an application protocol that uses the TCP/IP protocol to transfer files from one computer to another.

**Gateway**

A point in the network that acts as the entrance to another network. Computers that control traffic within a network or at an Internet Service Provider are gateway nodes. In an enterprise network, gateway servers usually also act as proxy and firewall servers. A gateway server is often associated with a router that knows where an incoming packet must be directed, and a switch that furnishes the actual path in and out of the gateway for a given packet.

**GUI**

***G**raphical **U**ser **I**nterface* is a graphical (rather than purely textual) user interface to a computer.
Most major operating systems today provide a graphical user interface. Applications typically use the elements of the GUI that come with the operating system and add their own graphical user interface elements and ideas. Typically GUI includes elements of such as windows, pull-down menus, buttons, scroll bars, iconic images and wizards

**Hz**

Hertz is a unit of frequency (*change in state/cycle of a signal*) of one cycle per second.

**ICA**

***I**ndependent **C**omputing **A**rchitecture* is a technology (*developed by Citrix Systems, Inc.*), which provides the foundation for converting a client device to a Thin Client. ICA functions by separating the application logic from the user interface. While the application executes solely on the server, client-users can see and work with the application's interface, when in fact the application actually executes on the server.

**Internet**

(*or Net*) is a worldwide system of computer networks in which users at any one computer can get information from any other computer. Physically, the Internet uses a portion of the total resources of the currently existing public telecommunication networks. Technically, what distinguishes the Internet is its use of a set of protocols called TCP/IP.
The most widely used part of the Internet is the World Wide Web (*WWW or Web*). The outstanding feature of WWW is hypertext, a method of instant cross-referencing. Web pages can be viewed or browsed using browsers such as Netscape Navigator and Microsoft Internet Explorer.

**Intranet**

A private network within an enterprise that may consist of many inter-linked LANs and also use leased lines in a WAN. Typically, an Intranet includes connections through gateway to the outside Internet. The main purpose of an Intranet is to share company information and computing resources among employees. An Intranet can also be used to facilitate working in groups and for teleconferences.
An Intranet uses TCP/IP, HTTP and other Internet protocols and in general, looks like a private version of the Internet. When part of an Intranet is made accessible to users outside the enterprise, that part becomes part of an Extranet.

**IP Address**

A unique 32-bit number that identifies each sender or receiver of information that is sent in a packet across the Internet. When you request an HTML page or send e-mail, the IP part of TCP/IP includes your IP address in the message. At the other end, the recipient can see the IP address of the Web page requestor or the e-mail sender and can respond by sending another message using the IP address it received.
The IP address is usually expressed as four decimal numbers, each representing eight bits, separated by periods. This is sometimes known as dot-address or dotted quad notation (Example: 192.16.4.12).

**LAN**

***L**ocal **A**rea **N**etwork* is a group of computers and associated devices that share a common communications line and typically share the resources of a single processor or server within a small geographic area (for example, within an office building). Usually, the server has applications and data that are shared in common by multiple computer users.

**MAC Address**

***M**edia **A**ccess **C**ontrol Address* is the unique hardware number of a computer in a network.

**MetaFrame**

An application-server software from Citrix which incorporates Citrix's ICA protocol and provides a method to deploy, manage and access applications in a client-server networking environment.

**Modem**

A device that modulates outgoing digital signals from a computer or other digital device to analog signals for a conventional telephone line, and demodulates the incoming analog signal and converts it to a digital signal for the digital device.

**Network**

A series of points or nodes interconnected by communication paths. Networks can interconnect with other networks and contain subnetworks.
The most common configurations of networks include the bus, star and token ring topologies. Networks can also be characterized in terms of spatial distance as LANs, metropolitan area networks, and WANs.

**OSD**

***O**n-**S**creen **D**isplay* is a feature available in certain computer-monitors that allows users to view and configure display parameters using an on-screen user-interface.

**Packet**

A packet is the unit of data that is routed between an origin and a destination on the Internet. When any file is sent from one place to another on the Internet, the TCP layer of TCP/IP divides the file into chunks of an efficient size for routing. Each chunk (*or packet*) is separately numbered, and includes the IP address of the destination. The individual packets for a given file may travel different routes through the Internet. When they have all arrived, they are reassembled into the original file by the TCP layer at the receiving end.

**Parallel Port**

An interface that can transfer more than one bit of data simultaneously. Typically, parallel ports are used to connect printers, computers and other devices that need relatively high bandwidth. A parallel port is often called a Centronics interface after the company that designed the original standards for parallel communication between a computer and printer.
A newer type of parallel port, which supports the same connectors as the Centronics interface, is the EPP (Enhanced Parallel Port) or ECP (Extended Capabilities Port). Both of these parallel ports support bi-directional communication and transfer rates ten times as fast as the Centronics port.

**Port Number**

A number to identify the specific process to which an Internet- or other network-message is to be forwarded when it arrives at a server. For the TCP and UDP protocols, a port number is a 16-bit number that is included in the header appended to a message unit. This port number is passed logically between client and server transport layers and physically between the transport layer and the IP layer and forwarded on.
For example, a client might request a server for a file to be served from that server's File Transfer Protocol (FTP) process. To pass the request to the FTP process in the server, the TCP layer in the client appends the number 21 to the request (21, is by convention the 16-bit port number associated with an FTP request). At the server, the TCP layer reads the port number (21) and forwards the request to the FTP program at the server.
Some services or processes have conventionally assigned permanent port numbers. These are known as 'well-known port numbers'. In other cases, a port number is assigned temporarily (for the duration of the request and its completion) from a range of assigned port numbers. This is called an ephemeral port number.

**PPP**

***P**oint-to-**P**oint **P**rotocol* is a protocol for communication between two computers over a serial interface. For instance, an Internet Service Provider may provide a PPP connection for accepting and responding to requests from an Internet user.

**PROM**

***P**rogrammable **R**ead-**O**nly **M**emory* is a memory chip on which data can be written only once. Once data has been written onto a PROM, it remains there forever. Unlike Random Access Memory (RAM), PROMs retain their contents when the device on which they are installed is turned off.
The difference between PROM and Read Only Memory (ROM) is that PROM is manufactured as blank memory, whereas ROM is programmed during the manufacturing process.
Data can be written onto PROM chips, using special devices called PROM-Programmers or PROM Burners.

**Protocol**

A special set of rules that end-points in a telecommunication connection use when they communicate. Protocols exist at several levels in a telecommunication connection. There are hardware telephone protocols. There are protocols between each of several functional layers and the corresponding layers at the other end of a communication. Both end-points must recognize and observe a protocol. Examples: TCP/IP, HTTP and FTP.

**Proxy Server**

A server in the network that acts as an intermediary between a user (computer) and the Internet. Enterprises can use proxy servers to implement security, administrative control, and caching. Depending on the network implementation, the proxy server may be associated with, or form part of, the gateway server, the firewall server and the cache server.

**RDP**

***R**emote **D**esktop **P**rotocol* a protocol developed by Microsoft to provide connectivity between Thin Clients and Windows NT/2000 Servers.

**Serial Port**

An interface that can transmit only 1-bit at a time. Typically, serial ports are used to connect devices such as modems and serial printers.

**Server**

A computer or program that provides services to other computers or programs. In the client/server context, a server is a program that awaits and fulfills requests from client programs in the same or other computers. A given application in a computer may function as a client which requests for services from other programs and also serves requests from other programs.

**Server Farm**

A group of computers acting as a server and housed in a single location. A server farm is sometimes called a server cluster. A Web server farm is either a Web site that has more than one server, or an Internet service provider that provides Web hosting services using multiple servers.
In a business network, a server farm might provide centralized access control, file access, printer sharing, and backup for workstation users. The servers may have individual operating systems or a shared operating system. They may also be set up to provide load balancing when there are many server requests. Typically, in a server farm if one server fails, another can act as backup.

**Socks**

A protocol used by proxy servers to accept requests from users in a network and forward them over the Internet. The protocol uses sockets to represent and keep track of individual connections. The client side of Socks is built into Web browsers and the server side can be added to a proxy server. The Socks server handles requests from clients within a company's firewall and either allows or rejects connection requests, based on the requested Internet destination or user identification.

**Subnet**

An identifiably separate part of an organization's network: typically, all the computers at one geographic location, in one building, or on the same LAN. Networks divided into subnets can connect to the Internet with a single shared network address. Without subnets, each physical sub-network could have a separate connection to the Internet, resulting in unnecessary use of scarce network numbers that the Internet has to assign. Besides, in such cases, gateways outside the network would need to know about and manage routing that should ideally be handled within the organization.
Once a data-packet has arrived at a gateway, it is routed within the organization's internal gateways using the subnet number. Using a subnet mask, the router determines the subnet to which the packet must be directed.

**TCP/IP**

***T**ransmission **C**ontrol **P**rotocol / **I**nternet **P**rotocol* is the basic communication language of the Internet. It can also be used as the communications protocol in a private network. The TCP layer converts outgoing messages or files into packets, and assembles incoming packets into the original messages or files. The IP layer handles the address part of each packet so that it gets to the right destination.

**Telnet**

A method to access one computer (*host*) from another. More technically, Telnet is a user command based on the TCP/IP protocol to access remote computers. While the HTTP and FTP protocols allow you to only request specific files from remote computers, Telnet allows you to actually logon as a user of that computer.

**Terminal Emulation** The ability of a computer (which is programmable and therefore 'smart') to appear to be a 'dumb- (non-programmable) terminal', so that it can be used to interact with another computer with its own proprietary connection interface. Typically, an enterprise with mainframe computers installs a terminal emulation program in all the computers in the network. Users can work locally with Windows-based or other workstation applications and also open a window and work directly with mainframe applications.

**Thin Client** A low-cost, centrally managed computing device devoid of typical peripheral devices such as CD-ROM and diskette drives. The term derives from the fact that small computers in networks tend to be clients and not servers. Since the idea is to limit the capabilities of these computers to only essential applications, they tend to be remain 'thin' in terms of pre-loaded client-applications.

**Touchscreen** A touch screen is a touch-sensitive computer display screen that allows users to interact with the computer by touching specific areas on the screen. Touch screens are typically used in bank-ATM, information kiosk and computer-based training applications. They are also used in systems designed to help individuals who have difficulty using a mouse or keyboard.

**UDP** ***U**ser **D**atagram **P**rotocol* is a communications method that offers a limited amount of service when messages are exchanged between computers in a network that uses the Internet Protocol. UDP is an alternative to TCP and, together with IP, is sometimes referred to as UDP/IP.
UDP also uses the Internet Protocol to actually get a data unit (*Datagram*) from one computer to another. Unlike TCP however, UDP does not divide messages into packets and reassemble them at the other end. This means that the application program that uses UDP must be able to make sure that the entire message has arrived and is in the right order. Network applications that want to save processing time because they have very small data units to exchange (and therefore very little message reassembling to do) may prefer UDP to TCP.

**WAN** A computer network that spans a relatively large geographical area. Typically, a WAN consists of two or more LANs. Computers connected to a wide-area network are often connected through public networks, such as the telephone system. They can also be connected through leased lines or satellites. The largest WAN in existence is the Internet.

**WinFrame** WinFrame is a software product from Citrix that, together with a Windows NT operating system, allows a server to provide Windows applications and data to attached clients.

**WINS** ***W**indows **I**nternet **N**aming **S**ervice*, is a part of Microsoft Windows NT/2000 Servers that manages the association of computer-names with corresponding IP addresses. It automatically creates a computer name-IP address mapping entry in a table, ensuring that the name is unique. When a computer is moved to another geographic location, the subnet part of the IP address is likely to change. Using WINS, the new subnet information is automatically updated in the WINS table.

**WTS** ***W**indows **T**erminal **S**erver* is a server-program from Microsoft running on its Windows NT 4.0 (or higher) operating system that provides the graphical user interface of the Windows desktop to user terminals. WTS has three parts: the multi-user core server, RDP that enables the Windows desktop interface to be sent to the terminals, and the Terminal Server Client that is available in each terminal.

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