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Thin@ Implementation Instructions and Troubleshooting Guide V3.2

Introduction

Welcome to Thin@ Implementation Instructions and Troubleshooting Guide!

On the following pages you'll learn how to use the Thin@ Installer, how to set up your first Thin@ Server using the Wizard, how to implement Thin@ in your application(s), how to add a new application to the Thin@ Server Grid and how to run your application from a Thin@ Client both locally and over the internet.

The Thin@ Java Client is in open beta and there's a section dedicated to making your Clarion application(s) run inside a web browser!

If you encounter any issues during your Thin@ Implementation, we have prepared troubleshooting sections that could help you solve possible issues.

If you have any questions feel free to contact Thin@ support <http://www.thinetsolution.com/support.php>, or email us directly to thin@ris.hr.

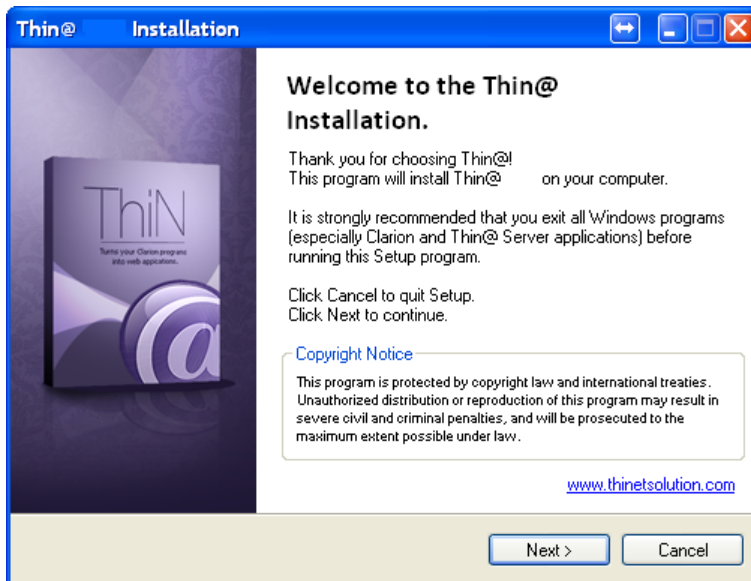
We wish you a successful Thin@ Implementation!

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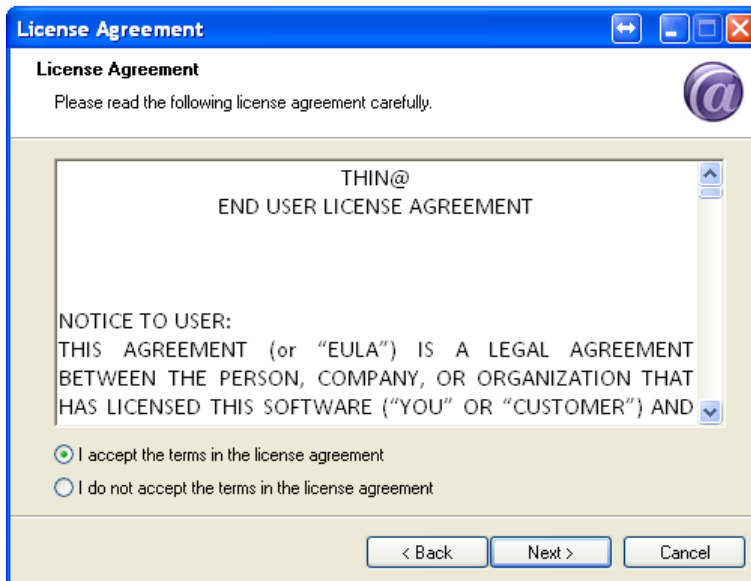
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1. Installation guide

Step 1. After you start the Installation Wizard, the following screen will appear. Click Next.



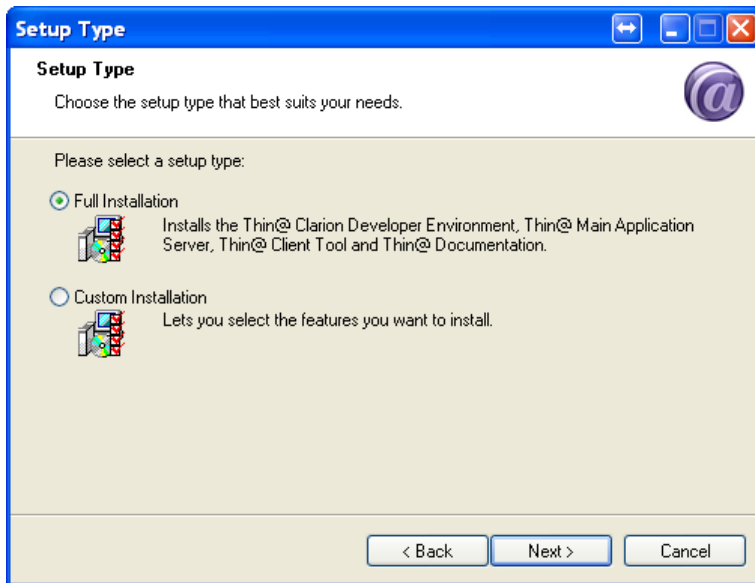
Step 2. Read the License Agreement and if you accept its terms, click Next.



Step 3. Select the Thin@ Setup Type.

If you're installing Thin@ on your development computer we recommend that you select 'Full Installation'.

If you want to select which features you want to install (e.g. you want to install just a Thin@ Main Application Server) then select the 'Custom Installation' type.



Step 4 (Custom Installation only). Select the program features you want to install (see Appendix A for more information)

Thin@ Clarion Developer Environment – Installs the Thin@ Clarion Developer Environment (binaries, source files, template files etc.) used to develop new Thin@ applications.

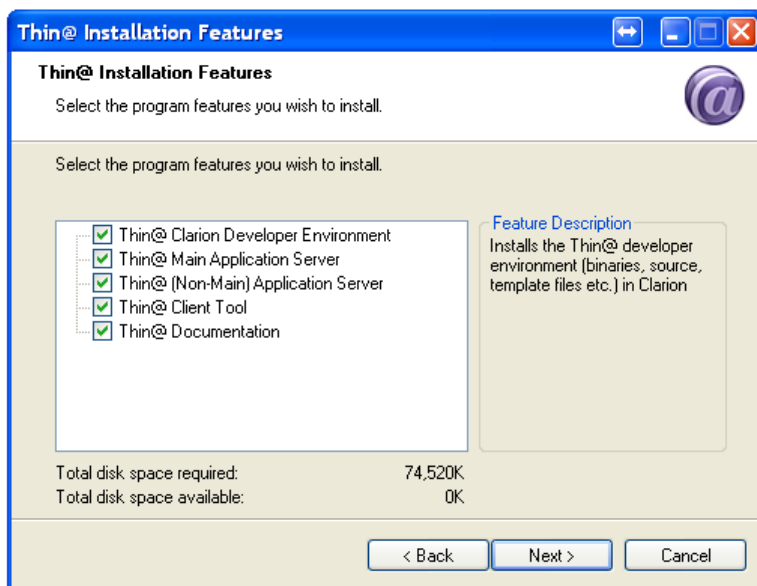
Thin@ Main Application Server – Installs the Thin@ Main Application Server used to host Thin@ applications. Each Thin@ Server Grid must have a Main Application Server.

Thin@ (Non-Main) Application Server – Installs a Thin@ (Non-Main) Application Server. Choose this if you're adding a new server to the Thin@ Server Grid.

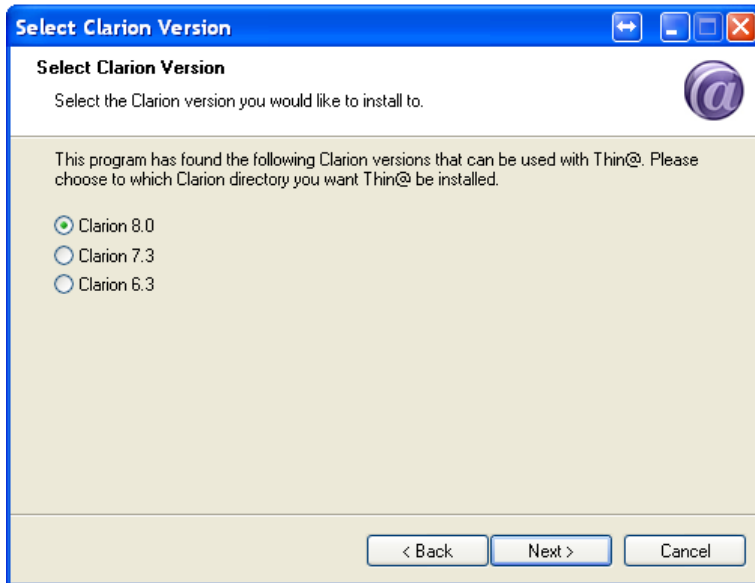
Thin@ Client Tool – Installs the default Thin@ NetClient application used to connect to a Thin@ Server. We ship 3 default Thin@ Client Application – one compiled in Clarion 6, one in Clarion 7 and one in Clarion 8.

NOTE: The suggested version of the NetClient is the Clarion 6 and Clarion 7 (compiled in C7.2 build 7283) versions because of the slowdown issue in the newer version of the Clarion RTL which is affecting the Thin@ Client as well. Softvelocity is aware of the bug and they are working on it.

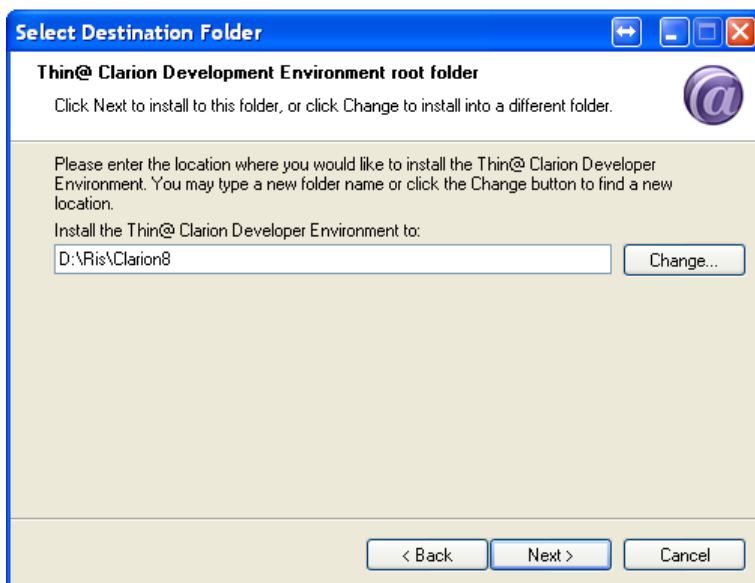
Thin@ Documentation – Installs the Thin@ documentation.
After you select the feature(s) you want to install, click Next.



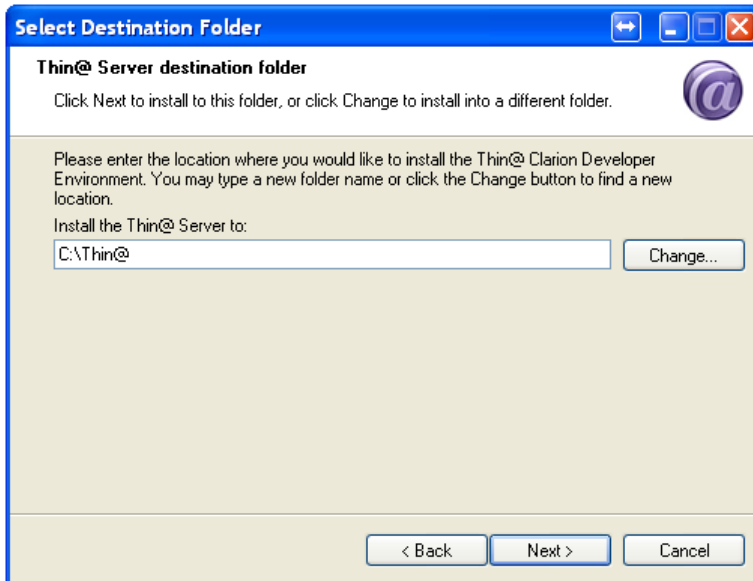
Step 5 (Developer Environment only). If you have chosen 'Thin@ Clarion Developer Environment' as the Installation type, the Wizard will find the Clarion version(s) that you have installed on your computer. Choose the version for which you want to install Thin@ and click Next.



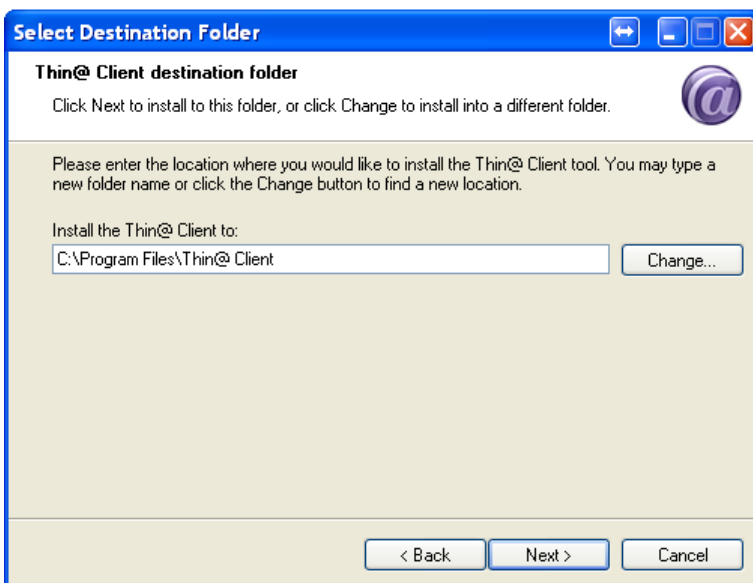
Step 6 (Developer Environment only). Choose the Destination Folder in which you want to install the Thin@ developer templates and binaries. This should be the same folder which contains your Clarion software installation. Click Next.



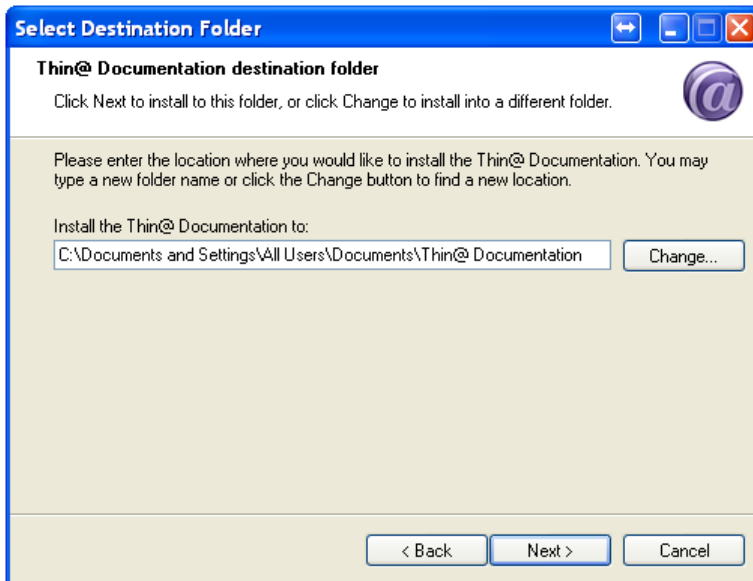
Step 7 (Thin@ Application Server only). If you have chosen 'Main Application Server' or 'Application Server' as the Installation type, the following screen will appear. Choose the folder in which you want to install the Thin@ Application Server. Click Next.



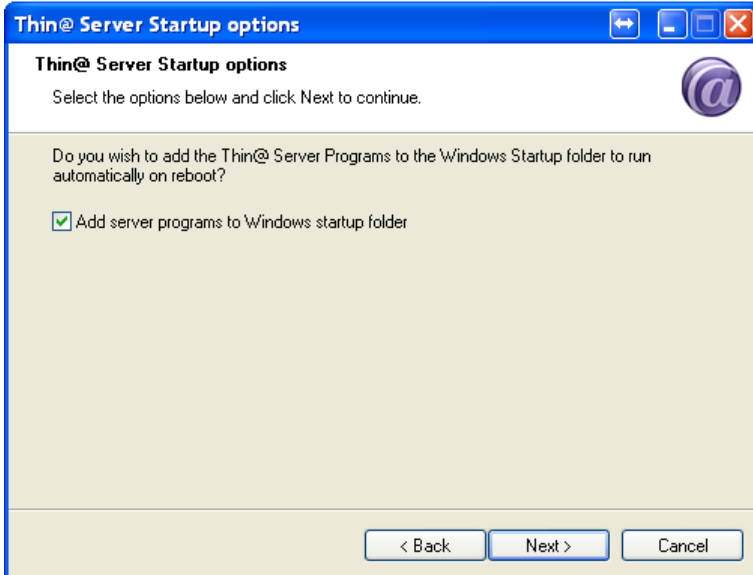
Step 8 (Thin@ Client only). If you have chosen 'Thin@ Client Tool' as the Installation type, the following screen will appear. Choose the folder in which you want to install the Thin@ Client. Click Next.



Step 9 (Thin@ Documentation only). If you have chosen 'Thin@ Documentation' as the Installation type, the following screen will appear. Choose the folder in which you want to install the Thin@ Documentation. Click Next.



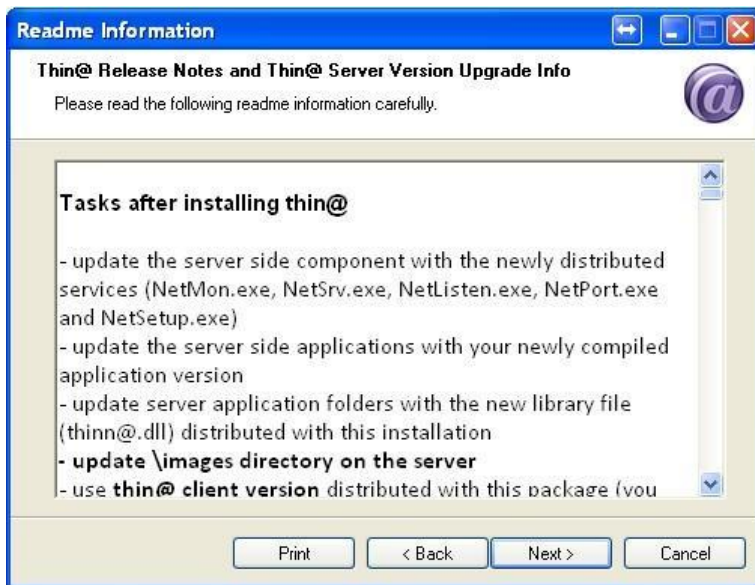
Step 10 (Thin@ Application Server only). You can choose to automatically add the Thin@ Server programs (NetServer, NetListen, NetMonitor and NetPort) to the Windows startup folder. Click Next.



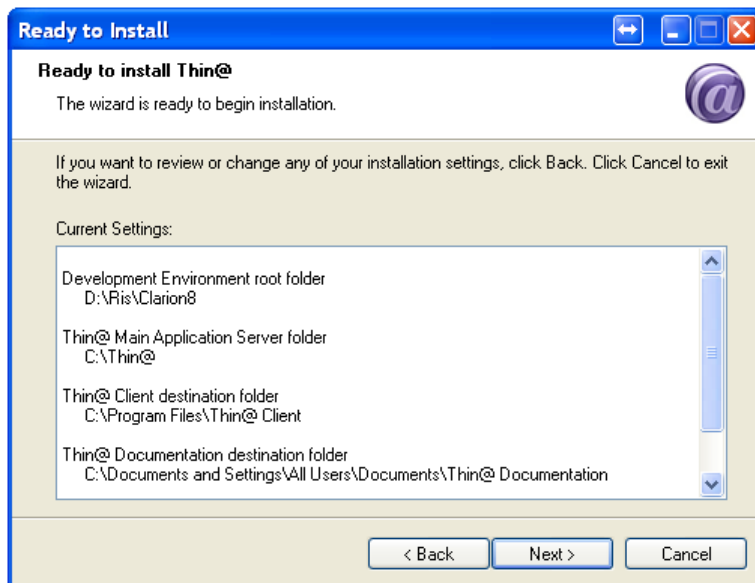
NOTE: If you add the server programs to the Windows startup folder, they will automatically run only after a user logs on to Windows.

NOTE: In the upcoming Thin@ version it will be possible to run Thin@ Server programs as a Windows service, without the need for the user to log on to Windows.

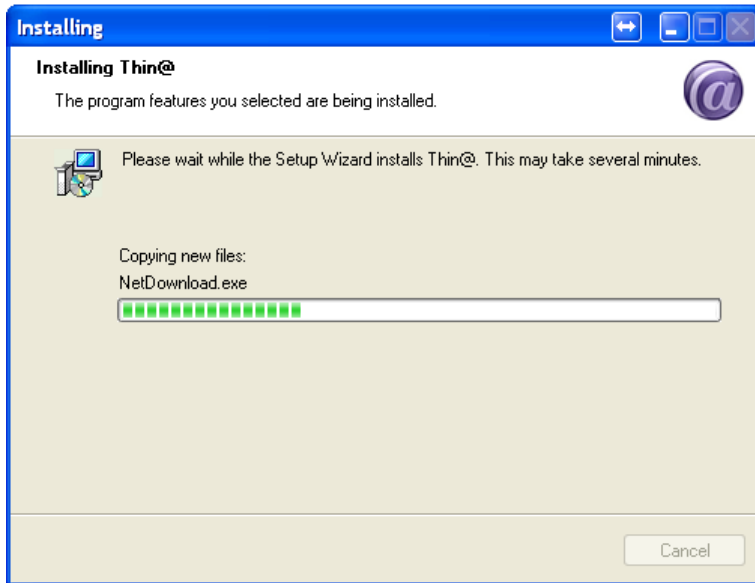
Step 11. On the following screen you can read the latest Thin@ Release Notes, as well as short instructions on how to update your Thin@ Server to the latest Thin@ version.



Step 12. If you are satisfied with the install options, click Next.



The installer will then start to copy the Thin@ files and folders to your computer.



Step 13. If you have chosen the 'Thin@ Clarion Developer Installation' install type, the Installer will ask you if you wish to Register the Thin@ template, and warn you to close the Clarion IDE before continuing. If the Clarion IDE is still active, the Installer won't proceed with the Installation until you close Clarion.



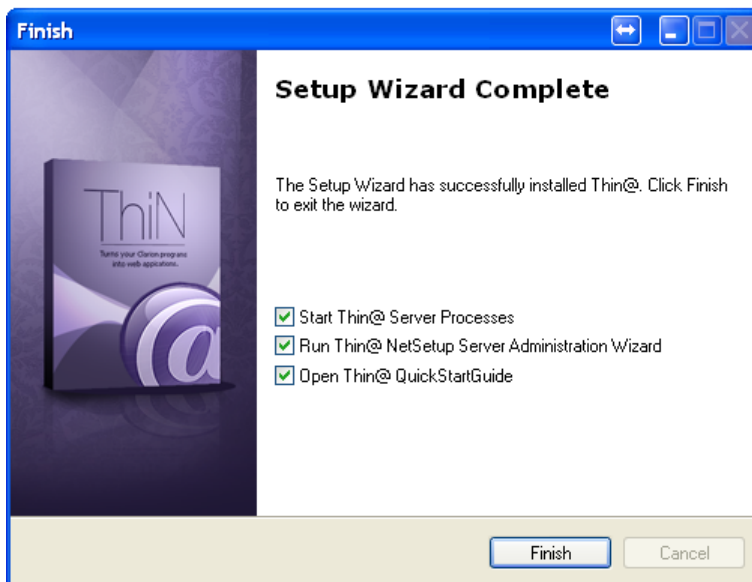
Final step. If this is your first Thin@ installation, we recommend leaving all options checked.

- The Thin@ Server Programs (NetListener, NetServer, NetMonitor and NetPort) will start by default, making your computer ready to host your Thin@ applications.
- The *Thin@ NetSetup Administration Wizard* will help you set up your Thin@ Server Environment (If you want you can skip this step and get back to it later, in which case you can go to *Chapter 3: Implementing Thin@ in your application*).

NOTE: Without a Thin@ Server configured you won't be able to host Thin@ applications, but you will still be able to prepare your application to run with Thin@ and to test it in Thin@ mode.

- Read the 1-page-long Thin@ Quick Start Guide before moving on.

Click Finish to complete the Thin@ installation Wizard.



2. Thin@ server configuration (optional – you can do it later if you want)

The NetSetup Wizard is an easy-to-use, step-by-step configuration tool which will guide you through your initial Thin@ server configuration. After completing the Thin@ installation, the Thin@ NetSetup Wizard will run automatically and offer you to add a new Thin@ Server.

NOTE: You can find the NetSetup (Wizard) application in your Thin@ Server Installation Folder.

Follow the steps and read the on-screen instructions, and your new server will be up and running in a matter of minutes.

NOTE: If this is your first Thin@ Server Installation, we strongly suggest that you leave all the default options.

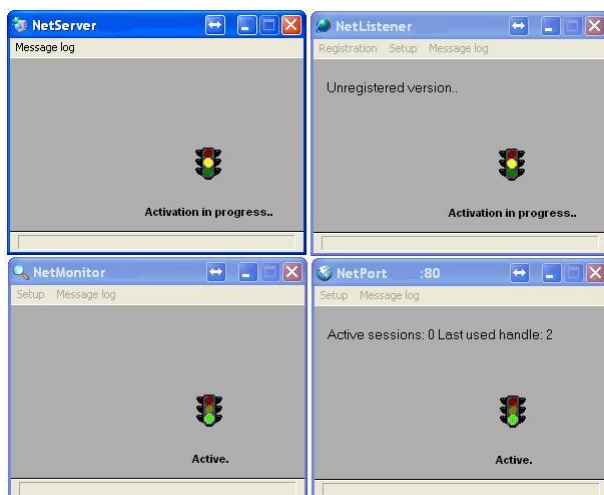
Step 1. Click Next.



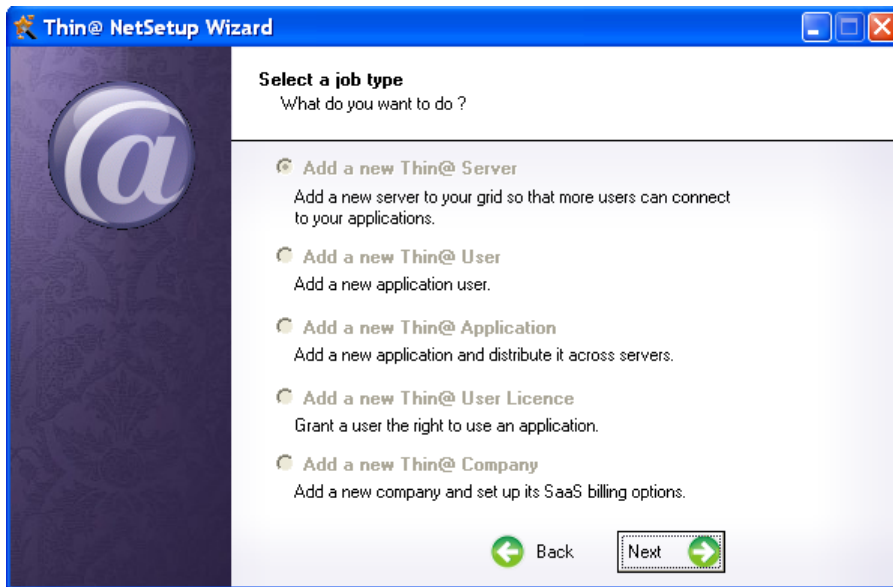
NOTE: The four Thin@ icons of the four Thin@ tools in the lower right corner of your desktop



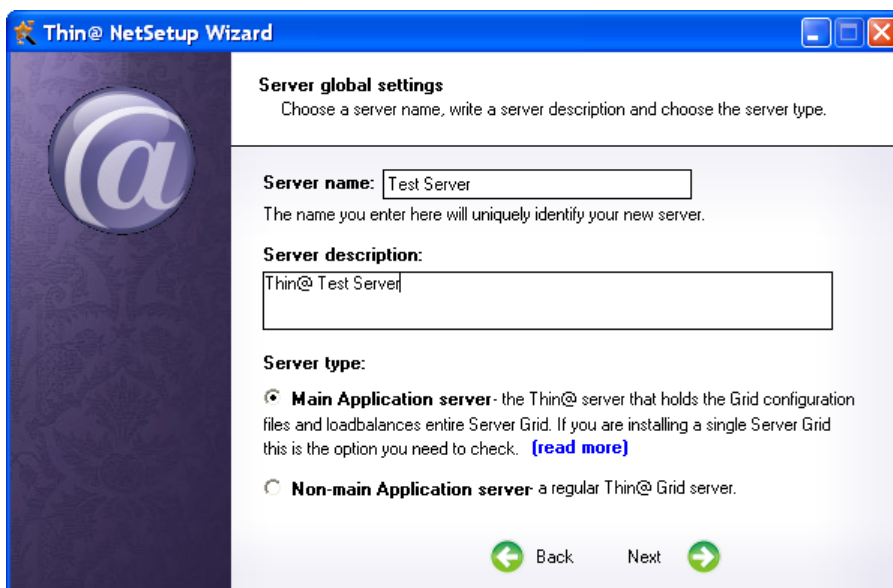
are the NetMonitor, NetListener, NetServer and NetPort tools. If you maximize those icons you will notice that NetServer and NetListener are reporting 'Activation in progress' because there is no Thin@ Server.



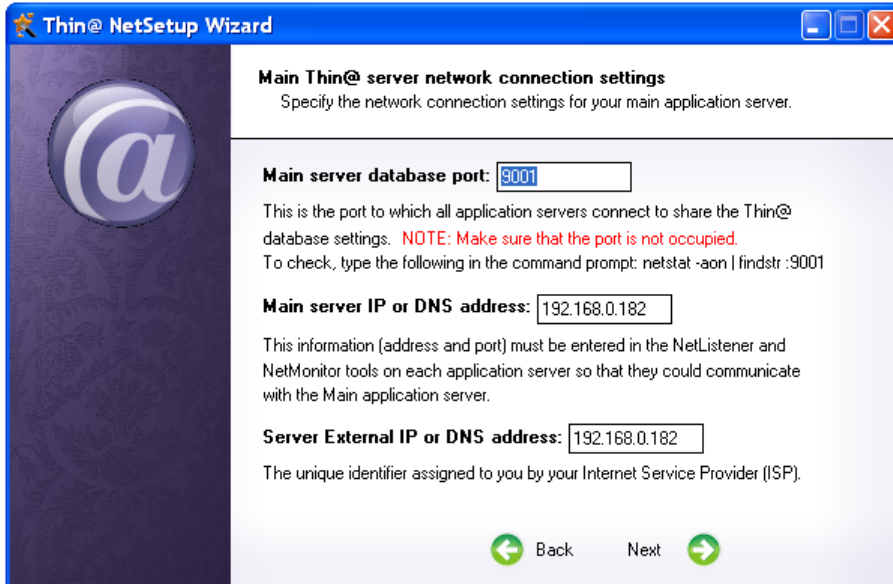
Step 2. If this is your first Thin@ startup, the Thin@ NetSetup Wizard will detect that you do not have a Thin@ Server configured and will offer you to add a new Thin@ Server. Click Next.



Step 3. Enter your Thin@ Server Name and Server description(optional), and leave the Main Application server option selected. Click Next.



Step 4. Enter the Thin@ Main server database port, IP address and External IP address. Also make sure that the port is not occupied. You can do so by entering *netstat -aon | findstr :<main server port number>* in the command prompt. If it is occupied, you can see which process occupies it by entering *tasklist | findstr <Process ID>* in the command prompt. You can leave the External IP address the same as your Main server IP address for now.

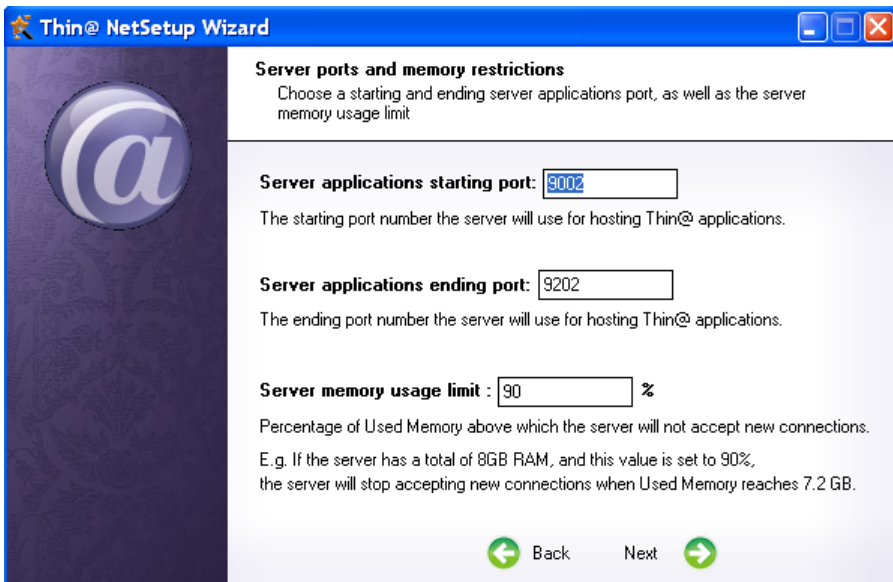


The screenshot shows the 'Main Thin@ server network connection settings' window of the Thin@ NetSetup Wizard. The window has a blue title bar and a sidebar with a large '@' logo. The main content area is white and contains the following fields and text:

- Main server database port:** 9001. Below this, it says: 'This is the port to which all application servers connect to share the Thin@ database settings. **NOTE: Make sure that the port is not occupied.** To check, type the following in the command prompt: `netstat -aon | findstr :9001`'
- Main server IP or DNS address:** 192.168.0.182. Below this, it says: 'This information (address and port) must be entered in the NetListener and NetMonitor tools on each application server so that they could communicate with the Main application server.'
- Server External IP or DNS address:** 192.168.0.182. Below this, it says: 'The unique identifier assigned to you by your Internet Service Provider (ISP).'

At the bottom, there are 'Back' and 'Next' buttons with green arrow icons.

Step 5. Enter the port number that Thin@ will use to start Thin@ applications. You can leave the default values, which means that port numbers 9002-9202 will be used to host a maximum of 201 concurrent application instances. The Server memory usage limit is the used percentage of total server memory above which the server will not accept new connections. Leave the default value of 90% and click Next.



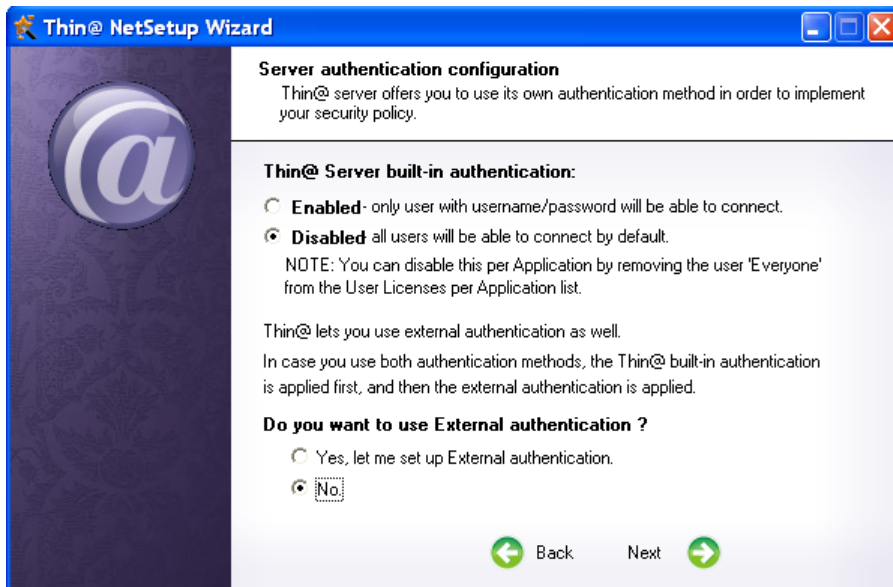
The screenshot shows the 'Server ports and memory restrictions' window of the Thin@ NetSetup Wizard. The window has a blue title bar and a sidebar with a large '@' logo. The main content area is white and contains the following fields and text:

- Server applications starting port:** 9002. Below this, it says: 'The starting port number the server will use for hosting Thin@ applications.'
- Server applications ending port:** 9202. Below this, it says: 'The ending port number the server will use for hosting Thin@ applications.'
- Server memory usage limit :** 90 %. Below this, it says: 'Percentage of Used Memory above which the server will not accept new connections. E.g. If the server has a total of 8GB RAM, and this value is set to 90%, the server will stop accepting new connections when Used Memory reaches 7.2 GB.'

At the bottom, there are 'Back' and 'Next' buttons with green arrow icons.

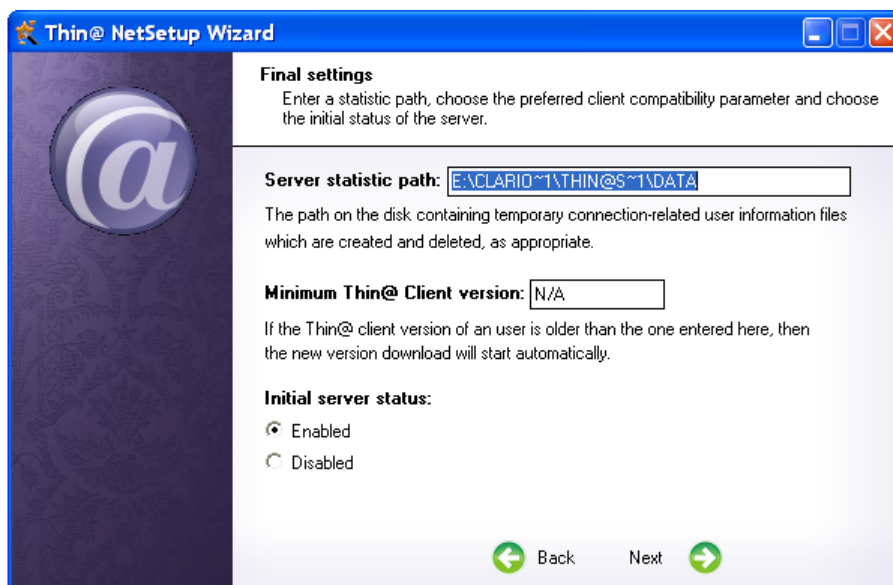
Step 6. A Thin@ server has a built-in user authentication system. You can leave this value to Disabled, which means that by default all users will be able to connect. You can disable this per Application by removing the user 'Everyone' from the User Licenses per Application list. If you choose Enabled then only users with username/password will be able to connect.

Thin@ has the option to configure External authentication. You can skip this option for now. Click Next.

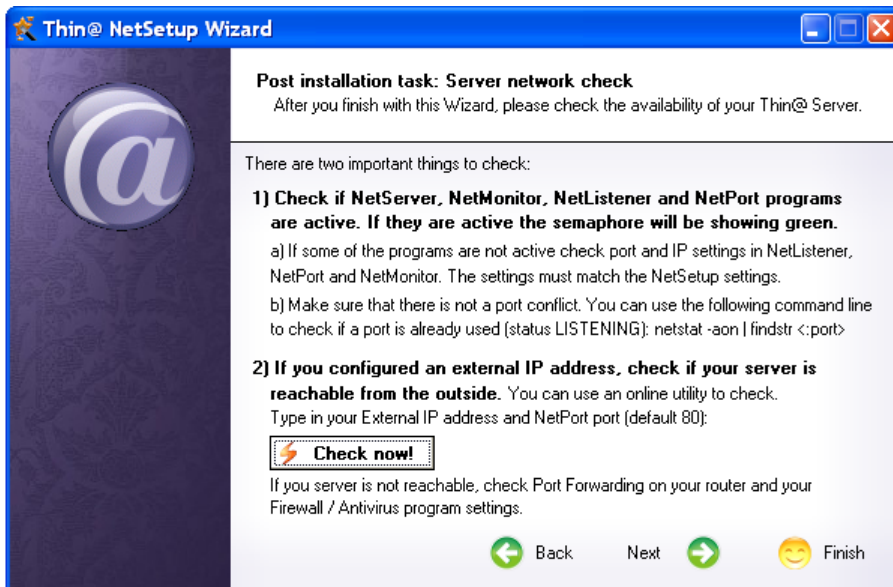


Step 7. The Thin@ statistic path is the location on the disk which will contain temporary connection-related user information files used to measure user activity. You can leave it to the default value.

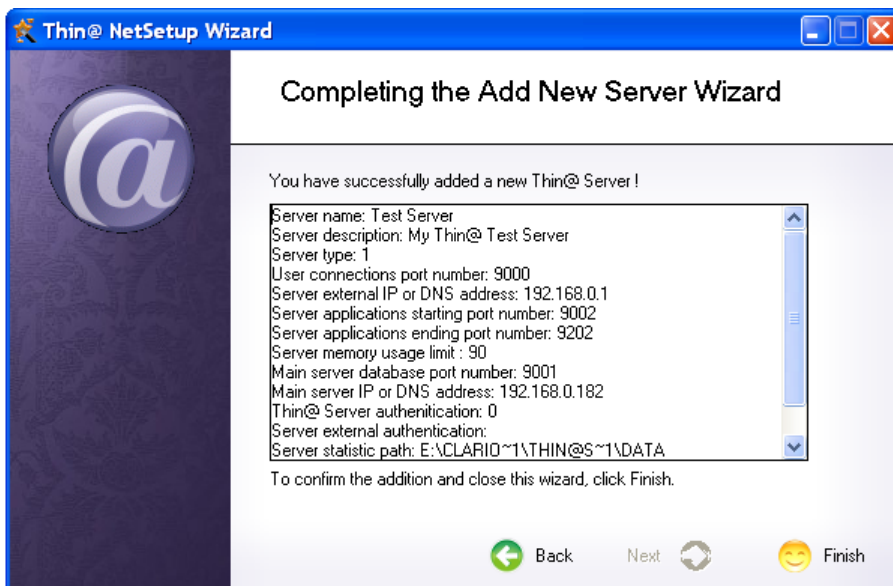
The minimum Thin@ client version parameter can be used to automatically deliver new Thin@ Client versions to end users. Leave this parameter to the default value, and leave the Initial server status to Enabled. Click Next.



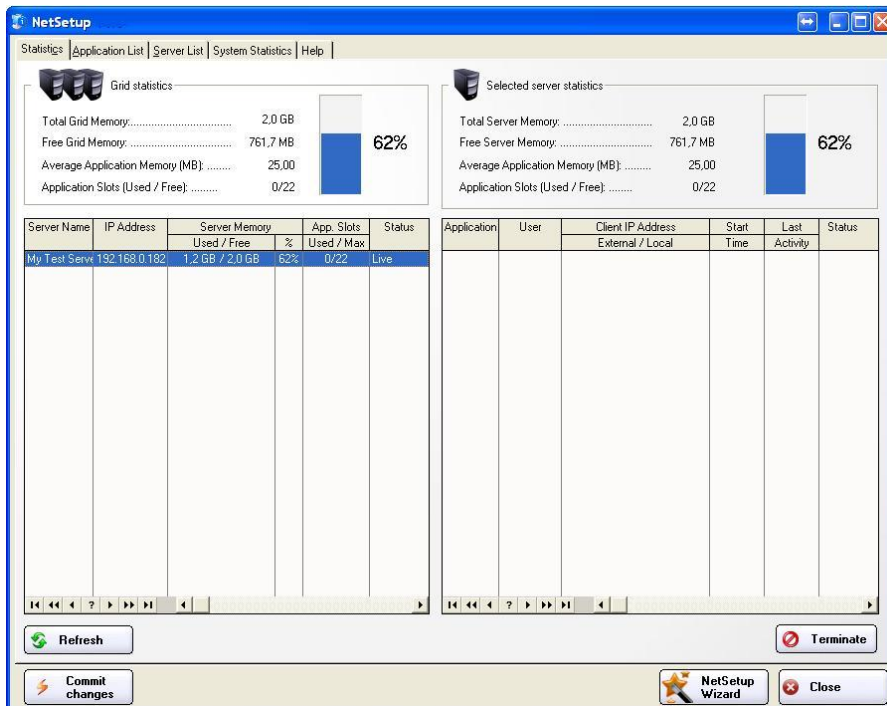
Step 8. The next screen shows the recommended network server checks that you can perform after you add the Thin@ Server. Click Next.



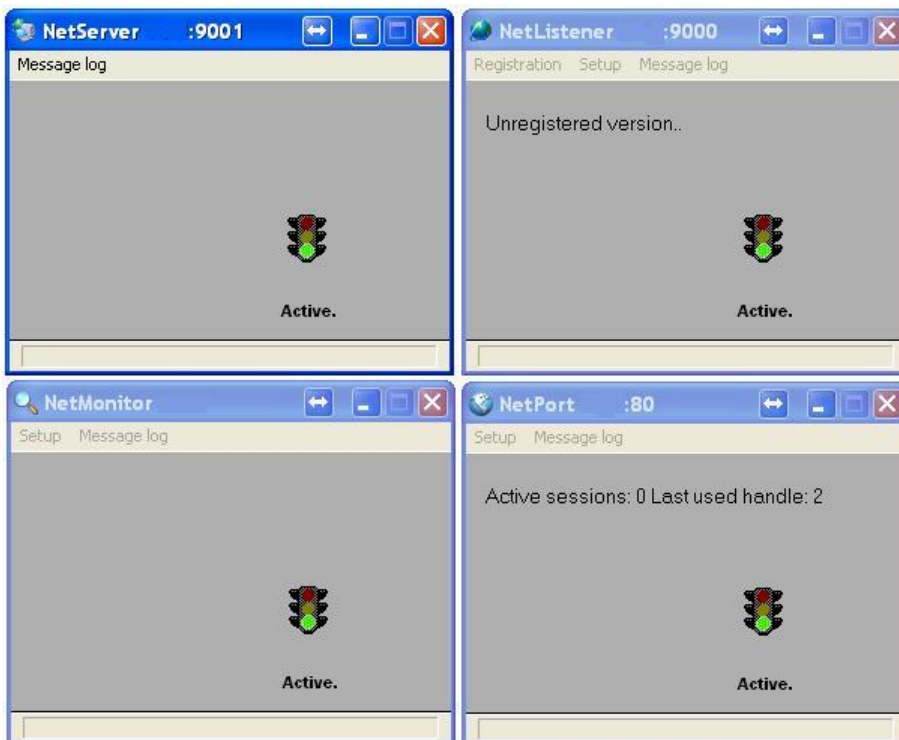
Step 9. The next screen shows an overview of the selected installation options. Click Finish.



Step 10. The NetSetup Wizard will close. (You will always be available to start it again from the lower right corner of the NetSetup application). Wait for a few seconds and click Refresh. Your new Thin@ Server will be shown on the Server List.



Step 11. Check the Thin@ Server processes (open them from your Windows lower right toolbar). All of them should be showing a green semaphore which means that the processes are now Active and your Server is configured properly.



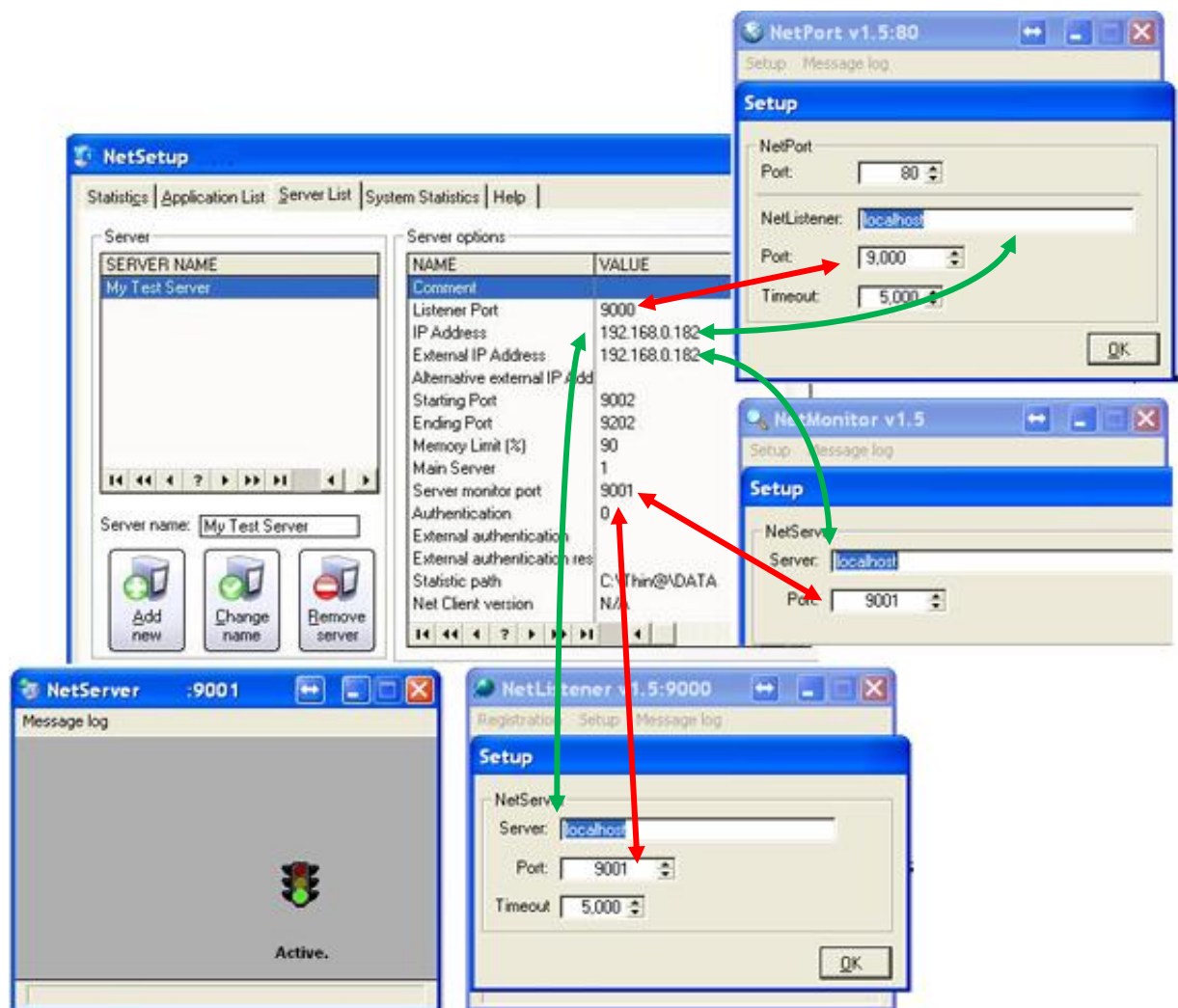
2.1. Troubleshooting Thin@ Server Processes

In some cases one of your Thin@ Server Processes may be showing the 'Activation in progress' message. This troubleshooter can help you to resolve the problem by pinpoint to the most common causes and providing you with a solution.

1. Wrongly configured Thin@ IP addresses / ports

RESOLUTION: Check your Thin@ Server IP addresses / Ports configuration (skip this if you used all the default options during initial Thin@ Server configuration)

- Open the NetSetup utility and click on the 'Server List' tab
- Open the four Thin@ Server programs (NetMonitor, NetServer, NetListener and NetPort)
- Compare the NetSetup values to the values entered in the four Thin@ Server programs. Lines in the picture below shows which NetSetup value should match which value in one of the four server programs. Color red is used for port values, color green for IP values.

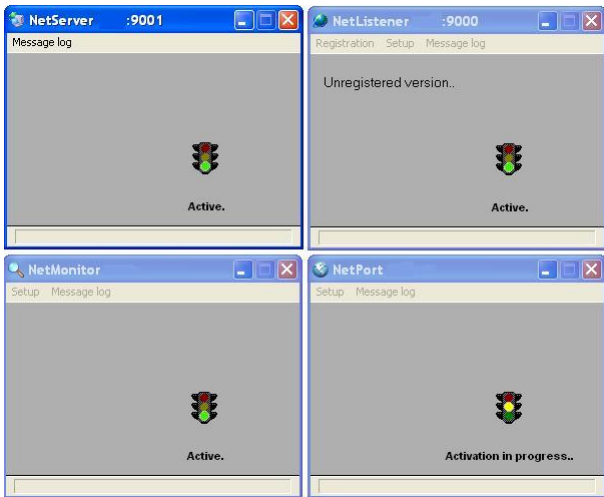


2. Antivirus/Firewall program blocking Thin@

RESOLUTION: Temporarily disable Firewall and/or Antivirus program on the Thin@ Server computer and try to see if this solves the problem. If it does, you can configure antivirus/firewall exceptions that will prevent interfering with Thin@.

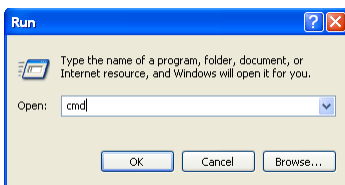
3. Other process using a port dedicated to Thin@

EXAMPLE: In the picture below there is a problem with NetPort, which cannot start on the default port (Port 80). It should be in status 'Active' but instead it's reporting 'Activation in progress...'.



RESOLUTION: There is probably a process that is already using that port. To check, perform the following steps:

- Go to Start – Run and type cmd in the Run window and click OK.



- Type **netstat -aon | findstr <port number>**, where <port number> is the port you want to check. In the example below, the port 80 is already used. There is a process that is LISTENING on that port. The Process ID (PID) is 1212.

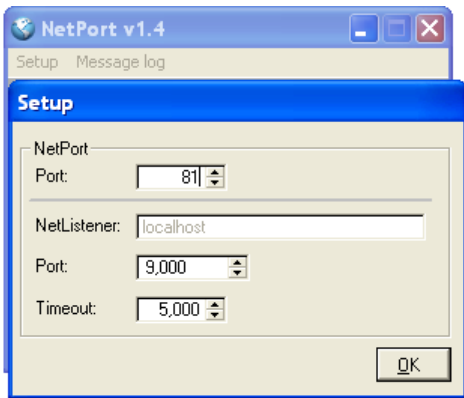
```
C:\>netstat -aon | findstr :80
TCP 0.0.0.0:80 0.0.0.0:0 LISTENING 1212
```

- To find out the name of the process, type **tasklist | findstr <PID>**, where <PID> is the Process ID. In the example below Skype.exe is LISTENING on port 80.

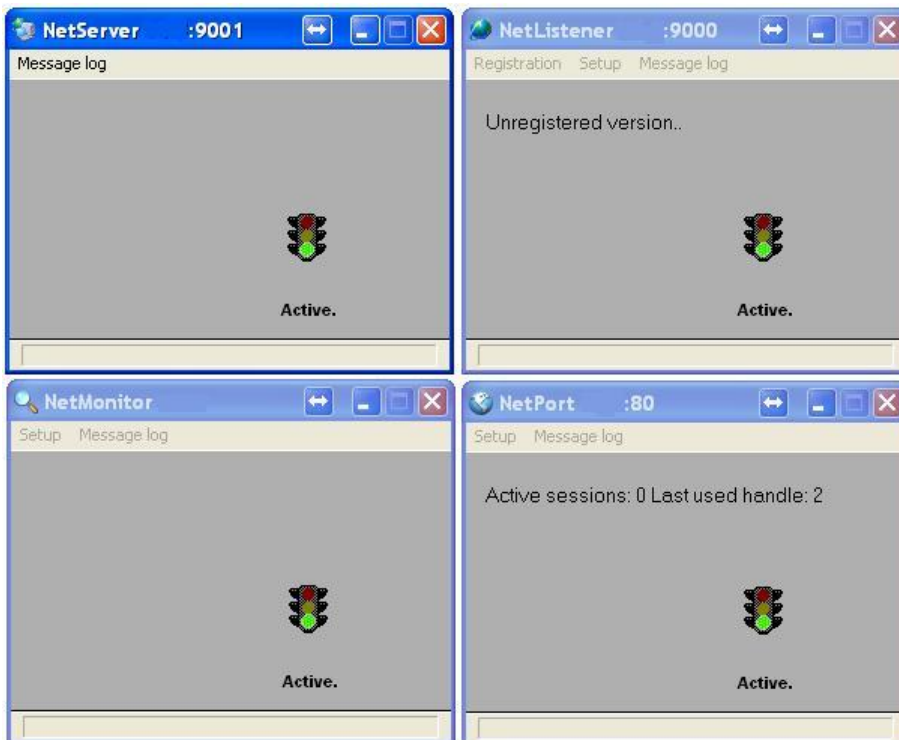
```
C:\>tasklist | findstr 1212
Skype.exe 1212 Console 0 17.236 K
```

To solve this port conflict, you can either change the default Skype port, or change the NetPort port.

The picture below shows how to change the NetPort port from the default value to another value, for example Port 81.



After you change the port, restart the NetPort process and NetPort should now be running without any problem.



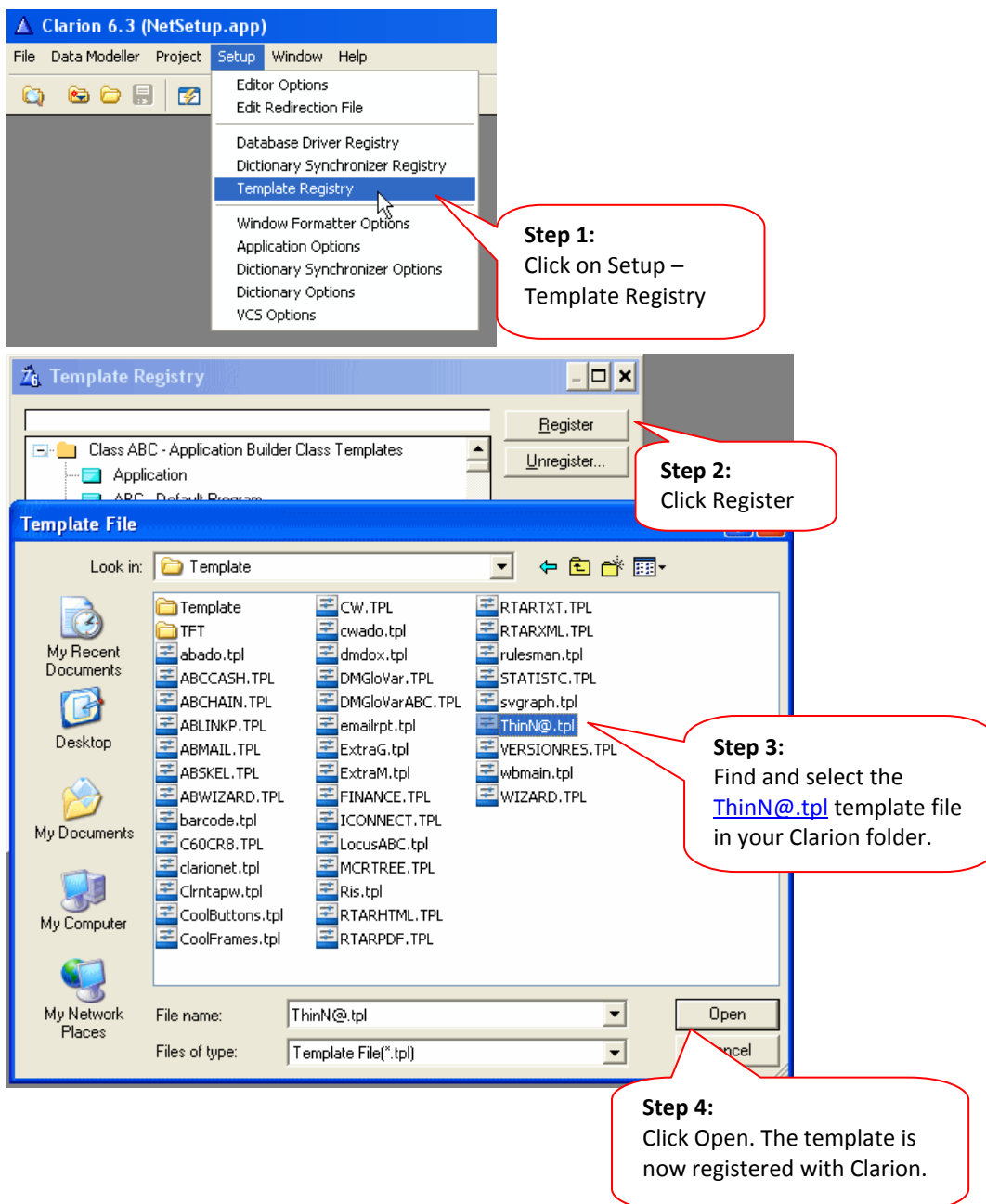
3. Implementing Thin@ in your application(s)

Adding Thin@ to your application(s) is easy! Just follow these step-by-step instructions.

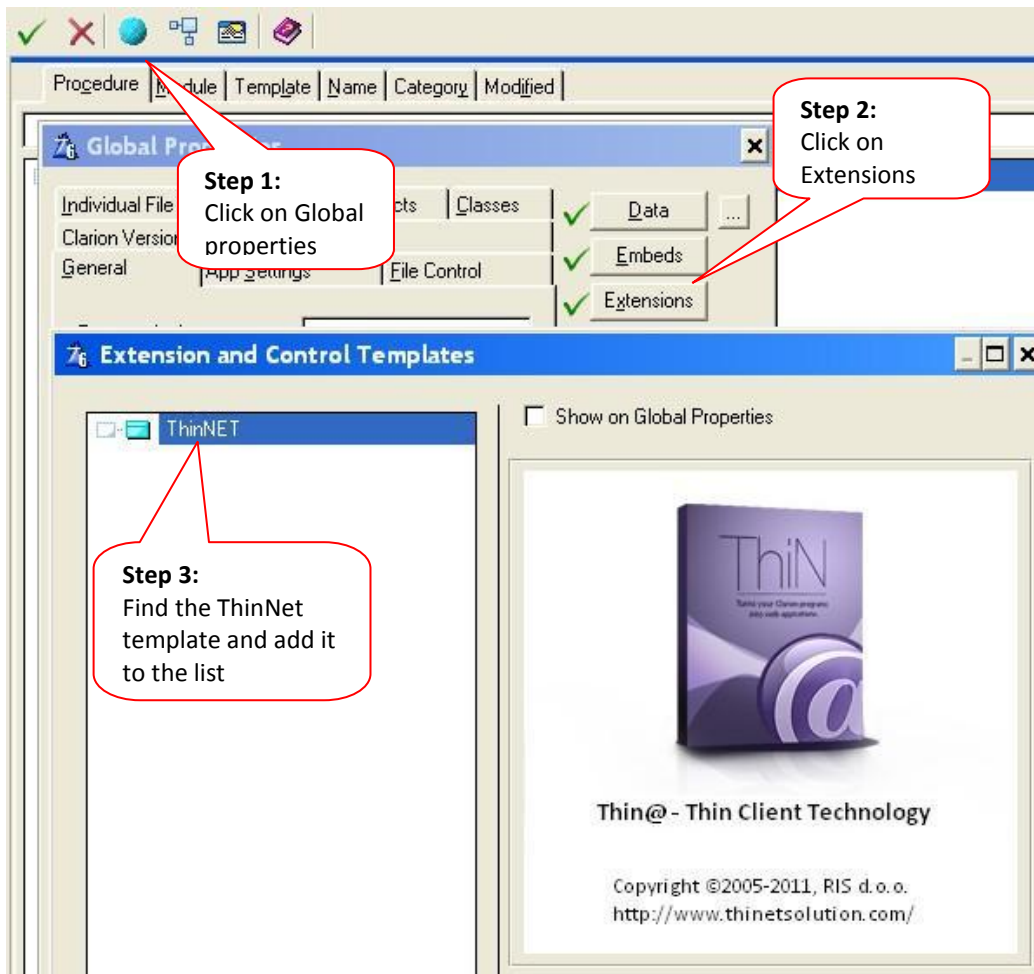
If this is your first Thin@ implementation, we recommend that you start with a simple application.

Step 1) Thin@ template registration

Step 1a. Register the ThinN@ template with the Clarion Template Registry (not needed if done automatically by the Installation Wizard)

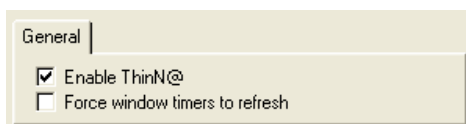


Step 1b. Add the ThiNet template to the application global extensions.



Step 2) Thin@ template window options

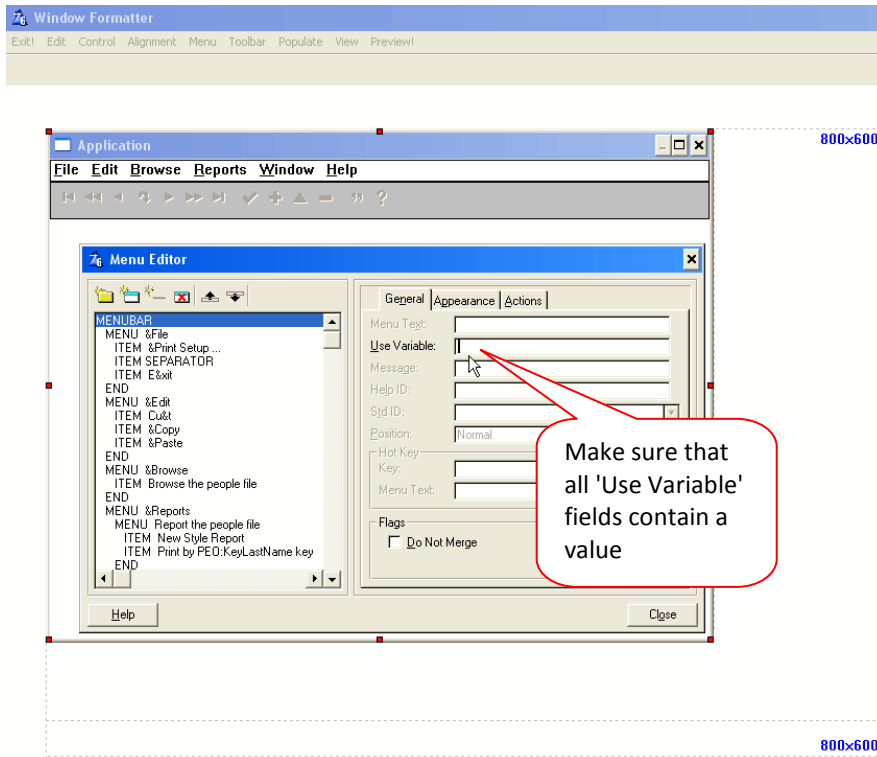
Enabling the 'Force window timers to refresh' parameter will force timer event execution even if the user is not performing any action and the timer window is not focused. This is not the default option because it can cause cursor flickering whenever the timer refreshes.



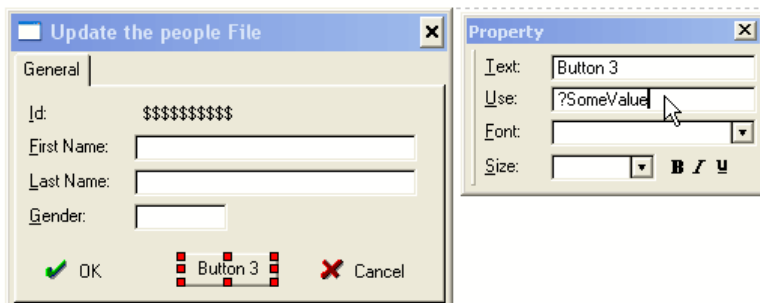
Step 3) Required application modifications

In most cases, adding Thin@ your application will not require any significant changes to the application. However, there are a few things that you should do in order for the application to work properly with Thin@.

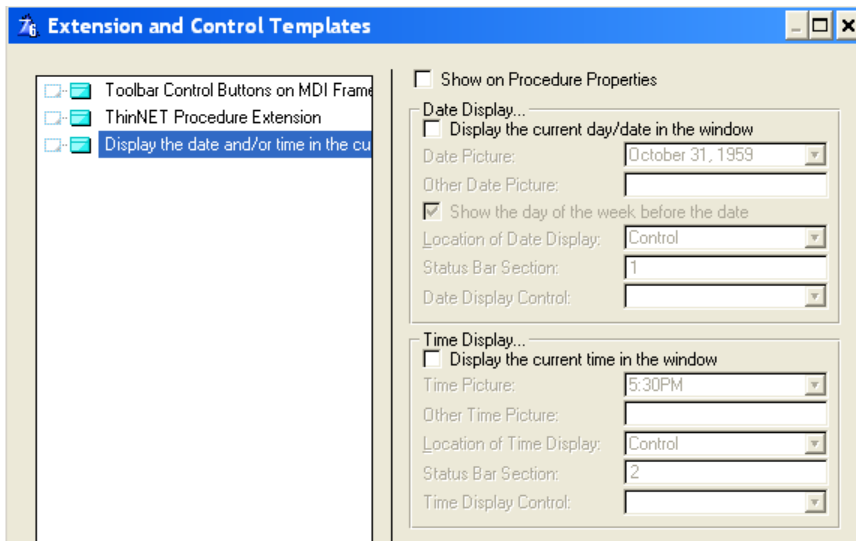
Step 3a. Fill in the blank *Use Variable* fields on all MENUBAR items



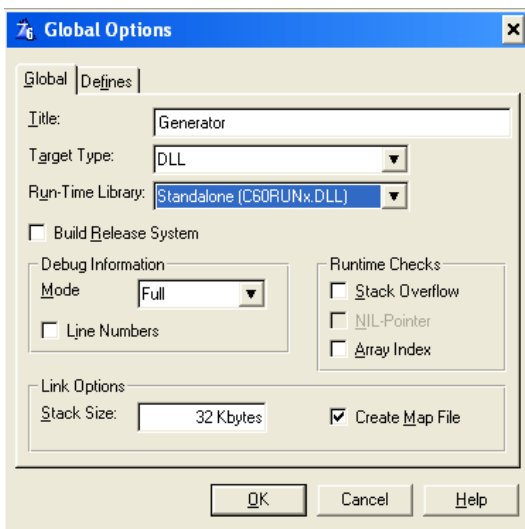
Step 3b. Make sure that all Field Equate Labels ('Use') on all window controls contains a value (controls with blank FEQs will not be visible)



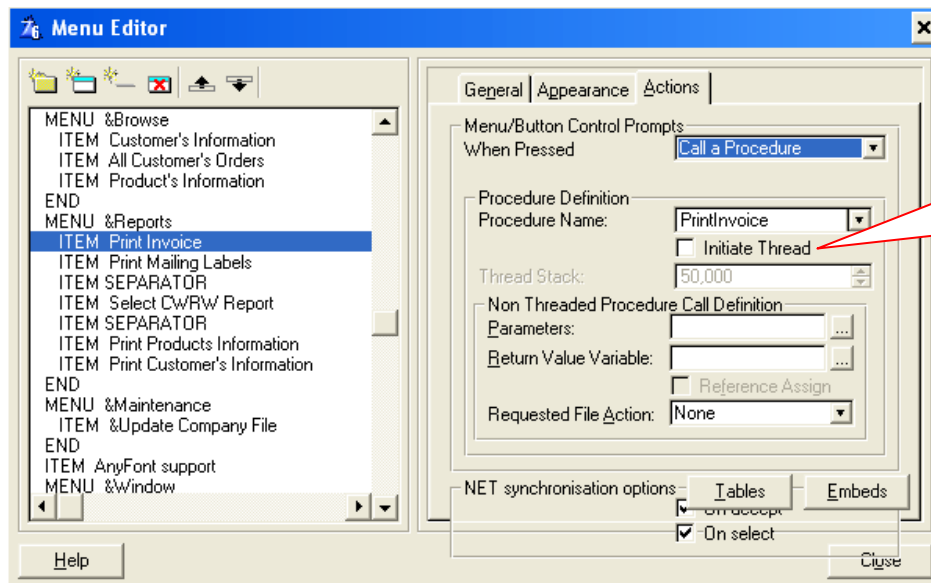
Step 3c. Disable the date and time display on menu frames. Although Thin@ supports this feature, we do not recommend using it because it will cause unnecessary communication between the client and server and can cause window flickering.



Step 3d. Make sure that your application uses the Standalone (C60RUNx.DLL) Run-Time Library.



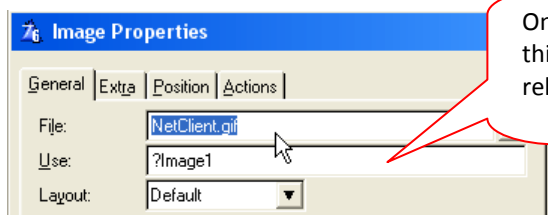
Step 3e) Make sure that you use only non-threaded report calls.



Step 3f. If you use VCR toolbar control on your browses or forms, make sure that you copy the default icons to your application folder.

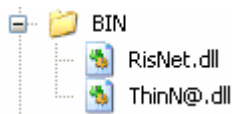
Step 3g. Make sure all that all graphic files (images, icons, etc.) are available in the designed application location path or they won't be successfully downloaded to the client computer.

All graphic files will be downloaded multiple times only if their date and time value changes on the server side. All downloaded graphic files are stored in the default user temp directory on the client side (for example: C:\Documents and Settings\<someuser>\Local Settings\Temp).



Step 3h. Copy the files *RisNet.dll*, *ThinN@.dll* and *7z.exe* to your application folder.

NOTE: For a local test environment you don't have to copy *RisNet.dll* and *ThinN@.dll* as they are already in your *Clarion6\BIN* folder.



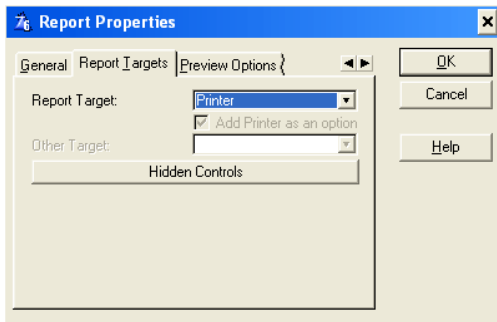
Step 3i. Make sure that you don't use any of the still unsupported features in your application.

Step 4) Removing the unsupported features from your application

Remove or disable the parts of your application which contain some of the unsupported features.

Legacy support

If you use the Clarion Legacy templates, you will have to do a few minor changes to your applications. The Report Target on your reports must not be 'Ask at Runtime'.



4. Testing if your application works in Thin@-mode

4.1. Running a Local Thin@ Test Environment

After successfully compiling your application with Thin@ you want to make sure that the application actually works in Thin@-mode. The easiest way to check that is to run your application in a Local Thin@ Test Environment (which does not need a Thin@ Server installed).

Step 1:

Make a shortcut for your application on the desktop, for example:

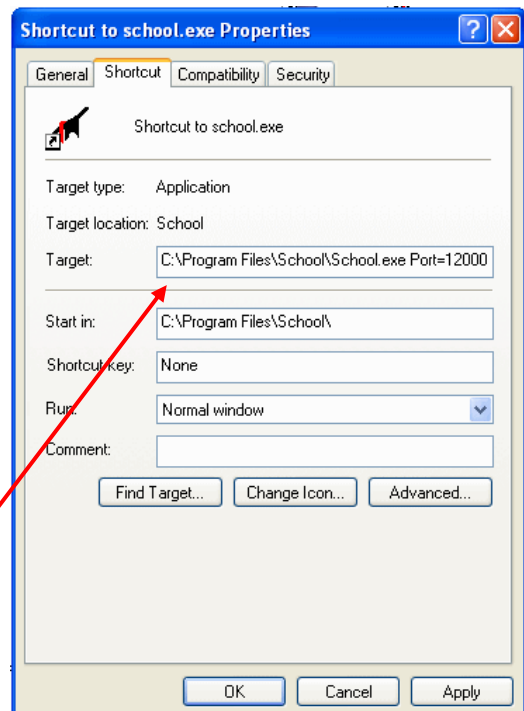


Step 2:

Right click on the shortcut icon and select Properties.

Step 3:

On the Shortcut tab, edit the Target field and add the port parameter, as shown in the picture on the right.



Example:

C:\Program Files\School\School.exe Port=12000

This means that the application will run in the Thin@ mode on port 12000 and that it will open only after you start the Thin@ client locally.

Step 4:

Make a shortcut to your Thin@ NetClient installation, rename it to Thin@ Client Local and place it on the desktop:

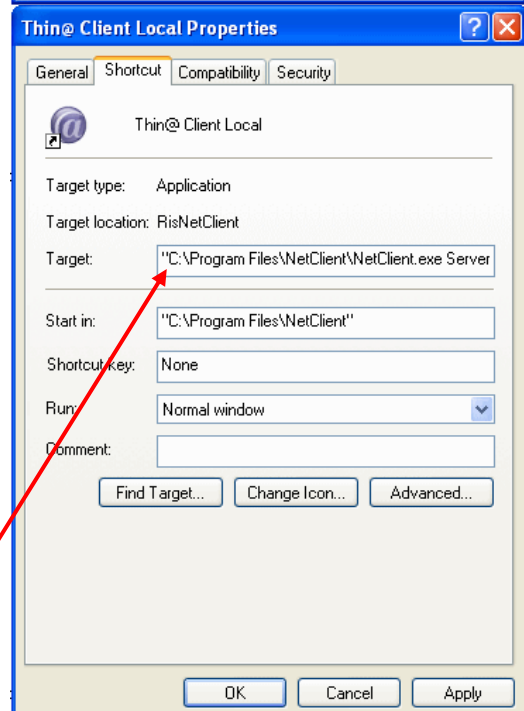


Step 5:

Right click on the shortcut icon and select Properties.

Step 6:

On the Shortcut tab, edit the Target field and add the ServerName and ServerPort parameters, as shown in the picture on the right.



Example:

"C:\Program Files\NetClient\NetClient.exe"

Servername=localhost ServerPort=12000

This means that the client will try to open the application on port 12000 on your local virtual Thin@ server.

Step 7:

Double-click on the application shortcut, and then double-click on the NetClient Local shortcut.

Your application should now appear and run in a local Thin@ test environment!

4.1.1. The application does not work in a local test environment

If the application does not work even in a local Thin@ test environment, check if it is made ready for Thin@. It must be compiled with the Thin@ template, the main menu (if the application has it), must have a use variable defined etc.

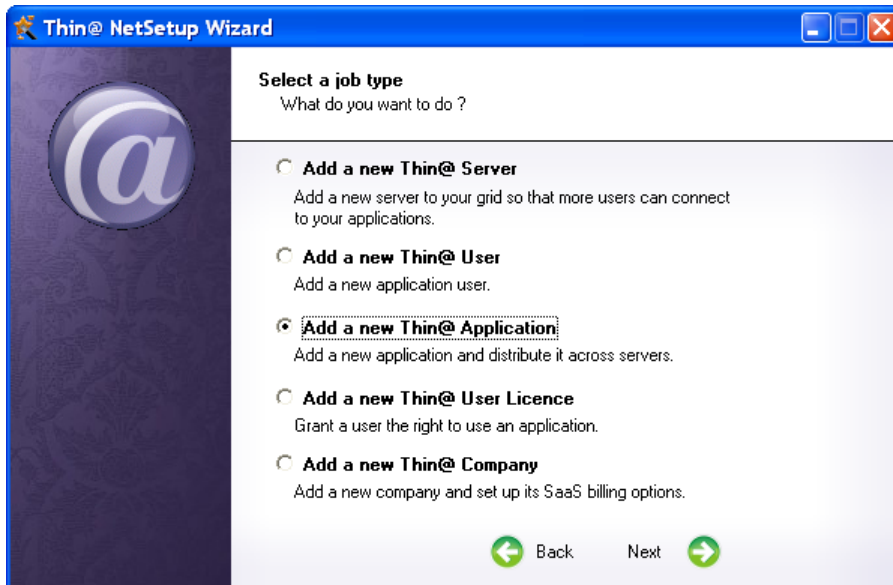
If it looks like it is Thin@ ready and it still does not work, check if you're using some of the templates that might be unsupported by Thin@. A good way to start is to make at least the initial screen appear by temporarily disabling features/templates and in that way find what could be causing the problem.

You can always contact Thin@ support (<http://www.thinetsolution.com/support.php>) and ask for assistance, we'll be happy to help you.

5. Adding a new Thin@ Application to a Thin@ Server Grid

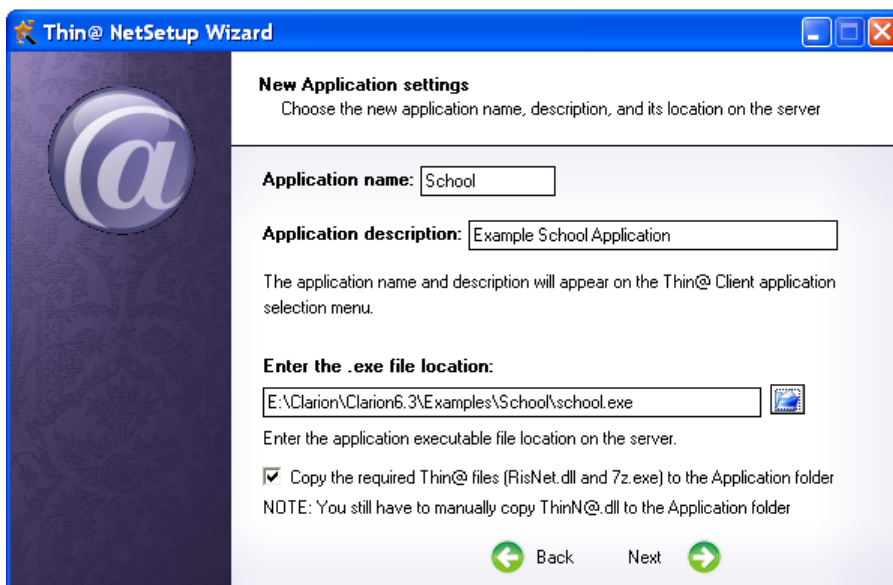
Once that your Thin@ Server is up and running, and you have successfully compiled your application with Thin@, the next step is to add your application to the Thin@ Grid. The easiest way to do so is by using the Thin@ NetSetup Wizard.

Step 1. Run the NetSetup Wizard from the NetSetup application and select 'Add a new Thin@ Application'. Click Next.

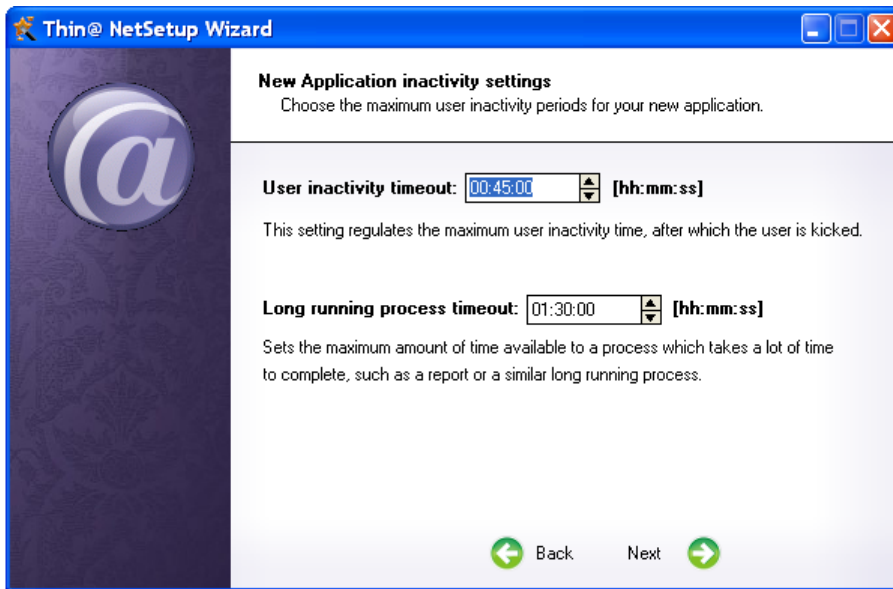


Step 2. Enter the Application name, Application description and the location of the Application executable. You can leave the option to copy the required RisNet.dll and 7z.exe files to the application folder.

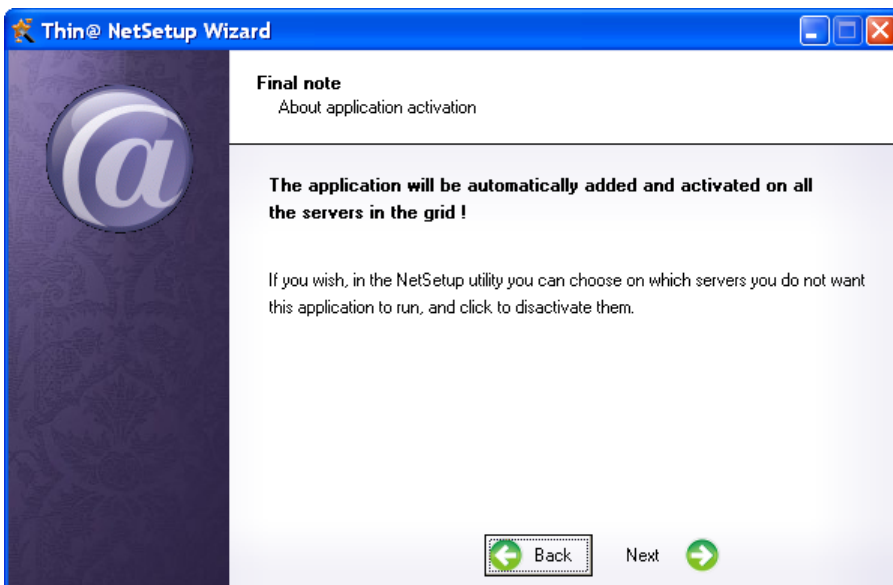
You have to copy the [ThinN@.dll](#) file manually to the application folder. You will find that file in your Clarion/BIN folder.



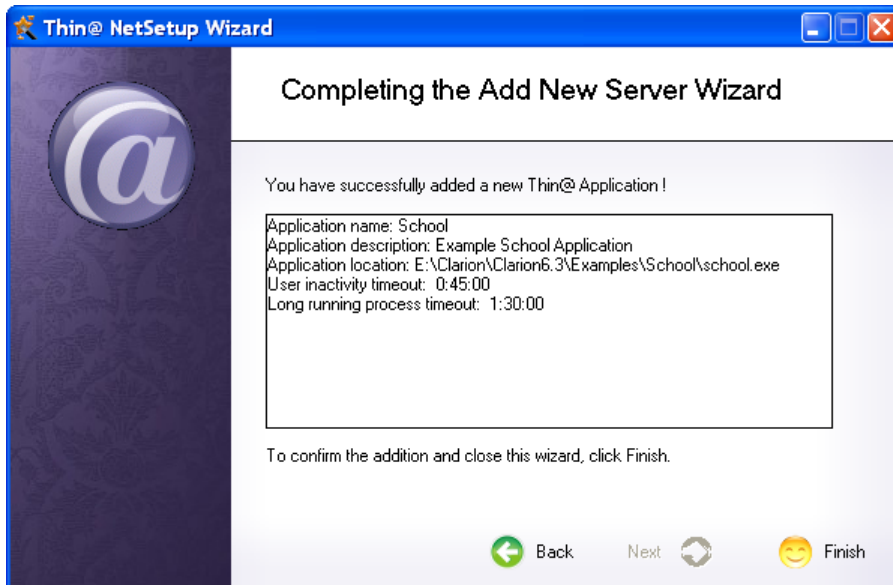
Step 3. The following settings determine the maximum user inactivity time, and the inactivity time during long running processes (reports etc.). You can leave the default values. Click Next.



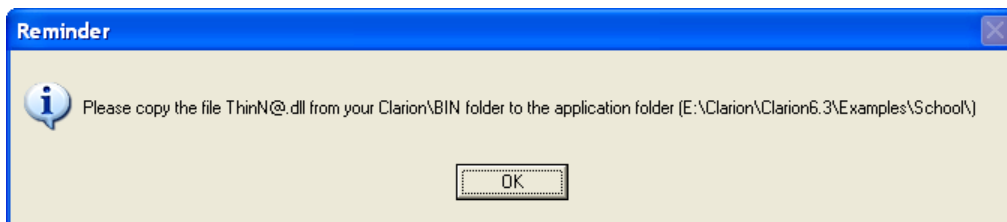
Step 4. The application will be automatically added and activated on every Thin@ server in the Grid. Click Next.



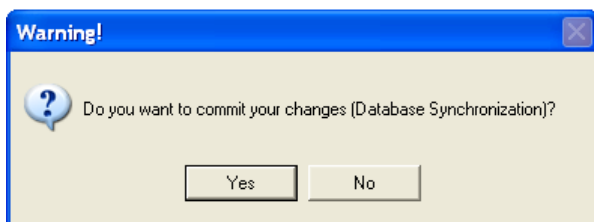
Step 5. Review the configuration parameters and Click Finish.



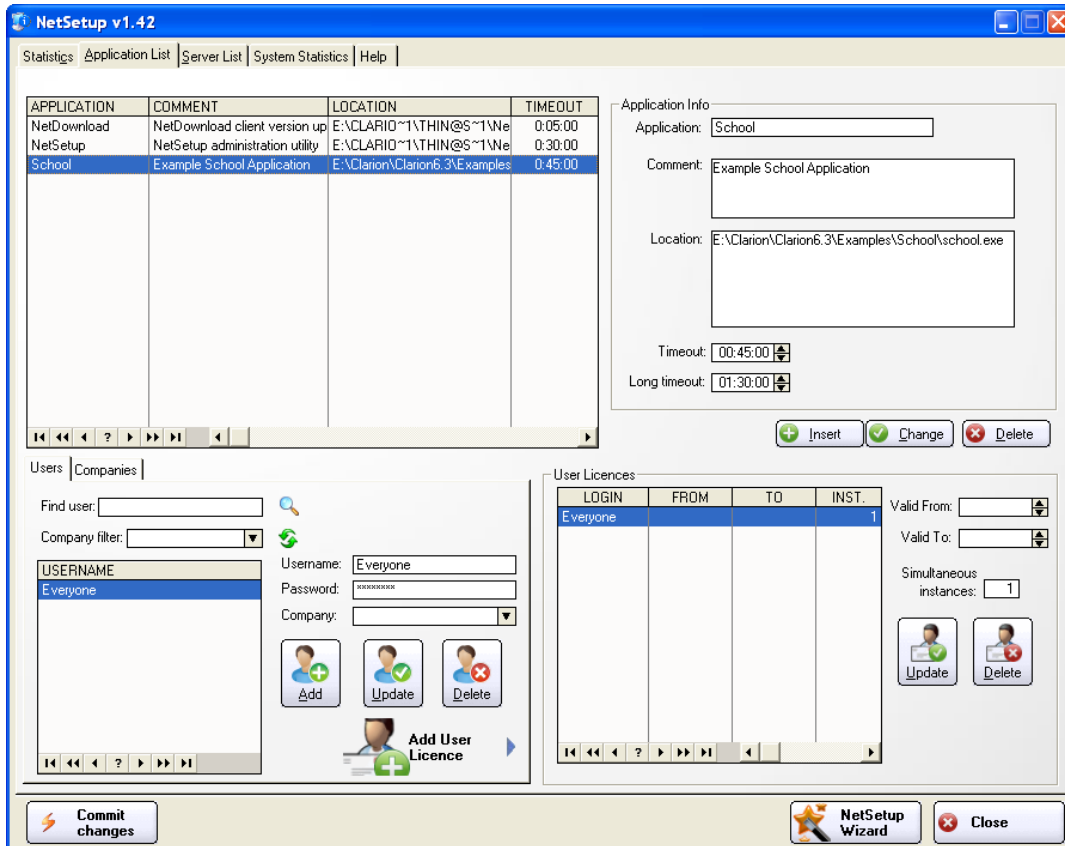
If the Wizard does not find the file [ThinN@.dll](#) file in your application folder it will remind you to copy it. Click Ok.



The Wizard will ask you if you want to Commit changes. Click Yes.



After the Wizard finishes, you will see the application in the NetSetup Application list. Note that the user 'Everyone' is automatically added to the User Licences for that Application since your Thin@ Server has disabled built-in Authentication. This means that all users will be able to start your application. If you remove the user 'Everyone' from the User Licences list, only users with username/password will be able to connect.

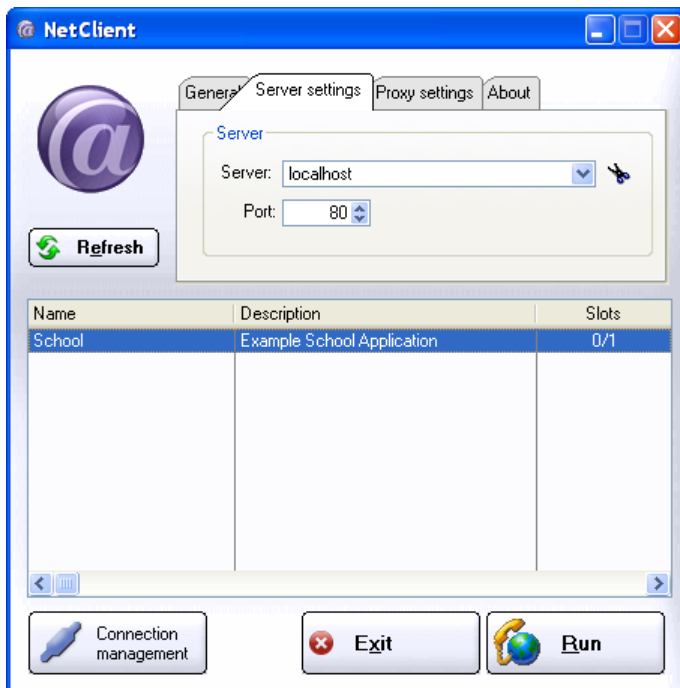


6. Running your Thin@ Application

To run your application with Thin@, start the Thin@ Client program (NetClient). You will find a shortcut on your desktop. The Thin@ Client installation files are located in your Program Files/Thin@ folder.

Enter the Server and port to which you wish to connect. You can use your local IP address or localhost, and your NetPort port (default Port 80). Click Refresh.

NOTE: If the application has a user 'Everyone' in the User Licenses list of the NetSetup utility, everyone will be able to see that application without providing their username/password.



To run the application, click Run.

6.1. *Troubleshooting a Thin@ Clarion application*

If the application does not appear after you click on the Run button, either your application is not prepared for Thin@ (see *Chapter 4: Testing if your application works in Thin@-mode*) or there is something wrong with your Thin@ server configuration (see *Chapter 2.1: Troubleshooting Thin@ server processes*).

The first step in troubleshooting a Thin@ application is to try to run the application in a local Thin@ test environment (without actually having to install and configure a Thin@ server, and bypassing possible server configuration-related issues if a Thin@ server is already installed).

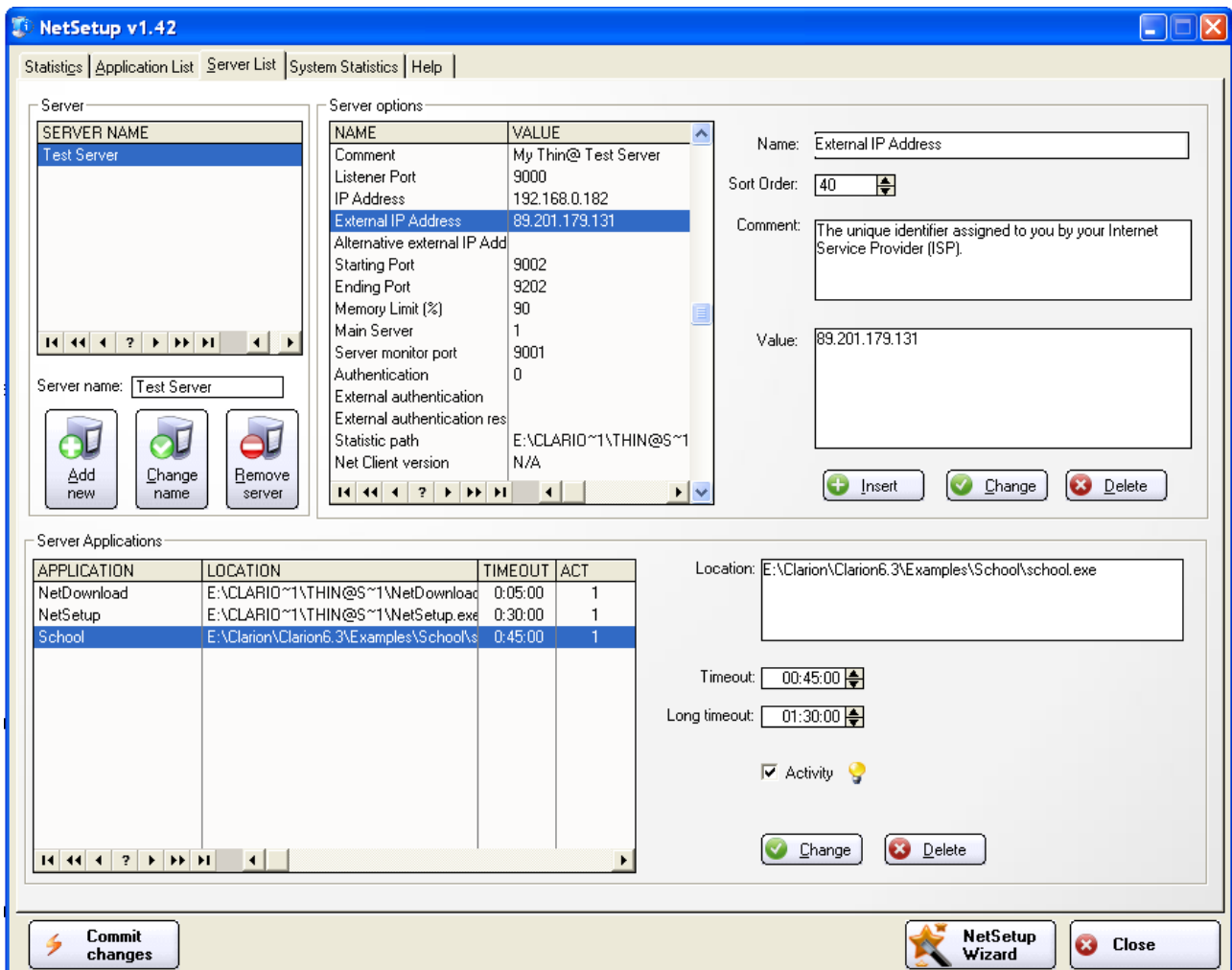
If the application works in a Thin@ Local Test Environment, and it didn't work on your Thin@ Server Environment, please check your server configuration again.

7. Accessing a Thin@ application from the internet

To be able to connect to your Thin@ application from the internet you have to configure the External IP address for you Thin@ Server. To do this go to the Server List tab in the NetSetup click on the External IP address setting.

Step 1. Change the default value to your External IP address which was given to you by your ISP. Click Change and then click Commit Changes.

NOTE: Each time after you have finished changing NetSetup parameters you have to press the Commit changes button to confirm changes and synchronize them between Servers.



Step 2. Make sure that the port that Thin@ will use to connect to your Server is opened. If you are using NetPort, that is the NetPort port (default 80). (You can also choose not to use NetPort and use the NetListener port instead – port 9000 by default. You can find more information about not using NetPort in the Thin@ Administrator's Guide).

Check your router settings to see if your NetPort is forwarded.

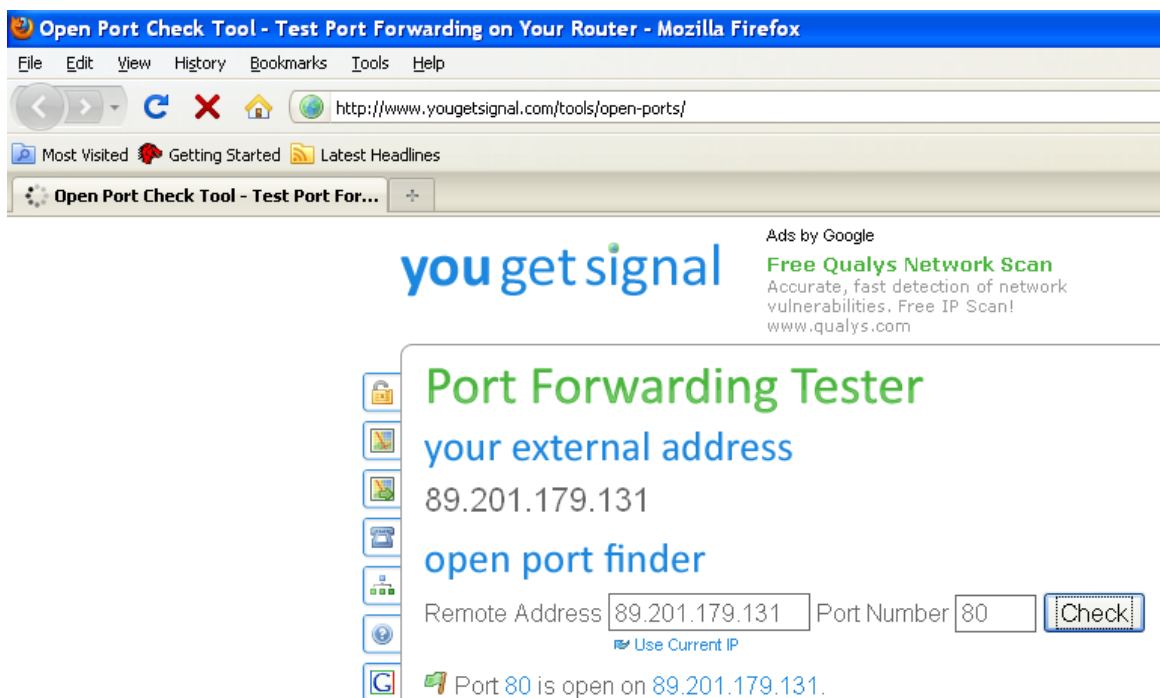
Step 3. Make sure that the connection to your Thin@ NetPort port is not blocked by your Firewall / Antivirus program settings. The easiest way to do it is to disable your Windows Firewall and Antivirus program when testing Thin@ internet connectivity and enable it afterwards.

Step 4. Start the Thin@ Client. Enter your external IP address in the Server field. Click Refresh. Your application will be displayed and you will be able to run it over the internet.

7.1. *Troubleshooting Thin@ internet connectivity*

If you can't connect to your Thin@ application over the internet (and it worked when you tested it locally), check if your Thin@ Server is reachable from internet.

To do so you can use a web-based Port Forwarding Tester on the following address - <http://www.yougetsignal.com/tools/open-ports/>. Enter your External IP address (Remote Address) and your NetPort port number (default 80). The utility will tell you if your port is forwarded.



8. Accessing your application with the Thin@ Java Client beta

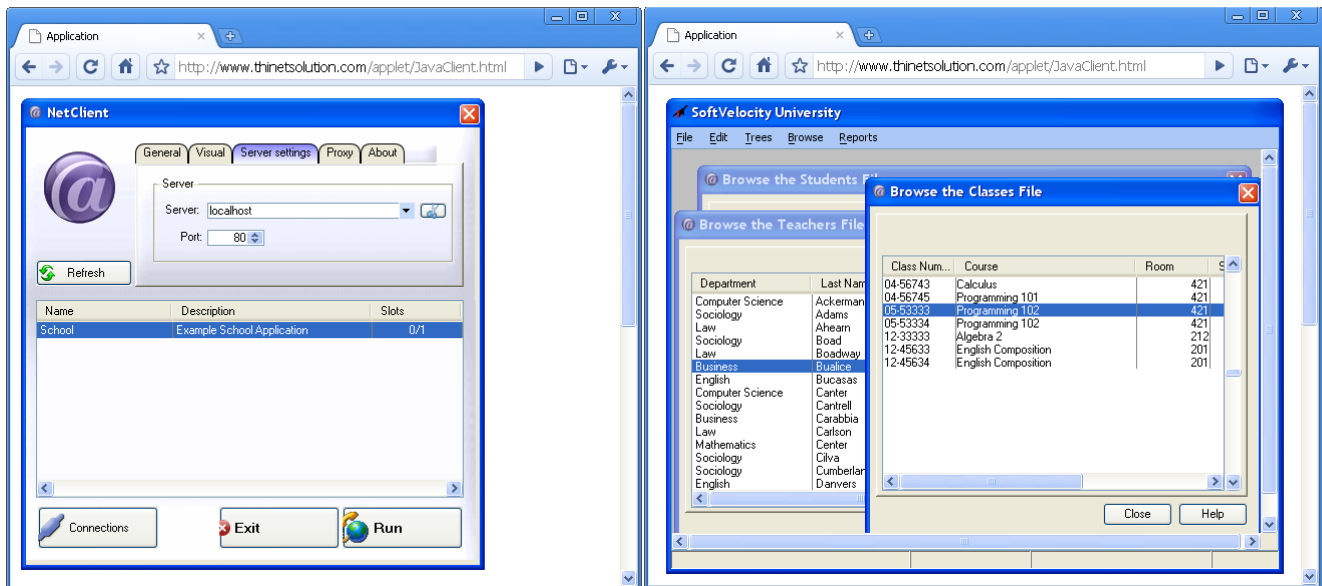
With the Thin@ Java Client your Clarion applications are available inside a browser and on various operating systems: Windows, Linux, Mac. The Thin@ Java Client is in open beta stage so some features might not to work properly.

To download it, go to the bottom of the page <http://thinetsolution.com/buy.php>, where you will find the Thin@ Java Client installation. Download the archive, decompress it and copy the files to your Web server. NOTE: A web server is not included with the installation so you have to install or lease one.

To access your applications from a browser enter the path to the JavaClient.html file in a browser, for example: www.yourwebsite.com/JavaClient.html.

If you wish to make your Clarion applications accessible from the web as Out-Of-Browser (OOB) Rich Internet Applications (RIA), then edit the JavaClient.jnpl file and upload the netclient-x.jar and JavaClient.jnpl files to your web server.

Screenshots of a Clarion application running inside a browser:



9. Removing Thin@

9.1. Uninstalling Thin@

Thin@ can be uninstalled by using the standard Uninstaller.

The Uninstaller is located in your Thin@ Server folder.

If you didn't install a Thin@ Server, the uninstaller is located in C:\Thin@ folder.

You can also run the Uninstaller from the 'Add or Remove Programs' Windows button.

The Uninstaller will remove all files that you ever installed with the Thin@ Installer.


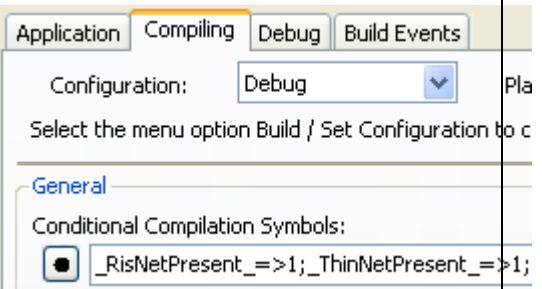
9.2. Removing Thin@ from your application

To remove Thin@ from your Clarion application you need to do the following:

- Remove the Thin@ template from the application
- Manually remove the Thin@ Defines (C6) or Conditional Compilation Symbols (C7 & C8) from the Project editor.

How to find it in the Clarion IDE?

In Clarion 6, you can locate it by clicking on the 'Project' button – 'Properties' – 'Defines'.

Clarion 6	Clarion 7 and Clarion 8
<p>In Clarion 6, you can locate it by clicking on the 'Project' button, select 'Project:Generator', click on the 'Properties' button and select 'Defines'.</p> 	<p>In Clarion 7 and Clarion 8, you can locate it by clicking on the 'Project' menu bar option, pick 'Project Options' and click on the 'Compiling' tab.</p> 

10.Next steps...

For more information about administering Thin@ Servers, programming with Thin@, Thin@ System Architecture and Saas in general download and read the Thin@ Documentation from <http://thinetsolution.com/support.php>.

We welcome you to join us at the Thin@ Community Forums www.thinetsolution.com/forum/ where you can meet and talk with other Thin@ developers, share ideas, make suggestions, ask or answer questions, find more info about 3rd party products compatibility etc.

11.Thin@ Support

If you encounter problems during Thin@ installation please contact Thin@ Support. You will find more information on <http://thinetsolution.com/support.php>.

12. Appendix A: Thin@ Installation files and folders

The following table represents the folder tree structures of various Thin@ installation types.

Installation location for different Thin@ installation types				
Thin@ Developer Installation	Thin@ Main Application Server Installation	Thin@ Application Server Installation	Thin@ Client Installation	Thin@ Documentation Installation
Default location: Clarion folder Thin@ NetClient application: Clarion 3 rd Party(Accessory) Subfolder Binaries, sources, template and addins: Clarion Bin, Lib, Libsrc, Template and Addins Subfolders	Default location: C:\Thin@		Default location: C:\Program Files\Thin@Client	Default location: C:\Documents and Settings\All Users\Documents\Thin @ Documentation
Folder structures				
Clarion6 Clarion 7 & Clarion 8 				

c) Thin@ Developer Installation files and folders

Thin@ Developer Installation Version 1.51, June 1, 2011		
Folders and Files	Description	File version
\Thin@\Client\Clarion6.3 (27)	Thin@ Client 6.3	
7z.exe	7-Zip Standalone Console	4.57.0.0
C60ASCX.DLL	Clarion 6.3 ASCII File Driver	0.6.300.9058
C60DOSX.DLL	Clarion 6.3 DOS File Driver	0.6.300.9058
C60OLEX.DLL	Clarion 6.3 OLE Support Library	0.6.300.9058
C60RUNX.DLL	Clarion 6.3 Runtime Library	0.6.300.9058
C60TPSX.DLL	Clarion 6.3 TopSpeed File Driver	0.6.300.9058
connect.ico	Thin@ Icon	
connect2.ico	Thin@ Icon	
delete.ico	Thin@ Icon	
disconnect.ico	Thin@ Icon	
NetClient.7z	7z Archive of NetClient files	
NetClient.app	Thin@ NetClient Clarion Application	
NetClient.exe	Thin@ NetClient Executable	
NetClient.gif	Thin@ Image	
NetClient.ico	Thin@ Icon	
NetClientWindow.ico	Thin@ Icon	
New.bat	Thin@ Batch File (for new 7z archive)	
paleb.jpg	Thin@ Image	
prijelaz.jpg	Thin@ Image	
reload3.ico	Thin@ Icon	
RisNet.dll	Thin@ Socket Library	
Slide.GIF	Thin@ Image	
start.exe	Windows Program Starter	4.10.0.1998
ThinN@.dll	Thin@ Runtime Library	
warning.gif	Thin@ Image	
WireOnGlassToolbar.gif	Thin@ Image	
WireOnGlassToolbarFlip.gif	Thin@ Image	
\Thin@\Client\Clarion6.1 (26)	Thin@ Client 6.1	
7z.exe	7-Zip Standalone Console	4.65.0.0
C60ASCX.DLL	Clarion 6.1 ASCII File Driver	0.6.100.9034
C60DOSX.DLL	Clarion 6.1 DOS File Driver	0.6.100.9034
C60OLEX.DLL	Clarion 6.1 OLE Support Library	0.6.100.9034
C60RUNX.DLL	Clarion 6.1 Runtime Library	0.6.100.9034
C60TPSX.DLL	Clarion 6.1 TopSpeed File Driver	0.6.100.9034
connect.ico	Thin@ Icon	
connect2.ico	Thin@ Icon	
delete.ico	Thin@ Icon	
disconnect.ico	Thin@ Icon	
NetClient.7z	7z Archive of NetClient files	
NetClient.app	Thin@ NetClient Clarion Application	
NetClient.exe	Thin@ NetClient Executable	
NetClient.gif	Thin@ Image	
NetClient.ico	Thin@ Icon	
NetClientWindow.ico	Thin@ Icon	
paleb.jpg	Thin@ Image	
prijelaz.jpg	Thin@ Image	
reload3.ico	Thin@ Icon	
RisNet.dll	Thin@ Socket Library	
Slide.GIF	Thin@ Image	
start.exe	Windows Program Starter	4.10.0.1998
ThinN@.dll	Thin@ Runtime Library	
warning.gif	Thin@ Image	
WireOnGlassToolbar.gif	Thin@ Image	
WireOnGlassToolbarFlip.gif	Thin@ Image	
\Thin@\Client\Clarion6.2\ (26)	Thin@ Client 6.2	

7z.exe	7-Zip Standalone Console	4.65.0.0
C60ASCX.DLL	Clarion 6.2 ASCII File Driver	0.6.200.9047
C60DOSX.DLL	Clarion 6.2 DOS File Driver	0.6.200.9047
C60OLEX.DLL	Clarion 6.2 OLE Support Library	0.6.200.9047
C60RUNX.DLL	Clarion 6.2 Runtime Library	0.6.200.9047
C60TPSX.DLL	Clarion 6.2 TopSpeed File Driver	0.6.200.9047
connect.ico	Thin@ Icon	
connect2.ico	Thin@ Icon	
delete.ico	Thin@ Icon	
disconnect.ico	Thin@ Icon	
NetClient.7z	7z Archive of NetClient files	
NetClient.app	Thin@ NetClient Clarion Application	
NetClient.exe	Thin@ NetClient Executable	
NetClient.gif	Thin@ Image	
NetClient.ico	Thin@ Icon	
NetClientWindow.ico	Thin@ Icon	
paleb.jpg	Thin@ Image	
prijelaz.jpg	Thin@ Image	
reload3.ico	Thin@ Icon	
RisNet.dll	Thin@ Socket Library	
Slide.GIF	Thin@ Image	
start.exe	Windows Program Starter	4.10.0.1998
ThinN@.dll	Thin@ Runtime Library	
warning.gif	Thin@ Image	
WireOnGlassToolbar.gif	Thin@ Image	
WireOnGlassToolbarFlip.gif	Thin@ Image	
\Thin@\Client\Clarion7.2 (26)	Thin@ Client 7.2	
7z.exe	7-Zip Standalone Console	4.65.0.0
C70ASC.DLL	Clarion 7.3 ASCII File Driver	7.200.0.7653
C70DOS.dll	Clarion 7.3 DOS File Driver	7.200.0.7653
C70OLE.dll	Clarion 7.3 OLE Support Library	7.200.0.7653
C70RUN.DLL	Clarion 7.3 Runtime Library	7.200.0.7653
C70TPS.DLL	Clarion 7.3 TopSpeed File Driver	7.200.0.7653
connect.ico	Thin@ Icon	
connect2.ico	Thin@ Icon	
delete.ico	Thin@ Icon	
disconnect.ico	Thin@ Icon	
NetClient.7z	7z Archive of NetClient files	
NetClient.app	NetClient Clarion Application	
NetClient.exe	NetClient Executable	
NetClient.gif	Thin@ Image	
NetClient.ico	Thin@ Icon	
NetClientWindow.ico	Thin@ Icon	
paleb.jpg	Thin@ Image	
prijelaz.jpg	Thin@ Image	
reload3.ico	Thin@ Icon	
RisNet.dll	Thin@ Socket Library	
Slide.GIF	Thin@ Image	
start.exe	Windows Program Starter	4.10.0.1998
ThinN@.dll	Thin@ Runtime Library	
warning.gif	Thin@ Image	
WireOnGlassToolbar.gif	Thin@ Image	
WireOnGlassToolbarFlip.gif	Thin@ Image	
\Thin@\Client\Clarion7.3 (26)	Thin@ Client 7.3	
7z.exe	7-Zip Standalone Console	4.65.0.0
ClaASC.dll	Clarion 7.3 ASCII File Driver	7.300.0.8222
ClaDOS.dll	Clarion 7.3 DOS File Driver	7.300.0.8222
ClaOLE.dll	Clarion 7.3 OLE Support Library	7.300.0.8222
ClaRUN.DLL	Clarion 7.3 Runtime Library	7.300.0.8222
ClaTPS.DLL	Clarion 7.3 TopSpeed File Driver	7.300.0.8222
connect.ico	Thin@ Icon	
connect2.ico	Thin@ Icon	
delete.ico	Thin@ Icon	
disconnect.ico	Thin@ Icon	

NetClient.7z	7z Archive of NetClient files	
NetClient.app	NetClient Clarion Application	
NetClient.exe	NetClient Executable	
NetClient.gif	Thin@ Image	
NetClient.ico	Thin@ Icon	
NetClientWindow.ico	Thin@ Icon	
paleb.jpg	Thin@ Image	
prijelaz.jpg	Thin@ Image	
reload3.ico	Thin@ Icon	
RisNet.dll	Thin@ Socket Library	
Slide.GIF	Thin@ Image	
start.exe	Windows Program Starter	4.10.0.1998
ThinN@.dll	Thin@ Runtime Library	
warning.gif	Thin@ Image	
WireOnGlassToolbar.gif	Thin@ Image	
WireOnGlassToolbarFlip.gif	Thin@ Image	
\Thin@\Client\Clarion8 (26)	Thin@ Client 8	
7z.exe	7-Zip Standalone Console	4.65.0.0
ClaASC.dll	Clarion 7.3 ASCII File Driver	8.0.0.8358
ClaDOS.dll	Clarion 7.3 DOS File Driver	8.0.0.8358
ClaOLE.dll	Clarion 7.3 OLE Support Library	8.0.0.8358
ClaRUN.DLL	Clarion 7.3 Runtime Library	8.0.0.8358
ClaTPS.DLL	Clarion 7.3 TopSpeed File Driver	8.0.0.8358
connect.ico	Thin@ Icon	
connect2.ico	Thin@ Icon	
delete.ico	Thin@ Icon	
disconnect.ico	Thin@ Icon	
NetClient.7z	7z Archive of NetClient files	
NetClient.app	NetClient Clarion Application	
NetClient.exe	NetClient Executable	
NetClient.gif	Thin@ Image	
NetClient.ico	Thin@ Icon	
NetClientWindow.ico	Thin@ Icon	
paleb.jpg	Thin@ Image	
prijelaz.jpg	Thin@ Image	
reload3.ico	Thin@ Icon	
RisNet.dll	Thin@ Socket Library	
Slide.GIF	Thin@ Image	
start.exe	Windows Program Starter	4.10.0.1998
ThinN@.dll	Thin@ Runtime Library	
warning.gif	Thin@ Image	
WireOnGlassToolbar.gif	Thin@ Image	
WireOnGlassToolbarFlip.gif	Thin@ Image	
\Bin\ (2)	Thin@ Binaries	
RisNet.dll	Thin@ Socket Library	
ThinN@.dll	Thin@ Runtime Library	
\Lib\ (1)	Thin@ Library	
ThinN@.lib	Thin@ Library File	
\Libsrc\ (13)	Thin@ associated source files	
BUILTINS.CLW	Clarion BUILTINS.CWL modified for Thin@	
RisABQUERY.CLW	Thin@ Support for Clarion Query By Example	
RisApiClasses.CLW	Thin@ API classes	
RisCalendarClass.CLW	Thin@ Support for Clarion Calendar Class	
RisFormatManager.CLW	Thin@ Support for Clarion Format Manager	
ThinN@External.CLW	Thin@ Support for External 3 rd Party DLLs	
RisAbQuery.INC	Thin@ Include file	
RisApi.INC	Thin@ Include file	
RisApiClasses.INC	Thin@ Include file	
RisCalendarClass.INC	Thin@ Include file	
RisFormatManager.INC	Thin@ Include file	
ThinN@.INC	Thin@ Include file	
ThinN@External.INC	Thin@ Include file	
\Template\ (2)	Thin@ template	
Thin@.jpg	Thin@ product icon	

ThinN@.tpl	Thin@ template	
\accessory\addins\ (2)	Thin@ addins (C7&C8 only)	
AccessoryMenu.addin	Accessory Menu addin	
Thin@.addin	Thin@ addin	

d) Thin@ Application Server Installation files and folders

Thin@ Main Application Server Installation	
Directories: 5, Files: 59, Size: 15MB	
Folders and Files	Description
\ (10)	Thin@ Main Server Services
7z.exe	7-Zip Standalone Console
NetDownload.exe	Thin@ Downloader
NetListen.exe	Thin@ Listener Service
NetMon.exe	Thin@ Monitor Service
NetPort.exe	Thin@ Port Service
NetSetup.exe	Thin@ NetSetup application
NetSrv.exe	Thin@ Server Service
RisNet.dll	Thin@ Socket Library
Uninst_ThinNet.exe	Thin@ Uninstaller
Uninst_ThinNet.log	Thin@ Uninstall Log
\Apps\ (0)	Thin@ Production Applications
\DATA\ (0)	Thin@ Server Data
\DATA\Log\ (0)	Thin@ Server Log
\images\ (49)	Thin@ NetSetup images
DbSynh.ico	Thin@ icon
ns_accept.ico	Thin@ icon
ns_add-server.ico	Thin@ icon
ns_add2.ico	Thin@ icon
ns_back.ico	Thin@ icon
ns_bg-cropped.jpg	Thin@ image
ns_black-server.ico	Thin@ icon
ns_checkoff.ico	Thin@ icon
ns_checkon.ico	Thin@ icon
ns_connect.ico	Thin@ icon
ns_danbg1.gif	Thin@ image
ns_DbSynh.ico	Thin@ icon
ns_delete.ico	Thin@ icon
ns_disabled.ico	Thin@ icon
ns_disconnect.ico	Thin@ icon
ns_enable-server.ico	Thin@ icon
ns_enabled.ico	Thin@ icon
ns_Excel.ico	Thin@ icon
ns_fileopen.ico	Thin@ icon
ns_globe-Vista.ico	Thin@ icon
ns_Money-Calculator_64.gif	Thin@ image
ns_NetClient.gif	Thin@ image
ns_NetSetup.ico	Thin@ icon
ns_next.ico	Thin@ icon
ns_paleb.jpg	Thin@ image
ns_printer.ico	Thin@ icon
ns_reload3.ico	Thin@ icon
ns_remove-server.ico	Thin@ icon
ns_RisLogo.gif	Thin@ image
ns_satisfied.ico	Thin@ icon
ns_search.ico	Thin@ icon
ns_shinybar.jpg	Thin@ image
ns_strelca.gif	Thin@ image
ns_Thin.gif	Thin@ image
ns_undo.ico	Thin@ icon
ns_user-accept.ico	Thin@ icon
ns_user-add.ico	Thin@ icon
ns_user-remove.ico	Thin@ icon
ns_UserLicence_accept.ico	Thin@ icon
ns_UserLicence_add.ico	Thin@ icon
ns_UserLicence_delete.ico	Thin@ icon

Thin@ (Non-Main) Application Server Installation	
Directories: 3, Files: 7, Size: 8MB	
Folders and Files	Description
\ (7)	Thin@ App. Server Services
7z.exe	7-Zip Standalone Console
NetListen.exe	Thin@ Listener Service
NetMon.exe	Thin@ Monitor Service
NetPort.exe	Thin@ Port Service
RisNet.dll	Thin@ Socket Library
Uninst_ThinNet.exe	Thin@ Uninstaller
Uninst_ThinNet.log	Thin@ Uninstall Log
\Apps\ (0)	Thin@ Production Applications
\DATA\ (0)	Thin@ Server Data

ns_vcrdown.ico	Thin@ icon
ns_vcrup.ico	Thin@ icon
ns_WireOnGlassToolbar.gif	Thin@ image
ns_WireOnGlassToolbarFlip.gif	Thin@ image
ns_wizard_icon.ico	Thin@ icon
ns_wizcncl.ico	Thin@ icon
ns_zabrana.ico	Thin@ icon

e) Thin@ Client Installation files and folders

Thin@ Client Installation	
Directories: 3, Files: 22, Size: 6MB	
Folders and Files	Description
c:\Program Files\ (0)	Thin@ Client Folder
c:\Program Files\Thin@ Client\Clarion6 (11)	Thin@ Client 6
7z.exe	7-Zip Standalone Console
C60ASCX.DLL	Clarion 6.3 (9058) ASCII File Driver
C60DOSX.DLL	Clarion 6.3 (9058) DOS File Driver
C60OLEX.DLL	Clarion 6.3 (9058) OLE Support Library
C60RUNX.DLL	Clarion 6.3 (9058) Runtime Library
C60TPSX.DLL	Clarion 6.3 (9058) TopSpeed File Driver
NetClient.exe	Thin@ NetClient application
New.bat	Thin@ Batch File (for new 7z archive)
RisNet.dll	Thin@ Socket Library
start.exe	Windows Program Starter
ThinN@.dll	Thin@ Runtime Library
c:\Program Files\Thin@ Client\Clarion7 (11)	Thin@ Client 7
7z.exe	7-Zip Standalone Console
C70ASC.DLL	Clarion 7.2 (7653) ASCII File Driver
C70DOS.dll	Clarion 7.2 (7653) DOS File Driver
C70OLE.dll	Clarion 7.2 (7653) OLE Support Library
C70RUN.DLL	Clarion 7.2 (7653) Runtime Library
C70TPS.DLL	Clarion 7.2 (7653) TopSpeed File Driver
NetClient.exe	Thin@ NetClient application
New.bat	Thin@ Batch File (for new 7z archive)
RisNet.dll	Thin@ Socket Library
start.exe	Windows Program Starter
ThinN@.dll	Thin@ Runtime Library
c:\Program Files\Thin@ Client\Clarion8 (11)	Thin@ Client 8
7z.exe	7-Zip Standalone Console
ClaASC.dll	Clarion 8 (8358) ASCII File Driver
ClaDOS.dll	Clarion (8358) DOS File Driver
ClaOLE.dll	Clarion (8358) OLE Support Library
ClaRUN.DLL	Clarion (8358) Runtime Library
ClaTPS.DLL	Clarion (8358) TopSpeed File Driver
NetClient.exe	Thin@ NetClient application
New.bat	Thin@ Batch File (for new 7z archive)
RisNet.dll	Thin@ Socket Library
start.exe	Windows Program Starter
ThinN@.dll	Thin@ Runtime Library

f) Thin@ Documentation Installation files and folders

Thin@ Documentation Installation	
Directories: 2, Files: 7, Size: 9MB	
Folders and Files	Description
\Thin@ Documentation\ (7)	Thin@ Documentation
Thin@AdministratorsGuide.pdf	Guide for Thin@ Server Administrators
Thin@InstallationInstructions.pdf	Thin@ Detailed Installation and Implementation Instructions
Thin@ProductActivationInstructions.pdf	Thin@ Product Activation Instructions
Thin@ProgrammersGuide.pdf	Guide for Thin@ Developers
Thin@QuickStartGuide.pdf	1-page long Thin@ Quick Start Guide
Thin@SoftwareAsAServiceModel(SaaS).pdf	Software as a Service Model in the Thin@ Environment
Thin@SystemArchitecture.pdf	Description of Thin@ System Architecture and Concepts