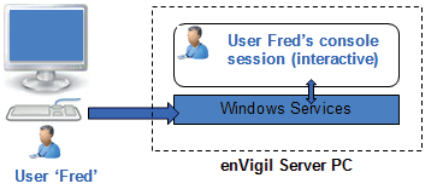
TERMINAL SERVICES CONFIGURATION GUIDE

This document addresses the steps required to configure and allow terminal services based clients on enVigil systems.

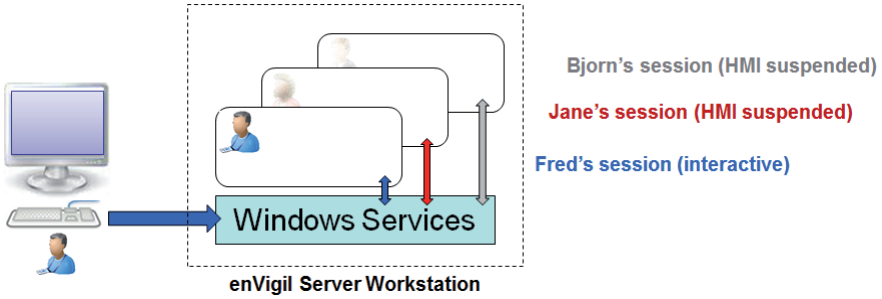
Terminal Service clients, unlike classic DCOM based enVigil clients, allow full access to the enVigil system as if connected locally. Terminal Service clients are very easy to setup and require no installation of enVigil software on the remote client PC.

INTRODUCTION TO TERMINAL SERVICES

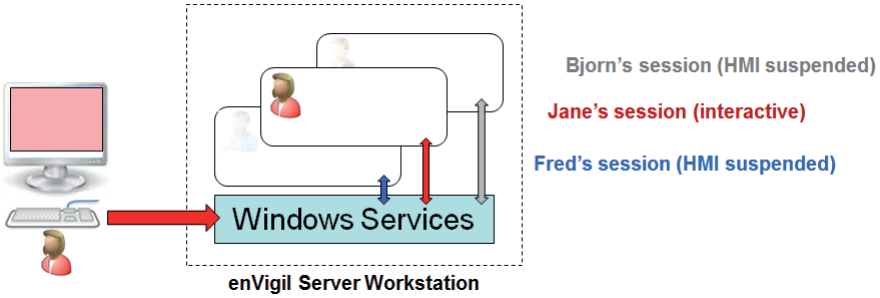
Normally, the user interacts with the system via a keyboard, mouse and monitor that connect via low-level Windows services to their 'console session'. All the activity takes place on the single PC.



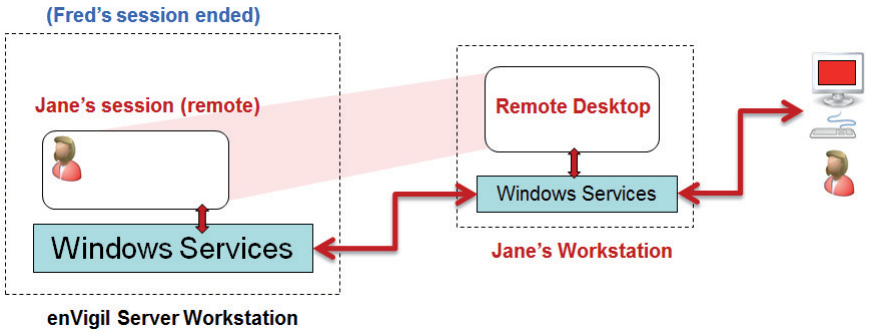
A standard Windows workstation allows multiple local user sessions but only one session is interactive, other user accounts are suspended while the active session is in use:



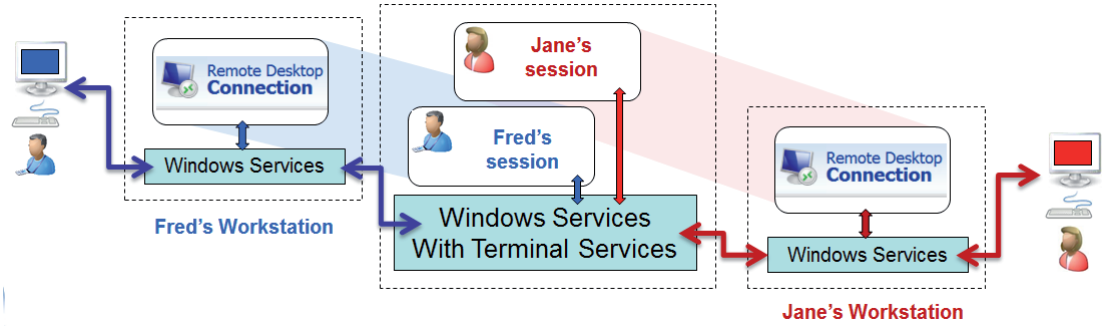
User is switched to Jane...

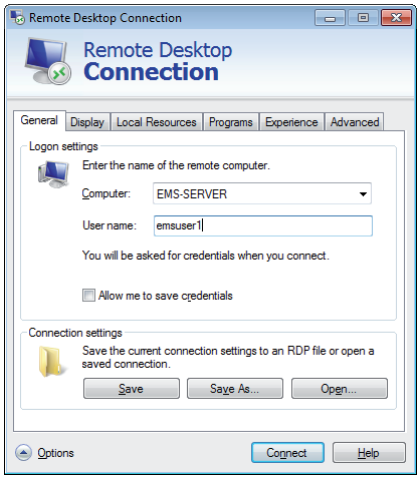


You may be familiar with the standard Micosoft Remote Desktop as used by various versions of the Windows Operating system. Remote Desktop is actually achieved using a degenerate Terminal Service Server that only allows a single remote client connection. With RDP any local session logged on is ended when the remote connection is joined:



To allow concurrent RDP based client connections the enVigil Server PC needs to have a 3rd Party Terminal Server installed. Once installed the limitation of a single concurrent remote desktop connection is removed. We recommend using a product by ThinStuff called **XP/VS Terminal Server for Windows** it can be ordered and licenced to allow 1, 3, 5, 10 or unlimited concurrent client connections. For more information check the 'Installing ThinStuff XP/VS Server' section of this document.





After the terminal server is installed (and any licences applied) the standard RDP client software included within the Windows OS can be used from the remote machines to connect to the server.

Client connections are licenced exactly like classic enVigil DCOM clients, the enVigil Server security key/dongle is programmed with a maximum concurrent client connection allowance.

enVigil Terminal Service clients are only supported in **enVigil FMS/PnP/Lite Version 3**

TERMINAL SERVICE vs DCOM CLIENT

Terminal Service clients have many benefits over classic DCOM clients. Some of the major advantages are listed below:

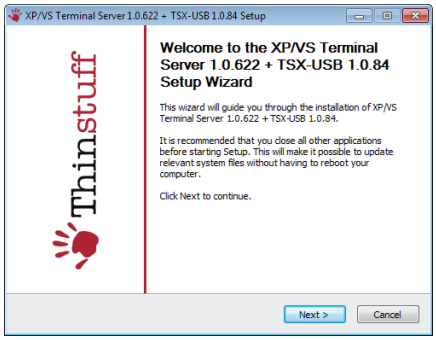
- Reduced setup time
    - No complex DCOM permissions to configure
    - No Firewall configuration as RDP uses default ports that are usually enabled
    - No enVigil Client installation
- Audit comments can be submitted from any client, whether local or remote
- Client machine can be a lower specification as the enVigil server machine is doing major processing
- Complete Management of system if required
    - IO_VIEW, Windows User Manager and enVigil User Access Manager can be run from client
- Can be accessed via internet provided suitable Firewall configuration is made
- Remote clients can be cross platform using 3rd Party RDP Client software

Terminal Service clients also have a number of disadvantages. The major disadvantages are listed below:

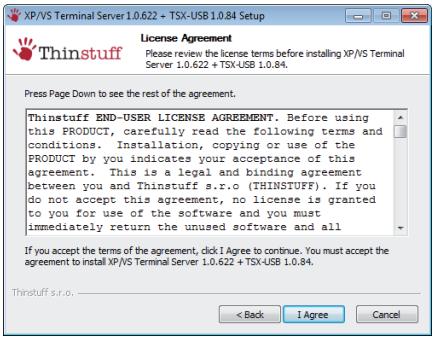
- Server machine needs to be a high specification as the enVigil server machine is doing major processing on behalf of each client
- Unlike DCOM clients, each Terminal Service client should be set to run as a different user (e.g. cannot all run under 'emsuser' account)
- A multiple enVigil Server system, where each server needs to view data on other servers, cannot be supported with Terminal Service clients alone and requires a least one DCOM client.

INSTALLING THINSTUFF XP/VS SERVER

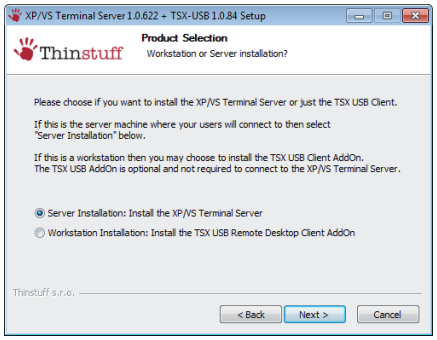
This section outlines the steps required to install ThinStuff XP/VS Server. The instructions are meant as a guideline only and are correct at the time of print. If you have any issues or require more information please visit www.thinstuff.com. Download the latest version of the XP/VS Sever from www.thinstuff.com and run the installer on the target **enVigil Server PC only.**



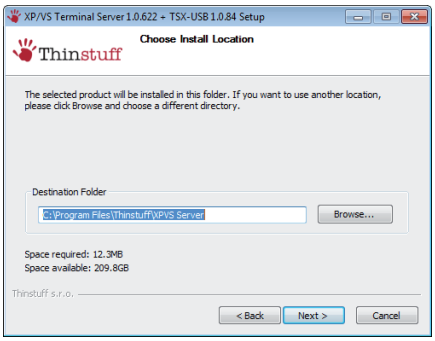
Ensure that all other applications are closed before progressing the installation and clicking the 'Next' button.



Once you have read the Licence Agreement click the 'I Agree' button to progress the installation.

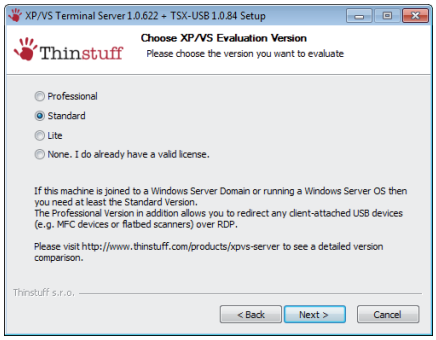


You may be offered to install the XP/VS Terminal Server or the TSX USB Remote Desktop Client AddOn. You must choose the 'Server Installation:Install the XP/VS Terminal Server' option.



When prompted to select the install location the default destination can be used and the 'Next' button can be clicked.

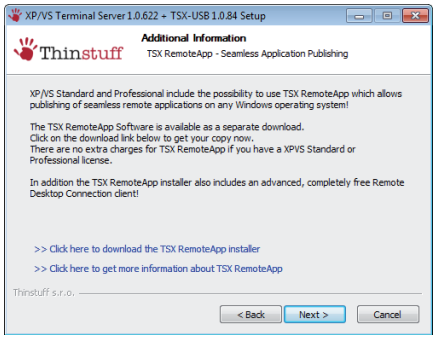
INSTALLING THINSTUFF XP/VS SERVER continued...



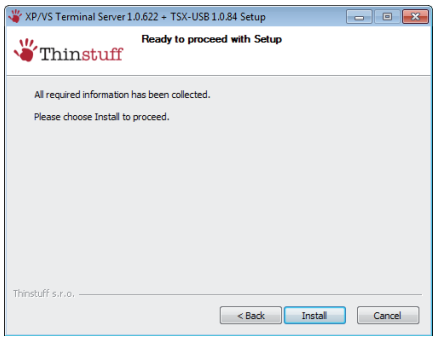
The next step of the installation is very important and is where you choose the ThinStuff licence type.

If your enVigil system is going to run on a private network (e.g. Standard workgroup) then you can select 'Lite'

If your enVigil system is going to be run on a Windows domain then you **must** select 'Standard' as the Lite version will not run on a machine joined to the domain.
The 'Professional' option includes support for remote USB devices and is usually not required.

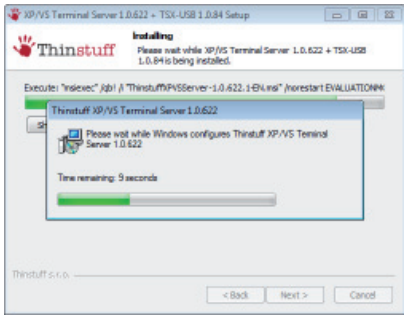


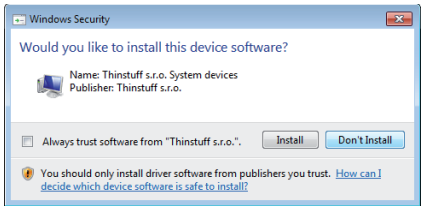
You may be prompted to install TSX Remote App. This software is not required as the standard Windows Remote Desktop Client can be used. Ignore the links and click the 'Next' button

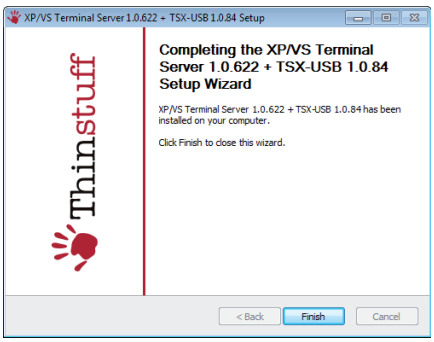


Usually at this stage all the information and install options have been collected and the bulk of the installation can be carried out. Click the 'Install' button to proceed.

The installer will show a number of installation progress screens. Depending on the operating systems security settings you may be asked to confirm some installation steps, if so these should be confirmed using the 'Install' button:







APPLYING A THINSTUFF LICENCE

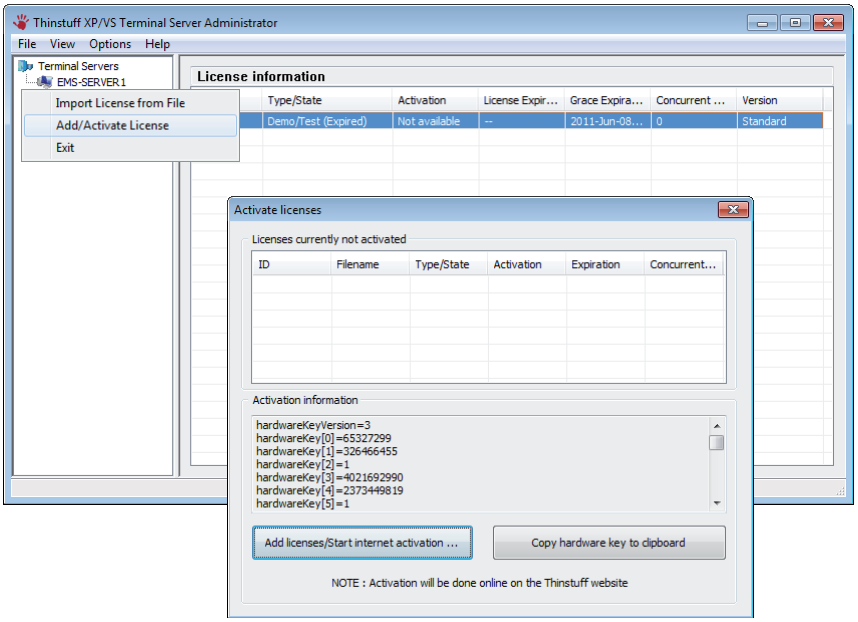
The XP/VS Terminal Server software installer package includes only a demo licence that expires after 14 days. ThinStuff is licenced using a software key that defines the number of permitted connections. The licence variations for each product are defined below:

ThinStuff Product	Available Packages
XP/VS Terminal Server Lite (Non Domain)	1, 3, 5, 10 and unlimited client connections for 1 server
XP/VS Terminal Server Standard	3, 5, 10 and unlimited client connections for 1 server
XP/VS Terminal Server Professional	3, 5, 10 and unlimited client connections for 1 server

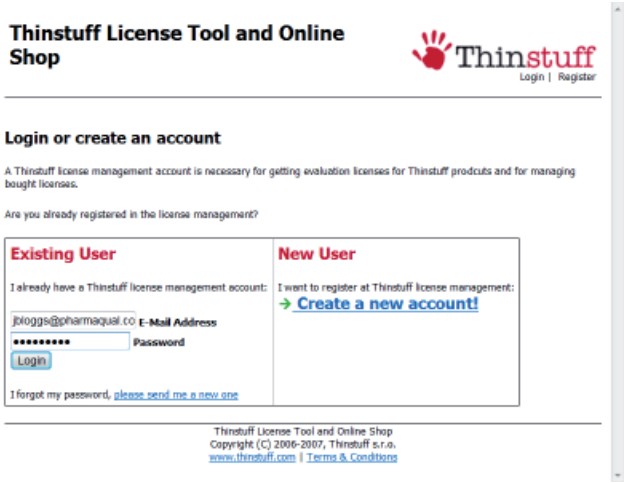
You will be required to setup an account with ThinStuff.com to manage the purchasing of licences. There are both online and offline activation methods:

Online Activation

This is the simplest method of activation and requires the enVigil Server PC to have a direct internet connection. The licence purchase is achieved by running the XP/VS Terminal Server Administrator program and selecting File->Add/Activate License and clicking the 'Add licenses/Start internet activation...'

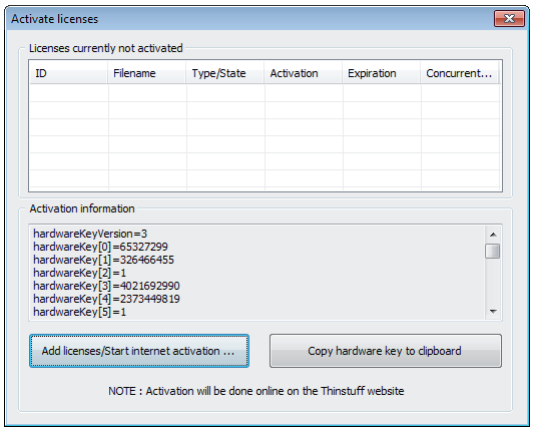


You will then be directed to ThinStuff.com where you will be required to login to your ThinStuff management account and purchase the licence. A licence file will be downloaded and will simply be applied from the XP/VS Terminal Service administrator using the File-> 'Import Licence from file option'.



Offline Activation

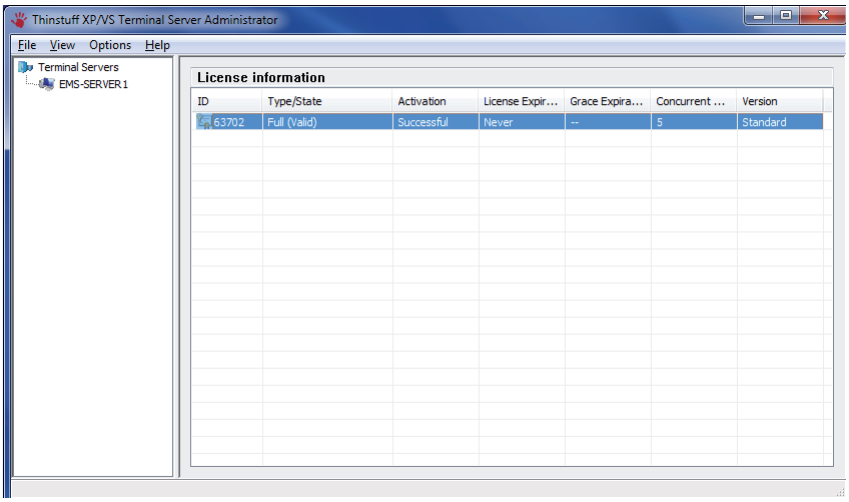
There is also the possibility to do an offline activation. The activation information is copied from the offline computer and saved to a text file. The text file is then taken to the online computer where it is used to purchase a licence from ThinStuff.com. The licence file is then copied back to the offline computer and applied using the File-> 'Import Licence from file' option.



The Licence information is obtained using the 'Copy hardware key to clipboard'. The text can simply be pasted into a text editor (e.g. Notepad) and saved to USB memory stick where it can be easily transferred to the online PC.

Activated Licence

If the steps have been followed correctly the XP/VS Terminal Service administrator should show an activated licence entry:

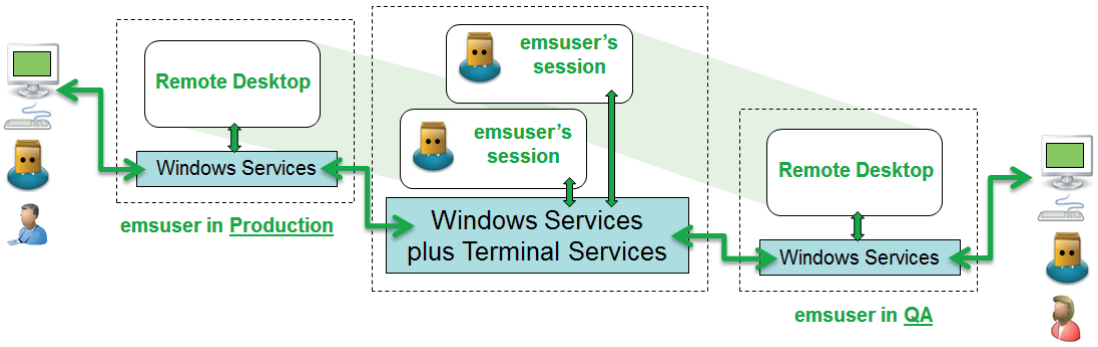


PREPARING THE SERVER FOR REMOTE CLIENT CONNECTIONS

The next section describes the small number of steps required to correctly ready the Terminal Server machine (enVigil Server) to host terminal service clients.

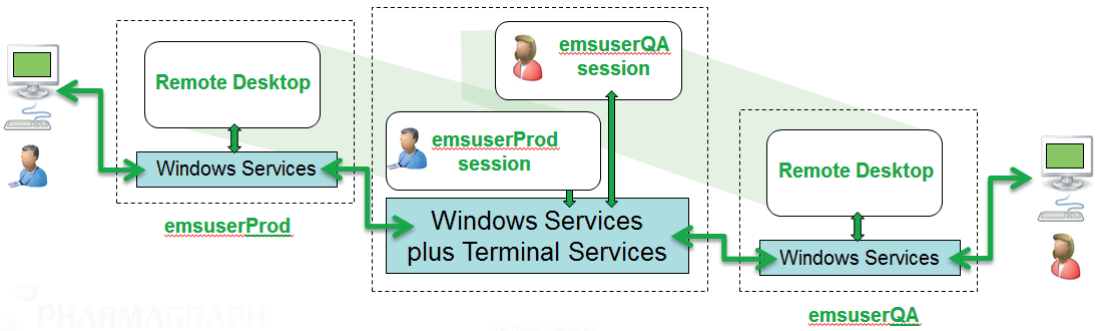
Creating Unique User Accounts

As previously mentioned it is essential that each client machine runs a session with a unique user ID (Windows Account). If unique user IDs are not used it is not possible to ensure that, should a Remote Desktop session get disconnected, the correct session is re-connected.

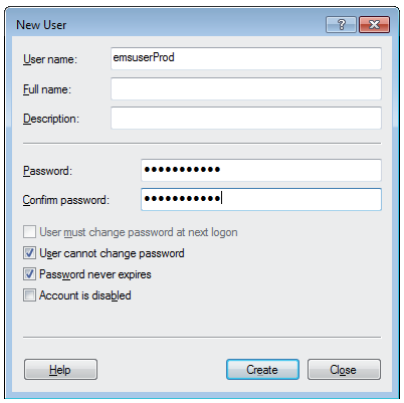


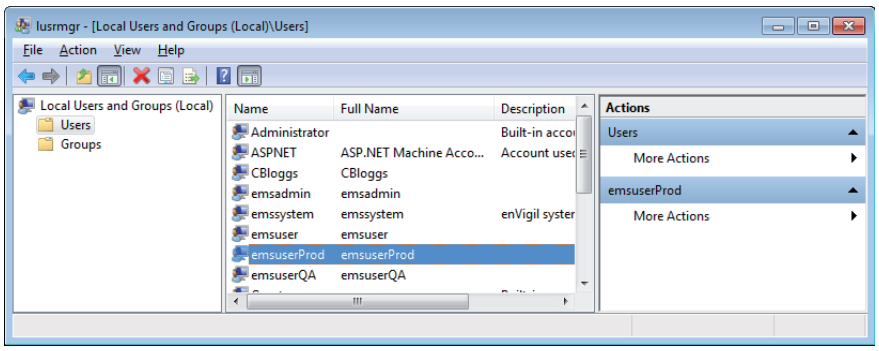
In the scenario depicted above should the connection be lost you would be prompted to reconnect to the session named 'emsuser' or the session identically named 'emsuser'

The solution is depicted below and can be used to ensure that re-connection to the correct session is ensured:



If running on a non domain system you can use the Windows User Manager to add all the unique users to the enVigil Server machine, the users can be added as 'Standard' user accounts. To keep things simple set the password to be the same as the username and apply the settings so that the password cannot be changed and does not expire:

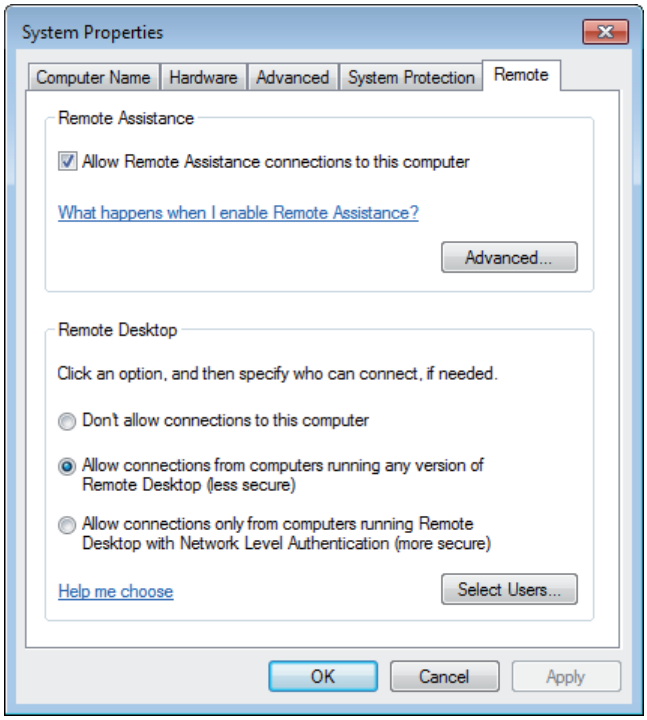




Allowing Remote Connections

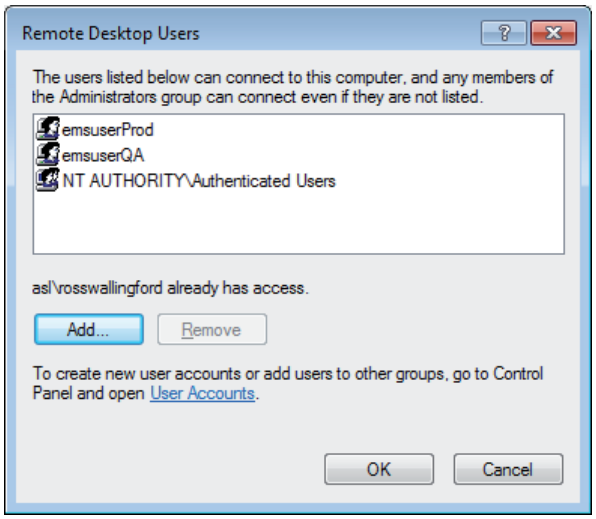
It is important to ensure that the remote settings for the enVigil Server PC are set so that incoming connections are permitted.

Control Panel > System > Remote Settings



Ensure that the 'Allow connections from computers running any version of Remote Desktop (less secure)' option is enabled.

Click the 'Select Users...' button to define the list of users that will be allowed to remotely connect to the enVigil Terminal Server PC



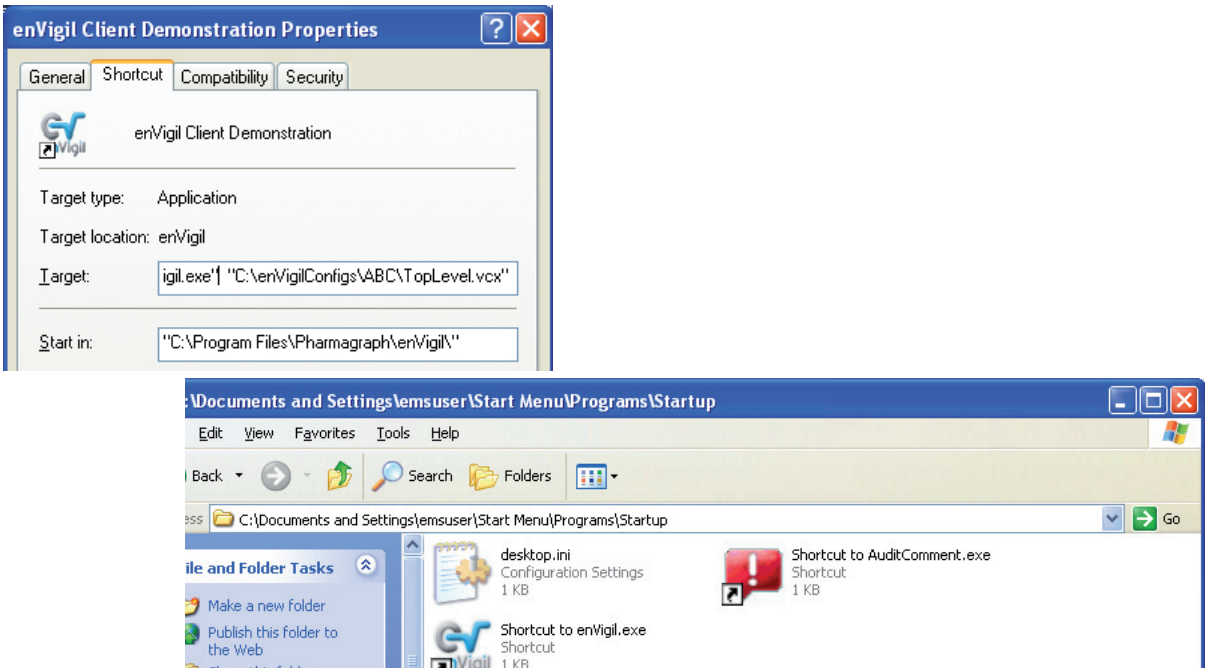
Click the 'Add...' button and use the standard user selection screens to add the newly created unique terminal service users.

Creating Startup Shortcuts (Windows XP & Windows 7)

The enVigil Server machine must have its shortcuts created. Log in to each newly added terminal service user account and create shortcuts for AuditComment.exe and enVigil.exe and copy them to emsuser's startup directory -

Windows XP -> 'C:\Documents and Settings\emsuserX\Start Menu\Programs\Startup'
Windows 7 -> 'C:\Users\emsuserX\AppData\Roaming\Microsoft\Windows\Start Menu\Programs\Startup

Your enVigil.exe shortcut should point to the path of your required VCX file:

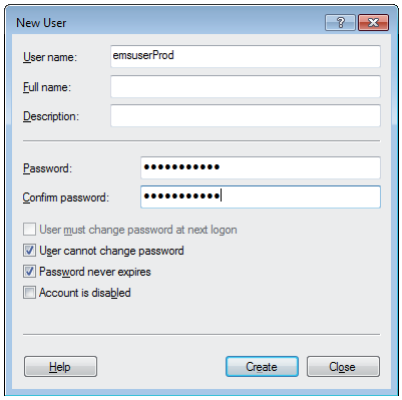


PREPARING THE REMOTE CLIENT MACHINES

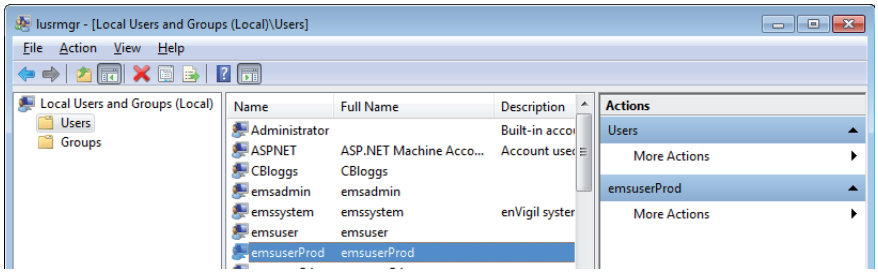
The next section describes the small number of steps required to correctly setup the remote client computers. Each remote machine does not need to have any enVigil software installed instead the machine only runs the standard RDP client to connect to the enVigil Terminal Server machine.

Creating a Unique User Account

The client machine only needs to have a single user account created. If the system only has a single client then the user account 'emsuser' can be used. If the client machine is one of many clients then the user account should be created as 'emsuser*X*' (e.g. emsuserQA) as a standard windows account (non administrator).



Use the Windows User Manager to add the 'emsuser' or 'emsuser*X*' account. To keep things simple set the password to be the same as the username and apply the settings so that the password cannot be changed and does not expire.

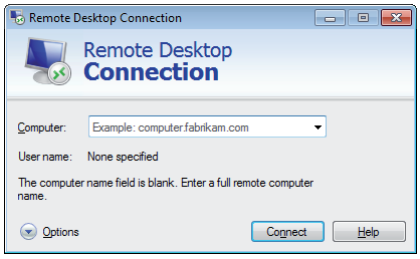


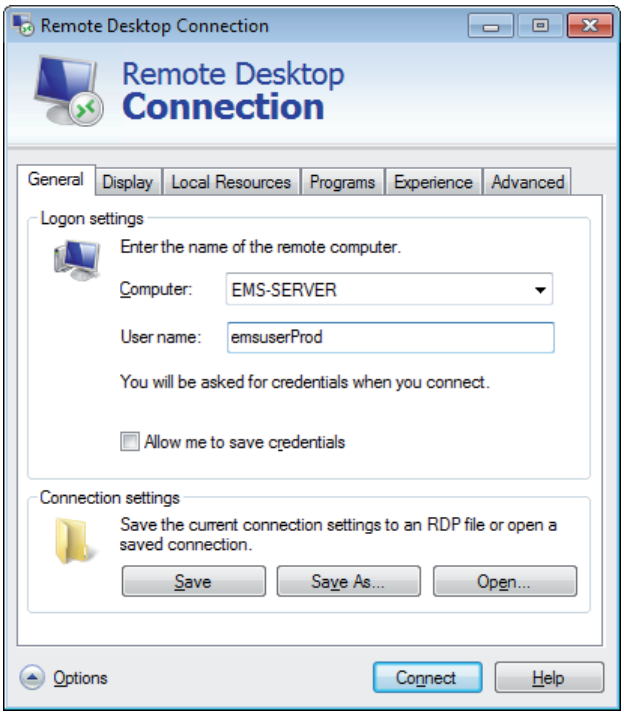
Creating the RDP Client Connection

Login to Windows with the newly created user account and run the Remote Desktop Client :

Windows XP: Start > Accessories > Remote Desktop Connection
Windows 7: Start Orb > All Programs > Accessories > Remote Desktop Connection

Enter the machine name of the enVigil Terminal Server machine (e.g. EMS-SERVER).



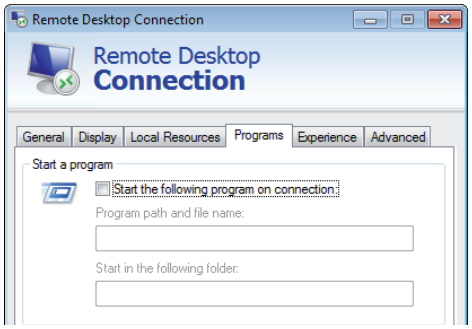


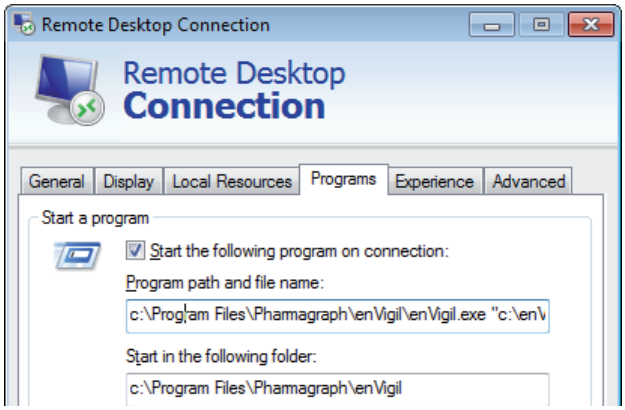
Click the 'Options' expandle icon to show the additional configuration tabs. In the 'General' tab set the 'User name:' to the clients unique username (e.g. 'emsuserProd').

In the 'Display' tab ensure that the option 'Display the connection bar when I use the full screen' is **unchecked.**

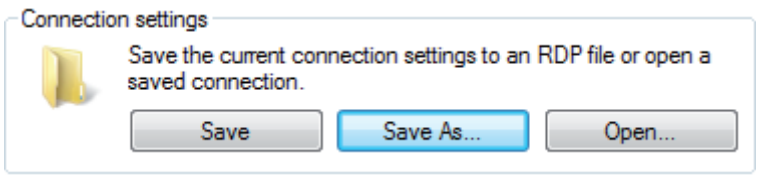
In the 'Programs' tab you can set the Remote Desktop Client to run just a single application or you can choose to expose the entire desktop and Windows session (thus giving access to Windows and other programs like IO_VIEW).

To make the entire Windows session available then simply leave the 'Programs' tab with the default settings as shown below. If you require to only run enVigil client only you must provide the path to the enVigil executable together with any parameters such as the VCX





Program path and file name might be c:\Program Files\Pharmagraph\enVigil\enVigil.exe "c:\enVigilConfigs\PharmaQual\PQ.vcx"



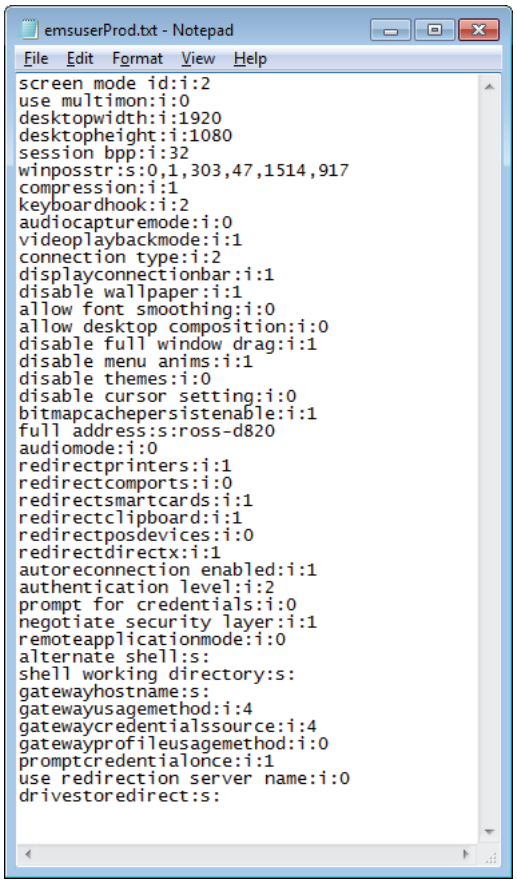
Once the settings have been made you must save them to a configuration file. Click the 'Save As...' and save the settings to a .RDP file (e.g. enVigil.RDP). The RDP file can then be copied to the 'emsuser*X*' startup directory so that the RDP session automatically connects when Windows logs into the emsuser*X* account.

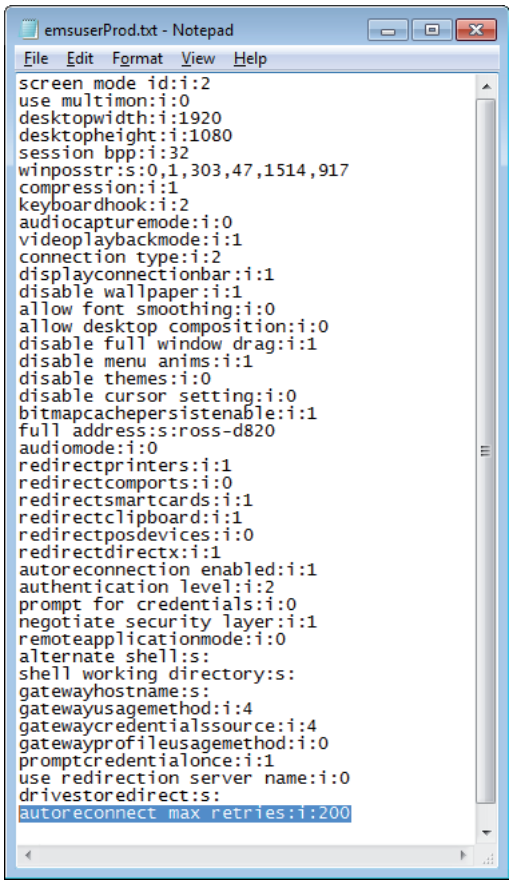
Extending the RDP reconnection attempts

By default, if disconnected, an RDP session will only attempt to reconnect up to twenty times. This setting can be modified to the maximum number of reconnect attempts, currently two hundred, by manually adding a line to the RDP file.

Open the .RDP file as created in the previous step with Notepad. You will see a text based file with different settings on each line:

Add a single line as follows to the bottom of the .RDP file and then perform a File->Save:
autoreconnect max retries:i:200





Setting the emsuser*X* account to auto logon

The Windows Registry can be modified to automatically logon to a Windows user account. If required use the Windows Registry Editor to set the following key values

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon

All key values are type REG_SZ:

AutoAdminLogon = "1"
DefaultUsername= "emsuser*X*"
DefaultPassword= "emsuserX"

Activity Check List -Highlight each step as it is completed

Step	Check
ThinStuff Tasks	
Install ThinStuff XP/VS Terminal Server	
Apply ThinStuff Licence	
Prepare Server for Remote Connections	
Create unqiue Windows 'Standard' accounts for each client (use emsuser*X)*	
Set system Remote Settings (Control Panel> System> Remote Settings) so Remote Desktop can connect	
Create shortcuts in startup folder for each clients user account	
Preparing the remote client machines	
Create unqiue Windows 'Standard' account for client (use emsuser*X*)	
Create the RDP Client Connection (.RDP) file	
Add *autoreconnect max retries:i:200* to bottom of RDP file	
Add the RDP Client Connection (.RDP) file to emsuserX Startup	
Set emsuser*X* account to auto logon using regedit	