



TERMINAL
SERVER ENTERPRISE **1.2**



User Manual

Elusiva Terminal Server Enterprise User Manual

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1. Introduction

1.1 *What is Elusiva Terminal Server Enterprise?*

Terminal Server Enterprise is a comprehensive Windows desktop and application access suite. It allows centralized deployment and provisioning of seamlessly blended applications for an entire enterprise. Terminal Server Enterprise is compatible with Terminal Services (Remote Desktop Services) also known as Server-Based Computing, Virtualized Desktops running in a hypervisor known as VDI and physical computers including blade PCs.

1.2 *About this manual*

This manual describes Elusiva Terminal Server Enterprise 1.2 for Windows®. Terminal Server Enterprise allows delivering Windows® desktops and applications on-demand to local and remote users on a variety of devices including handheld, mobile, or embedded devices, running Windows®, Mac® OS X, Linux® and Unix® systems.

This manual is intended for system administrators who want to take advantage of the resource efficiency, robustness and security of the Elusiva Terminal Server Enterprise for centrally deploying and provisioning seamlessly blended business applications.

2. Getting Started

2.1 *System Requirements*

600-megahertz (MHz) Pentium III-compatible or faster processor; 1-gigahertz (GHz) or faster processor recommended

Microsoft Windows® XP, Windows® Server 2003, Windows® Vista, Windows® Server 2008, Windows® 7, Windows® Server 2008 R2

512 megabytes (MB) of RAM or more; 2 gigabyte (GB) or more recommended

Approximately 60 MB of available hard-disk space

Network connection

2.2 *Planning Deployment*

Terminal Server Enterprise supports multiple backend platforms including: Windows Terminal Services starting with RDP 5.1, hypervisors including Microsoft® Hyper-V 2008 R2, Xen and others as well as physical computers including blade PCs.

Administrators must decide whether their business requirements dictate running terminal services, thus archiving maximum density and highest possible ROI,

server-hosted virtual desktops (VDI) or implement a hybrid-approach providing power-users with blades and/or dedicated virtual machines, while using pooled virtual machines or hosting multiple sessions on single OS for lowest total cost of ownership when dedicated resources are not required.

Multiuser access to a single Operating System instance is usually the most efficient configuration, sufficient for all or most end-users. Typically, multiuser access to Windows OS is provided using Windows Remote Desktop Services (formerly known as Windows Terminal Services).

Larger organizations typically host their Remote Desktop sessions on a load-balanced always available farm. Elusiva platform allows centralized administration of such cluster from a single point-and-click interface. Administrators can even service individual nodes (member servers) applying important updates and restarting an OS without affecting overall availability.

Small organizations can deploy the All-In-One configuration on a single Windows server, taking advantage of on-demand computing without a big investment in hardware.

In some situations, access to a standardized shared-resources server-based desktop will not be enough to meet the requirements of some end-users. This can happen due to multiple reasons including: a need for special dedicated hardware, elevated security concerns, a need to execute software incompatible with terminal services etc.

Elusiva accommodates these users by delivering on-demand desktops hosted on dedicated and/or pooled Virtual Machines and physical PCs.

2.3 *Components Overviews*

Terminal Server Enterprise is a modular platform. A solution is assembled from multiple components including:

Member Server - this component needs to be installed on each Windows OS instance running application terminal services (presentation virtualization). At least one member server is required in order to provide multiuser access to server-hosted desktops and applications hosted on one Windows instance.

Management Console - this component needs to be installed on only one computer. This computer will be used to managed your Elusiva farm.

Load Balancer - this component needs to be installed on one computer when providing access to Elusiva server-cluster. Load balancer is not need to All-In-One setup.

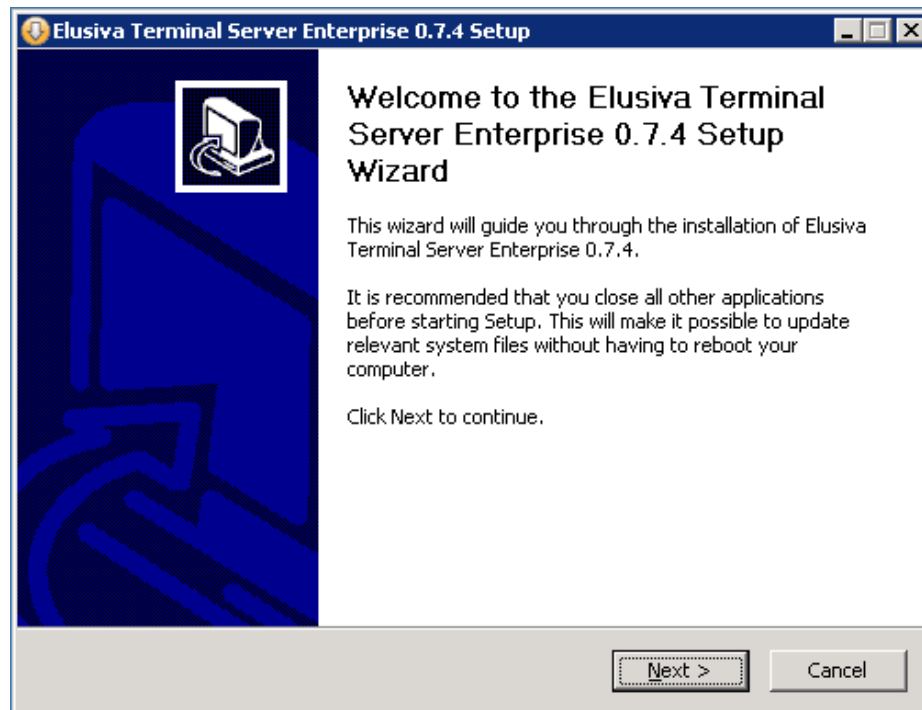
Application Gateway - application layer gateway is an optional component performing deep packet traffic inspection, thus allowing forwarding of multiple network streams through a single port such as HTTPS.

Web Portal - this component needs to be installed on one only computer, typically the same computer where a load balancer is deployed; or in the All-In-One setup on the member server.

2.4 *Installation*¹

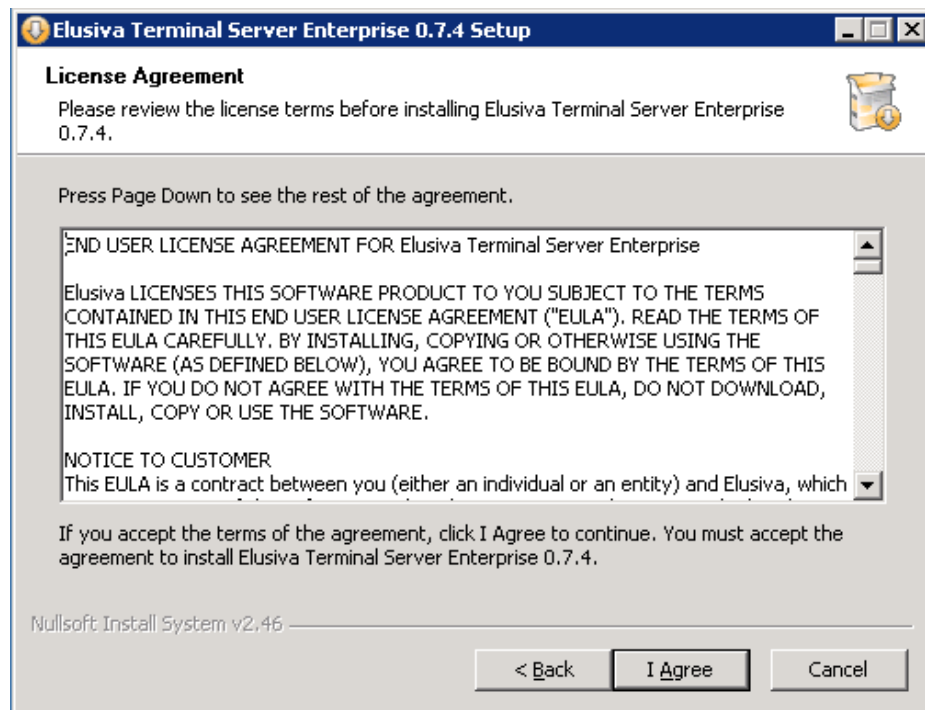
Installing the product is a simple procedure that starts by running the installer application.

Once started the following window will appear:



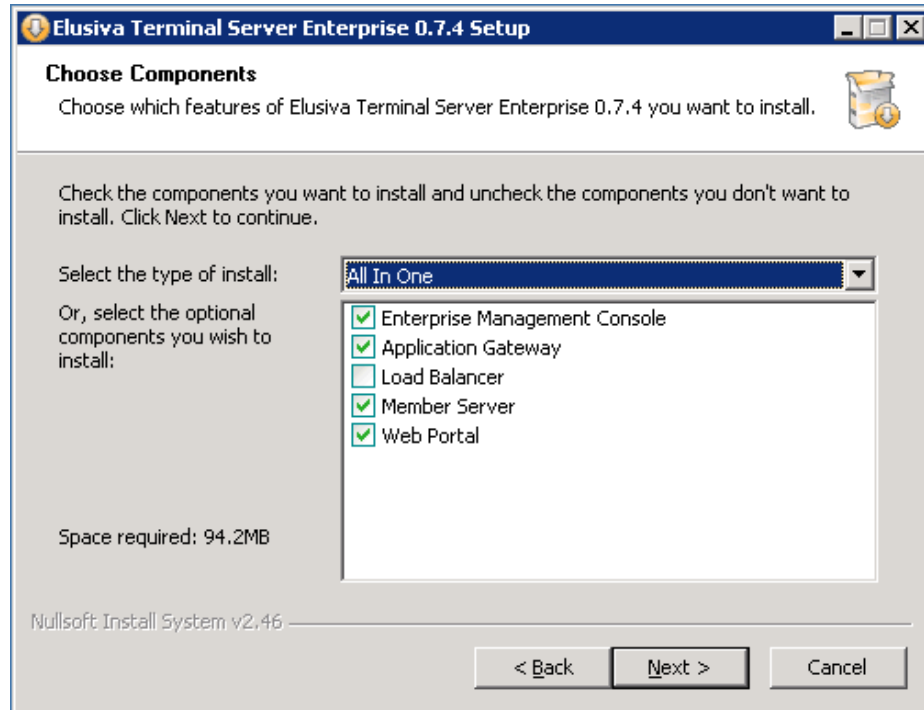
Please close all open programs and press the next button. You will be asked to accept Elusiva Terminal Server End-User License Agreement. Please read and accept the license.

¹ Installation of the Terminal Server Enterprise has to be performed from an account with administrative privileges

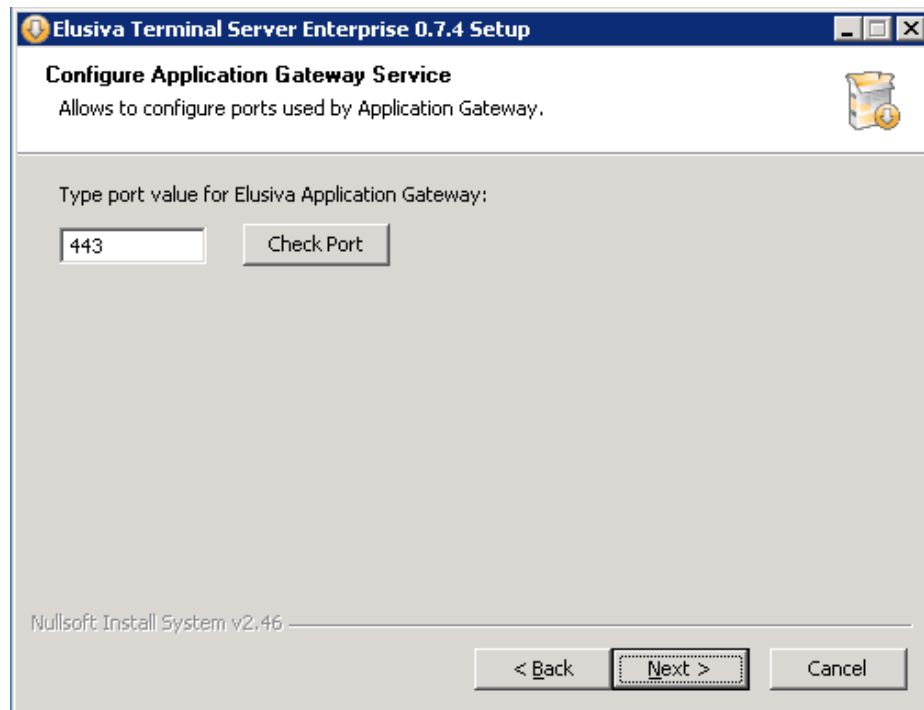


The next step is to select which components to install.

Smaller organizations often deploy the Elusiva access platform to provide shared access to a single application mode terminal server. In order to select such a configuration, please choose the All-In-One option from the drop-down configuration box. This will automatically pre-select Management Console, Member Server, Application Gateway and Web Portal components while Load Balancer will not be selected.

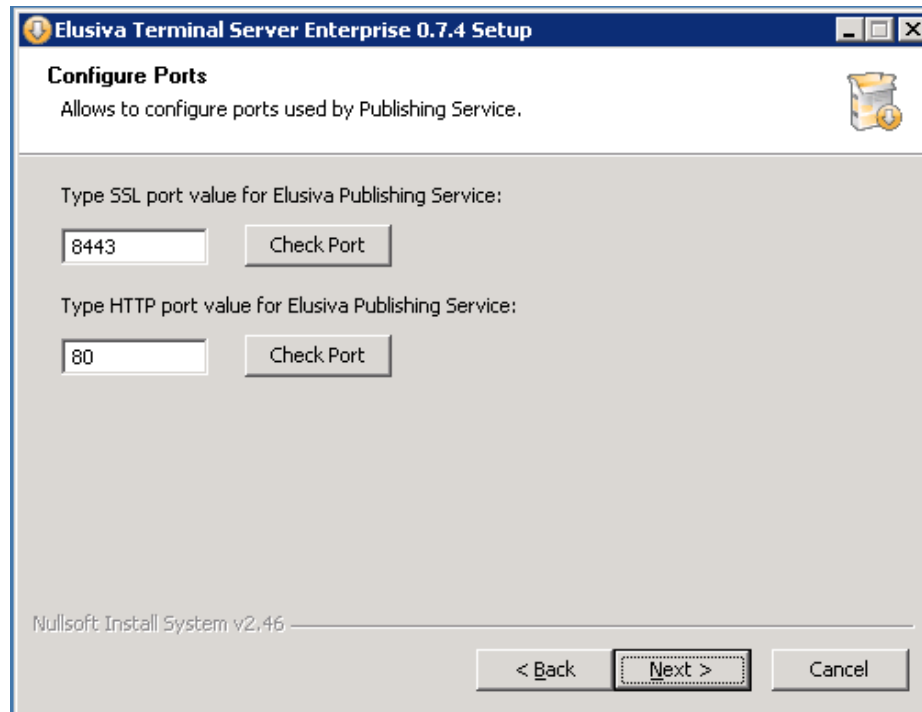


Next, you will be asked to select a port for the Application Gateway.



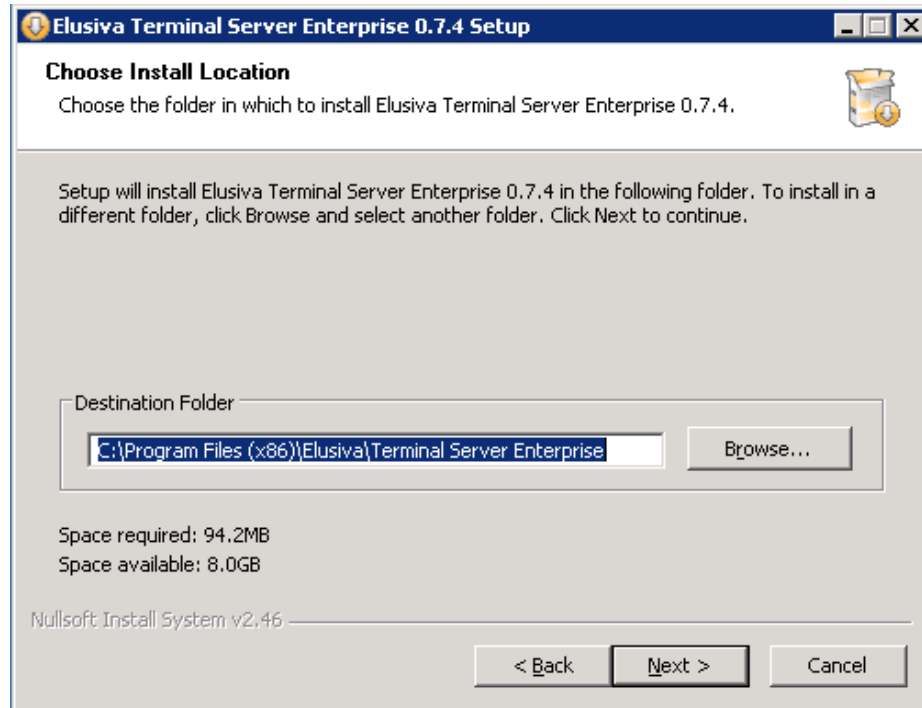
Once you selected the port for the gateway and pressed Next, the installer will ask to choose ports for Elusiva Publishing service. At least the HTTPS port has to be

open for the software to interact with Elusiva access client¹.
The next step is to select ports for Elusiva Publishing Service.

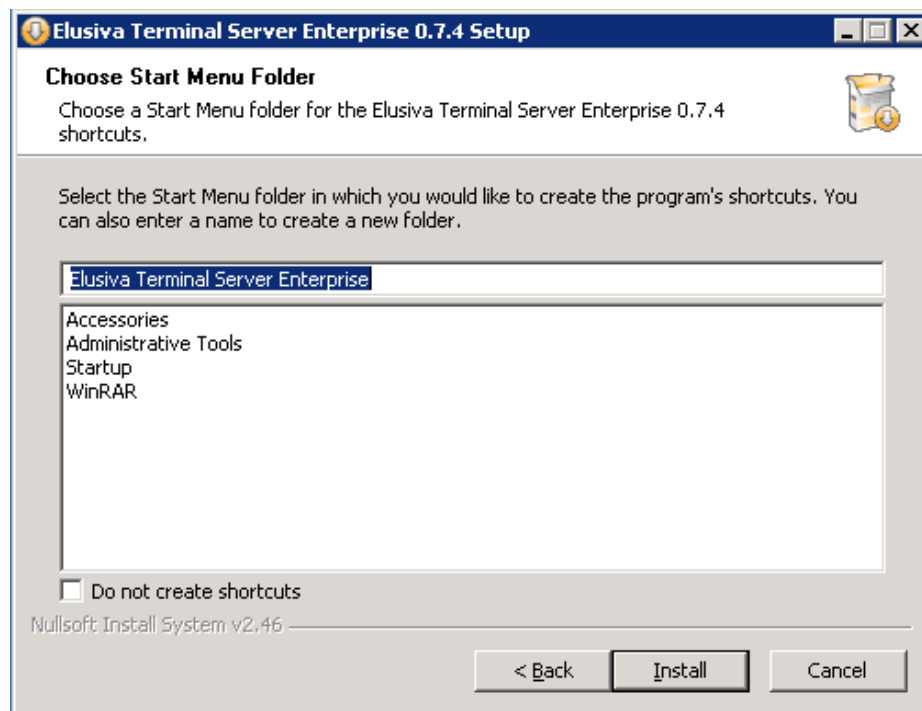


Once all necessary options are selected please choose the location where to install the binaries.

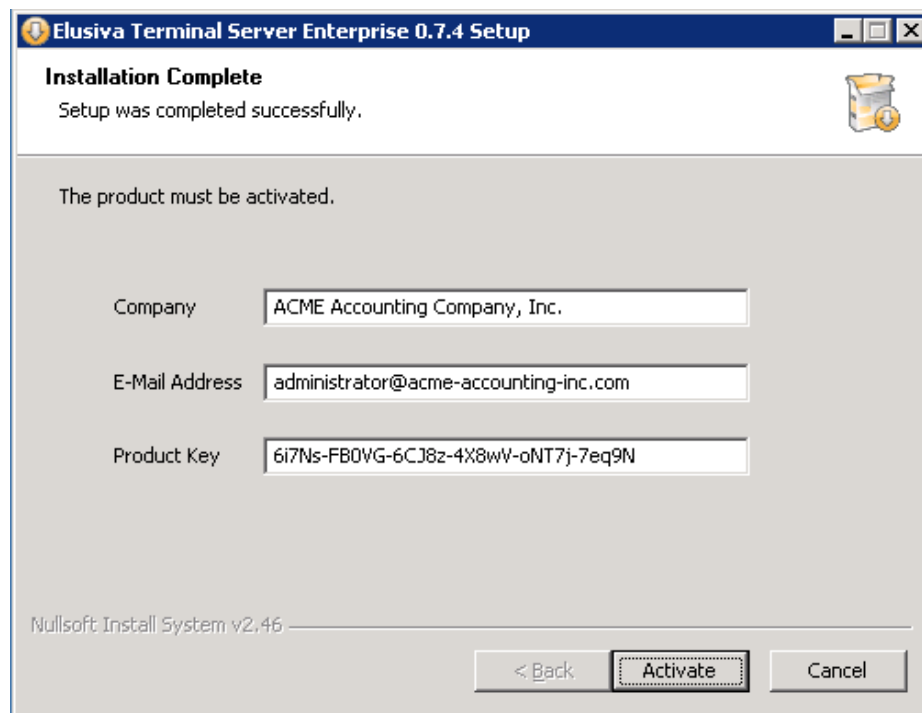
¹ Elusiva intelligent RDP protocol is backwards compatible with Microsoft RDP. Any legacy RDP-only client software will work even with disabled Publishing service..



As the last step before setup will copy the binaries, please enter the name for the Terminal Server Enterprise program group.



Once the installer script is finished, you will be prompted to activate the product.



Your software might require an internet connection to be activated. For alternatives means to activate Terminal Server Enterprise, please contact Elusiva sales.

Once setup is complete, you will be asked to restart your system.

After your system starts, review configuration and begin using your product.

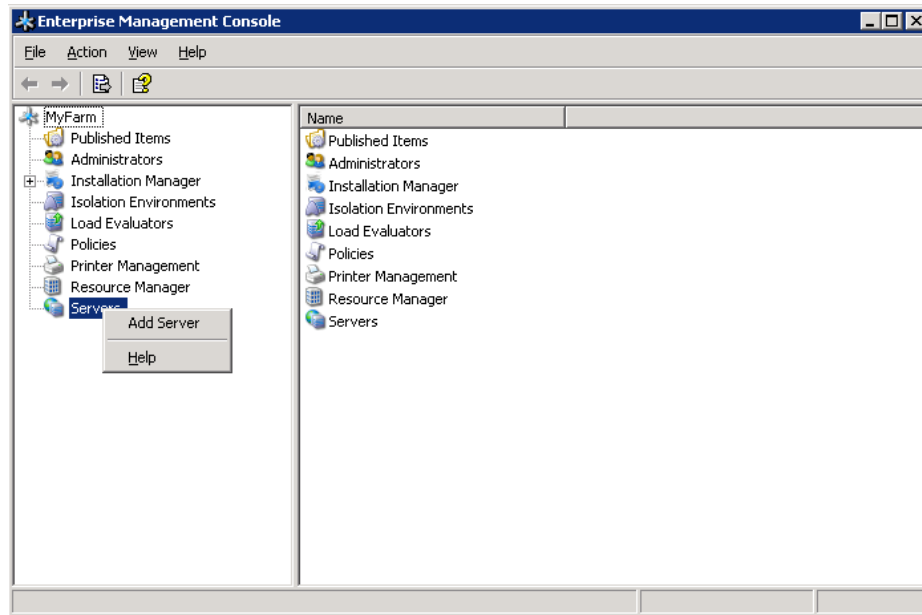
If you are installing Terminal Server Enterprise in a server-cluster configuration, please install the Member Server component on each cluster host running application mode Terminal Services also known as Remote Desktop Services, install Application Gateway module on the connected to the Internet so that only one port has to open on the firewall¹, please install the Load Balancer and Web Portal components on the host accessible to all Member Server computers and Application Gateway, if any and install Management Console on any of the machines².

2.5 Configuring Elusiva Terminal Server Enterprise

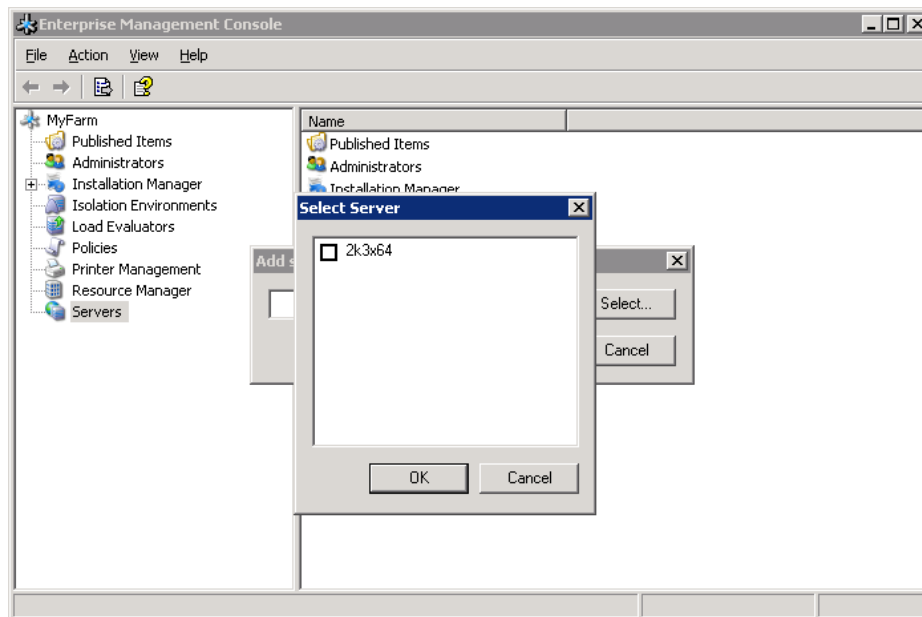
Once all components of Terminal Server Enterprise have been installed, the administrator needs to perform basic configuration. To start, please open Enterprise Management Console and right the node Servers as shown below.

¹ If you do not need tunnel all applications through one port, Application Gateway is not necessary and Load Balancer can installed on the host connected the internet.

² Load Balancer/Web Portal host is a good candidate to host the console for logistical reasons.

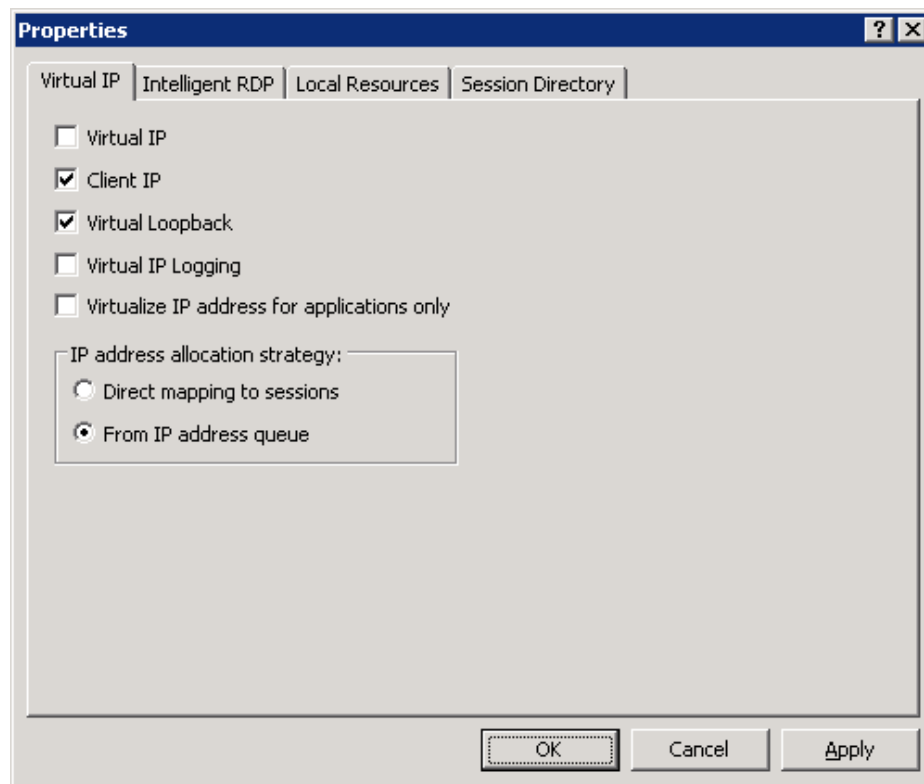


Please choose the Add Server option and either manually enter Windows names of each Member Server or press Select to view all compatible hosts from the local subnet as displayed below.



Once the server has been added the list of managed servers, please adjust the basic settings by right-clicking the server icon and selecting the Properties option in the context menu.

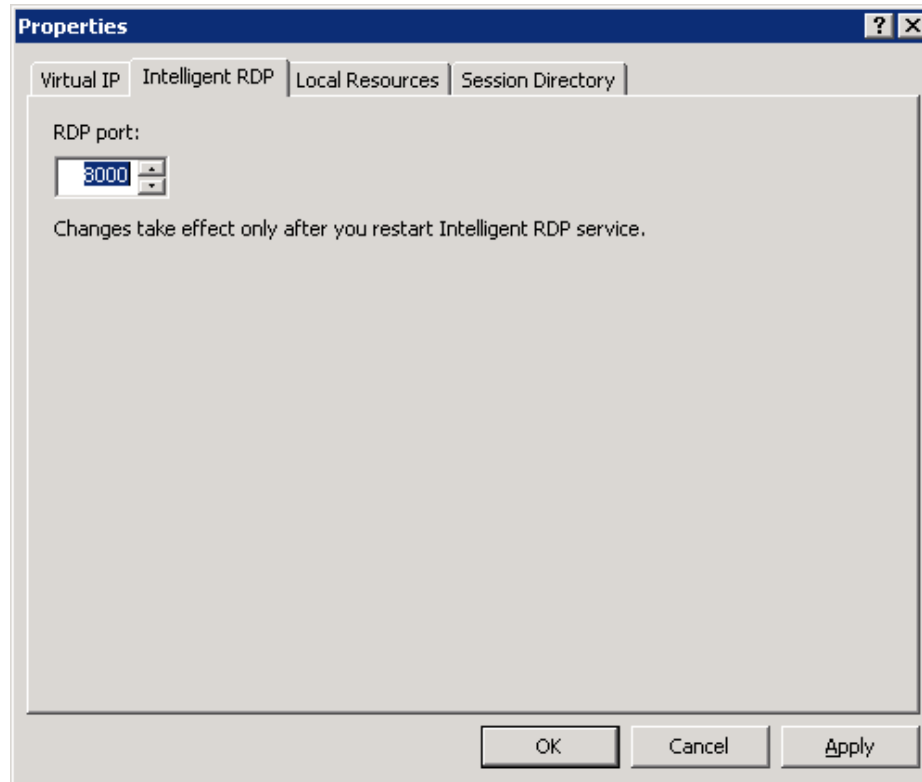
The first server settings tab is to configure IP address virtualization.



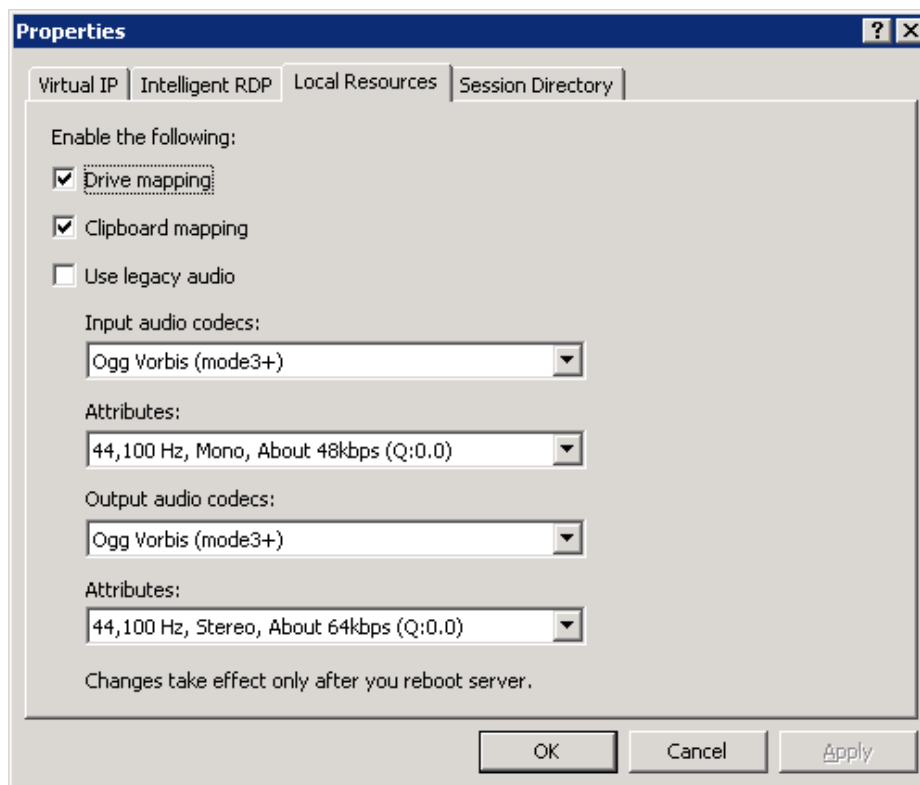
This feature is necessary for applications or hardware appliances¹ that use IP addresses as means to identify and/or authenticate users/sessions.

The next step is to adjust Elusiva Intelligent RDP service port. Typically, the default port will work for most situations.

¹ Such as popular filtering firewall appliances manufactured by multiple vendors.



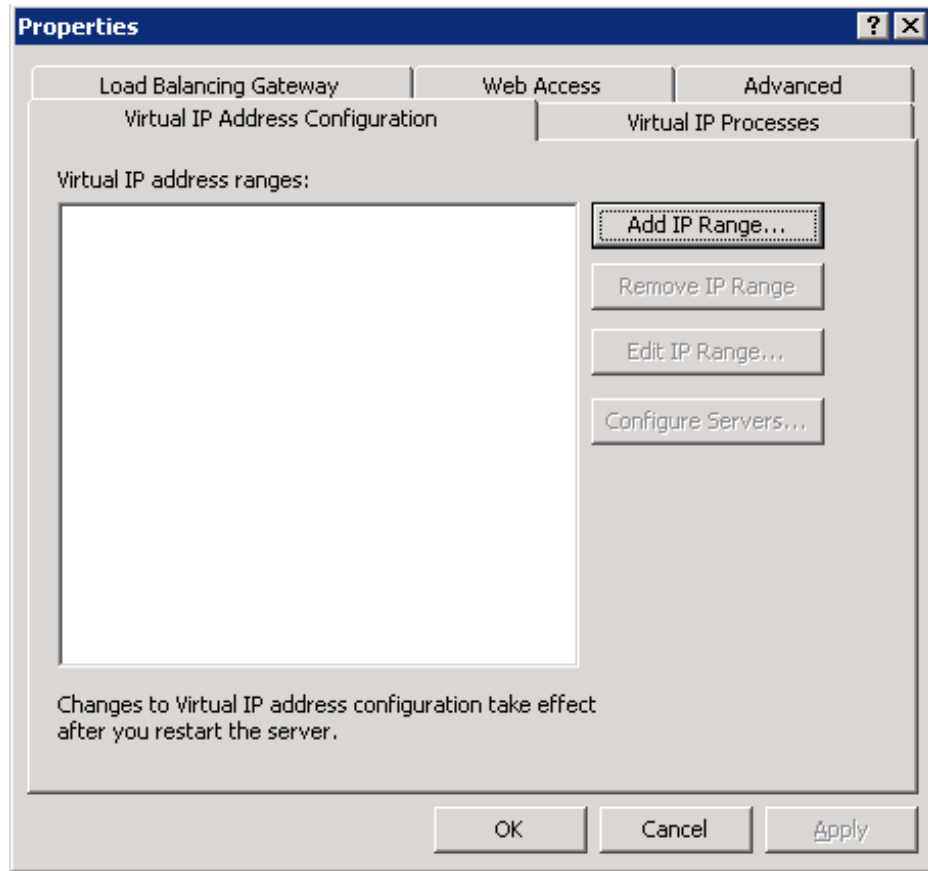
Local Resources tab allows administrator to set a server-wide policy for sharing resources between clients and the server. When resource sharing is enabled at the server-level, administrators can still adjust settings for individual users or groups using Group Policy.



In addition to common options such as disk drive and clipboard redirection, Elusiva includes advanced multimedia acceleration capabilities. This window is used to configure the quality need for audio input and output channels.

Once each server has been configured according to your requirements, please configure the top-level of the management console - farm. At this time, please right-click the icon and select the **Properties** option.

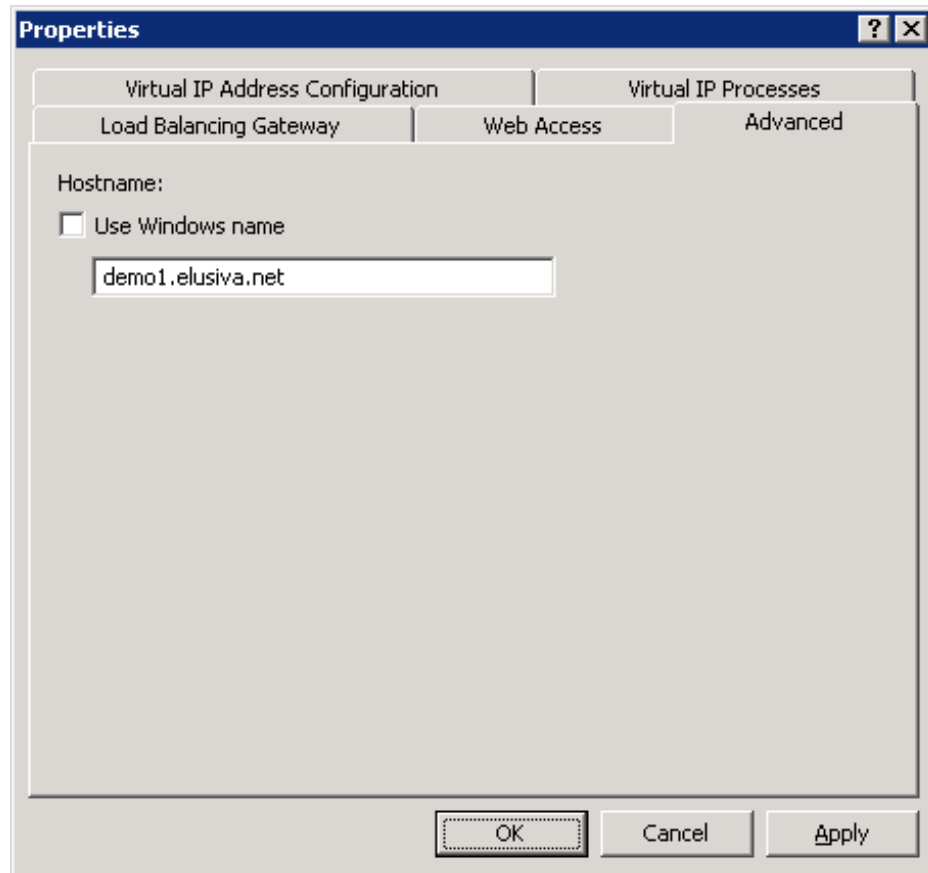
The farm properties configuration window will open presenting you with several tabs. The first tab is to finish IP virtualization configuration, which was started at the servers-level.



If you selected the option to virtualize IP addresses for applications only, you will need **Virtual IP Processes** tab to create the process list for IP virtualization engine.

The next very important step is to configure the hostname from the **Advanced** tab. The default value installer creates is the Windows name of the computer of the host where Load Balancer is installed¹.

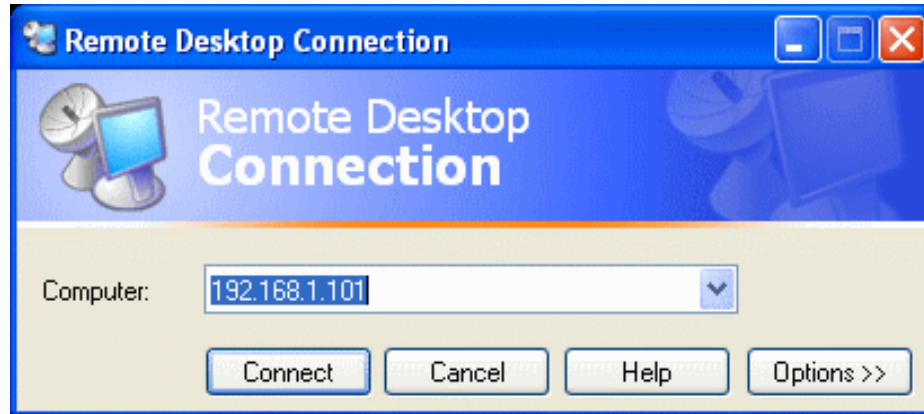
¹ In All-In-One setup no Load Balancer is required and hostname of the single server is used.



This value is required for RDP files generated by the management console.

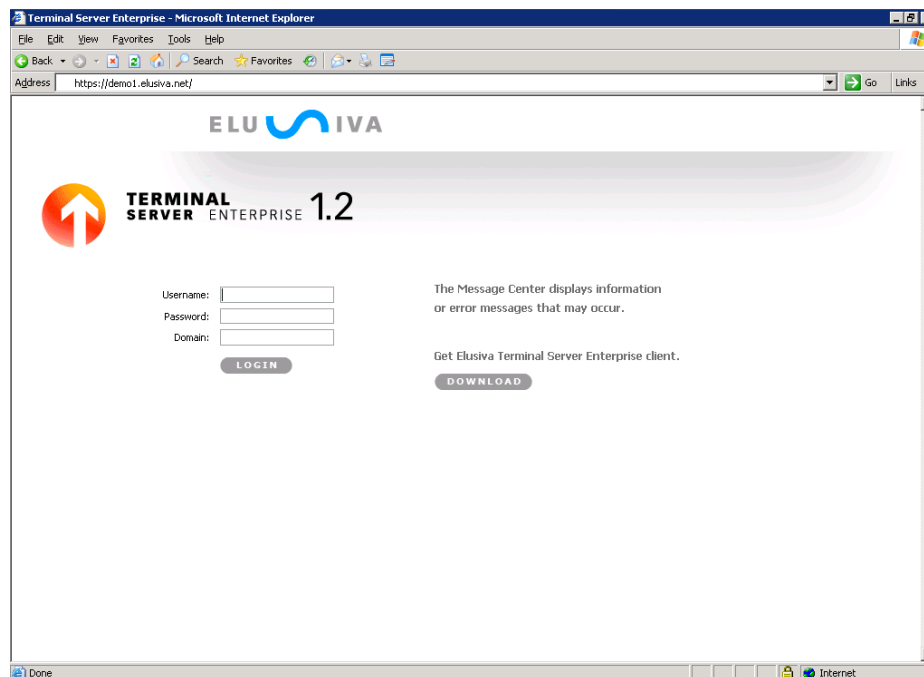
2.6 Accessing Elusiva Terminal Server Enterprise

Elusiva Terminal Server Enterprise can be accessed using a variety of clients including: any Java-enabled web browser by utilizing the web portal feature of Terminal Server Enterprise, Elusiva universal access client available for download directly from the web portal home page, and any RDP-compatible client such Microsoft Remote Desktop Connection application:



Regardless of the base server OS version, Terminal Server Enterprise can emulate advanced RDP features such as RemoteApp¹ or media streaming provided the client counterpart understands these features.

To access Terminal Server Enterprise using a web browser, please type into the address bar of the browser the network name of the Application Gateway server. In case there is no Application Gateway, please use the name of the Web Portal host. The following page will appear.

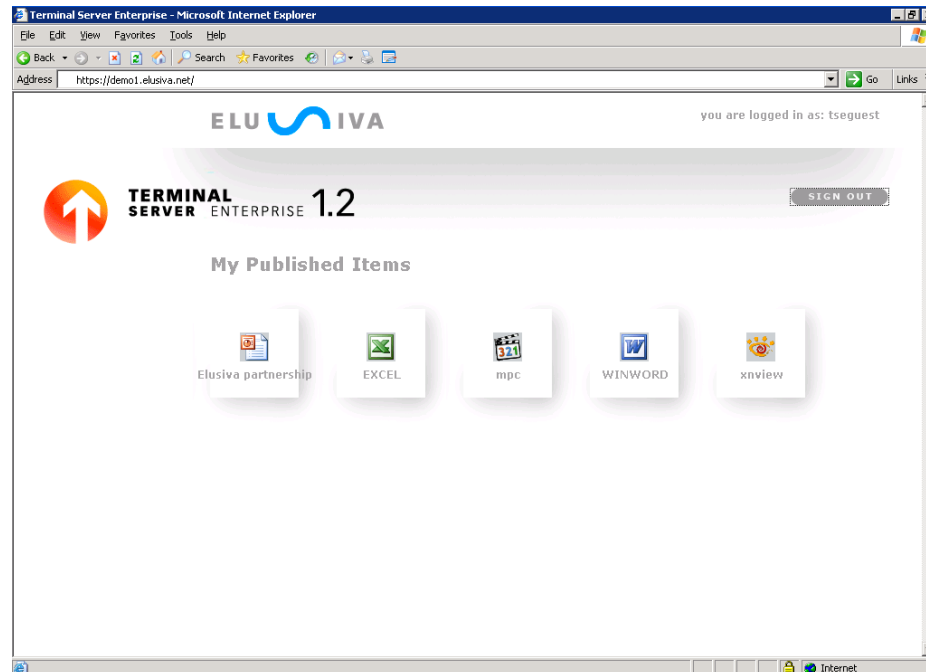


This page can serve as a download location for the installable stand-alone Elusiva client, and to access applications and desktops directly through the browser. Users need to login into the portal proving the same credentials they use to login into

¹ Including generating RDP files suitable for publishing applications.

their Windows account by entering username, password and the Windows domain if any. All communications are encrypted using a carrier-grade encryption.

Once Terminal Server Enterprise authenticated the user, it will display a list of available resources as depicted in the image below.



Clicking on any of the published items will trigger the start of the client-provisioning Java applet which will download the advanced Elusiva client run-time directly from the web portal. This eliminates the need to pre-install software on client devices, making Elusiva platform compatible with locked-down computers such as Internet stations/kiosks.

2.7 Unlocking trial installation

If you installed trial software and now have an activation key to convert your existing setup into a full version, please open license viewer application from Start->All Programs->Elusiva Terminal Server Enterprise->Activation. Click on the Activation key button and paste the key there. It will unlock the trial¹.

Additional connection license keys are added the same way.

2.8 Configuring Router For Remote Desktop Access

First, get the IP address of the host computer (the server that has Application Gateway installed on it).

¹ Don't forget to restart Windows after adding additional license keys!

Click Start then Run and type the letters CMD. In the command line interface enter: ipconfig. Then hit the Enter key. The computer's IP address will be displayed. Make a note of it. Open a browser and enter the URL <http://www.portforward.com> in the address bar. At the bottom of PortForward's opening page, note the IP address shown after the text: Youreexternal IP address is

This IP address is what remote users will need to enter into the "Computer" field in the Microsoft Remote Desktop Connection program on their computers.

In the second paragraph on the PortForward opening page, locate the word Routers and click on it. This will take you to a page displaying a list - brands and models of most common routers. Locate the specific brand and model of your router and click on it (if the router is not listed, please contact your router's vendor for details on how to configure port forwarding for Remote Desktop access). This action takes you to the Application page. Scroll down until you locate Remote Desktop and click on it. You will now see a step-by-step set of instructions for configuring your router to allow Remote Desktop access. You will be asked to enter an IP address at the beginning of the configuration routine; this is the IP address you obtained in the first part of these instructions.

Note: There are two IP addresses involved in Remote Desktop access with port forwarding. First is an external IP address it belong to a router. Second is the internal IP address of the host computer.

Ideally, both of these should be "static" (meaning they stay the same all the time). Unfortunately, this is not always possible. An external IP address is issued and controlled by your Internet service provider. If you have a dynamic IP address, you can use dynamic domain name resolution services (DDNS) to map your router to a name. The host computer's IP address (local IP) is entirely in your control.

For detailed information on how to set your host computer to use a static IP address, please visit <http://www.portforward.com/networking/static-xp.htm>

3. Working with Client Software

3.1 Working with Elusiva access client

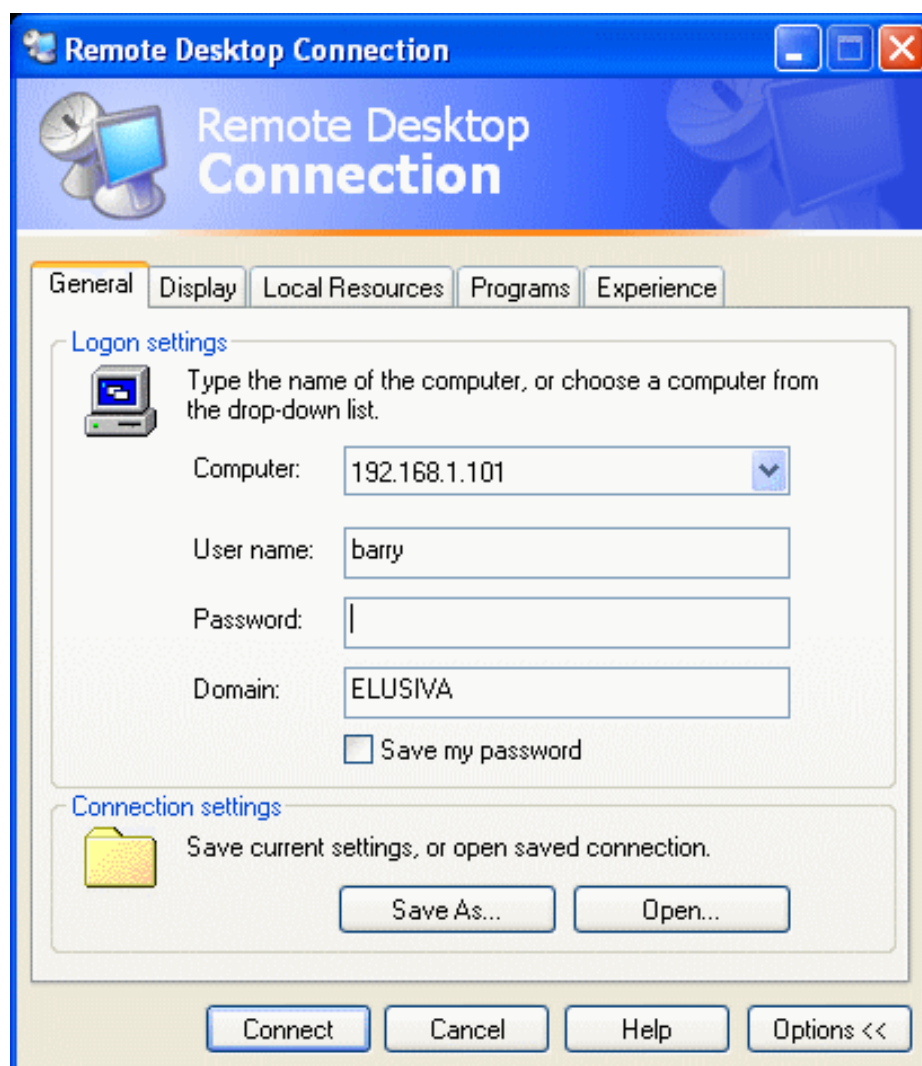
Elusiva access client is developed/distributed by Elusiva as a preferred method for accessing shared-servers, and dedicated physical or virtual hosts running Elusiva Terminal Server Enterprise.

It offers advanced device compatibility including support for generic-type USB devices, TWAIN-enabled still-image devices such as scanners and still-image cameras, microphones, printers, audio output devices, smart-cards and more.

3.2 Configuring Microsoft® Remote Desktop Connection for Windows and Mac

Elusiva Terminal Server works with a free tool – Microsoft® Remote Desktop Connection (RDC). It comes pre-installed with most editions of Microsoft Windows® operating system and many thin-client devices. Install the latest version of Remote Desktop Connection software available as a free download from Microsoft®. If you are using an older Windows 2000 Terminal Services client, you should upgrade to the latest version. More information about deploying client software is available on Microsoft® TechNet website.

To adjust connection options such as display properties and local device sharing, press the options button on the welcome screen. The following window with extended configuration parameters will appear:



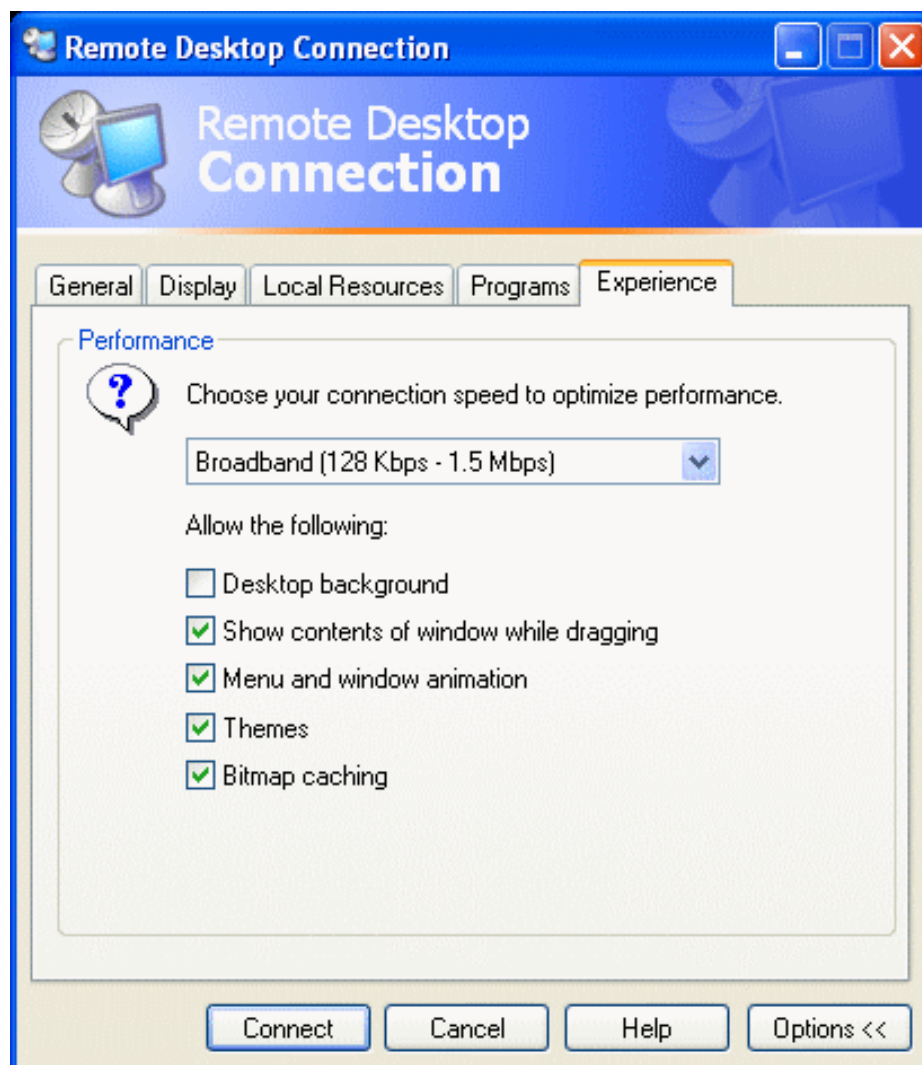
Tabs on top of the window will allow you to configure various connection settings. To configure printer and disk sharing select Local Resources tab¹.

¹ Sharing your local devices may put your computer at risk. Please refer to Terminal Services documentation for more information..



From this window you will be able to configure what local devices will work with your terminal server session.

To optimize your user experience you also need to select the appropriate network bandwidth and configure your remote Windows® session to perform various effects from within the Experience tab.



For more information please refer to Microsoft® Remote Desktop Connection documentation, Terminal Services documentation and Elusiva knowledge base.

An easier way to use the product is by double-clicking pre-saved *.rdp files which keep inside various connection settings.

Starting with RDC version 6.1, Microsoft® client can open seamless applications in addition to full desktops sessions available in earlier versions.

3.3 Configuring Unix® Client

Because Elusiva Terminal Server Enterprise is fully compatible with a standard based Remote Desktop Protocol (RDP), a variety of open source and proprietary clients is available on many platforms including Windows, Linux, Unix and Mac

OS. We will cover usage of an open source rdesktop¹ client. For more information please refer to the product manuals.

The following are available options for use with rdesktop:

```
Usage: ./rdesktop [options] server
-u: user name
-d: domain
-s: shell
-c: working directory
-p: password (autologin)
-n: client hostname
-k: keyboard layout (hex)
-g: desktop geometry (WxH)
-f: full-screen mode
-b: force bitmap updates
-e: disable encryption (French TS)
-m: do not send motion events
-l: do not request license
```

4. Working with Enterprise Management Console

4.1 Getting familiar with Terminal Server Management Console

A user with administrative privileges can utilize Management Console to perform a variety of server and/or cluster administrative tasks including publishing applications, documents and desktops, controlling users and sessions, placing individual servers into maintenance mode for service, policy configuration and more.

4.2 Remotely controlling user sessions

A user with administrative privileges can remotely control user sessions. To control a session please select the Remote control option either via content menu offered by Management Console, or from the Users tab of Task Manager.

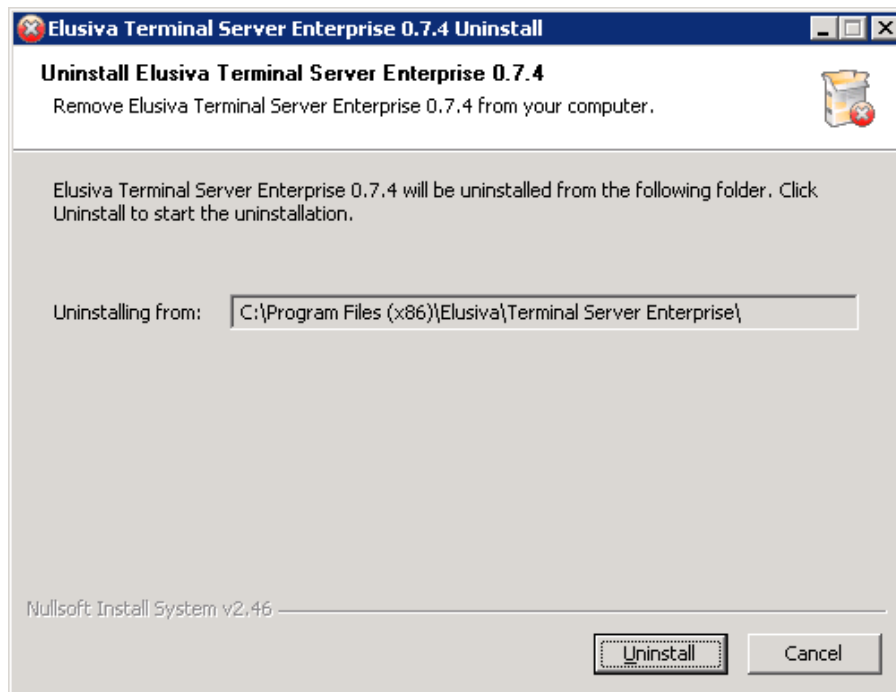
Depending on the server configuration a user might see the following window.

¹ For more information visit www.rdesktop.org



5. Uninstalling Elusiva Terminal Server Enterprise

Elusiva Terminal Server Enterprise could be removed from the system by invoking the uninstalled either from Add/Remove Programs application or by directly running uninstaller application from Start->Elusiva Terminal Server Enterprise->Uninstall.



Before the removal process begins, a user has to confirm that he/she wishes to uninstall the software¹.

¹ Please close all open applications before attempting the un-installation.

6. Glossary

Firewall - Either hardware or software system limiting network access. Normally, a Firewall is deployed between a trusted, protected network and an untrusted network or computer.

Hypervisor - Software allowing multiple operating systems to share a single physical computer.

PDA - Personal Digital Assistant, a handheld device that combines computing, telephone and Internet and networking features. See also Smartphone.

RDC – Remote Desktop Connection

RDP – Remote Desktop Protocol

Smartphone – Same as PDA

Terminal Server – Software or hardware that allows the operation of applications from other computers, which can be in other locations.

