

PTC X/Server

Evaluation Guide



PTC Inc.

PTC X/Server: Evaluation Guide

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Technical Support

To request customer support, please contact us by one of the means listed below and in your request include the name and version number of the product, your serial number, and the operating system and version/patch level that you are using. Contact PTC X/Server customer support at:

Technical Support Form:	http://www.mkssoftware.com/support/support.asp
E-mail:	MKSToolkitSupport@ptc.com
Telephone:	+1-703-803-7660
Fax:	+1-703-803-3344

When reporting problems, please provide a test case and test procedure, if possible. If you are following up on a previously reported problem, please include the problem tracking number in your correspondence.

Finally, tell us how we can contact you. Please give us your e-mail address and telephone number.

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Introduction

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PTC is pleased to provide you with this Evaluation Guide to validate the benefits we believe your organization will derive from the use of PTC X/Server in support of your IT organization's objectives.

PTC X/Server provides secure, seamless access to character and X-based UNIX applications from the Windows desktop. This allows you to leverage the benefits of new desktop platforms while connecting to UNIX applications throughout the enterprise. Because PTC X/Server contains a rich feature set that is easy to use, users can optimize their personal computing environments while minimizing their overall cost of ownership over time.

We are confident this evaluation will confirm the benefits of PTC X/Server and will warrant proceeding with the purchasing this product.

Thank you for the opportunity to present this solution to you, and we are looking forward to expanding our relationship with you as a valued customer.

Obtaining Evaluation Support

PTC is committed to ensuring a successful evaluation and will work closely with you during this period to optimize the personnel time and resources provided by your organization to support this joint effort.

If at any time during your evaluation of PTC X/Server you have a question or encounter an issue, please feel free to contact us using any of the following:

Technical Support Form:<http://www.mkssoftware.com/support/support.asp>

E-mail:MKSToolkitSupport@ptc.com

Telephone:+1-703-803-7660

Fax:+1-703-803-3344

Installation of Evaluation Kit

Hardware and software requirements

Windows compatible x86 PC
Windows® 8.1
Windows® 8
Windows® 7
Windows® 2008 Server
Windows® Vista
Windows® 2003 Server R2
Windows® 2003 Server

Windows Compatible x64 PC

Windows® 2012 Server R2

Windows® 8.1

Windows® 2012

Windows® 8

Windows® 2008 Server R2

Windows® 7 x64 edition

Windows® 2008 Server x64 edition

Windows® Vista x64

Windows® 2003 Server R2 x64 edition

Windows® 2003 Server x64 edition

Windows® XP x64 edition

Windows® 2003 Server for Itanium-based Systems and Windows® 2008 Server for Itanium-based Systems are supported with the 32-bit X Server.

Typical installation requires 40 Mb of disk space.

Installing PTC X/Server

If you have SCO XVision Eclipse, you must uninstall it (see instructions below), or install PTC X/Server on another machine.

When installing PTC X/Server you must install from an account with local or domain administrator privileges. You do not need to be an Administrator, but your login ID must be a member of the local or domain Windows Administrators group before you can install.

If you are installing from a CD, insert the PTC X/Server CD; the installer should start automatically. If you are installing from an electronic distribution, run the self-extracting installer.

To install PTC X/Server, click the **Install X/Server** button and follow the instructions on the dialogs that appear.

Note: You should turn off all virus protection software before installing PTC X/Server. Such software can sometimes cause the installation to be interrupted and rolled back. Once you have installed PTC X/Server, you can turn virus protection back on.

For step-by-step installation instructions and an installation FAQ, see <http://www.mksoftware.com/support/install.asp>.

Uninstalling PTC X/Server

To uninstall PTC X/Server, use the following procedure:

- 1.** From the Control Panel run **Add/Remove Programs**.
- 2.** Remove PTC X/Server.

You must reboot your system before reinstalling PTC X/Server.

Uninstalling SCO XVision Eclipse

- 1.** From the Control Panel run **Add/Remove Programs**.
- 2.** Remove SCO XVision Eclipse. (This is only necessary if the XVision X server is installed. This X Server was normally only installed with previous versions of MKS Toolkit for Interoperability and MKS Toolkit for Enterprise Developers.)

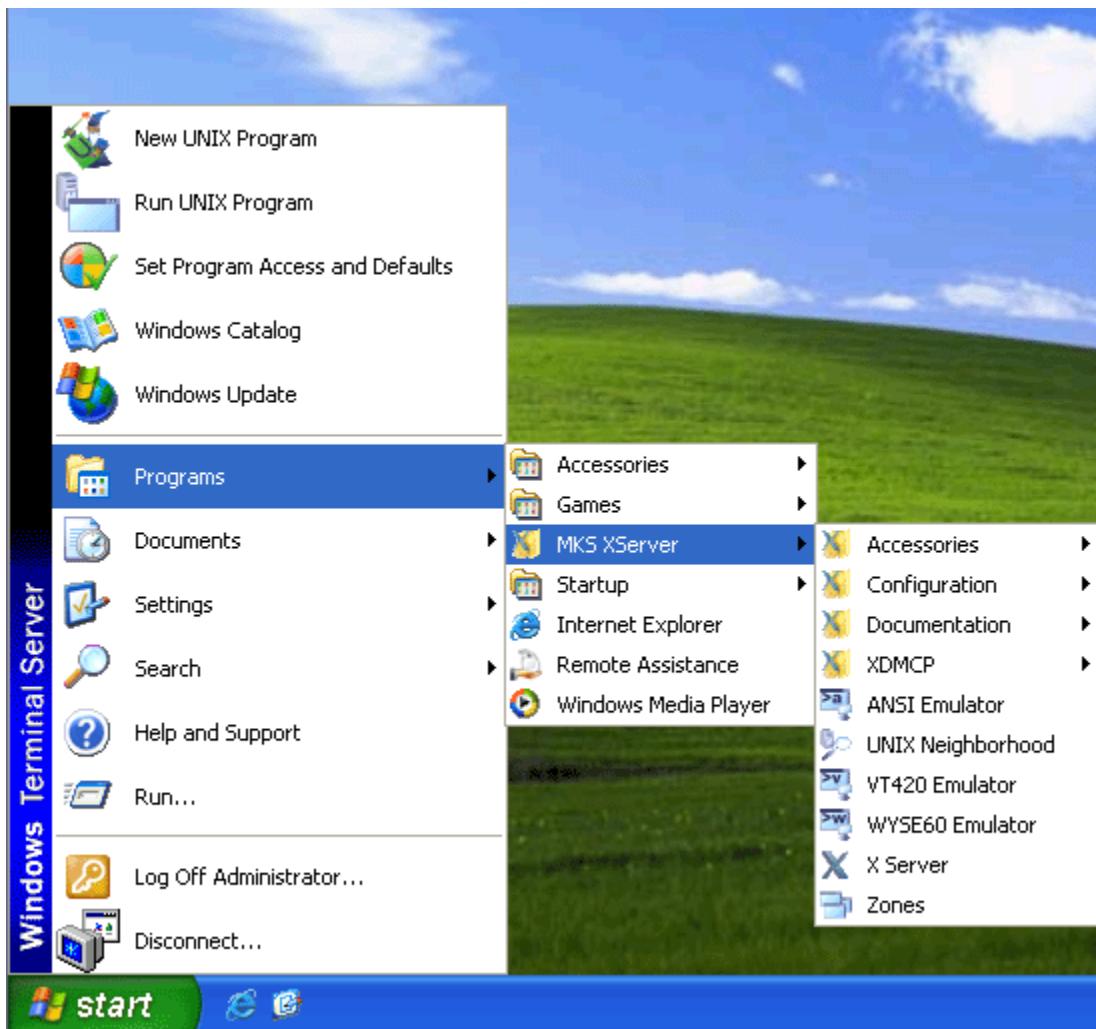
You must reboot your system before reinstalling PTC X/Server.

The Basics

2

The Start Menu

When you install PTC X/Server, the installer adds the **New UNIX Program** and **Run UNIX Program** commands to the **Start** menu. Additionally, it creates the PTC X/Server **Start** menu (that is, the PTC X/Server folder in the **Start** menu's **Programs or All Programs** folder) which contains some or all of the items shown below, depending on choices made during the installation process. Some items may be in submenus of the main PTC X/Server menu.



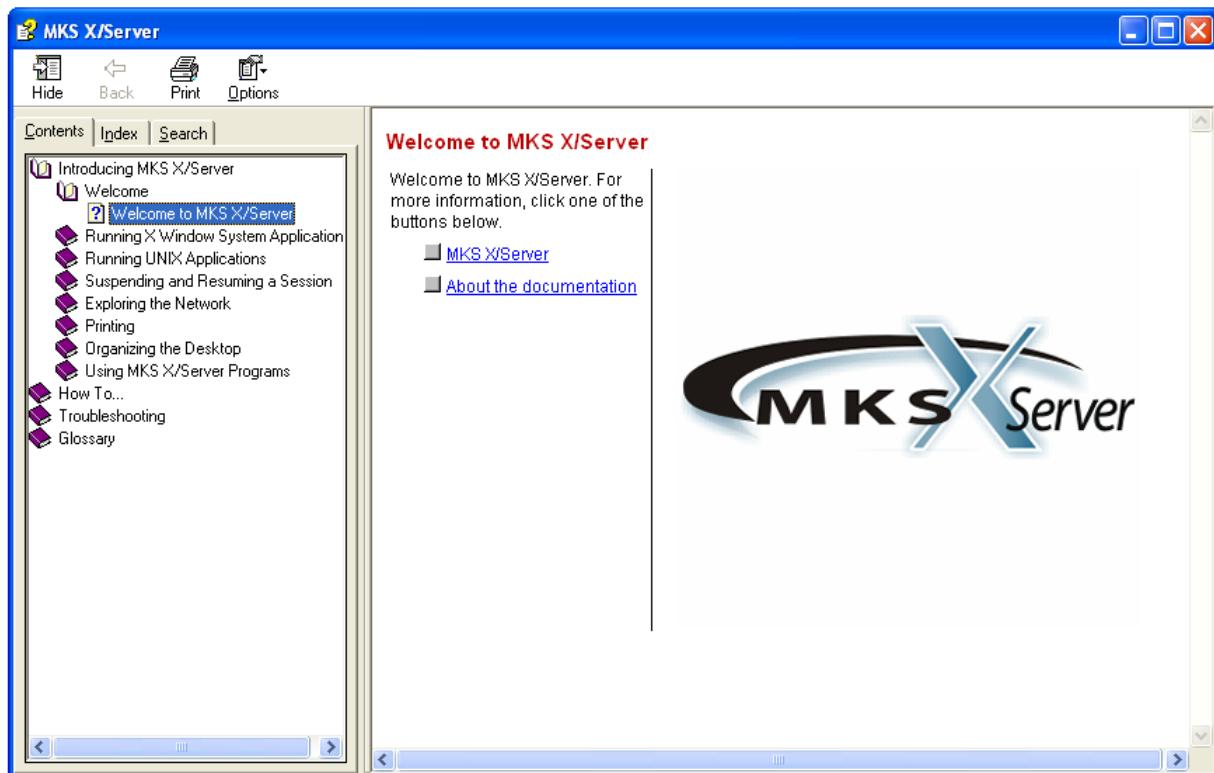
-
- ANSI Emulator** is an ANSI terminal emulator.
- UNIX Neighborhood** can be used to browse remote hosts.
- VT420 Emulator** is a VT420 terminal emulator.
- Wyse 60 Emulator** is a Wyse 60 terminal emulator.
- X Server** allows X Window System clients to display on your PC.
- Audio Server** provides X applications with the ability to send and receive audio data such as voice, sound effects, and music in a network environment.
- Keymap Editor** allows you to create and modify keyboard maps for use with terminal emulators.
- Program Starter** can be used to remotely execute a program on a UNIX server.
- X Keymap Editor** allows you to create and modify X keyboard maps
- XSpy** is a troubleshooting tool that records and plays back an X protocol stream. It should be used under the direction of Technical Support and is not discussed in the documentation.
- PTC X/Server Help** includes complete online documentation for the product's functionality.
- PTC X/Server Release Notes** provide important information about the installed release.
- Using SSH with PTC X/Server** describes how you can use SSH (Secure Shell) as a secure communications transport with PTC X/Server programs.
- PTC X/Server Communications** can be used to:
- a) configure the hosts which you can connect and run UNIX programs;
 - b) configure the transports used to connect the PC to remote UNIX hosts;
 - c) access the PTC X/Server Communications database; and
 - d) run diagnostics.
- PTC X/Server Configuration** allows you change all PTC X/Server settings, properties, and profiles, etc. in one convenient place.
- PTC X/Server Services** can be used to
- a) configure general settings for PTC X/Server Services;
 - b) allow the PC to launch server programs on demand;
 - c) detect remote hosts and configure them automatically; and

- d) provide local and remote printing services.

XDMCP establishes a remote desktop session.

Getting Online Help

Online help is the main source of information about PTC X/Server software. To get online help, select **Documentation** from the **PTC X/Server Start** menu, click **Documentation**, and then click **PTC X/Server Help**. The list of task-oriented help topics appears below. You can use the **Index** and **Search** tabs to search for information.



Running an X Program

The X Server must be running to allow you to display X programs on your PC. Normally, the X Server is started automatically at the end of the installation process, or when you start your PC. By default, the X Server runs in “multiple-windows Mode”, which means that the built-in PTC X/Server Window Manager is used and X clients have the look and feel of Microsoft Windows. If you want your PC to look like an X terminal, you need to use the PTC X/Server in “single-window Mode” with a standard X window manager.

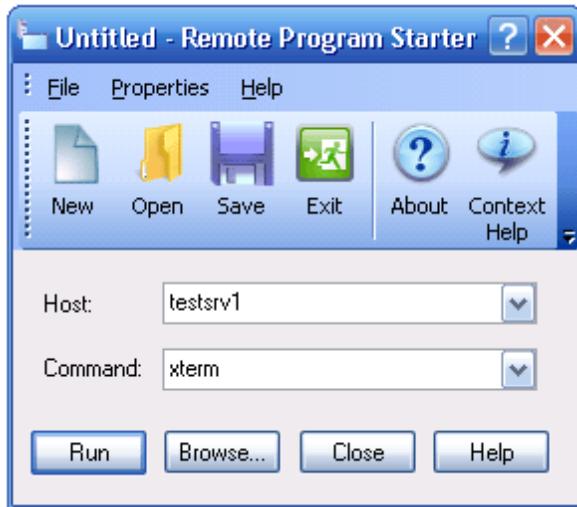
You can use Remote Program Starter to start X applications.



Tip When the X11 application being run needs to render OpenGL, the GLX extension needs to be enabled. To do this, select **Configuration** from the **PTC X/Server Start** menu and click **PTC X/Server Configuration**. On the dialog that appears, click **Server**. The **XServer Properties** dialog appears. In the **Advanced** section of this dialog, there is a field labeled **Extensions**. Scroll through the listed extensions until GLX appears. Check the **GLX** box to enable it.

To run an X program:

1. Select **Run UNIX Program** from the **Start** menu.



2. In the **Host** box, type a host name or choose a host from the drop-down list.
3. In the **Command** box, enter the command required to start an X program. Do not include the **-display** option (because the **DISPLAY** environment variable is set automatically), and do not type an ampersand (&) at the end.
4. Alternatively, click the **Browse** button. If the **Host** box is empty, all the configured hosts will be displayed. If you specified a host in the **Host** box, then the contents of your home directory on that host will be displayed. Browse the host until you find the program or shell script you want to execute.

5. If you want to change other settings, choose a command from the **Properties** menu. You can get Help on an item by clicking the question mark button in the title bar, then clicking the item.
6. Click **Run**.
7. The X application should start in a few seconds. If it fails to appear, use the help-based troubleshooters to help you identify the problem. Select **Documentation** from the **PTC X/Server Start** menu and click **PTC X/Server Help** to launch the online help. Double-click **Troubleshooting** on the **Contents** tab to access the PTC X/Server troubleshooters.

SSH Tip



Tip To enable X11 Tunneling while using Remote Program Starter, select **Display** from the **Property** menu. The **Remote Program Starter Properties** dialog appears. On the **Display** tab, uncheck the **Set X Display Environment** box and click **OK**.

Exceed Replacement Tip



Tip Remote Program Starter can now import and use Exceed .xs files directly. These files can also be imported and saved as .rps files.

Administrator's Tip



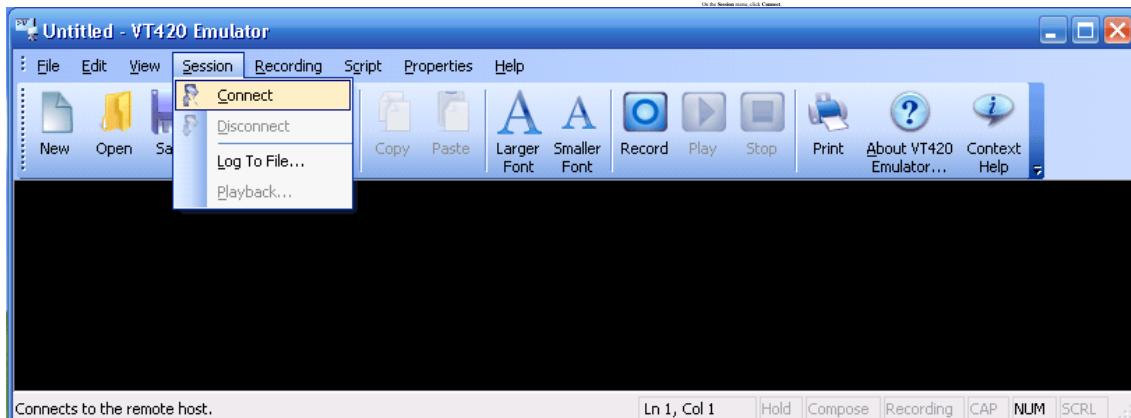
Tip You can store .rps files on the network for use by more than one user. You can also link them as desktop shortcuts. Finally, by combining the powerful command line capabilities of the Remote Program Starter with Windows scripting (or better yet, the advanced scripting features of PTC MKS Toolkit), you can create sophisticated scripts within .rps files

Running a Character-based Program

Character-based UNIX programs are designed to work with certain types of terminals, so to run a UNIX program from your PC you need to use one of the PTC X/Server terminal emulators. VT420, Wyse 60 and ANSI terminal emulators are provided, and most UNIX applications can be configured to use one of these terminal types.

To run a program from a terminal emulator:

1. Select **ANSI Emulator**, **VT420 Emulator**, or **Wyse 60 Emulator** from the **PTC X/Server Start** menu to launch the desired emulator.



2. In the **Host** box, type a host name or choose a host from the drop-down list.
3. In the **Command Line** box, enter the command required to start a program, or leave the box empty if you want to log in to the UNIX host manually. If you want to see the UNIX system prompt, then enter the name of a shell program such as **sh** or **csh**.



Alternatively, click the browse button (...) to browse the UNIX neighborhood for a host and or command. If no host is specified, all hosts are shown. If the **Host** entry already specifies a host, your home directory on that host is shown. Browse until you find the program or shell script you want to execute.

If you entered a program name, then a connection is opened to the UNIX host, you are logged in automatically, and the program is started. If you specified a shell program, then the UNIX system prompt appears and you can interact with the system in the same way as if you logged in at a real terminal. If you left the **Command Line** box empty, then a connection is opened, and you will see the UNIX Login prompt asking you to log in

manually, after which you will see the system prompt produced by your default login shell. If you specified a program that is not a shell, then you will see that program as soon as the automatic connection and log in process has completed.

SSH Tip



Tip X11 tunneling is always enabled when running a terminal emulator session. To disable it, set the DISPLAY environment variable manually after logging in to the host.

Creating a UNIX Program Item

The UNIX Application Wizard can be used to create a Windows desktop item that allows you to start an X application or a character-based application. The wizard will either add the application to the **UNIX Programs** menu on the **Start** menu, or create a new icon on the desktop or in a folder, depending on how you started the wizard. You can also include settings files in your web pages.

To create a UNIX Program desktop item:

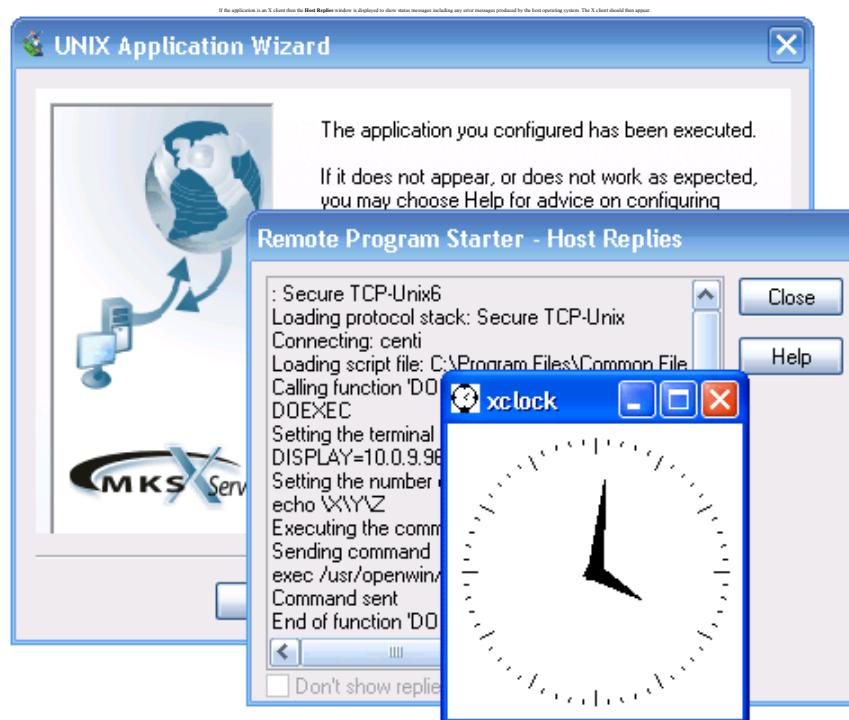
- 1.** Do one of the following:
 - . If you want the application to appear on the **Start** menu, select **New UNIX Program** from the **Start** menu.
 - . If you want the application to appear as an icon on the desktop or in a folder, click with the right mouse button where you want the item to appear, click **New**, and then click **UNIX Program**.
- 2.** Follow the wizard's instructions, choosing the host and the command to be executed. You can use the **Browse** button to find the executable file you want.



You are asked to choose the type of program. **Other** means a UNIX program that does not require a user interface.



3. The wizard asks if you want to test the application. Be sure that the command will not make unwanted changes on the host system before you execute it.



4. If the command produces an error, it will be displayed by the wizard. For most common errors you can select the error in the list box and click the **Help** button for assistance with that specific problem. You can click the Back button to return to previous settings, and then try executing the program again.

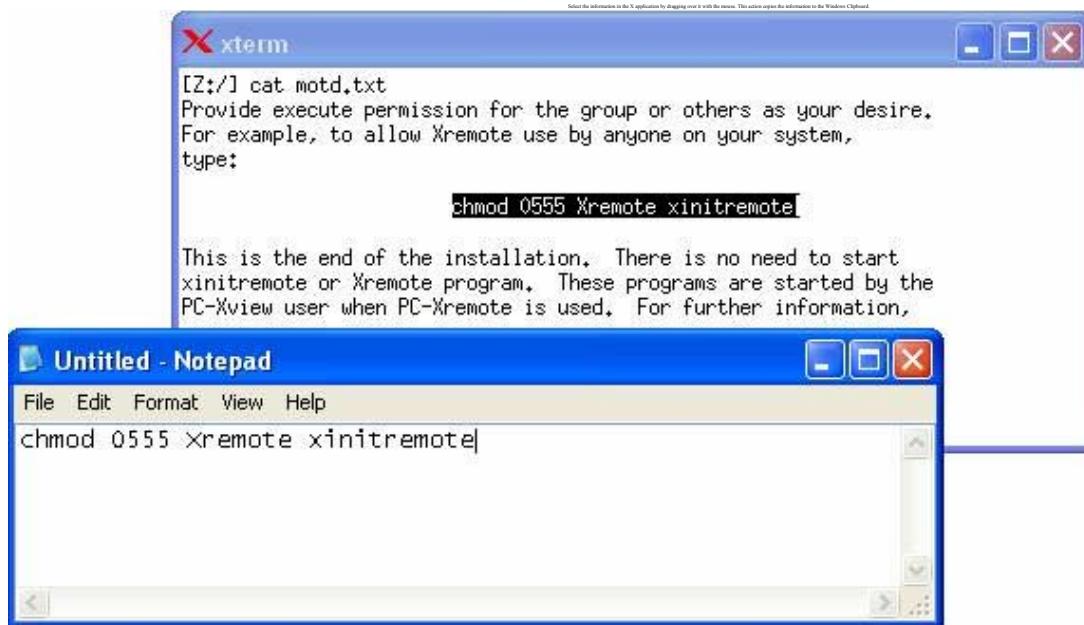


The UNIX Application Wizard creates either a Remote Program Starter document (.rps) or a terminal emulator document (.v42, .ans, .w60). If you ran the wizard from the **Start** menu, then the application is added to the list of UNIX programs on the **Start** menu. If you ran the wizard from the desktop, then a new icon appears. If you ran the wizard from inside a folder, then the settings document appears in the folder.

Copying and Pasting Between X and Windows

You can easily copy and paste information between X clients and Windows applications. These instructions assume that you have not altered the default **Clipboard** settings in the X Server profile.

To copy and paste information:



5. In the document where you want to insert the information, position the input cursor where you want it to appear.
6. On the **Edit** menu, click **Paste**.

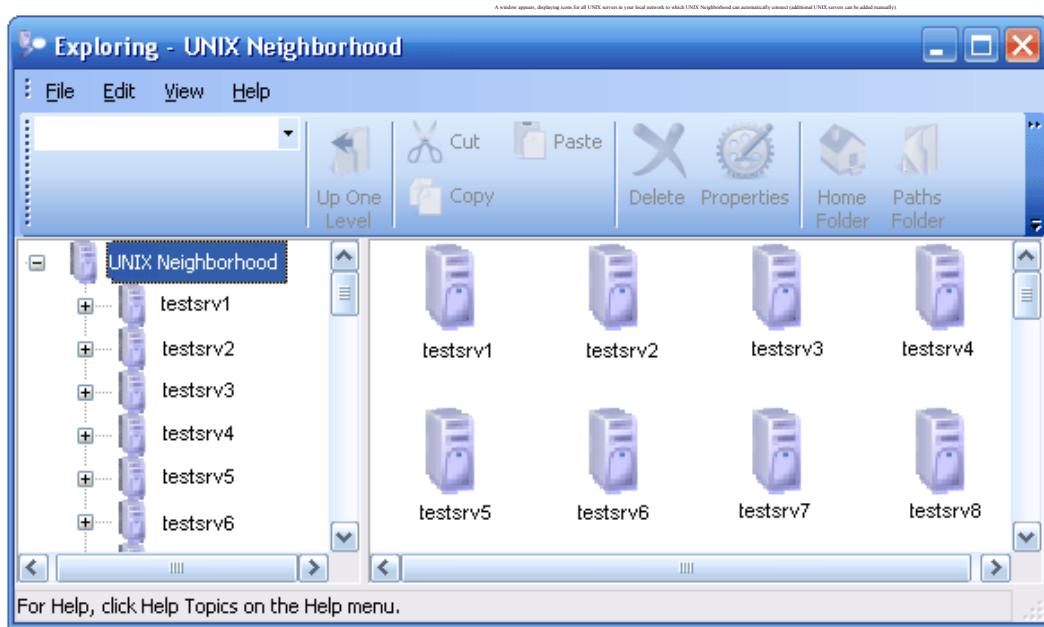
The new information appears in the document.

Browsing UNIX Servers

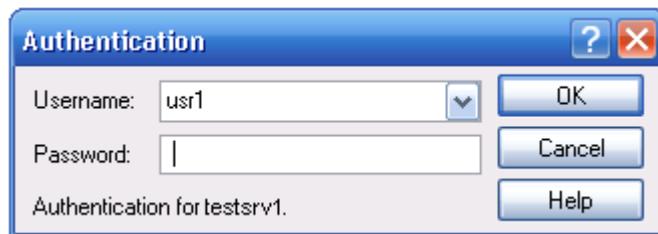
You can browse the files and folders on a UNIX computer by using UNIX Neighborhood.

To see what's on a UNIX server:

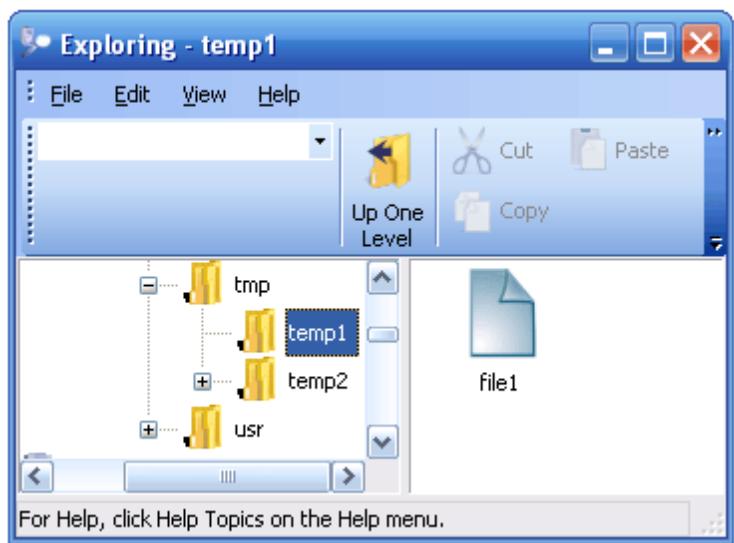
1. Select **UNIX Neighborhood** from the PTC X/Server Start menu.



2. Double-click the icon for the host you want to browse.
3. If this is the first time you have connected to this host, you will be prompted to enter a username and password.



4. A window appears showing the contents of your home folder on the host.



To run a program or open a document from UNIX Neighborhood:

1. Select **UNIX Neighborhood** from the **PTC X/Server Start** menu.
2. Find the file you want to open, and then double-click it.

If the file is recognized as an executable program, then the appropriate terminal emulator or remote program starter is run on the PC, which then executes the program on the UNIX server. If the file is a document, then the document is loaded after the UNIX program starts. If the UNIX program is an X application, the X Server will be started on the PC if it is not already running.

If the file is not recognized as one of the registered file types, then the **Open With** dialog box is displayed for you to choose the application used to display the file.

Using SSH with PTC X/Server

SSH (Secure Shell) is a secure replacement for older TCP protocols such as rexec, rsh, rlogin, telnet, and ftp. SSH provides the functionality of these older protocols while adding the security of an SSL encryption layer and support for modern authentication mechanisms. You can also use an established SSH connection to tunnel other protocols (such as X11) over the existing channel.

PTC X/Server provides transports that use older connection mechanisms as well as ones that use SSH. As a result, you can connect to both pre-SSH machines and SSH-capable machines. PTC X/Server first tries to connect using SSH and if that fails, it falls back to using an insecure transport (for example, telnet) to make the connection.

SSH can be configured to use a variety of authentication methods. By default, PTC X/Server is configured the simplest authentication method (where you are always prompted for your username and password when you connect to a UNIX machine). PTC X/Server can also be configured to use RSA/DSA Public Key Authentication or Smart Card Authentication.

One of the most popular reasons to use SSH is that it allows passwordless authentication. In other words, once you have set up passwordless authentication, you can open secure connections without providing your password each time. To set up passwordless authentication, you must generate a pair of public and private keys using the **ssh-keygen** utility (available with PTC MKS Toolkit and on most UNIX systems) and copy them to the machine to which you want to connect. Where precisely you copy your key depends upon the specifics of the secure shell service or daemon running on the remote machine.

If you are connecting to a secure shell service or daemon that is derived from the OpenSSH version of secure shell (such as the secure shell service (**sshd**) from PTC MKS Toolkit), you should append protocol version 1 RSA keys to the host's `~/.ssh/authorized_keys` file and protocol version 2 RSA and DSA keys to the host's `~/.ssh/authorized_keys2` file where `~` is the home directory of the account on the remote host.

If you are connecting to a secure shell service or daemon that is derived from the ssh.com version of secure shell, the procedure is somewhat different. The first thing you must be aware of is that the format of the public key files that are used by these secure shell daemons is different than the format that is used by the OpenSSH derived versions. Fortunately **ssh-keygen** can convert these for you with a command like:

```
secsh-keygen -e -f ~/.ssh/id_dsa > dsa2.pub
```

In this example, the file `dsa2.pub` is the file that contains the public key and should be installed on the remote server. Typically this is done by simply copying the file to `~/.ssh2/dsa2.pub` — the ssh.com versions of the service keep each public key in a separate file. Finally you need to append a single line to the file `~/.ssh2/authorization`:

Key dsa2.pub

Once you have done this, passwordless authentication should be enabled.

For full information on configuring and using SSH with PTC X/Server, select **Documentation** from the **PTC X/Server Start** menu and click **Using SSH with PTC X/Server**.

SSH Tip



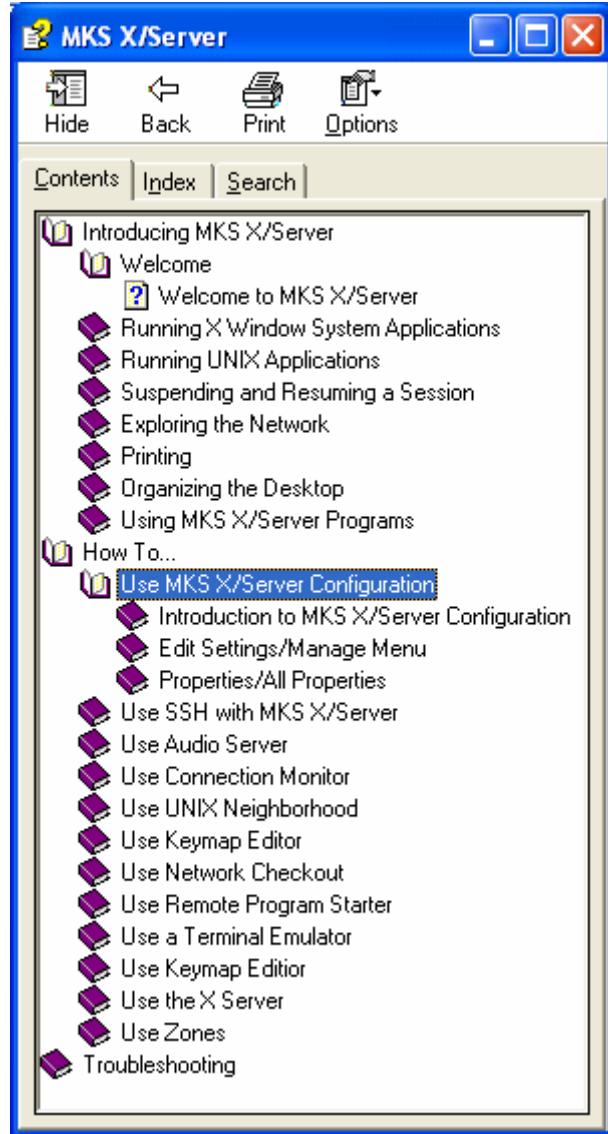
Tip When connecting to a remote host using SSH, always leave the password field empty. The software will prompt you for any password (or other authentication) needed.

Beyond The Basics

3

PTC X/Server's online documentation covers all the basics mentioned in the previous section as well as the more advanced facilities like configuration and troubleshooting.

We suggest you spend some time reviewing the documentation so that you are comfortable with all the capabilities of PTC X/Server. Probably one of first sections you'll want to start with is **PTC X/Server Configuration**, which is highlighted below.



Ordering Information

PTC X/Server can be purchased using any of the following:

PTC MKS Toolkit Sales E-mail: MKSToolkitInfo@ptc.com

PTC MKS Toolkit Sales Telephone: +1-703-803-3343, +1-800-637-8034

PTC MKS Toolkit Sales Fax: +1-703-803-3344

