MKS X/Server

In a world of heterogeneous IT environments, the need for a high-performance, transparent PC X server that delivers seamless integration between the Windows® desktop and the UNIX/Linux server is critical. This world of PC/UNIX system integration demands a product be available for the newest PC architectures, utilizing the most recent standards, and is easy to use and easy to manage.

MKS™ X/Server meets these requirements. MKS X/Server is designed to be the ideal solution for interoperability of PCs and UNIX/Linux systems, and provides the usability and flexibility that users as well as enterprise system administrators require.

MKS X/Server is a full 32-bit X server that operates on the Windows Vista, Windows Server 2003 and Server 2008, Windows XP, and Windows 2000 platforms and a native Extended Architecture 64 bit X Server on Windows Vista x64 Edition, Windows 2003 x64 Edition and Windows XP x64 Edition. MKS X/Server is available separately, or as a great companion to MKS Toolkit products.

MKS X/Server Features:

- Full X11R6.9 server
- OpenGL/GLX 1.4 support for displaying sophisticated 3D imaging applications on a Windows PC. Provides greater user control over Pixel Format to Visual Mapping. No additional 3D license is needed
- Remote Environment Support including Citrix, Microsoft Terminal Services and Remote Desktop environments
- 3Dconnexion Spaceball 5000 and SpaceMouse Plus support
- Multiple simultaneous color depths

- X Keyboard Mapper
- Enhanced XDMCP implementation for easy connection over VPN
- Cut and paste between UNIX/Linux and Microsoft® Windows applications
- IPV6 support
- 32 and 64 bit X Servers on the same CD image
- Choice of Microsoft, local OSF/Motif or third party (mwm, olwm, twm) window manager
- Intelligent color matching between X and Windows applications
- VT420, WYSE 60, and ANSI terminal emulation

- UNIX/Linux Neighborhood browser
- Multi-monitor support
- Graphics Optimizer -- maximizes the power of your hardware
- Direct Rendering support – enables applications migrated with MKS Toolkit for Enterprise Developers (both 32 and 64-bit editions), and using the MKS NuTCRACKER Platform to boost performance by communicating directly with the Windows OpenGL libraries

MKS X/Server Security Options:

- Secure Shell 2 Support included (SSH)

- FTP and secure FTP clients

MKS X/Server Supported X Extensions:

- BIG-REQUESTS
- DAMAGE
- DOUBLE-BUFFER
- GLX
- LBX
- MIT-SHM

- MIT-SUNDRY-NONSTANDARD
- RANDR
- RENDER
- VisionResume
- SECURITY
- SGI-GLX

- SHAPE
- SYNC
- XC-MISC
- XFIXES
- XInputExtension
- XKEYBOARD
- XTEST

MKS X/Server Font Support:

- X Font Compiler
- Powerful font substitution (interactive or automatic) with font preview facility

- MIT 75dpi, 100dpi, HP, Andrew, Asian, Hangul and Siemens fonts supplied
- Many simultaneous Truecolor, Pseudocolor,

Greyscale and StaticGrey visuals with overlay/underlay planes (depending upon underlying graphics hardware support).

Secure Shell Support

SSH is a secure replacement for older TCP protocols that provides greater security and full support for passwordless authentication and other modern authentication methods like RSA/DSA keys and smart cards as well as allowing an established connection to tunnel other protocols (such as X11). Support for SSH-enabled transports is fully integrated in MKS X/Server's terminal emulators, Remote Program Starter, and UNIX Neighborhood. When an SSH-enabled transport is used, MKS X/Server first tries to connect using SSH and if that fails, it falls back to using an insecure method (for example, telnet). As a result, you can connect to both pre-SSH machines and SSH-capable machines.

Plug-and-Play X

MKS X/Server is true plug-and-play X, with a powerful UNIX/Linux application wizard to guide the user seamlessly through the connection process of starting X- or character-based applications.

Unix Neighborhood provides a powerful, transparent natural extension to the Windows Explorer, making UNIX/Linux files as accessible as Windows files.

Exceed File Compatibility

Remote Program Starter (RPS) will read and use Hummingbird Exceed .xs files. You can place such files directly in a RPS command line or you can read them into RPS, modify them, and save them as .rps files. Additionally, if you desire, you can associate .xs files with rps.exe with the command line:
assoc .xs="Rps.Document.I"

Beyond Connectivity

MKS has focused on integration, not simply connectivity. MKS X/Server has a number of features to harmonize the worlds of Windows and UNIX/Linux operating systems.

The world of UNIX/Linux technology becomes accessible to the Windows user through the UNIX/Linux Neighborhood browser, which has an identical interface to the Network Neighborhood. This allows drag-and-drop file transfer between UNIX/Linux and Windows systems without any additional learning requirements.

At the click of a local application icon on your desktop, the MKS X/Server can be launched and connect to a UNIX Server (even over VPN or the Internet) over SSH, tunnel, X11 back to your local machine and display the XClient right on your desktop.

Error-Free Installation

MKS X/Server uses Windows Installer technology to ensure secure, bulletproof, compliant installs that work every time. Windows Installer technology implies the ability to do silent, administrative, and customized installations on one or all machines on your network with familiar ease.

The installer will detect and allow you to configure the Windows firewall to allow incoming X11 connections.

Minor updates and fixes are delivered in Windows Installer patch format and can be applied to admin images or delivered in an automated fashion.

The MKS X/Server installation files (and all delivered binaries) are digitally signed for your peace of mind. You always know that they came from MKS unmodified and are the genuine, virus-free packages.

MKS X/Server installation auto-senses if it is being installed on an x86 or Itanium machine (and hence installs the 32 bit X Server) or an x64 machine (and hence installs the native 64 bit X Server). No more hassles with multiple install media for different architectures. This all-in-one smart installer looks after delivering the correct binaries.

After installation, the users may choose to run the UNIX/Linux application wizard which will guide them through their first and subsequent connections to the UNIX/Linux servers. The wizard automatically detects and lists available hosts on the network and prompts the user to select one. The user then either enters the application they wish to start or browses the UNIX/Linux file system to find it. The application is then stored as a UNIX/Linux program on the Windows Start menu.

Highest Performance PC X Server

MKS X/Server automatically configures itself to deliver the highest performance possible for each PC. At installation time, it advises on how to best utilize the full power of an individual PC's hardware by having the graphics optimizer benchmark several different drawing methods and recommending the best one. The graphics resource cache provides further performance gains by eliminating unnecessary access to the server, for example there is no need to open a new brush if one is already open in the cache.

The innovative asynchronous communications feature of MKS X/Server ensures optimum use of a PC's resources by executing operations concurrently.

Internet Ready

MKS X/Server supports Broadway, The Open Group's X Window System X11R6.9. Users can launch and display X clients from a web browser across the intranet and the Internet. MKS X/Server supports the following Broadway extensions:

- RX – This allows applications to be remotely invoked and run outside of the web browser.
- Security extension - This separates trusted applications located inside the firewall from untrusted X clients located outside the firewall. X server resources are protected because X11R6.9 security prevents untrusted applications from stealing, destroying or modifying any trusted application's data.
- LBX - Low Bandwidth eXtension. The X protocol was originally designed for a high-bandwidth connection such as a local area network environment running Ethernet at 10Mb/sec. The Internet, however, is bandwidth hungry so the LBX extension was designed for accessing X applications over a WAN or serial line including direct dial up from home to office and through an Internet server provider (ISP).
- IPV6 – This is fully implemented to ensure that you are ready for the future

MKS X/Server's user interface makes it easy to accomplish all your UNIX/Windows integration tasks
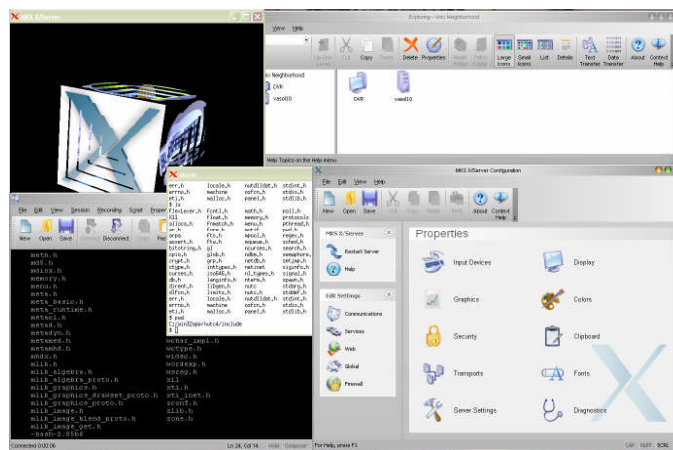
The Power of UNIX on Windows

Mixed environments can make for headaches, but diversity also does some good. Oftentimes, instead of choosing between Windows and UNIX/Linux, organizations are opting for a mix of the two operating systems. Scripting becomes more universal with the availability of MKS Toolkit products which host traditional UNIX tools on Windows. MKS Toolkit for Interoperability provides the power of the MKS Toolkit product with the new X/Server, providing full automation and scripting capabilities, remote access, remote system administration, interconnectivity and file sharing.

Furthermore, MKS Toolkit for Enterprise Developers allows you to port X11 applications to Windows and the MKS X/Server is available for redistribution with MKS ported applications. Such applications communicate with MKS X/Server using a fast local transport (AF_UNIX) for added performance. Of course the application can remain on UNIX/Linux and be rendered using IPV4 or IPV6 TCP connections.

Future-Proofing

MKS X/Server has been designed not only to match the future needs of corporate IT infrastructures, but also to optimize the IT infrastructures and investments of the past.

It is crucial to allow integration of legacy applications into an infrastructure while allowing the development of future strategies. MKS X/Server is consistent in its treatment of technology. Character-based legacy applications can be used in one of the terminal emulators provided (VT420 and subsets, WYSE 60 and subsets, and SCO ANSI). For backwards X compatibility, MKS X/Server offers X11R3 bug compatibility.

At a Glance

The next generation PC X Server, MKS X/Server includes the following X-Windows porting and integration features:

- Secure Shell 2 Support included (SSH)
- FTP and secure FTP clients
- OpenGL/GLX 1.4 support for displaying sophisticated 3D imaging applications on a Windows PC.

- Remote Environment Support including Citrix, Microsoft Terminal Services and Remote Desktop environments
- X keyboard mapper
- Multimonitor support

- Cut and paste between UNIX/Linux and Microsoft® Windows applications
- Enhanced XDMCP implementation for easy connection over VPN

Standards

- Full X11R6.9 compliance
- Native Windows (32 bit and 64 bit) client
- Winsock 2.0 compatible
    - IPV4
    - IPV6
    - AF_UNIX support with MKS NuTCRACKER Platform

System requirements

- **Windows compatible x86 PC**
    - Windows Vista
    - Windows 2003 and 2008 Server
    - Windows XP
    - or Windows 2000

- **Windows compatible x64 PC**
    - Windows Vista x64 Edition
    - Windows 2003 and 2008 Server x64 Edition
    - Windows XP x64 Edition
    - Windows 2003 Server Itanium Edition is supported with the 32 bit X Server.
    - Typical installation requires 40 Mb of disk space

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