



MKS Toolkit for Enterprise Developers UNIX Runtime Options

The UNIX runtime options provide essential services for applications, utilities and scripts migrated from UNIX or Linux to Windows with MKS Toolkit for Enterprise Developers.

Core Runtime Components

Each application or utility ported to Windows with MKS Toolkit for Enterprise Developers will require the NuTCRACKER Platform in order to run. The NuTCRACKER Platform is included in all MKS Toolkit products and is also available for runtime distribution in two forms:

- **NuTCRACKER Workstation** — a full UNIX runtime compatibility environment for workstation platforms that provides services to any application migrated from UNIX with MKS Toolkit for Enterprise Developers.
- **NuTCRACKER Server** — the server counterpart of NuTCRACKER Workstation, for servers (per processor) and all machines with more than two processors.

Additional Runtime Components

- **Power User Utilities** — a set of utilities for runtime support of automation and scripting capabilities, such as text search and retrieval, moving files and data, and automating repetitive tasks.
- **Developer Utilities** — a set of utilities for runtime support of software, script, and Web development tasks, including all the utilities in the Power User Utilities add-on as well as advanced development

tools like `make`, `tar`, `mailx` and more.

- **Connectivity Suite** — a complete suite of connectivity tools providing runtime support for access to/from remote UNIX, Linux, and Windows systems.

This package includes:

- Secure Shell utilities (`secsh/secshd`, `scp`, `sftp`)
- Remote Shell utilities (`rsh/rshd`, `rexec/rexecd`, `rlogin/rlogind`, `rcp`)
- Telnet service (`telnetd`)
- `xterm`

The Connectivity Suite add-on is available in both single and unlimited connect versions.

- **X Servers** — XVision Eclipse is a true plug-and-play X Server, with a powerful application wizard. It is designed to make it easy to manage X user desktops from a single point.

This server comes in both local and full versions, and in English and Japanese versions. The local versions are used when the client and the server reside on the same Windows machine,

The initial port [using MKS Toolkit for Enterprise Developers] took only about 6 weeks... which is comparable to the time it takes us to do a port to another UNIX platform.

Doug Wall
Manager of Systems Integration
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while the full versions are for displaying X clients from anywhere on the network on the Windows machine.

Features include:

- Full X11R6.3 server
- Centralized management using SuperVision (now included as standard)
- Zones, a powerful desktop manager for Windows
- Cut and paste between UNIX and Microsoft Windows applications
- Support for XDMCP in Direct, Indirect and Broadcast modes
- Powerful PseudoColor emulation on TrueColor displays
- Intelligent color matching between X and Windows applications
- Support for 32-bit color
- Access X applications over the Internet using Broadway technology in X11R6.3
- Integral serial line support via XRemote
- VT420 terminal emulation
- WYSE 60 terminal emulation
- ANSI terminal emulation
- Support for XIE, SHAPE, XTEST, VISION RESUME extensions
- Plane Mask support
- X11R3 bug compatibility

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- Graphics Resource Cache
 - X Keyboard Mapper
 - X Font Compiler
 - Multi-monitor support
 - Integral Wintif support
 - Powerful font substitution (interactive or automatic) with font preview facility
 - MIT 75dpi, 100dpi, HP, Andrew, Oriental, Hangul and Siemens fonts supplied
 - Host access control
 - User access control
 - Graphics Optimizer -- exploits the power of your hardware
 - Net Audio support
 - State-of-the-art X protocol and network diagnostic tools
 - OpenGL 1.1 and GLX 1.2 support
 - **Hummingbird OpenGL** — a bundle of the Hummingbird Exceed X server, Hummingbird Exceed 3D OpenGL, and MKS Toolkit OpenGL libraries.
- Exceed 3D OpenGL adds the advanced graphical computing power of OpenGL®, the industry standard three dimensional visual interface to Exceed for Windows systems. This add-on enables high-end engineering and finite analysis OpenGL-based applications to be distributed to lower cost desktops, reducing cost per seat and ownership by leveraging the accelerating power of windows-based PCs.

Supported features include:

- 3D Overlays and Stereo
 - Concurrent OpenGL 1.0 and 1.1 (GLX 1.2)
 - Simultaneous multiple server visuals
 - Direct rendering
 - Overloaded X visuals to support GLX extended attributes (e.g. single/double buffering)
 - RGBA color mode, Color Index color mode
 - Viewing and modeling transformations
 - Lighting and shading
 - Anti-aliasing
 - Texture mapping
 - Hidden surface removal (Depth Buffer)
 - Atmospheric effects (fog, smoke, haze)
 - Includes GLX, GLU, NURBS, AUX, GLUT libraries
 - **XRT PDS Widgets** — allows Motif developers to include the XRT family of widgets — XRT/3d, XRT/field, XRT/gear, XRT/gauge, XRT/graph and XRT/table — in their Windows applications. The XRT family of widgets are used by thousands of professional developers around the world to build informative, attractive and functional user-interfaces.
- The XRT PDS add-on includes:
- XRT/graph - The latest version of the world's most awarded, most popular 2D charting and graphing widget, now comes with property pages, more chart types and many enhancements.
 - XRT/table - The handy, multi-purpose, high performance widget that allows you to display and edit tabular information.
 - XRT/3d - Easily build stunning, informative and dynamic 3D charts and graphs.
 - XRT/gear - The basic component collection (tab, outliner/tree, progress, tips, printing, icons and much more) that Unix Review Magazine calls "the right choice".
 - XRT/field - Quickly build data-entry fields - no more tedious XmText validation code to write.
 - XRT/gauge - includes 7 highly customizable dial and gauge Motif widgets that measure and display the value of a property or attribute.
 - XRT/pageformatter - output to PostScript, PCL, or PDF for printed and Web-based reporting.
 - **Wintif** — Wintif brings the power of Motif applications to the PC desktop by giving them the appearance and behavior of Microsoft Windows. By simply replacing the Motif libraries with their Wintif equivalents, a huge

MKS Toolkit for Enterprise Developers met our expectations fully. Our ported Windows application demonstrates the same, full-scale performance as our UNIX installations

Erich Sartori
Project Head Manager
ABAS Software AG

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new user base is now available to software vendors' building with Wintif.

Application developers can now bring together disparate groups of users, enabling PC users to interact with central UNIX® applications without having to learn any new skills. Wintif eliminates redevelopment costs and delays, and enables you to take immediate advantage of major new desktop technologies.

Based on OSF/Motif 1.2.5¹, the Wintif libraries give you a truly Windows Friendly option. PC users are now able to access Motif applications with a Microsoft Windows style interface.

Some of the key Wintif features are:

- **Colors** — Wintif allows application colors to be specified in terms of the color scheme available in Windows — the default colors for all widgets in the Wintif toolkit correspond exactly to those used by Windows for the equivalent widgets. The colors are dynamically changeable from the Windows Control Panel tool — this means that Wintif applications will always be up to date with the current Windows color scheme.
- **Dialogs** — The standard layout for dialogs in Windows differs from Motif in terms of button positioning and pixmaps used. The standard dialogs in Wintif have

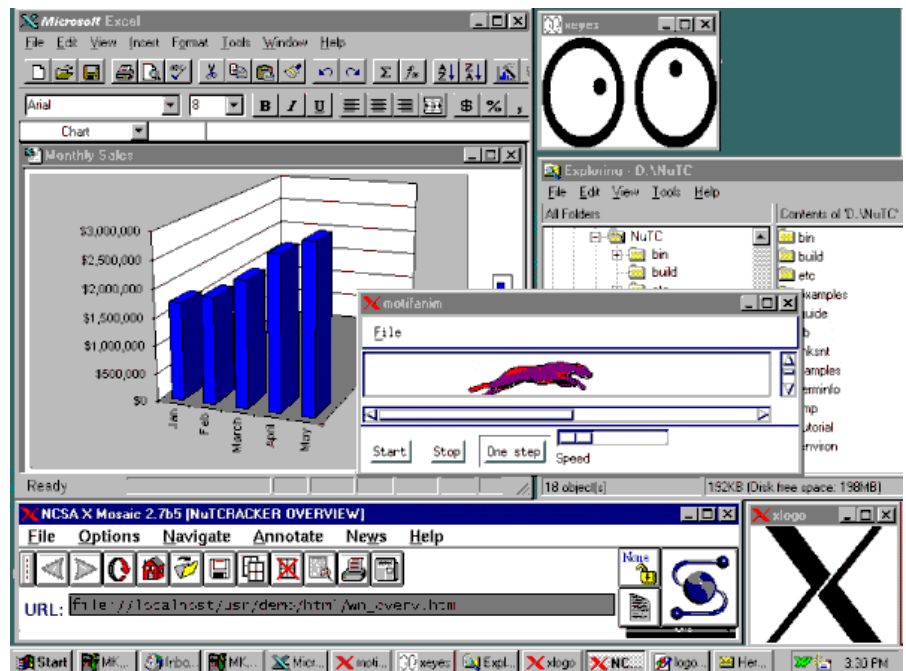
been modified to fit in with the Windows style.

- **New Resources** — Wintif has added new application resources which allow greater flexibility for some aspects of look and feel. And, Wintif provides the user/developer with the ability to control whether applications linked to the Wintif library respond to Windows font/component size changes. This enables the user/developer to enforce an application font/component size.
- **Clipboard Integration** — Wintif allows the transfer of text, pixmaps and HTML pages between Motif applications and Windows applications. To benefit from this capability, applications need only use the standard Motif API functions for getting and putting data on to the

Motif clipboard. When the contents of the Motif clipboard change, its contents are copied immediately onto the Windows clipboard (and vice versa) and can, therefore, be pasted into Windows applications. The copying of the data also involves the relevant conversion of the data.

- **Windows Appearance and Behavior** — The Wintif toolkit incorporates a visual emulation of the Windows look and feel. Applications can become Windows friendly simply by linking them to the Wintif library. Having relinked to the Wintif library the user can specify their preferred look and feel: Windows or Motif.
- **Schemes** — Windows color schemes enable font and GUI component size information to be grouped into a single color

¹ MKS Toolkit for Enterprise Developers v8.5 and later ship with Motif 2.1. Consult the MKS Customer Support web site for details on the possible compatibility issues.



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scheme. The Wintif toolkit has been extended to enable applications displayed on a Windows desktop to respond to any font/component size/color changes. The font/component size/color are dynamically changeable via the Windows appearance property sheet. This feature provides true integration between Windows and Wintif applications on the desktop.

In a Nutshell

The Application Deployment Wizard within MKS Toolkit for Enterprise Developers, along with the wide array of UNIX runtime options, provide the ability to rapidly deploy your ported application to Windows.

Request an evaluation copy of MKS Toolkit for Enterprise Developers and learn more about the rest of the MKS Toolkit line of products and services by pointing your browser to www.mkssoftware.com.



Additional Resources

Power User Utilities:
<http://www.mkssoftware.com/products/tk/commands.asp?product=puu>

Developer Utilities:
<http://www.mkssoftware.com/products/tk/commands.asp?product=du>

More Information on X Servers:
<http://www.tarantella.com/products/vison/ds/xveds.html>

More Information on OpenGL:
http://www.hcl.com/collateral/ds/exced3dv9_ds.html

More Information on XRT:
<http://java.quest.com/xrt/xrt.shtml>

Wintif Technical Note:
<http://www.mkssoftware.com/support/tn-motif.asp>

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