

# PTC MKS Toolkit for Enterprise Developers

## Proven solution for porting robust, mission-critical UNIX applications to Windows

Today's successful organizations base their IT investments on power and flexibility. For the enterprise that means heterogeneous environments are the norm, rather than the exception. With the PTC MKS Toolkit® for Enterprise Developers solution, you can now offer PC-based, multiplatform products and remain competitive.

### Solution Benefits:

PTC MKS Toolkit for Enterprise Developers enables organizations to:

- Reduce Total Cost of Development
- Leverage Existing Investments
- Decrease Time to Market
- Maintain a Single Source Code Baseline
- Evolve Applications to Windows Technologies
- Deploy Throughout the Enterprise
- 64-bit Windows Migration

With over 2700 UNIX APIs and a full command-line development environment, PTC MKS Toolkit for Enterprise Developers is the ultimate in UNIX to Windows migration. No other product can match the full support for C, C++, and Fortran; for UNIX process management including fork(), signals, alarms, message queues and threads; for file system and security management; and for curses, X, Motif, and OpenGL. And no other product matches PTC MKS Toolkit's access to Windows APIs for Windows integration and interoperability.

### Reduce Total Cost of Development

Software compatibility solutions generally have a price, such as high cost, limited functionality, or

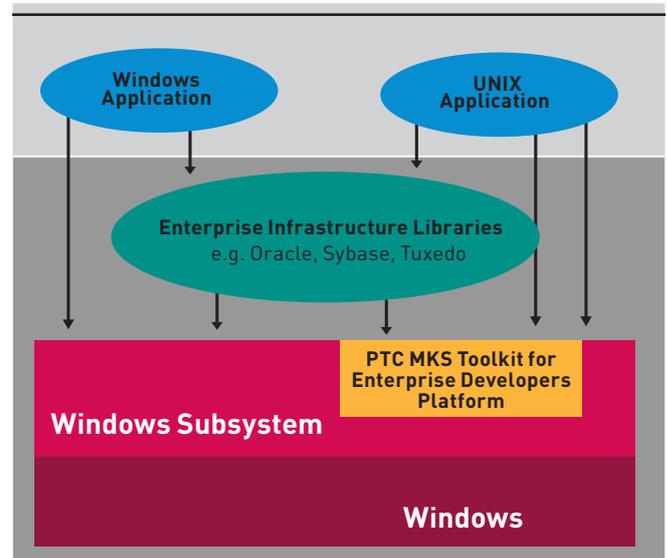
reduced performance. PTC MKS Toolkit eliminates these problems by running UNIX and Windows based applications together in a tightly integrated, high-performance Windows environment.

For mission-critical applications, PTC MKS Toolkit dramatically reduces the time and cost of migrating existing UNIX code to Windows. It allows the reuse of existing source code keeping development costs down considerably.

### Fast Fact

According to the International Data Corporation (IDC), the cost of writing and testing new code for mission-critical applications falls between \$3.90 and \$4.90 per line of code.

With PTC MKS Toolkit you will dramatically reduce the time and cost of migrating existing UNIX code to Windows.



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Delivering UNIX-based robotics solutions has contributed to much of our success. However, faced with the increasing demand for PC-based products among our clients, it became apparent that a migration to the Windows platform was necessary.”

Director of CAD & Robcad Applications —  
R&D Group, Technomatix.

### Leverage Existing Investments

PTC MKS Toolkit for Enterprise Developers enables the full utilization of existing UNIX-related in-house resources, including engineers’ skills, experience and software source code. This helps preserve high quality applications while lowering costs throughout the development process.

This PTC solution allows you to recompile and reuse UNIX and Linux source code (C, C++ and Fortran) to produce native Windows executables that look like, act like and interact with other Windows applications. Further, with its intuitive interface and comprehensive set of UNIX utilities, UNIX trained developers can quickly and easily become productive in the unfamiliar Windows environment.

### Decrease Time to Market

Whether your customers are internal or external, with PTC MKS Toolkit for Enterprise Developers projects can be completed in less than half the expected development time. By re-using in-house experience and resources, businesses can cut costs through the efficient use of PTC MKS Toolkit products. This productivity gain enables developers to include additional features to enhance their products and solutions, allowing corporations to maintain their competitive edge and exceed customer expectations.

### Maintain a Single Source Code Baseline

PTC MKS Toolkit for Enterprise Developers makes it possible to maintain a common source code base across both the UNIX/Linux and Windows platforms, which can equate to substantial savings.

Standard-based UNIX tools and APIs allow porting to proceed quickly and with minimal source code changes:

- Support for high performance workstation and server applications with over 2,700 UNIX APIs including: XWindows, Motif, OpenGL, threads, etc.
- UNIX shells and over 450 UNIX utilities to support automated builds and command-line development

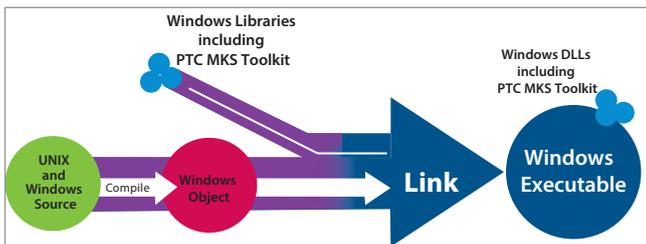
Software maintenance represents the lion’s share of development expenses and using MKS Toolkit for Enterprise Developers takes that into account as well. Having one source code base makes supporting both the old and new environments significantly easier throughout the lifetime of the product.

### Evolve Applications to Windows Technologies

MKS Toolkit for Enterprise Developers supports converting UNIX software to componentized objects that can be deployed across UNIX and Windows, integrated with desktop productivity tools (such as Word and Excel), and used from browsers in web-enabled applications.

- Integrate with Desktop Applications
- Web Enable Existing UNIX Applications
- Componentize Legacy Business Logic
- Architecture Modernization
- Component Standardization
- Create Distributed Services
- Integrate with Multiple Scripting Hosts
- Reuse Existing User Interface Technology
- Create Language Independent Applications

PTC MKS Toolkit for Enterprise Developers allows you to easily run UNIX applications as native Windows programs that take full advantage of COM, .Net and other Windows constructs.



## Deploy Throughout the Enterprise

With the Application Packaging Wizard and a wide variety of runtime options, PTC MKS Toolkit includes a complete framework for deploying ported UNIX and Linux as well as native Windows cross-platform applications. Available runtime options are:

- PTC NuTCRACKER Workstation – a full UNIX runtime compatibility environment for workstation platforms
- PTC NuTCRACKER Server – the server counterpart of PTC NuTCRACKER Workstation for servers and all machines with more than two processors

- Power User Utilities – a set of UNIX utilities for runtime support of automation and scripting capabilities
- Developer Utilities – more comprehensive set of UNIX utilities for advanced support of application automation and scripting capabilities.
- Connectivity Suite – a complete suite of connectivity tools and services providing runtime support for access to and from remote UNIX and Windows systems
- PTC X Server – a full array of X Servers for displaying X Window System based graphical applications. Available in both English and Japanese versions
- OpenGL – for porting high performance OpenGL applications
- XRT PDS Widgets from Quest

## 64-bit Windows Migration

64-bit Windows operating systems are ideal for applications that require large amounts of memory and high-performance mathematical computation, such as Web caching, data warehousing, complex mechanical design and analysis, scientific applications and research.

PTC MKS Toolkit for Enterprise Developers 64-bit Edition simplifies the migration of 32-bit and 64-bit UNIX applications to 64-bit Windows enabling customers to deploy their UNIX/Linux applications on both Extended Architecture (i.e. AMD64/EM64T).

PTC MKS Toolkit was the first to 32-bit Windows and now PTC MKS Toolkit for Enterprise Developers 64-bit Edition is the ONLY solution for porting robust, mission-critical 32 and 64-bit UNIX/Linux applications to 64-bit Windows.



IT buyers looking to run their applications on fewer platforms – or to provide a better degree of interoperability between Unix/Linux and Windows – should definitely evaluate automated migration toolsets. PTC MKS Toolkit for Enterprise Developers 64-bit Edition captured our attention because it is the most complete 64-bit migration tool environment that we found with extremely strong Unix/Linux to Windows 64-bit migration capabilities.”

Clabby Analytics

#### Solution Features:

- Over 2700 UNIX APIs including X11R6.r, Motif 2.1, OpenGL, and XView
- Over 450 UNIX and Windows command-line utilities (full POSIX.2 specification)
- Full support for multibyte/Unicode characters within file content, file and directory names, pipes, environment variables, console displays, and other areas
- An integrated command-line build environment including utilities such as ar, cc, css, ld, make, lex/yacc, and flex/bison
- Process management: fork(), exec(), signals
- POSIX, DCE, and Solaris threads
- Real time application support from the Single UNIX Specification V3 such as Message Queues, and Memory Locks.
- POSIX.4 Spin Locks, Message Queues, Semaphores, Shared memory, Reader/Writer locks, Timers and Barriers
- File System handling: mount(), umount(), symlink()
- IPC and Networking: sockets (including UNIX-domain sockets), shared memory, message queues, semaphores, and FIFOs
- UNIX to Windows file and user security mapping
- UNIX to Windows file path and file system mapping, including devices such as /dev/null and /dev/lp
- Curses and terminal handling
- A fully network-capable X Server, for displaying both local and remote X Windows applications
- Access remote UNIX, Linux, and Windows systems with Secure Shell utilities (secsh/secshd, scp, sftp), Remote Shell utilities (rsh/rshd, rexec/rexecd, rlogin, rcp) a Telnet service (telnetd), and xterm
- A powerful scheduling interface as well as a suite of command-line utilities (at, batch, crontab, taskrun, and wts) for automating routine tasks
- SNMP (Simple Network Management Protocol) services and utilities that allow you to control network devices and their functions

Request an evaluation and learn more about the PTC MKS Toolkit line of products and services by visiting: <http://www.ptc.com/developer-tools/mks-toolkit>

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