

## PTC MKS Toolkit 10.3 and PTC X/Server 10.3

PTC announces the releases of:

- **PTC MKS Toolkit 10.3 leader in UNIX to Windows scripting, connectivity, and application migration**
- **PTC X/Server 10.3, provides secure, seamless access to character and X-based UNIX applications from the Windows desktop**

PTC MKS Toolkit for Developers is an award winning and industry-leading Windows/UNIX interoperability solution that dramatically improves the compatibility between Windows and UNIX environments. It enables developers and system administrators to customize, control, and automate their software development and administrative processes. PTC MKS Toolkit for Developers speeds the software development and administration process and reduces errors by eliminating the time spent on tedious manual tasks.

- Powerful scripting allows you to simplify and automate the execution of repetitive tasks
- New technology integration enables you to easily control and manipulate today's dynamic infrastructures
- Component-based architecture provides you with the ability to easily customize a solution configured to the needs of your organization

PTC MKS Toolkit for Enterprise Developers (formerly NuTCRACKER) is the proven solution for porting robust, mission-critical UNIX applications to Windows. No other product can match our full support for C, C++ and Fortran; for UNIX process management including fork(3), signals, alarms, 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 Win32 APIs for Windows integration and interoperability.

- Run UNIX applications as native Windows programs taking full advantage of COM, .NET, and other Windows features
- Maintain a single source base across UNIX and Windows saves time and money for years to come
- Cut development time - 70%, 80%, even 90%
- Easily deploy ported applications with built-in packaging wizard and a wide variety of UNIX runtime options.

PTC MKS Toolkit for Enterprise Developers will run on either 32-bit or 64-bit Windows systems. The application ported using PTC MKS Toolkit for Enterprise Developers will install and run on either 32-bit or 64-bit Windows systems. However, on 64-bit Windows systems the application will run as a 32-bit application.

PTC X/Server for Windows 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 is a Windows X Server containing 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.

MKS Toolkit 10.3 and X/Server 10.3 are available to customers with current support or subscription by requesting an upgrade from <https://www.mkssoftware.com/support/upgradeform.asp>.

## Highlights of MKS Toolkit 10.3

- Subscriptions may be reactivated (once you receive license upgrade notification from PTC) without the need for username/password and notifications will be given if the current license is about to expire
- Add a new windows specific utility to manage ISO/VHD images
  - Integrate into mount(1) similar to Linux loop device.
  - vhdutil(1) man page: <https://www.mkssoftware.com/docs/man1/vhdutil.1.asp>
  - mount(1) man page: <https://www.mkssoftware.com/docs/man1/mount.1.asp>
- LLVM updated to version 9.0.1.
  - clang for NuTCRACKER updated to version 9.0.0.
  - LLVM Manual: <https://www.mkssoftware.com/publications/LLVM.asp>
  - clang Manual: <https://www.mkssoftware.com/publications/clang.asp>
  - PTC NuTCRACKER libc++ remains at version 4 for VC++ compatibility.
- The OpenGL client libraries in the PTC NuTCRACKER Platform runtime were upgraded to Mesa 10.4.2
- Installer detects Intel® C/C++ versions 8 through 19 (8.0 to 2019).
  - 10.3 installer detects the following compilers in addition to previous releases detecting 8.0 through 2016
    - Intel® C++ Compiler 19.x
    - Intel® C++ Compiler 18.x
    - Intel® C++ Compiler 17.x
- ls and find enhanced with knowledge of named file streams on NTFS file systems
  - You can now find files that have more than just the unnamed stream  
e.g.

```
find . -type f -streams +1 -exec ls -l -streams "{}" ";"
or
find . -type f -streams +1 -ls ";"
```

- Improved license notification using Windows 10 toasts. E.g.
  - Version upgrade exists
  - A patch for the current version exists
  - Product support is expiring soon
  - Activated subscription is expiring soon
  - Subscription activation may be renewed to extend
- Potential security vulnerabilities addressed.
  - OpenSSL has been updated to 1.1.1d
  - OpenSSH has been updated to 8.0
  - Perl has been updated to version 5.3
  - ncurses library has been updated o version 6.1
- Platform changes
  - Drop Windows 7 which allows us to use Windows 8.1 specific APIs
  - That said, one of the fundamental principles of PTC MKS Toolkit is to ensure backward compatibility. So, removing Windows 7 from the tested platforms does not mean it no longer works, only that PTC will may ask you to reproduce on tested platforms.
  - Similarly, on Windows 10 features which released after PTC MKS Toolkit 10.3, may require a hot fix to work and PTC will ask you to reproduce problems on tested platforms
- Installation improvements
  - First time PTC MKS Toolkit 10.3 and any subsequent patches can be installed simultaneously using instructions found [here](#)
  - Setup.ini was introduced in 10.2 and has been further enhanced

PTC MKS Toolkit 10.3 Release notes: [https://www.mkssoftware.com/docs/rn/relnotes\\_tk103.asp](https://www.mkssoftware.com/docs/rn/relnotes_tk103.asp)

PTC MKS Toolkit 10.3 Fixed Problems: <http://www.mkssoftware.com/support/103problems.asp>

## Highlights of X/Server 10.3

- The core xorg-server was upgraded to version 1.17.1
  - Keeping PTC X/Server current with the latest changes in X11 ensures compatibility with the latest Linux clients while remembering that many X11 programs were written many years ago; backward compatibility is also tested heavily.
  - Implicit in this is that several server extensions were also upgraded to new versions
- Potensial security vulnerabilities addressed
  - OpenSSL has been updated to 1.1.1d
  - OpenSSH has been updated to 8.0

- Platform changes
  - Drop Windows 7 which allows us to use Windows 8.1 specific APIs
  - No platform specific changes to PTC X/Server 10.3 were made, so it ought to run on all the same platforms as 10.2 – but simply has not been tested
- Redistribution Improvements
  - Redistribution of PTC X/Server has always been limited to full CD releases, or required a great deal of manual intervention. With X/Server 10.2 we add a setup.ini, and ensured that PTC X/Server and PTC® MKS Toolkit® can install patches with first product install. This is documented [here](#).
  - Setup.ini was introduced in 10.2 and has been further enhanced

PTC X/Server 10.3 Release Notes: [https://www.mkssoftware.com/docs/rn/relnotes\\_mksx103.asp](https://www.mkssoftware.com/docs/rn/relnotes_mksx103.asp)

PTC X/Server 10.3 Fixed Problems: <http://www.mkssoftware.com/support/xs103problems.asp>

For the most up-to-date information concerning this release, or for detailed information on new features in PTC MKS Toolkit and PTC X/Server, please visit the [PTC eSupport Portal](#). To ensure you stay fully informed of new information as it happens, we recommend you subscribe to our news & alerts feed. In the [PTC eSupport Portal](#), navigate to Tools, then Manage Notifications. *Important Note: if you have previously subscribed, we suggest you verify the subscriptions you selected are still active.* If you have any questions, log a support case or telephone (800-477-6435).