PTC TeleUSE® for Linux, UNIX, or Windows Systems

Delivering the Power of Reusable GUI Objects

PTC TeleUSE is a powerful User Interface Management System (UIMS) that provides all the features tools developers need to interactively design and build fully object-oriented, Motif-based GUIs.

Today’s software organizations are rapidly moving toward object-oriented programming techniques to develop complex applications.

The Promised Benefits?

• Portable, well-engineered systems, easily maintained and reusable across projects or across development platforms

• Shortened development cycles

• An overall increase in productivity—the ability to deliver more applications in less time, and with less effort

Yet few organizations are really obtaining these benefits. They’re finding that most tools claiming to support object-oriented development often fall short of their claims by providing only “cut-and-paste” interface builders or generating

Key Benefits

• World-class Graphical User Interface Management System development toolset

• Common toolset across Linux, UNIX and Windows platforms

• “QuickPort” Motif application to Windows from a single source base

• Extensive widget libraries supply thousands of valuable resources for your every application need

• Sophisticated client/server development tools support seamless tie-ins to relational databases

• Specialized palette of widgets provided for deployment of applications on the Internet

The Visual Interactive Presentation (VIP) tool—a powerful palette from which you can create GUI masterpieces
Capabilities and Features

User Interface Templates with Multilevel Encapsulation

PTC TeleUSE’s Visual Interactive Presentation (VIP) tool allows you to easily design object-oriented widget templates — screen elements, screens or groups of screens that can be reused within or across applications. Developers needing a control panel, for example, can simply use an existing control panel template that inherits the widgets, resource values and methods defined in the template. Templates can be viewed and edited either through the VIP tool or within the outline-oriented tree editor, which displays a template’s components as nodes in a tree hierarchy.

Not only does the system support true inheritance across all instances of a template, but with PTC TeleUSE, a template’s designer can use the object-oriented mechanism of encapsulation or data hiding, to selectively control which information in a template will be revealed to its users. Users can access and change particular template parameters, add certain nodes to a template or directly edit selected nodes — all without seeing any information that is not absolutely necessary to the operation at hand.

The benefits? Encapsulation gives the designer flexibility in providing for a complex or irrelevant information, so they can quickly use even large templates in different application contexts. And features that are integral to the original template design are protected — and maintained through all instances of the template — to enforce changing corporate standards.

Rules-Based, Event-Driven Callback Scripts

One of the most powerful features of PTC TeleUSE is its Dialog Manager, which lets you specify, manage and control the dynamic or dialog code that connects the GUI to the application code.

You do so not through painstaking hand-coding of callbacks and events — although this option is available should you so choose — but rather by writing simple, Object-oriented callback scripts that define the rules to be used when given events occur. The scripts are high-level abstractions of the X and Motif library routines. Ordinarily written from scratch, these scripts fully insulate you from the nuances and complexities of the underlying window systems. They let you accomplish all the callbacks and event handling your application needs in a fraction of the time, and with a fraction of the instructions required by direct low-level coding.

“X Windows Smart” Debugging

PTC TeleUSE’s graphical, interactive Dialog Debugger traces callback code as it is associated with X events, offering a significant advantage over general-purpose C and C++ debuggers. And you can run the Dialog Debugger in concert with the development environments provided by the platform vendors to debug dialog and application code simultaneously.
**C++ Class Generation**

PTC TeleUSE generates true C++ classes that are directly mapped to your design, and these classes then create and manage Motif user interface elements. With this capability, PTC TeleUSE’s VIP tool becomes a visual C++ class designer, from which you can specify callbacks as member functions. You are, in effect, defining C++ objects that tightly integrate the presentation (data) and dialog (behavior) components of your application.

The results? Quick and easy instantiation and change of widget templates dynamically, at runtime. And, because PTC TeleUSE implements the key components of an application and its interface as C++ classes — using Motif widgets as primitives — one enjoys true tool support for optimal C++/Motif programming technique. Applications and their components are extremely easy to reuse, and the effort required for product maintenance is reduced dramatically.

**Advanced Application Building**

The PTC TeleUSE User Interface (UI) Builder offers over 100 options to customize the automated build process, and also provides hooks into third-party tools, such as configuration management systems, debuggers, testing tools and compilers. The UI Builder not only builds fully executable applications but also reusable software components that package visible portions of an interface with their associated behavior. You can create a repository of these components and use them repeatedly as fully operational building blocks for larger applications.

**PTC TeleUSE Ada Integration**

The PTC TeleUSE Ada Integration Package adds support that allows you to access application code written in the Ada programming language from graphical user interfaces developed using PTC TeleUSE. Full use of the complete PTC TeleUSE system for application development in Ada is provided. Ada compilation systems (such as the PTC ObjectAda® for UNIX, PTC ObjectAda for Linux, and PTC ObjectAda for Windows products) can be fully integrated with the PTC TeleUSE UI Builder to build applications incorporating Ada application code.

Ada interface packages for GUI components can be generated and instances of such objects can be created from within Ada application code. The PTC TeleUSE Ada Integration Package supports Ada tasking as well as object-oriented development with Ada 95, while maintaining full support for the Ada 83 language.

**Support for Multi-Platform Deployment**

The PTC TeleUSE family of products offers support for multi-platform deployment to Linux, UNIX, and Windows. When PTC TeleUSE for Linux, PTC TeleUSE for UNIX, and PTC TeleUSE for Windows are used together, the time normally associated with migration of substantial applications from UNIX to Windows is significantly shortened. If you previously hand-coded your Motif applications or used other UIMS products, you can use PTC TeleUSE products to leverage the robust, cross-platform and single-source application development support within PTC TeleUSE for Windows, allowing the deployment of applications that fully meet the user’s requirements for a Windows look and feel, and can be maintained and enhanced directly on Windows.
Extensive Widget Libraries

PTC TeleUSE products all contain popular Windows Compatibility Widgets, a collection of additional Motif widgets that make it faster and easier to implement a Windows-like GUI for all of your cross-platform, business-critical applications. You get the ToolBar, Tab Manager, Tab Button, ComboBox and SpinBox widgets, in addition to a handy Widget Tips utility that enables you to add a pop-up help balloon to any widget in your application. Additionally, users can take advantage of clipboard-style interactions between PTC TeleUSE-created applications and native Windows applications, such as Excel, for instance. Windows users expect these kinds of GUI controls, and they give TeleUSE-created applications a look and feel that is truly like that provided by native Windows applications.

PTC TeleUSE also supports the latest version of the XRT Professional Developer’s Suite (PDS), the leading Motif widget product in the industry. XRT/PDS, a separately purchased add-on to PTC TeleUSE, is available for cross-platform development and is the easiest way to add powerful 2D/3D graphs, robust data-entry and validation, tables and other intuitive interface elements to your applications.

An Extensive set og Motif Widget Libraries are available for PTC TeleUSE

PTC TeleUSE for Windows Features

Create an Application with Windows Look and Feel

UNIX developers are not required to reinvent their UNIX applications on Windows when using PTC TeleUSE for Windows! A comprehensive set of features ensures that the Windows applications they deploy will be accepted and used by their intended target audience. The installation and usage is very Windows-user-friendly.

Windows-aware Motif Libraries — Selectable Look and Feel at Runtime

PTC TeleUSE for Windows provides all the features and capabilities of PTC TeleUSE on the UNIX platform; essentially, they are one and the same toolset. One difference, however, is that on the Windows side, a special Motif library — the “Wintif” library — is capable of rendering GUI elements that look and feel like Motif, or Windows GUI. A single GUI component, then, is displayed as a Windows component on the Windows platform and as a UNIX element on UNIX.

PTC TeleUSE for Windows gives users the ability to select the desired look and feel at runtime, thereby invoking the application either as a Motif or as a Windows GUI.

This gives the end user full control over the look and feel of the interface at runtime. Simply by setting a resource or an environment variable, the end user can make the interface look and operate like a Motif GUI, a Windows GUI.

Windows-style Widgets and Windows-specific GUI Controls

PTC TeleUSE includes a module containing Windows-specific widgets that developers can use in their applications, such as the ToolBar with Tooltips, Tab Notebook, ComboBox and SpinBox. These GUI controls are expected by Windows users, and they give the TeleUSE-created applications a look and feel that is truly like that provided by native Windows applications. Since this module is provided by PTC TeleUSE on all platforms, applications can have the same user interface across all platforms supported by PTC TeleUSE.
UNIX/POSIX Portability Library

PTC TeleUSE for Windows provides a light-weight Portability Library which facilitates porting application code from UNIX/POSIX systems to Windows. The library makes the Microsoft Visual C++ header files and runtime library resemble a UNIX/POSIX environment, thereby promoting building cross-platform applications from a single source code base. A UNIX-like command-line interface frontend to the Visual C++ compiler and linker provided by PTC TeleUSE for Windows allows the same application build scripts or makefiles to be used on UNIX and Windows.

PTC: More Than a Supplier — a Partner

At PTC, we are as diligent in supporting our customers as we are in developing world-class development solutions. In today’s world of distributed enterprises and global businesses, large applications are frequently developed and/or distributed by teams operating in different locations and possibly even on different continents. With our global presence and worldwide sales and support locations, we are there to serve our customers in a variety of ways including customer support, training, consulting and customization services. PTC solutions are designed to improve the quality of software applications and to improve programmer productivity for even the most challenging of applications, and our qualified support staff is looking forward to helping you achieve these goals.

PTC TeleUSE Platform/OS Availability

PTC TeleUSE for LINUX and UNIX:

- Solaris (SPARC 32-bit)
- Solaris (SPARC 64-bit)
- Solaris (Intel 32-bit)
- Solaris (Intel EM64T/AMD64 64-bit)
- Linux (Intel 32-bit)
- Linux (Intel EM64T / AMD64 64-bit)
- AIX (RS6000 32-bit)
- HP-UX (Itanium 32-bit)
- HP-UX (Itanium 64-bit)

PTC TeleUSE and XRT Widgets for Windows:

- PTC TeleUSE for Windows (32-bit)
- XRT Widgets for PTC TeleUSE for 32-bit Windows/Intel
- PTC TeleUSE for Windows (64-bit)
- XRT Widgets for PTC TeleUSE for 64-bit Windows/Intel

For more information, visit: PTC.com/developer-tools/teleuse

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