

VxWORKS® DEVELOPER'S TOOLKIT



A complete environment for accelerated development

Wind River's **VxWORKS DEVELOPER'S TOOLKIT** provides a complete set of integrated software and tools necessary for the rapid, development of highly reliable embedded products. The **VxWORKS DEVELOPER'S TOOLKIT** enables organizations to easily and cost efficiently provide their development teams with the software and tools needed to hit product market windows. By standardizing on a common development platform, organizations can greatly decrease development costs and increase development efficiencies. The toolkit includes the industry-leading real-time operating system (RTOS), **VxWORKS**, development tools, a common set of additional runtime

accessories, support, maintenance, and development services.

VxWORKS the most reliable RTOS

With a reputation for performance, flexibility, compatibility and scalability, **VxWORKS** provides an extremely reliable runtime environment for embedded application development. **VxWORKS** comprises the core capabilities of the wind microkernel along with networking support, powerful file system and I/O management, C++ and other standard run-time support. The wind microkernel supports a full range of real-time features including fast multitasking, interrupt support, along with preemptive and round-

Features

Development Tools

- **TORNADO II**
- **SNIFF+ PRO**
- GNU and **DIAB COMPILERS**
- **WIND VIEW ANALYZER**
- **VxSIM**

Runtime Components

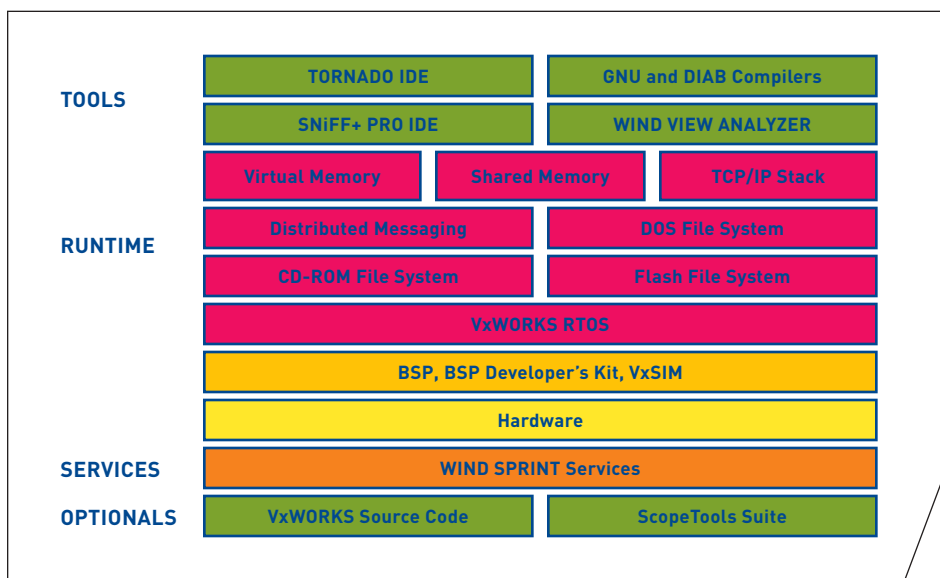
- **VxWORKS RTOS**
- TrueFFS Flash File System
- **VxFusion**
- **VxMP**
- **VxVMI**

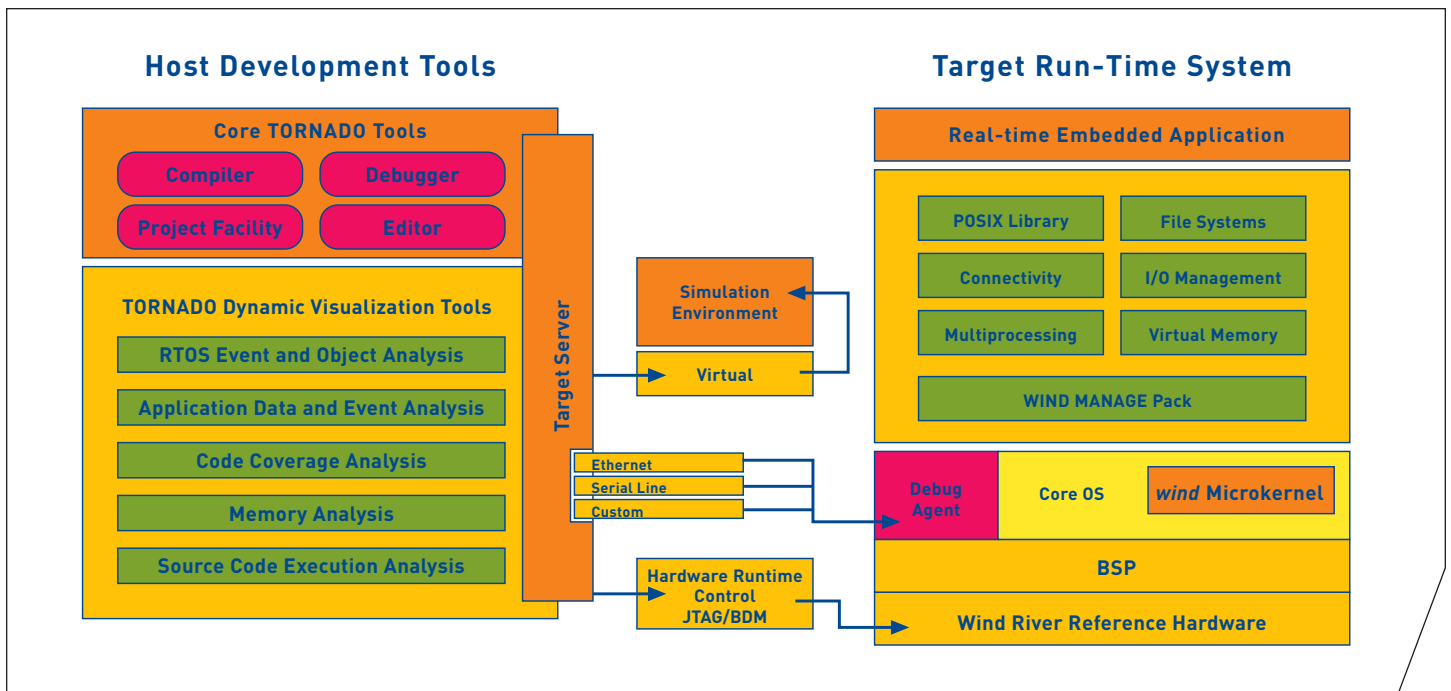
Services

- Support and Maintenance
- Service credits that can be applied towards training or consulting

Supported hosts

- Windows NT 4.0
- Windows 2000 Professional
- Windows XP
- Solaris 2.7, 2.8 and 2.9





Functional Diagram

robin scheduling. The microkernel design minimized system overhead and enables fast, deterministic response to external events. **VxWORKS** is designed for scalability, allowing developers to allocate scarce memory resources to their application, rather than to the operating system. From deeply embedded designs requiring a few kilobytes of memory, to complex high-end real-time systems (where more operating system functions are needed) the developer may choose from over 100 different options to create highly customized configurations. Individual modules may be used in development and omitted in production systems.

Operating system accessories

Included accessory products give developers access to an unprecedented range of features. These products include the BSP Developer's Kit, support for flash file systems with TrueFFS for TORNADO, virtual memory management with **VxVMI**, multiprocessing with **VxMP** and **VxFusion**, and connectivity through the common object model (COM).

Highly reliable, visual, automated tools

The **TORNADO® II** development environment dramatically improves embedded developers' time to productivity. A major component of **TORNADO** is a comprehensive suite of cross-development tools, utilities as well as **VxWORKS**, that executes on the target processor and a full range of communications options for the target connections to the host. The **TORNADO** tools suite provides a highly visual and automated environment that accelerates the development of even the most complex **VxWORKS**-based applications. As a result, creating applications with **TORNADO** is fast and easy for developers of all experience levels.

TORNADO permits developers to incrementally load object modules into a target system. This ability to dynamically link and load object modules enables developers to omit the common step of linking the applica-

tion to the kernel on the host, then downloading the entire executable as one static environment.

The **VxSIM** simulator is fully integrated with **TORNADO**, which permits developers to immediately begin their project, independent of board support package porting (if required), operating system configuration, and target hardware. With the integrated simulator, even first-time users can get acquainted with **TORNADO** and begin developing and debugging code.

The **WIND VIEW** system-level diagnostic and analysis tool is included for use with **VxSIM**. Embedded developers are often unable to view system-level execution and timing characteristics of software. **WIND VIEW** provides detailed visibility into the dynamic behavior of embedded **VxWORKS** applications running on the integrated simulator, graphically displaying the complex interactions between tasks, interrupts, and system objects.

SNIFF+ PRO for TORNADO Teams is a source code analysis environment for software developers and teams

who work with large amounts of application code. The **SNiff+ PRO** tool promotes engineering productivity and code quality by providing a comprehensive set of code visualization and navigation tools that enable development teams to organize and manage code at maximum efficiency. If source code is not well understood and the impact of code changes, organizations face much higher costs down the line and end up spending more time and money on probes, debuggers, and testing tools. Eventually, organizations lose potential product revenue and market share when releasing a product late. **SNiff+ PRO** provides unmatched code browsing and analysis capabilities to jumpstart new developments and brings delayed projects back on track.

Industry leading C and C++ compilers

The **VxWORKS DEVELOPER'S TOOLKIT** includes the GNU and **DIAB COMPILERS** and supports both the C language and C++ language with cross-compilers; the iostreams class library, and a variety of other tools. The cross-compilers contain several optimizations that allow developers to generate fast, efficient, and compact code. The tools integrate seamlessly into the development environment through full run-time support for C++, including exception handling, standard template library (STL) and run-time type identification (RTTI); loader support for static constructors and destructors; and C++ debugging features. The iostreams library supports formatted and typesafe I/O in C++, is extensible to user-defined data types, and is an industry standard for C++ application development.

Features

- Complete and comprehensive toolkit
- Access to all supported architectures, processors and BSPs
- Available to be used without project use restrictions

Benefits

- Get started quickly and deliver extremely reliable products to market faster than ever before
- Accurately budget for development tools and reduce overall expenses
- Standardize on development tools across the entire organization.

ScopeTools Suite for enhanced debugging

The ScopeTools Suite is available for the **VxWORKS DEVELOPER'S TOOLKIT** and includes StethoScope, MemScope, ProfileScope, TraceScope and CoverageScope tools for added visibility into a running system. This dramatically reduces the time to understand what is happening with the application.

- StethoScope provides a dynamic view into the application's data and events
- MemScope shows the application's detailed dynamic memory usage in real-time
- ProfileScope provides a detailed function-by-function analysis of CPU usage
- TraceScope shows an application's actual execution path while the application runs
- CoverageScope dynamically determines how well test suites are exercising an application

Services throughout the development cycle

The **VxWORKS DEVELOPER'S TOOLKIT** includes an allocation of service credits that can be applied towards our service offerings such as **WIND SPRINT**, training and consulting. Applying these credits towards **WIND SPRINT** provides an on-site specialist to install the toolkit, give developers a hands-on orientation and provide advice and support. Developers can be up and running smoothly, building code in a matter of days, and saving a significant amount of time and resources. In addition, support and maintenance are included with no additional cost to access our support specialists, on-line support and upgrades.



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