General Purpose Platform, VxWorks Edition

The market for intelligent, connected devices has never been greater. And the challenges of developing device software have never been more daunting. As the code load of the average device increases in size and complexity, the chances of delivering a high-quality device to market on time and on budget shrink dramatically. To succeed, companies must optimize their device software development practices. They need to eliminate duplicated effort, leverage resources, and focus brainpower on innovation, not integration, migration, or vendor management. They need a Device Software Optimization solution that scales.

Wind River General Purpose Platform, VxWorks Edition, is a complete, flexible, optimized COTS development and run-time platform that works out of the box and across the enterprise. The platform provides a powerful, scalable development environment built on open standards and industry-leading tools; the industry's most trusted commercial-grade RTOS; and tightly integrated run-time technologies. This prime, proven technology package comes wrapped in a 20+-year track record, an exceptional ecosystem of hardware and software partners, and the industry's best and most comprehensive support organization.

General Purpose Platform, VxWorks Edition, is an optimized develop and run solution for a range of devices, from aerospace and defense applications to networking and consumer electronics, robotics and industrial applications, precision medical instruments, and car navigation and telematics systems. The platform provides a robust, flexible foundation for companies that need to leverage their investment in proprietary intellectual property. It has been deployed successfully in millions of devices worldwide.

The Foundation: VxWorks 6.x

General Purpose Platform, VxWorks Edition, is based on the world's most widely adopted RTOS. Built on a highly scalable, deterministic, hard real-time kernel, VxWorks enables companies to scale and optimize their run-time environment using only the specific technologies required by their device. From the smallest footprint requirement to the highest performance level, VxWorks gives developers the flexibility to build their optimal solution quickly and easily while meeting cost, quality, and functionality requirements.

VxWorks supports POSIX and industry-standard protocols such as TIPC and IPv6, ensuring maximum code portability and interoperability. VxWorks 6.x is backward compatible with previous releases, so developers can leverage and reuse existing projects, intellectual property, board support packages, and drivers, as well as open-source applications. VxWorks includes frameworks for file systems, power management, and

interconnectivity, as well as comprehensive security capacities that begin at the core operating system level for absolute application and device security.

Integrated Run-Time Technologies

General Purpose Platform, VxWorks Edition, includes comprehensive networking and run-time technologies that have been preintegrated, tested, and validated. Leveraging these standard technologies saves valuable development time and allows you to focus your efforts on adding value and differentiating functionality for your device.

Optimized Development Suite

General Purpose Platform, VxWorks Edition, includes the industry-leading Wind River Workbench development suite. From hardware and board initialization to application development, the suite offers deep capability across the development process in a single integrated environment, complete platform integration, and powerful tools for debugging, code analysis, and test. Based on the Eclipse framework, Workbench can be extended easily through in-house, third-party, open-source, and commercially available plug-ins. Workbench's support for multiple OSes, multiple architectures, and programming languages gives companies unprecedented flexibility across the enterprise.

Commercial-Grade Services and Support

General Purpose Platform, VxWorks Edition, includes full access to Wind River's worldwide support organization, with 24/7 product support available through multiple channels. Customers can leverage the education credits included with the platform to bring engineering teams up to speed on the latest DSO technologies and tools. Wind River offers industry-specific services practices—our team of engineers has extensive experience delivering design, integration, and optimization services tailored to the needs of device software development.

A Proven and Reliable Partner

The right technology partner can greatly increase your odds of succeeding in a highly competitive marketplace. As the industry leader in Device Software Optimization, Wind River has met and exceeded the requirements of our customers and their markets for over 20 years. More than 4,000 businesses have leveraged our skills, experience, and expertise to deploy and support more than 350 million devices successfully. A vibrant, publicly traded company, Wind River is positioned to stay the course with established device manufacturers and new companies alike.

Extensive Partner Ecosystem

The Wind River partner ecosystem delivers the capabilities and expertise of dozens of premier silicon and software companies to your engineering team. To ensure a complete range of integrated technologies, Wind River has joined forces with world-class providers to address such technologies as advanced file systems, level 2 and 3 networking protocols, advanced graphics, reference designs, and board support packages. Not only does choosing General Purpose Platform, VxWorks Edition, take you out of the operating system and middleware business, it also simplifies your vendor choice and management issues.

Flexible Business Models

Wind River complements the technical advantages of General Purpose Platform, VxWorks Edition, with a choice of proven business models. Under our Enterprise License Model, the platform is offered on a per-developer, per-year subscription basis applicable across the enterprise, regardless of project, processor, or site. The yearly subscription includes Wind River worldwide support and all product updates, including our semiannual product releases in the fall and spring. Our Perpetual License Model provides project licensing and budgeting flexibility for companies that act as subcontractors on large-scale A&D initiatives.

Why General Purpose Platform, VxWorks Edition?

- Proven, reliable hard real-time OS scales to meet the footprint, performance, and mission-critical requirements of your device software
- Future-proof design protects your investment through compatibility with existing intellectual property and open-source tools
- Extensible frameworks architecture lets you create custom functionality
- Secure operating environment protects application processes, data, and network
- Preintegrated, tested, and validated run-time technologies reduce time-to-revenue
- Complete, end-to-end development suite enables developer efficiencies and standardization
- Using Wind River products and VxWorks makes the industry's largest community of experienced developers available to customers
- Access to a global team of experts through Wind River Professional Services extends developer capabilities
- Going to market with a proven and trusted partner gives confidence

Included in General Purpose Platform, VxWorks Edition

Develop: Wind River Workbench

- Eclipse framework
- Project System
- Build System
- Editor
- Source Analyzer
- Wind River Debugger
- Wind River Compiler and GNU Compiler
- Wind River System Viewer
- VxWorks Simulator
- Host Shell
- Kernel Shell
- On-Chip Debuggers
- ScopeTools
- Workbench Unit Tester
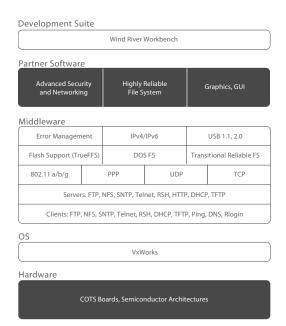- Workbench Diagnostics

Run: VxWorks 6.x

- Backward compatibility with VxWorks 5.5
- Memory protection
- Shared libraries
- Shared memory
- Standards-based
- POSIX conformance
- IPv4/IPv6 dual stack
- Sockets-based IPC
- Memory management
- Networking: TCP, UDP, PPP, 802.3, and 802.11 drivers
- MS-DOS file system
- Error management
- POSIX library
- Power management
- File systems framework

Development Suite

Wind River Workbench

Partner Software

Advanced Security and Networking	Highly Reliable File System	Graphics, GUI

Middleware

Error Management	IPv4/IPv6	USB 1.1, 2.0
Flash Support (TrueFFS)	DOS FS	Transitional Reliable FS
802.11 a/b/g	PPP	UDP	TCP
Servers: FTP, NFS, SNTP, Telnet, RSH, HTTP, DHCP, TFTP		
Clients: FTP, NFS, SNTP, Telnet, RSH, DHCP, TFTP, Ping, DNS, Rlogin		

OS

VxWorks

Hardware

COTS Boards, Semiconductor Architectures

Services

Training and Installation	Platform Customization
System Design	HW/SW Integration	Design Services

Wind River General Purpose Platform, VxWorks Edition Components