

## Wind River VxWorks 61508 Platform

Wind River VxWorks 61508 Platform enables VxWorks developers access to Wind River's commercial off-the-shelf (COTS) platform for delivering applications that must be certified to the stringent requirements of IEC 61508 (functional safety of electrical/electronic/programmable electronic safety-related systems [E/E/PES]) and other related software standards. With VxWorks 61508 Platform, developers can take full advantage of technological advances in microprocessors that the VxWorks COTS real-time operating system (RTOS) enables, with the assurance that they will have a strong operating system foundation to meet the most demanding safety certification standards.

### COTS Without Compromise

The industrial market has a history of success using standard commercial microprocessors for a variety of applications that can directly affect safety and reliability. To ensure that industrial systems contain a consistent high quality to meet the demands of a variety of safety criticality levels, the IEC (International Electrotechnical Commission) developed the IEC 61508 industrial safety standard to provide guidance on creating, certifying, and deploying these devices. These specifications are internationally recognized. Wind River's IEC 61508 Certification Evidence DVD contains a complete COTS certification package that meets these stringent objectives and therefore enables our customers faster time-to-market and gives equipment manufacturers a competitive advantage in the ability to leverage additional, ready-made technology from Wind River partners.

### Integrated Development Environment

VxWorks 61508 Platform includes the award-winning Wind River Workbench development suite. Wind River Workbench is an Eclipse-based collection of tools designed to accelerate time-to-market for developers building devices with VxWorks real-time operating systems. From hardware and board initialization to application development, Workbench offers deep capability across the development process in a single integrated environment, with complete platform integration, including powerful tools for debugging, code analysis, and test.

Based on the Eclipse framework, Workbench can be extended through in-house, third-party, open source, and commercial plug-ins. In addition, VxWorks 61508 Platform provides a full-featured command-line build system and debugging tools for developers who prefer this type of environment. These command-line tools can be easily integrated into a customized build system. The Workbench development environment helps reduce development costs,

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#### Included Components

- Wind River Workbench 3.1
- Wind River VxWorks 6.6
- Wind River VxWorks 6.6 for IEC 61508
- GNU Compiler 4.1.2
- Wind River Compiler 5.6.0
- MPC 8349E Reference BSP (PowerPC 603 architecture, PowerPC e300 core)

#### Optional Components

- UDP/IPv4 network stack with multicast for VxWorks 6.6 for IEC 61508
- TCP/UDP/IPv4 network stack with multicast for VxWorks 6.6 for IEC 61508
- Workbench plug-in for on-chip debugging (OCD)

#### Supported Hosts

- Windows XP Professional, Windows Vista (Business and Enterprise)
- Solaris 9, Solaris 10
- Red Hat Enterprise Linux, Workstation 4 and 5
- Red Hat Fedora 9
- OpenSUSE Linux 10.2 and 11

helps manage code complexity, eases tool integration, and enables standardization on a common development foundation across the enterprise.

### Leveraging the Power of VxWorks 6

VxWorks 61508 Platform is based on the standard VxWorks 6 operating system. VxWorks 61508 Platform includes a full commercial version of VxWorks 6.6 as an integral part of the development package. This packaging enables the use of a standard VxWorks 6 development environment, including the Wind River run-time analysis tools, Simulator, System Viewer, and Source Analyzer.

VxWorks 6.6 for IEC 61508 includes more than 240 system calls selected from VxWorks 6.6, all of which are fully deterministic and deployable under guidelines outlined in the IEC 61508 safety standards. These calls include cache, clock, event flag, interrupt, memory management, message queue, ring buffer, semaphore, signal, and task management calls, along with a wide array of C library functions.

### IEC 61508 Certification Evidence DVD

VxWorks 61508 Platform is backed by the industry's most comprehensive set of certification artifacts, which supports all IEC 61508 SIL 3 requirements. This fully hyperlinked DVD enables rapid traceability analysis of certification data, from the requirements, design, source and binary code, and test case phases, using a simple browser. With this certification evidence DVD, the review of piles of printed and individual computer-based certification artifacts is no longer required. This certification package DVD contains the VxWorks 61508 Platform Safety Manual and all required IEC 61508 SIL 3 documentation. The certification package also includes the TÜV certificate for VxWorks 61508 Platform.

### Commercial-Grade Support and Services

VxWorks 61508 Platform includes full access to Wind River's worldwide support organization, with 24/7 product support and training available through multiple channels. We also offer specialized industrial consulting and services. Our Industrial Services team of engineers has extensive experience delivering design, integration, and optimization services tailored to the needs of the industrial and medical markets and is fully equipped to provide professional certification services at any level, including certified board support packages (BSPs), middleware, and application software.

### A Proven, Reliable Partner Enables Success

The right technology partner can greatly increase your odds of succeeding in a highly competitive marketplace. As the industry leader in Device Software Optimization (DSO), Wind River has met and exceeded the requirements of our customers and their markets for more than 25 years. More than 4,000 businesses have leveraged our skills, experience, and expertise to successfully deploy and support more than 350 million devices. A vibrant, publicly traded company, Wind River is positioned to stay the course with established device manufacturers and new companies alike.

### Development Suite

Wind River Workbench	
Wind River Compiler	Workbench Debugger
GNU Compiler	Host Shell

### Software Partners

Java	OpenGL Graphics
IEC 61508 Certification Services	Simulation Platform
Design Tools	Test Tools

### Operating System and Middleware

IEC 61508 SIL 3/SIL 2/SIL 1 Certification Evidence*
IEC 61508 Certified Network Stack (TCP/UDP/IPv4)*
VxWorks Cert 6.6

\*Optional

### Hardware Partners

COTS Boards
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### Services

Education Services and Installation	Platform Customization
System Design	Design Services
Hardware/Software Integration	

VxWorks 61508 Platform

### Extensive Partner Ecosystem

To ensure a complete range of integrated technologies, Wind River has established the industry's widest-ranging partner ecosystem for device software, joining forces with leading hardware and software providers to address such technologies as COTS boards, system modeling tools, development and design tools, test tools, and IEC 61508 certification services.

### Flexible Business Models

Wind River complements the technical advantages of VxWorks platforms with a choice of proven business models. Under our Enterprise License Model, the VxWorks 61508 Platform is offered as an annual, per-developer subscription, applicable across the enterprise. The subscription includes Wind River support and all product updates. VxWorks 61508 Platform is also available via our Perpetual License Model, which provides flexibility for companies desiring project-based licensing.



Wind River is the global leader in Device Software Optimization (DSO). We enable companies to develop, run, and manage device software faster, better, at lower cost, and more reliably. [www.windriver.com](http://www.windriver.com)

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