WIND™

EDUCATION SERVICES

VXWORKS 5.X TO 6.X MIGRATION

COURSE DESCRIPTION

The VxWorks® 5.x to 6.x Migration training course increases the productivity of software engineers developing VxWorks applications with Wind River® Workbench.

After this course, participants will be able to perform the following:

- Build and configure a VxWorks real-time system
- Use the VxWorks API to design and develop real-time applications in kernel and user modes
- Build, test, and debug real-time applications in a target-host development environment with Workbench and VxWorks
- Migrate from Tornado 2.x to the Workbench environment
- Convert a VxWorks 5.5 application into an RTP

PRODUCTS SUPPORTED

- VxWorks 6.9
- Wind River Workbench 3.3
- Earlier product releases (topics may vary)

COURSE FORMAT

- This three-day expert-led course consists of lectures and lab sessions.
- Attendees use VxWorks 6.9 and Wind River Workbench 3.3 to gain experience with the topics presented.
- Participants examine and exercise simulated network topologies in hands-on labs.
- Participants receive individual guidance from an expert engineer who has extensive experience with Wind River technologies.

AUDIENCE

- Engineers proficient in Tornado/VxWorks
- New project members on teams using Wind River products
- Senior engineers evaluating VxWorks technology

Course title:	**VxWorks 5.x to 6.x Migration**
Duration:	Three days
Format:	Instructor-led lectures and hands-on lab sessions; instructor-led Live Remote delivery available
Content:	**Day 1:** Getting Started; VxWorks Targets and Connections; Managing Projects in Workbench **Day 2:** VxWorks Shells; Debugging in Wind River Workbench; Real-Time Processes (RTPs) **Day 3:** Error Detection and Reporting; System Viewer; Migration from Tornado 2.x

PREREQUISITE SKILLS

- One year of C programming
- Basic understanding of operating systems and debugging techniques

PREREQUISITE COURSES

- Real-Time Programming for Embedded Systems

RELATED COURSES

- VxWorks 6.x Board Support Package
- VxWorks 6.x Device Drivers

SYLLABUS

Day 1

GETTING STARTED

- Product overview
- Workbench 3.x features
- VxWorks 6.x features

VXWORKS TARGETS AND CONNECTIONS

- Hardware target configuration
- Booting the hardware target
- Workbench tools architecture
- Configuring and connecting the target server
- Wind River VxWorks Simulator—a high-level simulator
- Wind River Simics—a true hardware simulation
- **LAB: Getting started (hardware, Simics, or VxWorks Simulator target)**

MANAGING PROJECTS IN WIND RIVER WORKBENCH

- Introduction to projects and workspaces
- VxWorks image projects
- Kernel configuration
- ROMFS
- Configuring application projects
- Import and export
- Building projects
- **LAB: Project management**

Day 2

VXWORKS SHELLS

- Introduction to VxWorks shells
- Host shell commands and help
- Host shell usage
- Command-line history and editing
- Host shell configuration
- Shell interpreters
- Spawning VxWorks tasks and I/O
- Kernel shell comparison
- **LAB: Host shell**

DEBUGGING IN WIND RIVER WORKBENCH

- Debugger overview
- Setting breakpoints
- Task mode vs. system mode debugging
- Downloading code
- Saving debug sessions
- Attaching to running tasks
- **LAB: Debugger**

REAL-TIME PROCESSES (RTPS)

- Overview of the RTP model
- Use of MMU
- Memory allocation and tasks
- RTP terminology
- VxWorks component support for RTPs
- RTP execution and lifecycle
- Debugging RTPs
- Shared library usage
- Public and private objects
- Design considerations
- **LAB: Real-time processes**

Day 3

ERROR DETECTION AND REPORTING

- Error reporting features
- Error reporting framework
- Handling fatal errors
- Configuring ED&R
- Persistent memory manager
- BSP support
- Kernel configuration
- Error records
- **LAB: Error detection and reporting**

SYSTEM VIEWER

- System Viewer architecture overview
- Configuring System Viewer
- VxWorks component support
- Logging level selection
- Upload options
- Buffer management
- Searching for events in the log
- Triggering interface
- User-defined events
- Additional analysis views
- **LAB: System Viewer**

MIGRATION FROM TORNADO 2.X

- Importing Tornado and SNiFF+ projects
- Running a VxWorks 5.5 application in the kernel
- Converting a VxWorks 5.5 application into an RTP
- BSP and device driver migration issues
- **LAB: Migration**

GLOBAL REACH OF WIND RIVER EDUCATION SERVICES

With more than 30 years of experience in embedded software for intelligent systems, Wind River provides education services in every region of the world. Our private classes can be tailored to your needs by adding or removing topics from multiple courses. If you have more specific project challenges, Wind River Mentoring provides coaching by experienced engineers to help you integrate Wind River solutions into your environment. And when you're too busy to attend a whole class, our On-Demand Learning options provide around-the-clock access to advanced and specialized topics. All of our education services are led by expert engineers who are closely connected to the Wind River technical community for access to specific expertise.

CONTACT US

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