VXWORKS 653 PLATFORM 2.X PORTING AND ADVANCED TOPICS

COURSE DESCRIPTION

The VxWorks® 653 Platform 2.x Porting and Advanced Topics course provides engineers with a fast, cost-effective way to acquire the skills necessary to develop or migrate a board support package (BSP) into the VxWorks 653 environment.

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

- Describe the ARINC 653 architecture
- Take a requirement specification to a working BSP or driver
- Design, develop, and debug BSPs and drivers with VxWorks 653
- Effectively use the configuration and build process

PRODUCTS SUPPORTED

- Wind River® VxWorks 653 Platform 2.3

COURSE FORMAT

- This two-day expert-led course consists of lectures only.
- Participants receive individual guidance from an expert engineer who has extensive experience with Wind River technologies.

AUDIENCE

- Developers of BSPs or low-level drivers
- Developers who will be integrating platforms using VxWorks 653
- Senior engineers who will be maintaining and enhancing BSPs/drivers

PREREQUISITE SKILLS

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

Course title:	**VxWorks 653 Platform 2.x Porting and Advanced Topics**
Duration:	Two days
Format:	Instructor-led lecture session
Content:	**Day 1:** Introduction to ARINC 653; VxWorks 653 System Architecture; BSP Overview; BSP Architecture; Porting VxWorks 5.x BSP to VxWorks 653 2.3
	Day 2: Configuring and Building a VxWorks 653 System; VxWorks 653 Communication; VxWorks 653 Error Management; Advanced BSP Topics

- Functional knowledge of UNIX or Windows NT
- Familiarity with device drivers and low-level interfaces

PREREQUISITE COURSES

- Real-Time Programming for Embedded Systems

RELATED COURSES

- VxWorks 653 Platform 2.x Essentials

NOTE: As the targeted audiences are different, there is some content overlap. Users should inquire about a tailored offering.

WHEN IT MATTERS, IT RUNS ON WIND RIVER

Day 1

INTRODUCTION TO ARINC 653

- ARINC 653 overview
  - Time and space partitioning
- Partition management, control, and scheduling
- Inter-partition communication
- Health monitoring

VXWORKS 653 SYSTEM ARCHITECTURE

- Module OS and partition scheduling
- Partition OS and task/process scheduling
- Shared libraries
- ARINC port inter-partition communications
- Payloads (NET, ROM, RAM)

BSP OVERVIEW

- Directory structure
- Architecture support
- Device drivers

BSP ARCHITECTURE

- BSP structure
- Boot sequence
- Memory configuration
- **USE CASE: I/O Partition**

PORTING VXWORKS 5.X BSP TO VXWORKS 653 2.3

- CDL concepts

Day 2

CONFIGURING AND BUILDING A VXWORKS 653 SYSTEM

- XML configuration and build
- Payload configuration and build
- Workbench configuration and build

VXWORKS 653 COMMUNICATION

- ARINC 653 ports
- I/O device driver models
- DO-178B network stack

VXWORKS 653 ERROR MANAGEMENT

- ARINC 653 health monitoring
- Inter-partition health monitoring
- Error codes

ADVANCED BSP TOPICS

- Timer driver
- ROM/RAM payload images
- CDL configuration
- Health monitor configuration
- Certification impacts
- Certification safety critical software development
- DO-178B certification
- Certification evidence

GLOBAL REACH OF WIND RIVER EDUCATION SERVICES

With more than 30 years of device software experience, 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 solu-tions 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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