

Wind River Test Management Platform Validation Test Package for VxWorks

As the amount of software embedded within intelligent devices continues to expand, the challenge of integrating, verifying, and validating it also increases. In VxWorks systems, much of the testing is to ensure that a new board passes a basic set of reliability and compatibility requirements for the underlying operating system. In a typical workflow, board designers choose reference boards and customize them for their own devices. Once they port the VxWorks board support package (BSP), available from a board vendor or Wind River, they need to test it to ensure that the customized BSP is of the same quality as the reference BSP.

Wind River has created a number of test suites, such as the BSP Validation Test Suite, that testers and developers can use to validate the reliability, robustness, and stability of their VxWorks systems. Building and running these test suites requires VxWorks expertise and Wind River Workbench knowledge, which is not always found in test organizations. But Wind River Test Management Platform Validation Test Package for VxWorks is a test suite that is ready to run within Wind River Test Management, providing access to all of Test Management's easy-to-use automated execution and virtual lab management capabilities. It is comprised of more than 2,000 test cases, including kernel mode test cases (for the scheduler, memory management, and math modules); performance benchmarks such as dhrystone and whetstone; and RTP space test cases for the scheduler and memory management math modules.

Wind River Test Management Platform Validation Test Package for VxWorks contains numerous tests that can't be run from RTP using Wind River Workbench Validation Test Suite infrastructure, such as event, msgq, semb, semc, semm,

task, timing, rtptortpvent, rtptprtmsgq, rtptprtsem, and so on. Running the Validation Test Package from Test Management does not require a serial connection and enables running tests remotely and unattended, using an Ethernet connection. Wind River Test Management will detect target unresponsiveness and perform hard resets if needed, using script-based access to a power controller unit.

Running the Validation Test Package inside Test Management requires no Workbench or VxWorks knowledge. It also provides metrics that indicate the extent of test coverage completion and allow the user to improve coverage.

The benefits of using Wind River Test Management Platform Validation Test Package for VxWorks are as follows:

- **Standardized testing:** Test Management Platform Validation Test Package for VxWorks provides a standard way to validate the reliability, robustness, and stability of systems. Running the package can ensure your device meets basic quality requirements.
- **Easy-to-parse results:** All of the tests that make up the Validation Test Package run within the Wind River Test Management framework. Each individual test is run as a separate test case, with a separate exit code and its own set of results and logs. The Wind River Test Management framework checks the exit code of each test script and logs the results separately for each test, making it impossible to miss a failure and easy to detect any regression between builds.
- **Validated reference design quality:** Customers can be confident that their customized BSP has the same quality as the reference BSP. Running the Platform Validation Test Package against a reference BSP provided by a vendor other than Wind River may also uncover issues that the original BSP writer may have missed.