

WIND RIVER

Wind River Framework for Automated Software Testing

Device testing can represent one of the largest portions of a device development schedule. Reductions in the testing cycle directly result in reductions in time-to-market. Wind River Framework for Automated Software Testing (FAST) can cut development costs, improve quality, and reduce testing cycle time. The framework acts as a meta-test execution tool for commercial mobile Linux platforms. It can easily be integrated with proprietary test suites, test suites from third parties, or open source test suites.

Wind River FAST can help determine compliance, measure performance, and prove stability of mobile devices running either Android or MeeGo. This test tool is designed to accept the results of a build, execute a selection of thousands of Wind River-authored tests and tens of thousands of existing open source scripts, archive the relevant artifacts, and provide the results in a single report, all in a completely automated way.

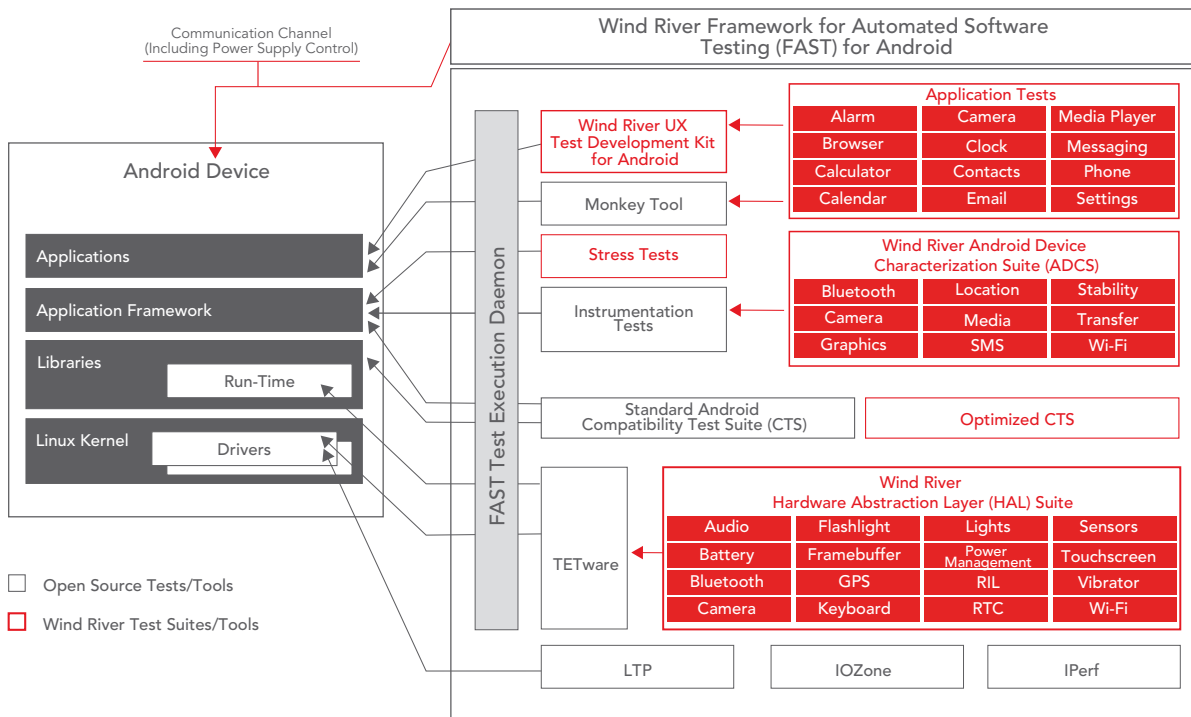
Bring Software and Devices to Market on Time

Because Linux is embedded in devices that can vary widely from one another, testing each device can take significant

time and money. Project results have shown that engineering development and integration efforts, using Wind River FAST, can decrease by as much as 25%.

Wind River FAST can test a target device on multiple levels including the following:

- User interface (UI) and experience (through Wind River UX Test Development Kit)
- Application
- Application framework
- Libraries/run-time
- Linux kernel/drivers



Comprehensive Test Management Tool

Wind River FAST is a collection of custom test scripts as well as “wrapper” test scripts that use other tools/frameworks/test suites/etc. to perform device testing. The wrapper scripts allow easy integration of any third-party or open source test suite, enabling Wind River FAST to run any type of test from any source, combining multiple test systems into one easy-to-use system.

Employing a collection of scripts and test tools to test all levels of software on the device, Wind River FAST, integrates the following test suites, depending on the chosen operating system:

- Android Compatibility Test Suite (CTS)
- MeeGo Core Test Suite (MCTS)
- Android Monkey
- Java instrumentation
- Wind River Android Device Characterization Suite (ADCS)
- Hardware Abstraction Layer (HAL)
- Linux Test Project (LTP)
- IOZone
- IPerf

Wind River FAST makes it easy to add test tools, such as customer-specific frameworks, and integrate them into the test plan hierarchy and test reports. It allows for full automation of testing, including device control. Target devices can be flashed, powered on and off, booted, and tested. Once a target device is properly configured and tests set up, there are no manual steps required. This allows engineers more time to spend on development and integration because testing can happen quickly without manual interaction.

Many Tests, One Button

Wind River FAST defines a hierarchy that can automatically test a device for a broad range of functionality at different levels. This hierarchy of tests can be used to define a test plan for the device. To execute a test run of the test plan, you can make a simple selection from a graphical user interface or use a simple command-line interface (CLI). Either way, one action results in a test run that executes all tests in the test plan, collects the results of all tests, and reports them in the ways you have chosen. Testing of devices, especially repetitive testing, is simplified to a single user action.

Many Tests, One Report

Wind River FAST consolidates the results of all the tests in a test run into one comprehensive test report. The tests may be executed by different underlying test frameworks (e.g., CTS, TETware, LTP, IPerf) and may explore several levels of testing on the device, but all of the results are combined into one report that provides complete information about the test results.

Also, Wind River FAST provides support for multiple targets and multiple projects, allowing automated testing of multiple devices at one time.

Enhanced Test Engineer Interface

Wind River FAST offers test engineers two interfaces for controlling automated test execution: a web user interface and a command-line interface. Working in the interface in which they are most comfortable, test engineers can determine which tests to run and which results to view.

Simple Test Configuration

Tests are easy to configure and run. In addition to setting up testing through the web UI, test engineers can create an INI file through the CLI that specifies all aspects of the tests, including the following:

- Test targets
- User running the tests
- Which tests to run
- Test run priority

Automated Test Reporting

Framework for Automated Software Testing includes options for reporting, making test results convenient to generate and easy to read:

- **Regression tool:** Available through the web UI, this tool allows test engineers to compare test results against a baseline test run.
- **Nightly test execution reporting:** This report is produced at the end of each test run and emailed to recipients designated in the INI file or via the web UI.

Professional Services

A CMMI Level 3–certified organization, Wind River Professional Services offers extensive experience in mobile systems integration. We apply expertise in user interface design, multimedia support, power management, and fast boot to provide services tailored to the needs of mobile device development, including subsystem optimization, services integration, and application migration.

To learn more or to request an evaluation version of FAST, visit <http://windriver.com/solutions/mobile-devices/>. To have a representative contact you, call 800-545-9463 or write to inquiries@windriver.com.