

Development Testing for Embedded Systems

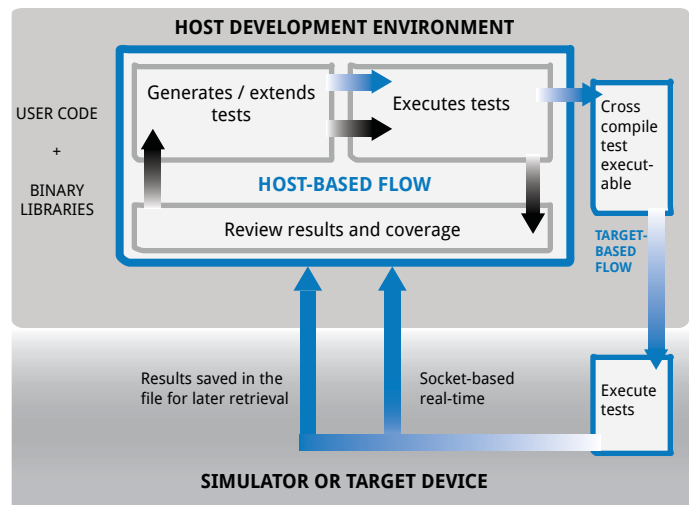
Parasoft Development Testing Platform (DTP) for embedded systems enables teams to produce better code, test it more efficiently, and consistently monitor progress toward their quality goals. DTP automates quality practices—such as static analysis, peer review, runtime error detection, unit testing, and coverage analysis—to prevent defects. As a result, software engineering teams can increase productivity while dedicating resources to tasks that truly require human intelligence. DTP facilitates more accurate test results, increases visibility into development processes, and helps reduce support costs by uncovering problems that might otherwise only surface during "real-world" usage.

Process Intelligence Engine

Parasoft PIE is the brain of Parasoft Development Testing Platform. PIE is a first-of-its-kind solution that combines your organization's priorities with information about your development processes to identify software-related business risks while highlighting opportunities for improvement. It collects, correlates, and analyzes data from disparate sources scattered throughout the SDLC and converts it into meaningful, actionable intelligence.

Test on the Host, Simulator, and Target

DTP for embedded systems automates the complete test execution flow—test case generation, cross-compilation, and execution—and loads results (including coverage metrics) back into the GUI. You can drive testing interactively from the GUI or from the command line for automated test execution. Users can run tests individually or in selected groups for easy debugging and validation.



Achieve Industry Traceability Compliance

For safety-critical applications, such as avionics, medical, automotive, and transportation, Parasoft enables bidirectional traceability to meet compliance requirements. Development artifacts are collected, correlated, and put into a workflow that enables development managers and auditors to trace code to the author, requirement, reviewer, defect, etc. This provides complete visibility into the development process and eases compliance efforts for FDA, DO-178, IEC 61508 and more.

Additional Features and Benefits

Advanced unit and integration testing with coverage analysis

- Automated tests, stubs, and assertions
- Test case GUI
- Intelligent, flexible test case-sensitive stubs
- Parameterization of tests and stubs
- Multi-metric coverage analysis for DO-178 (including MC/DC)
- Supports continuous regression testing
- Tests are traceable to defects and requirements
- Supports template code testing

Static code analysis

- Customizable coding standards
- Graphical editor for creating custom coding rules
- Static code path simulation for identifying potential runtime errors

Automated peer review

- Graphical interface for tracking progress
- File difference view

Runtime memory error detection

Identify complex memory-related problems through simple functional testing, such as:

- Memory leaks
- Null pointers
- Uninitialized memory
- Buffer overflows

Full team deployment infrastructure

- Desktop and command line usage
- Enables continuous testing

Supported Environments

Host Platforms

Windows / Linux

IDEs

Eclipse IDE for Developers / Microsoft Visual Studio / Wind River Workbench / ARM Development Studio / Texas Instruments Code Composer Studio

IDEs with Project Import Support

Green Hills MULTI / IAR Embedded Workbench / Wind River Tornado

Host Compilers

GCC / Microsoft (Visual Studio) / Green Hills / IAR / ARM / Wind River GCC / Wind River DIAB / TI C2000 / TI C6000 / TI TMS470 (ARM) / TI MSP430 / Renesas

Target/Cross Compilers

GCC x86 / Microsoft (Visual Studio) x86 / Green Hills x86, PPC, ARM, v850 / IAR ARM, MSP430, AVR / ARM / Wind River GCC PPC, ARM, V850, TriCore, x86 / Wind River DIAB PPC, ARM, V850, TriCore, x86 / TI C2000 / TI C6000 / TI TMS470 (ARM) / TI MSP430 / Renesas M16, R8, RL78, SH, M32C, R8, RX, V850, RH850, M32R, H85X

Source Control

AccuRev SCM / Borland StarTeam / CVS / Git / IBM Rational ClearCase / IBM Rational Synergy / Microsoft Team Foundation Server / Perforce SCM / Serena Dimensions / Subversion (SVN) /



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