PARASOFT®

C/C++test

Parasoft C/C++test
Unified C & C++ Development Testing

Integrated Static Analysis & Unit Testing Solution

Increase the Quality of Complex Embedded C/C++ Software

Reduce the risk of complex embedded software, leveraging comprehensive C and C++ coding best practices (MISRA C/C++, AUTOSAR C++, JSF) and a powerful unit testing framework for both your host and target platforms.

Mitigate the Security Risk From Connected IoT Devices

Ensure the consistent application of security best practices (CERT, CWE, OWASP) and integrate with API-level attacks to uncover security issues deep within the application. Create a robust software development process with comprehensive reporting and qualification kits, using TÜV-certified C/C++test.

Automate the Testing Process

Reduce the time and effort required for testing by seamlessly integrating Parasoft C/C++test into your CI/CD pipeline.

Deliver Safe, Secure, & Reliable C & C++ Software

Achieving compliance, managing risk, and reducing costs are essential for real-time embedded safety- and security-critical application development. Using Parasoft C/C++test for static analysis and unit testing helps teams develop and deliver high-quality software fast.

Parasoft C/C++test is a unified testing solution that helps you identify defects earlier and reduce the overall burden of achieving compliance with standards such as MISRA, CERT, and CWE.

C/C++test helps organizations reduce risk, cut costs, increase productivity, and achieve industry compliance goals by automating a critical set of software testing needs.

Try Parasoft C/C++test

Schedule a demo to learn how your team can deliver compliant safety-critical software at speed.

Functional Safety & Compliance

Parasoft C/C++test provides everything you need to comply with industry standards.

Certified Software

Parasoft C/C++test is certified by TÜV SÜD for functional safety according to IEC 61508, IEC 62304, ISO 26262, and EN 50128/EN 50716 standards, helping development teams achieve the desired safety integrity level (SIL/ASIL).

Qualification Kits

To streamline the process of tool verification, C/C++test Qualification Kits are available for DO-178C, DO-330, and ED-12C, and other safety standards. These kits are customized for your specific environment and usage requirements, ensuring you have all the documentation required for verification.

Save test execution job reports in the Continuous Testing Platform database so you can easily go back and review pass/fail history with full error messages. Thorough documentation helps with compliance audits.

> "By deploying C/C++test as the coding standard analysis tool, Mobile solution project in the SW Center of Samsung Electronics has decreased the amount of coding violations by 80%; a significant improvement on their development/testing process."

SAMSUNG

Static Analysis for Safety & Security

Static analysis in Parasoft C/C++test accurately exposes the industry's broadest range of defects, vulnerabilities, and noncompliance issues.

» Helps you quickly find and fix code defects with complete path analysis for accurate violation detection.

» Supports both preventative (pattern) and detection (flow-based) static analysis techniques, along with a comprehensive set of metrics for code structure.

» Comprehensive visibility into compliance across teams and projects: AUTOSAR C++ 14, MISRA C/C++, CERT C/C++, CWE, HIC++, and more.

» Supports custom rule creation with a dedicated RuleWizard.

» Centralized reporting and compliance auditing, including dedicated compliance reporting and process management for coding standards.

» Ease of deployment: simple to configure and automate, nonintrusive, and scalable across multiple teams.

Unit & Integration Testing

Parasoft C/C++test minimizes the complex and time-consuming challenges associated with creating and maintaining unit and integration tests. The fully integrated testing solution for C/C++ software development provides a unified test environment for test creation and management, isolation of the code under test, and advanced coverage reporting to ensure thorough testing of applications. A TUV-certified tool, Parasoft C/C++test allows users to test on target hardware, supporting today's embedded development ecosystems.

» A rich, IDE-based graphical environment for creating and managing test cases, via both UI-driven editors and directly in source code.

» Comprehensive code coverage metrics: function, line statement, block path, branch, decision, MC/DC, call, object/assembly.

» Ability to capture coverage and report results from open source testing frameworks, such as CppUnit and CppUTest.

» Automated stubbing framework for easily isolating code under test.

» Centralized reporting with Parasoft DTP for aggregation of coverage for both manual and automated testing, providing per-test coverage and reports of trending results across builds.

» Support for on-target testing with a broad set of development environments, such as ARM, IAR, Green Hills, Tasking, Wind River, and more.
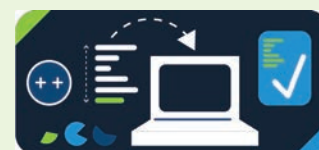
See all C/C++test technical specifications.
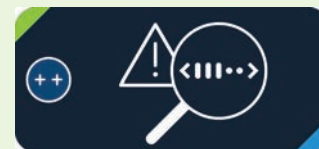
Runtime Error Detection

C/C++test supports runtime error detection for embedded C applications, helping you identify security vulnerabilities and serious runtime defects.

Coverage Analysis

In addition to unit and integration tests, C/C++test enables you to capture the same broad set of coverage metrics for tests that are executed outside the unit testing framework, such as in manual testing efforts.

Requirements Traceability

Bidirectionally link requirements to tests and source code in ALM tools like DOORS Next, Polarion, Codebeamer, Jama Connect, Jira, and Azure DevOps Requirements.