VectorCAST/Ada™

Unit and Integration Test for Ada

Test Solutions for Ada Development
VectorCAST/Ada is an integrated software test solution that significantly reduces the time, effort, and cost associated with testing Ada software components necessary for validating safety- and mission-critical embedded systems.

Overview of Advantages
> Complete test-harness construction for unit and integration testing
> Test execution from GUI or scripts
> Code coverage analysis
> Regression Testing
> Code complexity calculation
> Automatic test creation based on decision paths
> User-defined tests for requirements-based testing
> Test execution trace and playback to assist in debugging
> Integrations with best of breed requirements traceability tools

Why VectorCAST/Ada
Generally, software component testing requires generating at least one line of test code (in the form of stubs, drivers, and test data) for each line of application code to be tested. The necessity to create this “disposable” test software is the main reason why manual component testing is so expensive and inefficient. Test software not only has to be written but also has to be debugged to ensure that it performs as expected. With VectorCAST/Ada, component testing can be performed without writing a single line of test code.

Highlights
> Eliminates need to build test drivers and stubs
> Integrated code coverage capabilities, including MC/DC
> Supports host, simulator, or embedded target testing
> Automates regression testing
> Supports DO-178 (Avionics), ISO 26262 (Automotive), IEC 61508 (Industrial), IEC 62304 (Medical), EN 50128 and 50657 (Rail)
Embedded Target Testing

VectorCAST RSP allows testing directly on your embedded target system. VectorCAST RSP is integrated with the cross compiler and RTOS, making it the perfect tool for testing real-time applications. Tests may be developed in a host environment and then re-executed on an embedded target to verify target and cross-compiler performance.

Integrated Code Coverage

Without a code coverage tool, it is difficult to determine which portions of the source code have been exercised during testing. VectorCAST/Ada provides an integrated code coverage utility that allows you to gauge the effectiveness of your component testing by reporting on the source code statements or decision points exercised during individual or multiple test runs. Code coverage data can also be shared with VectorCAST/QA to produce combined coverage reports that reflect unit, integration, and system testing.

Testing is Repeatable

Once test cases have been developed, you can use VectorCAST/Ada to automatically run these test cases against successive versions of the source code. The management of test execution and the cataloging of test results are automatic. Comparing results of the same test cases against new software versions, prior to system integration, results in fewer surprises caused by “one small change” to a software component.

Supports Integration Testing

Multiple units can be tested in a single VectorCAST/Ada test environment. This allows you to create complex test scenarios which stimulate multiple functions across multiple units.

Compiler Integration

All VectorCAST/Ada generated test harness components are automatically compiled and linked, using your compiler. An interface to your compiler’s debugger is also provided so that you can run test cases under control of the debugger.

More information: www.vector.com/vectorcast