



Telelogic Rhapsody TestConductor

Accelerate Time-to-Market while Enhancing Quality

Industry analysts have determined that, when developing new products, testing consumes 70% of development time and 50% of the development costs. With increasing pressure to deliver higher quality products in shorter time frames and with fewer resources, managers and developers must continually evaluate the effectiveness of their testing process.

Telelogic Rhapsody® TestConductor™ is the first UML® (Unified Modeling Language™)-compliant, scenario-based test generation and validation suite for real-time embedded applications. Rhapsody TestConductor enables developers to test their design against requirements throughout the development process, detecting design errors earlier. Testing early and frequently has been proven to reduce both development time and costs, while significantly improving product quality.

BENEFITS

- Integrate testing throughout the development process for higher quality deliverables and more robust systems and code
- Detect errors earlier to reduce costs and accelerate production
- Continuously improve the process for robust deliverables

FEATURES

- Execute testing on the fly by defining tests graphically with UML sequence diagrams
- Use stubs, monitors, and test drivers to easily monitor the testing process
- Instantiate parameterized sequence diagrams
- Implement the design according to the system specifications, while monitoring all interactions
- Identify and analyze system failures with the color-coded sequence diagram
- Use requirements-based testing activities to ensure the system's accuracy
- Functional testing and regression testing are available to assist interactive debugging
- Reuse scenarios as test patterns to accelerate the testing process
- Use visual representation of actual versus expected execution for enhanced testing analysis
- Eliminate sequence diagram comparisons

Defining Tests

Rhapsody TestConductor enables users to check a design against its requirements, which have been captured as scenarios in a sequence diagram. These include system-level requirements and derived requirements or scenarios that are defined by testing. When defining a system test, users can instantiate as many copies as needed for these sequences, effectively using them as test patterns.

Each instance of a sequence diagram can be defined as a monitor, in which case it silently observes and checks the behavior of the design, warning of potential errors as the design evolves. Additionally, each instance of a sequence diagram can be defined as a test driver. Rhapsody TestConductor generates all of the messages that are emanating from the system border, while monitoring all other interactions that are defined in the Sequence Diagram as the design executes.

Test Execution

Rhapsody TestConductor can execute a system test by launching the generated Rhapsody application on the host or the target platform. Progress information is displayed in run-time. At any point during the test, users can generate a new sequence diagram to reflect a concrete execution of a selected instance of a sequence diagram, simplifying design debugging.

Analyzing Test Results

When a test fails, users can generate a multi-colored sequence diagram to display the entire set of messages generated and monitored successfully, the “offending” message, and the expected sequence. Each of these is clearly defined in individual colors on the sequence diagram. Not only does this save time in identifying and understanding the

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problem, it also makes correcting the design very easy. The designer simply re-executes the test in conjunction with Rhapsody's animated statecharts—watching the design as it executes, step-by-step, until it reaches the problem area.

System Requirements

TestConductor for Rhapsody can be used on all Microsoft Windows platforms supported by Rhapsody (see the Rhapsody release notes for details).

This add-on requires the use of Rhapsody MR16.1 or newer, Microsoft Excel 2000 or newer, Microsoft Word 2000 or newer, and a Web browser.

About Telelogic

Telelogic is a leading global provider of solutions for automating and supporting best practices across the enterprise – from powerful modeling of business processes and enterprise architectures to requirements-driven development of advanced systems and software. Telelogic's solutions enable organizations to align product, systems, and software development lifecycles with business objectives and customer needs to dramatically improve quality and predictability, while significantly reducing time-to-market and overall costs.

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