How can you reduce testing costs and time while improving test coverage?

Model Based Testing (MBT) addresses the growing demands on test design for software and systems. The most advanced approach to MBT models the behavior of the system under test from the requirements by relying on user selected test design heuristics to automatically derive the minimum number of test cases and all the necessary test data and timers to cover the selected requirements, generate test steps, documentation, and executable test scripts. Automated test design is the most advanced of the MBT methods.

Conformiq Designer is proven to deliver optimal results for the following embedded applications:

- Networking equipment
- Automotive and Avionics
- Medical devices
- Industrial automation

Higher Test Quality:
Conformiq Designer eliminates the risk of missing or incorrectly designing a test case with known test coverage, which reduces the number of defect slip-through.

Better Test Coverage:
Conformiq Designer has user controls, which generate many types of functional test coverage. They also document what has been tested by which test cases and why, and they show what has not been tested. Every model change generates a new impact analysis report.

Faster Test Design:
Graphical model creation requires only a fraction of the time of manual test script design and creation for comprehensive testing. This improves communication between design and test teams to identify specification ambiguities, omissions, and errors before implementation mistakes are made, which supports continuous integration within the user’s SDLC tools ecosystem.

Improved Test Maintenance:
Executable test scripts are generated in parallel with the development process, eliminating test automation backlog. With Conformiq Designer, upon every design change, only the then-current test cases are generated, so no unnecessary test cases are kept “live” and re-executed during future regression test cycles.
AUTOMATED TEST DESIGNS FOR COMPLEX SYSTEMS

Conformiq Designer does not execute tests, allowing for easy integration with existing SDLC and test environments. Designer follows a three-step process:

1. **Model Capture:**
Conformiq Designer enables the creation of requirement based graphical models using UML state charts and Java action language to create models of the system operation to be tested. Models can be imported from such tools as IBM RSA and Rhapsody, Enterprise Architect, Magic Draw, and Papyrus. Designer interfaces with requirements and test management tools, including Rally, HP QC/UFT, Microsoft, and IBM DOORS.

2. **Automatic Test Generation:**
Twelve test heuristics are available to create test cases. A model browser detects problems and controls user selection of requirements to be tested. The Conformiq engine uses multi-core processing when scalability is needed to automatically generate executable test scripts, including test input data, test case names, and test plan documentation. It also produces traceability matrices, message sequence charts, and graphical test coverage.

3. **Integration and Execution:**
Executable source code test scripts are automatically generated in any human readable language, including Excel, HTML, and XML formats. This enables seamless integration with user test execution environment(s). Conformiq also generates a pre-defined Excel mapping file to link scripts with test framework libraries. When the model’s generated test data changes based on model changes, the mapping remains unchanged. Project stakeholders and documentation in different languages can generate a detailed manual test step report for review.