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Tutorial Title:	Automating TTCN-3 Test Design
Intended Audience:	Test Managers and Test Designers

Tutorial Overview

The tutorial will give an introduction to the integration of an automated test design solution, where tests are automatically designed and generated using an automated test design tool, with mature TTCN-3 testing environments.

Traditionally, testing involves manual translation of requirements into tests and test verdicts, which is carried out by a test designer. The model-based automated test design solution automates the test design and selection of tests and test data and the computation of the expected results. It is complementary rather than a competing solution to most of the existing test automation solutions that automate the test execution.

Automated test design solutions are driven by "system models" that are descriptions of intended external operational characteristics of a system, i.e. how the system should work from the perspective of an external observer. The main benefit of using such a solution is an increased product quality due to reduced risk of missed, defective, and redundant tests, but it can also reduce test development and maintenance costs significantly because there is no need to maintain the test artifacts separately. It also has a positive impact on the quality of design models, as the model also works as documentation for the system.

In order for an automated test design solution to be easily introduced to mature TTCN-3 testing environments and to an existing process, the solution must integrate as seamlessly as possible. This integration comprises generation of TTCN-3 test scripts that can be readily executed in the existing test harness. In addition, meaningful integration also involves reuse of existing type definitions of signals and messages from the existing TTCN-3 test execution framework, to ease the process of defining the system model.

This tutorial uses a particular model-based automated test design solution, Conformiq Qtronic™ that has been successfully and seamlessly integrated to TTCN-3 test environments and used in various application areas, to demonstrate the automated test design flow and TTCN-3 test execution integration.

Tutorial Structure and Timing

- **Introduction to model-based automated test design (ATD)**
 - *The tutorial start by giving an introduction to key concepts around automated model-based test design emphasizing that automated test design is a solution to the problem of designing and maintaining test cases.*
- **Work flow with automated test design and TTCN-3**
 - *Gives an introduction to the work flow with automated test design solutions and discusses the changes that deployment of an ATD solution brings to a conventional testing work flow.*
- **Conformiq Qtronic automated test design software**
 - *Gives an introduction to a specific automated test design solution, Conformiq Qtronic, and shows how the concepts of ATD have been applied in the tool.*

- **Integration of Conformiq Qtronic with TTCN-3 test execution environments**
 - *Discusses how an ATD solution can be integrated seamlessly with existing TTCN-3 test execution frameworks.*
- **Hands-on live demonstration**
 - *Gives a hands-on real walk-through demonstration of integration of Conformiq Qtronic with a particular TTCN-3 test execution framework. The demonstration includes a live walk-through of an example model, automatic generation of test cases in TTCN-3, analysis of the test generation results, and execution of the generated test cases against a live SUT.*

This tutorial is targeted to be of 2 hour duration.

Tutorial Materials

Hand outs will be made available to the audience.

Further Details (optional)

You may also contact Clark Cochran, clark.cochran@conformiq.com and +1-408-205-5155, for addition information.