Summary of Presentation

Today, the growing size and complexity of software along with decreasing R&D cycle time causes tremendous challenges to software testing. This has driven the whole software industry to seek innovative approach & methods to verify & validate the software.

As per our system design verification (s/w testing) experience, Test teams typically used follow some standard test suite framework to accomplish testing activities. We wanted to address the technical challenges with a new approach of automatic generation of standard/commonly used test suite framework to achieve test code efficiency.

The paper introduces our successful implementation of an automatic generation of TTCN test suite framework, selecting or extending the Common Building Blocks (CBB) and Predefined Test suite Templates (PTT), through simple User-friendly GUI.

CBB(s) are built based on the common modules and functionality used in different testing teams. Ex: Sync module, Log module etc. (Commonality)

PTT(s) are built from different test scenarios and types/application of TTCN3. Ex: Message based, procedure based, Web app testing, Conformance testing etc. (Customizable)

CBB(s)/PTT(s) can be directly reused or extended, as TTCN3 supports the extension of TTCN Components and TTCN Templates. (Re-usability & Maintainability)

Evaluation Criteria

1. Which categories of your presentation are covered according to the Call for Papers? (Practical experiences, design/test process, training/education, future of TTCN-3, etc.)
   Experience reports on the application of TTCN-3 based test solutions and test frameworks;

2. What is the novelty in your presentation?
   TTCN test suite generation, selecting/ extending the CBB(s) (Common Building Blocks) and Predefined Test suite Templates (PTT) through simple UI

3. What are the benefits of your chosen approach or method over existing ones?
   - Design framework once, generate test suite based on test team’s need
   - Quick and Easy way to share the user experience
   - Customizable, Maintainable & Extensible formats
   - Test Code Efficiency Enhancement
Complex Test Code Generation made easy

TTCN-3 Template Generation for TTCN-3 and ASN.1 types

Test Code Quality maintained at high levels Consistently

Generation of test Cases irrespective of TTCN skills

The collection of CBB(s) & PTT(s) over the time makes rich tool kit for easy test suite framework generation

4. How can the approach or method be re-used by other organizations?

User can add or customize existing framework (CBB and PTT) by using Wizards, once generated framework can be used many time to generate test suits

Further Details (optional)

This method is more than just a library; it generates the complete integrated code with sample test cases. This can be extended to generate Test suite framework with templates by giving the required data structure as input during generation and also can be extended to configure the coding guidelines of TTCN3.