

**Kind of Submission:** *Presentation*

<b>Name of Authors:</b>	Andras Kovacs, Bogdan-Stanca Kaposta, Benjamin Zeiss
<b>Name of Presenter:</b>	Andras Kovacs
<b>E-mail of Contact Person:</b>	<a href="mailto:zeiss@cs.uni-goettingen.de">zeiss@cs.uni-goettingen.de</a> , <a href="mailto:andras.kovacs@broadbit.com">andras.kovacs@broadbit.com</a>
<b>Telephone Number:</b>	+49-1637-293477
<b>Contact Address:</b>	Institute for Computer Science, Goldschmidtstraße 7, 37077 Göttingen, Germany
<b>Presentation Title:</b>	A conformance test suite for TTCN-3 tools
<b>Intended Audience:</b>	

### **Summary of Submission**

A significant number of TTCN-3 compilers are available on the market (at least 7 commercial tools and 2 internal tools of industrial ETSI members) that also indicate the high interest and use of the language. The TTCN-3 standards which provide the foundation for this testing technology, however, are quite complex and encompass multiple hundreds of pages. Part 1 of the TTCN-3 series, the TTCN-3 core language, alone is estimated to contain on the order of 5,000 requirements. Although there has been to this day no evidence of incorrect tool implementations, the TTCN-3 community has been repeatedly requesting over the past 10 years for some kind of assurance that tools comply to the TTCN-3 standards, i.e., a conformance test suite. The STF (Specialist Task Force) 409 has created a first TTCN-3 conformance test suite for the purpose of ensuring that TTCN-3 tools actually comply to ETSI TTCN-3 standards.

In this presentation, we cover the main aspects and challenges involved in the development of the conformance test suite. Among these aspects and challenges are the following: an appropriate selection of initial clauses to cover, how to map tool outputs to conformance verdicts, what the TTCN-3 code actually represents in the context of a conformance test suite, how to deal with time constraints when the expected deliverable includes as well a thorough documentation of the ATS, or how much time and effort is needed to ensure a high quality test suite. In addition, we intend to convince tool vendors why they should support future efforts of a TTCN-3 conformance test suite, what the benefits are, and how easy it is to automate the execution of the conformance test suite against a specific tool.

### **Evaluation Criteria**

#### **1. Which categories of your submission are covered according to the Call for Papers? (practical experiences, design/test process, training/education, future of TTCN-3, etc.)**

Experiences from applying TTCN-3 to all kinds of testing such as conformance, interoperability, performance, load, stress, and security testing;

#### **2. What is the novelty in your submission?**

The novelty is that we provide the first standardized conformance test suite for TTCN-3 tools.

#### **3. What are the benefits of your chosen approach or method over existing ones?**

There are currently no known publicly available conformance test suites for TTCN-3 tools. Hence, we are unable to judge to which degree the tools are standards compliant, how exact they are with respect to the TTCN-3 core language standard and whether ATSS written in one tool are compatible with other tools. Compliance with the TTCN-3 conformance test suite guarantees compliance with the standard to the degree to which the conformance test suite covers the standard clauses.

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

As the TTCN-3 tool conformance test suite is published by ETSI, it is publicly available and any tool vendor implementing the TTCN-3 core language can make free use of the test suite to assess the standard compliance of his tool.

**Further Details (optional)**