ETSI

Experiences from the 1st ETSI TTCN-3 Tool Plugtest

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Outline

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- ❏ **Testing Results**
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History

- **In Oct 2008 ETSI MTS (Chairman Dieter Hogrefe) had the idea to organize a TTCN-3 tool Plugtest**
  - **Basis is ETSI TR 102 976 "Mobile reference tests for TTCN-3 tools"**
  - **Supported by 4 tool makers**

- **In Nov in a LTE test specification conference call 7(!) tool makers indicated interest in participating in this Plugtest**

- **Prior to the Plugtest 4 tool makers claimed successful compilation and execution using intra approach**

- **Elvior (MessageMagic) and Testing Technologies (TTworkbench) participated in the Plugtest at ETSI June 2 & 3 2009**
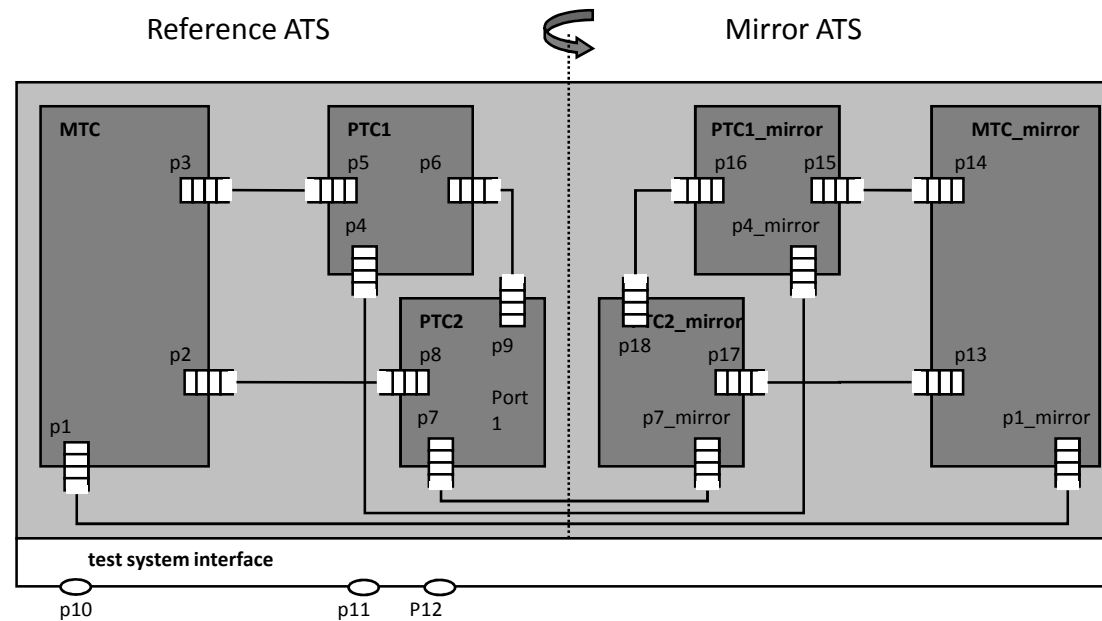
About the Test Specification

- ❑ **Complex TTCN-3 test suite with a reference and a mirror part**
  - ➤ **Reference part is based on a snapshot of 3GPP LTE benchmark tests**
  - ➤ **Mirror part simulates conformant LTE terminal behaviour**
- ❑ **Challenges in test suite**
  - ➤ **Use of ASN.1**
  - ➤ **Large files (22,000 LoC per module)**
  - ➤ **Complex templates**
  - ➤ **Strict timers and message bursts**
- ❑ **Main issues in Plugtests preparation phase**
  - ➤ **Correct settings of module parameters**
  - ➤ **Missing use of valueof operation**
  - ➤ **Encoding (PER & TLI XML) and adaptation (UDP) for inter approach**
  - ➤ **Mix of standard versions (non TTCN-3 2008 features)**
  - ➤ **Consistent ASN.1 DEFAULT handling**

Results

❏ **Compilation**

➢ **100% pass !**

❏ **Intra testing (execution within the same tool)**

➢ **100% pass !**

❏ **Inter testing (reference executed by one and mirror by other tool)**

➢ **100% pass !**

❏ **Some more statistics**

  ➢ **4 test sessions (2 intra + 2 inter)**

  ➢ **34 tests executed**

  ➢ **70 mega bytes of test execution log files generated**

❏ **All results were agreed by all participants and validated by ETSI**

Example: Intra test configuration

Conclusions

- ❑ **The organization of this Plugtest has brought tool makers closer together**

- ❑ **No grey areas identified in TTCN-3 standards based on the compilation and execution of this LTE benchmark test suite**

- ❑ **Participants proved that commercial TTCN-3 tools are able to compile and execute the same complex TTCN-3 test suite**
  - ➢ **Elvior**
  - ➢ **Testing Technologies**

- ❑ **Plugtest results to be placed on www.ttcn-3.org**

- ❑ **A second MTS Plugtest?**
  - ➢ **TTCN-3:2009 ?**

Thank you!