

How to Progress with MBT Standardization

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In consultation with Microsoft Research, Seattle, US
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Proposals by Stephan Schulz

1. A methodology coupled to case studies with ETSI TCs
2. An exchange format for models used for test generation
3. A standard on test selection or essentially requirements for coverage criteria
4. A technical specification on the output of tests expected from MBT tools



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- A close relation between technology and methodology is considered to be needed
 - Good example: ISO/ITU/ETSI Conformance Testing Methodology and Framework
 - Suboptimal example: BCS Software Testing Methodology
 - Methodology without technology/technologies will allow rather generic statements only
 - Proposal to do technology first – in close relation to proposal 2



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- This is key to progress MBT beyond the current status although agreement on a common set of concepts, their definition and presentation can be difficult to reach
 - “Reference format” would be a better word as it is less about model exchange but rather about comparing MBT methods, approaches or tools
 - References how this can be done include
 - OMG UML Testing Profile and its metamodel
 - Microsoft open protocol initiative and its Protocol Object Model
 - Microsoft Abstract State Machines



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- Coverage criteria require the concepts with respect to which they are defined and can best be defined wrt. the reference format



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- From ETSI perspective, the target format for MBT tools should be TTCN-3, potentially supported by another presentation format for MBT
 - Including an approach to support traceability by e.g. making use of dedicated TTCN-3 documentation tags
 - Including an approach to support traceability in the MBT reference format



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