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Source: Ian Bryant; Jürgen Großmann

Title: Study Period Report – Automation of Security Testing

Specification:

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Decision:	
Discussion:	X
Information:	

Contact details: ian.bryant@uk-tsi.org; juergen.grossmann@fokus.fraunhofer.de

Automation of Security Testing

Background

1. During TC MTS#066 (September 2015), it was agreed to investigate the topic of Automation of Security Testing and consider any potential new Work Items that should fall within the remit of TC MTS.

2. In addition, the out-of-band MTS discussions "TDL 2016 and beyond" identified a need to build a to establish TDL in wider industrial practice, as illustrated at Annex A.

Discussion

3. Existing work of the Security Special Interest Group (SIG) of TC MTS includes a work item:

DEG 203250 "*Security Assurance Activities in the System Lifecycle*"

4. DEG 203250 provides a core list of "Security Functional Classes" (SFC) which encapsulate common and recurring security features that may be found in multiple systems: these SFC are designed to be codified using the Security Functional Definition (SFD) XML structure.

5. The existence of the SFD concept has a synergy with both the generic question of Automation of Security Testing, and also potentially with the desire to establish Model Based Testing (MBT) in wider industrial practice, as an SFD is a structured requirement specification which should therefore be amenable to an semi-automated workflow as illustrated at Figure 1.

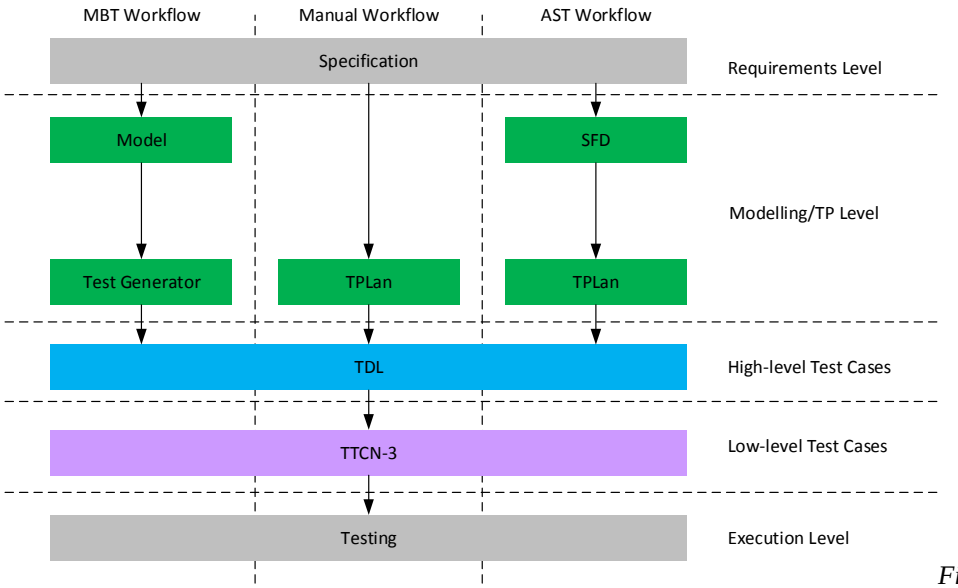

Figure 1

6. This envisages the use of SFD as a structured input to Test Plan Language (TPLan) and, as such, provides a bridge between the work of the MTS Security SIG and other activities in TC MTS.

Way Ahead

7. TC MTS#067 (January 2016) is invited to consider 4 potential new Work Items on of Automation of Security Testing (AST):

- AST#1 – Development of SFD Catalogue (deriving an SFD for each Core SFC – DEG203250 only provides a worked example)
- AST#2 – Investigation of semi-automated AST workflow Phase 1 (using example SFD as input to TPLan) and produce Report
- AST#3 – Investigation of semi-automated AST workflow Phase 2 (using TPLan converted example SFD as input to TDL) and produce Report
- AST#4 – Investigation of conversion of Requirements Statements in SFD Catalogue into Ontology
- AST#5 – Construction of Test Pattern Catalogue should AST#2 and AST#3 be successful

8. As AST#2 could be based on the existing DEG203250 worked example, AST#1 and AST#2 could be performed in parallel.

TDL 2016 and beyond