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| ETSI_logo_Office_Colour_Small | ***STF 492 – Progress Report for ETSI*** | | | |
| **Presented to ETSI meeting** | | **Author:** | Mr. Philip Makedonski |
|  |  | **Date:** | 15/12/2015 |
|  |  | **Version** |  |
| **Doc ref** |  | page 1 of 4 | |

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| **STF** | **492** |  | **STF leader** | Philip Makedonski |
| **TB/WG** | **MTS** |  | **TB responsible** | Emmanuelle Chaulot-Talmon |
|  |  |  | **STF Assistant** | Elodie Rouveroux |

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| **STF title:** | TDL for Test Generation - Phase 3 A Reference Implementation |

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| **Milestone** | **C** |  | **Status** | **Covers the period until (cut-off date)** | 31/01/2016 |
| **Template** |
| **Objective** | Progress Report approved by MTS#67 (27-28 January 2016. Stable Drafts of D1, D3 and TR, early of D2 and D4 (M4 of the Work Plan) uploaded as MTS documents for discussion. | | | | |
| **Achieved** | Yes |  | | | |
| **Remarks** | Submitted on 24-Dec-2015 | | | | |

**Achieved dates**

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| **Template** | **Draft report** | **TB approval** | **ETSI approval** | **Sent to EC** | **EC approval** |
| 15/12/2015 | 18/12/2015 |  |  |  |  |

# Executive summary

* This progress report covers the work of STF 492 on reaching Milestone C, done in the period between 24-Jul-2015 and 18-Dec-2015. This period concludes with the submission of the completed deliverables defined for Milestone C.
* The work was done during two working sessions, accompanied by coordinated homework of the experts and three technical discussions with the established steering group, which provided technical guidance.
* The STF work plan has been adapted to accommodate a delay with the start of work. No changes to the resource requirements and STF team are proposed at this point.
* A dedicated promotion team has been coordinating and performing promotion activities related to the planned public TDL launch at UCAAT 2015. The proposal for a tutorial by STF members at UCAAT 2015 as part of the promotional activities for the TDL launch was accepted. The launch of TDL took place as planned at UCAAT 2015 with the tutorial, a keynote speech by selected stakeholders, as well as a demo booth showcasing the work of the STF and selected partners.

# Introduction

This progress report covers the work of STF 492 on Milestone C, done in the period between 24-Jul-2015 and 18-Dec-2015. This period concludes with the submission of the deliverables defined for Milestone C. The work was done primarily during two working sessions at CEA and at ETSI, accompanied by coordinated homework among the experts and three technical discussions with the established steering group.

# Contractual milestone

Milestone C comprises:

* Stable draft of TR 203-119 REF including technical documentation for the reference implementation of TDL
* Stable draft of ES 203-119-1 including a UML Profile for TDL, OCL formalisation of most constraints
* Early draft of ES 203-119-2 including refinements addressing reported issues
* Stable draft of ES 203-119-3 including adaptations for changes to ES 203-119-1
* Early draft of ES 203-119-4 including refinements and new features

All requested deliverables have been uploaded in the MTS contributions area of the ETSI portal on 24-Dec-2015 for approval at MTS#67. Due to unexpected delays in planned travel schedules, the deliverables and the progress report were uploaded 3 working days after the original deadline (18-Dec-2015).

# Progress of the work

Due to a delay with the start of work, the original work plan was adjusted to accommodate the changed timescale of the project as part of Milestone A. The refined work plan comprises four principal milestones and an additional milestone for the public launch. The milestones are primarily prepared during five planned working sessions, with individual and coordinated homework in between. Tasks for homework are allocated at the end of each session, progress on which is discussed during coordinated remote homework and results are reviewed at the beginning of the next session.

With regard to the milestone covered in this progress report, three working sessions have been allocated (also as part of the preparation for the public launch). Two working sessions took place as planned, one working session was changed to a homework session with coordination calls between the experts due to travel restrictions of the experts. This has been compensated in part also during the public launch where all experts were attending in person and had plenty of opportunities to discuss work on TDL with interested parties and members of the steering group that attended the event. During the period covered in this report, progress on the following activities has been achieved:

**Task 0 – Project Management**

* One STF working session has been re-allocated as coordinated homework session.
* Progress report for Milestone B (this document) and interim progress reports for the steering group have been prepared and submitted in a timely manner.
* STF members participated actively in steering group, MTS, and promotion team meetings.
* A TDL tutorial at UCAAT has been presented as part of the promotional activities associated with the launch event.
* TDL keynote speech with selected guest speakers, including STF members, SG members, as well as other stakeholders has been presented at UCAAT 2015 as part of the launch event.
* TDL technical materials for the public launch event at UCAAT 2015 have been prepared in collaboration with TC MTS and the ETSI communications team.

**Task 1 – Reference Implementation**

* An implementation of a viewer for the GR covering most constructs has been realized.
* A refined implementation of the UML profile for TDL, as well as a customized partial editor for the UML profile for TDL covering essential constructs has been realized.
* The implementation for the GR and the UML profile for TDL has been partially documented with initial focus on high priority sections.

**Task 2 – UML Profile for TDL**

* The mapping from the TDL meta-model to TDL stereotypes and UML meta-classes has been defined and documented.
* The TDL UML profile abstract syntax has been specified in the form of a UML profile diagram according to the mapping defined in Annex C of the draft of ES 203 119-1 v1.3.1.
* A trace model describing the relationships between the TDL meta-model and the UML profile for TDL has been specified.

**Task 3 – Adaptations to the Meta-model (MM)**

* The notational conventions and document structure have been updated to address requests for clarification.
* Feedback on the meta-model as well as other parts of the standard collected from third parties working on implementing TDL has been addressed.
* The formalization of the most constraints has been completed and partial validation has been performed.

**Task 4 – Adaptations to the Graphical Syntax (GR), Exchange Format (XF), Test Objectives (TO)**

* Additional features for ES 203 119-4 have been implemented and are pending validation.
* Identified issues in ES 203 119-2 have been addressed.
* Changes to ES 203 119-3 reflecting the changes in ES 203 119-1 have been implemented.

# Assessment of technical risk, difficulties encountered/expected, unresolved issues

The progress of the work of the STF may be negatively affected by the following risks:

**Technological challenges may affect the progress of the STF**

Due to the intrinsic complexity of the individual technologies involved and their integration, potential challenges related to particular aspects of the reference implementation realization may arise.

Severity: Medium, Likelihood: Medium

Mitigation strategies:

* Limit dependencies to non-essential technologies.
* Consider and select technologies to be used very carefully.
* Rely on established and open-source technologies with active communities.

**Task (inter-) dependencies may create bottlenecks for the work of the STF**

Due to the parallel and distributed work on multiple deliverables across multiple experts, dependencies among individual activities may create hindrances for the progress of the STF.

Severity: Medium, Likelihood: Low

Mitigation strategies:

* Limit dependencies between activities where possible.
* Make dependencies explicit where these are inevitable in order to raise awareness, as well as monitor and control potential implications.
* Ensure communication and collaboration among experts working on inter-dependent tasks.
* Reassign experts where applicable in order to accelerate progress of delayed activities and eliminate bottlenecks in a timely manner.

**Misunderstandings and communication barriers hinder progress**

Misunderstandings and communication issues during discussions and individual work may negatively impact the progress of the STF work.

Severity: Medium, Likelihood: Medium

Mitigation strategies:

* Moderation and awareness – recognize and differentiate between misunderstandings, where clarification is needed, and technical disagreements, where different solutions are proposed.
* Emphasis on facts, substantiated and illustrated with examples, and written input and output of discussions, which describes ideas, problems, and solutions in sufficient detail, and can be referenced to in subsequent discussions.
* Identify fundamental differences in alternative proposals and their impact in order to establish a baseline for discussions, rather focusing discussions on superficial and non-essential differences.
* Communicate and resolve persistent issues and disagreements with the help of the steering group.

**Misalignment of expectations towards the STF and the output of the STF**

Due to potentially unrealistic or misaligned expectations towards the STF from different stakeholders, the output of the STF may not be able to meet these expectations.

Severity: Medium, Likelihood: Medium

Mitigation strategies:

* A steering group has been established to provide technical guidance and mediate technical disagreements.
* Frequent reporting and technical discussions with the steering group and TC MTS ensure that the work of the STF is aligned with its expectations. The STF has an opportunity to communicate any expectations that are perceived to be unrealistic back to the steering group and TC MTS.
* Concrete examples are prepared to support technical discussions and ensure alignment of expectations.

# Proposed changes in the STF work plan

No changes in the STF work plan are proposed at this point in time.

# Resources requirements

No changes in the STF resource requirements are proposed at this point.

# Changes in the STF Team

No changes in the STF team are proposed at this point in time.

# Meetings/events attended on behalf of the STF

Experts from the STF attended MTS#66 and associated Technical Session on TDL at Fraunhofer FOKUS. During the Technical Session the progress of the STF and the planning and coordination of the launch event were discussed with the SG and TC MTS. The feedback from the launch event and the planning for the future of TDL were discussed during an online meeting with the SG and TC MTS on 16-Nov-2015.

Achievements of the STF presented and discussed at MTS#66 and an associated Technical Session in Berlin on 30-Sep/01-Oct-2015. Philip Makedonski (STF leader) will attend in person, while the remaining experts will attend remotely.

Members of the STF hosted a public launch event for TDL at UCAAT 2015 with a keynote session, TDL tutorial, and a dedicated booth for demos and further information. All STF experts attended the event in person and shared responsibilities associated with tending to the booth and reaching out to interested parties.

# Meetings/events planned to be attended

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| **Date** | **Place** | **TB/Orga** | **Event description** | **Reason to attend** | **Expert(s)** |
| Jan-2016 | Berlin | MTS | MTS#67, Technical Session on TDL | Present and discuss achievements of the STF up to that point | Philip Makedonski (in person) |
|  |  |  |  |  |  |

# STF communications, presentations, promotion, inside and outside ETSI, WEB pages etc.

The following activities related to the communication, presentation, and promotion of the work of the STF have been considered, planned, and/or performed:

* The proposal for a tutorial session on TDL at the UCAAT 2015 by the STF has been accepted. During an associated keynote session, the STF and TC MTS hosted the public launch of TDL accompanied by a booth presence at UCAAT 2015 with demonstrations of the work of the STF and selected partners. The many discussions with interested parties during the breaks provided good feedback on the work of the STF. During the discussions open questions were answered and further details regarding TDL were provided by the STF members, all of which were present at the launch event.
* Ongoing dissemination activities from STF members from research institutions include raising awareness and promoting TDL on their respective websites and within teaching and research activities.
* A website for the STF has been published on the ETSI portal at:   
  <https://portal.etsi.org//STF/STFs/STFHomePages/STF492.aspx>
* A logo for TDL has been created for promotional purposes in collaboration with TC MTS and the ETSI Communications Team.
* An official website for TDL aggregating all resources related to TDL and its implementation has been prepared officially launched during UCAAT 2015. It is available at:   
  <http://www.testdescriptionlanguage.etsi.org>
* A dedicated project is established on the online issue reporting portal for ETSI (“ETSI’s Bug Tracker”) where change requests for TDL can be submitted and managed in an open and transparent manner.

# Technical advice required from the reference Technical Body

A steering group has been assembled by TC MTS to provide technical guidance and expert advice during technical sessions with the STF. Up to this point, the steering group has been supporting the work of the STF very well, with technical sessions arranged between working sessions of the STF to discuss the progress of the STF and any open questions or unresolved disagreements.

# Status of the deliverables

Milestone C is comprised of the following deliverables:

* A stable draft of ES 203 119-1 v1.3.1 including the UML Profile for TDL defined as Annex C and OCL semantics for the TDL Meta-model. Available at: <ftp://docbox.etsi.org:21/STF/STF492_MTS_TDL/Public/drafts/es_20311901v010301m_stableDraft.docx>
* An early draft of ES 203 119-2 v1.2.1 including refinements for reported issues. Available at: <ftp://docbox.etsi.org:21/STF/STF492_MTS_TDL/Public/drafts/es_20311902v010201m_earlyDraft.docx>
* A stable draft of ES 203 119-3 v1.2.1 including refinements in order to accommodate changes in ES 203 119-1. Available at: <ftp://docbox.etsi.org:21/STF/STF492_MTS_TDL/Public/drafts/es_20311903v010201m_stableDraft.docx>
* An early draft of ES 203 119-4 v1.2.1 including new features for repeated and periodic event specification. Available at: <ftp://docbox.etsi.org:21/STF/STF492_MTS_TDL/Public/drafts/es_20311904v010201m_earlyDraft.docx>
* A stable draft of TR 203 119 v1.1.1 including high priority documentation. Available at:   
  <ftp://docbox.etsi.org:21/STF/STF492_MTS_TDL/Public/drafts/tr_203119v010101m_stableDraft.docx>

# Next report

The next report is scheduled for: 30-Mar-2015.

# Any other business

None.