



STF 522: TD-LTE Phase 4

Status Report

Document History

- 2017-09-26: Document submitted for MTS#72
- 2017-09-06: Document submitted for SG#3
- 2017-05-31: Document submitted for MTS#71
- 2017-05-11: Document submitted for SG#2
- 2017-02-27: Document submitted for SG#1
- 2017-01-25: Document submitted for MTS#70

From the Terms of Reference...

TDL Phase 4: Objectives

- New Part 6 for mapping TDL to TTCN-3
- Adaptation and extension of MM addressing CRs
 - new test configuration features (clarifications needed)
 - related to the mapping to TTCN-3
- Adaptation and extension of GR, XF, TO
- New Part 5 to relocate the UML profile (currently annex to MM)
- Requirements for security and performance testing with TDL (TR)

TDL Phase 4: Deliverables

Deliv.	Work Item code Standard number	Working title Scope
D1	RES/ES 203 119-1 V1.4.1	Test Description Language; Meta-Model and Semantics Scope: common concepts, meta-model, semantics
D2	RES/ES 203 119-2 V1.3.1	Test Description Language; Graphical Syntax Scope: TDL graphical concrete syntax for end users
D3	RES/ES 203 119-3 V1.3.1	Test Description Language; Exchange Format Scope: TDL exchange format for tool interoperability
D4	RES/ES 203 119-4 V1.3.1	Test Description Language; Structured Test Objective Specification Scope: TDL extension for structured test objectives
D5	DES/ES 203 119-5 V1.1.1	Test Description Language; UML profile for TDL Scope: TDL to UML meta-model mapping
D6	DES/ES 203 119-6 V1.1.1	Test Description Language; Mapping of TDL to TTCN-3 Scope: Mapping rules to automatically generate TTCN-3 test case skeletons from TDL test descriptions
D7	DTR/ MTS-1029504TDLSecPerfReq	TDL and its usage for security and performance testing; consolidated requirements (technical report)

Today

- TOP status
- Promotion and communication planning
- Steering group meetings
- Status update on the work of STF 522
- TDL at ETSI

TOP

TOP Status

- Added
 - MM implementation (Part 1, Part 3)
 - Textual editor (Annex B, Part 1; Annex B, Part 4)
 - Graphical viewer (Part 2)
- Pending
 - Validation / constraint implementation
 - Translation between textual and XF representation
 - Word generation (Part 4)

TOP Planning

- Oct 2017
 - communication activities: mailing list, documentation, UCAAT
 - features: improved graphical facilities
 - editing configurations and behaviour (some deviations from Part 2)
 - embedded textual editor for data use
 - validation integration
 - infrastructure: separate branches (1.4.1), update site / repository
 - technical details need to be determined (**add to task list**)

TOP Planning

- Mar 2018
 - add/merge new features: local ordering, procedures, etc.
 - TTCN-3 generation prototype (depends on new features)
 - additional documentation and outstanding tasks

TOP Promotion

- UCAAT 2017
 - TDL Tutorial at 9:00 on Wednesday
 - TDL Session at 16:00 on Wednesday
 - CTI Talk, STF Talk, FOKUS Talk (UTP and TDL compliance to ES 202 951)
 - NetResults experience with TDL (MBT Session at 11:00 on Friday)
 - TDL booth / information at ETSI stand
- Coordinate contributions by September 20
- Task list: [Google Spreadsheet](#)

#	Tasks	Priority
1	TDL Website review and TOP dedicate page(s)	A
2	Article for ETSI Magazine "The Standard"	A
5	Finalize public wiki (https://tdl.etsi.org/wiki)	A
8	Technical documentation on how to download, setup, use the tools	A
9	A guideline on how to contribute (design of the tools, where to modify)	A
11	ETSI press release	A
12	Sync on how to present TOP at UCAAT 17	A
15	Readme files for the repository	A
16	Invited talk on TDL at ICTSS 2017	A
20	Prepare flyers for UCAAT	A
3	Whitepaper on the advantages of TDL	B
4	Preparation of goodies for TDL (Tshirts?)	B
6	Create a mailing list dedicated to TOP	B
13	Request a TDL dedicated session at UCAAT 18 (?)	B
14	A video with a Demo on how to use the tools	B
17	TDL at MODELSWARD 2018	B
18	TOP logo vs TDL logo (?)	B
19	Plugins repository (managed via FTP and later via CI/CD)	B
21	SQJ article	B
7	ETSI Webinar: to explain how to download, setup use the tools	C
10	Reaching out to the Testing community (forums? mailing lists? academia?)	D

Promotion

Other Promotional Activities

- Book chapter in GI TAV 25th Anniversary (STF 522)
 - based on SAM 2016 article, heavily revised after review from editors
 - awaiting second review -> **cancelled under “strange” circumstances**
- Keynote at ICTSS (AU)
 - coordination and assistance requested
 - temporal challenge: Keynote on Monday, 2 days ahead of “launch”
- Subsequent article in SQJ (AU + ?) -> based on chapter?
- STF 522 page on ETSI portal

Status Update

Work Plan

- Timescale: Jan, 2017 (+4 months) - Jan, 2018 (+1 month)
 - delays due to administrative overhead at respective organisations
 - final confirmation received on Dec 15, 2016
 - work remotely, meet in person only if necessary
 - coordinated remote sessions scheduled as needed, based on availability
- Working sessions planned so far, further sessions as needed
 - WK7: Feb 14-17 Session 1 @ UG (4 days)
 - WK34: Aug 22-25 Session 2 @ UG (4 days)

Milestones (Current Planning)

N	Task / Milestone / Deliverable	ToR Targets	Current Targets
M0	Start of work	Sep-2016	Jan-2017
T0	Project management	Sep-2016–Sep-2017	Jan-2017–Jan-2018
T1	TDL-to-TTCN-3 mapping	Sep-2016–Sep-2017	Jan-2017–Jan-2018
T2	Advanced test configuration features	Sep-2016–Apr-2017	Jan-2017–Aug-2017
T3	Language maintenance	Sep-2016–Apr-2017	Jan-2017–Aug-2017
T4	Requirements for security and performance testing	Mar-2017–Sep-2017	Jun-2017–Dec-2017
M1	Informal report on planning	16-Dec-2016	Jan-2017
M2	1 st drafts	28-Apr-2017	May-2017
M3	2nd drafts	28-Jul-2017	Sep-2017
M4	Final drafts for MTS review	01-Sep-2017	Dec-2017
M5	Final report, end of work, TB approval	27-Sep-2017	Jan-2018
M6	Membership vote	27-Sep-2017	Feb-2018
M7	Publication	01-Dec-2017	Apr-2018

Overall Timeline (Current)

Task Milest.	Description	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
T0	Project management																
T1	TDL-to-TTCN-3 mapping																
T2	Advanced test configuration																
T3	Language maintenance																
T4	Requirements solicitation																
M0	Start of work																
M1	Informal report on planning																
M2	1st drafts																
M3	2nd drafts																
M4	Final drafts for MTS review																
M5	Final report, TB approval																
M6	Membership vote																
M7	Publication																

Notes from SG Meetings

- Inter-SUT communication remains as future work
- Introduce local ordering as explicit property of test description
- Focus on message-based communication at first
- Data mapping required at first
- Advanced test configuration as TDL extension (similar to TO)

Notes from SG Meetings

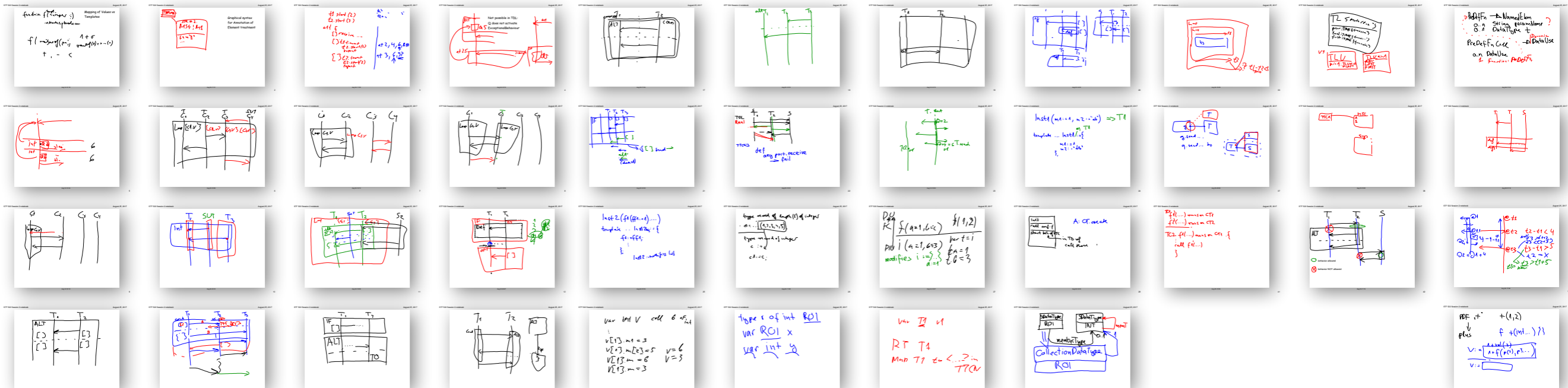
- Advanced test configurations
 - **separate extension (new WI) or annex - still not decided within MTS**
 - future discussion on generic notion of inheritance throughout TDL
- Implementation of mapping
 - **under TOP? with STF resources?**
- Future directions need to be discussed and affirmed
- Revised and updated TOP promotion task list
- TDL adoption at ETSI

Deliverable Status

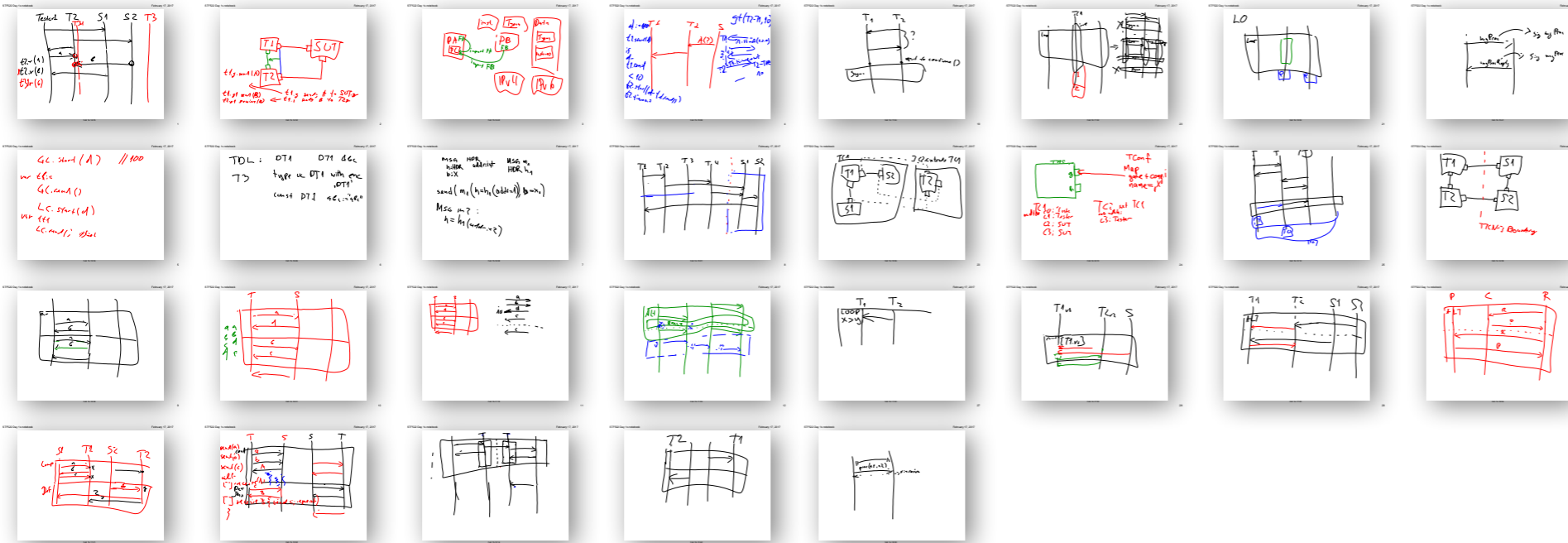
- Part 1: refinements
 - definitions, time, newly added parts, predefined functions
 - future directions for local ordering, collections, inheritance
- Parts 2, 3, 4 updated according to changes in Part 1
- Part 5 (UML Profile) not updated according to changes in Part 1
- Part 6
 - structure, notation (explanation and examples), content, some examples
- All examples need to be updated and aligned (Milestone 3)

Deliverable Status: Part 6

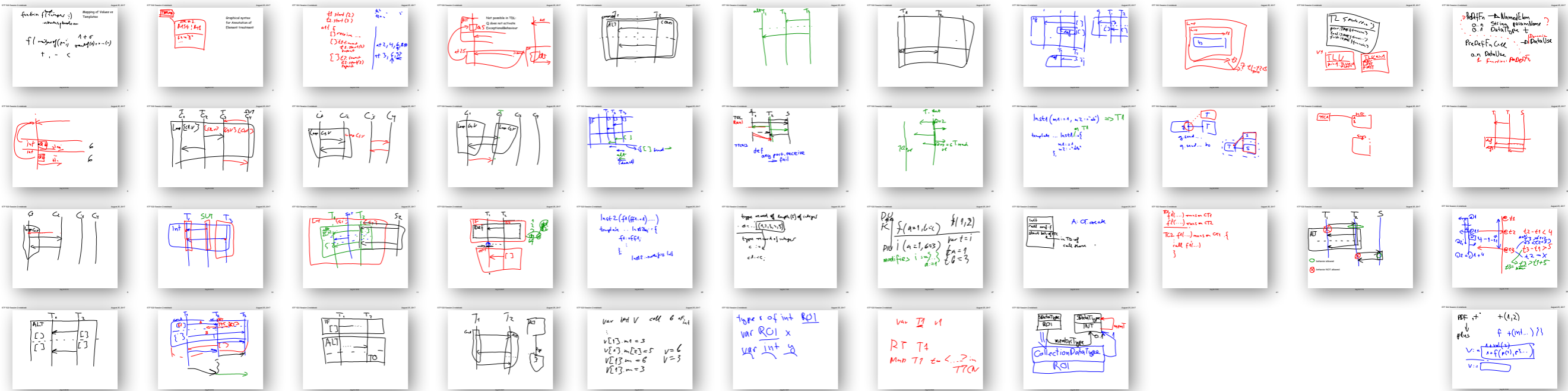
- Discussed difficult cases during Session 2
 - data: data instances annotated as values or templates (default)
 - time: quiescence in exceptional behaviour, time label use, time constraint
 - behaviour: combined behaviour and exceptional behaviour



Session 1



Session 2



Deliverable Status: Task 4

- Objectives
 - Solicitation of requirements for the specification of TDL test descriptions in the area of performance and security testing from partners in ETSI MTS and other Technical Bodies.
- Output
 - An ETSI technical report (DTR/MTS-1029504TDLSecPerfReq) summarising the solicited requirements and provides initial suggestions on treating them within the existing scope of TDL and on needed TDL extensions; the technical report serves as input to further discussions within the SG, MTS and CTI in order to determine future activities on TDL standardization.

Deliverable Status: Task 4

- Interactions
 - The SG will be involved to identify ETSI members and further users who will be questioned on essential requirements on security and performance testing; the SG will provide also feedback on the findings;
- Additional feedback from CTI based on current practices at ETSI

Deliverable Status: Task 4

- Discussion with ETSI CTI about possible target TBs/ISGs
- Performance test doesn't exist in ETSI context, any input could come from members only
- Potential ETSI bodies identified and current conclusions
- **TC CYBER (Milan Zoric)**

“At this point in time there are no testing standards and no testing Work Items in TC Cyber. My estimate is that it would be **premature to promote TDL in TC Cyber right now**. In some deliverables they are describing use cases with MSC-like diagrams. However, the behaviour described is not normative and therefore not meant to be tested. “

Deliverable Status: Task 4

- Potential ETSI bodies identified and current conclusions
- **ITS (Sebastian Müller, Alexandre Berge)**
Conformance tests are stable, well understood, a TD step investment **would not make sense**. “**On interop side**, TDL makes much more sense to me... a reference set of ITS interop TPs have been selected to be implemented using this framework; I have in mind to **have a parallel task for developing TDs in TDL** (most probably tdlan) for those tests, as a trial, **when** tdlan (or ultimately other TDL variants) **tools will be available** Now concerning ... **ITS security** I will collect feedback from experts of STF538 (...**STF kick-off to happen soon**), but I don't expect specific needs or requirement compared to “pure” conformance.”
- **MEC (Sebastian Müller)**
No feedback yet.

Deliverable Status: Task 4

- Potential ETSI bodies identified and current conclusions
 - **ESI (Laurent Vreck)**
“I would say that **TDL is not applicable for the current work on TC ESI.** The testing at the moment in Electronic Signature is to check the format of the signatures by parsing the files.”
 - **OM2M (Laurent Vreck and Miguel Angel Reina Ortega)**
“For oneM2M, as you said, we have **a process already in place** for writing conformance TP and ATS. We **don't use TD for conformance.**”

Deliverable Status: Task 4

- Potential ETSI bodies identified and current conclusions
- **NFV-TST (Michele Carignani) Maybe**

“TDL could be of interest to be applied for **description of interoperability** to improve the design and the documentation. I made some **experiments** during our study for CTI (will report on this at UCAAT) – see attachments. Since the actions are at a “high level” I do not foresee possible automation of test execution in this area.

TDL could be of interest if it permits to describe a benchmark. The output should not be a verdict but a collection of computed metrics evaluations.

TDL tooling availability is essential to start any possible involvement of NFV TST (and ETSI TBs in general).”

Deliverable Status: Task 4

- Potential ETSI bodies identified and current conclusions
- **NFV-SEC (Scott Cadzow) Maybe**
“The short answer is that TDL is of value to NFV-SEC. Unfortunately I am in London this week (...) and thus not at the NFV meeting in Denver but I **will raise the topic with my fellow experts in NFV SEC.**”

Deliverable Status: Task 4

- TDL stakeholder situation is unclear
- No clear source for security/performance requirements,
 - this task is seen to be pre-mature for the time being
- TDL to TTCN-3 mapping requires more resources than estimated
 - higher impact to the TDL meta-model than expected
- Proposal to **re-allocate resources from Task 4 to Task 1**
 - Task 1 is a higher priority task than Task 4
 - Task 4 is just a small portion of the whole STF budget

TDL at ETSI

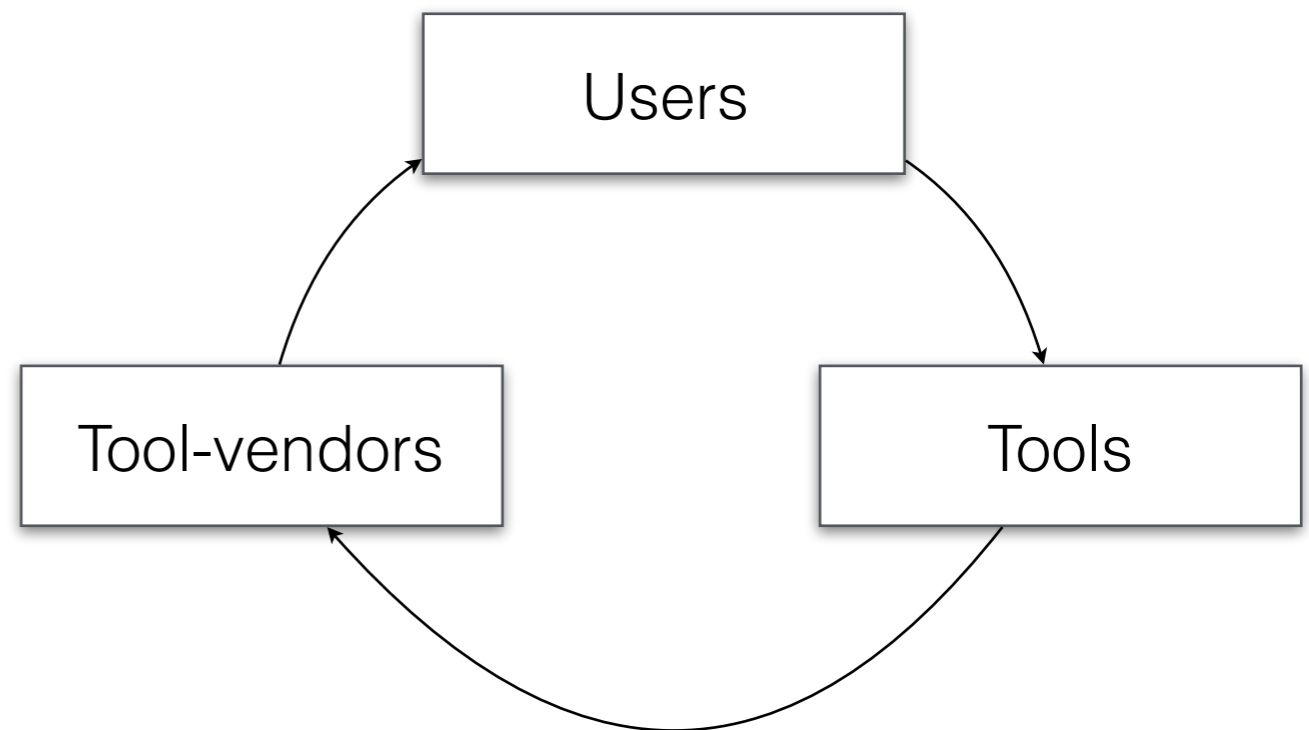
- Requested clarifications regarding behaviour and data
- STF reviewed and responded addressing the questions
 - mostly misunderstandings (TDL is becoming rather complex)
 - adequate tooling can support desired workflows
 - however, workflows may need to be reviewed as well
 - one potential CR regarding “modified” data instances
- TBC: Support for generating TTCN-3 is high priority

Next Steps

- Milestone 2 submission: September 15
- UCAAT 2017 coordination and submission: September 20, 29
- MTS#72 and progress report: September 27
- UCAAT 2017 and TOP launch: October 11
- SG meeting: Mid-End November
- Milestone 3 submission: December 15 (wrong dates in WIs)
- Continuation of activities in the future? WIs TBD at MTS#72

The Future of TDL

- We need users
 - initial studies and some interest at ETSI
 - other parties: NetResults, TSP, U-Ottawa
- Users need tools and guides
 - TOP can be a platform for both
- Tools need tool-vendors
 - TOP as a starting point
- Tool-vendors need users



The Future of TDL

- Further refinements and extensions desirable
 - inheritance, data and typing, local behaviour, mapping to TTCN-3
 - secondary, need to come from actual users
- Main focus on increasing acceptance and adoption
 - identify limiting factors and act on them, requires faster turnaround
 - information and training on solving actual problems instead of on features
- Fostering initiative among stakeholders
- Support and funding opportunities

Any other business?
