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| ***STF 576 - Progress Report for ETSI*** | | | | | |
| **Presented to ETSI meeting** | **TC MTS Plenary #80** |  | **Author:** | Mr. Michele Carignani | |
|  |  |  | **Date:** | 07/04/2020 | |
| **Doc ref** | **MTS(20)080006** |  | **Version** | 0.1 | |
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| **STF** | **576** |  | **STF leader** | Mr. Michele Carignani | |
| **TB/WG** | **MTS** |  | **TB responsible** | Mr. Philip Makedonski, Mr. Dirk Tepelmann, Mr. Dieter Hogrefe | |
|  |  |  | **Administrator** | Ms. Elodie Rouveroux | |
|  |  |  |  |  |  |
| **STF title:** | Survey of current work and definition of a methodology for specification and testing of RESTful APIs | | | | |
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| **Milestone** | **B** |  | **Status** | **Covers the period until (cut-off date)** | 15/05/2020 |
| **Template** |
| **Objective** | Tasks 4 and 5 completed. Stable draft DEG/MTS-203647 available for review. Progress Report B approved by MTS#80 | | | | |
| **Achieved** | Yes |  | | | |
|  | | | |
| **Remarks** |  | | | | |
|  |  |  |  |  |  |
| **Achieved dates** |  |  |  |  |  |
| **Template** | **Draft report** | **TB approval** | **ETSI approval** |  |  |
| 02/04/2020 |  |  |  |  |  |
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# Executive summary

STF 576 is tasked to conduct a survey of current practices of RESTful APIs standardization activities and to develop a Guide presenting a unified methodology.

Milestone A, which was achieved in January 2020 and described in the previous Progress Report, included the results of work done in Tasks T1, T2 and T3 which has been successfully executed by STF 576. As a result of the work developed an early draft of ETSI EG 203 647 has been contributed to MTS #79 plenary meeting. The draft contained the foreseen structure of the document and the result of the analysis of the base documents.

Milestone B, incorporates the results of results of Tasks T4 and T5. The tasks have been in the foreseen timeframe and with the planned resources, allowing the production of a Stable Draft for the target deliverable.

A modification for the time plan of the remaining work is proposed, to take into account the special process required for approval and publication of EG deliverables (ETSI Guide). The rationale and the proposal is detailed in section 6 of the present report.

# Introduction

STF 576 work plan presents three major stages: (1) a preparatory stage to survey current work and to collect needed documentation. (2) A second stage to develop a unified methodology, while deriving examples and documentation for the users. (3) A third stage to collect feedback, disseminate the work done and finalize the documentation for easy adoption of the guide.

The present document reports on the activities executed in the second stage of the work, corresponding to the Tasks T4 and T5 which resulted in the availability of a Stable Draft of the target deliverable as defined in Milestone B, available for TB review.

# Contractual milestone

Milestone B requires the following:

* Tasks 4 and 5 completed,
* Stable draft DEG/MTS-203647 available for review,
* Progress Report B approved by MTS#80.

Regarding Task T4 “ground setting”, the objectives has been completed as per the following:

* Formulate and document a process for specification and testing of REST APIs;
* The process needs to go through all the stages of standardization and testing;
* In particular:
  + Specification best practices
    - Specification of provisions (requirements, recommendations, options)
    - Data modelling practices
    - Specification formats (e.g. OpenAPIs, RAML, etc.)
    - Specification maintenance (e.g. versioning) and storage (e.g. with Git platforms such as ETSI Forge)
    - Generation of documentation from machine readable specification formats
  + Testing best practices
    - Instantiation of ETSI testing methodology with highlights on specifics for REST APIs, such as
      * Generic test architecture
      * Recommendations on Test Purposes
      * Recommendations on Abstract Test Suites
    - Recommendations on Conformance checks in Interoperability test activities,
    - Test Generation and Automation opportunities
  + REST API specification and test development process
    - Steps for an ETSI or PP working group to develop and maintain a REST API in an efficient way, meeting the high quality of ETSI standards

Regarding Task T5 “Creation of an example with ETSI Tools (TDL + TTCN) and others (OpenAPIs, Robot Framework)”, the following results has been achieved:

* Provide an example to illustrate the process of REST API specification and testing proposed.

# Progress of the work

As detailed in Section 3, all planned objectives for Milestone B of STF 576 has been achieved. Activities have been executed by means of meetings (both remote and face to face) and autonomous tasks conducted remotely.

A total of 12 remote meetings and 1 face to face session (of 4 days) has been held since the last progress report (i.e. since January 2020).

Following the document structure provided in draft 0.0.1 of DEG/MTS-203647, the content of the unified methodology has been prepared by the experts. Continuous coordination and alignment helped keeping a consistent approach and a peer review on the quality of the outcome.

Moreover, new documents have been added to the list of base specifications and Clause 8 enriched with more background information.

During the Face to Face session (held in Göttingen (Germany) in March 2020), the team have been collaborating on reviewing the proposed methodology and on planning the development of the remaining parts of the document.

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

Engagement and effective exchange with relevant standardization groups at ETSI remain to be key to the successful adoption of EG 203 647 in standardization practices. In this regard, a permanent risk is identified in lack of or ineffective exchanging with such groups.

To mitigate the issue, STF 576 will keep planning communication activities and easy access to the documentation and to interaction with the team.

At TC MTS, STF 576 recommends the usage of Liaisons to officially provide updates on the present work and raise attention and feedback.

Moreover, the role of TC MTS will fundamental in stimulating and encouraging ETSI Members to vote for approval of the delivered draft, after Milestone C completion.

# Proposed changes in the STF work plan

Given the specific process required for approval and publication of EG deliverables (60 days) it is proposed to postpone the cut-off for Milestone D to September 30th 2020. This approval delay was not taken into account during the finalization of Milestone cut-off dates in the Preparatory meeting of STF 576 and is not in control of the STF to reduce approval delay.

The postponement of Milestone D cut-off date will not require new work on behalf of the STF on the production of the draft. Therefore all STF contributions to the target deliverable will not be impacted by this modification.

Nevertheless, this will allow for more dissemination opportunities to pursued as part of Task T6 execution, which is beneficial taking into account the current adverse conditions on travelling and standardization or academic events organization.

# Resources requirements

No new unplanned resources required.

# Changes in the STF Team

No changes in the STF Team.

# Meetings/events attended on behalf of the STF

**STF Remote meetings**

1. Meeting #5, held remotely on 06/02/2020
2. Meeting #6, held remotely on 25/02/2020
3. Meeting #7, held remotely on 11/03/2020
4. Meeting #8, held remotely on 18/03/2020
5. Meeting #9, held remotely on 25/03/2020
6. Meeting #10, held remotely on 01/04/2020
7. Meeting #11, held remotely on 08/04/2020
8. Meeting #12, held remotely on 15/04/2020
9. Meeting #13, held remotely on 23/04/2020
10. Meeting #14, held remotely on 29/04/2020
11. Meeting #15, held remotely on 06/05/2020
12. Meeting #16, held remotely on 08/05/2020

**STF Face to Face meetings**

1. From 02 to 05 March 2020, hosted by University of Göttingen, Göttingen, Germany.

# Meetings/events planned to be attended

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Date** | **Place** | **TB/Orga** | **Event description** | **Reason to attend** | **Expert(s)** |
| 12/05/2020 | Remote | MTS #80 | MTS Plenary | Milestone B approval | All |
| 07/09/2020 | Remote | OSM#10-Mid-Release | OSM #10 Plenary | Disseminate the results of the Work | Sana Zulfiqar |
| 09/09/2020 | Remote | ZSM#12-F2F Bonn | ZSM Plenary | Disseminate the results of the Work | Martti Kaarik |
| 14/09/2020 | Remote | NFV#31-F2F Garmisch-Partenkirchen | NFV Plenary | Disseminate the results of the Work | Philip Makedonski |
| 15/09/2020 | Remote | SmartM2M#55 | SmartM2M Plenary | Disseminate the results of the Work | Sana Zulfiqar |
| 22/09/2020 | Remote | MEC#23 | MEC Plenary | Disseminate the results of the Work | Michele Carignani |
| 22/09/2020 | Remote | PDL#06 | PDL Plenary | Disseminate the results of the Work | Michele Carignani |

NOTE: Participation to the ETSI meetings is pending changes in the organization, due to travelling and work restrictions in force among Europe and outside.

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

A significant number of communication initiative have been put in execution or planned by STF 576, given the importance of collaboration with the different stakeholder, with a particular focus on ETSI groups:

1. The STF Website public website has been made available at the following URL:
   * <https://portal.etsi.org/STF/STFs/STF-HomePages/STF576>
2. A presentation to introduce the team and the scope of work has been brought to ISG MEC during the Plenary meeting #20. The presentation is contributed as document number MECDECODE(19)000078 and is available at the following URL:
   * <https://docbox.etsi.org/ISG/MEC/DECODE/05-CONTRIBUTIONS/2019//MECDECODE(19)000078_STF_576_-_Survey_and_guidance_on_RESTful_API.pptx>
3. A Survey has been published and communicated on 17/12/2019 (with a reminder sent on 13/01/2020) to the following groups:
   * ISG MEC
   * ISG NFV
   * 3GPP CT and SA groups
   * OneM2M and ETSI TC SmartM2M
   * TC MTS,
   * ISG CIM,
   * ISG ZSM,
   * OSG OSM.
4. The Survey has been made available through the SurveyMonkey service provided by ETSI at the following URL:
   * <https://www.surveymonkey.com/r/5X3NRTW>
5. The results of the survey have been presented through the means of an open Webinar, the details of which have been communicated to groups and individuals who took part in the survey. The webinar has been made available through the GotoWebinar service provided by ETSI at the following URL:
   * <https://attendee.gotowebinar.com/register/8895577238385756685>
6. A public documentation portal and collaborative wiki on RESTful activities in ETSI will be developed (tentatively at rest.etsi.org), pending approval from TC MTS;
7. Participation in other ETSI meetings is foreseen;
8. Publications as scientific papers or articles will potentially be developed;
9. Publication of the contents of the working area of the STF on the ETSI Forge, pending decision from TC MTS.

# Technical advice required from the reference Technical Body

**Evaluation of new formal liaisons towards selected ETSI bodies and groups**

The STF proposes to TC MTS to evaluate sending Liaisons statements to relevant groups on the updates of the work, namely the availability of the Stable Draft, in order to raise awareness on the present work and to trigger the feedback loop, also to plan future editions of the target deliverable.

# Status of the deliverables

**ETSI EG 203 647**

Early Draft v0.0.2 available on the ETSI Portal at the following location:

* <https://docbox.etsi.org/MTS/MTS/05-CONTRIBUTIONS/2020/MTS(20)080007_Draft_-_DEG_MTS-203647__v0_0_2__EG_203_647__.zip>

The working area of STF 576 is hosted at ETSI Forge at the following location:

<https://forge.etsi.org/rep/stf/stf-576/mts-203647-methodology-for-restful-apis-specifications-and-testing>

The working area contains:

* Reports on the base documents and
* Markdown sources used for the internal drafting of the STF.

# Next report

The next report is scheduled for: *30/06/2020*.

# Any other business

None.