



Motivation

The industry is massively developing new products and services for the internet of things (IoT), industrial automation, new communication and software-based systems etc. and many customers and authorities are uncertain about the quality of the offers.

Security and interoperability are the main concerns in particular, followed by other non-functional quality characteristics like connectivity, reliability, operability and performance. For example, current IoT related testing activities are very heterogeneous and include traditional conformance testing, interoperability testing, plug fests, hacking, or crowd testing and more.

Today, there are several initiatives who try to set-up quality labels or certification schemes for e.g. IoT solutions but without a systematic strategy of required quality assurance activities implied by the used technologies. In this situation, it becomes necessary to have a common view on the scope of needed tests for IoT quality assessment and certificates.

Why within TC MTS?

Within the ETSI TC MTS, experts from industry and research in multiple domains are working together on the application of advanced testing methods and techniques.

Due to the speed of new development and the public demand to provide a common approach for reliable quality criteria a working group within TC MTS is a fast and appropriate means to provide international reference documents for industrial quality test criteria. A common approach for the test specification of IoT test purposes will support the interoperability, quality and confidence into the IoT industry.

Terms of Reference

Following the ToR the new TST Working Group will develop studies, guidelines, test catalogues and test specifications for specific ICT technologies that are not already covered by existing ETSI Technical Bodies. The types of testing can include, but are not limited to, conformance, interoperability, security and performance testing.

The initial technical focus of the TST Working Group will be:

- IoT network layer (communication protocols, node connectivity, edge computing etc.)
- IoT layer (data accumulation and aggregation)
- Application layer (interfaces, business processes etc.)

History and Working Program

The MTS working group TST had its Kick-Off meeting during the ETSI IoT-Week in October 2017. Following an initial discussion on the potential scope the primary new work items (NWI) are related to the development of test purposes for the within IoT very important protocols MQTT and CoAP. In addition, NWI have been set up for IoT Security issues, including a test Methodology, security test purposes for LoRaWAN and a foundational Security IoT-Profile.

Technical Approach and Related Work

Following the advanced test methodology developed within MTS it has been discussed and decided to apply TDL-TO for the definition of test purposes. This new ETSI notation is part of the overall approach for test developments in the ICT domain. From our technical work in the past, we know that it is essential to define test scenarios in a formal way to avoid misinterpretation and to allow the application of utilities supporting e.g. formatting or maintenance.

Participation and Contact

ETSI members from Fraunhofer FOKUS, DEKRA Exam, AUDI, EasyGlobalMarket, Sintesio, Spirent, Uni Göttingen Ericsson and Elvior participated during the working group meetings. Interested ETSI members may review existing documents or contribute new working items to the group. If you are not an ETSI member, you may join the meetings as a guest for a limited period.

Links

ETSI Portal: <https://portal.etsi.org/tb.aspx?tbid=860&SubTB=860>

TDL Homepage: <https://tdl.etsi.org/>



Q3 2018

ETSI provides members with an open and inclusive environment to support the timely development, ratification and testing of globally applicable standards for ICT-enabled systems, applications and services across all sectors of industry and society. We are at the forefront of emerging technologies. We address the technical issues which will drive the economy of the future and improve life for the next generation. We are a not-for-profit body with more than 850 member organizations worldwide, drawn from 68 countries and five continents. Members comprise a diversified pool of large and small private companies, research entities, academia, government and public organizations. ETSI is one of only three bodies officially recognized by the EU as a European Standards Organization (ESO).

www.etsi.org

ETSI, 650 Route des Lucioles, 06921 Sophia Antipolis Cedex, France. Tel: +33 4 92 94 42 00 - info@etsi.org