

Recommendation

ITU-T Q.4078 (04/2025)

SERIES Q: Switching and signalling, and associated measurements and tests

Testing specifications – Testing specifications for IMT-2020 and IoT

User requirements and reference model for testbed as a service

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Switching and signalling, and associated measurements and tests

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For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T Q.4078

User requirements and reference model for testbed as a service

Summary

Recommendation ITU-T Q.4078 elaborates on requirements and reference model, with properties of relevance for delivering testbed as a service (TaaS) in the context of federated testbeds, aiming to complement and extend Recommendation ITU-T Q.4068. It is more particularly focused on the user interface, services, and requirements to address end-user needs when remotely accessing testbeds in order to deliver an adequate user experience. From this point, this Recommendation is reporting the elaboration of the related terms and definitions, requirements, reference model with properties of relevance for TaaS, and interoperability specifications for virtualizing and delivering modular and scalable TaaS on top of existing and future testbed infrastructures, including federated ones. Furthermore, the TaaS will be able to list the assets provided by the different testbeds and expose them through dedicated application programming interfaces (APIs) based on Recommendation ITU-T Q.4068. Generic key performance indicators (KPIs) are defined in a generic manner in the corresponding Recommendation; for instance, the exposure of capabilities is a generic KPI, so agnostic from the TaaS, and is common to all the parts of a testbed federation. Some KPIs concerning specially the TaaS are determined in this Recommendation such as dynamic discovery, availability and reputation based on a scoring of each testbed. Integration, interoperability and extensibility of the TaaS are also defined.

History *

Edition	Recommendation	Approval	Study Group	Unique ID
1.0	ITU-T Q.4078	2025-04-13	11	11.1002/1000/16294

Keywords

Reference model, requirements, testbed as a service (TaaS), testbed federation.

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