Draft Recommendation ITU-T Q.4068 (ex. Q.API4TB)

Open APIs for interoperable testbed federations

**Summary**

The recent technological developments concerning Internet are more complex to test and to use then in the real world. They have to address a larger diversity of conditions and assess their scalability. The needs to do experimentations within testbeds become more important to test new use cases in real conditions. This evolution increases the need and practice to federate and interconnect different testbeds. However, this powerful approach lacks the availability of clearly standardized APIs to support such federation of existing testbeds and resources to support experimentation, test and validation of new technologies, services and solutions in order to enhance the interoperability of testbeds.

This Recommendation presents a set of open APIs for interoperable testbed federation able to manage not only the interconnection and the interoperability of testbeds in a federation, but also to handle the resources advertisement, allocation and provision. The APIs are designed to manage the users involved in the federation like the experimenters and to assign roles to the users. In the same way, the usage of a resource is attributed to an experimenter through the open APIs for interoperable testbed federation.

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