

Methodical recommendations

in a subject

**USAGE OF THE INFRASTRUCTURE AND
MEASURING APPARATUSES OF THE ITU
VIRTUAL LABORATORY FOR CARRYING OUT
OF REMOTE TESTING OF THE EQUIPMENT,
NEW TECHNOLOGIES AND SERVICES**



The ITU Virtual Laboratory Overview

The ITU Virtual laboratory is created in pursuance of the tasks specified in this Project and the objectives specified in the WCTD-10 Resolution.

The Virtual laboratory use the model network which is simulated a next generation network and composed in compliance with ITU Recommendation Q.3900. The project should inherit the results obtained during realization of the project on the ITTC creation.

The functional capabilities of the Virtual testing site (VTS) intended for the virtual laboratory activities include:

- Capability to configure, view and manage the measuring equipment, traffic generators and analyzers remotely;
- Capability to make tests remotely;
- Support and interoperability with the knowledge database (Recommendation ITU-T Q.3903) including:
 - capability to create dedicated closed and open fields for users so that they can create their own and public fields for testing (storage of testing methods, unified testing procedures, testing reports, architecture schemes for system and network solutions applied in operator's networks);
 - support of virtual designers and testing procedure automated control systems (testing methods, testing protocols);
 - support of information distribution system including Internet facilities;
- Capability to control principles and policies of access to the Virtual lab resources;
- Capability to control the telecommunication system used for communication with laboratory experts (forums, instant messages, personal communication etc.).

The Project realization is aimed at solving the following tasks:

- Provision of remote access to NP/QoS/QoE assessment and remote measurement of speed of access to Internet (measurement equipment, traffic generators and analyzers) for developing countries;
- Provision of the Virtual lab testing programs realization using a “virtual access” mechanism with direct participation of specialists from developing countries;
- Provision of consultations of the international skilled specialists with high qualification in the field of testing and operation;
- Delivering training remotely as per testing procedures, test equipment configurations, best practices and new technologies within the framework of the Virtual lab activity;
- Propagation of the Virtual lab experience to developing countries;

- Support of the Virtual lab knowledge database functioning.

The Virtual lab features as distinguished from acting world testing sites include the following key characteristics:

- Short time for preparation to tests;
- Remote testing without obligatory presence of specialists on the testing site;
- Availability and wide use of expensive measuring and tests equipment via a remote connections;
- Automation of testing procedures requires minimal participation of the personnel with minimum time spending for testing;
- Debugging of customer's network specific functions for a short period of time;
- Testing cost is much lower than the cost of testing on generally recognized world testing sites.

The Virtual lab will offer the following base structure:

- Virtual testing site (VTS);
- Measuring equipment control system (MECS);
- Knowledge database (KDB);
- Virtual lab portal (VLP).