International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY
Hammamet, 25 October – 3 November 2016

Resolution 76 – Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU Mark programme

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

RESOLUTION 76 (Rev. Hammamet, 2016)

Studies related to conformance and interoperability testing, assistance to developing countries[1], and a possible future ITU Mark programme

(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)

The World Telecommunication Standardization Assembly (Hammamet, 2016),

recalling

a)   that Resolution 123 (Rev. Busan, 2014) of the Plenipotentiary Conference instructs the Secretary-General and the Directors of the three Bureaux to work closely with each other in order to step up actions intended to reduce the standardization gap between developing and developed countries;

b)   that Resolution 200 (Busan, 2014) of the Plenipotentiary Conference endorses a shared global vision for the development of the telecommunication/information and communication technology (ICT) sector, under the agenda "Connect 2020", envisaging "*an information society, empowered by the interconnected world, where telecommunications/ICTs enable and accelerate social, economic and environmentally sustainable growth and development for everyone*";

c)   that the progress towards achievement of the objectives and outcomes of the work of each Sector is reported, as elaborated within the strategic plan for the Union for 2016-2019 in Annex 2 to Resolution 71 (Rev. Busan, 2014) of the Plenipotentiary Conference, contributing to the implementation of the 2030 Agenda for Sustainable Development;

d)   that Article 17 of the ITU Constitution, while providing that the functions of the ITU Telecommunication Standardization Sector (ITU-T) shall fulfil the purposes of the Union relating to telecommunication standardization, stipulates that such functions are to be performed "bearing in mind the particular concerns of the developing countries";

e)   the results achieved by ITU in implementing the Global Mobile Personal Communications by Satellite (GMPCS) Mark;

f)   the efforts and outputs of the ITU-T Conformity Assessment Steering Committee (CASC) under the leadership of ITU-T Study Group 11;

g)   Resolution 177 (Rev. Busan, 2014) of the Plenipotentiary Conference, on conformance and interoperability (C&I);

h)   Resolution 197 (Busan, 2014) of the Plenipotentiary Conference, on facilitating the Internet of things (IoT) to prepare for a globally connected world;

i)   Resolution 47 (Rev. Dubai, 2014) of the World Telecommunication Development Conference (WTDC), on enhancement of knowledge and effective application of ITU Recommendations in developing countries, including C&I testing of systems manufactured on the basis of ITU Recommendations;

j)   Resolution ITU-R 62 (Rev. Geneva, 2015) of the Radiocommunication Assembly, on studies related to testing for conformance with Recommendations of the ITU Radiocommunication Sector (ITU-R) and interoperability of radiocommunication equipment and systems,

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[1]   These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

a)   that interoperability of international telecommunication networks was the main reason for creating the International Telegraph Union in 1865, and that this remains one of the main goals in the ITU strategic plan;

b)   that emerging technologies have increasing requirements for C&I testing;

c)   that conformity assessment is the accepted way of demonstrating that a product adheres to an international standard, and continues to be important in the context of World Trade Organization members' international standardization commitments under the Agreement on Technical Barriers to Trade;

d)   that Recommendations ITU-T X.290 to ITU-T X.296 specify a general methodology for conformance testing of equipment to ITU-T Recommendations;

e)   that conformance testing does not guarantee interoperability but would increase the chance of interoperability of equipment conforming to ITU-T Recommendations;

f)   that very few of the current ITU-T Recommendations identify interoperability or conformance testing requirements, including both test procedures and performance criteria;

g)   that assessment of conformity with certain ITU-T Recommendations may imply defining key performance indicators as part of testing specifications;

h)   that interoperability testing of ICT equipment is an important type of testing from the consumer's perspective;

i)   that technical training and institutional capacity development for testing and certification are essential issues for countries to improve their conformity assessment processes, to promote the deployment of advanced telecommunication networks and to increase global connectivity;

j)   that it is not appropriate for ITU itself to enter into certification and testing of equipment and services that many regional and national standards bodies also provide for conformance testing;

k)   that CASC has been set up for the purpose of developing a procedure for the recognition of ITU experts and elaborating detailed procedures for the implementation of a test laboratory recognition procedure in ITU-T;

l)   that CASC, in collaboration with the International Electrotechnical Commission (IEC), is working on the establishment of a joint IEC/ITU certification scheme for assessing ICT equipment for conformity with ITU-T Recommendations;

m)   that ITU-T has launched a Product Conformity Database and is progressively populating it with details of ICT equipment having undergone testing for conformity with ITU-T Recommendations;

n)   that an ITU C&I Portal website has been established, which is being continuously updated;

o)   that, at its 2013 session, the ITU Council updated the action plan for the C&I programme initially established in 2012, the pillars of which are: 1) conformity assessment, 2) interoperability events, 3) human resource capacity building, and 4) assistance in the establishment of test centres and C&I programmes in developing countries;

p)   the progress reports submitted by the Director of the Telecommunication Standardization Bureau to the Council at its 2009-2016 sessions and to the Plenipotentiary Conference (Busan, 2014),

further recognizing

a)　　　that providing for interoperability should be an important consideration when developing future ITU-T Recommendations;

b)　　　that testing for conformity with ITU-T Recommendations should help in efforts to combat counterfeit ICT products;

c)　　　that enhancing Member States' capabilities for conformance assessment and testing and the availability of national and regional conformance assessment testing facilities may help combat counterfeit telecommunication/ICT devices and equipment;

d)　　　that C&I testing can facilitate the interoperability of certain emerging technologies such as IoT, IMT-2020, etc.,

considering

a)　　　that there is an increasing number of complaints that equipment is often not fully interoperable with other equipment;

b)　　　that some countries, especially the developing countries, have not yet acquired the capacity to test equipment and provide assurance to consumers in their countries;

c)　　　that increased confidence in the conformance of ICT equipment with ITU-T Recommendations would increase the chances of end-to-end interoperability of equipment from different manufacturers, and would assist developing countries in the choice of solutions;

d)　　　the importance, especially to developing countries, that ITU takes up a leading role in implementation of the ITU C&I programme, with ITU-T taking lead responsibility for Pillars 1 and 2, and the ITU Telecommunication Development Sector (ITU-D) for Pillars 3 and 4;

e)　　　that the remote testing of equipment and services using virtual laboratories will enable all countries, especially those with economies in transition and developing countries, to conduct C&I testing, while at the same time facilitating the exchange of experience among technical experts taking into account the positive results achieved in implementing the ITU pilot project for the creation of such laboratories;

f)　　　that, along with ITU-T Recommendations, there are a number of specifications for C&I testing developed by other standards development organizations (SDOs), forums and consortia,

considering further

the decision of the Council at its 2012 session concerning postponement of the implementation of the ITU Mark until such time as Pillar 1 (conformity assessment) of the action plan has reached a more mature stage of development,

noting

a)　　　that C&I requirements to support testing are essential components for developing interoperable equipment that is based on ITU-T Recommendations;

b)　　　that considerable practical experience exists within the ITU-T membership regarding the production of relevant testing standards and the testing procedures on which the actions proposed in this resolution are based;

c)　　　the need to assist developing countries in facilitating interoperable solutions which can help in reducing the cost of systems and equipment procurement by operators, particularly in the developing countries, whilst improving product quality and safety;

d)　　that when interoperability experiments or testing have not been performed, users may have suffered from the lack of interconnection performance between equipment from different manufacturers;

e)　　that availability of equipment tested as per ITU-T Recommendations for C&I may provide the basis for achieving a greater choice of solutions, greater competitiveness and more economies of scale,

taking into account

a)　　that ITU-T regularly carries out testing activities, including ITU-T study group pilot projects, to assess C&I;

b)　　that ITU standardization resources are limited, and C&I testing requires specific technical infrastructure;

c)　　that different expertise is required for developing test suites, interoperability testing standardization, product development and product testing;

d)　　that it is of advantage if interoperability testing is done by users of the standard who were not involved in the standardization process itself, rather than the standardization experts who have written the specifications;

e)　　that collaboration with a range of external conformity assessment (including accreditation and certification) bodies is therefore necessary;

f)　　that some forums, consortia and other organizations have already established certification programmes,

resolves

1　　to invite ITU-T study groups to continue working on the pilot projects for conformity to ITU-T Recommendations and continue developing the necessary C&I testing Recommendations for telecommunication equipment as quickly as possible;

2　　that ITU-T Study Group 11 coordinates the Sector's activities related to the ITU C&I programme across all study groups;

3　　that ITU-T Study Group 11 continues to undertake activities within the C&I programme, including pilot projects on conformance/interoperability testing;

4　　that ITU-T, in collaboration with the other Sectors as appropriate, shall develop a programme to:

i)　　assist developing countries in capacity building on C&I (Pillar 3) and establishing test centres in developing countries, aimed at promoting regional integration and common C&I programmes (Pillar 4);

ii)　　assist developing countries in establishing regional or subregional C&I centres and encourage cooperation with governmental and non-governmental, national and regional organizations and international accreditation and certification bodies, to prevent any overlaps caused by or imposed on ICT equipment;

iii)　　develop and improve the mutual recognition of C&I testing results, mechanisms and data analysis techniques between different regional testing centres;

5　　that conformance testing requirements shall provide for verification of the parameters defined in the current and future ITU-T Recommendations as determined by the study groups developing the Recommendations, and for interoperability testing to take into account user needs and consider market demand, as appropriate;

6　　that a set of methodologies and procedures should be developed for remote testing using virtual laboratories;

7   that ITU, being a world standardization body, can address the impediments to harmonization and growth of worldwide telecommunications and promote the visibility of ITU standards (ensure interoperability), by means of having an ITU testing mark regime, taking into account the technical and legal implications, if any, and/or any revenue-generating possibilities, taking into consideration *recognizing j)*,

invites Member States and Sector Members of the ITU Telecommunication Development Sector

to evaluate and assess the risks and various costs resulting from the lack of C&I tests, particularly in developing countries, and share necessary information and recommendations to avoid losses, based on best practices,

instructs the Director of the Telecommunication Standardization Bureau

1   in cooperation with the Radiocommunication Bureau and the Telecommunication Development Bureau (BDT), to continue to conduct as necessary exploratory activities in each region in order to identify and prioritize the problems faced by developing countries related to achieving interoperability of telecommunication/ICT equipment and services;

2   to implement the action plan agreed and subsequently revised by the Council (Documents C12/48, C13/24, C14/24, C15/24 and C16/24);

3   considering *resolves* 7, to accelerate the implementation of Pillar 1, so as to ensure gradual and smooth accomplishment of the other three pillars and the possible implementation of the ITU Mark;

4   in cooperation with the Director of BDT, to implement an ITU C&I programme for possible introduction of a database identifying products' conformance and origin;

5   to publish an annual plan of C&I activities which could attract more members' participation;

6   to facilitate the development and implementation of an ITU-T C&I test laboratory recognition procedure;

7   to involve experts and external entities as appropriate;

8   to submit the results of the activities carried out under the action plan to the Council for its consideration and required actions,

instructs the study groups

1   to accelerate accomplishing the pilot projects started by ITU-T study groups and identify existing ITU-T Recommendations that would be candidates for C&I testing, taking into account the needs of the membership, and that are capable of providing end-to-end interoperable services on a global scale, adding to their content, if necessary, specific requirements within their scope;

2   to prepare the ITU-T Recommendations identified in *instructs the study groups* 1 above, with a view to conducting C&I tests as appropriate;

3   to continue and enhance cooperation, as appropriate, with interested stakeholders, including other SDOs, forums and consortia, in order to optimize studies to prepare test specifications, especially for those technologies in *instructs the study groups* 1 and 2 above, taking into account user needs and in consideration of the market demand for a conformity assessment programme;

4   to submit to CASC a list of ITU-T Recommendations which could be candidates for the joint IEC/ITU certification scheme, taking into account market needs,

instructs the ITU Telecommunication Standardization Sector Conformity Assessment Steering Committee

to study and define a procedure to recognize testing laboratories that are competent to test according to ITU-T Recommendations, in collaboration with existing certification schemes such as that of IEC,

invites the Council

to consider the Director's report referred to in *instructs the Director of the Telecommunication Standardization Bureau* 8 above,

invites Member States and Sector Members

1   to contribute to the implementation of this resolution by, including, but not limited to:

i)   actively providing requirements for testing activities on C&I through contributions to related study groups;

ii)   considering potential collaboration on future C&I activities;

iii)   contributing to the Product Conformity Database;

2   to encourage national and regional testing entities to assist ITU-T in implementing this resolution.