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| Asia-Pacific Telecommunity Member Administrations |
| Proposed modification of WTSA-12 Resolution 76 - Studies related to conformance and interoperability testing, assistance to developing countries1, and a possible future ITU Mark programme |
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| **Abstract:** | In this document the Asia-Pacific Telecommunity Administrations propose modifications to Resolution 76. |

Introduction

WTSA-12 Resolution 76 for “Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU Mark programme” is intended to study the enhancement of interoperability of equipment conforming to ITU standards through conformance and interoperability testing. It covers some issues such as technical training and institutional capacity development for testing and certification which are essential for ITU Member States to improve their conformity assessment processes, to promote the deployment of advanced telecommunication networks and to increase global connectivity.

Resolution 76 consists of action items to assist developing countries in establishing conformance and interoperability in telecommunication systems. As the leading sector on Pillar 1&2 of the C&I programme, Telecommunication Standardization Bureau (TSB) has cooperated with the Telecommunication Development Bureau (BDT) to assist developing countries in identifying human and institutional capacity-building, training opportunities in C&I testing as well as facilitating establishments of regional or sub-regional test centres.

It is noted that the improvement of interoperability experiments or testing of ICT networks and services all over the world becomes an important target within the scope of the C&I project. In this regard, ITU should take effective measures to promote the C&I project and reflect the ongoing works in the Study Groups and TSB with the goal of improving conformance & interoperability testing based on ITU-T Recommendations.

Proposal

APT Member Administrations would like to propose to revise Resolution 76 as provided in annex with regard to the following aspects:

1) To extend the scope of the C&I project to the conformance and interoperability testing of global ICT networks and services, especially for the emerging ICT network technologies and services, such as SDN, NFV, Cloud services, IoT applications, etc.;

2) To develop and improve the mutual recognition mechanisms for C&I testing results and data analyses between different regional testing centres;

3) To accelerate the development of the ITU-T C&I laboratory recognition procedure and implementation;

4) To enhance the responsibility and initiatives of each participant in order to increase the efficiency of the progress of C&I.

To ensure clarity, paragraphs that have been moved from one part of Resolution 76 to another have been reinserted as new text with revision marks. Note that paragraphs *f)*, *i)* and *j)* under the original call “*recognizing*” have been moved under the new call “*Recalling*”.

MOD APT/44A21/1

RESOLUTION 76 (REV. HAMMAMET, 2016)

Studies related to conformance and interoperability testing, assistance to developing countries[[1]](#footnote-1)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 and 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/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), that contribute to the 2030 Agenda for Sustainable Development;

*d)* that Article 17 of the ITU Constitution, while providing that the functions of 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 excellent results achieved by ITU in implementing the mark for Global Mobile Personal Communications Systems (GMPCS);

*f)* the great efforts and outputs from Conformity Assessment Steering Committee (CASC) under the leadership of SG11,

recognizing

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

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

*c)* that Recommendations ITU‑T X.290 to ITU-T X.296 specify a general methodology for conformance testing of equipment to Recommendations of the ITU Telecommunication Standardization Sector (ITU‑T);

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

*e)* that very few of the current ITU‑T Recommendations identify interoperability or conformance testing requirements, including both test procedure and performance criteria;

*f)* 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;

*g)* 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;

*h)* that emerging technologies are major economic growth areas connecting different systems to each other to provide efficient value proposition, which have increasing conformance and interoperability testing requirements,

*further recognizing*

that providing for interoperability should be the ultimate aim of future ITU‑T Recommendations,

*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 information and communication technologies (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)* that the 2012 session of the ITU Council in reviewing the ITU Conformance and Interoperability Business Plan for the long-term implementation of the conformance and interoperability (C&I) programme agreed on an action plan which in particular invited this assembly to identify the appropriate study group to address the Sector’s activities related to the ITU C&I programme across all study groups;

*e)* that the Plenipotentiary Conference adopted Resolution 177 (Rev. Busan, 2014);

*f)* that the World Telecommunication Standardization Assembly adopted Resolution 76 (Rev. Dubai, 2012);

*g)* that the World Telecommunication Development Conference adopted Resolution 47 (Rev. Dubai, 2014);

*h)* that the ITU Radiocommunication Assembly adopted Resolution ITU-R 62-1 (Rev. Geneva, 2015);

*i)* the progress reports presented by the Director of the Telecommunication Standardization Bureau to the Council at its sessions per year from 2009 to 2016 and to the 2014 plenipotentiary conference;

*j)* the importance, especially to developing countries, that ITU takes up a leading role in interoperability issues, and that this is an objective expressed by the approval of the resolutions listed under *d)*, *e)*, *f)* and *g)* above and the proposed C&I programme is intended to address these demands;

*k)* the executive summary of the ITU Conformance and Interoperability Business Plan report, highlighting important issues regarding the four pillars of the ITU C&I programme, namely: 1- Conformance assessment; 2- Interoperability events; 3- Capacity building; and 4- Establishment of test centres in developing countries;

*l)* that there are diverse number of protocols ranging from network layer to application layer, hence a standard set of test specifications should be developed and approved upon for conformance and interoperability testing in ITU-T;

*m)* along with ITU-T Recommendations, there are a number of specifications for C&I testing developed by other SDOs/Forums/Consortia,

noting

*a)* that conformance and interoperability 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 solutions which will exhibit interoperability and reduce the cost of systems and equipment procurement by operators, particularly in the developing countries, whilst improving product quality;

*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,

*taking into account*

*a)* that ITU‑T has in the past occasionally initiated conformance and interoperability testing, as reported in Supplement 2 to the ITU‑T A-series Recommendations;

*b)* that the ITU standardization resources are limited and interoperability testing requires specific technical infrastructure;

*c)* that a different set of experts is required for writing 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 external accreditation, conformity assessment and certification bodies is therefore necessary;

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

*resolves*

1 that ITU‑T study groups should develop the necessary conformance and interoperability testing Recommendations for telecommunication equipment as quickly as possible;

2 that ITU-T Study Group 11 coordinate the Sector’s activities related to the ITU C&I programme across all study groups and review the recommendations in the Conformance and Interoperability Business Plan for the long-term implementation of the C&I programme;

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

i) assist developing countries in identifying human and institutional capacity-building and training opportunities in conformance and interoperability testing;

ii) assist developing countries in establishing regional or subregional conformance and interoperability centres suitable to perform conformance and interoperability testing as appropriate encouraging cooperation with governmental and non-governmental, national and regional organizations and international accreditation and certification bodies;

iii) develop and improve the mutual recognition mechanisms for C&I testing result and data analysis between different regional testing centres;

4 that conformance and interoperability 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 ensure interoperability taking into account user needs and in consideration of the market demand, as appropriate,

*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 in cooperation with the Director of BDT, based on results of *instructs the* *Director of the Telecommunication Standardization Bureau*1 above, to implement the action plan agreed by the Council at its 2012 session (Document C12/91) as referred to in the Report by the Secretary-General to the 2012 session of the Council (Document C12/48);

3 in cooperation with the Director of BDT to implement an ITU conformance and interoperability programme for possible introduction of an ITU Mark in alignment with the Council 2012 decision in C12/91;

4 to publish annual plan of C&I activities which could attract more members’ participation;

5 to accelerate the development of ITU-T C&I laboratory recognition procedure and implementation;

6 to involve experts and external entities as appropriate;

7 to submit the results of these activities to the Council for its consideration and required actions,

*instructs the study groups*

1 to identify as soon as possible existing and future ITU‑T Recommendations that would be candidates for conformance and interoperability testing, taking into account the needs of the membership (e.g. interoperability testing of equipment/ terminals/ services in next-generation network (NGN) and future network (FN) conformance testing of SDN, NFV, Cloud services, IoT applications and other key technologies), 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 conformance and interoperability tests as appropriate;

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

*invites the Council*

to consider the Director's report referred to in i*nstructs the Director of the Telecommunication Standardization Bureau* 5 above,

*invites Member States and Sector Members*

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

i) providing requirements for standard development and testing activities on conformance and interoperability actively through contributions to related study groups;

ii) considering potential collaboration on future conformance and interoperability activities;

iii) contributing to the product conformity database with details of products conformed to ITU-T Recommendations;

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

1. 1 These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition. [↑](#footnote-ref-1)