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| African Telecommunication Union Administrations |
| Proposed modification of 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:** | Conformance and Interoperability (C&I) testing of telecommunication/ICT devices and equipment is of concern to African countries as well as many other developing countries. C&I testing will introduce more modularity and interoperability in the networks infrastructures, as well as providing a basis for achieving the ultimate objectives of more choices, more competitiveness and more cost reductions due to economies of scale. C&I will also play an important role in combating counterfeit communications/ICT devices. The proposed revisions to WTSA-12 Resolution 76 are intended to achieve these objectives. |

# 1 Introduction

In Resolution 76 of WTSA-12, it was decided "that the requirements for conformance and interoperability testing must provide verification of the parameters defined in the current or future ITU-T Recommendations, such that they have been set by the study groups developing these Recommendations, as well as interoperability testing, to ensure interoperability, taking account of user needs and market demand, as appropriate.

The Action Plan C&I (conformance & interoperability), approved by the Council at its session of 2012, provides that "all ITU T study will determine more precisely the technologies for which there is market an application for a conformity assessment program. They also ask if test specifications are available and if it does not, they will reflect on the possibility of providing such specifications. If such specifications exist, they may be transformed, for example, in ITU-T Recommendations or Supplements."

To implement the decisions taken by WTSA-12 and the Council, at its session in 2012, the ITU-T Study Group 11 (SG 11) established an Action Plan for the implementation of the C&I programme that will help to achieving the objectives of Resolution 76 and help study groups of the ITU-T in their work on the implementation of this program as part of their responsibilities. The Action Plan also seeks to help developing countries implement their C&I programmes at the regional level.

One of the most important parts of the action plan of the SG11 is the reference table, which contains a list of ITU-T and relevant parameters to be tested for conformance/interoperability, as well as references to applicable tests (ITU/other standardization organizations). This information will be used to feed the ITU database on compliance with the results of the assessment of conformance with ITU Recommendations.

The reference table is updated by the TSB in light of the information provided by all the study groups of the ITU-T and the JCA-CIT Group using the model in Annex B of the Action Plan of the SG11, in accordance with the request of the study group.

Whereas the SG11 developed the reference table which contains a list of ITU-T and relevant parameters to be tested for conformance/interoperability, and references to applicable tests (ITU/other standardization organizations), that provisions of resolution 76 of WTSA-12 have been reviewed by Study Group 11, therefore enhancing this resolution in view of the latest developments in Study Group 11 is considered in the annexed revised Resolution 76.

# 2 Proposal

**The proposed revisions to WTSA-12 Resolution 76, in particular consider:**

- Encouraging implementation of C&I programmes on the regional level;

- Encouraging Regions and Member States to create Sub-regional laboratories (or centres) for conformance testing;

- Preparing for the introduction of an ITU-T Mark after reasonable maturity of Pilar one of the TSB Action Plan, regarding conformity assessment, this will enhance the role of the ITU to remove the impediments to harmonization and growth of worldwide telecommunications;

- Encourage Member States to reinforce county border entrances to control penetration of electronic communications equipment and radio installations in their market based on conforming to the appropriate widely spread and globally accepted international standards, including ITU-T Standards (Recommendations). This could preferably be based on testing in national or regional test labs/canters for Conformance to the applicable standards/Recommendations. This will also reduce the penetration of counterfeit products and communication/ICT devices, and enhances compliance with national requirements.

# 3 Conclusion and Proposals for a revised Resolution

The below annexed revised Resolution 76 reflects the views expressed above.

MOD AFCP/42A10/1

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),

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 standards;

*e)* that very few of the current ITU‑T Recommendations identify interoperability or conformance testing requirements;

*f)* 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 pursuing initiatives that assist in bridging the standardization gap between developing and developed countries;

*g)* 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;

*h)* 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;

*i)* 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";

*j)* the excellent results achieved by ITU in implementing the mark for Global Mobile Personal Communications Systems (GMPCS),

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 Development Conference adopted Resolution 47 (Rev. Dubai, 2014);

*g)* that the ITU Radiocommunication Assembly adopted Resolution ITU-R 62 (Geneva, 2015);

*h)* the progress reports presented by the Director of the Telecommunication Standardization Bureau to the Council at its 2013, 2014 and 2015 sessions and to the 2014 plenipotentiary conference;

*i)* 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;

*j)* 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,

considering further

the decision of the ITU Council 2012 concerning the postponement of the implementation of the ITU Mark until that pillar 1 (conformity assessment) of the action plan reach a more mature stage of development,

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;

*e)* that availability of equipment tested as per ITU Recommendations for conformance & interoperability will not only introduce more modularity in the telecom network but also provides the basis to achieve the ultimate objectives of more choices, more competitiveness and more economies of scale, as well as helping in combating counterfeit;

*f)* that enhancing Member States capabilities for conformance assessment and testing, and availability of national and regional testing conformance assessment facilities will help combating counterfeit communication/ICT devices and equipment,

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;

g) that several ITU Telecommunication Standardization Sector (ITU-T) study groups have already started pilot projects for conformity to ITU-T Recommendations,

resolves

1 that ITU‑T study groups continue the pilot projects that they have already started for conformity to ITU-T Recommendations and develop the necessary conformance testing Recommendations for telecommunication equipment as soon 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 Recommendations to address interoperability testing shall be progressed as quickly as possible;

4 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, to prevent any interference caused by or imposed on ICT equipment;

5 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,

6 that ITU, being a world standardization body, can address the impediments to harmonization and growth of worldwide telecommunications that need to be removed, by way of having an ITU mark testing regime. This can act as an instrument of ensuring the interoperability of conforming equipment for successful accomplishment of the mandate of interoperability,

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 to accelerate the implementation of pillar 1, to ensure a gradual and smooth accomplishment of the other 3 pillars and the possible implementation of the ITU Mark;

4 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;

5 to involve experts and external entities as appropriate;

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

instructs the study groups

1 to continue and accelerate accomplishing the pilot projects they already have started, and 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 of next-generation network (NGN) and future network (FN) equipment, terminals, audio/video codecs, access and transport network, 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 continue the cooperation with interested stakeholders to optimize studies to prepare test specifications especially for those technologies in *instructs the study groups* 2 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,

encourages Member States

to enhance its border control capabilities, as well as bi-lateral and regional cooperation, with regard to ensuring conformance of imported telecommunication/ICT equipment and devices to widely spread and globally accepted international standards, including ITU-T Standards (Recommendations);

invites Member States and Sector Members

1 to contribute to the implementation of this resolution;

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)