



ITU Regional Seminar for the Africa Region
on Conformance and Interoperability Testing
Centre(s)
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**CONFORMANCE AND INTEROPERABILITY:
PROMOTING CONFIDENCE AND SECURE
END-TO-END CONNECTIVITY**

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PRESENTATION OVERVIEW

- Background to the ITU-T C&I Program
 - *Secure Interoperability - a defining feature of Future Networks (NGNs)*
- Conformity Program
- Interoperability Program
- Capacity Building and Test Centres
- C&I Business Plan
- Concluding comments



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BACKGROUND TO THE C&I PROGRAM



Interoperability: Key to participation in the 21st century global digital economy

- Developing countries experiencing huge interoperability problems and rising frustration
- Results in delays in full participation in the global digital economy
- Impacts economic and social development
- Delivery of e-services requires global standards and secure interoperable transport platforms
- Developing countries demanding action by the ITU to redress the interoperability dilemma





Authority for Action

- WTSA-08 Res. 76
- WTDC-2010 Res. 47
- Plenipotentiary 2010 Res. 177
- ITU Council Decisions



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WTSA 2008 RESOLUTION 76

- Res. 76: addresses the needs of Developing Countries for conformance and interoperability.
- Conformity is a first step to increase the probability of interoperability between equipment from different manufacturers, vendors, service providers
- Identification of Labs able to carry out tests according to the ITU-T Recommendations requirements, and training programs
- Voluntary-based ITU program promoting compliance to ITU-T Recommendations and possible creation of an ITU-Mark program



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Res. 76 Resolves that:

1. ITU-T Study Groups develop the necessary conformance testing ITU-T Recommendations asap
2. ITU-T Recommendations to address interoperability testing shall be progressed asap
3. ITU-T in collaboration with the other Sectors as appropriate, shall develop a program to assist developing countries in capacity-building, training, and establishment of regional/sub-regional test centers in C&I testing
4. Conformance and Interoperability testing requirements shall provide for verification of the parameters defined in ITU-T Recommendations




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WTDC 2010 RESOLUTION 47 Hyderabad, India, 2010

- Enhancement of knowledge and effective application of ITU Recommendations in developing countries, including conformance and interoperability testing of systems manufactured on the basis of ITU Recommendations
- Essentially supporting and endorsing WTSA 2008 Resolution 76




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PLENIPOENTIARY 2010 RESOLUTION 177 (GUADALAJARA OCT. 2010) Conformance and interoperability

- Reiterated essence of WTSA 2008 Res 76
- Added: *invites Sector Members* to:
 1. populate the pilot conformity database with details of products tested to applicable ITU-T recommendations in accredited test laboratories (first, second or third party), or by accredited certification bodies, or according to procedures adopted by a standards development organization or forum qualified in accordance with Recommendation ITU-T A.5;
 2. to participate in ITU-facilitated interoperability events;
- Added : *further invites Member States* to contribute to the next radiocommunication assembly in 2012 in order for it to consider and take appropriate actions as deemed necessary

This is a selection of the main additions to Res 76.




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ITU Council-09 Endorsement

- Implementation of conformity assessment and interoperability events program, including the creation of the conformance database
- Creation of human resources capacity building opportunities
- Assist in establishment of test facilities in developing countries
- Report to next Council on the effective implementation of the above.



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New Importance in ITU-T of Conformance and Interoperability (C&I)

Current lack of:

- Test suites for recommendations implicated in interoperability
- Conformance testing of implementations
- Interoperability events to promote compatible implementations

Effect on ITU reputation:

- Erosion of ITU's perceived importance as the place of choice to develop the full range of interoperable standards
- Perception that the traditional role of ITU-T in promoting global connectivity and interoperability through standards is not evident

Developing countries:

- issued a plea for help and assistance to achieve the desired level of conformity and interoperability nationally and internationally
- formalized the plea in 3 of the highest level assemblies of the ITU; expressed in WTSA-08 Resolution 76, WTDC 2010 Resolution 47 and Plenipotentiary 2010 Resolution 177

Response from the ITU:

- Commence studies and implementation of Resolution 76 and supporting Resolutions above : ITU-T not proposing to do anything that is not already being done by other successful SDOs to assist users of their standards to achieve interoperability.



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THE ITU-T CONFORMITY PROGRAM



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The ITU Conformity Program



- **Conformity assessment:**
 - The first step to interoperability,
 - Testing: certification / SDOs-Forums recognized labs
 - Creation of ITU conformity database
- **Use of** Current international procedures (ISO/IEC 17025, 17050, ISO Guide 65 - **CASCO toolbox**)
- **Establish a database** of conforming products and systems with robust credentials for participants
- **Develop a long-term business plan**



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ITU Conformity Database



- Enable manufacturers and service providers to make a visible declaration that their equipment conforms to ITU-T Recommendations and to referenced standards, if any, from SDOs recognized according to Recommendation ITU-T A.5.
- The DB is open both to members and non-members of ITU
- The DB contains only information entered directly by companies by means of an on-line tool: the Supplier's Declaration of Conformity (SDoC).
- ITU is not in a position to verify the accuracy of the information submitted by companies, who, in signing the SDoC take the full responsibility for its contents.



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Three Conformity Testing Options to populate the ITU Conformity database

<http://www.itu.int/net/ITU-T/cdb/cdb.aspx>

Companies will directly populate the conformity database by submitting to conformity@itu.int, a **Supplier's Declaration of Conformity (SDoC)** available on-line.

One of the following three "Routes" for testing can be chosen:

- **Route 1:** Testing performed in an accredited laboratory according to ISO/IEC 17025; or
- **Route 2:** Test results approved by an Accredited Certification Body (ISO/IEC Guide 65) (any lab); or
- **Route 3:** Testing performed in laboratories recognized by an SDOs, Forum or Consortium qualified in accordance with Recommendation ITU-T A.5.



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THE ITU-T INTEROPERABILITY PROGRAM



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Industry Consultations and Interoperability Events 2010

- **ITU as facilitator for interoperability events to:**
 - identify the interoperability problems
 - develop Interoperability test suites as needed
 - Creation of ITU interoperability database
- **First ITU Interoperability Event** on IPTV, Geneva, 20-23 July 2010
- **Second ITU Interoperability Event** on IPTV, Singapore, 23-24 and 27 September 2010
- **Second CTO Consultation**, Paris, 29th October 2010
- **3rd ITU Interoperability Event** on IPTV, Pune, India, 14-17 December 2010

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ITU facilitated Interoperability events

- The first IPTV Interop event in Geneva in July 2010 demonstrated the state of maturity and industry adoption of ITU-T standards for IPTV, for example: H.701,H.721,H.740, H.750, H.761,H.762,H.770.
- Manufacturers of set top boxes, content servers and other equipment participated to showcase their products and test for interoperability
- The participants rated the event's success as 4.5 out of a possible 5 points
- Interoperability events were repeated in Singapore and in Pune, India with similar excellent results
- More events in the works

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The ITU Global C&I Portal

(find a reply to your needs)


- ❖ **Basic C&I Concepts**
 - ❖ The ITU C&I Governing Rules
 - ❖ Accreditation, certification, inspection, calibration (CASCO Toolkit)
 - ❖ National Accreditation Bodies, MRAs and MLAs concepts for the market
- ❖ **The ITU-T C&I Program**
 - ❖ The ITU approach to C&I
 - ❖ The ITU Conformity Database
 - ❖ The ITU Interop activities
 - ❖ Capacity Building opportunities and Regional test centres
 - ❖ The ITU Study Groups test suites development
- ❖ **Cooperation with ITU-T A.5 SDOs**
 - ❖ Best practices for testing
- ❖ **Cooperation with International Institutions**
 - ❖ Labs: ILAC/IAF
 - ❖ Accreditation Bodies, Regulators, ITU Laboratories repository
- ❖ **Cooperation with International Organizations**
 - ❖ ISO, IEC, (CASCO), BIPM, UNIDO, WTO
- ❖ **Consumers Associations**
 - ❖ Market needs from end users and civil society





The portal will respond to:

- ❖ Where to search for products conform to standards/recommendations?
- ❖ Which are the ITU Standards for which test suites have been developed?
- ❖ What is a 1st, 2nd or 3rd party lab? How can I have my lab accredited?
- ❖ Which are the requirements/procedures to enter data in the ITU conformity database?
- ❖ How ITU Guarantees that data in its conformity database are correct?
- ❖ Is ITU liable for the data shown in its conformity database?
- ❖ What is the CASCO Toolkit? What is a certification? What is an MRA?
- ❖ What is the Supplier's Declaration of Conformity?
- ❖ Can I use test suites produced by other organizations or standards derived from ITU to assess conformity to ITU standards?
- ❖ Where to find Accredited Testing Labs / Accreditation Bodies in my country/region?
- ❖ Products listed in a non-ITU conformity database: is it reliable data?
- ❖ How can I contribute to the regional capacity building program of ITU ?
- ❖ How can I participate in ITU interoperability events?
- ❖ What tests need to be performed for listing in the ITU conformity database?
- ❖ How I can check which standards/options have been implemented in a product?
- ❖ In which cases is it permitted to use non-accredited labs to enter data on my product in the ITU database?
- ❖ When I may use an accredited certification body?
- ❖ What is an Accreditation Body?





THE ITU-T CAPACITY BUILDING PROGRAM



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Regional "robust" Consultation Meetings 2010

- Quito, Ecuador, 6 July 2010
- Nairobi, Kenya, 30-31 July 2010
- BDT event - 2-4 August 2010 Nairobi, Kenya on NGN and creation of test labs
- Sydney, Australia, 16-17 September 2010
- <http://www.itu.int/ITU-T/worksem/wtsa-08/res76/index.html#events>



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Results from consultations

- Immediate implementation of the Conformity DB and the creation of Interoperability DBs
- Negotiate arrangements to link with Databases from SDOs / Forums
- Regions and regional organizations invited to identify locations for test centres in their regions / sub regions (Res. 47)
- Parallel study and implementation of action lines of council-09 to respond to the demand for urgent action
- Encourage the TSB, in collaboration with BDT and other relevant institutions to create capacity building opportunities and to perform feasibility studies to create test labs centres in the regions and to consider specific topics to be addressed in this field region by region
- Encourage all stakeholders to cooperate with TSB to speed up the implementation of Res. 76 to permit developing countries to benefit from the opportunities offered by the rapid development of technology.



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Capacity Building and Test Centres


- ITU-T (TSB) is implementing proposals on human capacity building in close collaboration with ITU-D (BDT) (WTDC Res. 47)
- **Conduct feasibility studies in developing countries** for capacity building and establishment of test labs in the regions
- ITU-T will assist in the establishment of test facilities in developing countries and in cooperation with international institutions
 - e.g. UNIDO, International Laboratory Accreditation Cooperation (ILAC), International Accreditation Forum (IAF)
- Visits to various Labs are in progress in the regions
- A project to create a test centre in Tanzania is in progress



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THE ITU-T C&I BUSINESS PLAN



Recent developments at FEB 2011 TSAG

- Proposal for posting interoperability problems and their solutions on a database
- Recognition that intensive information sharing in implementation of SS#7 was key to success
- Proposal from JCA CIT to add a new clause to all Recommendations to address the needs of conformance and interoperability testing
- Introduction of key elements of Draft C&I Business Plan





C&I Business Plan

Elements of the business plan will address:

- Development of test specifications of ITU-T Recommendations
- Conformity database
- Interoperability events
- Capacity building and testing facilities in developing countries
- Establishment/intensification collaboration with other organizations and countries
- Proposed ITU Mark Program
- Resource Requirements for implementation of the C&I Programme
- Risks and Benefits of action / no action on Conformity and Interoperability



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C&I Business Plan

- Resource implications: preliminary estimates for 3 additional staff in TSB (see TSAG TD 224)
- Potential HR costs to TSB estimated at CHF 540K annually
- Cost recovery options yet to be explored
- Cost estimate boundaries for production of test suites CHF 100K -300K depending on complexity of Recommendation
- Risk management pros and cons



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Benefits of Action on C&I

Adds essential elements to the work program of the ITU-T's Study Groups to ensure competitiveness as a global SDO in interoperable telecommunication standards.

- Development of Conformance Test Suites where the market needs for interoperability have high priority
- Listing of products conformance tested to ITU Recommendations with supporting credentials (ITU conformity DB),
- Facilitation of interoperability test events with listing of successful interoperable products and credentials attesting to veracity of claims.
- Assisting developing countries to improve the likelihood of achieving interoperability,
- Creating training opportunities in cooperation with the BDT, and promoting establishment of regional test labs to assess conformity and test for interoperability,
- Providing the opportunity to maintain leadership and coordination roles in global interoperability standards development by cooperating with the most important SDOs having similar or complementary scope worldwide and other organizations dealing with C&I and testing (ISO, IEEE, ETSI, ILAC, IAF, BIPM)



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Risks of Action

- Challenges for TSB of remaining cost neutral
- Resourcing update and maintenance of database and version control
- Finding, attracting and funding test suite experts to develop test suites where needed
- Resourcing negotiation of partnerships and linkages with interoperability test houses and use/access to test results
- Responding to legal challenges and facilitating market surveillance
- Potential inability to create needed expertise/capacity and test labs in developing countries in a timely way
- Potential polarization of developing and developed country membership
- Alienation of some sector members and potentially their Administration



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Risks of No Action

- Interoperability concerns of ITU membership from developing countries remain unaddressed,
- A fundamental ITU mission goal will be missed and private sector members could leave ITU in favour of competitive SDOs including de facto standardization bodies
- ITU's position as the pre-eminent global standards development organization in telecommunications would continue to be eroded as it has been in the past decade due to lack of the essential elements in its program as described above
- New Forums, SDOs and Consortia will be created to compensate for the absence of ITU in this field resulting in an increasingly aggressive campaign by competitors in the regions and an increase of divergent standards
- Risk of becoming irrelevant to an increasingly fast paced ICT industry with huge interoperability and compliance challenges



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Conclusions

- Secure interoperability crucially important to trust and confidence in telecommunications platform worldwide
- Resolutions 76(ITU-T), 47(ITU-D), 177 (PP-10): ITU must reply to the needs of Developing Countries regarding conformity and interoperability
- TSB and BDT fully committed in implementing the Conformity and Interoperability Program
- Conformity one of the tools able to increase probability of interoperability
- ITU-T has created the voluntary based and free pilot conformity database available to ITU members and non members
- ITU-T Interoperability events successfully started
- Capacity building activities and creation of test centers under way



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THANK YOU

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