



ITU-T Activities on Conformity and Interoperability

24 July, 2013

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ITU Resolutions on Conformity and Interoperability

Resolution 76: ITU World Telecommunication Standardization Assembly (WTSA-12)

Resolution 47: ITU World Telecommunication Development Conference (WTDC-10)

Resolution 177: ITU Plenipotentiary Conference (PP-10)

Resolution 62: Radiocommunication Assembly 2012

Council Decisions: (2009, 2010, 2011, 2012)

The ITU C&I Programm

ITU-T lead:

1. Conformity database
(ITU-T Conformity and Interoperability Portal)
2. Interoperability events

ITU-D lead:

1. Capacity building
2. Establishment of test centres in developing countries.

ITU-T C&I Portal Overview(1)

<http://www.itu.int/en/ITU-T/C-I/Pages/default.aspx>

■ GUIDANCES AND INFORMATION

- ▶ [ITU C&I Programme. Concepts and Guidance](#)
- ▶ [The ITU Conformity Database concept](#)
- ▶ [Mandatory Conformity Assessment Schemes](#)
- ▶ [Voluntary certification schemes of SDOs and Forums](#)
- ▶ [ITU Interoperability events](#)
- ▶ [Training activities on C&I](#)
- ▶ [Establishing the C&I Regime and MRA agreement on a Regional basis](#)
- ▶ [Vendors, Industry, Testing](#)
- ▶ [Laboratories & Certifiers](#)
- ▶ [Standards Developing Organizations and International Organizations](#)

ITU-T C&I Portal Overview(2)

ITU C&I Programme. Concepts and Guidance

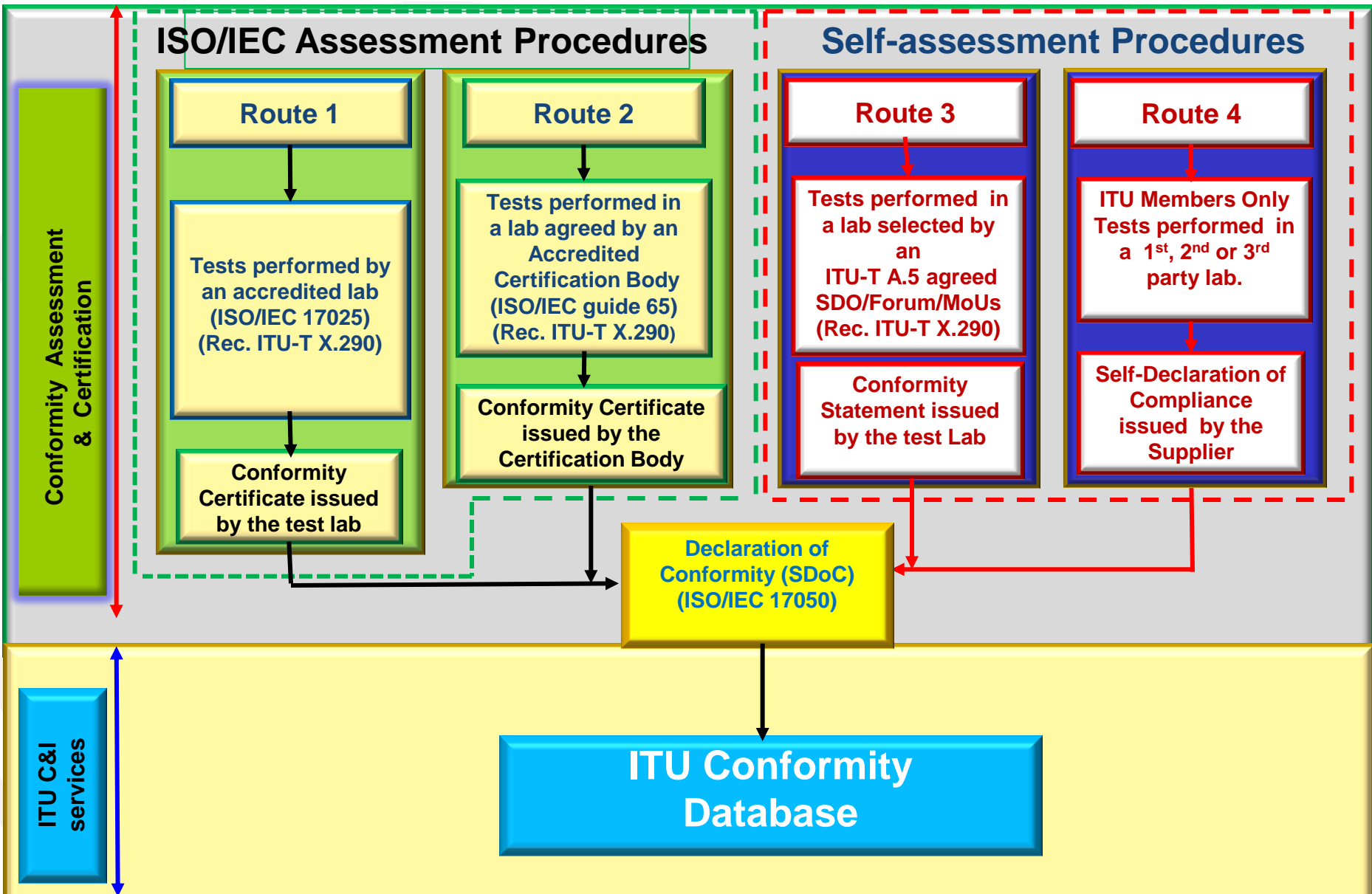
- **Standards, Conformity and Interoperability**
- **The ITU-T Conformity Database**
- **Interoperability and “ITU interop events”**
- **Capacity Building and regional test centres**
- **Reference documentation**
 - ▶ [Resolution 76 \(WTSA-12\)](#)
 - ▶ [Resolution 47 \(WTDC-10\)](#)
 - ▶ [Resolution 62 \(WRC-12\)](#)
 - ▶ [Resolution 177 \(PP-10\)](#)
 - ▶ [Action plan \(C-48/12, Council-12\)](#)
 - ▶ [Business plan of C&I Programme \(Inf.7, Council-12\)](#)
 - ▶ [ITU-T&IECEE Presentation of C&I implementation](#)
 - ▶ [SG11 Action plan on C&I \(coordination ITU-T SGs on C&I\)](#)

ITU-T C&I Portal Overview(3)

The ITU-T Conformity Database

- **The ITU-T Conformity Database (Coming Soon)**
 - An informative, voluntary tool permitting companies (vendors, manufacturers, service providers) to make a public declaration that their products conform to ITU-T Recommendations.
 - A declaration of conformity with an ITU-T Recommendation may refer also to standards produced by other SDOs, Forums and Consortia qualified in accordance with Recommendation ITU-T A.5, or by Organizations that signed a Memorandum of Understanding with the ITU

Populating the ITU-T conformity DB



[adapted from "ITU Information Session on Conformity and Interoperability" (Jan. 12, 2012, Geneva)]

ITU-T A.5 qualified SDOs

- ITU-T's external cooperation is guided by three ITU-T Recommendations: [ITU-T A.4](#) - Procedures for communicating with forums and consortia.
- [ITU-T A.5](#) - Making reference to documents from other organizations.
- [ITU-T A.6](#) - Cooperation and exchange of information with national and regional SDOs.
- [Excerpt from the list of SDOs \(about 70 SDOs\)](#)

Forum/Consortium	Qualified			Related Study Groups
	A.4	A.5	A.6	
3G Association	x			ALL
ABNT		x	x	ALL
ARIB		x	x	ALL
ASN.1 Consortium	x			ALL
ATIS		x	x	ALL
ATM Forum		x		ALL
ATSC	x	x		ALL
TTC		x	x	ALL
UNICODE	x	x		ALL
UPA	x			ALL
W3C	x	x		ALL

Supplier's Declaration of Conformity for the ITU-T Conformity Database(1)

International Telecommunication Union

Supplier's Declaration of Conformity for the ITU-T Conformity Database

1. COMPANY

1.1 Name of Signatory:

1.2 Title:

1.3 Full Company Name:

1.4 Street/PO Box:

1.5 Town/City:

1.6 Post/ZIP Code:

1.7 Country:

1.8 Telephone:

1.9 Company E-Mail:

1.10 Website:

2. PRODUCT

2.1 Name of product:

2.2 Enter a Category:

(eg DSLAM, modem, ADSL, optical fibre, home networking, WDM, multimedia, IPTV etc.)

2.3 Comments/Remarks:

(e.g. main functionalities implemented, etc.)

Supplier's Declaration of Conformity for the ITU-T Conformity Database(2)

2. PRODUCT

2.1 Name of product:

2.2 Enter a Category:

(eg DSLAM, modem, ADSL, optical fibre, home networking, WDM, multimedia, IPTV etc.)

2.3 Comments/Remarks:

(e.g. main functionalities implemented, etc.)

3. ITU-T RECOMMENDATION(S) IMPLEMENTED IN THE PRODUCT

3.1 Please select from the list below ITU-T Recommendations that are implemented in your product.

Select Series: Select Number:

3.2 Comments/Remarks:

(Insert here edition of Recommendations if different from the one in force at the moment of submission of the form and/or number/series of national/regional standards adopted as equivalent to ITU-T Recommendation(s), e.g. NMR 234/G.992.2; XYZ123/H.264)

Supplier's Declaration of Conformity for the ITU-T Conformity Database(3)

4. SDOs (ACCEPTED UNDER ITU-T A.5) WHOSE STANDARDS ARE IMPLEMENTED IN THE PRODUCT

ABNT (Associação Brasileira de Normas Técnicas)

Select

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5. DECLARATION OF CONFORMITY

By submitting this form I declare that the product this declaration refers to complies with the relevant above mentioned ITU-T Recommendations and that all statements are true and that I have the authority to make such statements on behalf of the Company. The Company shall be responsible for updating the present declaration as needed. I recognize the right of the ITU to remove this entry from the ITU-T Conformity Database if any statements are found to be false.

The present Supplier's Declaration of Conformity is issued on the basis of:

- Route 1:** Testing performed by a laboratory accredited as per ISO/IEC 17025 (Rec. ITU-T X.290 applies). A Supplier's Declaration of Conformity (SDoC) prepared according to ISO/IEC 17050 standard has to be submitted to ITU to populate the ITU conformity database;
- Route 2:** Testing performed according to procedures adopted by a Certification Body accredited as per ISO/IEC Guide 65 (Rec. ITU-T X.290 applies) which issues a Certificate of Conformity. The Certification Body is fully responsible for the certification process that may include tests performed in a non accredited Lab. An SDoC (ISO/IEC 17050) is submitted to ITU to populate the ITU database.
- Route 3:** Testing performed in laboratories recognized by an SDO or Forum or Consortium qualified as per Recommendation ITU-T A.5 or by an Organization signatory of an MoU with the ITU. (Rec. ITU-T X.290 applies). A Conformity Statement is issued by the Laboratory and an SDoC is submitted to ITU to populate the ITU database.
- Route 4:** For ITU members only. Self-assessment procedure directly performed by the vendor. A Conformity Declaration is submitted by the vendor to populate the ITU database. Please note that criteria to populate the database under Route 4 are under review. Should the criteria be changed, entries already posted in the database introduced using Route 4 would be tagged as such and all future entries would be required to comply with the revised criteria.

5.1 Laboratory
Details:

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ITU-T C&I Portal Overview(4)

Mandatory Conformity Assessment Schemes

- Telecommunications equipment is usually required to fulfill certain requirements in order to be marketed and used in a particular country.
- **USA** [FCC](#)
 - [the radio frequency spectrum in the USA](#)
 - the [FCC provides a database on equipment authorisations](#);
- **Canada** [Certification and Engineering Bureau of Industry Canada](#)
 - the Industry Canada Certification and Engineering Bureau maintain lists of [terminal equipment](#) and [radio equipment](#)
- **European Union**
 - [Radio and Telecommunications Terminal Equipment \(R&TTE\) Directive \(199/5/EC\)](#)
- **Global Mobile Communications by Satellite (GMPCS)**
[GMPCS Memorandum of Understanding](#).
 - a list of GMPCS-MoU signatories, system operators, terminal manufacturers and a registry of type approval letters.

ITU-T C&I Portal Overview(5)

Voluntary certification schemes of SDOs and Forums

- **Global Certification Forum**
- **CTIA – The Wireless Association**
 - ▶ PTCRB (the PCS Type Certification Review Board)
 - ▶ [CDMA Certification Forum](#)
 - ▶ [CTIA Battery Certification Program](#)
 - ▶ [Bluetooth Compatibility Certification Program](#)
- **WiFi Alliance**
- **WiMAX Forum**
- **Broadband Forum (BBF)**
 - ▶ [MPLS certification program](#)
- **HomeGrid Forum**
 - ▶ a G.hn compliance and interoperability programme.
- **IEEE Conformity Assessment Programme (ICAP)**
 - ▶ [IEEE 1588 Conformity Alliance](#)
IEEE 1588 and ITU-T Recommendations G.8265, G.8260 and G.8261.
- **CableLabs**
 - ▶ cable modems, set-top boxes, digital TVs and telephony devices
- **SIP Forum**
- **IPv6 Forum**

ITU-T C&I Portal Overview(6)

Interoperability and "ITU Interop Events"

- Joint APT/ITU Conformance and Interoperability event, 09-10 September 2013 (Bangkok, Thailand)
- NGN Interop Event organized by HATS (Japan), supported by ITU 11-13 July, 2012 (Tokyo, Japan)
- IPTV Showcasing, Telecom World-2011, Geneva, Switzerland, 24-27 October 2011
- IPTV Showcasing, Dubai, UAE, 20-22 September 2011
- 4th ITU IPTV Interop Event, Rio de Janeiro, Brazil, 18-22 July 2011
- 1st G.hn Interop Testing, Geneva, Switzerland, 23-27 May 2011
- 3rd ITU IPTV Interop Event, Pune, India, 14-17 December 2010
- 2nd ITU IPTV Interop Event, Singapore, 23-24 and 27 September 2010
- 1st ITU IPTV Interop Event, Geneva, Switzerland, 20-23 July 2010

ITU-T C&I Portal Overview(7)

Training activities on C&I

- Training Course on Conformance and Interoperability Testing for the Africa and Arab Regions, 8-10 November 2012, Tunis (Tunisia)
- Training Course on Conformance and Interoperability Testing for the Arab Region, 2-6 April 2013, Tunis (Tunisia)
- Training Course on Conformance and Interoperability Testing for the Americas Region, 24-28 June 2013, Campinas (Brazil)
- Training Course on Conformance and Interoperability Testing for the Africa Region, 28 October-1st November 2013, Tunis (Tunisia)

ITU-T C&I Portal Overview(8)

Laboratories & Certifiers

1. USA NIST
2. AUSTRALIA
3. European
4. A4Labs
5. TUNISIA
6. FCC Q&A SITE
7. MIDDLE EAST
8. RUSSIAN FEDERATION
9. SLOVENIA
10. CANADA
11. AFRICA, CHINA, ASEAN, CIS, LATIN AMERICA TEST LABS

ITU-T C&I Portal Overview(9)

Standards Developing Organizations and International Organizations

- ITU-T's external cooperation is guided by three ITU-T Recommendations: [ITU-T A.4](#) - Procedures for communicating with forums and consortia.
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- [Excerpt from the list of SDOs \(about 70 SDOs\)](#)

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ASN.1 Consortium	x			ALL
ATIS		x	x	ALL
ATM Forum		x		ALL
ATSC	x	x		ALL
TTC		x	x	ALL
UNICODE	x	x		ALL
UPA	x			ALL
W3C	x	x		ALL

ITU-T C&I Portal Overview(9)

Standards Developing Organizations and International Organizations

- ITU-T also established Memoranda of Understanding with some international and regional organizations aimed at strengthening the collaboration between ITU and them.
 - ISO Committee on Conformity Assessment (CASCO)
 - UNIDO (United Nations Industrial development Organization)
 - ILAC (International Laboratory Accreditation Cooperation)
 - IAF (International Accreditation Forum)
 - BIPM: The International Bureau of Weights and Measures

ITU-T Action Plan (Council-13)

- **ITU Council decided to postpone route 4 (self-declaration SDoC)**
 - ▶ WP4/11 is going to discuss the approach of SDoC at the next meeting (November 2013)

- **ITU-T study Groups to identify further technologies for which there is a market demand for a C&I programme**
 - ▶ ITU-T SG11 prepared a living list of key technologies suitable for conformity and interoperability testing and requested all SGs to contribute to it

- **ITU-T to run a pilot of the C&I programme for key technologies**
 - ▶ ITU-T SG11 requested (March 2013) all ITU-T SGs to contribute to a living list of possible pilot projects of conformity assessment against ITU-T Recommendations

The scope of interoperability testing

■ Rec. ITU - T Y.101

- Interoperability is the ability of two or more systems or applications to exchange information and to mutually use the information that has been exchanged

■ Rec. ITU - T Q.3900, 2006

Handbook “Testing of Next Generation Networks”, 2011

- testing of equipment and network functionality on conformance with functional NGN model, which is standardized by ITU - T
- testing of QoS and QoE
- services and service parameters testing, including Network Performance parameters (NP)
- service interoperability testing, including roaming and nomadic features testing
- benchmarking testing
- load and stress testing

The list of key Technologies for C&I

- **Network and equipment performance (benchmarking)** – Req: Draft Q.39zz - 1; TS:Q.3930,Q.3931.1 - 4, Q.3932.1 - 4,
- **QoS/QOE/NP** – Req: Q.3925, Y.1541, Y.1542, Y.1543, draft Q.MSPQuality, Q.NP - req;TS:Q.QMS, Q.3930, Q.3931.1, Q.3931.2
- **NGN Functionality** – Req: Y.2201, Y.2012; TS: Q.3909; TS: Q.3900; Q.3901
- **Functions of broadband network as a part of NGN** – Req: Y.2012; TS: Q.3906.1
- **IMS architecture, signaling protocols, interfaces** – Req: Y.2012; TS: Q.3904
- **IMS basic call – Protocol conformance testing** – Req: Draft Q.39xx - 1; TS: Q.3904
- **IMS supplementary services. Protocol specifications** – Req: - ; TS: Q.3943.1/2/4, Q.3942.1
- **IMS interconnection** – Re: Q.3401; TS: -
- **Interoperability testing** – Req: - ; TS: Q.3940, Q.3941.1 - 4
- **NGN monitoring system** – Req: Q.3902, Q.3910, Q.3911, Q.3912; TS: -
- **Interworking of signaling protocols of NGN** – Req: Q.1912.5, Q.3401, Q.3402; TS: Q.1912.5B - F
- **RFID** – Req: - ; TS: Q.3950
- **Internet speed access** – Req: - ; TS: Q.InSpMs
- **Internet Access as perceived by user** – Req: G.1000; TS: -

JCA-CIT Activities

<<http://www.itu.int/en/ITU-T/jca/cit/Pages/default.aspx>>

- **JCA-CIT (Joint Coordination Activity on Conformance and Interoperability Testing)** has been active in ITU-T since 2007. The parent group of JCA-CIT was changed from ITU-T Study Group 17 (Security) to ITU-T Study Group 11 (Protocols and test specifications) by WTSA-12.
- JCA-CIT coordinates work undertaken by ITU-T Study Groups in driving ITU's Conformance and Interoperability (C&I) Programme
- JCA-CIT also supports ITU-T Study Groups' identification of technologies suited to C&I testing, and acts as the first point of contact for organizations interested in contributing to ITU's C&I Programme.
- **Organization of JCA-CIT**
 - ◆ **Chairman:** Martin Brand
 - ◆ **Secretariat:** Denis Andreev
 - ◆ **Members:** participants from ITU-T Study Groups as well as other bodies involved in C&I testing such as ETSI, IECEE, IEC-CAB, ISO CASCO, ILAC/IAF, DCMAS and OMA.

Latest outputs of JCA - CIT

- **JCA - CIT decided to extend the list of testing against ITU - T Recs. to:**
 - **ICT's equipment (signalling protocols, interfaces, codecs, etc.)**
Benefit: the possibility to reduce the test attempts (tested once - accepted everywhere)
 - **Telecommunication Services**
Benefit: increasing type of interconnection among operators network (interconnection on the service level), to facilitate the distribution of nomadic services provided on the fixed and mobile networks
 - **The performance of system/network/equipment(benchmarking)**
Benefit: to reduce the operator's risk of the purchasing equipment with unexpected performance
 - **QoS/QoE/NP**
Benefit: to increase the level of customer loyalty for services provided by operators



Thank you