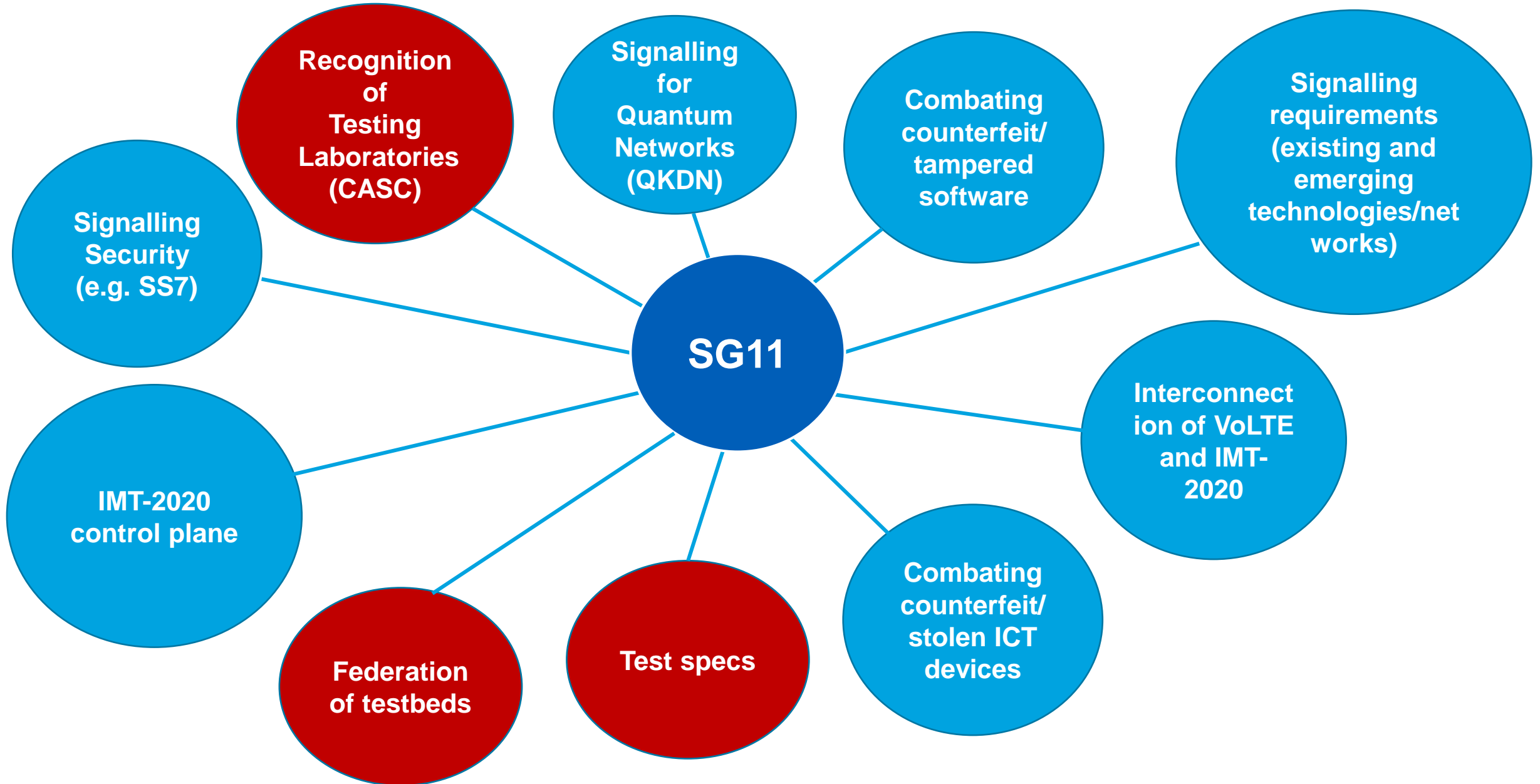# *Overview of ITU-T SG11 activities on* C&I, including C&I Programme.

João Alexandre Zanon

Vice-Chairman SG11 - Chairman WP4/11

Anatel - Brazil

June 2023

Key directions of study of ITU-T SG11

ITU Conformance and Interoperability programme (C&I), http://itu.int/go/citest

Key pillars:

Pillar 1: Conformity assessment
Pillar 2: Interoperability events
Pillar 3: Capacity building
Pillar 4: Establishment of test centres and a C&I programme in developing countries

Core ITU Resolutions:

- Resolution 177 (PP-22)
- Resolution 76 (WTSA-20)
- Resolution 47 (WTDC-22)
- Resolution 62-2 (RA-19)

Implementation of C&I programme:

- ITU-T SG11: lead group on testing (http://itu.int/go/tsg11)
- All other ITU-T SGs are developing test specifications in areas of their responsibilities
- ITU-D SG2 (Q4/2): assistance to developing countries on implementing C&I programme
- Conformity Assessment Steering Committee (CASC): Testing Laboratories Recognition procedure
- ITU test events
- ITU training events on C&I

Contact: conformity@itu.int

Overview

Conformity with international standards such as ITU Recommendations is one of the core principles underlying the global interoperability of ICT networks, devices and services.

The ITU Conformity and Interoperability (C&I) programme was initiated at the request of ITU's membership to enhance the conformity and interoperability of ICT products implementing ITU Recommendations or part thereof, solicit feedback to improve the quality of ITU Recommendations, and reduce the digital divide and the Standardization Gap by assisting developing countries with human resource and infrastructure capacity building.
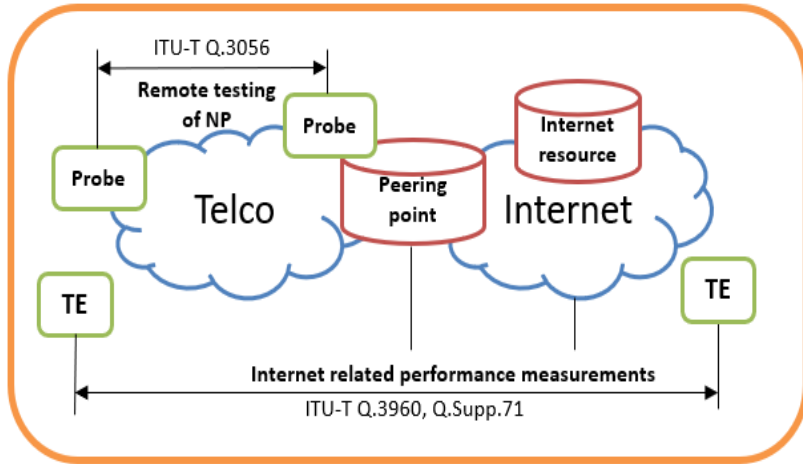
Outcomes:

- **Product Conformity Database** (launched in 2014)
  Note: around 500 entries

- **Testing Laboratories database** (launched in 2022)
  Note: 11 TLs are registered

- **List of ITU-T Technical experts** (11 experts)
  Testing specifications for different ICT technologies

- **Number of test events** (23 events)

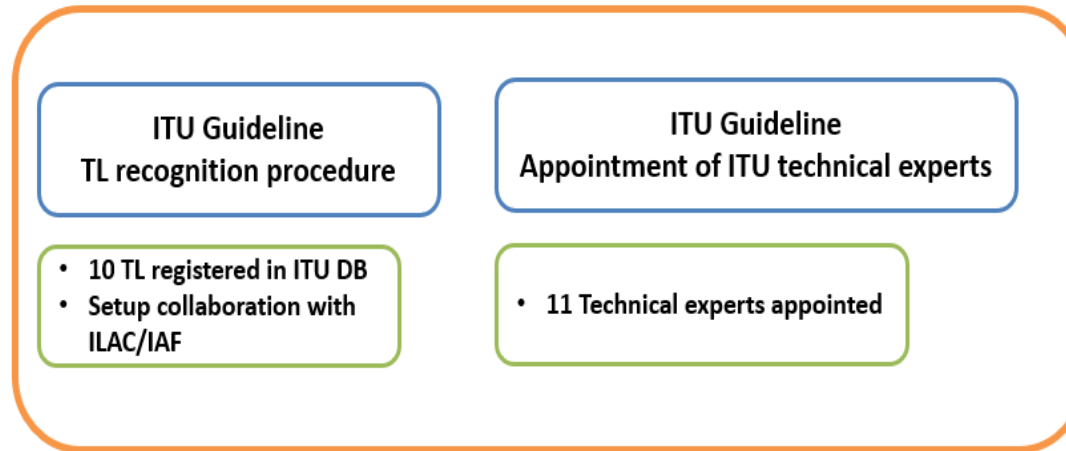- **Number of training events and Workshops**
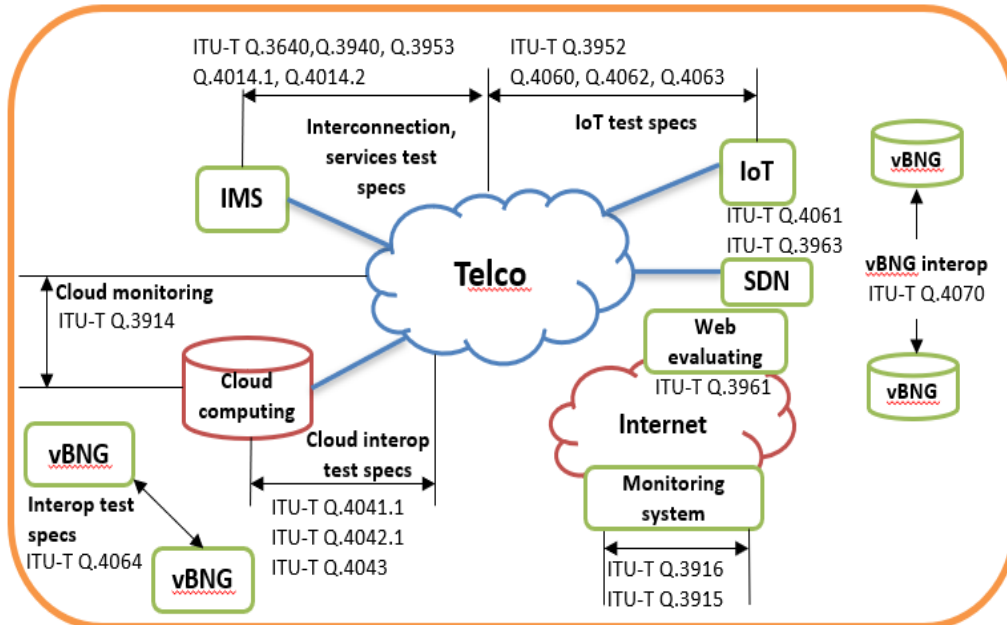
Key achievements: <u>Testing</u>
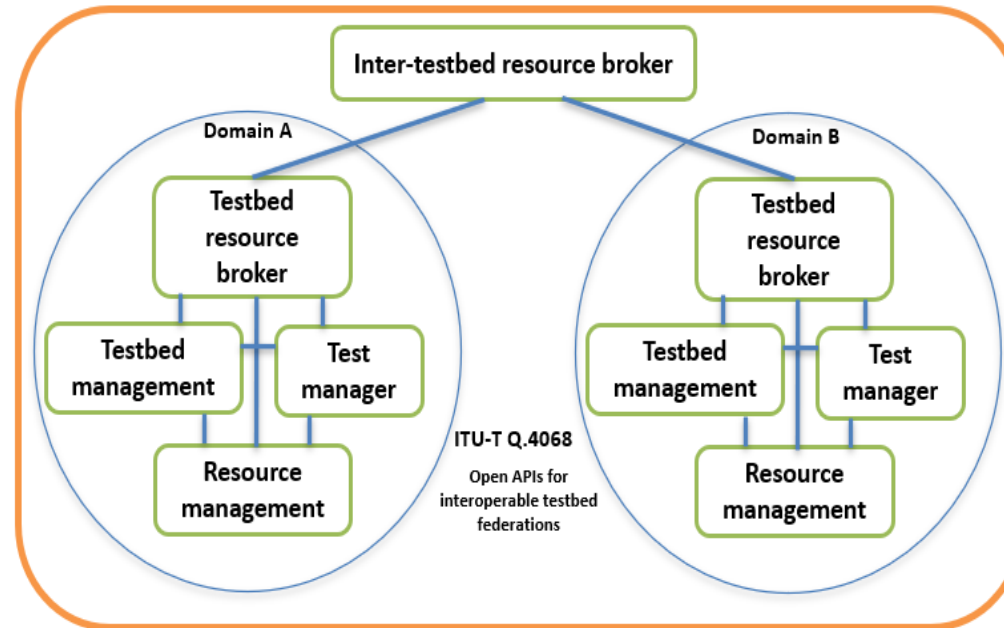
Internet measurements, remote testing

ITU-T Q.3056

Remote testing of NP

Probe

Probe

Telco

Peering point

Internet

Internet resource

TE

TE

Internet related performance measurements

ITU-T Q.3960, Q.Supp.71

Conformity Assessment Steering Committee

ITU Guideline
TL recognition procedure

ITU Guideline
Appointment of ITU technical experts

- 10 TL registered in ITU DB
- Setup collaboration with ILAC/IAF

- 11 Technical experts appointed

Protocols test specs, monitoring

ITU-T Q.3640, Q.3940, Q.3953
Q.4014.1, Q.4014.2

ITU-T Q.3952
Q.4060, Q.4062, Q.4063

Interconnection, services test specs

IoT test specs

IMS

IoT

Telco

SDN

vBNG

ITU-T Q.4061
ITU-T Q.3963

vBNG interop
ITU-T Q.4070

vBNG

Cloud monitoring
ITU-T Q.3914

Cloud computing

Web evaluating
ITU-T Q.3961

Internet

vBNG

Cloud interop test specs

Monitoring system

Interop test specs
ITU-T Q.4064

ITU-T Q.4041.1
ITU-T Q.4042.1
ITU-T Q.4043

vBNG

ITU-T Q.3916
ITU-T Q.3915

Testbed federations

Inter-testbed resource broker

Domain A

Domain B

Testbed resource broker

Testbed resource broker

Testbed management

Test manager

Testbed management

Test manager

Resource management

Resource management

ITU-T Q.4068
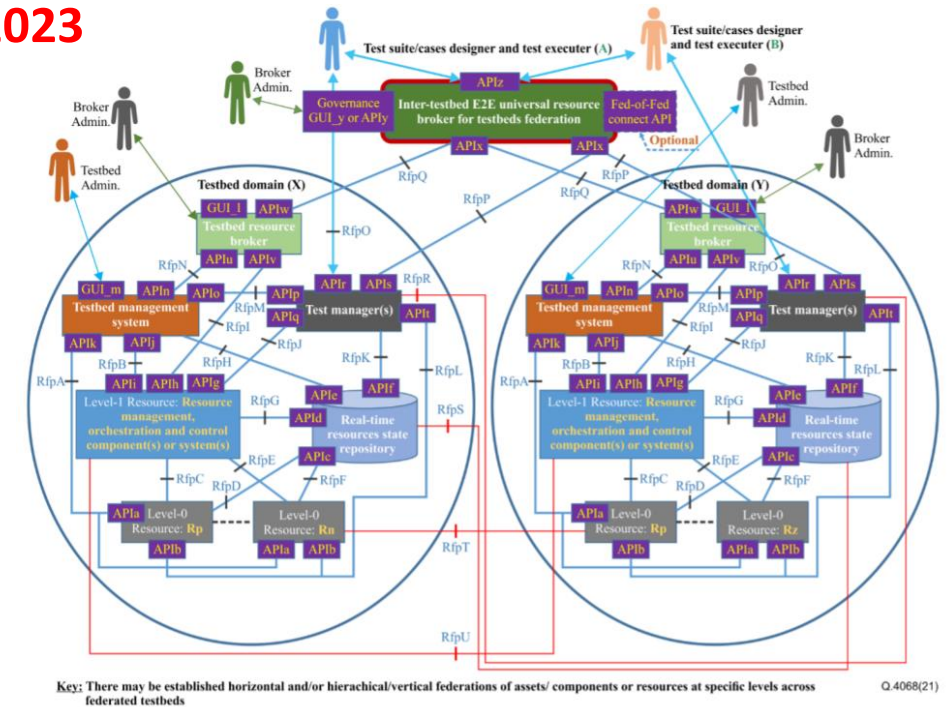
Open APIs for interoperable testbed federations

ITU-T Focus Group on Testbeds Federations for IMT-2020 and beyond (FG-TBFxG)

Created in December 2021 (SG11 is a parent group)
April 2022 | July 2022 | November 2022 | March 2023 | 3-5 July 2023

- Harmonize testbeds specifications across SDOs/Fora

- Develop the required application program interfaces (APIs) aligned with the Testbeds Federations Reference Model (ITU-T Q.4068)

- Define a set of use cases for Federated Testbeds and associated APIs, such as "Testbed-as-a Service" (TaaS)

ITU-ETSI-IEEE joint SDOs brainstorming workshop
Testbeds federations for 5G and beyond: interoperability, standardization, reference model and APIs

Free | Virtual
15-16 March 2021
14:00 to 17:30 CET

http://itu.int/go/BTF4-5G

Organized by
IEEE Future NETWORKS • IEEE Advancing Technology for Humanity • ETSI • ITU

11 ongoing WIs
(see, work plan)

12 Use cases
(see D1.1)

ITU-T Q.4068 "Open application program interfaces (APIs) for interoperable testbed federations"

https://itu.int/go/fgtbf

Creation of ITU-T Testing Laboratory recognition procedure

2015

SG11 established **ITU-T Conformity Assessment Steering Committee ITU-T CASC**, http://itu.int/go/casc
Main objective is elaborate the TL recognition procedure in close collaboration with existing accreditation entities (e.g., IEC, ILAC, IAF, etc.).

SG11 agreed a Guideline on "Testing Laboratories recognition procedure".
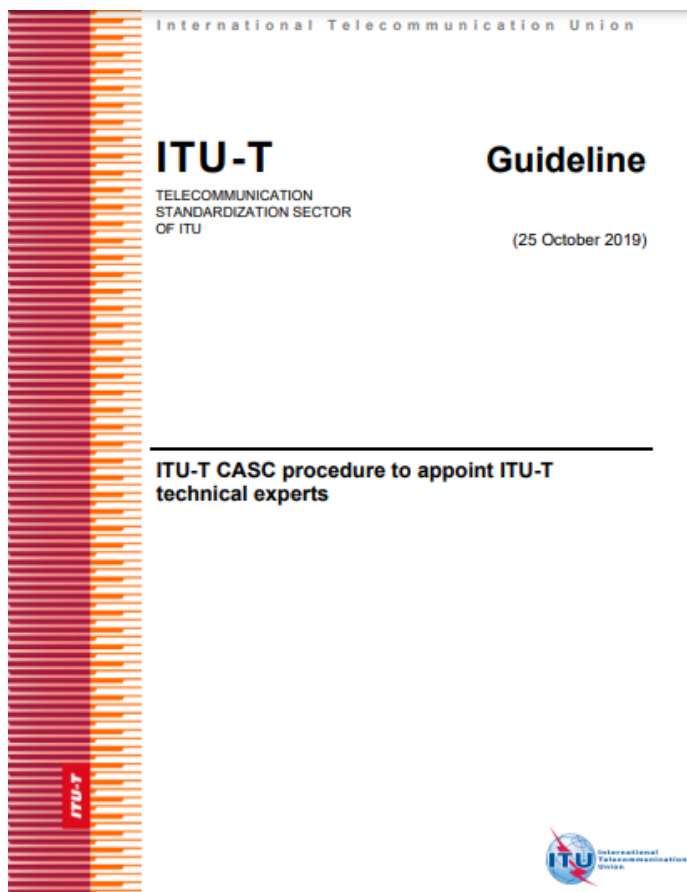It describes the process on how ITU may recognize Testing Laboratories which competence covers ITU-T standards.

The Guideline was revised in July 2022.
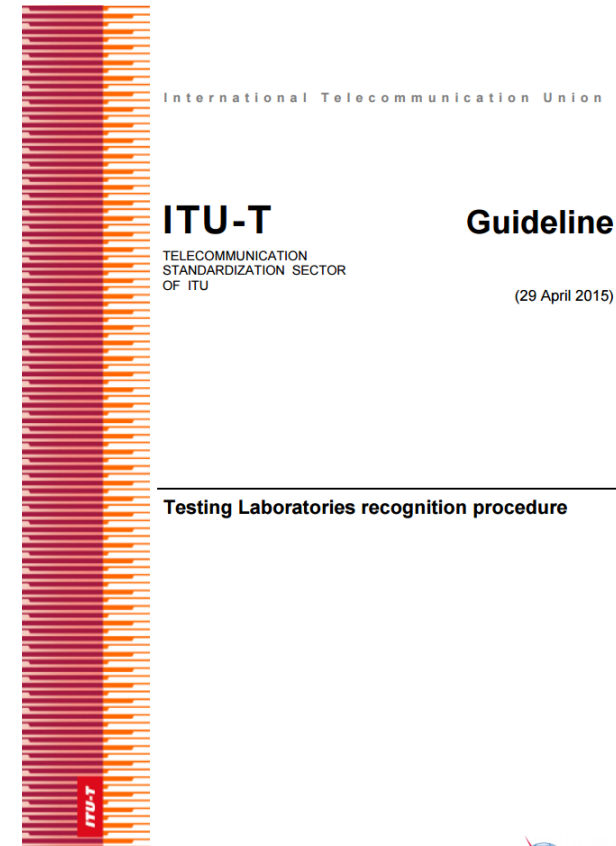
2017-2019

SG11 agreed a <u>Guideline "ITU-T CASC procedure to appoint ITU-T technical experts"</u>.
Those experts could be included in the assessment team of IEC or ILAC in order to evaluate TL which have competence on particular ITU-T Recommendations.

International Telecommunication Union

ITU-T

Guideline

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

(25 October 2019)

ITU-T CASC procedure to appoint ITU-T
technical experts

List of ITU-T technical experts appointed by ITU-T CASC
(Geneva, 18 October 2019, ref. Annex C of <u>SG11-TD1020R1/GEN</u>)

#	Name	ITU-T Recommendation	Country	Company	Email
1.	Feng Qi	ITU-T M.3101 (07/1995); ITU-T M.3170.4 (04/2015); ITU-T X.781 (08/2001); ITU-T X.783 (07/2014); ITU-T X.784 (03/2016)	China	BUPT, China	qifeng[at]bupt.edu.cn
2.	Awad Mulah	ITU-T K.48 (09/2006); ITU-T K.116 (11/2015)	Sudan	Telecommunication and Post Regulatory Authority (TPRA), Khartoum-Sudan	awadmulah[at]tpra.gov.sd
3.	Michael Maytum	ITU-T K.12 ITU-T K.77 ITU-T K.82 ITU-T K.95 ITU-T K.102 ITU-T K.129 ITU-T K.117 ITU-T K.20 ITU-T K.21 ITU-T K.45	UK	Bourns Ltd., United Kingdom	m.j.maytum[at]ieee.org
4.	Yuan Zhang	ITU-T H.626 (Rev.), ITU-T H.626.4, ITU-T H.626.5, ITU-T H.627, ITU-T H.627.1	China	China Telecom	zhangyuan1.sh[at]chinatelecom.cn
5.	Haitao Zhang	ITU-T H.626 (Rev.), ITU-T H.626.2, ITU-T H.626.3, ITU-T H.627	China	Beijing University of Posts and Telecomm	zht[at]bupt.edu.cn
6.	Yalan Zhang	ITU-T H.626 (Rev.), ITU-T H.626.2, ITU-T H.626.3, ITU-T H.627	China	Huawei Technologies Co., Ltd	zhangyalan[at]huawei.com
7.	Kai Liao	ITU-T H.626 (Rev.), ITU-T	China	ZTE	liao.kai[at]zte.com.cn

SG11 appointed several <u>ITU technical experts</u> on different ITU-T Recommendations.

SG11 decided that ITU recognizes the Testing Laboratories (TLs) which are accredited by an AB that is a signatory to the ILAC MRA for testing, which scope of accreditation contains ITU-T Recommendation(s).

There are no financial implications for ITU for implementing such procedures. Financial implications for TLs are to be covered by the cost structures of the ABs.

Ref.: SG11 Report, March 2021, SG11-R42

Key achievements: <u>CASC</u>

- **Aligned its ToR with Resolutions of WTSA-20**

- **Established collaboration with International Laboratory Accreditation Cooperation (ILAC)** on Testing Laboratory recognition procedure

- **Approved the ITU Guidelines on TL recognition** procedure and appointment of ITU technical experts

- **Appointed 11 ITU-T Technical experts on ITU-T Recommendations** H., K., M. and X.series.

- **Recognized 11 TLs** which are accredited by an Accreditation Body (AB) that is a signatory to the ILAC Mutual Recognition Arrangement (MRA) for testing, which scope of accreditation contains ITU-T Recommendation(s).

  - ITU Operational Bulletins (OB.1253, OB.1256, OB.1263, OB.1266)

  - Newslog

TSB Circular 368

Testing Laboratories Database

YOU ARE HERE: HOME > ITU-T > ITU CONFORMITY AND INTEROPERABILITY > TESTING LABORATORIES DATABASE   SHARE

DISCLAIMER: The database lists Testing Laboratories (TLs) recognized by ITU which compliant with criteria defined in ITU-T Guideline "Testing Laboratories recognition procedure".

The recognition of a TL by ITU does not imply or otherwise suggest approval of a product or that the recognized TL acts as an agent or representative of the ITU. The ITU does not accept any responsibility for the effects or consequences of services provided by the recognized TL on users of such services.

The status as recognized TL for ITU-T Recommendations is valid within the terms of TL accreditation. Once validity is expired, it will be reflected in ITU database for particular TL entry. The recognized TL needs to inform ITU (conformity@itu.int) on any changes in their scope of accreditation and their validity accordingly. In the event of misalignment, it may result in full delisting of TL from ITU Database.

TL Name	Country	Scope of Accreditation (ITU-T Recommendations)	Accreditation body name (AB of ILAC MRA)	Laboratory ID	Validity of accreditation
Hermon Laboratories Ltd	Israel	K.20; K.21; K.41; K.44; K.45; G.703; G.823; G.991.2; G.992.1; G.992.3 Cor. 3; G.992.5 Cor. 1; G.993.1; G.993.2; P.313; P.340; P.370; P.862; P.862.1; P.863; T.30; T.38; Q.552	American Association for Laboratory Accreditation (A2LA)	0839.01	31 May 2023
Bharat Test House Pvt. Ltd.	India	G.664; G.691; G.693; G.694.1; G.695; G.698.3; G.703; G.709; G.783; G.823; G.824; G.825; G.957; G.959.1; G.984.1; G.984.2; G.984.3; G.987.1; G.987.2; G.989.2; G.991.2; G.992.3; G.992.5;	National Accreditation Board for Testing and Calibration Laboratories (NABL)	TC-6451	25 December 2023

MoU between ITU-T, International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC)

24 August 2022: The MoU between ITU-T, IAF and ILAC provides critical support to ITU's Conformance and Interoperability (C&I) programme. Conformance with international standards is one of the core principles underlying the global interoperability of ICT networks and devices.

The ITU Conformity and Interoperability (C&I) programme was initiated at the request of ITU's membership to enhance the conformity and interoperability of ICT products implementing ITU Recommendations or part thereof.

The purpose of this MoU is to establish effective collaborative linkages between the ITU-T, IAF and ILAC in the area of conformity and interoperability of ICT products, to facilitate achieving the desired level of connectivity and 'usability' of services to the end-users.

https://www.itu.int/en/ITU-T/extcoop/Documents/mou/MoU-ITU-T-IAF-ILAC-20220824.pdf

ITU Testing Laboratories Database (TLDB)

http://itu.int/go/tldb

In order to be recognized by the ITU, Testing Laboratories (TL) shall be:

- accredited by an Accreditation Body that is a signatory to the ILAC MRA for Testing (using ISO/IEC 17025)
  Note: the list of ABs is available at: https://ilac.org/signatory-search/.

- have ITU-T Recommendations in the TL's scope of accreditation

Ref: revised ITU-T Guideline, July 2022

According to ITU Guideline: *"Based on received applications, if they are in line with the criteria defined in cl.9, TSB Director is asked to register the Testing Laboratory in the ITU Testing Laboratory Database accordingly."*

Any TL including non-ITU members are encouraged to apply

The request needs to be sent via online form.
It is available on ITU C&I Portal:
http://itu.int/go/citest

ITU Product Conformity Database (PCDB)

http://itu.int/go/tcdb

The PCDB can be populated by **testing laboratories, conformity assessment bodies (CABs), vendors** and others, **including non-members of ITU**, provided that the product is either (see here):

- **tested** by a testing laboratory which has an accreditation with ISO/IEC 17025 and at least one ITU-T Recommendation; or,

- **certified** to be in conformance with at least one ITU-T Recommendation by a CAB with ISO/IEC 17065 accreditation

- **tested** by testing laboratory recognized by ITU (accredited by ILAC MRA signatories AB which have ITU Recommendations in its scope of accreditation), see ITU-T Guideline.

Online application form

Product is to be **tested to applicable ITU-T Recommendations using ITU-T test specifications** or **procedures adopted by an SDO** or forum qualified in accordance with Recommendation ITU-T A.5.

At this early stage of the database's implementation, the entry of products is possible through two other channels:

- if these products were tested in an **ITU test event**
- as part of an ITU conformity testing **pilot project**

Contacts

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- denis.andreev@itu.int (SG11 Advisor)
- tsbsg11@itu.int
- http://itu.int/go/tsg11