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SERIES Q: SWITCHING AND SIGNALLING

Testing specifications – Testing specifications for next
generation networks

**Terms and definitions for conformance and
interoperability**

Recommendation ITU-T Q.3920

ITU-T



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Terms and definitions for conformance and interoperability

Summary

The activities on conformance and interoperability (C&I) are widespread in the information and communication technology (ICT) world, but there are different interpretations of terms and definitions which define similar concepts.

To ensure the precision of the use of the C&I vocabulary in the activities of the ITU C&I programme, Recommendation ITU-T Q.3920 provides the list of terms and definitions related to conformance and interoperability.

History

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FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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Recommendation ITU-T Q.3920

Terms and definitions for conformance and interoperability

1 Scope

This Recommendation includes all the terms and definitions on conformance and interoperability (C&I) which are being used or to be used in the existing ITU-T Recommendations and standards of other standards development organizations (SDOs). This Recommendation will be revised on a regular basis.

2 References

None.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation collects the following terms defined elsewhere:

3.1.1 abstract test case [b-ITU-T X.290]: A complete and independent specification of the actions required to achieve a specific test purpose, defined at the level of abstraction of a particular Abstract Test Method, starting in a stable testing state and ending in a stable testing state. This specification may involve one or more consecutive or concurrent connections.

3.1.2 abstract test method (ATM) [b-ITU-T X.290]: The description of how an implementation under test (IUT) is to be tested, given at an appropriate level of abstraction to make the description independent of any particular realization of a Means of Testing, but with enough detail to enable abstract test cases to be specified for this test method.

3.1.3 abstract test suite (ATS) [b-ITU-T X.290]: A test suite composed of abstract test cases.

3.1.4 acceptance or acceptance of conformity assessment results [b-ISO/IEC 17000]: Use of a conformity assessment result provided by another person or body.

3.1.5 accreditation [b-ISO/IEC 17000]: Third-party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks.

3.1.6 accreditation body [b-ISO/IEC 17000]: Authoritative body that performs accreditation.

3.1.7 approval [b-ISO/IEC 17000]: Permission for a product or process to be marketed or used for stated purposes or under stated conditions.

3.1.8 attestation [b-ISO/IEC 17000]: Issue of a statement, based on a decision following review, that fulfilment of specified requirements has been demonstrated.

3.1.9 basic interconnection test (BIT) [b-ITU-T X.290]: A test of an implementation under test (IUT) which has limited scope to determine whether or not there is sufficient conformance to the relevant protocol(s) for interconnection to be possible, without trying to perform thorough testing.

3.1.10 bilateral arrangement [b-ISO/IEC 17000]: Arrangement whereby two parties recognize or accept each other's conformity assessment results.

3.1.11 certification [b-ISO/IEC 17000]: Third-party attestation related to products, processes, systems or persons.

3.1.12 conformance clause [b-ITU-T Z.450]: A part of a standard or Recommendation which identifies what in the standard or Recommendation should be met in order to conform to the standard or Recommendation.

3.1.13 conformity assessment [b-ISO/IEC 17000]: Demonstration that specified requirements relating to a product, process, system, person or body are fulfilled.

3.1.14 conformity assessment body [b-ISO/IEC 17000]: Body that performs conformity assessment services.

3.1.15 conformity assessment scheme (or programme) [b-ISO/IEC 17000]: Conformity assessment system related to specified objects of conformity assessment, to which the same specified requirements, specific rules and procedures apply.

3.1.16 declaration [b-ISO/IEC 17000]: First-party attestation.

3.1.17 electromagnetic compatibility [b-IEC 60050-161] and [b-ITU-T K.63]: The ability of an equipment or system to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic disturbance to anything in that environment.

3.1.18 equal and national treatment [b-ISO/IEC 17000]: Treatment accorded to products or processes originating in other countries that is no less favourable than that accorded to like products or processes of national origin, or originating in any other country, in a comparable situation.

3.1.19 equal treatment [b-ISO/IEC 17000]: Treatment accorded to products or processes from one supplier that is no less favourable than that accorded to like products or processes from any other supplier, in a comparable situation.

3.1.20 first-party conformity assessment activity [b-ISO/IEC 17000]: Conformity assessment activity that is performed by the person or organization that provides the object.

3.1.21 implementation conformance statement (ICS) [b-ITU-T X.290]: A statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented. The ICS can take several forms: protocol ICS, profile ICS, and information object ICS.

3.1.22 implementation under test (IUT) [b-ITU-T X.290]: An implementation of one or more open systems interconnection (OSI) protocols in an adjacent user/provider relationship, being that part of a real open system which is to be studied by testing.

3.1.23 inspection [b-ISO/IEC 17000]: Examination of a product design, product, process or installation and determination of its conformity with specific requirements or, on the basis of professional judgement, with general requirements.

3.1.24 interoperability [b-ITU-T Y.101]: The ability of two or more systems or applications to exchange information and to mutually use the information that has been exchanged.

3.1.25 interoperability (management network) [b-ITU-T M.60]: The ability of network management products and services from different suppliers to work together to manage communications between managed object classes.

3.1.26 interoperability testing [b-ITU-T Z.450]: Testing to assess the ability of two or more systems to exchange information and to make mutual use of the information that has been exchanged.

3.1.27 market surveillance [b-EU 765/2008/EC]: The activities carried out and measures taken by public authorities to ensure that products comply with the requirements set out in the relevant Community harmonisation legislation and do not endanger health, safety or any other aspect of public interest protection.

3.1.28 model network [b-ITU-T Q.3900]: Network which simulates the capabilities similar to those available in present telecommunication networks, has a similar architecture and functionality and uses the same telecommunication technical means.

3.1.29 most favoured nation [b-WTO]: Countries cannot normally discriminate between their trading partners, where one is granted a special favour (such as a lower customs duty rate for one of their products) then all other members must receive the same favour.

3.1.30 multilateral arrangement [b-ISO/IEC 17000]: Arrangement whereby more than two parties recognize or accept one another's conformity assessment results.

3.1.31 mutual recognition arrangements (MRA/MLA) [b-ISO/IEC 17011:2004]: Accreditation body members of the IAF and/or ILAC Multi-Lateral Mutual Recognition Arrangements (MLA/MRA) have the equivalence of their accreditation programmes recognized through a regular programme of evaluation by their peer accreditation bodies within the MLA/MRA.

3.1.32 national accreditation body [b-EU 765/2008/EC]: The sole body in a Member State that performs accreditation with authority derived from the State.

3.1.33 national treatment [b-ISO/IEC 17000]: Treatment accorded to products or processes originating in other countries that is no less favourable than that accorded to like products or processes of national origin, in a comparable situation.

3.1.34 next generation network (NGN) [b-ITU-T Y.2001]: A packet-based network able to provide telecommunication services and able to make use of multiple broadband, quality of service (QoS)-enabled transport technologies and in which service-related functions are independent of the underlying transport-related technologies. It enables unfettered access for users to networks and to competing service providers and/or services of their choice. It supports generalized mobility which will allow consistent and ubiquitous provision of services to users.

3.1.35 next generation network (NGN) monitoring systems (NMS) [b-ITU-T Q.3902]: A system which is responsible for online (under payload) measurement values of the NGN protocols carried out on the different NGN strata.

3.1.36 next generation network (NGN) technical means [b-ITU-T Q.3900]: The NGN basic equipment which serves as a basis for building new generation network solutions, including for application in public telecommunication networks.

3.1.37 peer evaluation [b-EU 765/2008/EC]: A process for the assessment of a national accreditation body by other national accreditation bodies.

3.1.38 pluri-lateral agreement [b-WTO]: An agreement which only some members have signed.

3.1.39 protocol implementation conformance statement (PICS) [b-ITU-T X.290]: An implementation conformance statement (ICS) for an implementation or system claimed to conform to a given protocol specification.

3.1.40 quality of service (QoS) experienced/perceived by customer/user (QoSE) [b-ITU-T E.800]: A statement expressing the level of quality that customers/users believe they have experienced.

3.1.41 quality of service (QoS) [b-ITU-T E.800]: Totality of characteristics of a telecommunications service that bear on its ability to satisfy stated and implied needs of the user of the service.

3.1.42 recognition or recognition of conformity assessment results [b-ISO/IEC 17000]: Acknowledgement of the validity of a conformity assessment result provided by another person or body.

3.1.43 review [b-ISO/IEC 17000]: Verification of the suitability, adequacy and effectiveness of selection and determination activities, and the results of these activities, with regard to fulfilment of specified requirements by an object of conformity assessment.

3.1.44 scope of attestation [b-ISO/IEC 17000]: Range or characteristics of objects of conformity assessment covered by attestation.

3.1.45 second-party conformity assessment activity [b-ISO/IEC 17000]: Conformity assessment activity that is performed by a person or organization that has a user interest in the object.

3.1.46 specified requirement [b-ISO/IEC 17000]: Need or expectation that is stated.

3.1.47 standard [b-WTO TBT Agreement]: Document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.

3.1.48 supplier's declaration of conformity [b-ISO/IEC 17000]: Is a "declaration" as defined in [b-ISO/IEC 17000], i.e., first-party attestation (see clause 3.1.16). For more details, refer to [b-ISO/IEC 17050].

NOTE – To avoid any confusion with attestation by certification bodies, the term "self-certification" is deprecated and should not be used.

3.1.49 surveillance [b-ISO/IEC 17000]: Systematic iteration of conformity assessment activities as a basis for maintaining the validity of the statement of conformity.

3.1.50 system under test (SUT) [b-ITU-T X.290]: The real open system in which the implementation under test (IUT) resides.

3.1.51 technical regulation [b-WTO TBT Agreement]: Document which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.

3.1.52 testing [b-ISO/IEC 17000]: Determination of one or more characteristics of an object of conformity assessment, according to a procedure.

3.1.53 test laboratory [b-ITU-T X.290]: An organization that carries out conformance testing. This can be a third party, a user organization, a telecommunications administration or recognized private operating agency, or an identifiable part of a supplier organization.

3.1.54 test purpose [b-ITU-T X.290]: A prose description of a well-defined objective of testing, focusing on a single conformance requirement or a set of related conformance requirements as specified in the appropriate open systems interconnection (OSI) specification (e.g., verifying the support of a specific value of a specific parameter).

3.1.55 (conformance) test suite [b-ITU-T X.290]: A complete set of test cases, possibly combined into nested test groups, that is needed to perform dynamic conformance testing for one or more open systems interconnection (OSI) protocols.

3.1.56 third-party conformity assessment activity [b-ISO/IEC 17000]: Conformity assessment activity that is performed by a person or body that is independent of the person or organization that provides the object, and of user interests in that object.

3.1.57 type approval [b-ISO/IEC 17000]: See approval, clause 3.1.7.

3.1.58 unilateral arrangement [b-ISO/IEC 17000]: Arrangement whereby one party recognizes or accepts the conformity assessment results of another party.

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

C&I	Conformance and Interoperability
ICS	Implementation Conformance Statement
ICT	Information and Communication Technology
IUT	Implementation Under Test
NGN	Next Generation Network
NMS	NGN Monitoring System
OSI	Open Systems Interconnection
PICS	Protocol Implementation Conformance Statement
QoSE	QoS Experienced/perceived by customer/user
QoS	Quality of Service
SDO	Standards Development Organization

5 Conventions

None.

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- [b-ISO/IEC 17011] ISO/IEC 17011 (application): 2004, *Conformity assessment -- General requirements for accreditation bodies accrediting conformity assessment bodies*
- [b-EU 765/2008/EC] EU 765/2008/EC, *setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93*.
- [b-WTO] World Trade Organization – Glossary.
- [b-WTO TBT Agreement] WTO Agreement on Technical Barriers to Trade, 2013.

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