



[ISO/IEC JTC 1/WG 13](#)

Trustworthiness

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Vocabulary Rapporteur Report

JTC 1 AG7 Trustworthiness

v 1.5

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History

This document was elaborated to document a consensus reached during the JTC 1/AG7 meeting in Berlin, Germany, on July 3 and 4, 2019.

It was updated to reflect discussions held on its 2019-08-01 virtual meeting where it was agreed to add 'accuracy' to the list of trustworthiness characteristics.

It was further updated (page 5) to reflect discussions held on its 2019-11-03 F2F meeting held during the JTC 1 Plenary where a contribution from Sweden was considered.

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Top level definition

Trustworthiness (initial source: N21)

Ability to meet stakeholders expectations in a demonstrable, verifiable and measurable way.

Trustworthiness

(initial source: N21)

NOTE 1: Depending on the context or sector, and also on the specific product or service, data, and technology used, different characteristics apply and need verification to ensure stakeholders expectations are met.

Top level attributes

(initial source: N021)

NOTE 2: Characteristics of trustworthiness include, for instance, reliability, availability, resilience, security, privacy, safety, accountability, transparency, integrity, authenticity, quality, usability and accuracy.

NOTE 3: Trustworthiness is an attribute that can be applied to services, products, technology, data and information as well as, in the context of governance, to organizations.

Additional explanatory paragraphs

Trustworthiness

Trustworthiness is ensured and maintained through a sound governance framework and systems engineering practices.

Trustworthiness can contribute to the building of confidence.

Trustworthiness

The terms “trust” or “trusted” are sometimes used to characterize specific interactions between technical systems. Systems engaging in such interactions could be considered as trustworthy by operators and users of those systems or by other stakeholders.

ANNEX A: Definitions of common characteristics

Introduction

This is a first cut at the definitions of the common characteristics listed in Note 2. They are drawn from the ISO and IEC databases without modifications.

Reliability

Reliability is the ability of an item to perform as required, without failure, for a given time interval, under given conditions.

NOTE 1: The time interval duration may be expressed in units appropriate to the item concerned, e.g. calendar time, operating cycles, distance run, etc., and the units should always be clearly stated.

NOTE 2: Given conditions include aspects that affect reliability, such as: mode of operation, stress levels, environmental conditions, and maintenance.

IEC / TC56 61513 2011

Availability

Property of being accessible and usable upon demand by an authorized entity

ISO/IEC 27000 2012

Resilience

Resilience is the capability of a system to maintain its functions and structure in the face of internal and external change, and to degrade gracefully when this is necessary.

ISO Guide 73:2009, Note 1

Security

Combination of confidentiality, integrity
and availability

ISO 21549-2 2014

Privacy

Right of individuals to control or influence what information related to them may be collected and stored and by whom that information may be disclosed

ISO/IEC 29182-2 2013

Safety

Expectation that a system does not, under defined conditions, lead to a state in which human life, health, property, or the environment is endangered

ISO/IEC 12207 2017

Accountability

(for systems): Property that ensures that actions of an entity can be traced uniquely to the entity,

ISO/IEC 21827:2008(en), 3.1; ISO/IEC 13888-1:2009(en), 3.1; ISO TS 21089(en), 2018, 3.3.2 and more..

(in a governance context): Obligation of an individual or organization to account for its activities, for completion of a deliverable or task, accept the responsibility for those activities, deliverables or tasks, and to disclose the results in a transparent manor;

ISO TS 21089(en), 2018, 3.3.1

Transparency

(for information): Open, comprehensive, accessible, clear and understandable presentation of information

ISO 20294 2018

(for systems): Property of a system or process to imply openness and accountability

ISO/IEC 27036-3 2013

Integrity

(for data): property whereby data have not been altered in an unauthorized manner since they were created, transmitted or stored

ISO/IEC 29167-19 2019

(for systems): property of accuracy and completeness

ISO/IEC 27000 2018

Authenticity

Property that an entity is what it claims to be

ISO/IEC 27000 2018

Quality

(for systems): Degree to which all the properties and characteristics of a product, process or service satisfy the requirements which ensue from the purpose for which that product, process or service is to be used

ISO 9001:2008

(for data): Degree to which the characteristics of data (4.5) satisfy stated and implied needs when used under specified conditions

ISO/IEC 25024 2015

Usability

Extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use

Note 1 to entry: The “specified” users, goals and context of use refer to the particular combination of users, goals and context of use for which usability is being considered.

Note 2 to entry: The word “usability” is also used as a qualifier to refer to the design knowledge, competencies, activities and design attributes that contribute to usability, such as usability expertise, usability professional, usability engineering, usability method, usability evaluation, usability heuristic.

ISO 9241-11:2018(en), 3.1.1

Accuracy

Measure of closeness of results of observations, computations, or estimates to the true values or the values accepted as being true

ISO 17572-1

ANNEX B:

Generic 'de Jure' definitions of trustworthiness

Reference: N007 and N049

Trust: degree to which a user or other stakeholder has confidence that a product or system will behave as intended *ISO/IEC 25010:2011(en) Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — System and software quality models*

Trustworthy ability to demonstrate authenticity, integrity and availability of ESI (3.1) over time *ISO/TR 15801:2017(en) Document management — Electronically stored information — Recommendations for trustworthiness and reliability*

Trustworthy stored electronically in an accurate, reliable and usable/readable manner, ensuring integrity over time note 1 to entry: See ISO/TR 15801. *ISO 18829:2017(en) Document management — Assessing ECM/EDRM implementations*

Trustworthy data (3.16) and related information (3.23) that is accurate, complete, relevant, readily understood by and available to those authorised users who need it to complete a task *ISO/IEC 19770-1:2017(en) Information technology — IT asset management — Part 1: IT asset management systems — Requirements*

- likelihood that an entity will behave as expected. In the context of industrial automation, attributes of trustworthiness include reliability, security, and resiliency *IEC 62918, ed. 1.0 (2014-07) TC 45a*

- "degree of confidence a stakeholder has that the system performs as expected with characteristics including safety, security, privacy, reliability and resilience in the face of environmental disruptions, human errors, system faults and attacks." *ISO/IEC FDIS 20924 IoT - Vocabulary SC41*

Trustworthiness:

Quality of being dependable and reliable
[ISO 17068:2017, 3.18]

ANNEX C: Dictionary definitions

Trust:

- firm belief in the reliability, truth, or ability of someone or something: relations have to be built on trust | they have been able to win the trust of the others.
- acceptance of the truth of a statement without evidence or investigation: I used only primary sources, taking nothing on trust.

trustworthy ► adjective able to be relied on as honest or truthful: leave a spare key with a trustworthy neighbor. trustworthily adverb

trustworthiness noun. - the ability to be relied on as honest or truthful

Merriam-Webster Dictionary

Trustworthy

► worthy of confidence : DEPENDABLE

<https://www.merriam-webster.com/dictionary/trustworthy>

