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Trustworthiness — Vocabulary

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

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Introduction

Recent times have seen an increase in the complexity of integrating technology bringing together various viewpoints. Some examples of this are the convergence of operational technologies (OT) and information technologies (IT) as seen in the Internet of Things (IoT), the rise of big data and artificial intelligence (AI).

The complexity as well as the criticality, from both a safety and a mission point of view, have given rise to the need to communicate both the trustworthiness of products, services and technologies, and the trustworthiness of organizations that are providing these. Having a common understanding of the characteristics that can be used to describe trustworthiness and a common way of defining the vocabulary and characteristics will allow stakeholders to make a judgement as to whether a product, service or technology meets the stakeholder expectations.

This document is primarily intended for use horizontally in an IT domain. It is applicable to all domains in which IT is used.

The terms and definitions in subclause 3.2 are extracted from the ISO and the IEC vocabulary repositories. Where multiple definitions are given, those that best fit the current context of trustworthiness have been selected. For some characteristics, multiple definitions have been retained for different domains.

The terms and definitions in subclause 3.3 are provided for completeness.

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Trustworthiness — Vocabulary

1 Scope

This document provides a definition of trustworthiness for systems and their associated services, along with a selected set of their characteristics.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 Trustworthiness

3.1.1
trustworthiness
ability to meet *stakeholders'* (3.3.8) expectations in a *verifiable* (3.3.12) way

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

Note 2 to entry: Characteristics of trustworthiness include, for instance, *accountability* (3.2.1), *accuracy* (3.2.2), *authenticity* (3.2.3), *availability* (3.2.4), *controllability* (3.2.5), *integrity* (3.2.7, 3.2.8), *privacy* (3.2.9), *quality* (3.2.10, 3.2.11), *reliability* (3.2.12, 3.2.13), *resilience* (3.2.14, 3.2.15), *robustness* (3.2.16), *safety* (3.2.17), *security* (3.2.18), *transparency* (3.2.19, 3.2.20) and *usability* (3.2.21).

Note 3 to entry: Trustworthiness is an attribute that can be applied to services, products, technology, data and information as well as to organizations.

Note 4 to entry: *Verifiability* (3.3.12) includes *measurability* (3.3.5) and demonstrability by means of *objective evidence* (3.3.7).

3.2 Selected trustworthiness characteristics

3.2.1
accountability
state of being *accountable* (3.3.1)

Note 1 to entry: Accountability relates to an allocated responsibility. The responsibility can be based on regulation or agreement or through assignment as part of delegation.

Note 2 to entry: For *systems* (3.3.10), accountability is a property that ensures that actions of an entity can be traced uniquely to the entity (see ISO 7498-2:1989, 3.3.3).

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