



# INTERNATIONAL STANDARD

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## Internet of things (IoT) and digital twin – Vocabulary





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## INTERNET OF THINGS (IoT) AND DIGITAL TWIN – VOCABULARY

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ISO/IEC 20924 has been prepared by subcommittee 41: Internet of Things and Digital Twin, of ISO/IEC joint technical committee 1: Information technology. It is an International Standard.

This third edition cancels and replaces the second edition published in 2021. This edition constitutes a technical revision.

This edition includes the following technical changes with respect to the previous edition:

- a) addition of new terms which are used in other ISO/IEC IoT related standards;
- b) update of some definitions to align with current usage in IoT standards;
- c) extension of digital twin related vocabularies with title and scope changes.

The text of this International Standard is based on the following documents:

Draft	Report on voting
JTC1-SC41/386/FDIS	JTC1-SC41/404/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

This is a preview of ISO/IEC 20924:2024. [Click here to purchase the full version from the ANSI store.](#)

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1, and the ISO/IEC Directives, JTC 1 Supplement available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs) and [www.iso.org/directives](http://www.iso.org/directives).

# INTERNET OF THINGS (IoT) AND DIGITAL TWIN – VOCABULARY

## 1 Scope

This document provides a definition of Internet of Things and digital twin along with a set of terms and definitions. This document is a terminology foundation for the Internet of Things and digital twin.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 3.1 General terms

#### 3.1.1

##### **application**

software designed to fulfil a particular purpose

[SOURCE: ISO/IEC 24713-2:2008, 4.1, modified – "program or piece of" has been deleted from the beginning of the definition.]

#### 3.1.2

##### **architecture**

set of fundamental concepts or properties of an entity in its environment

Note 1 to entry: Governing principles are covered in the architecture description and are not part of the architecture.

[SOURCE: ISO/IEC/IEEE 42010:2022, 3.2, modified – "set of" has been added to the beginning of the definition, "and governing principles for the realization and evolution of this entity and its related life cycle processes" has been deleted from the end of the definition, and Note 1 to entry has been added.]

#### 3.1.3

##### **asset**

*entity* (3.1.17) that has potential or actual value to an individual, an organization, a government, or other groups

#### 3.1.4

##### **availability**

property of being accessible and usable upon demand by an authorized *entity* (3.1.17)

Note 1 to entry: *IoT systems* (3.2.15) can include both *human users* (3.1.18) and service components as "authorized entities".

[SOURCE: ISO/IEC 27000:2018, 3.7]

### 3.1.5

#### **cloud computing**

paradigm for enabling *network* (3.1.24) access to a scalable and elastic pool of shareable physical or virtual resources with self-service provisioning and administration on demand

[SOURCE: ISO/IEC 22123-1:2023, 3.1.1, modified – Notes 1 and 2 to entry have been deleted.]

### 3.1.6

#### **cloud service**

one or more capabilities offered via *cloud computing* (3.1.5) invoked using a defined *interface* (3.1.22)

[SOURCE: ISO/IEC 22123-1:2023, 3.1.2]

### 3.1.7

#### **cloud service provider**

party that is acting in a cloud service provider role

[SOURCE: ISO/IEC 22123-1:2023, 3.3.3]

### 3.1.8

#### **cloud service provider role**

##### **CSP role**

set of activities that make cloud services available

[SOURCE: ISO/IEC 22123-1:2023, 3.3.15]

### 3.1.9

#### **component**

modular, deployable, and replaceable part of a system

[SOURCE: ISO 14813-5:2010, B.1.31, modified – "that encapsulates implementation and exposes a set of interfaces" has been deleted from the end of the definition.]

### 3.1.10

#### **confidentiality**

property that *information* (3.1.21) is not made available or disclosed to unauthorized individuals, entities, or processes

[SOURCE: ISO/IEC 27000:2018, 3.10]

### 3.1.11

#### **data**

symbol or symbols represented in a digital and formalized manner suitable for communication, storage, interpretation or processing

### 3.1.12

#### **data store**

persistent repository for *data* (3.1.11)

Note 1 to entry: A data store can be accessed by a single *entity* (3.1.17) or shared by multiple entities via a *network* (3.1.24) or other connection.

### 3.1.13

#### **digital entity**

*entity* (3.1.17) that exists in the digital realm