

First edition
2023-09

Information technology — Cloud computing and distributed platforms — Taxonomy for digital platforms

Technologies de l'information — Informatique en nuage et plates-formes distribuées — Taxonomie pour les plates-formes numériques



Reference number
ISO/IEC TS 5928:2023(E)

© ISO/IEC 2023



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of ISO/IEC TS 5928:2023. [Click here to purchase the full version from the ANSI store.](#)

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
3.1 Basic terms.....	1
3.2 Terms relating to platform participation.....	2
3.3 Terms related to digital technology platforms.....	2
3.4 Terms related to digital economic platforms.....	2
4 Abbreviated terms	3
5 Digital platform overview	4
5.1 General.....	4
5.1.1 Meanings of “platform”.....	4
5.1.2 Meanings of “digital platform”.....	5
5.2 The ambiguity of “platform” for digital services.....	5
5.3 Characteristics of digital platforms.....	6
5.3.1 Network effects.....	6
5.3.2 “Private” vs “Open” platforms.....	7
5.3.3 Cross-cutting considerations.....	7
6 Digital technology platforms	8
6.1 General.....	8
6.2 Cloud service capabilities types indicative of digital technology platforms.....	9
6.3 Cloud services offering infrastructure capabilities type.....	10
6.4 Cloud services offering platform capabilities type.....	10
6.4.1 Platform as a Service (PaaS).....	10
6.4.2 Data Storage as a Service (DSaaS).....	11
6.4.3 Communications as a Service (CaaS).....	11
6.4.4 Emerging cloud services with platform capabilities.....	11
6.5 Software development platforms.....	12
6.6 Example of digital technology platforms in context.....	12
6.7 One-sided and multi-sided technology platforms.....	13
6.7.1 One-sided technology platform.....	14
6.7.2 Two-sided or Multi-sided digital technology platform.....	14
7 Digital economic platforms	14
7.1 General.....	14
7.2 Common characteristics of digital economic platforms.....	14
7.2.1 Digital economic platforms as matchmakers.....	14
7.2.2 Payment for use of a digital economic platform.....	15
7.3 Examples of digital economic platforms.....	16
7.3.1 Exchange platform.....	16
7.3.2 Application marketplace.....	17
7.3.3 Payment platform.....	18
7.3.4 Ad-funded platforms.....	20
8 Impact of platform characteristics on participant behaviour	21
8.1 General.....	21
8.2 Network effects.....	22
8.2.1 Positive network effects.....	22
8.2.2 Negative network effects.....	22
8.2.3 Impact of network effects.....	22
8.3 Customer inertia.....	23
8.4 Stickiness.....	23

This is a preview of ISO/IEC TS 5928:2023. [Click here to purchase the full version from the ANSI store.](#)

9	Observations and conclusion	23
	Annex A (informative) Illustrative taxonomic hierarchies	25
	Annex B (informative) Comparison of monetisation and network effects	30
	Bibliography	32

This is a preview of ISO/IEC TS 5928:2023. [Click here to purchase the full version from the ANSI store.](#)

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

ISO and IEC draw attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO and IEC take no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO and IEC had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents and <https://patents.iec.ch>. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 38, *Cloud computing and distributed platforms*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

Technologies such as cloud computing are supporting the evolution of digital business and accelerating the shift to living and working (in part) online, in ways that would have been impossible a few years ago.

Increased debate about socio-technical developments always runs the risk of multi-disciplinary terminological confusion, due to the potential for the same word to be used for two or more distinct concepts. Moreover, polysemy (the capacity for a word or phrase to have multiple related meanings) is an attribute of many words. Any attempt to provide a single definition for a polysemic word needs to be sufficiently broad to account for all potential meanings.

Terms with alternative meanings in economic, societal, political, regulatory and technical contexts are being labelled with the same or similar names.

Adding clarity on concepts and definitions can assist in the formulation of well-informed policies in important areas such as security, privacy and governance. One of the terms that has been at the forefront of these changes is “platform”.

Note that the economic, societal, political, regulatory and technical uses of the word “platform” predate cloud computing by many years.

Taxonomic structures serve many purposes and their topological structure, incorporation (or not) of orthogonal dimensions, levels of refinement, and the decision about the order and approach in which to apply the structuring factors lead to very different outcomes. The terminology and concepts presented in this document can be combined in different ways, depending on the problem being considered, and the factors that potentially influence the decisions driving such structuring are presented with the related concepts.

In a situation where two or more distinct interpretations of the word “platform” are relevant, but only one is taken into account, or where collaborators used two distinct interpretations at cross-purposes, confusion can arise.

Therefore, it is important to understand the difference between the technical, economic and general uses of the word platform in the context of digital services.

The audience for this document is technologists, economists, policy makers, social scientists and others who wish to precisely and unambiguously use these terms (e.g. in multi-disciplinary conversations).