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**Information technology — Cloud  
computing — Framework of trust for  
processing of multi-sourced data**



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## 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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)) or the IEC list of patent declarations received (see <http://patents.iec.ch>).

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](http://www.iso.org/iso/foreword.html).

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](http://www.iso.org/members.html).

## Introduction

There are many business and technical aspects relating to the processing of multi-sourced data, but trust between cloud service users, cloud service customers and the cloud service provider(s) is a significant market issue.

Cloud processing of multi-sourced data is in its early stages of development in the industry, and it is anticipated that specific customer requirements will differ and will evolve over time. Industry clouds have begun to form, and in some cases, their primary purpose is to bring multi-sourced data together from participants in specific industry or community sectors to achieve common objectives. Trust may be required in these scenarios because of regulations, agreements or policies attached to the data.

Processing of multi-sourced data will be essential to artificial intelligence applications along with machine learning on financial, transportation, energy, manufacturing, agricultural and government data. Trust in the data, in the cloud service provider(s), in the processing functions, in the outcomes and among the parties is essential to the success of these projects.

The elements of trust described in this report pertain to Personally Identifiable Information (PII), Organizational Confidential Data (OCD) or any other kind of data that can be a part of multi-sourced data.



# Information technology — Cloud computing — Framework of trust for processing of multi-sourced data

## 1 Scope

This document describes a framework of trust for the processing of multi-sourced data that includes data use obligations and controls, data provenance, chain of custody, security and immutable proof of compliance as elements of the framework.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 17788, *Information technology — Cloud computing — Overview and vocabulary*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 17788 and the following apply.

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

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

### 3.1

#### **chain of custody**

demonstrable possession, movement, handling, and location of material from one point in time until another

[SOURCE: ISO/IEC 27050-1:2016, 3.1]

### 3.2

#### **data**

recorded information

[SOURCE: ISO 22005:2007, 3.11]

### 3.3

#### **data processing**

systematic performance of operations upon data

[SOURCE: ISO 2382:2015, 2121276, modified — Notes 1 to 4 to entry have been deleted and the alternate term “automatic data processing” has been deleted.]

### 3.4

#### **data set**

logically meaningful grouping of data

[SOURCE: ISO 8000-2:2018, 3.2.4, modified — EXAMPLES 1 and 2 have been deleted.]