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Information technology — Cloud computing — Interacting with cloud service partners (CSNs)

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Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Symbols and abbreviated terms **2**

5 Structure of this document **2**

6 Relationship of roles and activities, and managing risks in cloud services **3**
6.1 Overview 3
6.2 Scope in relation to the cloud computing reference architecture (ISO/IEC 17789) 4

7 Overview of roles, sub-roles, and responsibilities of cloud service partners (CSNs) **4**
7.1 Relationship between roles, activities and responsibilities 4
7.2 Roles and sub-roles 5
7.3 Cloud service provider (CSP) 6
7.4 Cloud service customer (CSC) and Cloud service user (CSU) 6
7.4.1 Cloud service customer (CSC) 6
7.4.2 Cloud service user (CSU) 6
7.5 Cloud service partner (CSN) 6
7.5.1 Overview 6
7.5.2 Cloud auditor 7
7.5.3 Cloud service broker 8
7.5.4 Cloud service developer 9
7.6 Relationships between CSNs, and other roles and sub-roles 11
7.6.1 Differences between CSNs, CSCs and CSPs 11
7.6.2 CSNs and inter-cloud providers 11

8 Overview and description of types and interactions between cloud service partners (CSNs) with CSPs, CSCs, and CSNs **11**
8.1 General 11
8.2 Interaction between CSNs and CSCs 12
8.2.1 Overview 12
8.2.2 CSN managing CSC's cloud adoption 13
8.3 Interaction between CSNs and CSPs 13
8.4 Interaction between CSNs and other CSNs 14
8.4.1 Description of types of CSNs interactions 14
8.4.2 CSN – interaction and responsibilities 14

9 Elements of cloud service agreements (CSAs) relating to CSN interactions **14**
9.1 General principles 14
9.2 Role, relationship and agreement 15
9.2.1 Overview 15
9.2.2 Cloud migrations and cloud deployment models 17
9.3 Cloud service level agreement (Cloud SLA) 18
9.3.1 Overview 18
9.3.2 SLA terminology 18
9.3.3 Roles and responsibilities 19

10 Examples of scenarios illustrating CSN activities **19**
10.1 Introduction 19
10.2 Reselling of cloud service 20
10.3 Cloud service exchange 22
10.4 Management of cloud service 23
10.4.1 CSN – CSC: Managing the CSC use of cloud service 23

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10.4.2 CSN – CSP: partnership with a CSP to deliver cloud service 24
10.5 Cloud data management service 26
10.6 Shared services management 27
11 Issues on roles and sub-roles (as illustrated in examples) 28
11.1 General 28
11.2 Cloud computing environment 29
11.3 CSN roles and sub-roles 30
11.3.1 Overview 30
11.3.2 Responsibilities and risks 30
11.4 Cloud service activity and functional components 31
11.5 Supplier relationship in cloud services 31
12 Available standards 32
Bibliography 34

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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).

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) or the IEC list of patent declarations received (see http://patents.iec.ch).

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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.

This document was prepared by 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.

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Introduction

The purpose of this document is to expand on the understanding of the interactions between cloud service partners (CSNs) and cloud service customers (CSCs), and between CSNs and cloud service providers (CSPs).

Cloud computing offers solutions to many emerging technologies and it offers many benefits to all cloud service users (CSUs) and CSCs. The broader requirement for cloud computing solutions is to ensure organizations have the best capabilities to fulfil their business missions. This has helped to drive the adoption of cloud services and the marketplace is adjusting to the increasing demands.

In finding and applying appropriate solutions and leveraging the many benefits of using cloud services, many CSCs use multiple CSPs and various deployment models. In using, sharing, and assessing data, an understanding and clarification of roles, activities and responsibilities will help to maintain the security, privacy, confidentiality and integrity of cloud services.

Interactions of CSCs and CSPs with the various CSNs have caused a degree of concern and confusion in the cloud service marketplace. In some cases, causing harm to CSCs through inappropriate security controls and the lack of proper cloud service agreements relating to the cloud services being used. This is in part caused by an inadequate understanding of the relationships involved and by the lack of standards which might apply to those relationships.

Interactions between CSCs and CSPs have been described in detail in standards documents – ISO/IEC 17789, ISO 19011, ISO/IEC 19941, ISO/IEC 27017, ISO/IEC 27018 and the ISO/IEC 19086 series. Interactions of CSNs, a key role in the cloud service environment, with CSCs and CSPs have not been described in similar detail. This document provides further clarity about those interactions.

This document provides clarification of the concepts provided in ISO/IEC 17788, ISO/IEC 17789, the ISO/IEC 19086 series, and ISO/IEC 19941 regarding CSNs, and CSN interactions with CSCs and CSPs with the help of a few exemplary market scenarios. Building on an expanded description of sub-roles and activities, this document provides guidance on using cloud service agreements (CSAs) and cloud service level agreements (cloud SLAs) to provide more clarity for CSN interactions.

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Information technology — Cloud computing — Interacting with cloud service partners (CSNs)

1 Scope

This document provides an overview of and guidance on interactions between cloud service partners (CSNs), specifically cloud service brokers, cloud service developers and cloud auditors, and other cloud service roles. In addition, this document describes how cloud service agreements (CSAs) and cloud service level agreements (cloud SLAs) can be used to address those interactions, including the following:

— definition of terms and concepts, and provision of an overview for interactions between CSNs and CSCs and CSPs;

— description of types of CSN interactions;

— description of interactions between CSNs and CSCs;

— description of interactions between CSNs and CSPs;

— description of elements of CSAs and Cloud SLAs for CSN interactions, both with CSPs and with CSCs.

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*

ISO/IEC 17789, *Information technology — Cloud computing — Reference architecture*

ISO/IEC 19086-1, *Information technology — Cloud computing — Service level agreement (SLA) framework — Part 1: Overview and concepts*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 17788, ISO/IEC 17789, ISO/IEC 19086-1, and the following apply.

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

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

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

3.1
audit
systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the *audit criteria* (3.2) are fulfilled

Note 1 to entry: Internal audits, sometimes called first party audits, are conducted by, or on behalf of, the organization itself.

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Note 2 to entry: External audits include those generally called second and third party audits. Second party audits are conducted by parties with an interest in the organization, such as customers, or by other individuals on their behalf. Third party audits are conducted by independent auditing organizations, such as those providing certification/registration of conformity or governmental agencies.

[SOURCE: ISO 19011:2018, 3.1]

3.2
audit criteria
set of requirements used as a reference against which objective evidence is compared

Note 1 to entry: If the audit criteria are legal (including statutory or regulatory) requirements, the words "compliance" or "non-compliance" are often used in an audit finding.

Note 2 to entry: Requirements may include policies, procedures, work instructions, legal requirements, contractual obligations, etc.

[SOURCE: ISO 19011:2018, 3.7]

4 Symbols and abbreviated terms

CCRA	cloud computing reference architecture
Cloud SLA	cloud service level agreement
CSA	cloud service agreement
CSC	cloud service customer
CSN	cloud service partner
CSP	cloud service provider
CSU	cloud service user
IaaS	infrastructure as a service
PaaS	platform as a service
PII	personally identifiable information
SaaS	software as a service
SLA	service level agreement
SLO	service level objective
SQO	service qualitative objective

5 Structure of this document

In supporting the scope presented in Clause 1, this document is faithful to the existing descriptions of roles and sub-roles as presented in ISO/IEC 17789:2014, 7.2.2 and cloud computing activities in ISO/IEC 17789:2014, 7.2.1. This document explains the relationship between cloud service partners (CSNs), specifically cloud service brokers, cloud service developers and cloud auditors, and other cloud service roles:

Clause 6 – presents the challenges of managing risks relating to roles and activities in cloud services.

Clause 7 – provides an overview of the roles, sub-roles, and responsibilities of cloud service partners and provide the essential connection to the reference material in ISO/IEC 17789.

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