# CLOUD COMPUTING - PUBLISHED STANDARDS

| SDO | Technical Committee | Reference | Title | Scope |
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| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 17788:2014 | Information technology -- Cloud computing -- Overview and vocabulary | ISO/IEC 17788:2014 provides an overview of cloud computing along with a set of terms and definitions. It is a terminology foundation for cloud computing standards. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 17789:2014 | Information technology — Cloud computing — Reference architecture | ISO/IEC 17789:2014 specifies the cloud computing reference architecture (CCRA). The reference architecture includes the cloud computing roles, cloud computing activities, and the cloud computing functional components and their relationships. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 19086-1:2016 | Information technology — Cloud computing — Service level agreement (SLA) framework — Part 1: Overview and concepts | ISO/IEC 19086-1:2016 seeks to establish a set of common cloud SLA building blocks (concepts, terms, definitions, contexts) that can be used to create cloud Service Level Agreements (SLAs). [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 19086-2:2018 | Cloud computing — Service level agreement (SLA) framework — Part 2: Metric model | This document establishes common terminology, defines a model for specifying metrics for cloud SLAs, and includes applications of the model with examples. This document establishes a common terminology and approach for specifying metrics. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 19086-3:2017 | Information technology — Cloud computing — Service level agreement (SLA) framework — Part 3: Core conformance requirements | ISO/IEC 19086-3:2017 specifies the core conformance requirements for service level agreements (SLAs) for cloud services based on ISO/IEC 19086-1 and guidance on the core conformance requirements. This document is for the benefit of and use by both cloud service providers and cloud service customers. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 19941:2017 | Information technology — Cloud computing — Interoperability and portability | ISO/IEC 19941:2017 specifies cloud computing interoperability and portability types, the relationship and interactions between these two cross-cutting aspects of cloud computing and common terminology and concepts used to discuss interoperability and portability, particularly relating to cloud services. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 19944:2017 | Information technology — Cloud computing — Cloud services and devices: Data flow, data categories and data use | ISO/IEC 19944:2017: extends the existing cloud computing vocabulary and reference architecture in ISO/IEC 17788 and ISO/IEC 17789 to describe an ecosystem involving devices using cloud services; describes the various types of data flowing within the devices and cloud computing ecosystem; describes the impact of connected devices on the data that flow within the cloud computing ecosystem; describes flows of data between cloud services, cloud service customers and cloud service users; provides foundational concepts, including a data taxonomy; identifies the categories of data that flow across the cloud service customer devices and cloud services. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 22624:2020 | Information technology — Cloud computing — Taxonomy based data handling for cloud services | This document describes a framework for the structured expression of data-related policies and practices in the cloud computing environment, based on the data taxonomy in ISO/IEC 19944; provides guidelines on application of the taxonomy for handling of data based on data subcategory and classification; covers expression of data-related policies and practices including, but not limited to data geolocation, cross border flow of data, data access and data portability, data use, data management, and data governance; describes how the framework can be used in codes of conduct for practices regarding data at rest and in transit, including cross border data transfer, as well as remote access to data; provides use cases for data handling challenges, i.e. control, access and location of data according to ISO/IEC 19944 data categories. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC TR 22678:2019 | Information technology -- Cloud computing -- Guidance for policy development | This document provides guidance on the use of international standards as a tool in the development of those policies that govern or regulate cloud service providers (CSPs) and cloud services, and those policies and practices that govern the use of cloud services in organisations. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC TS 23167:2020 | Information technology — Cloud computing — Common technologies and techniques | This document provides a description of a set of common technologies and techniques used in conjunction with cloud computing. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC TR 23187:2020 | Information technology — Cloud computing — Interacting with cloud service partners (CSNs) | 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. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC TR 23188:2020 | Information technology — Cloud computing — Edge computing landscape | This document examines the concept of edge computing, its relationship to cloud computing and IoT, and the technologies that are key to the implementation of edge computing. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC TR 23613:2020 | Information technology — Cloud computing — Cloud service metering elements and billing modes | This document describes a sample set of cloud service metering elements and billing modes. |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC TR 23951:2020 | Information technology — Cloud computing — Guidance for using the cloud SLA metric model | The scope of this document is to describe guidance for using the ISO/IEC 19086-2 metric model, illustrated with examples. |
| ETSI | ETSI/TC NTECH | ETSI SR 003 381 V2.1.1 (02/2016) | Cloud Standards Coordination Phase 2; Identification of Cloud user needs | The present document presents the results of the web survey conducted in April - September 2015. |
| ETSI | ETSI/TC NTECH | ETSI SR 003 382 V2.1.1 (02/2016) | Cloud Standards Coordination Phase 2; Cloud Computing Standards and Open Source; Optimizing the relationship between standards and Open Source in Cloud Computing | The present report presents the results of the analysis of the relationship between Standards and Open Source in the context of Cloud Computing. [...] |
| ETSI | ETSI/TC NTECH | ETSI SR 003 392 V2.1.1 (02/2016) | Cloud Standards Coordination Phase 2; Cloud Computing Standards Maturity Assessment; A new snapshot of Cloud Computing Standards | The present document describes the results of the second assessment of Cloud Computing Standards maturity held by CSC-2, roughly two years after the first one. |
| ETSI | ETSI/TC CLOUD (closed) | ETSI TR 102 997 V1.1.1 (04/2010) | CLOUD; Initial analysis of standardization requirements for Cloud services | The present document describes standardisation requirements for cloud services. [...] |
| ETSI | ETSI/TC CLOUD (closed) | ETSI TS 103 125 V1.1.1 (11/2012) | CLOUD; SLAs for Cloud services | The present document aims to review previous work on SLAs including ETSI guides from TC USER and contributions from EuroCIO, etc. and to derive potential requirements for cloud specific SLA standards. |
| ETSI | ETSI/TC CLOUD (closed) | ETSI TR 103 126 V1.1.1 (11/2012) | CLOUD; Cloud private-sector user recommendations | The present document provides an overview of private sector user recommendations for Cloud services especially from the viewpoint of large enterprises in the European context. [...] |
| ETSI | ETSI/TC CLOUD (closed) | ETSI TS 103 142 V1.1.1 (04/2013) | CLOUD; Test Descriptions for Cloud Interoperability | The present document specifies Interoperability Test Descriptions (TDs) for OCCI and CDMI standards. The Test Descriptions cover the OCCI and CDMI protocol specifications where relevant [...] |
| ETSI | ETSI/ISG NFV | ETSI GS/NFV-EVE011 V3.1.1 (10/2018) | Network Functions Virtualisation (NFV) Release 3; Software Architecture; Specification of the Classification of Cloud Native VNF implementations | The present document specifies a set of non-functional parameters to classify and characterize any VNF implementation including, for example, level of separation of logic and state, degree of scale-out, memory footprint, use of accelerators, and more. The present document contains normative provisions using this set of non-functional parameters in order to classify the VNF implementations as cloud native. |
| ETSI | ETSI/ISG NFV | ETSI GR/NFV-IFA029 V3.3.1 (11/2019) | Network Functions Virtualisation (NFV); Software Architecture; Report on the Enhancements of the NFV architecture towards "Cloud-native" and "PaaS" | The present document studies the potential impact on the NFV architecture of providing "PaaS"-type capabilities and supporting VNFs which follow "cloud-native" design principles, in particular the utilization of container technologies. [...] |
| ITU-T | ITU-T/SG 16 | ITU-T F.743.2 (07/2016) | Requirements for cloud storage in visual surveillance | This Recommendation describes the brief functional model, application scenarios and requirements for cloud storage in visual surveillance (VS) systems, based on the requirements and architectures defined by [ITU-T F.743], [ITU-T H.626] and [ITU-T H.626.1]. [...] |
| ITU-T | ITU-T/SG 16 | ITU-T F.743.8 (05/2019) | Requirements for cloud computing platform supporting a visual surveillance system | Recommendation ITU-T F.743.8 specifies the requirements for a cloud computing platform supporting visual surveillance. [...] |
| ITU-T | ITU-T/FG CLOUD (closed) | ITU-T FG Cloud TR Part 1 (02/2012) | Technical Report: Part 1: Introduction to the cloud ecosystem: definitions, taxonomies, use cases and high-level requirements | The scope of this Technical Report is to provide an introduction to cloud ecosystems, focusing on integration and support of the cloud computing model and technologies in telecommunication environments. [...] |
| ITU-T | ITU-T/FG CLOUD (closed) | ITU-T FG Cloud TR Part 2 (02/2012) | Technical Report: Part 2: Functional requirements and reference architecture | The scope of this Technical Report is to define the functional requirements and reference architecture of cloud computing, which includes the functional architecture, functional layers and blocks. |
| ITU-T | ITU-T/FG CLOUD (closed) | ITU-T FG Cloud TR Part 3 (02/2012) | Technical Report: Part 3: Requirements and framework architecture of cloud infrastructure | This document identifies capabilities to support the cloud infrastructure. [...] |
| ITU-T | ITU-T/FG CLOUD (closed) | ITU-T FG Cloud TR Part 4 (02/2012) | Technical Report: Part 4: Cloud Resource Management Gap Analysis | This Technical Report provides an analysis of major standards gaps in cloud resource management. The gaps are based on an analysis of SDOs that are involved in resource management and what remains to be accomplished. The intent is to identify the resource management standards gaps that exist, rather than solve the gaps that are identified. |
| ITU-T | ITU-T/FG CLOUD (closed) | ITU-T FG Cloud TR Part 6 (02/2012) | Technical Report: Part 6: Overview of SDOs involved in cloud computing | The scope of this Technical Report is to provide an overview of SDOs and to map the ITU-T FG Cloud Working Group and Technical Reports, to these SDOs.This Technical Report will provide a basis for a gap analysis that will result in identification of unique areas that can be under the ITU-T purview, specifically from a telecommunication perspective. |
| ITU-T | ITU-T/FG CLOUD (closed) | ITU-T FG Cloud TR Part 7 (02/2012) | Technical Report: Part 7: Cloud computing benefits from telecommunication and ICT perspectives | This Technical Report outlines cloud benefits from the telecommunication, partner and user perspectives, and identifies the general role of telecommunication players in cloud computing. This Technical Report also includes a list of candidate study items. |
| ITU-T | ITU-T/SG 16 | ITU-T H.626.2 (12/2017) | Architectural requirements for cloud storage in video surveillance | This Recommendation defines a cloud storage architecture in visual surveillance. Cloud storage enables the service users to have ubiquitous, convenient and on-demand network access to a shared pool of the configurable storage resources, which can be rapidly provisioned and released with the minimal management effort or service-provider interaction. [...] |
| ITU-T | ITU-T/SG 2 | ITU-T M.3071 (01/2018) | Cloud-based network management functional architecture | This Recommendation introduced a new network management functional architecture with the cloud computing technology. In this Recommendation, the background and basic concept of cloud-based network management are provided. This Recommendation also provides the cloud-based network management functional architecture, including the basic components of the cloud-based network management functional architecture, their functionalities and the relationship between the components. |
| ITU-T | ITU-T/SG 2 | ITU-T M.3371 (10/2016) | Requirements for service management in cloud-aware telecommunication management system | Recommendation ITU-T M.3371 defines the general and functional management requirements that support service management in a cloud-aware telecommunication management system (see Recommendation ITU-T M.3070) and provides a functional framework for service management in a cloud-aware telecommunication management system. |
| ITU-T | ITU-T/SG 2 | ITU-T M.3372 (08/2018) | Requirements for resource management in cloud-aware telecommunication management systems | Recommendation ITU-T M.3372 introduces a functional framework and functional requirements for resource management in cloud-aware telecommunication management system. It provides the composition of the functional framework, and the functions of each component in the framework. In this Recommendation, the general background and the current status of the cloud computing management are also analysed. And the benefit of introducing functional framework and functional requirements of resource management in cloud-aware telecommunication management system is explained. |
| ITU-T | ITU-T/SG 11 | ITU-T Q Suppl. 65 (07/2014) | Draft Q Supplement 65 to Q.39xx-series Recommendations (Q.Supp-CCI) Cloud computing interoperability activities | Supplement 65 to ITU-T Q-series Recommendations provides the summary information for cloud computing interoperability activities of existing standards development organizations (SDOs) and the groups, forums and open sources developing the specifications that have the potential to utilize cloud computing interoperability testing tools. This supplement should also be helpful for the development of cloud testing specifications. |
| ITU-T | ITU-T/SG 11 | ITU-T Q.3914 (01/2018) | Set of parameters of cloud computing for monitoring | In accordance with the functional reference architecture of cloud computing which was defined in ITU-T Y.3502, this Recommendation gives functional reference architecture of cloud computing according to ITU-T Y.3500. This Recommendation provides a set of parameters that indicate the status and event of a cloud computing system, including resource layer, service layer and access layer. |
| ITU-T | ITU-T/SG 11 | ITU-T Q.4040 (02/2016) | The framework and overview of cloud computing interoperability testing | ITU-T Recommendation Q.4040 describes the framework and provides an overview of Cloud Computing interoperability testing. [...] |
| ITU-T | ITU-T/SG 11 | ITU-T Q.4041.1 (01/2018) | Cloud computing infrastructure capabilities interoperability testing - part 1: Interoperability testing between CSC and CSP | Recommendation ITU-T Q.4041.1 specifies the cloud computing infrastructure capabilities type interoperability testing between CSC and CSP, including interoperability testing of computing service, storage service, network service and related management functions based on the functional requirements specified in ITU-T Y.3513. [...] |
| ITU-T | ITU-T/SG 11 | ITU-T Q.4042.1 (12/2018) | Cloud interoperability testing about web application - part 1: Interoperability testing between CSC and CSP | Recommendation ITU-T Q.4042.1, which is part 1, specifies the cloud interoperability test objectives for web applications between the CSC and CSP. [...] |
| ITU-T | ITU-T/SG 13 | ITU-T Supplement 49 to ITU-T Y.3500-series (11/2018) | Cloud Computing standardization roadmap | Supplement 49 to ITU-T Y-series Recommendations is provides a summary of the cloud-computing-related deliverables of ITU-T study groups and other standards development organizations (SDOs). For this purpose, the Supplement collects all the information from ITU and other SDOs on their work and understanding related to cloud computing. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3500-series Supplement 46 (11/2017) | Scenarios of Implementing Cloud Computing in networks of developing countries | Supplement 46 to ITU-T Y series Recommendations applies to Recommendations ITU-T Y.3500-series. Cloud computing has the potential to alleviate some of the socio-economic challenges being faced in developing countries such as lack of resilient electrical power, lack of Information and Communications Technology (ICT) infrastructure and can also improve service delivery to mention but a few. [...] |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3500 (08/2014) | Information technology -- Cloud computing -- Overview and vocabulary | This Recommendation \| International Standard provides an overview of cloud computing, and defines related terms. [...] |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3501 (06/2016) | Cloud computing framework and high-level requirements (edition 2 under development) | Recommendation ITU-T Y.3501 provides a cloud computing framework by identifying high-level requirements for cloud computing. It specifies the requirements which are derived from an analysis of several use cases. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3502 (08/2014) | Information technology -- Cloud computing -- Reference architecture | Rec. ITU-T Y.3502 \| ISO/IEC 17789 provides the reference architecture for cloud computing, which includes the cloud computing roles, cloud computing activities, and the cloud computing functional components and their relationships. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3503 (05/2014) | Requirements for desktop as a service | Recommendation ITU-T Y.3503 introduces the concept of DaaS, and describes general and functional requirements. To derive those requirements relevant use cases are also presented. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3504 (06/2016) | Functional architecture for Desktop as a Service | Recommendation ITU-T Y.3504 describes Desktop as a Service (DaaS) functions and functional architecture for DaaS. This Recommendation also describes the relationship between the DaaS functional architecture and the cloud computing reference architecture. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3505 (05/2018) | Cloud computing – Overview and functional requirements for data storage federation | This Recommendation provides overview and functional requirements of data storage federation. Data storage federation provides a single virtual volume from multiple data sources in heterogeneous storages. [...] |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3506 (05/2018) | Cloud Computing Requirements for Cloud Service Brokerage | This Recommendation provides functional requirements of cloud service brokerage. To provide functional requirements for the cloud service brokerage, this Recommendation specifies the overview including service model and configuration of the cloud service brokerage. Various use cases are also identified to derive the functional requirements. [...] |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3507 (12/2018) | Cloud computing-Functional requirements of physical machine | Recommendation ITU-T Y.3507 provides an introduction to the physical machine including the physical machine components, physical machine types, virtualizations in the physical machine as well as the scalability of components in the physical machine. [...] |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3508 (08/2019) | Cloud computing - Overview and high-level requirements of distributed cloud | Recommendation ITU-T Y.3508 provides an overview and high-level requirements for distributed cloud. This Recommendation introduces the concept of the distributed cloud, and identifies the characteristics of distributed cloud. Based on concept and characteristics, configuration models are illustrated. Deployment considerations of distributed cloud are provided in perspective of infrastructure, network, service, management and security. From use cases, high-level requirements of the distributed cloud are derived. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3509 (12/2019) | Cloud computing - Functional architecture for data storage federation | Recommendation ITU-T Y.3509 specifies the data storage federation (DSF) functions based on DSF logical components identified in Recommendation ITU-T Y.3505, the DSF functional architecture and its reference points. This Recommendation also provides relationships between the DSF functional architecture and the cloud computing reference architecture defined in Recommendation ITU-T Y.3502. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3510 (02/2016) | Cloud computing infrastructure requirements (edition 2 under development) | Recommendation ITU-T Y.3510 provides requirements for cloud computing infrastructure; these include the essential capabilities for processing, storage and networking resources, as well as the capabilities of resource abstraction and control. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3511 (03/2014) | Framework of inter-cloud computing | Recommendation ITU-T Y.3511 describes the framework for interactions of multiple cloud service providers (CSPs), which is referred to as inter-cloud computing. Based on several use case, and after considering the different types of service offerings, this Recommendation describes the possible relationships (peering, federation or intermediary) among multiple CSPs. By introducing the concept of primary CSP and secondary CSP, the Recommendation further describes CSP interactions for the cases of federation and intermediary patterns. Finally, relevant functional requirements are derived. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3512 (08/2014) | Cloud computing - Functional requirements of Network as a Service | Recommendation ITU-T Y.3512 describes the concept of Network as a Service (NaaS) and its functional requirements. It provides typical use cases of NaaS and specifies the functional requirements of three aspects, ranging from NaaS application, NaaS platform and NaaS connectivity which are based on the corresponding uses cases and cloud capabilities types. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3513 (08/2014) | Cloud computing - Functional requirements of Infrastructure as a Service | Recommendation ITU-T Y.3513 introduces the concept of Infrastructure as a Service (IaaS) and describes its functional requirements. As one of the cloud computing service categories, Infrastructure as a Service provides cloud service customers with computing, storage and network services by cloud service providers. To derive those requirements, relevant use cases are also presented. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3515 (07/2017) | Cloud computing - Functional architecture of Network as a Service | Recommendation ITU-T Y.3515 provides Network as a Service (NaaS) functional architecture by specifying functionalities and functional components as well as reference points for the operation support system (OSS). This Recommendation also describes the mapping between functionalities and functional requirements of NaaS, relationship between the NaaS functional architecture and software-defined networking (SDN), and illustrated usage of SDN and network functions virtualisation (NFV) in support of the NaaS functional architecture. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3516 (09/2017) | Cloud computing - Functional architecture of inter-cloud computing | Recommendation ITU-T Y.3516 specifies inter-cloud computing functional architecture, including functions and functional components, based on the inter-cloud computing framework specified in [ITU-T Y.3511]. The Recommendation builds upon the functional view of the cloud computing reference architecture [ITU-T Y.3502] and makes extensions to functional components with inter-cloud functions. [...] |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3518 (12/2018) | Cloud computing - functional requirements of inter-cloud data management | Recommendation ITU-T Y.3518 provides the overview of inter-cloud data management and its functional requirements. It describes typical use cases and specifies functional requirements for three aspects, namely inter-cloud data policy, inter-cloud data isolation and protection, as well as inter-cloud data management, which are derived from the corresponding use cases. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3519 (12/2018) | Cloud computing - Functional architecture of Big Data as a Service | Recommendation ITU-T Y.3519 describes the functional architecture for big data as a service (BDaaS). The functional architecture is defined on the basis of the analysis of requirements and activities of cloud computing-based big data described in Recommendation ITU-T Y.3600. [...] |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3520 (09/2015) | Cloud computing framework for end to end resource management (edition 2 under development) | Recommendation ITU-T Y.3520 presents general concepts of end to end resource management in cloud computing; a vision for adoption of cloud resource management in a telecommunication-rich environment; and multi-cloud, end to end resource management for cloud services, i.e., management of any hardware and software used in support of the delivery of cloud services. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3521/M.3070 (03/2016) | Overview of end-to-end cloud computing management | Recommendation ITU-T M.3070/Y.3521 presents the conceptual view and the common model of end-to-end (E2E) cloud computing management based on the service management interface (SMI) and cloud computing reference architecture, from the perspective of the telecommunications industry. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3522 (09/2016) | End-to-end cloud service lifecycle management requirements | This Recommendation describes overview of end-to-end (E2E) cloud service lifecycle management by specifying cloud service lifecycle metadata, cloud service lifecycle management framework, cloud service lifecycle management stages, and relationship with cloud computing reference architecture. It also provides E2E cloud service lifecycle management functional requirements derived from the corresponding typical use cases. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3523 (08/2019) | Metadata framework for NaaS service lifecycle management | Recommendation ITU-T Y.3523 specifies the metadata framework for NaaS service lifecycle management in the closed loop automation environment. This Recommendation is the extension the Recommendation ITU-T Y.3512 and Recommendation ITU-T Y.3515 as the NaaS series Recommendations. It provides the metadata framework for NaaS service lifecycle management with the highlight on the NaaS service operational policy framework. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3524 (12/2019) | Cloud computing maturity requirements and framework | Recommendation ITU-T Y.3524 provides the functional framework and requirements for cloud computing maturity. It introduces an overview of cloud computing maturity and identifies the cloud computing maturity model including the cloud customer management module, cloud resource management module, cloud service management module and cloud security management module. Additionally, this Recommendation provides cloud computing maturity requirements derived from use cases. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3600 (11/2015) | Big data – Cloud computing based requirements and capabilities | Recommendation Y.3600 provides requirements, capabilities and use cases of cloud computing based big data as well as its system context. Cloud computing based big data provides the capabilities to collect, store, analyze, visualize and manage varieties of large volume datasets, which cannot be rapidly transferred and analysed using traditional technologies. |

| SDO | Technical Committee | Reference | Title | Scope |
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| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 27 | ISO/IEC 27017:2015 | Information technology -- Security techniques -- Code of practice for information security controls based on ISO/IEC 27002 for cloud services | ISO/IEC 27017:2015 gives guidelines for information security controls applicable to the provision and use of cloud services. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 27 | ISO/IEC 27018:2019 | Information technology -- Security techniques -- Guidance for the assessment of information security controls | This document establishes commonly accepted control objectives, controls and guidelines for implementing measures to protect Personally Identifiable Information (PII) in line with the privacy principles in ISO/IEC 29100 for the public cloud computing environment. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 27 | ISO/IEC 27036-4:2016 | Information technology -- Security techniques -- Information security for supplier relationships -- Part 4: Guidelines for security of cloud services | ISO/IEC 27036-4:2016 provides cloud service customers and cloud service providers with guidance on: a) gaining visibility into the information security risks associated with the use of cloud services and managing those risks effectively; b) responding to risks specific to the acquisition or provision of cloud services that can have an information security impact on organizations using these services. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 27 | ISO/IEC 21878:2018 | Information technology — Security techniques — Security guidelines for design and implementation of virtualized servers | This document specifies security guidelines for the design and implementation of VSs. Design considerations focusing on identifying and mitigating risks, and implementation recommendations with respect to typical VSs are covered in this document. [...] |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 27 | ISO/IEC 19086-4:2019 | Information technology -- Cloud computing – agreement (SLA) framework – Part 4: Components of security and protection of PII | This document specifies security and protection of personally identifiable information components, SLOs and SQOs for cloud service level agreements (cloud SLA) including requirements and guidance. This document is for the benefit and use of both CSPs and CSCs. |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC TR 23186:2018 | Information technology -- Cloud computing -- Framework of trust for processing of multi-sourced data | 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. |
| ETSI | ETSI/TC NTECH | ETSI SR 003 391 V2.1.1 (02/2016) | Cloud Standards Coordination Phase 2; Interoperability and Security in Cloud Computing | The present document presents the initial results of the analysis of interoperability and security in Cloud Computing. |
| ETSI | ETSI/TC CYBER | ETSI TR 103 304 V1.1.1 (07/2016) | CYBER; Personally Identifiable Information (PII) Protection in mobile and cloud services | The present document proposes a number of scenarios focusing on today's ICT and develops an analysis of possible threats to Personally Identifiable Information (PII) in mobile and cloud based services. It also presents technical challenges and needs derived from regulatory aspects (lawful interceptions). It consolidates a general framework, in line with regulation and international standards, where technical solutions for PII protection can be plugged into. |
| ETSI | ETSI/TC CYBER | ETSI TS 103 458 v1.1.1 (06/2018) | Application of Attribute Based Encryption for PII and personal data protection on IoT devices, WLAN, Cloud and mobile services – High-level requirements | The present document specifies high level requirements for the application of Attribute Based Encryption (ABE) to protect PII and personal data on IoT devices/services, cloud services, Wireless Local Area Networks and mobile services, where access to data has to be given to multiple parties and under different conditions. With a main focus on the confidentiality of data, including personal data and Personally Identifiable Information, the present document may help in supporting the General Data Protection Regulation, [...] |
| ETSI | ETSI/TC CYBER | ETSI TS 103 532 V1.1.1 (03/2018) | Attribute Based Encryption for Attribute Based Access Control | The present document specifies trust models, functions and protocols using attribute based encryption as a foundation of an attribute based access control scheme. It covers both the Ciphertext-Policy (CP-ABE) and Key-Policy (KP-ABE) variants of Attribute-Based Encryption. [...] |
| ITU-T | ITU-T/FG CLOUD (closed) | ITU-T FG Cloud TR Part 5 (02/2012) | Technical Report: Part 5: Cloud security | The scope of this Technical Report is to identify study subjects on cloud security that need to be worked on and studied in ITU-T,in collaboration with related SDOs. The method of identification is to initially review the ongoing activities on cloud security in related SDOs, and to identifyseveral security threats and security requirements for cloud service users and service providers based on thesereviews. Finally, a list of subjects on cloud security for study by ITU-T is provided as a Technical Report forTSAG. |
| ITU-T | ITU-T/SG 17 | ITU-T X.1601 (10/2015) | Security framework for cloud computing (edition 2 under development) | Recommendation ITU-T X.1601 describes the security framework for cloud computing. The Recommendation analyses security threats and challenges in the cloud computing environment, and describes security capabilities that could mitigate these threats and address security challenges. A framework methodology is provided for determining which of these security capabilities will require specification for mitigating security threats and addressing security challenges for cloud computing. Appendix I provides a mapping table on how a particular security threat or challenge is addressed by one or more corresponding security capabilities. |
| ITU-T | ITU-T/SG 17 | ITU-T X.1602 (03/2016) | Security requirements for software as a service application environments | Recommendation ITU-T X.1602 analyses the maturity levels of software as a service (SaaS) application and proposes security requirements to provide a consistent and secure service execution environment for SaaS applications. These proposed requirements originate from cloud service providers (CSP) and cloud service partners (CSN) as they need a SaaS application environment to meet their demands on security. The requirements are general and independent of any service or scenario specific model (e.g. web services, or representational state transfer (REST)), assumptions or solutions. |
| ITU-T | ITU-T/SG 17 | ITU-T X.1603 (03/2018) | Data security requirements for the monitoring service of cloud computing | Recommendation ITU-T X.1603 analyses data security requirements for the monitoring service of cloud computing which include monitoring data scope requirements, monitoring data lifecycle, security requirements of monitoring data acquisition and security requirements of monitoring data storage. [...] |
| ITU-T | ITU-T/SG 17 | ITU-T X.1604 (03/2020) | Security requirements of network as a service (NaaS) in cloud computing | Recommendation ITU-T X.1604 analyses security threats and challenges on Network as a Service (NaaS) in cloud computing and specifies security requirements of NaaS in NaaS application, NaaS platform and NaaS connectivity aspects based on corresponding cloud capability types. |
| ITU-T | ITU-T/SG 17 | ITU-T X.1605 (03/2020) | Security requirements of public infrastructure as a service (IaaS) in cloud computing | Recommendation ITU-T X.1605 documents security requirements of public IaaS in order to help IaaS providers to improve security of the IaaS platform throughout the planning, building and operating stages. [...] |
| ITU-T | ITU-T/SG 17 | ITU-T X.1641 (09/2016) | Guidelines for cloud service customer data security | Recommendation ITU-T X.1641 provides generic security guidelines for the cloud service customer (CSC) data in cloud computing. It analyses the CSC data security lifecycle and proposes security requirements at each stage of the data lifecycle. Furthermore, the Recommendation provides guidelines on when each control should be used for best security practice. |
| ITU-T | ITU-T/SG 17 | ITU-T X.1642 (03/2016) | Guidelines of operational security for cloud computing | Recommendation ITU-T X.1642 provides generic operational security guidelines for cloud computing from the perspective of cloud service providers (CSPs). It analyses the security requirements and metrics for the operation of cloud computing. A set of security measures and detailed security activities for the daily operation and maintenance are provided to help CSPs mitigate security risks and address security challenges for the operation of cloud computing. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3514 (05/2017) | Cloud computing - Trusted inter-cloud computing framework and requirements | This Recommendation specifies a framework of trusted inter-cloud computing and relevant use cases. It provides general requirements for trusted inter-cloud and specific ones related to governance, management, resiliency, security and confidentiality of trusted inter-cloud. |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3517 (12/2018) | Cloud Computing - Overview of Inter-Cloud Trust Management | Recommendation ITU-T Y.3517 provides an overview of inter-cloud trust management by specifying isolation and security management mechanisms, inter-cloud trust management model, reputation-based trust management in an inter-cloud environment, cloud service evaluation framework and the relationship with cloud computing reference architecture. It also provides requirements for inter-cloud trust management derived from the corresponding use cases. |

| SDO | Technical Committee | Reference | Title |
|---|---|---|---|
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 5140 | Information technology — Cloud computing — Concepts for multi-cloud and other interoperation of multiple cloud services |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 19944-1 | Cloud computing — Cloud services and devices: data flow, data categories and data use — Part 1: Fundamentals |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 19944-2 | Cloud computing and distributed platforms — Cloud services and devices: data flow, data categories and data use — Part 2: Guidance on application and extensibility |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 22123-1 | Information technology — Cloud computing — Part 1: Terminology |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 22123-2 | Information technology — Cloud computing — Part 2: Concepts |
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC 23751 | Information Technologies -- Cloud Computing and distributed platforms – Data sharing agreement (DSA) framework |
| ITU-T | ITU-T/SG 16 | ITU-T H.CCVS | Architecture for cloud computing in visual surveillance |
| ITU-T | ITU-T/SG 9 | ITU-T J.cloud-vr | |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3505 (Rev) | Cloud computing - Overview and functional requirements for data storage federation |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3525 | Cloud computing - Requirements for cloud service development and operation management |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3530 | Cloud computing - Functional requirements for blockchain as a service |
| ITU-T | ITU-T/SG 13 | ITU-T Y.3531 | Cloud computing - Functional requirements for machine learning as a serviceq |
| ITU-T | ITU-T/SG 13 | ITU-T Y.cccm-reqts | Cloud Computing - Requirements for Containers |
| ITU-T | ITU-T/SG 13 | ITU-T Y.cccnp-reqts | Cloud computing - Functional requirements of cloud native PaaS |
| ITU-T | ITU-T/SG 13 | ITU-T Y.CCDCFA | Cloud computing - Distributed cloud functional architecture |
| ITU-T | ITU-T/SG 13 | ITU-T Y.ccdm-reqts | Cloud computing - Framework and functional requirements of cloud data mobility management |
| ITU-T | ITU-T/SG 13 | ITU-T Y.ccecm | Cloud Computing - Requirements of edge cloud management |
| ITU-T | ITU-T/SG 13 | ITU-T Y.ccfrcm | Cloud Computing - Framework and requirements of container management in inter-cloud |
| ITU-T | ITU-T/SG 13 | ITU-T Y.ccvnf-dm | Cloud computing - Data model framework for NaaS OSS virtualized network function |
| ITU-T | ITU-T/SG 13 | ITU-T Y.csb-arch | Cloud Computing -Functional architecture for cloud service brokerage |
| ITU-T | ITU-T/SG 13 | ITU-T Y.e2efapm | Cloud Computing - End-to-end fault and performance management framework of virtual network services in inter-cloud |
| ITU-T | ITU-T/SG 13 | ITU-T Y.ecloud-reqts | Cloud computing - Functional requirements of edge cloud |
| ITU-T | ITU-T/SG 13 | ITU-T Y.mc-reqts | Cloud Computing -Functional requirements of cloud service partner for multi-cloud |
| ITU-T | ITU-T/SG 13 | ITU-T Y.RaaS-reqts | Cloud Computing - Functional requirements for Robotics as a Service |

| SDO | Technical Committee | Reference | Title |
|---|---|---|---|
| ISO/IEC JTC 1 | ISO/IEC JTC 1/SC 38 | ISO/IEC TR 3445 | Information technology - Cloud computing - Audit of cloud services |
| ISO | ISO/TC 215 | ISO/TR 21332 | Health informatics — Cloud computing considerations for health information systems security and privacy |
| ITU-T | ITU-T/SG 17 | ITU-T X.edrsec | Security guidelines for cloud-based event data recorders in automotive environment |
| ITU-T | ITU-T/SG 17 | ITU-T X.nssa-cc | Requirements of network security situational awareness platform for cloud computing |
| ITU-T | ITU-T/SG 17 | ITU-T X.sgcc | Security guidelines for container in cloud computing environment |
| ITU-T | ITU-T/SG 13 | ITU-T Y.ccrm | Cloud computing - Framework of risk management |