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ISO 27017:2015 Cloud Security

What is ISO 27017:2015 Cloud Security?

Cloud computing security or, more simply, **cloud security** refers to a broad set of policies, technologies, applications, and controls utilized to protect virtualized IP, data, applications, services, and the associated infrastructure of cloud computing. It is a sub-domain of computer security, network security, and, more broadly, information security.

Security issues associated with the cloud

Cloud computing and storage provide users with capabilities to store and process their data in third-party data centers. Organizations use the cloud in a variety of different service models (with acronyms such as SaaS, PaaS, and IaaS) and deployment models (private, public, hybrid, and community).

Security concerns associated with cloud computing are typically categorized in two ways: as security issues faced by cloud providers (organizations providing software-, platform-, or infrastructure-as-a-service via the cloud) and security issues faced by their customers (companies or organizations who host applications or store data on the cloud). The responsibility is shared, however, and is often detailed in a cloud provider's "shared security responsibility model" or "shared responsibility model." The provider must ensure that their infrastructure is secure and that their clients' data and applications are protected, while the user must take measures to fortify their application and use strong passwords and authentication measures.

When an organization elects to store data or host applications on the public cloud, it loses its ability to have physical access to the servers hosting its information. As a result, potentially sensitive data is at risk from insider attacks. According to a 2010 Cloud Security Alliance report, insider attacks are one of the top seven biggest threats in cloud computing. Therefore, cloud service providers must ensure that thorough background checks are conducted for employees who have physical access to the servers in the data center. Additionally, data centers are recommended to be frequently monitored for suspicious activity.

World energy consumption continues to rise: it has more than doubled in the last 40 years and is projected to increase a further 30% by 2040¹). What's more, energy is the major contributor to climate change, making up nearly 60 % of the world's greenhouse gas emissions. Taking action to better manage our energy consumption not only helps the planet, it saves money for organizations and society as a whole. A study commissioned by the ClimateWorks Foundation, a non-governmental organization that leverages the power of collective philanthropy in the fight against climate change, showed that if more were done to improve energy efficiency and reduce carbon growth in the industrial and buildings sectors alone, we could make over USD 3.2 trillion in public health-related savings²). ISO 50001:2018, Energy management systems – Requirements with guidance for use, is a strategic tool that helps organizations put in place an energy management system and use their energy more efficiently and effectively

An energy management system helps organizations better manage their energy use, thus improving productivity. It involves developing and implementing an energy policy, setting achievable targets for energy use, and design - ing action plans to reach them and measure progress. This might include implementing new energy-efficient technologies, reducing energy waste or improving current processes to cut energy costs. ISO 50001 gives organizations a recognized framework for developing an effective energy management system. Like other ISO man - agreement system standards, it follows the “Plan-Do-Check-Act” process for continual improvement. ISO 50001 provides a set of requirements that enable organizations to:

- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet that policy
- Gather data to better understand and make decisions concerning energy use
- Measure the results obtained
- Review the effectiveness of the policy
- Continually improve energy management

List of International Organization for Standardization standards

This is a list of published International Organization for Standardization (ISO) standards and other deliverables. For a complete and up-to-date list of all the ISO standards, see the ISO catalogue.

The standards are protected by copyright and most of them must be purchased. However, about 300 of the standards produced by ISO and IEC's Joint Technical Committee 1 (JTC 1) have been made freely and publicly available.



ISO Brand

This is a dynamic list and may never be able to satisfy particular standards for completeness. You can help by adding missing items with reliable sources.

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Conformance testing

(Redirected from Conformity assessment)

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Conformance testing — an element of conformity assessment, and also known as compliance testing, or type testing — is testing or other activities that determine whether a process, product, or service complies with the requirements of a specification, technical standard, contract, or regulation. Testing is often either logical testing or physical testing. The test procedures may involve other criteria from mathematical testing or chemical testing. Beyond simple conformance, other requirements for efficiency, interoperability or compliance may apply. Conformance testing may be undertaken by the producer of the product or service being assessed, by a user, or by an accredited independent organization, which can sometimes be the author of the standard being used. When testing is accompanied by certification, the products or services may then be advertised as being certified in compliance with the referred technical standard. Manufacturers and suppliers of products and services rely on such certification including listing on the certification body's website, to assure quality to the end user and that competing suppliers are on the same level.

Aside from the various types of testing, related conformance testing activities include:

- Surveillance
- Inspection
- Auditing
- Certification
- Accreditation.

Forms of conformance testing

The UK government identifies three forms of testing or assessment:

- 1st party assessment (self assessment)
- 2nd party assessment (assessment by a purchaser or user of a product or service)
- 3rd party assessment (undertaken by an independent organisation)

Typical areas of application

Conformance testing is applied in various industries where a product or service must meet specific quality and/or regulatory standards. This includes areas such as:

- biocompatibility proofing
- data and communications protocol engineering
- document engineering
- electronic and electrical engineering
- medical procedure proofing
- pharmaceutical packaging
- software engineering
- building construction (fire)

Electronic and electrical engineering

In electronic engineering and electrical engineering, some countries and business environments (such as telecommunication companies) require that an electronic product meet certain requirements before they

can be sold. Standards for telecommunication products written by standards organizations such as ANSI, the FCC, and IEC have certain criteria that a product must meet before compliance is recognized. In countries such as Japan, China, Korea, and some parts of Europe, products cannot be sold unless they are known to meet those requirements specified in the standards. Usually, manufacturers set their own requirements to ensure product quality, sometimes with levels much higher than what the governing bodies require. Compliance is realized after a product passes a series of tests without occurring some specified mode of failure.

Compliance testing for electronic devices include emissions tests, immunity tests, and safety tests. Emissions tests ensure that a product will not emit harmful electromagnetic interference in communication and power lines. Immunity tests ensure that a product is immune to common electrical signals and electromagnetic interference (EMI) that will be found in its operating environment, such as electromagnetic radiation from a local radio station or interference from nearby products. Safety tests ensure that a product will not create a safety risk from situations such as a failed or shorted power supply, blocked cooling vent, and powerline voltage spikes and dips.

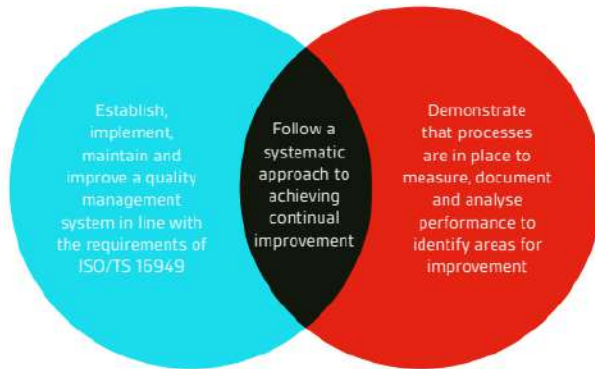
For example, Ericsson's telecommunications research and development subsidiary Telcordia Technologies publishes conformance standards for telecommunication equipment to pass the following tests:

Standardization and agreements

Several international standards relating to conformance testing are published by the International Organization for Standardization (ISO) and covered in the divisions of ICS 03.120.20 for management and ICS 23.040.01 for technical. Other standalone ISO standards include:

- ISO/TR 13881:2000 Petroleum and natural gas industries—Classification and conformity assessment of products, processes and services
- ISO 18436-4:2008 Condition monitoring and diagnostics of machines—Requirements for qualification and assessment of personnel—Part 4: Field lubricant analysis
- ISO/IEC 18009:1999 Information technology—Programming languages—Ada: Conformity assessment of a language processor

The principal requirements of the standard are illustrated below:



The next few pages of the guide takes you through the Plan-Do-Check-Act (PDCA) methodology, common in all ISO management systems and how DCS can help and support you on your ISO/TS 16949 journey.

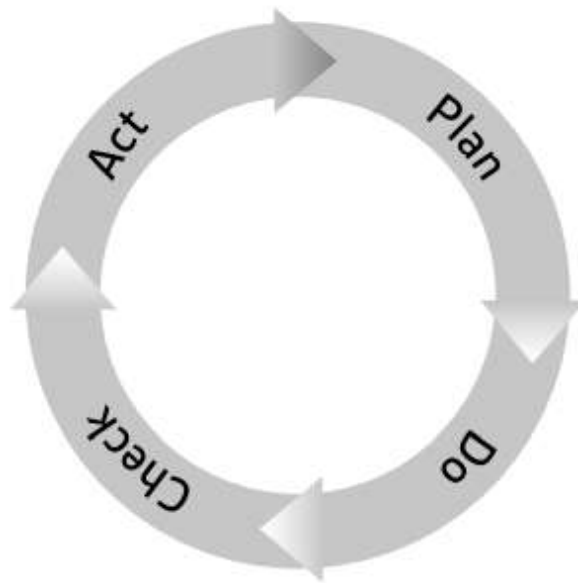
Understanding the principles of continual improvement

Act

Correct and improve your plans to meet and exceed your planned results

Check

Measure and monitor your actual results against your planned objectives



Plan

Establish objectives and draft your plans (analyse your organization's current systems, establish overall objectives, set interim targets for review and develop plans to achieve them)

Do

Implement your plans within a structured management framework