

# CLOUD COMPUTING & DATA CENTERS

Standards support the deployment of cloud computing

Cloud computing has become one of the key technologies in the sector of Information and Communication Technology (ICT). It should lead to a decrease in technology costs, boost productivity, growth and employment. It is estimated that in 2020, cloud computing could generate up to 250 billion euros of GDP in Europe and by then, allow the creation of 3.8 million jobs<sup>1</sup>. Therefore, the development and the management of this technology have become a priority for the European Union.

The Grand Duchy of Luxembourg has a privileged place in the development of cloud computing in Europe, especially because of its geographical position and its legislation on data protection.

Many issues are taken into account to ensure the deployment and adoption of cloud computing: strengthening security, trust, interoperability, data portability and reversibility. **Standards are an effective response to these issues.**

<sup>1</sup> [Source: Quantitative Estimates of the Demand for Cloud Computing in Europe and the Likely Barriers to Takeup, IDC, 2012]

## DATA CENTERS

The increasing use of cloud computing goes hand in hand with the growing number of data centers, which are critical to store and distribute virtualized information. It is estimated that today, data centers consume approximately 5% of the total electrical energy generated globally, and the figure is rising inexorably<sup>2</sup>.

In this context, new issues emerge focusing on how to establish a responsible use of ICT and reduce their environmental impact. It includes the modernization of technology and the regulation of their PUE (Power Usage Effectiveness). **Standards are an effective response to these issues.**

<sup>2</sup> [Source: CONNECT — CEN-CENELEC Newsletter Issue 11 – January 2013]

### WHY PARTICIPATE IN STANDARDIZATION ?

- To obtain normative documents
- To anticipate future developments
- To enhance expertise
- To safeguard interests
- To identify avenues for development
- To meet strategic partners

FREE REGISTRATION  
AND PARTICIPATION IN  
LUXEMBOURG !

### STANDARDIZATION COMMITTEES

#### CLOUD COMPUTING

ISO/IEC → JTC 1/SC 38

ETSI → TC Cloud

ITU-T → SG 13

#### DATA CENTERS

ISO/IEC → JTC1/SC 39

CENELEC → CLC/TC 215

## CLOUD COMPUTING AND STANDARDIZATION

Many initiatives have been undertaken to promote the standardization of cloud computing within European and International organizations:

- ISO (International Standardization Organization) and IEC (International Electrotechnical Commission) have established within the Joint Technical Committee ISO/IEC JTC 1, the technical subcommittee **ISO/IEC JTC 1/SC 38, Distributed application platforms and services (DAPS)**
- ETSI (European Telecommunications Standards Institute): TC Cloud (Technical Committee)
- ITU-T (International Telecommunication Union): SG 13 (Study Group)

ISO, IEC and CENELEC (European Committee for Electrotechnical Standardization) are also currently working on improving data centers. Standardization technical committees have been created to meet environmental requirements posed by new ICT practices:

- **ISO/IEC JTC 1/SC 39, Sustainability for and by Information Technology**
- CLC/TC 215 (CENELEC), Electrotechnical aspects of telecommunication equipment

## APPLICATIONS WANTED: SEEKING EXPERTS IN THE FIELDS OF CLOUD COMPUTING & DATA CENTERS !

Do you have skills and experience in Cloud Computing and/or Data Centers ?  
Do you want to anticipate future requirements and influence the market ?

JOIN THE STANDARDIZATION PROCESS NOW ! BECOME A TECHNICAL COMMITTEE MEMBER !

SETTING STANDARDS MEANS SETTING THE MARKET



## INTERNATIONAL STANDARDIZATION OF ICT

In the current context of internationalization of trade, standards are an essential tool for economic development. Standards are developed on a voluntary basis and consensus to meet market requirements, and thus improve the economic, social and environmental development of companies and organizations. In a constant search for competitiveness and efficiency, companies rely on ICT, which is now one of the principal driving forces of economic growth and competitiveness. In this context, standards are essential for the ICT sector to disseminate technologies and ensure the interoperability of systems and equipment.

In 1987, ISO and IEC established the joint technical committee ISO/IEC JTC 1, *Information technology*, to meet the normative needs of the ICT sector. Technical subcommittees (SC) are actively working to promote best practices and innovative solutions to build a global consensus on new technologies.

The most active current areas within these subcommittees include:

- Telecommunications and information technology (SC 6)
- Software and systems engineering (SC 7)
- Cards and personal identification (SC 17)
- IT security techniques (SC 27)
- Coding of audio, picture, multimedia and hypermedia information (SC 29)
- Automatic identification and data capture techniques (SC 31)
- Data management and interchange (SC 32)
- Biometrics (SC 37)
- Distributed application platforms and services (SC 38)
- Sustainability for and by Information Technology (SC 39)

## PARTICIPATION IN LUXEMBOURG

### ISO/IEC JTC 1/SC 38 - CLOUD COMPUTING

Chairperson: Mr. Jürgen Blum

ISO/IEC JTC 1

**Information technology**

Chairperson: Mr. Jean-Philippe HUMBERT

ISO/IEC JTC 1/WG 7

**Sensor networks**

Chairperson: Mr. Reza RAZAVI

ISO/IEC JTC 1/SC 6

**Telecommunications and information exchange between systems**

Chairperson: Mr. Pierre-Emmanuel LE LAY

ISO/IEC JTC 1/SC 7

**Software and systems engineering**

Chairperson: Mrs. Béatrix BARAFORT

ISO/IEC JTC 1/SC 17

**Cards and personal identification**

Chairperson: Mr. Benoît POLETTI

ISO/IEC JTC 1/SC 27

**IT Security techniques**

Chairperson: Mr. Cédric MAUNY

ISO/IEC JTC 1/SC 36

**Information technology for learning, education and training**

Chairperson: Mr. Stéphane JACQUEMART

## ICT STANDARDIZATION IN LUXEMBOURG

Information and Communication Technologies have been identified by the Minister of the Economy and Foreign Trade as a promising sector for the national economic market. Thus, a standards analysis dedicated to this sector was recently launched by ILNAS [End of 2012], in order to highlight potential interests for the national market.

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The main objectives of this standards analysis are to:

- Inform the national stakeholders about standardization developments in the ICT sector
- Identify potential interests for the national stakeholders and opportunities for the national market
- Encourage all national stakeholders to have a normative reflex
- Develop "standards-related" skills and collaboration between national stakeholders of the ICT sector

This standards analysis will be updated on a regular basis and can be found via the following link:

<http://www.ilnas.public.lu/fr/publications/confiance-numerique/etudes-nationales/standards-analysis-ict-v1-0.pdf>

If you are interested to take part in the standardization process, related information is available via the following link:

<http://www.ilnas.public.lu/fr/normes-normalisation/participation-aux-travaux-de-normalisation/comites-techniques/>

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