

Welcome to the World of Standards



Cloud Standards Coordination

A collaborative snapshot on Cloud Standards

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○ **EC Cloud Strategy (09/2012)**

- “Faster adoption of cloud computing throughout all sectors of the economy to boost productivity, growth and jobs”.

○ **EC-identified Roadblocks (EC Communication)**

- Fragmentation of the digital single market
 - ≠ national legal frameworks
- Contractual issues
 - SLA,
 - Data ownership & portability
 - Security
 -
- A jungle of standards

○ The Cloud Standards Coordination

- “Promote trusted and reliable cloud offerings by tasking ETSI to coordinate with stakeholders in a transparent and open way to identify by 2013 a detailed map of the necessary standards (inter alia for security, interoperability, data portability and reversibility)”

○ How it has been handled

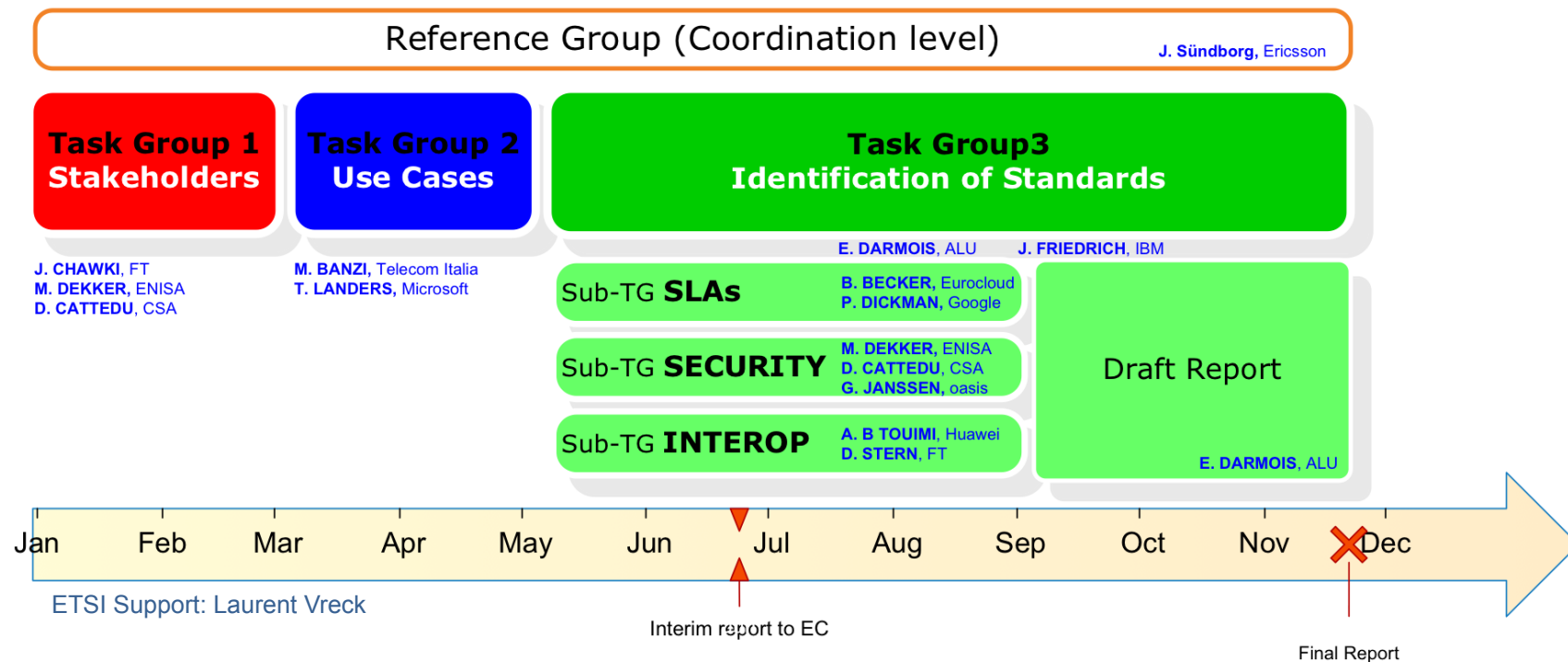
- Open & inclusive
- In a coordination role, focusing on the (standards) map
- Reusing existing results (models, list of standards, mappings, etc.)
- Fast (early results end Q2 2013, final results end Q4 2013)
- Visible: <http://csc.etsi.org>

The Structure and Timeline



○ Launched in December 2012

- Workshop in Cannes, co-organized by EC, 200+ participants
- Definition of work structure: 3 TGs, a coordination group ('reference')
 - TG1 for definition of Roles and TG2 for collection of Use Cases
 - TG3 in charge of Use Case Analysis and Production of the Report



The approach (a methodology, sort of)



- Identification of Cloud Roles (TG1)
- Collection of Use Cases (TG2)
- A Use Case-based map of the Cloud landscape (TG3)
 - Definition of a list of cloud-relevant Standards Organizations
 - Definition of a list of cloud-relevant documents from these organizations
 - A few use cases have been selected or derived from the list of TG2
 - A relevant basis on which the mapping of standards has been done
 - The analysis of the selected use cases has provided a table of generic or specific activities across the Cloud Services Life-Cycle
 - This list of activities has been mapped with
 - The list of Standards & Specifications (possibly empty for a given activity)
 - The list of Reports and White Papers
 - For each activity, this gives an indication of
 - standards maturity and
 - the possible existence of gaps.

A view of Cloud Standardization (at the time of writing this report)



- **The final Report provides the following technical results:**
 - A definition of the roles in Cloud;
 - The collection and classification of over 100 Cloud Use Cases;
 - A list of around 20 relevant organizations in Cloud Standardization and a selection of around 150 associated documents, Standards & Specifications as well as Reports & White Papers;
 - A classification of activities that need to be undertaken by Cloud Service Customers or Providers over the whole Cloud Service Life-Cycle;
 - A mapping of the selected Cloud documents (in particular Standards & Specifications) on these activities.

- **And conclusions on the status of Cloud Standardization**
 - general aspects (fragmentation, etc.)
 - specific topics of Interoperability, Security & Privacy and SLA.

- **Model based on Roles (and sub-roles) and Parties**

- Main sources: DMTF, ITU-T, NIST

- **Main roles identified**

- Cloud Service Customer**

- consuming one or more cloud services from a Cloud Service Provider

- Cloud Service Provider**

- providing cloud services to one or more Cloud Service Customers

- Cloud Service Partner**

- providing support to the provisioning of cloud services by the Cloud Service Provider, or the consumption of cloud service by the Cloud Service Customer (e.g. service integration).

- Government authority**

- The government authority role consists of interacting with providers, customers and partners for the purpose of regulation, law enforcement, inspection, economic stimulation, et cetera.

○ **Collecting Use Cases from Organizations including**

- DMTF, ENISA, CSCC, EC, GICTF, ISO/IEC JTC 1/SC 38/WG 3, ITU-T, NIST, ODCA, OPTIMIS, The NL IT Policy of Central Gov. Dept, Trust IT & IDC.

○ **Selection of 110 Use Cases**

- Categorized according to operational criteria i.e. Data Security and Privacy, Service Level Agreements, Interoperability, Data Portability, Reversibility, Support EU Policies, Based on Real life situations
- Ranked and filtered

○ **Definition of High-Level UCs**

- They cover the main phases of the Cloud Services life-cycle
- With a smaller list of 21 UCs that can be mapped with the HLUCs.

○ **A database of Use Cases**

- <http://csc.etsi.org/Application/documentapp/downloadLatestRevision/?docId=185>

Cloud-relevant Standards Organizations



ATIS	Alliance for Telecommunications Industry Solutions
CEN	Comité Européen de Normalisation
CENELEC	Comité Européen de Normalisation Electrotechnique
CSMIC	Cloud Services Measurement Initiative Consortium
CSA	Cloud Security Alliance
CSCC	Cloud Standards Customer Council
DMTF	Distributed Management Task Force
ENISA	European Union Agency for Network & Information Security
ETSI	European Telecommunications Standards Institute
GICTF	Global Inter-Cloud Technology Forum
IEC	International Electrical Committee
IEEE	Institute for Electrical and Electronics Engineers
IETF	Internet Engineering Task Force
ISO	International Standards Organisation
ITU-T	International Telecommunications Union – Telecom Sector
NIST	National Institute of Standards and Technology
OASIS	Organization for the Advancement of Structured Information Standards
ODCA	Open Data Center Alliance
OGF	Open Grid Forum
QuEST	Quality Excellence for Suppliers of Telecommunications
SNIA	Storage Networking Industry Association
TIA	Telecommunications Industry Association
TMF	TeleManagement Forum
TOG	The Open Group

Global
&
Regional

SDOs
&
Fora

Matching
Market
Dynamics

Identification of Standards and Specifications (and other relevant documents)



○ To address the detailed map of the standards, the new European Standards Regulation has been the reference:

- A Standard is an output from a formally recognized SDO (ETSI, ITU-T ...)
- A Specification is a standard from any other form of SDO.

More
Specifs
than
Standards

○ Around 150 documents from relevant SDOs identified:

- Standards & Specifications (S&S)
- Reports & White Papers (R&WP)

Growing
flow of
S&S
Published

○ Used in the definition of the standards map

- Existing Standards & Specs versus Related Work

Activities mapped with Standards and Specifications (and other documents)



○ Analysis of 5 Use Cases have identified activities through the Cloud Service Life-Cycle phases

- 3 phases: Acquisition, Operation, Termination

○ Relevant documents from selected SDOs mapped with the activities

- Standards & Specs (and related R&WP)
- Identification of standards needed

Generic
& Specific
Activities

Only a
few S&S
per
activity

Activity	Short Summary	Related Standards & Specifications	Related work	Remark
GEN_1.0	Requirements specification	None at this time. Standards needed.	This is on-going work at TMF, OGF, OASIS, ODCA, ... FP7 projects results: SLA*, SLAware, ... see [FP7-SLA].	Such standards may help comparison of providers.
GEN_1.0a	Security & Privacy Requirements specification		[CSA2] Security Guidance Certification created by the FP7 Europrise project.	Europrise specifications is a standard of privacy requirements compliant with DP legislation.

NO
Jungle of
Standards

Enough
Standards
to start with

Despite new
standards
coming, some
gaps identified

Foster
collaboration
to ensure no
fragmentation
happens

Some points of attention



SLA

Security

Inter
operability

Legal
Framework

Collaboration
&
Coordination
Another path
for standards