cloud standardization in a flash

Business Services

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editorial

Over the past three years, companies have seriously begun making the move to cloud computing solutions. As the strategic issues generated by the Cloud become increasingly clear, more questions and concerns have been raised, particularly concerning the **need for new standards in cloud computing**. These issues are now a central topic of reflection for IS Divisions and major players from a variety of sectors: Internet, IT, telecommunications, information and communication technologies, as well as **standards organizations in this field**.

In these three articles by Jamil Chawki, Cloud Standards & eBusiness Manager at Orange Labs Networks, we'll take a brief look at:
• the five major roles of telecom companies in cloud computing,
• the reasons for standardization, standards organizations and their role in cloud standardization,
• and lastly, the first international standard on cloud portability – OVF – and its future developments.

We hope you enjoy reading this!

Pascal Adam

content

cloud standardization
in a flash

telecom operators have the Cloud in their DNA

by Jamil Chawki

Telecom/ICT companies have an important role to play in the world of cloud computing.
While cloud services were first developed and provided by web and IT companies, telecom/ICT companies have become important players in the new cloud market because they can offer real value.
Pooling infrastructure, operating and maintaining networks and service platforms, usage-based pricing, data security and a detailed knowledge of individual and business markets are part of the DNA of these operators.

five major roles of telecom players in cloud computing

Telecom companies can use their unique positioning to offer high-quality, end-to-end cloud services, from service platforms to IP network infrastructure.

For this article, I have outlined five major reasons telecom companies are well positioned for cloud computing:

1. **Network monitoring**: the ability to monitor networks and ensure delivery of cloud services is a major advantage that telecom companies have over businesses that only handle service platforms and data centers: no network means no Cloud :-)

2. **Operation and maintenance**: this includes customer support, large-scale billing, and operating cloud service platforms and networks for several hundreds of millions of users.

3. **User experience** and **customer relation**s: telecom/ITC companies have developed a high level of understanding of user experience and customer relations with individual customers, small- and medium- businesses, and large companies.

4. **Trusted partner**: customers see these companies as trusted partners with good reputations for data security and privacy. Regional locations are also an advantage. Most companies apply ISO and UIT-T security standards for networks and service platforms.

5. **Service broker**: these companies can serve as a broker between cloud service providers and users, thus creating a new role in the market. They can also ensure delivery of cloud services to public and private networks.

“ the five major roles of telecom companies in cloud computing are to provide network monitoring, operation and maintenance, user experience knowledge and customer relations, all while serving as a trusted partner and service broker ”

focus

Telecom/ICT companies have become important players in the new cloud market because they can offer real value.

worth knowing

successfully migrating to cloud computing services

With their strong position in this field, the Cloud is the opportunity for telecom/ICT companies to successfully migrate to cloud services, which means moving from supplying fixed, mobile and data communications services, to supplying services based on cloud computing technologies.

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#service broker, #user experience,
#Communication as a Service, #Infrastructure as a Service

moving toward new standards for cloud computing

by Jamil Chawki

Although cloud services use web and online technologies, the new solutions offered by cloud providers are considered at least partially “proprietary.” For the past two years, most **standards organizations** have been working to develop **new standards for the Cloud** in terms of architecture, virtualization management, portability and data security.

In this article, we’ll take a look at primary cloud standardization needs and **progress currently being made**.

why do we need standards for the Cloud?

The Cloud mainly uses standards developed for the Internet (IP, HTML) and service-oriented architecture (Web Services and SOA). Cloud services are growing rapidly and are now offered on a global scale by different companies in the IT and telecom sectors. This has generated a **need for new, open standards** for cloud architecture, accessibility, portability, management and security.

When we look at the needs of cloud providers and the activities of standards organizations in this field, a few priorities for cloud standardization tend to jump out:

• interoperability and portability of virtual machines and data formats

The virtual machines created by one cloud provider must be interoperable and portable so they can be moved from one supplier platform to another.

• management and SLA

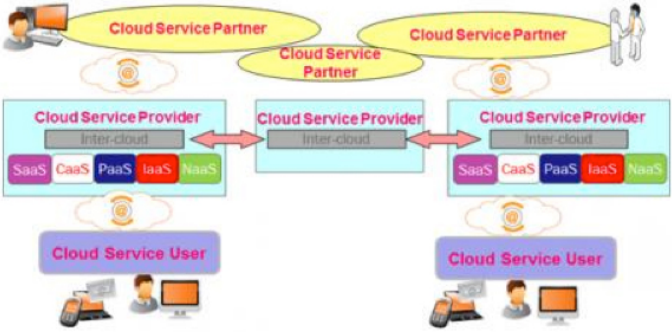
Cloud suppliers have to be able to manage services and resources in a flexible way to adapt to demand. They also have to bring together different entities and offer an SLA.

" cloud services are growing rapidly and are now offered on a global scale by different companies in the IT and telecom sectors;
this has generated a need for new, open standards "

focus

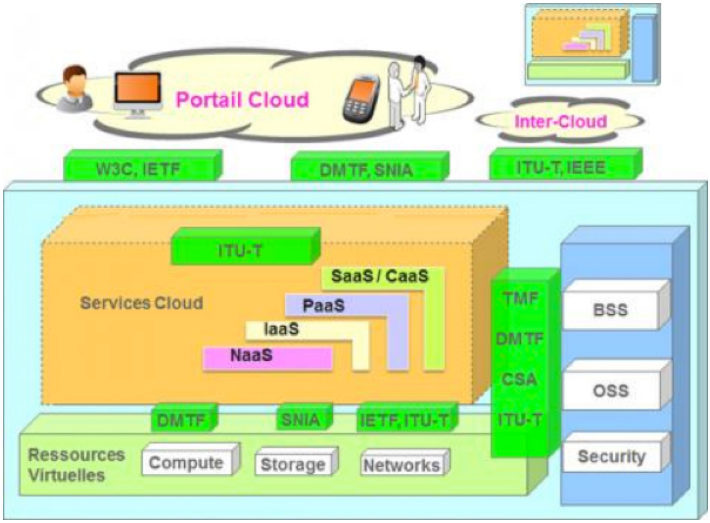
• **data security and protection**

Cloud suppliers have to guarantee data security and protect sensitive data. They also need to be able to ensure business continuity and recovery, combat identity theft and locate data at all times (as outlined by data privacy laws and regulations in various countries).



organizations involved in cloud standardization

Currently, several international organizations, both public and private, are involved in cloud standardization. These **organizations and their positions** in cloud computing are outlined in the following chart:



These organizations work in various fields, from definition and architecture to resource management, security, networks and the Intercloud. The initial **results of their work** are as follows:

Three priority topics for standardization: interoperability and portability of virtual machines and data formats, management and SLA, data security and protection.

worth knowing

- **ITU-T** : a technical report on the definition and architecture of the Cloud (ITU-T FG cloud)
- **ISO/DMTF** :an open format for packaging and distributing software on a virtual machine (Open Virtual Format - OVF)
- **SNIA** : a new management and storage interface (Cloud Data Management Interface - CDMI)
- **DMTF** : a new management interface for virtual machines (Cloud Infrastructure Management Interface - CIMI)
- **CSA** : guidelines for cloud security (Security Guidance)

Though we're beginning to see some interesting results in cloud definition, architecture and new management interfaces, **the first major standards will not be delivered for another two to three years.**

see also
Last March, I answered a few questions submitted by Joe Fernandez on the topic of standardization:
"why cloud standardization needs to evolve"

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http://oran.ge/1apWO6f

#DMTF, #ISO, #ITU-T, #data formatting, #interoperability, #portability, #data security

OVF: the first international cloud portability standard

by Jamil Chawki
with Ruby Krishnaswamy and Frédéric Dang Tran

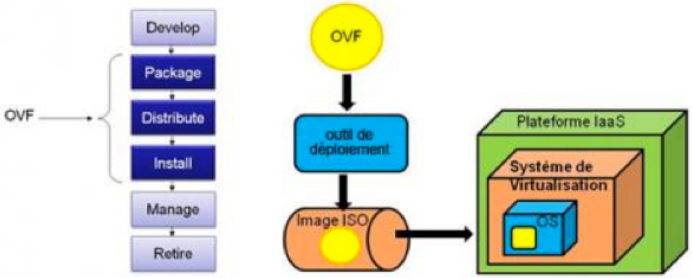
The European Union recently listed **data and application portability** as an important tool for accelerating and expanding use of the Cloud in all sectors of the economy.

For more info on this, I'd recommend reading the EUROPA press release entitled "Unleashing the potential of Cloud Computing in Europe – What is it and what does it mean for me?"

An **open format for packaging and distributing** virtual applications was specified by the Distributed Management Task Force (DMTF) and recognized by ISO/IEC as the first international standard for portability between cloud IaaS platforms.

what is OVF?

Open Virtualization Format (OVF) is an open packaging and distribution format that outlines how a virtual appliance should be deployed, managed and run on a virtual machine. It specifies the deployment options, settings and resource allocation requirements for a given virtual system.



“ OVF is developing OVF 2.0 with new features for placement, Scale-out, encryption and shared disks ”

focus

Open Virtualization Format : version 1.1

The Open Virtualization Format (OVF) specifies the deployment options, settings and resource allocation requirements for a given virtual system.

worth knowing

Developed by about 10 different cloud providers, OVF 1.1/DSP0243 was published in early 2011 (under the reference ISO/IEC 17203), as an international standard for cloud infrastructure portability.

The open standard helps:

- optimize the distribution of virtual applications
- improve lifecycle management for virtual machines
- offer distribution across several virtual machines
- package a portable and independent virtual machine not tied to any particular virtualization platform or hypervisor.

This standard, including various **open source** elements, is already applied by several cloud providers in the virtualization systems they offer.

OVF 2.0 in development

The System Virtualization, Partitioning, and Clustering (SVPC) work group that specified OVF is currently developing a new version: OVF 2.0, with **new features for placement**, scale-out, **encryption and shared disks**.

The new version will also include several upgrades:

• upgraded network services to monitor and improve network QoS

• new services like load balancing, firewall, and a feature to describe complex network topology

With the European Union's new strategy to unleash the potential of the Cloud in Europe and stimulate the productivity of businesses and administrations through cloud computing, I'm wondering if the leading cloud players will adopt this new open standard, as they are noticeably absent in standards organizations.

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#DMTF, #Infrastructure as a Service, #open source, #Open Virtualization Format, #portability

about the author

Jamil Chawki

Since 2008, I have coordinated cloud standardization activities at Orange Labs. I worked for 10 years developing optic and Internet networks at France Telecom, taking part in 2006 in the development of SaaS activities for web 2.0 companies.
I also managed a telecom operator in Lebanon, where I introduced an online billing service in 2001. I'm currently head of the work group on cloud standardization at UIT-T and ISO IEC JTC1.

view Jamil's author page, bio, and blog posts

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Published by Orange Business Services
04.11.2013

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